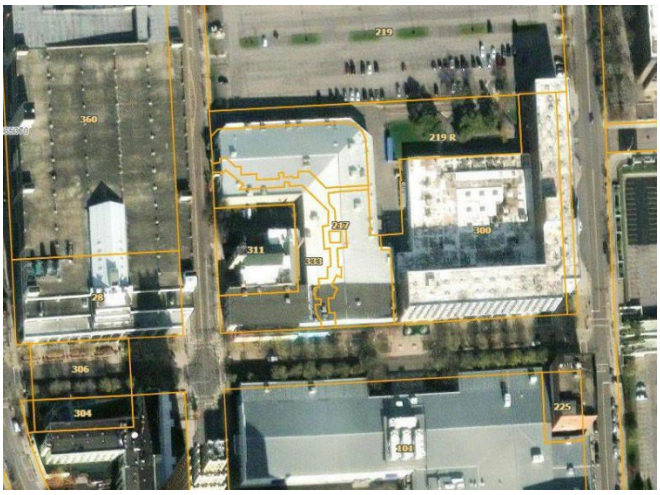
REMEDIAL INVESTIGATION WORK PLAN

The NEST Site
333 1st Street
City of Niagara Falls, New York



Tax Map ID No.: 159.09-1-2.11
Property County: Niagara
Site No.: C932183

Prepared For:

Community Services Seventh Housing LLC
180 Oak Street
Buffalo, NY 14203

Prepared by:

BRYDGES ENGINEERING
IN ENVIRONMENT AND ENERGY, DPC

960 Busti Ave. Suite B-150
Buffalo, New York 14213

AMD ENVIRONMENTAL

AMD Environmental
72 East Niagara St.-Suite 100
Tonawanda, NY 14150

Prepared By: Jacob Cox, EIT	**Signature:** Jacob Cox	**Date**: August 2024	**Title**: Project Engineer
Reviewed By: Jason M. Brydges, PE	**Signature:** Jason M Brydges	**Date**: August 2024	**Title**: President

August 2024

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1.0 INTRODUCTION

This Remedial Investigation Work Plan (RIWP) document presents details of work activities designed to support a Remedial Investigation (RI) at 333 1st Street (the Nest Site) City of Niagara Falls, New York (refer to **Figure 1**)). The 0.985-acre site includes two parcels (SBL: 159.09-1-2.11 and 159.09-1-2.12) and is located on the northeast corner of Old Falls and 1st Street. . The Site is located within a highly developed mixed commercial and residential use designated En-Zone (Type AB) for Census Tract 211 and is in a Disadvantaged Community.

A preliminary BCP project schedule is provided in **Figure 2** and a boundary survey map of the Site is provided in **Figure 3.** The Brownfield Cleanup Program (BCP) applicant, Community Services for Every1, Inc., has entered the program (Site No.: C932183) to remediate the Site in preparation for redevelopment of the property into a 73-unit, six-story residential complex.

Environmental assessments and investigations conducted on the Site concluded that there are impacted soils across the site due to the former use and the presence of urban fill. A Previous Phase II Environmental Site Assessment (ESA) identified site soils that have been impacted with metals and polycyclic aromatic hydrocarbon (PAH) related compounds. Historical use and previous environmental investigations suggest petroleum, solvents and PCB impacts may also exist at the Site.

The purpose of the RI phase of the BCP is to address the following activities and requirements:

- Obtain environmental data from the site under site specific quality assurance/quality control (QA/QC) for sampling, analyses, and data evaluation.
- Provide plans and approaches for health and safety and air monitoring for field activities.
- Summarize previous environmental assessments and investigations.
- Describe and illustrate the physical conditions of the site including surface waterbodies, ecological receptors, significant utility corridors.
- Tabulate and illustrate a proposed sampling plan and results to include location, matrix, depth, analytes, methodologies, rationale, and QA/QC.
- Provide a schedule of activities and details of the proposed investigation team.
- Describe the areas of concern including impacted soil, fill material, groundwater, indoor air, and building conditions.
- Determine the necessity of a fish and wildlife impact analysis and, if required, gather data to evaluate impacts.
- Complete a qualitative exposure assessment for human health and fish/wildlife resources.
- Ensure (1) field work is sufficiently comprehensive to evaluate natural attenuation of groundwater, as applicable, and (2) all waste derived from field work is managed in a manner that does not negatively impact human health and the environment.

1.1 SITE DESCRIPTION AND HISTORY

The new northern parcel that comprises the Site (refer to **Figure 3**)is composed of a portion of the two parcels noted above; SBL #159.09-1-2.11 and #159.09-1-2.12 located at 333 1st Street and 217 Old Falls Street respectively in the City of Niagara Falls. The portion of these two parcels that compose the BCP site is approximately 0.985 acres. The Site is bound by 1st Street to the west, Old Falls Street to the south, a commercial building to the east, and a large parking lot to the north.

Approximately 95 percent of the Site contains a vacant two-story commercial building known as the Smokin' Joe's Native Center and was formerly used as a retail store and graphics center. The Site is generally flat and gently sloping towards city streets and the Niagara River to the west. Surface and shallow groundwater flow have most likely been impacted over time by the various developments and fills as well as foundations, street beds, and utility lines. Surface water is directed to adjacent streets and storm drains within the building. In general, groundwater most likely flows west-northwest towards the Niagara River. It should be noted that an easement for the Hydraulic Tunnel or Sewer – Adams station Tunnel runs diagonally through the center of the Site which diverted water from Niagara River to generate hydroelectric power. Completed in 1893, the brick tunnel is over a mile long and runs from Adams Power Plant approximately 180 feet underground to below Niagara Falls. This may impact local groundwater flow. Prior to construction closing, the existing building will be demolished by the current owners, USA Niagara Development Corporation.

Historical records including street directories and Sanborn Maps suggest that the site was mixed use residential and commercial. Some of these uses include hotels, storefronts, a furniture store, a department store, auto parking, and leather good manufacturing. Two gas tanks were located on the northwest corner of the subject property from 1950-1970.

1.2 CONTEMPLATED USE OF THE SITE

Plans include demolition of the existing building and construction of a 73 unit, 6 story, mixed use complex.

1.3 PROJECT ORGANIZATION

The following personnel constitute the primary members of the project team:

Project Manager – Peter J. Gorton, MPH; CHCM.
Engineers – John Berry, P.E., and Jason M. Brydges, PE
Project Staff and Field Technicians – Jacob Cox, EIT Environmental Engineer; Alexis Palumbo, Project Engineer; and Joe Gambino, Field Technician
Health and Safety Officer – Peter J. Gorton, MPH and CHCM
QA/QC – John Berry, PE
Project Geologist – John Boyd
Geophysics Contractor – Maddan Geophysics, LLC
Attorney – Linda Shaw-Knauf Shaw, LLP
Asbestos/lead/universal waste subcontractor – AMD Environmental
Drilling/Excavation subcontractors – to be determined.
Analytical Laboratory – to be determined.

2.0 GOALS AND OBJECTIVES

2.1 RI OBJECTIVES

In general, an RI has the following objectives as described in New York Codes, Rules, and Regulations (NYCRR) Part 375-1.8(e):

- Delineation of the extent of the contamination at and emanating from all media at the Site and the nature of that contamination.

- Characterization of the surface and subsurface characteristics of the Site, including topography, surface drainage, stratigraphy, depth to groundwater, and any aquifers that have been impacted or have the potential to be impacted;
- Identification of the sources of contamination, the migration pathways, and actual or potential receptors of contaminants;
- Evaluation of actual and potential threats to public health and the environment; and,
- Production of data of sufficient quality and quantity to support the necessity for, and the proposed extent of, remediation and to support the evaluation of proposed alternatives.

2.2 SPECIFIC GOALS

Based on the data collected to date and history of the Site, RI activities have been developed that will allow for further assessment of fill material and depth of native soil, depth to bedrock, and depth to groundwater. The potential for impacted soil vapor will also be further assessed to include a vapor intrusion investigation in accordance with NYSDEC/New York State Department of Health (NYSDOH) protocol. Specific goals for the RI are as follows:

- Perform additional soil borings below the building slab and non- building areas to add to the existing data. The focus will be on impacted areas identified during the previous investigations;
- Install and sample bedrock groundwater wells to assess potential contamination and its sources (i.e., on or off-Site), direction of groundwater flow, and potential impacts. It should be noted that prior subsurface assessments did not encounter groundwater in the overburden. Therefore, groundwater may only exist in bedrock. One monitoring well will be installed in the overburden to confirm these conditions. Due to the hydraulic tunnel that is located at least 180 feet into the subsurface below the middle of the Site, and the proximity to the Niagara Falls ravine, groundwater may be at significant depths.
- The Phase I ESA identified transformers throughout the existing building. As such, a building inventory assessment will be conducted for PCB containing materials within the existing structure. Existing surveys do not identify specific transformer locations; however, these will be determined during the survey.
- Perform a hydraulic assessment of the groundwater in the subsurface using the installed wells;
- Complete a soil vapor assessment;
- Focus on investigating former underground storage tank (UST) area and;
- Fill in any data gaps resulting from previous assessments.

To the extent possible, RI field work will also include the identification of any significant structures, sensitive areas, or appurtenances that could have an impact on contaminant migration or future remedial action such as any existing stormwater and/or sewer lines.

2.3 CONTAMINANTS AND AREAS OF CONCERN

The Site has had several past uses including residential, restaurants, leather manufacturing, auto garage, and storage. Based on the findings related to historic use of the Site and previous investigations, contaminants of concern (COCs) in the soils are semi-volatile organic compounds (SVOCs), and metals. SVOCs identified are mostly polycyclic aromatic hydrocarbons (PAHs) in multiple locations across the Site. Metal exceedances identified include lead, mercury, cadmium and barium. While multiple locations contained elevated

barium concentrations above guidance levels, a hot spot was identified in the southeast region of the building footprint approximately five times higher than surrounding concentrations. The potential for chlorinated solvents and petroleum/PCBs exists due to historic USTs at the northwest corner of the Site and will also be assessed in site soils, groundwater and vapors. Additional chemicals used include surfactants and degreasers related to historic leather manufacturing. The full suite of soil contaminants as identified in 6 NYCRR Part 375 will be analyzed during the RI. Groundwater samples will also be analyzed for the full suite of contaminants per NYSDEC Division of Water TOGS. Soil vapor will be analyzed for TO-15 parameters. See **Figure 4** for an illustration on exceedances based upon the previous investigation results.

The existing building will also be assessed prior to demolition for polychlorinated biphenyls (PCBs) in light ballasts and transformers and mercury in fluorescent bulbs. Drains and sumps within the building will also be assessed and contents, if any, characterized.

3.0 PAST ENVIRONMENTAL ASSESSMENTS/INVESTIGATIONS

Various Environmental assessments and remedial actions have occurred on the property including the following:

- Hazardous Materials Inspections were performed on the Site by Stohl Environmental, Inc in September 2011 and by Watts Architecture and Engineering in October 2018. Various materials were identified as asbestos containing material (ACM) including HVAC tar, curbs, vent pipes and access hatch. Lead-based paint (LBP) was identified on structural steel.
- A Phase I Environmental Site Assessment (ESA) was performed on the Site by LiRo Engineers Inc. in October 2018 to identify the presence or likely presence of recognized environmental conditions (RECs). Two gasoline tanks historically located on-site in the northwest corner from 1950 to 1970 were identified as a REC.
- A subsequent Phase II was performed by LiRo Engineers Inc. in February 2019 to investigate potential impacts in soil and soil gas on the subject property. The Phase II ESA focus was associated with the two gasoline tanks and potential impacts from adjacent property history of commercial and railroad use. Phase II ESA observations indicated urban fill conditions from 0-8 feet below ground surface (bgs). Laboratory soil sample analytical results indicated metals and SVOCs above NYSDEC restricted residential and industrial SCOs.
- BE3/AMD completed a Phase II ESA for Brownfield application purposes in April 2023. The assessment found that fill exists across the Site at depths to about 0-8 feet in most locations. Laboratory results of the fill showed elevated levels of metals and SVOCs, mostly polycyclic aromatic hydrocarbons (PAHs). While some VOCs were detected in the fill materials none were above Residential SCOs.
- Concurrently a Geotechnical Evaluation was performed by Foundation Design P.C. which confirmed the fill depth ranging from 0-7 feet and depth to bedrock of approximately 11 feet below ground surface. It was also noted that the existing fill is not suitable structural material for the proposed structure.

4.0 INVESTIGATION SCOPE OF WORK

4.1 INTRODUCTION

The investigation will include soil sampling and analysis, hazardous building materials inventory/assessment, vapor intrusion sampling and geophysics to assess the historic tank location(refer to **Figure 5**). Groundwater sampling/analysis; groundwater hydraulic assessment and other groundwater testing as appropriate will be completed. All investigation field work will be completed in accordance with the Health and Safety Plan (HASP) in **Appendix A** and the Community Air Monitoring Program (CAMP) in **Appendix B.** Prior to the demolition of the Site structure, PCBs, mold, etc. will be surveyed as necessary to supplement any previous surveys completed withing the structure. In addition, a survey of existing floor drains and sampling of any sediment that may exist for COCs will be completed prior to demolition site prep work. It is anticipated that the RI can be completed in a single phase and include the following:

- Soil investigation to supplement previous investigation findings (surface soil, soil borings, sampling, and chemical analysis),
- Groundwater investigation, if possible, see Section 2.2) to include well installation, sampling, chemical analysis, and hydraulic assessment;
- Soil vapor assessment if groundwater cannot be sampled;
- Building hazardous materials inventory assessment (as a supplement to any previously available surveys);
- Floor drain survey and sediment sampling;
- A geophysical survey of the historic tank location; and
- A vapor intrusion assessment

The debris removal will be documented in daily reports and with photographs and any offsite disposal will be completed under NYSDEC regulations and documented. This will be included/documented in the RI report and all activities (including waste transportation and disposal) will be performed in accordance with ACM standards and regulations including NYSDOL 12NYCRR56, USEPA 40CFR61, and USDOL OSHA 29CFR1926. These activities will be documented like other RI activities as daily reports and presented in the RIR.'

4.2 SURFACE, SUBSURFACE/SUB-SLAB SOIL

Surface, subsurface, and sub-slab soil assessments have been conducted during previous investigations (Refer to **Section 3.0**). As such, the objective of the RI soil assessment will be to use the previous assessment data and complete additional sampling/borings/test trench in areas of concern identified in previous assessments. Nine (9) soil borings will be completed. through existing slabs and adjacent to slabs as an adjunct to the former sample results. The borings will be spread across the Site with a focus on (1) previously identified impacted areas, (2) areas where investigation has not been conducted, and (3) areas where previous historical operations may have impacted the site or where USTs were located (See **Figure 5**). The precise sampling locations will be based on field observations and photoionization detector (PID) readings and will specifically target potential contaminant features while ensuring that areas of concern are examined.

The primary purpose of the soil assessment is to visually inspect and characterize surface and subsurface soil conditions across the site to add to the existing data and to focus on specific areas that warrant this additional assessment (historic USTs). The assessment will confirm the depth of fill material and collect and analyze fill and native soil samples, as appropriate, based on field soil evaluation during drilling. Secondly, the extent of known contamination will be quantified as data allows. Lastly, areas that may be source areas of contamination will be identified. As such, together with the data generated from this RI, all historic sampling data, including sampling protocols, soil boring logs and other pertinent data obtained from previous investigations will be included in the resultant remedial investigation report (RIR) for this brownfield investigation.

4.2.1 Surface Soil

Note, most of the Site is building/slab covered except for a small area in the northeast corner of the Site. Due to the limited area for surface soils, at a minimum, to characterize exposures to site contaminants in surface soil, one sample will be collected in the 0–2-inch interval below ground surface in this area and analyzed for full suite analysis (Part 375 Brownfields constituent list parameters) minus VOCs. The surface sample will be collected from the area adjacent to RI-BH-3.

4.2.2 Soil Borings – Subsurface Soil

The borings will be advanced to an estimated depth of between 8 to 12 feet bgs, to native soil, or refusal using Geoprobe® direct push technology. The borings will be advanced deeper than 12 feet if environmental impacts appear to continue deeper than 12 feet. During the Phase II investigation, field observations noted refusal and/or bedrock at 11 feet. Continuous soil sampling will be conducted using a Geoprobe® with a two-inch diameter, 4-foot-long sampler. Visual observations and PID readings will be used to assess potential downward migration in the soil below the fill layer. If impacts are observed either by visual/olfactory observations and/or PID readings, the boring will be advanced as deep as possible based on equipment location and limitations. If no impacts are identified in a soil boring slated for soil samples, samples will be collected from the bottom interval of the boring or from immediately above confirmed confining layers. A minimum of 12 subsurface fill/soil samples and 6 native soil samples will be collected from soil borings. An additional 3 soil samples will be collected during groundwater well borings plus associated 3 QA/QC samples for a total of 24 subsurface soil samples. All boreholes will be filled with indigenous soil or clean sand prior to leaving each location.

4.2.3 Test Trenches

Test trenching at the Site is anticipated to investigate the historic tank location at the west-northwest corner, after a geophysical survey is performed by Maddan Geophysics, LLC, to determine the presence or likely presence of the historic USTs. A reference grid will be established, and a time domain electromagnetic (EM61) metal detector will be used to conduct the survey. The geophysical method that will be used is an established, indirect technique for non-destructive subsurface reconnaissance exploration. The device will generate a pulse to generate eddy currents into the subsurface. As the decay rate of these eddy currents is much longer for metals than normal soils, distinctions can be made to discriminate between the two. The results of this survey will be interpreted, and a figure will be produced to show any anomalies (if any) within the established grid. Preliminary data will be provided to the NYSDEC and the New York State Department of Health (NYSDOH) as soon as it is available.

Once the presence or likely presence can be confirmed, a test trench may be performed to uncover the tanks. Should a tank be found, test trenches will be excavated to carefully remove surface soils to uncover the tank(s) and determine the size, capacity, and condition. The depth of the trench will depend on when/if the historic tanks are encountered.

According to NYCRR Part 375-1.8(b), any unregistered petroleum tank, which is owned or controlled by the remedial party requires registration in addition to removal. A Petroleum Bulk Storage (PBS) registration form will be submitted as soon as possible following the discovery of the tank. Unless the tank is found to be compromised, the removal will occur during the remedial action phase of the project. Removal will be completed in accordance with PBS regulations, including excavation and sampling.

The locations of the soil borings/trenches will be field located and are subject to accessibility and the location of underground utility lines. All soil borings/trenches will be advanced at a minimum distance of 2.5 feet away from marked utilities, where present, to reduce the possibility of accidentally damaging an underground line. All probe holes will be filled with indigenous soil or clean sand prior to leaving the location. An asphalt patch will be placed, as necessary. Test trench material will be returned to the trench in the order in which it was removed. Any tanks that are identified during the RI will be removed during remedial action stages of the project.

4.2.4 Soil Data Collection and Analysis

At each boring/test trench location the following will be recorded:

- Thickness and characteristics of the cover/fill material;
- Depth to bedrock, if encountered;
- Depth to groundwater, if encountered;
- Thickness and characteristics of the native soil, if encountered;
- PID screening results; and
- Estimated depth of analytical samples collected.

A record of soil stratigraphy and soil gas readings will be recorded using a PID**.** Soil samples will be collected from locations showing the highest PID reading and/or visual/olfactory observations; and/or based on location. A detailed log of these records will be maintained to assist field personnel in selecting the most appropriate sample at each location, and to supplement future analytical results. Soil data will also be collected and recorded for monitoring wells including soil sampling. These samples may include native soils and should be at screened intervals to allow for soil and groundwater data comparison. As mentioned in Section 4.2.2, **An estimated 25 subsurface soil samples including QA/QC samples and one surface soil sample** will be collected for laboratory analyses.

Samples will be selected based upon (1) areas that appear to be impacted based upon visual, olfactory, or PID observations, (2) areas of natural soil at interface with fill material, and (3) known fill material that may or may not be impacted but believed to represent Site soils. As per DER-10 Section 3.11(b)3, if more than one type of historic fill material is encountered in any boring or test pit, one sample is required for each type of fill material encountered. All soil samples collected from the borings/trenches will be grab samples. Proposed soil samples to be collected are summarized in **Appendix C** – Quality Assurance/Quality Control Plan. Please

note that any surface samples collected will originate from the top 2 inches of surface material below any vegetative or hardscape cover.

The soil samples will be analyzed by a NYSDOH environmental laboratory accreditation program (ELAP) certified laboratory that produces NYSDEC Category B data package deliverables. Data Usability Summary Reports (DUSRs) will be prepared for all samples. All samples will be analyzed for the full Part 375 Brownfields constituent list which includes the following:

- Target Compound List (TCL) VOCs + TICs (subsurface samples only)
- TCL SVOCs
- Target Analyte List (TAL) Metals (Including total mercury, total cyanide, and hexavalent chromium)
- PCBs
- TCL Pesticides
- 1,4-dioxane
- Per & Polyfluoroalkyl Substances (PFAS)

Field equipment will be operated in accordance with standard practices and in a safe and efficient manner as to minimize any hydraulic system leaks or lubricant and fuel leaks (See **Appendix A** for details).

Additional field activities performed by the geologist/technician include properly labeling, packaging, delivering samples to the laboratory; supervising field operations; and completing boring logs, which can be performed in the office after recording field data in a logbook. The geologist/technician will update the Project Manager daily on progress in the field and results of the subsurface investigation. Major changes in the subsurface investigations will not occur unless approved by the Project Manager, who will also notify the Client and NYSDEC regarding project developments. A detailed description of the sampling methods is provided in **Appendix D** – Field Sampling Plan (FSP). A table which includes the analytical results compared to applicable SCOs and protection of groundwater will be provided in the RI report.

4.3 GROUNDWATER

During the Phase II investigation, bedrock was interpreted to be relatively shallow (11 feet in some locations), and no groundwater was encountered during Phase II ESA or geotechnical assessment performed by Foundation Design. Based on these previous subsurface assessments it is unlikely that groundwater will be encountered in the overburden during the RI. , However, to meet the BCP requirements to sample groundwater, if possible, a total of three (3) overburden groundwater monitoring wells will be installed if groundwater is encountered using a conventional truck mounted drill rig with hollow stem auger drilling techniques. One of the borings for wells will be advanced at the northwest corner adjacent to the former UST area along 1st Street, one will be advanced at the southwest corner and one at the east end of the site. If no appreciable volume of groundwater is encountered to the top of bedrock, , a vapor probe will be installed either in the well boring or adjacent using a geoprobe. (Refer to **Figure 5 for locations)** Note that well locations may be revised in the field to accommodate logistics and previous PID detections). As stated in Section 2.2, groundwater may only exist in bedrock. Due to the hydraulic tunnel that is located at least 160 feet subsurface below the middle of the Site, groundwater may be at significant depths. Therefore, a subsurface vapor assessment at the top of bedrock with soil vapor probes are proposed

should groundwater not be encountered in the overburden. This will replace groundwater assessment since the potential impacts from any deep bedrock groundwater would be associated with vapor migration.

In addition, as noted in Section 4.2.2, 3 soil/fill samples will be collected for laboratory analysis during installation of these wells as identified above.

4.3.1 Well Construction

Each well will consist of a 2-inch inside diameter, schedule 40 PVC casing equipped with a well screen that is Schedule 40 pipe with 0.010 slot size. Section 3.1 of **Appendix D** provides a step-by-step method for the open-hole method of installing a groundwater well once a boring or augured hole has been drilled to a desired depth within the subsurface.

Wells will either be completed at the ground surface and covered with a curb box in current or future high traffic areas or be completed as a stick up. Where the top of the well riser pipe will extend approximately three feet above grade and be fitted with a lockable J-plug and protected by a vented, 4-inch diameter protective steel casing. The steel casing will be installed to a depth of approximately 2 feet bgs and anchored in a 2-foot by 2-foot concrete surface pad. Each steel protective casing will be fitted with a locking cap, keyed alike (for all three wells) lock, and labeled with permanent markings for identification. The concrete surface pad will be constructed around the protective steel casing to allow surface water to drain away from the well. Drill cuttings will be placed on-site in unpaved areas unless non-native soil/fill or gross contamination (i.e., visible product) is encountered, in which case they will be placed in sealed NYSDOT-approved drums and labeled for subsequent characterization and disposal. Disposal will be done in accordance with all RCRA standards.

All fieldwork will adhere to the Health and Safety Plan provided in **Appendix A.**

4.3.2 Well Development

After installation of monitoring wells, but not within 24 hours, new wells will be developed in accordance with **Appendix D** – Section 3.2 and NYSDEC protocols. Initially, development water will be containerized in NYSDOT-approved drums and labeled per monitoring well location. If light non-aqueous phase liquid (LNAPL), dense nonaqueous phase liquid (DNAPL), odors, or sheen are encountered during well development, water will be properly characterized and disposed accordingly. Based on the RI groundwater analytical results, it will be determined, in consultation with NYSDEC, if the containerized development water is acceptable for surface discharge in the vicinity of the monitoring well being developed or requires subsequent on-site treatment and/or off-site disposal.

4.3.3 Groundwater Sampling

Sampling will commence as soon as adequate recharge has occurred. Although not required, it is recommended that purging and sampling occur at least 24 hours after development. Prior to sample collection, static water levels will be measured and recorded from all on-site monitoring wells to facilitate the preparation of an isopotential map. Following water level measurement, field personnel will purge and sample monitoring wells using a submersible pump or low-flow surface pump depending on well depth with dedicated pump tubing following low-flow/minimal drawdown purge and sample collection procedures provided in Sections 3.3 – Well Purging and 3.4 – Well Sampling of **Appendix D**. In the event of pump failure or the

saturated unit does not permit the proper implementation of low-flow sampling, a dedicated polyethylene bailer will be used to purge and sample the well. Field measurements for pH, temperature, turbidity, DO, ORP, specific conductance and water level, as well as PID, visual and olfactory field observations will be periodically recorded and monitored for stabilization and health and safety purposes. Low-flow purging will be considered complete when the field measurements stabilize, and turbidity falls below 50 Nephelometric Turbidity Units (NTU) or becomes stable above 50 NTU regardless of volume purged.

Collected groundwater samples will be transported under chain-of-custody to a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified analytical laboratory for the analyses indicated in Section 5.3.4.

4.3.4 Groundwater Sample Analyses

One groundwater sample will be collected from each of the three monitoring wells. Well development and sampling will be in accordance with Appendix **D** - FSP. Groundwater samples will be analyzed for the following Part 375 brownfield constituents:

- TCL VOCs plus CP-51 list VOCs and TICs;
- TCL SVOCs;
- TAL Metals + cyanide;
- PCBs;
- Pesticides;
- 1,4-dioxane; and
- Per & Polyfluoroalkyl Substances (PFAS).

Sample analysis will be in accordance with ASP, Cat B requirements. DUSRs will be completed for all samples. QA/QC requirements for all sample analysis are provided in **Appendix C** Quality Assurance/Quality Control Plan. Table 1 in **Appendix C** summarizes the number of Groundwater samples to be collected.

All detected sample concentrations will be included in a table and compared to NYSDEC Groundwater Standards (TOGS) as well as applicable standards, criteria, and guidance materials (e.g., Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances [PFAS]).

4.3.5 Groundwater Flow/Hydraulic Assessment

Static depth to groundwater measurements will be obtained from the newly installed RI monitoring wells. Groundwater elevation data will be calculated and used to develop an isopotential map that will indicate the general direction of groundwater flow. Groundwater elevations will be relative to an arbitrary site-specific vertical datum and benchmark (e.g., fire hydrant)/survey). A well construction summary table will be prepared and include top of riser and grade elevations as well as construction depths (elevations) and materials.

In-Situ Hydraulic Conductivity Testing will be determined using the variable-head test method (“rising head”) (Bouwer and Rice Method, 1976). Hydraulic assessment includes the completion of hydraulic conductivity tests and the measurement of water levels in monitoring wells. Variable head tests will be completed using a stainless steel or PVC slug to displace water within the well or by removing water from the well with a bailer or pump. The recovery of

the initial water level is then measured with respect to time. Data obtained using this test will be evaluated using procedures presented in "The Bouwer and Rice Slug Test - An Update," Bouwer, H., Groundwater Journal, Vol. 27, No. 3, May-June 1989, or similar method.

4.4 VAPOR INTRUSION INVESTIGATION

Historical records of operations at the Site indicated the potential use and storage of petroleum compounds and potential for tee-shirt/graphics. To confirm and further assess if solvent/petroleum vapors exist in the soil beneath the existing building slabs or future building slabs, a soil vapor intrusion investigation will be undertaken. Additionally, if groundwater is not encountered as mentioned in Sections 2.2 and 5.3, soil vapor will be assessed to replace groundwater sampling. As such, vapor sampling may involve:

- Sampling vapor below the existing slab that remains on-site after the building demolition
- Vapor probe sampling at the top of bedrock to replace groundwater sampling.

Typically vapor intrusion sampling in buildings entails a series of samples including sub-slab with paired above slab samples (area) and one or more outside of the building samples. At this site, the existing on-site building will be demolished with the slab left in place prior to sampling. Based on this information only a sub-slab sample will be collected with no collection of indoor (area) or "outdoor" air samples.

Sub-Slab Soil vapor samples will be collected in areas with either known or suspected sources of volatile chemicals, in the vicinity of a building's foundation, along the site's perimeter, and at a depth comparable to the depth of foundation footings or at least 1 foot above the water table in areas where the groundwater table is less than 6 feet below grade. For this site based on the building conditions and previous data, sub-slab soil vapor investigation sampling will be at four locations across the slab and including the northwest corner nearest to the former UST area. (locations are shown on **Figure 5)**.

The sub-slab vapor samples will be collected in central locations away from foundation footings and from the soil immediately below the basement slab or slab-on-grade. Please note, the number of sub-slab vapor samples that should be collected in a building depends upon the number of slabs (e.g., multiple slabs-on-grade in a large warehouse) and foundation types (e.g., combined basement and slab-on-grade). At least one sub-slab vapor sample should be collected from each representative area. The number and points identified above are estimates based on observations made during the Phase I/II ESAs. All sub-slab vapor and soil vapor sampling will be completed in accordance with the *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (with updates).

A total of four (4) sub-slab vapor samples will be collected. Vapor samples will be installed using a drill to install a hole through the slab following standard procedures. Air samples will be collected in regulated summa canisters over a 24-hour period. The samples will be analyzed for USEPA TO- 15 compounds. Three additional sub slab samples will be installed adjacent to well locations if no appreciable volume of groundwater is found.

Should groundwater wells be determined to not be appropriate at this site, vapor probes/points will be installed at the well locations and set at the top of bedrock. A total of three (3) Soil Vapor Points (VP-1 through VP-3) will be installed. Sampling and probe installation will be conducted in accordance with NYSDOH guidance for evaluating soil vapor intrusion (NYSDOH Soil Vapor

Intrusion Guidance-October 2006). Vapor Points will be installed at the top of bedrock to capture vapors migrating from groundwater deeper in the bedrock. Borings completed for wells that do not encounter groundwater will be converted to VP locations. A ¼ inch PVC tube with a 3/8-inch stainless steel screen at the bottom will be installed at the bottom of each location. Vapor Point Installation diagrams will be developed. Porous sand will be backfilled around the screen to a two-foot depth of each hole and a bentonite seal will be placed above the sand layer to seal off the hole around the tubing. Air samples will be collected in regulated summa canisters over an 8-hour period. The samples will be analyzed for USEPA TO- 15 compounds.

Installation/sampling procedures for sub-slab and vapor point samples will be in accordance with the current updated New York State Department of Health *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* and its amendments. The sampling procedures are also provided in **Section 8.0** of **Appendix D** FSP. Summa canisters will be used to collect all vapor samples. NYSDEC Category B analytical data package deliverables will be provided. Air samples to be collected are summarized in Table 1 of **Appendix C** along with QA/QC requirements. DUSRs will be completed for all samples. Locations are shown in **Figure 5**.

4.5 BUILDING ENVIRONMENTAL CONDITION ASSESSMENT

Previous hazardous materials inspections have been performed on the Site which indicate the presence of ACM and LBP. The RI will also include a PCB inventory/assessment for the building.

4.5.1 ACM

ACM was identified at the Site associated with a gray-black tar used in construction. Additional assessments are not anticipated. If necessary, a third party will provide New York State Department of Labor Certified Asbestos Inspectors to identify and quantify homogenous areas, and to collect bulk samples of each homogenous area within the building for laboratory analysis. Asbestos sampling activities will be conducted in accordance with guidelines and techniques identified in New York Code Rule 56. The samples will be sent to a laboratory approved by NYSDOH ELAP for subsequent analysis.

Third party contractor will perform demolition and abatement. Site plans are included as an attachment. Abatement of ACM material will occur prior to building demolition.

4.5.2 LBP

Past surveys identified LBP on the structural steel at the Site. This material will be disposed of as construction and demolition debris.

4.5.3 PCB Survey

Small transformers are known to exist at the Site as identified in the Phase I ESA and appear to be cast type resin which does not contain PCBs. A third-party demolition contractor will identify transformers and fluorescent light fixtures and ballasts for suspect PCB containing materials throughout the existing building. The survey will provide a count of fixtures that are not labelled as being non-PCB containing. A report will be developed for inclusion in the RI report. The building was constructed in the 1990s which decreases the likelihood of the presence of PCB containing materials.

Underground transformers and aboveground electrical connection boxes exist to the east of the project Site owned by National Grid. National Grid is assumed to be performing de-energizing and sampling procedures if required. Confirmation of the presence of PCBs is required prior to managing the removal of the transformers from the Site. Any PCB containing equipment or materials found will be removed from the Site prior to demolition. A report documenting the results of any additional PCB survey performed will be developed and included in the RI report.

Sampling will be performed following the initial PCB survey and identification of and potential PCB containing materials but prior to building demolition in accordance with Environmental Protection Agency (EPA) Toxic Substances Control Act (TSCA) guidance. The results of the sampling will determine their classification as hazardous or non-hazardous waste.

4.5.4 Floor Drain Survey

Floor drains exist in the building in restroom areas. Prior to building demolition, a full Site reconnaissance and survey of the building floor drains will be conducted, and contents characterized including the sampling of sediment for COCs if present. Sampling will be conducted by scooping sediment with a decontaminated steel spoon and jarred for analysis for COCs. BE3 has no information on the exact location of the drains within the building other than they are in the restroom locations.

5.0 ADDITIONAL SUPPLEMENTAL FIELD INVESTIGATIONS

All the data generated during the RI will be evaluated to determine if additional investigation activities are needed beyond what is described herein. Additional assessment may include an additional subsurface boring or test trench and sample analysis limited to contaminants identified during the RI program.

6.0 INVESTIGATION DERIVED WASTE MANAGEMENT

Investigation-derived waste (IDW) will include soil, groundwater, and miscellaneous solid waste generated on site during the RI. Waste soil will be returned to their respective boring location within 12 inches of the surface and restored. Waste soil during test trenching will be returned to their respective trench. Activities that would require disposal off-site include bedrock well installations, groundwater sampling, and abatement of ACM prior to demolition. IDW generated on site that cannot be disposed of on site will be containerized and disposed of at an approved facility typically during the remedial phase of the project following NYCRR Part 360 guidance. IDW will be managed in accordance with NYSDEC DER-10 Section 3.3e.

7.0 QUALITATIVE EXPOSURE ASSESSMENT

Qualitative exposure assessments will be completed in accordance with DER-10 sections 3.3(c) 3 & 4. The assessments will include what impacts site contaminants and field activities may have, if any, on human health and fish and wildlife resources considering all media (ground/surface water, soil, soil vapor, ambient air, and biota). Human health and ecological exposure impacts will be assessed as outlined in DER-10 Appendix 3B - Qualitative Human

Health Exposure Assessment and Appendix 3C - Fish and Wildlife Resources Impact Analysis (FWRIA) Decision Key. The Appendix 3C Fish and Wildlife Resources Impact Analysis Decision Key is provided in **Appendix E**. No FWRIA is needed based on the completed decision key process. This determination is based on the following:

- The Site was a residential and commercial property in a non-residential zone (D1-A);
- The contamination at the site has very low potential to migrate into or impact any on or off-site habitat of endangered, threatened, or special concern species or other fish and wildlife resource; there are no habitats onsite, and the closest offsite habitat is more than ¼ mile away with the Niagara River more than ¼ miles away per FEAF and Env. Resource Mapper.

The qualitative human health exposure assessment will evaluate the five elements (DER-10 Appendix 3B) associated with exposure pathways and describe how each of these elements pertains to the Site. The exposure pathway elements that will be addressed include:

- A description of the contaminant source(s) including the location of the contaminant release to the environment (any waste disposal area or point of discharge) or if the original source is unknown, the contaminated environmental medium (soil, indoor or outdoor air, biota, and water) at the point of exposure;
- An explanation of the contaminant release and transport mechanisms to the exposed population;
- Identification of all potential exposure point(s) where actual or potential human contact with a contaminated medium may occur;
- Description(s) of the route(s) of exposure (i.e., ingestion, inhalation, dermal absorption); and,
- A characterization of the receptor populations who may be exposed to contaminants at a point of exposure.

As called for in DER-10 for volunteers in the BCP, sufficient field information and sampling data will be provided to identify the presence of contamination, if any, that maybe leaving the Site to support qualitative off-site exposure assessments by others.

8.0 REPORTING

An RI report will be prepared in accordance with the applicable requirements of DER-10 and Part 375. All RI data will be submitted to the NYSDEC data database. Once the approved lab has completed its sample analysis of a lab data sample batch it is inserted by the lab into lab EDD forms (only lab data) and a CAT B is prepared and sent to the independent preparer of DUSRs. Once the DUSRs are received, the final EDD is prepared for the sample batch incorporating the lab data plus the site-specific data called for in the EDD. Any data changes called for in the DUSRs are also incorporated in the final EDD (latest format). The latest NYSDEC EDD Valid values tables are also checked. Select computers and staff have standalone Electronic Data Processors (EDP) inserted from NYSDEC on their computers. The final EDD is inserted in the EDP which confirms if all the data has been correctly inserted and shows where data is incomplete. Corrections are then made until the EDP indicates the EDD data is correct. Once correct the EDP has a process to submit the completed EDD in Zip format to Albany for final check.

A schedule is provided in **Figure 2**. It is anticipated that upon completion of the 30-day public comment period an RI report will be drafted. This report may also include a corresponding AAR that (1) evaluates remedial alternatives based upon the data obtained in the RI, and (2) initiates the 45-day public comment period for the generation of the remedial action work plan (RAWP) and final decision document produced by the NYSDEC.

A Citizen Participation Plan (CPP) has been prepared for the Site in accordance with the requirements outlined in NYSDEC's DER-23 Citizen Participation Handbook for Remedial Programs, issued January 2010, as amended. The CPP provides for issuance of fact sheets and public meetings at various stages in the investigation/remedial process. A fact sheet will be prepared by NYSDEC to announce the availability of the RIWP for review, followed by a 30-day comment period. A public meeting will be held, if requested, during the public comment period.

The major components of the CPP are as follows:

- Names and addresses of the interested public as set forth on the Brownfield site contact list provided with the BCP application;
- Identification of major issues of public concern related to the site and that may be encountered during the remediation project;
- A description of citizens participation activities already performed and to be performed during remediation;
- Identification of document repositories for the project; and,
- A description and schedule of public participation activities that are either required by law or needed to address public concerns related to the Site.

Summaries of the RI investigation will be submitted to the NYSDEC as monthly progress reports as noted in Section XI of the BCA. Fact sheets documenting the goals and progress of the project will be prepared at key milestones during the project and distributed to those on the project mailing list. The distribution list is included in the CPP.

9.0 WORK PLAN CERTIFICATION

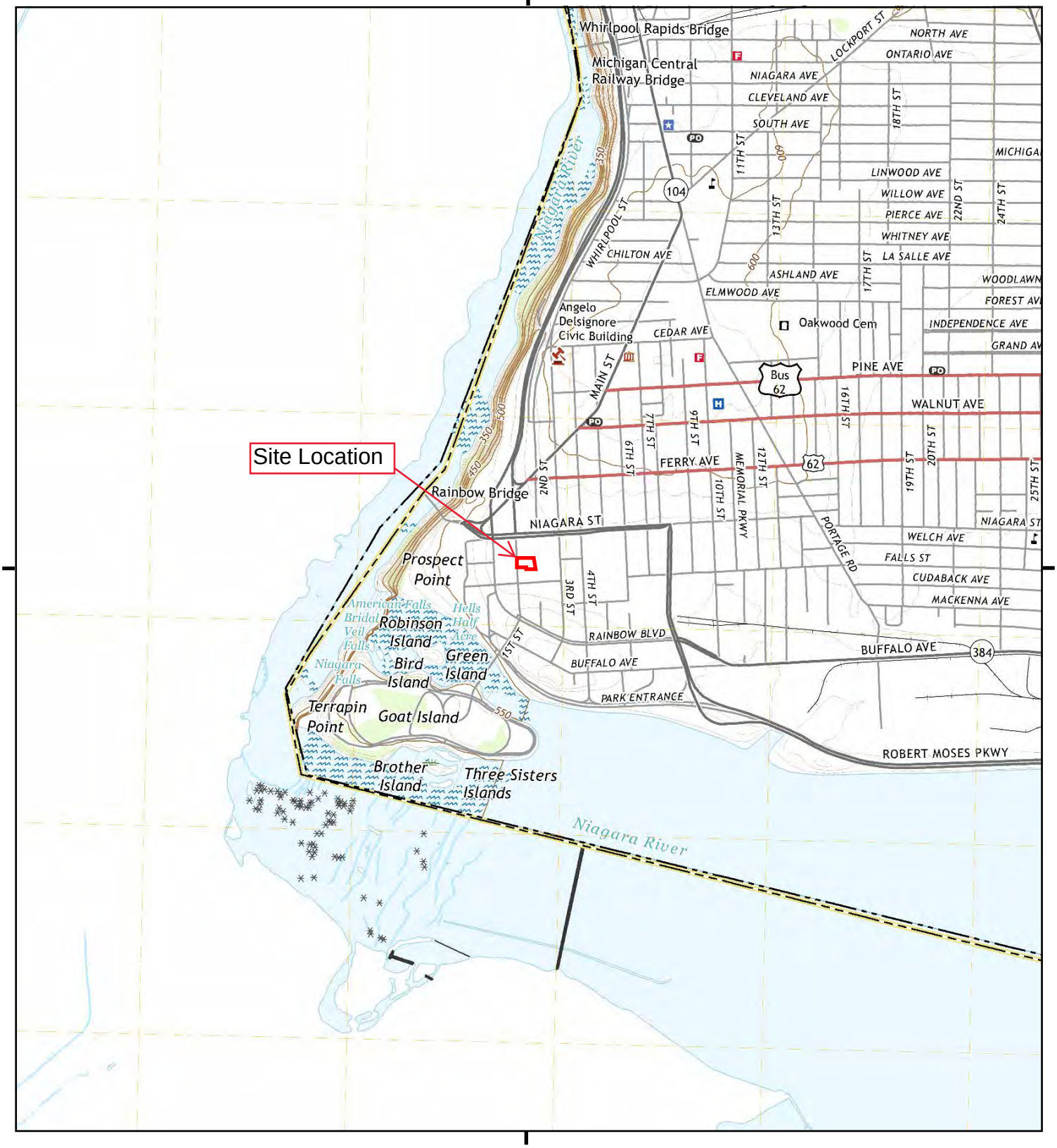
I, Jason M. Brydges certify that I am currently a New York State registered professional engineers/Qualified Environmental Professionals as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

Jason M. Brydges, PE

FIGURES

Figure 1 - Historical Topo Map

2019



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Niagara Falls, 2019, 7.5-minute

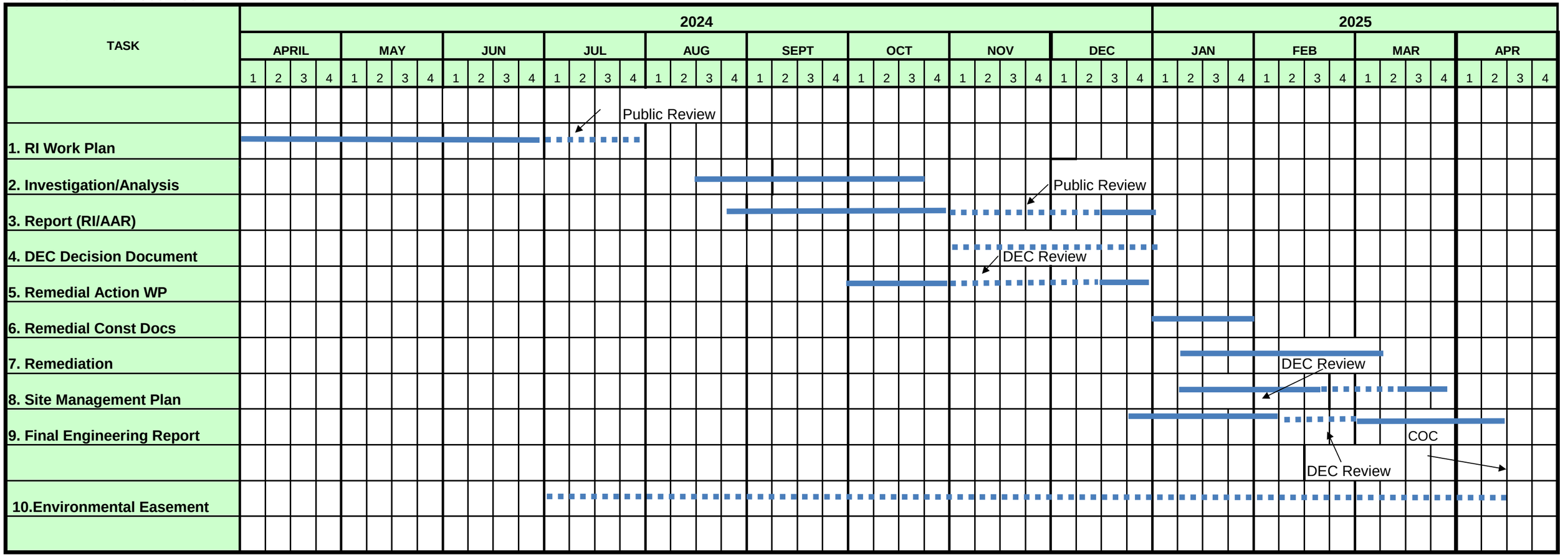
SITE NAME: Old Falls
ADDRESS: 333 1st Street
NIAGARA FALLS, NY 14303
CLIENT: BE3

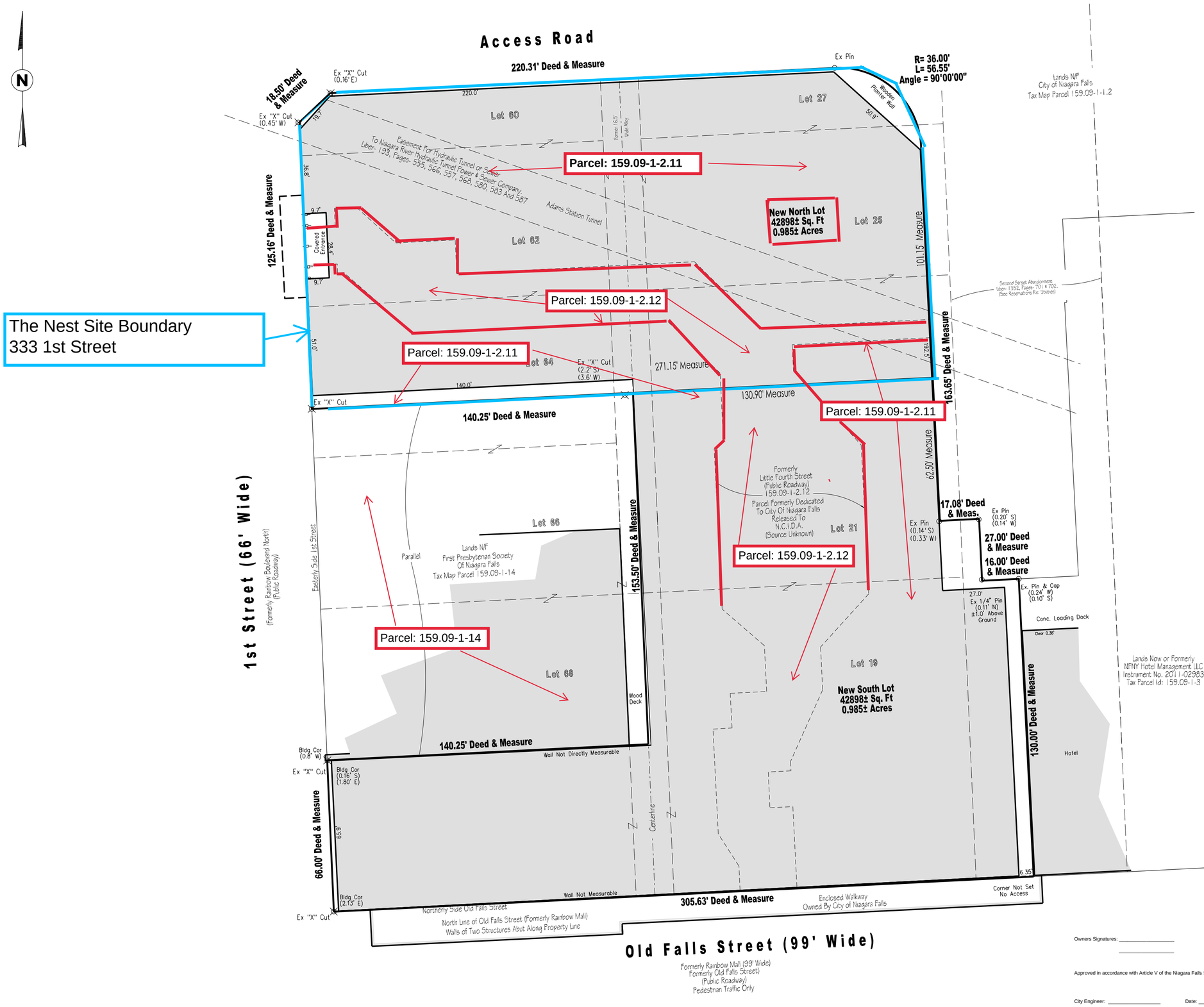
N

FIGURE 2

BCP PRELIMINARY PROJECT SCHEDULE (1) June 2024

THE NEST - BCP#C932183





Map Reference:
Map By J.C. Haines Dated 12/20/1861 -
Filed N.C.C.O. In Cover 389.

30' 0 30' 60'

SCALE BAR
IN FEET

FIGURE 3 - SITE SURVEY AND TAX MAP

Owners Signatures: _____

_____

Approved in accordance with Article V of the Niagara Falls Subdivision Regulations

City Engineer: _____ Date: _____

City Assessor: _____ Date: _____

Director of planning: _____ Date: _____

"Pursuant to chapter 605 of the laws of 1985, I certify that this Subdivision map was prepared under my direction and the outbounds survey of the premises contained within said subdivision was prepared under my direction and is shown on my map dated January 18, 2023."

Niagara Boundary
And Mapping Services

PO Box 1120
Lewiston, NY 14092
(716) 297-9584

E-Mail:
lee@niagaraboundary.com

Map Showing Subdivision of Property Owned by

USA Niagara Development Corporation

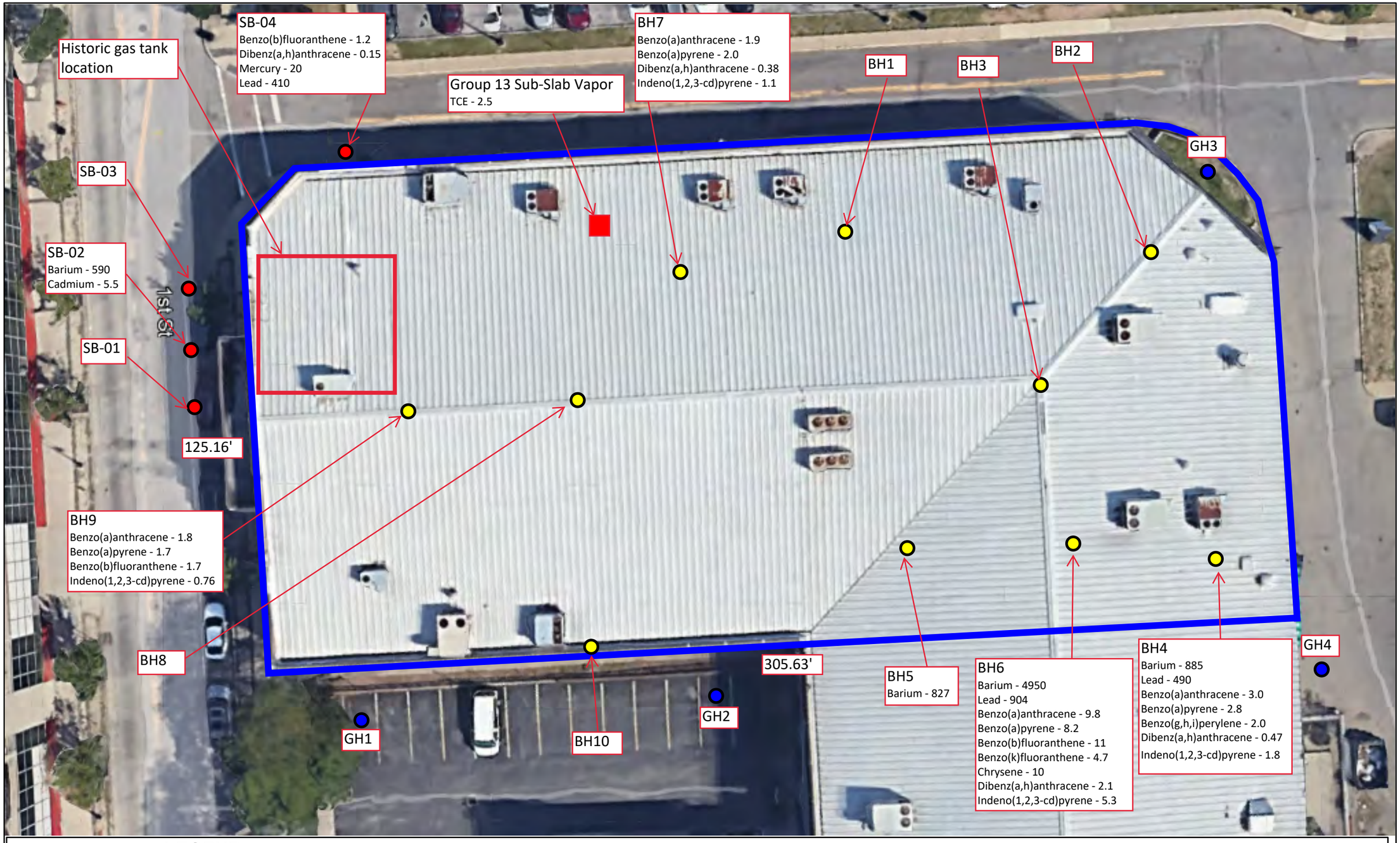
Deed Reference: Instrument No. 2019-04063
Tax ID: 159.09-1-2.11 & 159.09-1-2.12

LOT	SECTION	TOWNSHIP	RANGE
43 Mile Reserve			

City	Niagara Falls
COUNTY	Niagara
STATE	New York
DATE	January 18, 2023
SCALE	1" = 30'
JOB NO.	4551-23
REVISIONS	

Kenneth L. Slaugenhoupt Lic. No. 50349

FILE: Z:*nbms (Ndsvr01) (Z)*Active Projects*4551 1St Street Apartments*4551 January 20 2023.dgn



LEGEND

- Approximate Site Boundary
- BE3 2023 Phase II Soil Boring
- LiRo 2019 Phase II Soil Boring
- Foundation Design 2023 Geotechnical Boring
- LiRo 2019 Phase II Vapor

Note:

1. All units are in parts per million (ppm)
2. All values listed are above NYSDEC restricted residential SCOs or NYSDOH air guidance values.

BRYDGES ENGINEERING
IN ENVIRONMENT AND ENERGY, DPC

960 Busi Avenue
Buffalo, NY 14213
716.249.6880
jbrydges@be3corp.com

CLIENT: Community Services Seventh Housing.

Figure 4 - BE3 2023 Phase II Results and Historic Data
333 1st Street (The Nest)
Buffalo, NY 14303

N

DATE ISSUED:
April 4, 2023

△
△
△
△

SCALE:
1" = 25'

LEGEND

- LiRo 2019 Phase II Soil Boring
- BE3 2023 Soil Boring
- LiRo 2019 Phase II Vapor
- Project Boundary
- Foundation Design 2023 Geotechnical Boring
- Proposed RI Bedrock Monitoring Well
- Proposed RI Soil Boring
- Proposed RI Vapor Point
- Proposed RI Test Trench/Pit

BRYDGES ENGINEERING
IN ENVIRONMENT AND ENERGY, DPC

960 Busti Avenue
Buffalo, NY 14213
716.249.6880
jbrydges@be3corp.com

CLIENT - COMMUNITY SERVICES SEVENTH HOUSING

Figure 5 - RI Sampling Plan With Previous Investigation Locations

The Nest Site
333 1st Street,
Buffalo, NY 14203

N

DATE ISSUED:
May 3, 2024

Scale: 1" = 46'

APPENDICES

APPENDIX A

HEALTH AND SAFETY PLAN
for
SITE INVESTIGATIONS AND REMEDIAL OVERSIGHT

The Nest
333 1st Street
City of Niagara Falls, New York
Tax Map ID No.: 159.09-1-2.11
Property County: Niagara
Site No.: C932183

Prepared for:

Community Services Seventh Housing, LLC
180 Oak Street
Buffalo, NY 14203

Prepared by:

BE3 BRYDGES ENGINEERING IN ENVIRONMENT AND ENERGY, DPC
960 Busti Avenue, Suite B-150
Buffalo, New York 14213

December 2023

Table of Contents

ATTACHMENTS

1.0 INTRODUCTION

The following health and safety procedures apply to Brownfield Cleanup Program (BCP) project personnel, including subcontractors, performing activities described in the Release Investigation Work Plan (RIWP). Please note, however, that contractors performing investigation/remedial work are required to either develop their own Health and Safety Plans (HASPs) meeting these requirements at a minimum or adopt this plan.

1.1 PURPOSE

Directed at protecting the health and safety of the field personnel during field activities, the following HASP was prepared to provide safe procedures and practices for personnel engaged in conducting the field activities associated with this project. The plan has been developed using the Occupational Safety and Health Administration (OSHA) 1910 and 1926 regulations and New York State Department of Environmental Conservation (NYSDEC) Brownfields Department of Environmental Remediation (DER)-10 as guidance. The purpose of this HASP is to establish personnel protection standards and mandatory safety practices and procedures for this task specific effort. This plan assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise during the field efforts.

1.2 APPLICABILITY

The provisions of the plan are mandatory for all personnel engaged in field activities. All personnel who engage in these activities must be familiar with this plan and comply with its requirements. The plan is based on available information concerning the project area and planned tasks. If more data concerning the project area becomes available that constitute safety concerns, the plan will be modified accordingly. A member of each contractor on the BCP project will be designated as Field Safety Officer and will be responsible for field safety. Any modifications to the plan will be made by the Field Safety Officer after discussion with the Project Manager and Health and Safety Officer. All modifications will be documented and provided to the Project Manager and the Health and Safety Officer for approval. A copy of this plan will be available to all on-site personnel, including subcontractors, prior to their initial entry onto the site.

Before field activities begin, all personnel will be required to read the plan. All personnel must agree to comply with the minimum requirements of this plan, be responsible for health and safety, and sign the Statement of Compliance before site work begins.

1.3 FIELD ACTIVITIES

The work addressed by this HASP includes remedial investigation (RI) activities such as assessment of subsurface conditions related to soil, groundwater and vapor and oversight activities related to remediation. Field work will be conducted that can include soil borings, monitoring well installation, groundwater, vapor sampling and soil sampling, etc.

1.4 PERSONNEL REQUIREMENTS

Key personnel are as follows:

Health and Safety Officer - Peter J. Gorton, MPH, CHCM – Masters Level
Engineer and Project Managers – Jason M Brydges, P.E, Jacob Cox, EIT, Paul Staub, EIT
Geologist – John Boyd, PG
Technicians – Alexis Palumbo, Joe Gambino
QA/QC – John Berry, P.E.

Responsibilities of some of the key personnel are as follows:

Project Manager:

- Assuring that personnel are aware of the provisions of the HASP and are proficient in work practices necessary to ensure safety and in emergencies;
- Verifying that the provisions of this plan are implemented;
- Assuring that appropriate personnel protective equipment (PPE), if necessary, is available and properly utilized by all personnel;
- Assuring that personnel are aware of the potential hazards associated with Site operations;
- Supervising the monitoring of safety performance by all personnel and ensuring that required work practices are employed; and,
- Maintaining sign-off forms and safety briefing forms.

Health and Safety Officer:

- Monitoring work practices to determine if potential hazards are present, such as heat/cold stress, safety rules near heavy equipment, etc.;
- Determining changes to work efforts or equipment to ensure the safety of personnel;
- Evaluating on-site conditions and recommend to the Project Manager modifications to work plans needed to maintain personnel safety;
- Determining that appropriate safety equipment is readily available and monitor its proper use;
- Stopping work if unsafe conditions occur or if work is not being performed in compliance with this plan:
- Monitoring personnel performance to ensure that the required safety procedures are followed.
- Documenting incident and reporting to Project Manager within 48 hours of occurrence if established safety rules and practices are violated; and,
- Conducting safety meetings as necessary.

Field Personnel, including geologists and technicians:

- Understanding the procedures outlined in this plan;
- Taking precautions to prevent injury to themselves and co-workers;
- Performing only those tasks believed to be safe;

- Reporting accidents or unsafe conditions to the Health and Safety Officer and Project Manager;
- Notifying the Health and Safety Officer and Project Manager of special medical problems (e.g., allergies, medical restrictions, etc.);
- Thinking about safety first while conducting field work; and,
- Not eating, drinking or smoking in work areas.

All Site personnel have the authority to stop work if conditions are deemed to be unsafe. Visitors will be required to report to the overall Site Project Manager or designee and follow the requirements of this plan and the Contractor's HASP (if different).

2.0 SITE DESCRIPTION AND SAFETY CONCERNS

2.1 SITE BACKGROUND AND DESCRIPTION

Approximately 95 percent of the Site contains a vacant two-story commercial building known as the Smokin' Joe's Native Center and was formerly used as a retail store and graphics center. The Site is generally flat and gently sloping towards city streets and the Niagara River to the west. Surface and shallow groundwater flow have most likely been impacted over time by the various developments and fills as well as foundations, street beds, and utility lines. Surface water is directed to adjacent streets and storm drains within the building. In general, groundwater most likely flows west-northwest towards the Niagara River.

Historical records including street directories and Sanborn Maps suggest that the site was mixed use residential and commercial. Some of these uses include hotels, storefronts, a furniture store, a department store, auto parking, and leather good manufacturing. Two gas tanks were located on the northwest corner of the subject property from 1950-1970.

2.2 HAZARD EVALUATION

Specific health and safety concerns to the project tasks include working around low levels of heavy metals, semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs) in soil and groundwater. Physical hazards include those associated with working near open excavations and adjacent to field equipment and heavy equipment such as back hoes and drill rigs. Contractors will have separate detailed health and safety procedures/requirements for excavations and the transportation and disposal of impacted material that will meet or exceed requirements in this plan. A table of potential hazards and OSHA Standards for consideration during investigation and remedial activities is provided in **Attachment 1**.

2.2.1 Chemical Hazards

Chemical hazards detected at the site include metals and organic compounds that were detected in soil samples and groundwater at concentrations that exceed NYSDEC Part 375 soil cleanup objectives or groundwater standards. These compounds could be encountered during the RI and remedial activities and potential routes of exposure include:

- Skin contact;
- Inhalation of vapors or particles;
- Ingestion; and,

- Entry of contaminants through cuts, abrasions or punctures.

The anticipated levels of personnel protection will include Level D PPE that includes the following:

1. Long sleeve shirt and long pants
2. Work boots with steel toe
3. Hard hats when heavy equipment or overhead hazards are present
4. Safety glasses
5. Work gloves and chemical resistant gloves when sampling potentially contaminated materials
6. High visibility vests or outer gear when Site traffic is significant

Modifications may include booties, overalls, hearing protection, or respiratory protection if air monitoring levels indicate sustained photoionization detector (PID) readings greater than 5 ppm above established background levels. If these levels are reached, work will be halted pending discussions with field and office management. If any readings are recorded above background, work will proceed with caution and breathing zone monitoring will be conducted.

2.2.2 Other Physical Hazards

Depending on the time of year, weather conditions or work activity, some of the following physical hazards could result from project activities:

- Noise
- Heat Stress
- Cold Stress
- Slips, trips, and falls
- Exposure to moving machinery during drilling and excavation activities
- Physical eye hazards
- Lacerations and skin punctures
- Back strain from lifting equipment
- Electrical storms and high winds
- Contact with overhead or underground utilities

Slips, Trips, and Falls. Field personnel shall become familiar with the general terrain and potential physical hazards that are associated with the risk of slips, trips, and falls. Special care shall be taken when working near demolition and excavation operations and material stockpiles. Workers will observe all pedestrian and vehicle rules and regulations. Extra caution will be observed while working near roadways and while driving in reverse to ensure safety.

Noise. All personnel shall wear hearing protection devices, such as earmuffs or ear plugs, if work conditions warrant. These conditions would include difficulty hearing while speaking to one another at a normal tone within three feet. If normal speech is interfered with due to work noise, the Health and Safety Officer or designee will mandate the use of hearing protection or other noise-producing equipment or events.

Heat/Cold Stress. Heat stress work modification may be necessary during ambient temperatures of greater than 29 degrees Celsius (°C) (85 degrees Fahrenheit [°F]) while wearing normal clothing

or exceeding 21°C (70°F) while wearing PPE. Because heat stress is one of the most common and potentially serious illnesses at work sites, regular monitoring and preventive measures will be utilized such as additional rest periods, supplemental fluids, restricted consumption of drinks containing caffeine, use of cooling vests, or modification of work practices. Most of the work to be conducted during the oversight and monitoring operations is expected to consist of light manual labor and visual observation. Given the nature of the work and probable temperatures, heat stress hazards are not anticipated. See **Attachment 2** for heat stress management procedures.

If work is to be conducted during winter conditions, cold stress may be a concern to the health and safety of personnel. Wet clothes combined with cold temperatures can lead to hypothermia. If the air temperature is less than 4°C (40°F) and a worker perspires, the worker should change to dry clothes. The following summary of the signs and symptoms of cold stress is provided as a guide for field personnel.

1. Incipient frostbite is a mild form of cold stress characterized by sudden blanching or whitening of the skin.
2. Chilblain is an inflammation of the hands and feet caused by exposure to cold moisture. It is characterized by a recurrent localized itching, swelling, and painful inflammation of the fingers, toes, or ears. Such a sequence produces severe spasms, accompanied by pain.
3. Second-degree frostbite is manifested by skin with a white, waxy appearance and the skin is firm to the touch. Individuals with this condition are generally not aware of its seriousness because the underlying nerves are frozen and unable to transmit signals to warn the body. Immediate first aid and medical treatment are required.
4. Third-degree frostbite will appear as blue blotchy skin. The tissue is cold, pale, and solid. Immediate medical attention is required.
5. Hypothermia develops when body temperature falls below a critical level. In extreme cases, cardiac failure and death may occur. Immediate medical attention is warranted when the following symptoms are observed:

    - Involuntary shivering
    - Irrational behavior
    - Slurred speech
    - Sluggishness

Fire and Explosion. These hazards will be minimal for activities associated with this project. All heavy equipment will be equipped with a fire extinguisher.

Trenching and Excavations. There are a variety of potential health and safety hazards associated with excavations. These include:

- Surface encumbrances, such as structures, fencing, stored materials, etc.;
- Below- and above-ground utilities, such as water and sewer lines, gas lines, telephone lines, and optical cable lines, etc.;
- Overhead power lines and other utilities;
- Vehicle and heavy equipment traffic around the excavations;
- Falling loads from lifting or digging equipment;
- Water accumulation within excavations;

- Hazardous atmospheres, such as oxygen deficiency, flammable gases, and toxic gases;
- Falling into or driving equipment into unprotected or unmarked excavations; and,
- Cave-in of loose rocks and soil at the excavation face.

OSHA requirements for trenching and excavations are contained in 29 Code of Federal Regulations (CFR), Subpart P, 1926:650 through 1926.652. See **Attachment 3** for details on excavation and trenching safety requirements, which include the following basic minimum excavation requirements:

- Personnel entry into excavations should be minimized whenever possible and no entry will occur in pits greater than 4 feet below ground surface (bgs). Sloping, shoring or equivalent means should be utilized.
- Surface encumbrances such as structures, fencing, piping, stored material etc. that may interfere with safe excavations should be avoided, removed or adequately supported prior to the start of excavations. Support systems should be inspected daily.
- Underground utility locations should be checked and determined, and permits should be obtained prior to initiating excavations. Local utility companies will be contacted at least two days in advance, advised of proposed work, and requested to locate underground installations. When excavations approach the estimated location of utilities, the exact location should be determined by careful probing or hand digging and when it is uncovered, proper supports should be provided.
- A minimum safe distance of 15 feet should be maintained when working around overhead high-voltage lines or the line should be de-energized following appropriate lock-out and tag- out procedures by qualified utility personnel.
- Excavations five feet or more, if entered, will require an adequate means of exit, such as a ladder, ramp, or steps and located to require no more than 25 feet of lateral travel. Under no circumstances should personnel exit/enter an excavation using heavy equipment.
- Personnel working around heavy equipment, or who may be exposed to public vehicular traffic should wear high visibility clothes, especially at night.
- Heavy equipment or other vehicles operating next to or approaching the edge of an excavation will require that the operator have a clear view of the edge of the excavation, or that warning systems such as barricades, hand or mechanical signals, or stop logs be used. If possible, the surface grade should slope away from the excavation.
- Personnel should be safely located in and around the trench/excavation face and should not work underneath loads handled by lifting or digging equipment.
- Hazardous atmospheres, such as oxygen deficiency (atmospheres containing less than 19.5% oxygen), flammable gases (airborne concentrations greater than 20% of the lower explosive limit), and toxic gases (airborne concentrations above the OSHA Permissible Exposure Limit or other exposure limits) may occur in excavations. Monitoring should be conducted for hazardous atmospheres prior to entry and at regular intervals. Ventilation or respiratory protection may be provided to prevent personnel exposures to oxygen deficient or toxic atmospheres. Periodic retesting (at least each shift) of the excavation will be conducted to verify that the atmosphere is acceptable. A log or field book records should be maintained.
- Personnel should not work in excavations that have accumulated water or where water is accumulating unless adequate precautions have been taken. These precautions can include shield systems, water removal systems, or safety harnesses and lifelines. Groundwater entering the excavation should be properly directed away and down gradient

from the excavation.

- Safety harnesses and lifelines should be worn by personnel entering excavations that qualify as confined spaces.
- Excavations near structures should include support systems such as shoring, bracing, or underpinning to maintain the stability of adjoining buildings, walls, sidewalks, or other structures endangered by the excavation operations.
- Loose rock, soil, and spoils should be piled at least two and preferably 5 feet or more from the edge of the excavation. Barriers or other effective retaining devices may be used to prevent spoils or other materials from falling into the excavation.
- Walkways or bridges with standard guardrails that meet OSHA specifications will be provided where employees, the public, or equipment are required to cross over excavations.
- Adequate barrier physical protection should be provided, and excavations should be barricaded or covered when not in use or left unattended. Excavations should be backfilled as soon as possible when completed.
- Safety personnel should conduct inspections prior to the start of work and as needed throughout the work shift and after occurrence that increases the hazard of collapse (i.e., heavy rain, vibration from heavy equipment, freezing and thawing, etc.).
- Personnel working in excavations should be protected from cave-ins by sloping or benching of excavation walls, a shoring system or some other equivalent means in accordance with OSHA regulations. Soil type is important in the determination of the angle of repose for sloping and benching, and the design of shoring systems.

2.2.3 Biological Hazards

Biological hazards can result from encounters with mammals, insects, snakes, spiders, ticks, plants, parasites, and pathogens. Mammals can bite or scratch when cornered or surprised. The bite or scratch can result in local infection with systemic pathogens or parasites. Insect and spider bites can result in severe allergic reactions in sensitive individuals. Exposure to poison ivy, poison oak or poison sumac results in skin rash. Ticks are a vector for several serious diseases. Dead animals, organic wastes, and contaminated soil and water can harbor parasites and pathogens. These hazards are reduced if work is conducted during the late fall and winter months. The following are highlighted because they represent more likely concerns for the site-specific tasks and location:

Bees, Ants, Wasps and Hornets. Sensitization by the victim to the venom from repeated stings can result in anaphylactic reactions. If a stinger remains in the skin, it should be removed by teasing or scraping, rather than pulling. An ice cube placed over the sting will reduce pain. An analgesic corticosteroid lotion is often useful. People with known hypersensitivity to such stings should consult with their doctor about carrying a kit containing an antihistamine and aqueous epinephrine in a pre-filled syringe when in endemic areas. Nests and hives for bees, wasps, hornets and yellow jackets often occur in the ground, trees and brush. Before any nests or hives are disturbed, an alternate sampling location should be selected. If the sample location cannot be relocated, site personnel who may have allergic reactions shall not work in these areas.

Ticks. The incidence of Lyme disease is correlated to outdoor workers in areas where the disease is widespread and heightened risk of encountering ticks infected with B. burgdorferi, which varies from state to state, within states, and even within counties. Preventing tick bites is

of utmost importance in preventing Lyme disease and other tickborne illnesses. Tick bite prevention strategies include avoidance or clearing of tick-infested habitats and use of personal protective measures (e.g., repellents and protective clothing). Tick checks should be done regularly, and ticks should be removed promptly. If a worker in a high-risk area develops flu-like symptoms (fever, chills, muscle aches, joint pains, neck stiffness, headache) or a bulls-eye rash, they should seek medical attention even if there is no recall of a tick bite. Workers who have experienced a tick bite should remove the tick and seek medical attention if signs and symptoms of tick-borne diseases occur.

Storm Conditions. When lightning is within 10 miles of the work site, all personnel should evacuate to a safe area.

Sun. When working in the sun, personnel should apply appropriate sun screening lotions (30 sunscreen or above), and/or wear long sieve clothing and hats.

2.2.4 Activity Hazard Analysis

Table 1 presents a completed activity hazard analysis for the performance of an RI.

Table 1. Activity Hazard Analysis

PRINCIPAL STEPS	POTENTIAL SAFETY/HEALTH HAZARDS	RECOMMENDED CONTROLS
RI soil/groundwater investigation	Potential exposure to low levels of metals, PAHs, petroleum products and solvents	1. Use of administrative controls (site control and general safety rules), work cloths, dust suppression 2. Use of real-time monitoring and action levels 3. Use Physical Hazards SOPs 4. Wear gloves when handling soil and groundwater 5. Actions levels for dust and vapors
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Excavation and other heavy equipment, Backhoe or Geoprobe	1. Daily inspection of equipment 2. Continuous safety oversight	1. Safety plan review 2. Routine safety briefings 3. PID and Dust Monitor

3.0 MONITORING

The purpose of air monitoring for potential airborne contaminants is to verify that protection levels are suitable. Monitoring will be performed for dust/particulates and volatile organic compounds during excavation activities. Daily background and calibration readings will be

recorded prior to the start of field activities. All monitoring equipment used during this investigation will be maintained and calibrated and records of calibration and maintenance will be kept in accordance with 29 CFR 1910.120(b)4(11)E.

3.1 PARTICULATE MONITORING

Real-time air monitoring readings are obtained from upwind and downwind locations in accordance with DER-10 for community air-monitoring. Daily field reports will be completed that document activities performed, equipment and manpower onsite, screening and monitoring results, general Site conditions, and weather conditions.

3.2 AIR MONITORING FOR WORKER PROTECTION

Real time air monitoring will be conducted whenever site soil is disturbed during sampling, excavation, grading, etc. A real time personal aerosol monitor (i.e., TSI SidePak AM5 10 Personal Aerosol monitor or equivalent) will be used. This monitor is a laser photometer that measures data as both real-time aerosol mass-concentration and 8-hour time weighted average (TWA). The monitor will be used to measure real-time concentrations in milligrams per meter cubed (mg/m^3). Action levels are based on potential exposure to calcium carbonate and will be as follows:

- 15 mg/m^3 total dust
- 5 mg/m^3 respirable fraction for nuisance dusts

Dust suppression techniques should be employed prior to exceeding the action levels. However, if these levels are exceeded, then work will be halted, and additional dust suppression techniques employed until safe levels are reached.

3.3 TOTAL VOLATILE ORGANICS MONITORING

Monitoring of VOCs will be conducted using a PID. If a sustained reading of 5 ppm above background occurs, then work will be halted, and personnel will evacuate the work area. Levels will be allowed to stabilize, and another reading will be taken in the breathing zone. If background levels continue to be exceeded, then work will not continue at that location and the project manager will be notified of the situation. Action levels will remain the same.

4.0 SAFE WORKING PRACTICES

The following general safe work practices always apply to a construction site:

- Eating, drinking, chewing gum or tobacco and smoking are prohibited within the work area.
- Contact with potentially contaminated substances should be avoided.
- Puddles, pools, mud, etc. should be avoided if possible.
- Kneeling, leaning, or sitting on equipment or on the ground should be avoided if possible.
- Upon leaving the work area, hands, face and other exposed skin surfaces should be thoroughly washed.
- Unusual site conditions shall be promptly conveyed to the project manager, health and

safety officer, or site superintendent for resolution.

- A first-aid kit shall be available at the site.
- Field personnel should use all their senses to alert themselves to potentially dangerous situations (i.e., presence of strong, irritating, or nauseating odors).
- If severe dusty conditions are present, then the soil will be dampened to mitigate dust.
- All equipment will be cleaned before leaving the work area.
- Field personnel must attend safety briefings and should be familiar with the physical characteristics of the investigation, including:
    - Accessibility to personnel, equipment, and vehicles.
    - Areas of known or suspected contamination.
    - Site access.
    - Routes and procedures to be used during emergencies.
- Personnel will perform all investigation activities with a "buddy" who is able to:
    - Provide his or her partner with assistance.
    - Notify management or emergency personnel if needed.
- Excavation activities shall be terminated immediately in the event of thunder or electrical storm.
- The use of alcohol or drugs at the site is strictly prohibited.

5.0 PERSONAL SAFETY EQUIPMENT AND SITE CONTROL

5.1 PERSONAL SAFETY EQUIPMENT

As required by OSHA in 29 CFR 1920.132, this plan constitutes a workplace hazard assessment to select PPE to perform the site investigation. The PPE to be donned by on-site personnel during this investigation are those associated with the industry standard of Level D. Protective clothing and equipment to initiate the project will include:

- Work clothes, pants and long sleeves
- Work boots with steel toe
- Work gloves as necessary
- Hard hat if work is conducted near equipment
- Safety glasses
- Hearing protection as necessary

Modifications may include chemically resistant gloves, booties, and overalls. If air monitoring indicates levels are encountered that require respiratory protection (sustained readings at or above action levels above a daily established background), then work will be halted, and an adequate resolution of PPE will be made by the health and safety manager, field manager, and project manager.

5.2 SITE CONTROL

Site control will be established near each work zone by the Contractor. The purpose is to control access to the immediate work areas from individuals not associated with the project. All work zones will be fenced off with controlled access and appropriately designated as an exclusion area.

Each excavation or drilling area where heavy equipment is being utilized will be set up as a work zone and include an exclusion area and support zone. The exact configuration of each zone is dependent upon location, weather conditions, wind direction and topography. The Contractor's safety manager will establish the control areas daily at each excavation.

An area of 10 feet (as practical) around each excavation will be designated as the exclusion area. This is the area where potential physical hazards are most likely to be encountered by field personnel. The size of the exclusion area may be altered to accommodate site conditions and the drilling/excavation location. If levels of protection higher than Level D are used, this plan will be modified to include decontamination procedure. The Site excavation contractor will be required to have eye/face wash equipment/means available on-site.

A support area will be defined for each field activity where support equipment will be located. Normal work clothes are appropriate within this area. The location of this area depends on factors such as accessibility, wind direction (upwind of the operation.), and resources (i.e., roads, shelter, utilities). The location of this zone will be established daily. Excavation areas will be filled or secured (fencing) to prevent access from the public.

6.0 EMERGENCY INFORMATION

In the event of an emergency, the field personnel or the health and safety manager will employ emergency procedures. A copy of emergency information will be kept in the field and will be reviewed during the initial site briefing. Copies of emergency telephone numbers and directions to the nearest hospital will be prominently posted in the field.

6.1 MEDICAL TREATMENT AND FIRST AID

A first aid kit adequate for anticipated emergencies will be maintained in the field. If any injury should require advanced medical assistance, emergency personnel will be notified, and the victim will be transported to the hospital. The Contractor will establish his own first aid station and details will be provided in his HASP.

In the event of an injury or illness, work will cease until the field safety and oversight inspector has examined the cause of the incident and taken appropriate corrective action. Any injury or illness, regardless of extent, is to be reported to the project manager and health and safety officer.

6.2 EMERGENCY CONTACTS

Emergency telephone numbers will be posted in the field and are listed below:

- Ambulance, Fire, Police 911
- Poison Control Center 800-222-1222
- NYSDEC Spills Hotline 800-457-7362
- Jason M. Brydges, BE3 716-830-8636
- Michael Keller, EIT, NYSDEC PM 716 851-7220
- TBD, NYSDOH 518-402-7860
- Niagara Falls Memorial 621 10th Street, Niagara Falls - **(716) 278-4000** See **Attachment 4**.

Verbal communications between workers or use of a vehicle horn repeatedly at intervals of three short beeps shall be used to signal all on-site personnel to immediately evacuate the area and report to the vehicle parking area.

6.3 Emergency Standard Operating Procedures

The following standard operating procedures are to be implemented by on-site personnel in the event of an emergency. The health and safety manager and Contractor's field manager shall manage response actions.

1. Upon notification of injury to personnel, the designated emergency signal shall be sounded. All personnel are to terminate their work activities and assemble in a safe location. The emergency facility listed above shall be notified. If the injury is minor, but requires medical attention, the Contractor's field manager or the health and safety manager shall accompany the victim to the hospital and help in describing the circumstances of the accident to the attending physician.
2. Upon notification of an equipment failure or accident, the Contractor's field manager or the health and safety manager shall determine the effect of the failure or accident on site operations. If the failure or accident affects the safety of personnel or prevents completion of the scheduled operations, all personnel are to leave the area until the situation is evaluated, and appropriate actions taken.
3. Upon notification of a natural disaster, such as tornado, high winds, flood, thunderstorm or earthquake, on-site work activities are to be terminated and all personnel are to evacuate the area.

6.4 Emergency Response Follow-Up Actions

Following activation of an emergency response, the health and safety officer shall notify the project manager, and the Contractor's field manager shall submit a written report documenting the incident to the project manager.

6.5 Medical Treatment

The Contractor's field manager shall be informed of any site-related injury, exposure or medical condition resulting from work activities. All personnel are entitled to medical evaluation and treatment in the event of a site accident or incident.

6.6 Site Medical Supplies and Services

The Contractor's field manager or a trained first aid crew member shall evaluate all injuries at the site and render emergency first-aid treatment, as appropriate. If an injury is minor but requires professional medical evaluation, the field manager shall escort the employee to the appropriate emergency room. For major injuries occurring at the site, emergency services shall be requested. A first-aid kit shall be readily accessible, fully supplied, and maintained at specified locations used for on-site operations.

6.7 Precautions

Universal precautions shall be followed on-site that consist of treating all human blood and certain body fluids as being infected with Human Immune Deficiency Virus (HIV), Hepatitis B

virus (HBV), or other blood borne pathogens. Clothing and first-aid materials visibly contaminated with blood or other body fluids will be collected and placed into a biohazard bag. Individuals providing first aid or cleanup of blood- or body-fluid contaminated items should wear latex gloves. If providing CPR, a one-way valve CPR device should be used. Biohazard bags, latex gloves, and CPR devices will be included in the site first-aid kits.

Work areas visibly contaminated with blood or body fluids shall be cleaned using a 1:10 dilution of household bleach. If equipment becomes contaminated with blood or body fluids, and cannot be sufficiently cleaned, the equipment shall be placed in a plastic bag and sealed. Any personnel servicing the equipment shall be made aware of the contamination, so that proper precautions can be taken.

7.0 RECORDKEEPING

The Contractor's field manager and health and safety officer are responsible for site record keeping. Prior to the start of work, they will review this Plan along with the Contractor's HASP. A Site safety briefing will be completed prior to the initiation of field activities. This shall be recorded in the field logbook. An accident report should be completed by the Field Manager if an accident occurs and forwarded to the project manager.

8.0 PERSONNEL TRAINING REQUIREMENTS

8.1 INITIAL SITE BRIEFING

Prior to site entry, the Contractor's health and safety manager shall provide all personnel (including site visitors) with site-specific health and safety training. A record of this training shall be maintained. This training shall consist of the following:

- Discussion of the elements contained within this plan
- Discussion of responsibilities and duties of key site personnel
- Discussion of physical, biological and chemical hazards present at the site
- Discussion of work assignments and responsibilities
- Discussion of the correct use and limitations of the required PPE
- Discussion of the emergency procedures to be followed at the site
- Safe work practices to minimize risk
- Communication procedures and equipment
- Emergency notification procedures

8.2 DAILY SAFETY BRIEFINGS

The Contractor's health and safety manager will determine if a daily safety briefing is required. The briefing shall discuss the specific tasks scheduled for that day and the following topics:

- Specific work plans
- Physical, chemical or biological hazards anticipated
- Fire or explosion hazards
- PPE required

- Emergency procedures, including emergency escape routes, emergency medical treatment, and medical evacuation from the site
- Weather forecast for the day
- Buddy system
- Communication requirements
- Site control requirements
- Material handling requirements

9.0 COMMUNITY AIR MONITORING PROGRAM (CAMP)

A Community Air Monitoring Program (CAMP) requires real-time monitoring for VOCs and particulates (i.e., dust) at the upwind and downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The program is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors and on-site workers not directly involved with work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. A New York State Department of Health (NYSDOH) generic CAMP obtained from NYSDEC DER-10 is presented in **Attachment 5** that will be followed and adhered to for work activities that could generate dust from an impacted area.

A program for suppressing fugitive dust and particulate matter monitoring will also be conducted in accordance *NYSDEC DER-10* titled *Appendix 1B Fugitive Dust and Particulate Monitoring,* which is also provided in **Attachment 5**. The fugitive dust suppression and particulate monitoring program will be employed at the site during building demolition, IRM site remediation and other intrusive activities which warrant its use.

Both the CAMP and the fugitive dust and particulate monitoring program will be administered by the environmental engineer/consultant. Monitoring results of the CAMP will be reported to the New York State Department of Health daily for review.

ATTACHMENT 1

TABLE OF POTENTIAL HAZARDS AND OSHA STANDARDS

Potential Hazards and OSHA Standards for Consideration during IRMs

Site Exposure/Control	Potentially Applicable OSHA Standard*	
	1910 General Industry	1926 Construction
Hazard Assessmen & Employee Training	29 CFR 1910.132(d)	29 CFR 1926.21(b)
Chemical Exposure	29 CFR 1910.1000	29 CFR 1926.55
Noise Exposure	29 CFR 1910.95	29 CFR 1926.52
Sanitation	29 CFR 1910.141	29 CFR 1926.51
Wiring Methods (temporary wiring)	29 CFR 1910.305(a)(2) 29 CFR 1910.333	29 CFR 1926.405(a)(2)
Electrical Hazards		29 CFR 1926.416
Emergency Action Planning	29 CFR 1910.38	29 CFR 1926.35
Excavation	covered by 1926	29 CFR 1926 Subpart P
Confined Space Entry	29 CFR 1910.146	29 CFR 1926.21(b)(6)29 CFR 1926.353(b)
Material Handling	29 CFR Subpart N	29 CFR Subpart N29 CFR 1926.600-60229 CFR 1926.604
Building Demolition	covered by 1926	29 CFR 1926 Subpart T
Site ContaminantAbatement	29 CFR 1910.1000-1029 29 CFR 1910.1043-1052	29 CFR 1926.5529 CFR 1926.6229 CFR 1926.1101-1152
Elevated Work Surfaces	29 CFR 1910 Subpart D 29 CFR 1910 Subpart F	29 CFR 1926 Subpart L29 CFR 1926 Subpart M29 CFR 1926.552
Chemical Storage	29 CFR 1910 Subpart H29 CFR 1910.1200	29 CFR 1926.5929 CFR 1926 Subpar t F
Personal Protective Equipment	29 CFR 1910 Subpart I	29 CFR 1926 Subpart E
Heavy Equipment Operation	29 CFR 1910.9529 CFR 1910 Subpart N	29 CFR 1926.5229 CFR 1926 Subpart O
Tasks-Long Duration	29 CFR 1910.141-142	29 CFR 1926.51

The Federal General Industry and Construction citations are provided above

ATTACHMENT 2

HEAT STRESS MANAGEMENT PROGRAM AND PROCEDURES

BRYDGES ENGINEERING
IN ENVIRONMENT AND ENERGY, DPC

INTRODUCTION

Panamerican employees engage in a variety of activities with potential exposure to excessive ambient temperatures and humidity, with the overall result being Aheat stress@. This procedure establishes the Panamerican Heat Stress Management Program. It establishes responsibilities and basic requirements for personnel who may be required to work in situations where the ambient temperature exceeds 21° C (70° F) while wearing protective equipment (e.g., hazardous waste site investigations) or when the ambient temperature exceeds 29° (85° F) while wearing normal clothing. Because heart stress is one of the most common and potentially serious illnesses at job sites and particularly hazardous waste sites, regular monitoring and other preventive measures are warranted.

There are no regulations addressing heat stress. However, it should be noted that OSHA does recognize heat stress as a potentially serious health hazard and can site employers under the Ageneral duty clause@ of the Occupational Safety Health Act if heat-related illness is occurring or likely to occur.

PROGRAM ADMINISTRATION AND RESPONSIBILITIES

The Heat Stress Management Program is administered by Panamerican Managers and Health and Safety personnel.

These Individuals:

- Oversee the implementation of the Heat Stress Management Program;
- Periodically audit and evaluate program implementation;
- Evaluate this procedure on an ongoing basis to see that it reflects current practice and regulations;
- Assist field crews in their implementation of this procedure.

Project Managers (PM) and Safety Personnel are responsible for:

- Implementing this Procedure in all field operations:
- Providing guidance to staff regarding heat stress management as described in the Procedure; and
- Providing feedback to management regarding program effectiveness.

Staff Members are responsible for:

- Complying with this Procedure as it applies to their activities; and
- Providing feed back to their supervisor regarding program effectiveness.

HEAT STRESS HAZARDS AND RISK FACTORS

Heat Stress is defined as the total net load on the body with contributions from both exposure to external sources, such as sunshine and hot surfaces, and from internal metabolic heat production. A person=s

exposure to the increased ambient temperatures and humidity produces physiological responses referred to as heat stress which are characterized by an increase in the: a) Acore@ or Adeep body temperature@. b) heart rate, c) blood flow to the skin, and d) water and salt loss due to sweating. Conditions of excessive heat stress may occur either when the physical work is too heavy or the environment is too hot in relation to the work being performed. If work is performed under hot environmental conditions, the work load effort must be reviewed and the heat exposure limit maintained at or below the levels to protect the worker from the risk of acute heat illness.

In general, there are four types of physiological disorders associated with heat stress. They include:

- Heat Rash - a skin reaction occurring as a result of obstructed sweat glands, often associated with impermeable clothing.

- Heat Cramps - painful muscle spasms of extremities and abdomen, resulting from inadequate balance of electrolytes which are lost from sweating.

- Heat Exhaustion - a mild form of heat stroke due to depletion of body fluids and electrolytes. Blood vessels dilate despite decreased volume of blood. Symptoms include weakness, dizziness, nausea, rapid pulse, and a small increase in body temperature.

- Heatstroke - a potentially fatal disorder resulting from failure of the body=s thermoregulatory system. The classical description of heatstroke includes (1) a major disruption of central nervous function (unconsciousness of convulsions), (2) a lack of sweating (3) hot, dry, red or mottled skin, and (4) a core temperature in excess of 41^{o}C (105.8^{o} F). Heatstroke is a serious medical condition which calls for emergency medical action.

Seven factors play significant roles in the development of or predisposition to, heat stress disorders. These factors include:

- Acclimatization - Heat acclimatization leads to increased and quicker sweating, cooler skin due to an increase in evaporative cooling and a lower, more stable core body temperature. Maximal sweating rates in unacclimatized persons are lower, but salt concentrations in their perspiration are higher, requiring a higher rate of salt replacement.

- Age - Older individuals are generally more susceptible to heat stress than younger individuals. However, older healthy workers are able to perform well in hot jobs if permitted to proceed at a self-regulated pace.

- Gender - The average woman has a lower aerobic capacity than a similar-sized man. Nevertheless, when working at similar proportions of their maximum aerobic capacity, women perform similarly or only slightly less well than men.

- Body Fat - The lower level of physical fitness, decreased maximum work capacity and decreased cardiovascular capacity frequently associated with obesity predispose individuals to heat disorders.

- Water and Electrolyte Balance - Sustained, effective work performance in heat requires a

replacement of body water and electrolytes lost through sweating. If this water is not replaced by drinking, continued sweating will draw on water reserves from both tissues and body cells leading to dehydration.

- Use of Alcohol and Medication - Not withstanding the potential hazards from impaired coordination and judgment, the ingestion of alcohol before or during work in the heat should not be permitted because it reduces heat tolerance and increases the risk of heat illness, Many drugs, including diuretics and antihypertensives, can interfere with the body=s thermoregulation.

- Physical Fitness - Physical conditioning enhances heat tolerance by increasing the functional capacity of the cardiovasculatory system, and reduces the time required to develop heat acclimatization by about 50% over those not physically fit.

The factors listed above are to be taken into account by all project personnel when planning or executing a project subject to heat stress conditions. The factors should be taken into consideration for:

- the development of the project schedule;
- the ordering of supplies/equipment;
- the support facilities to be made available at the site;
- the execution of work tasks; and
- the after work hours activities.

The following is a summary of signs and symptoms of heat stress:

Heat Rash may result from continuous exposure to heat or humid air .

Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include:

- Muscle Spasms
- Pain in the hands, feet and abdomen.

Heat Exhaustion occurs from increased stress on various body organs, including inadequate blood circulation due to cardiovascular insufficiency or dehydration. Signs and symptoms include:

- Pale, cool and moist skin
- Heavy sweating
- Dizziness, fainting and nausea

Heat stroke is the most serious form of heat stress. Temperature regulation fails, and the body temperature rises to critical levels. Immediate action must be taken to cool the body before serious injury or death occurs. Competent medical help must be obtained. Signs and symptoms are:

- Red, hot and unusually dry skin
- Lack of or reduced perspiration
- Dizziness and confusion

- Strong, rapid pulse and coma.

HEAT AND STRESS PREVENTION

Preventive measures should be taken to prevent personnel from experiencing heat stress illness. Prevention of heat stress is also important because if an individual has experienced a heat illness incident, he has an increased likelihood of future occurrences. Preventive measures include: favorable work scheduling, acclimatization of workers to hot environments, drinking sufficient quantities of fluids, providing cool, sheltered work and rest areas, and utilizing cooling devices as appropriate of feasible. Heat stress monitoring/work rest regimens are discussed below.

Work Schedules and Activity

If possible, work should be scheduled during the coolest part of the day. Early morning and evening work can be considerably more effective than working midday when the additional time for breaks and heat stress monitoring are taken into account.

Employees should also be encourages to maintain a certain level of activity during the work shift. Prolonged standing in hot environments can lead to heat illness because the blood pools in the lower extremities. Workers should periodically walk about to encourage blood circulation from the feet and legs.

Acclimatization of Workers

A properly designed and applied heat acclimatization program will dramatically increase the ability of workers to work at a hot job and will decrease the risk of heat-related illnesses and unsafe acts. Heat acclimatization can usually be induced in 5 to 7 days of exposure to the hot job. For workers who have had previous experience with the job, the acclimatization regimen should be exposure for 50% on day 1, 60% on day 2, 80% on day 3 and 100% on day 4. For workers new to job the schedule should be 20% on day 1 with a 20% increase in each additional day.
Acclimatization can be induced by sustained elevations of the skin and core body temperatures above levels for the same work in cool environments for an hour or more per day. Acclimatization needs periodic reinforcement such as occurs daily during the work week. Persons may show some loss of acclimatization on the first day of the new shift after being idle for two days or over a weekend. After vacations of two weeks or longer he loss of acclimatization is substantial, several days at work will be needed before heat tolerance is fully restored.

Drinking Sufficient Quantities of Fluids

Under hot conditions where sweat production may reach 6 to 8 liters per day, voluntary replacement of the water lost is usually incomplete. The normal thirst mechanism is not sensitive enough to urge us to drink enough water to prevent dehydration. Individuals are seldom aware of the exact amount of seat they produce of how much water is needed to replace that lost in sweat; 1 liter/hour is not an uncommon rate of water loss. Every effort should be made to encourage individuals to drink water, low-sodium noncarbonated beverages or electrolyte replacement fluids (e.g., Gatorade). Lightly salted water (1 gram/liter of water (0.1%) or one level teaspoon per 15 quarts of water), should be provided to unacclimated workers. The salt should be dissolved completely and the water kept cool. Salt tablets as dietary supplements are not generally recommended.

Workers should drink at least 500 ml (one pint) of water before beginning work. The fluid should be maintained at temperatures of 10° to 15° (50 to 59° F). If possible, small quantities of fluids should be consumed at frequent intervals (e.g., 150 to 250 milliliters (ml), or at least a quarter pint, every 20 minutes) rather than the intake of 750 ml (3 cups) or more once per hour. Individuals vary, but water intake should total 4 to 8 liters (quarts) per day. When heat stress is considered a potential problem, a minimum of 1 liter/hour/person of water are to be maintained onsite. Individual paper or plastic cups will be provided in order to prevent the spread of communicable disease.

Alcohol and diuretics such as caffeine (contained in coffee, tea and soft drinks) can increase dehydration. Therefore employees with potential exposure to heat stress should be discouraged from the consumption of these types of fluids during and after working hours.

Cool, sheltered Work and Rest Areas

Exposure to direct sunlight significantly increases the overall thermal loading of the body, thereby increasing an individuals susceptibility to heat stress illnesses. Whenever possible work should be conducted under suspended tarps, in shady areas or in other sheltered areas in order to reduce thermal loading caused by the sun. Cool sheltered areas should be provided also for rest breaks. A rest area should be situated so that part of it is in the contamination reduction area so that workers can take breaks without being required to undertake a full decontamination procedure. Canopies or tarps and open air tents, are types of cool shelters which can provide shaded rest areas.

Cooling Devices

Auxiliary cooling devices can be successfully used to provide body cooling, especially to workers wearing protective garments at hazardous waste sites. Vortex coolers utilize high velocity air which is directed inside the protective clothing. Vortex coolers have been used successfully in some operations. Cooling vests utilizing Ablue ice@ type packs can provide some cooling to the torso, but add weight for the wearer and can inhibit body movements.

Newer, more sophisticated tube and refrigerant systems woven into undergarments are also available. However, some of these systems ,,may not be effective in situations where the work involves considerable motion, since bending and lifting can crimp the tubes, impending the flow of refrigerant.

Heat Stress Monitoring

Several heat stress monitoring systems have been devised to help manage heat stress in hot work environments. Panamerican performs heat stress monitoring when: 1) employees are wearing normal work clothing in ambient temperatures exceeding 29° C, (85° F) and 2) employees wearing chemical protective clothing (including paper coveralls) working in ambient temperatures exceeding 21° C (70° F). The temperature differential is related to the reduced ability of a person to maintain a core temperature of $\pm$ 37° C (98.6° F) when wearing chemical protective clothing.

It should be noted by personnel that there are no Afast and true@ methods of heat stress monitoring; likewise there are no regulations concerning heat stress monitoring. Individual susceptibility to heat stress is highly variable. Some individuals are highly susceptible to any increase in their internal body temperature while other individuals can work very well with internal body temperatures of 39°C (102.2° F) or higher.

The heat stress monitoring systems should be used by Site Safety Officers as guidelines and not necessarily as hard, fast rules. Individuals working in elevated temperatures should be queried on a regular basis regarding their perceived state of heat stress. If the calculated heat stress index value indicates that work can continue but a person states that they believe they are experiencing heat stress, the work effect should be discontinued and a rest break taken.

Likewise, if the calculated heat stress index value indicates that a rest break should be taken but the workers believe they can work longer, they should be permitted to work longer providing that their heart rates do not exceed 110 beats per minute. If the individual's heart rate rates exceed 110 beats per minute a rest break will be taken. In all cases, individual workers should not be permitted or expected to perform excessive work which could result in heat stress. If a SSO has any concerns that an individual may be pushing himself/herself past the Abreaking point@ the calculated work/rest regimen will be followed.

For strenuous field activities that are part of ongoing site work activities in hot weather, the following procedures shall be used to monitor the body=s physiological response to heat, and to monitor the work cycle of each site worker. There are two phases to this monitoring: the initial work/rest cycle is used to estimate how long the first work shifts of the day should be. Heart rate monitoring of each worker will establish the length of the successive work periods. Both phases are to be used are to be used for heat stress monitoring. Failure to use either one could place workers at risk of heat-related disorders.

Phase 1 - Determination of the Initial Work - Rest Regimen

The determination of the initial work - rest regimen can be performed using either of two methods:

-The Modified Dry Bulb Index; or
-The Wet Bulb Globe Thermometer (WBGT) Index

After the initial work - rest regimen has been determined, environmental conditions must be monitored for changes which would require a modification to the work - rest regimen. This, coupled with the heart rate monitoring, determines the work cycles to be followed on a site.

The Modified Dry Bulb Index accounts for the effects caused by solar, load, air temperature, and chemical protective clothing, under a light work load (walking at approximately 3 mph). A mercury thermometer, shielded from direct sunlight, is used to measure ambient temperature. The percentages of (of time) of sunlight and cloud cover are then estimated to determine a sunshine quality factor (e.g., 100% sunshine - no cloud cover = 1.0; 50% sunshine - 50% cloud cover = 0.5; 0% sunshine - 100% cloud cover = 0.0). When these two sets of values have been obtained, they are inserted into the following equation to calculate the adjusted temperature:

$$T\,(^{o}C, \text{adjusted}) = T\,(^{o}C, \text{actual}) + (7.2 \times \text{sunshine quality factor})$$

-OR-

$$T\,(^{o}F, \text{adjusted}) = T\,(^{o}F, \text{actual}) + (13 \times \text{sunshine quality factor})$$

After the adjusted temperature has been calculated, the length of the first work shift can be determined using the following table:

Initial Break and Physiological Monitoring Cycles

ADJUSTED TEMPERATURE	NORMAL WORK CLOTHES	PROTECTIVE CLOTHING
90^0F (32.2^0 C) or above	After each 45 minutes of work	After each 15 minutes of work
87.5^0-90^0 F (30.8^0-32.2^0 C)	After each 60 minutes of work	After each 30 minutes of work
82.5^0-87.5^0 F (28.1^0-30.8^0 C)	After each 90 minutes of work	After each 60 minutes of work
77.5^0-82.5^0 F (25.3^0-28.1^0 C)	After each 120 minutes of work	After each 90 minutes of work
72.5^0-77.5^0 F (22.5^0-25.3^0 C)	After each 150 minutes of work	After each 120 minutes of work

NOTE: The standard rest period is 15 minutes

WET BULB GLOBE THERMOMETER INDEX

The Wet Bulb Globe Thermometer (WBGT) Index was developed by the U.S. Army in the 1950s to prevent heat stress in army recruits. The WBGT Index accounts for the effects caused by humidity, air movement, evaporation, air temperature and work rate. It does not, however, account for the effects of chemical protective clothing, non-acclimatized workers, age, or other factors which may affect the likelihood of heat stress. Because of this, it is necessary to make adjustments to the index and conduct Heart Rate Monitoring.

WBGT measurements are usually obtained through the use of are-contained electronic devices. Such devices are easy to set up and can provide the user with the capabilities to store data and download to print out a hard copy.

Heat produced by the body and the environmental heat together determine the total heat load. Therefore, after the WBGT Index has been obtained, the anticipated work load category of each job shall be determined and the initial-rest regimen established using the table below.

The work load category may be determined by ranking each job into light, medium and heavy categories on the basis of type of operation. Examples of each category are:

Light work:	sitting or standing to control machines, performing light hand work
Moderate work:	walking about with moderate lifting and pushing; and
Heavy work:	pick and shovel work.

PERMISSIBLE HEAT EXPOSURE			
WORK-REST REGIMEN	WORK LOAD		
	LIGHT	MODERATE	HEAVY
	30.0^0 C/86^0 F	26.7^0 C/80.1^0 F	25^0C/77^0F
75% Work-25% Rest Each Hour	30.6^0 C/87.1^0 F	28^0 C/82.4^0 F	25.9^0 C/78.6^0 F
50% Work-50% Rest Each Hour	31.4^0 C/88.5^0 F	29.4^0 C/85.0^0 F	27.9^0 C/82.2^0 F
25%Work-75 % Rest Each Hour	32.2^0 C/90.0^0 F	31.1^0 C/88.0^0 F	30.0^0 C/86.0^0 F

The table reads as follows:

Light, continuous work is possible at any WBGT reading up to 30^0 C (86^0F) but above that limit work breaks

are needed to recover from the heat; light work at temperatures of between 30.0 and 30.6^{0}C (86 to 87^{0}F) can be conducted, but 15 minute breaks must be taken every hour, etc. It is important to note that this table is applicable primarily to healthy, acclimatized personnel; wearing standard work clothing.

NOTE: An additional 6 to 11^{0}C (42.8 to 51.8^{0}F) must be added to the calculated WBGT temperature for personnel wearing chemical protective clothing prior to determining the initial work - rest regimen from this table. Because the WBGT Index does not take into account unacclimatized workers, or individual susceptibilities, the addition to the WBGT value does not eliminate the requirement for Heart Rate Monitoring after work has begun.

Phase 2 - Heart Rate Monitoring

An increase in the heart rate is a significant indication of stress, whether induced by exposure to heat or through physical labor. Although baseline heart rates can vary significantly between individuals and during the day for an individual, a heart rate of 110 beats per minute or greater is an indication of physiological stress. To prevent heat stress illnesses, the heart rate (HR) should be measured by radial (wrist) or carotid (neck) pulse for 30 seconds as early as possible in the rest period. The HR at the beginning of the rest period should not exceed 110 beats/minute. If the HR is higher, the next work period should be shortened by 33 percent while the length of the rest period stays the same. If the pulse rate still exceeds 110 beats/minute at the beginning of the next rest period, the following work period should be further shortened by 33 percent while the length of the rest period stays the same.

ATTACHMENT 3

TRENCHING AND EXCAVATION HEALTH AND SAFETY REQUIREMENTS

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REGULATORY AUTHORITY

Excavations will be performed in accordance with OSHA 29 CFR, subpart P, 1926:650-1926.652 and USACOE EM 385-1-1 section 25 requirements as they apply to project activities.

GENERAL

- **At all times the need for personnel to enter excavations will be minimized. Inspections or sample removal will be done from above the excavation, whenever possible.**
- **Personnel will only enter excavations after the requirements of this plan have been met.**
- **Personnel protective equipment including hard hat, safety glasses and steel-toe work boots may be required.**

SURFACE ENCUMBRANCES

Surface encumbrances such as structures, fencing, piping, stored material etc. which may interfere with safe excavations will be avoided, removed or adequately supported prior to the start of excavations. Support systems will be inspected daily.

UNDERGROUND UTILITIES

Underground utility locations will be checked and determined and permits as necessary will be in place prior to initiating excavations. Local utility companies will be contacted at least two days in advance, advised of proposed work, and requested to locate underground installations. When excavations approach the estimated location of utilities, the exact location will be determined by careful probing or hand digging and when it is uncovered, proper supports will be provided.

OVERHEAD OBSTACLES

A minimum safe distance of 20 feet will be maintained when working around overhead high-voltage lines or the line will be de-energized following appropriate lock-out and tag-out procedures by qualified utility personnel.

ENTRY/EXIT ROUTES

Excavations five feet or more deep will require an adequate means of exit, such as a ladder, ramp, or steps and located so as to require no more than 25 feet of lateral travel. Under no circumstances will

personnel be raised.

VEHICLE CONTROL/SAFETY

Personnel working around heavy equipment, or who may be exposed to public vehicular traffic will wear a traffic warning vest consisting of at least 400 square inches of red or orange material. At night, at least 400 square inches of florescent or other reflective material will be worn.

For excavation work on or adjacent to highways or streets, signs, signals, and barricades tat conform to the requirements of the current American National Standards Institute (ANSI) D6.1, Manual on Uniform Traffic Control Devices for Streets and Highways will be used to protect work areas. Signs, signals, and barricades will be adequately lighted at night. Flagmen will be provided when signs, signals and barricades do not provide adequate protection. Flagmen will use signals and procedures contained in the current issue of ANSI D6.1. At night, flagmen will be clearly illuminated so as to be easily seen by approaching traffic.

For mobile equipment operating next to or approaching the edge of an excavation, the operator will have a clear view of the edge of the excavation, or a warning system such as barricades, hand or mechanical signals, or stop logs will be used. If possible the surface grade will slope away from the excavation.

Personnel will be safely located in and around the trench and will not be permitted to work underneath loads handled by lifting or digging equipment. Personnel are required to stand away from vehicles being loaded and unloaded. Operators can remain in the cabs of vehicles being loaded or unloaded provided the vehicles are equipped to provide adequate protection to the operator.

HAZARDOUS ATMOSPHERES

Hazardous atmospheres, such as oxygen deficiency (atmospheres containing less than 19.5% oxygen), flammable gases or vapors (airborne concentrations greater than 20% of the lower explosive limit), and toxic gases or vapors (airborne concentrations above the OSHA Permissible Exposure Limit or other exposure limits) may occur in excavations, especially around landfills and hazardous waste sites.

In locations where oxygen deficiency or hazardous gaseous conditions are possible, the air in the excavation will be tested before personnel are permitted to enter an excavation deeper than 4 feet. When flammable gases are present, adequate ventilation will be provided and sources of ignition will be eliminated. Ventilation or respiratory protection will be provided to prevent personnel exposures to oxygen deficient or toxic atmospheres. Periodic retesting (at least each shift) of the excavation will be conducted to verify that the atmosphere is acceptable. A log or field book records will be maintained of all test results.

WATER ACCUMULATION HAZARDS

Personnel will not work in excavations that have accumulated water or where water is accumulating unless adequate precautions have been taken. These precautions can include special support or shield systems, water removal systems such as pumps, or safety harnesses and lifelines. Water removal systems will be operated and monitored by experienced personnel. Diversion ditches or dikes will be used to prevent surface water from entering the excavation and to provide adequate drainage of the area around the excavation. Adequate precautions, as described above, will be taken for excavating

subject to heavy rains.

STABILITY OF ADJACENT STRUCTURES

Support systems such as shoring, bracing, or underpinning will be provided to maintain the stability of adjoining buildings, walls, or other structures endangered by the excavation operations. Excavations below a foundation or retaining wall that could be reasonably expected to pose a hazard to personnel will not be permitted unless:

- **a support system is provided**
- **The excavation is in stable rock; or**
- **A Registered Professional Engineer has determined that the structure will not be effected by the excavation activity or that the excavation work will pose a hazard to employees. The Professional Engineer is required to demonstrate how the above determination was made on the basis of appropriate calculations.**

Sidewalks will not be undermined unless shored to protect from possible collapse.

PROTECTION FROM LOOSE ROCK, MATERIALS OR SPOILS

In excavations and trenches that personnel may be required to enter, loose rock, excavated or other material, and spoils will be effectively stored and retained at least two feet or more from the edge of the excavation.

As an alternative to the clearance prescribed above, barriers or other effective retaining devices may be used in order to prevent spoils or other materials from falling into the excavation.

Walkways, runways, and sidewalks will be kept clear of excavated material from other obstructions.

Scaling operations may be used to remove loose material and will be performed only by experienced crews under the direct supervision of a competent supervisor. The scalers will be provided with scaler=s lifelines, safety belts, boatswain chair, and other safety equipment necessary for their protection.

FALL PROTECTION

Walkways or bridges with standard guardrails that meet OSHA specifications will be provided where employees, the public, or equipment are required to cross over excavations.

Adequate barrier physical protection will be provided at all remotely located excavations. All excavations will be barricaded or covered.

EMERGENCY RESCUE

In the event of a cave-in, the Emergency Rescue Squad will be immediately notified. The caller should provide his name, location, nature of the accident (an excavation collapse), the dimensions of the excavation, and number of people trapped in the excavation. Personnel are not to enter a collapsed trench to attempt rescue. This may cause a further collapse of the trench. Under no circumstance is heavy equipment to be used to attempt rescue of personnel in a collapsed excavation; injury or decapitation could be the result. All heavy equipment and traffic in the area is to be shut down and

stopped to reduce vibration. Pumps should be started if water ensues.

INSPECTION PROGRAM

Safety personnel will conduct daily inspections of the excavation, the adjacent areas, and protective systems. Inspections will be conducted prior to the start of work and as needed throughout the work shift. Inspections will also be made after every rainstorm or other occurrence that increases the hazard of collapse (i.e., vibration from heavy equipment, freezing and thawing, etc.).

The excavation inspection will include a check for the following:

- **Evidence if situations that could result in possible cave-in (i.e. soil crumbling or sloughing, water saturated soils, freezing and thawing, unusual vibrations such as from heavy equipment, heavy rains, surface run off entering trench, etc.);**
- **Indications of failure of protective systems;**
- **Hazardous atmosphere (oxygen deficiency, flammable and toxic gases and vapors);**
- **Condition and support of exposed underground installations;**
- **Adequate means of egress;**
- **Signs, signals, and barricades for work area protection;**
- **Precautionary measures to control water accumulation;**
- **Stability and support of adjacent structures; and**
- **Adequate protection from loose rock and soil.**

PROTECTIVE SYSTEMS

Personnel working in excavations will be protected from cave-ins by sloping and/or benching of excavation walls, a shoring system or some other equivalent means except when:

- **The excavation is made entirely in stable rock; or**
- **Excavations are less than five feet deep and safety personnel have determined that there is no indication of potential cave-in. Depending on site and soil conditions protective measures may be taken for the excavations less than five feet in depth.**

The most important factor influencing the choice of protective systems is the soil type classification. Once the soil type has been classified, selection of the protective system, the determination of the angle of repose for sloping and benching, and the design of shoring systems will be made. Decisions will be based on careful evaluation of pertinent factors such as depth of cut; possible variation in water content of the material while the excavation is open; anticipated changes in materials from exposure to air, sun, water, or freezing; loading imposed structures equipment, overlying material, or stored material; and vibration from equipment, blasting traffic or other sources.

Soil Classification

Appendix A of the OSHA Excavation Standard describes a methjod to classify soils into four types:

1. Stable Rock - Solid mineral matter that can be excavated with vertical sides.

2. Type A - cohesive soils with an unconfined compressive strength of 1.5 ton per square foot (tsf) or greater. Examples include: clay; silty clay; sandy clay; clayey loam; and cemented soils such as caliche and hardpan. No soil is considered to be Type A if it is fissured, subject to vibration, previously disturbed, or part of a sloped, layered system.

3. Type B - cohesive soils with an unconfined compressive strength of greater than 0.5 tsf but less than 1.5 tsf. Examples include: angular gravel similar to crushed rock; silt; silty loam; and sandy loam; Type B soils also include : previously disturbed soils that are not type C; Type A soils that are fissured or subject to vibration; and dry rock that is not stable.

4. Type C - cohesive soils with an unconfined compressive strength of 0.5 tsf or less. Examples include: gravel; sand; loamy sand; submerged soil or soil from which water is seeping; submerged rock that is not stable.

The engineer, geologist, or safety personnel will conduct at least one visual and at least one manual test as described in the OSHA excavation standard in order to classify soils. Visual tests include looking for : particle size and soil cohesiveness (clumping); cracking in the excavation sides which suggests fissured material; underground installations ans previously disturbed soils; layered soil systems that slope toward the excavation; evidence of surface water and water seeping from the sides of the excavation; and sources of vibration that may affect the excavation stability. Manual tests include: plascticity; dry strength; tumb penetration; drying test; and strength tests using a pocket penetrometer or hand-operated shearvane.

<u>Sloping and Benching</u>

One of the following options for sloping and benching systems described in section 1926.652(b) of the OSHA Excavation Standard will be used in excavations of .5 foot or deeper or at the discretion of the safety personnel:

- **The walls of excavation will be sloped at an angle not steeper than 0ne-and one-half horizontal to one vertical. Sloping configurations will follow the slopes shown for Type C soils in Appendix B of the OSHA Excavation Standard.**

- **Maximum allowable slopes and sloping and benching configurations will be determined according to soil type as described in Appendices A and B of the OSHA Excavation Standard.**

- **Use of other written tabulated data and designs, such as tables and charts, to design sloping and benching systems. A copy of the tabulated data must be approved by a registered Professional Engineer. A copy of the tabulated data must be kept at the job site.**

Personnel are not allowed to work on the faces of sloped or benched excavations above other workers unless the workers at the lower levels are protected from falling material or equipment. Similar protection will be provided for personnel working in excavations below other workers.

<u>Support Systems, Shield Systems, and Other Protective Devices</u>

One of the following options described in OSHA (1926.652 (c)) will be followed.

- **Timber shoring, designed according to the conditions and requirements of Appendix C of the OSHA Excavation Standard or aluminum hydraulic shoring designed according to manufacturers tabulated data or Appendix D of the OSHA Excavation Standard. In order to use the information in Appendices C or D, the soil type must first be determined using the classification system in Appendix A. For each soil type the size and spacing of the cross braces, uprights, and walls that comprise the shoring system are then selected based on the depth and width of the trench.**

- **Use of the manufacturer=s written tabulated to design support systems, shielded systems, and other protective devices. Any deviation from this tabulated data must be approved by the manufacturer. A copy of the tabulated data as well as any approvals to deviate from the tabulated data must be kept at the job site.**

- **Use of other written tabulated data to design support systems, shield systems, and other protective devices. The tabulated data must be approved by a Registered Professional Engineer. A copy of the tabulated data must be kept at the job site.**

- **Use of a written support system, shield system, and other protective device design that has been approved by a Registered Professional Engineer. A copy of the written design must be kept at the job site.**

<u>Installation and Removal of Support</u>

Cross braces or trench jacks, uprights, and walls will be secured together to prevent sliding, falling or kickouts.

Additional precautions by way of shoring and bracing will be taken to prevent slides or cave-ins when excavations or trenches are made in locations adjacent to backfilled excavations, or where excavations are subjected to vibrations from railroad or highway traffic, the operation of machinery, or any other source.

If it is necessary to place or operate power shovels, derricks, trucks, materials, or other heavy objects on a level above or near any excavation, the side of the excavation will be sheetpiled, shored, and braced as necessary to resist the extra pressure due to such superimposed loads.

Backfilling and removal of trench supports will progress together from the bottom of the trench. Jacks or braces will be released slowly and , in unstable soil, ropes will be used to pull out the jacks or braces from above after employees have cleared the trench.

<u>Shield Systems</u>

Portable trench boxes or sliding trench shields may be used for protection of personnel in lieu of a shoring system or sloping. Where such trench boxes or shields are used, they will be designed, constructed and maintained in a manner which will provide protection equal to or greater than the sheeting or shoring required for the trench. Shields will be installed so as to restrict lateral or other hazardous movement. Personnel are not allowed inside shields when shields are being moved.

EXCAVATION SAFETY LIST

To be completed prior to each work shift, or prior to personnel entering a new trench for the first time, by the Site Safety Officer/Competent Person:

Project_____Location_____

Job Number_____

Competent Person(CP)*_____Date_____

		Yes	No	N/A
1.	**Has the site been cleared for utilities and other underground obstructions?**	____	____	____
2.	**If on public property, has the regional utility locating service been notified?**	____	____	____
3.	**Has the excavation equipment been safety checked by the operator?**	____	____	____
4.	**Are copies of relevant OSHA excavation regulations available on site?**	____	____	____
5.	**Will the excavation be 5 feet or more in depth?**	____	____	____
6.	**If 4 is yes, will personnel enter the excavation at any time?**	____	____	____
7.	**If 4a is yes, have provisions been made for shoring, sloping, or benching the excavation? Describe:** _____ _____ _____	____	____	____
8.	**Has an inspection of the site and excavation been conducted by the SSO?**	____	____	____
9.	**Has the Competent Person conducted visual and manual tests to classify the soil?**	____	____	____

*** According to Federal OSHA, A Competent Person is a person who is capable of identifying existing and predictable hazards in the surroundings; or working conditions which are unsanitary, hazardous, or dangerous to employees; and who has the authority to take prompt corrective measures to eliminate them.**

10.	**G**	**Visual Test _____(type)** **Manual Test_____(type)** **Soil Classification_____(type)**			
11.		**Are there any conditions that might expose employees to injury from possible moving ground?**	____	_____	____
12.		**Is excavated material being placed at least 2 feet from the edge of the excavation?**	____	____	____
13.		**Is work in the excavation at all times under the immediate supervision of the SSO or other competent person?**	____	____	____
14.		**Is there a stairway, ladder, or ramp securely fastened in place to provide ingress and egress from the excavation?**	____	____	____
15.		**If the excavation is 4 feet or more in depth, are safe means of access (see 8) provided so as to require no more than 25 feet of lateral travel to reach them?**	____	____	____
16.		**If structural ramps are installed that are used for access/egress: were they designed by a qualified engineer?**	____	____	____
17.		**Do the structural ramps have appropriate means to prevent slipping and are the ramps uniform in thickness?**	____	____	____
18.		**Are walkways or bridges provided across the excavation to safe crossing?**	____	____	____
19.		**If excavations are 71/2 or more feet in depth, do the walkways have guardrails and toeboards?**	____	____	____
20.		**Are undermined structures adequately supported to safely carry all anticipated loads and protect workers?**	____	____	____
21.		**Are there adequate means provided to prevent mobile equipment from inadvertently entering the excavation?**	____	____	____
22.		**Is the excavation well marked and barricaded to prevent personnel from falling IN?**	____	____	____
23.		**Are means available to prevent surface water from entering the excavation and to provide**	____	____	____

	adequate drainage of the area adjacent to the trench?			
24.	**Where it is reasonable to expect hazardous atmospheres, including oxygen deficiency, to exist in the excavation, is appropriate atmosphere testing equipment available.**	____	____	____
25.	**Has the testing equipment been calibrated, and the calibrations recorded, today?**	____	____	____
26.	**Are employees trained in proper use of this equipment?**	____	____	____
27.	**Has a harness and lifeline been provided whenever an employee is required to enter a confined footing excavation?**	____	____	____
28.	**Is appropriate personal protective equipment (hardhat, safety boots, eye protection, etc.) available and in use?**	____	____	____

Notes:_____

_____

_____

_____

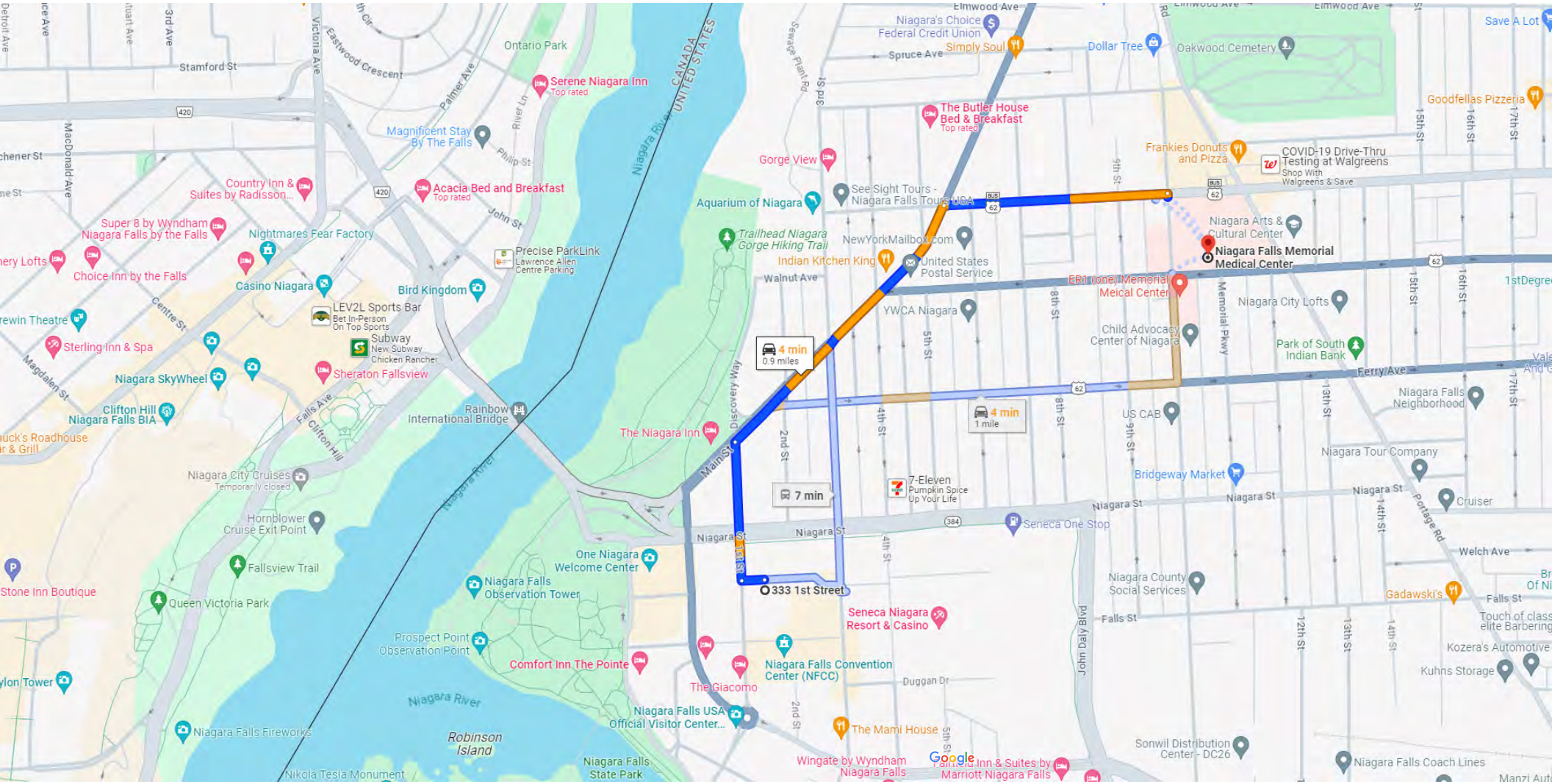
_____ _____

CPs Name (Print) **Signature**

ATTACHMENT 4

MAP TO HOSPITAL

Google Maps 333 1st St, Niagara Falls, NY 14303 to Niagara Falls Mem Medical Ctr, 621 10th St, Niagara Falls, NY 14301 Drive 0.9 mile, 4 min



via Main St and Pine Ave — 4 min
Fastest route now due to traffic conditions — 0.9 mile

via Ferry Ave — 4 min
Some traffic, as usual — 1.0 mile

12:33 PM—12:40 PM — 7 min
40 / 50 / 77

Explore nearby Niagara Falls Mem Medical Ctr

Restaurants Hotels Gas stations Parking Lots More

ATTACHMENT 5

NYSDOH GENERIC CAMP AND FUGITIVE DUST AND PARTICULATE MONITORING

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Table of Contents

Attachments

1.0 COMMUNITY AIR MONITORING PROGRAM (CAMP)

A Community Air Monitoring Program (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the upwind and downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The program is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors and on-site workers not directly involved with work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. A NYSDOH generic CAMP obtained from NYSDEC DER-10 is presented in Attachment 1 that will be followed and adhered to for work activities that could release potential contaminants from an impacted area.

A program for suppressing fugitive dust and particulate matter monitoring will also be conducted in accordance NYSDEC DER-10 titled Appendix 1B Fugitive Dust and Particulate Monitoring, which is also provided in Attachment 1. The fugitive dust suppression and particulate monitoring program will be employed at the site during building demolition, site investigations/remediation and other intrusive activities which warrant its use.

Both the CAMP and the fugitive dust and particulate monitoring program will be administered by the environmental engineer/consultant. Monitoring results of the CAMP will be reported to the New York State Department of Health daily for review.

NYSDEC and NYSDOH are to be provided CAMP data on a daily basis when collected. When sample excursions occur, identify the reason for the excursions and measures to address the excursions.

ATTACHMENT 1

NYSDOH Generic CAMP
and
Fugitive Dust and Particulate Monitoring

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50° C (14 to 122° F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

APPENDIX B

COMMUNITY AIR MONITORING PROGRAM

The Nest
333 1st Street
City of Niagara Falls, New York
Tax Map ID No.: 159.09-1-2.11
Property County: Niagara
Site No.: C932183

Prepared for:

Community Services Seventh Housing, LLC
180 Oak Street
Buffalo, NY 14203

Prepared by:

BE3 BRYDGES ENGINEERING IN ENVIRONMENT AND ENERGY, DPC
960 Busti Avenue, Suite B-150
Buffalo, New York 14213

December 2023

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Attachments

1.0 COMMUNITY AIR MONITORING PROGRAM (CAMP)

A Community Air Monitoring Program (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the upwind and downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The program is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors and on-site workers not directly involved with work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. A NYSDOH generic CAMP obtained from NYSDEC DER-10 is presented in Attachment 1 that will be followed and adhered to for work activities that could release potential contaminants from an impacted area.

A program for suppressing fugitive dust and particulate matter monitoring will also be conducted in accordance NYSDEC DER-10 titled Appendix 1B Fugitive Dust and Particulate Monitoring, which is also provided in Attachment 1. The fugitive dust suppression and particulate monitoring program will be employed at the site during building demolition, site investigations/remediation and other intrusive activities which warrant its use.

Both the CAMP and the fugitive dust and particulate monitoring program will be administered by the environmental engineer/consultant. Monitoring results of the CAMP will be reported to the New York State Department of Health daily for review.

NYSDEC and NYSDOH are to be provided CAMP data on a daily basis when collected. When sample excursions occur, identify the reason for the excursions and measures to address the excursions.

ATTACHMENT 1

NYSDOH Generic CAMP
and
Fugitive Dust and Particulate Monitoring

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50° C (14 to 122° F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures

When work areas are within 20 feet of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of engineering controls such as vapor/dust barriers, temporary negative-pressure enclosures, or special ventilation devices should be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Depending upon the nature of contamination, chemical-specific colorimetric tubes of sufficient sensitivity may be necessary for comparing the exposure point concentrations with appropriate pre-determined response levels (response actions should also be pre-determined). Background readings in the occupied spaces must be taken prior to commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.

- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 mcg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 mcg/m^3 or less at the monitoring point.

- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Special Requirements for Indoor Work With Co-Located Residences or Facilities

Unless a self-contained, negative-pressure enclosure with proper emission controls will encompass the work area, all individuals not directly involved with the planned work must be absent from the room in which the work will occur. Monitoring requirements shall be as stated above under "Special Requirements for Work Within 20 Feet of Potentially Exposed Individuals or Structures" except that in this instance "nearby/occupied structures" would be adjacent occupied rooms. Additionally, the location of all exhaust vents in the room and their discharge points, as well as potential vapor pathways (openings, conduits, etc.) relative to adjoining rooms, should be understood and the monitoring locations established accordingly. In these situations, it is strongly recommended that exhaust fans or other engineering controls be used to create negative air pressure within the work area during remedial activities. Additionally, it is strongly recommended that the planned work be implemented during hours (e.g. weekends or evenings) when building occupancy is at a minimum.

APPENDIX C

QUALITY ASSURANCE/QUALITY CONTROL PLAN

The Nest
333 1st Street
City of Niagara Falls, New York
Tax Map ID No.: 159.09-1-2.11
Property County: Niagara
Site No.: C932183

Prepared for:

Community Services Seventh Housing LLC
180 Oak Street
Buffalo, NY 14203

Prepared by:

BRYDGES ENGINEERING
IN ENVIRONMENT AND ENERGY, DPC
960 Busti Avenue, Suite B-150
Buffalo, New York 14213

December 2023

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1.0 INTRODUCTION

This Quality Assurance/Quality Control (QA/QC) Plan provides an overview of QA/QC procedures required for the project. It also provides methods for laboratory testing of environmental samples obtained from the Site, which helps to ensure the quality of the data produced. The organizational structure for this project is presented in the Work Plan, which identifies the names of key project personnel. The project manager is responsible for verifying that QA procedures are followed in the field so that quality, representative samples are collected. The Project Manager is in contact with the analytical laboratory to monitor laboratory activities so that holding times and other QA/QC requirements are met. The anticipated quantity of field samples collected, and corresponding analytical parameters/methods are provided below.

ANALYTICAL SUMMARY TABLE

PARAMETER	EPA METHOD	QUANTITY(GW)[A]	Soil [A]	Air
Part 375 VOCs + TICs	8260	6	17	4
Part 375 SVOCs + TICs	8270	6	19	4
Part 375 Metals	6010/7470/7471	6	19	4
Part 375 PCBs	8082	6	19	4
Part 375 Pesticides	8081	6	19	4
PFAS Contaminants	1633	6	19	4
1,4 Dioxane	8270SIM	6	19	4

Note, soil totals include 1 sample for a duplicate pre 20 samples. Holding Times: 8260-14 days and 8270, 8081, and 8082-7 days
A = 1 MS, 1MSD and 1 duplicate

All samples analyzed for VOCs and/or SVOCs will report TICs as specified in DER-10 Section 2.1(a)1.i. Sampling for emerging contaminants be conducted in accordance with the NYSDEC Guidance for Sampling and Analysis of PFAS (January 2021). As detailed in the guidance document, PFAS compounds should be analyzed under EPA Method 537.1. The analytical laboratory proposed for use for the analysis of samples will be a certified NYSDOH ELAP laboratory. The QA Manager of the laboratory will be responsible for performing project-specific audits and for overseeing the quality control data generated. The field geologist/technician coordinates all personnel involved with field sampling, verifies that all sampling is conducted per the FSP, and communicates regularly with the Project Manager. The ultimate responsibility for maintaining quality throughout the project rests with the Project Manager, including field and laboratory QA/QC.

2.0 DATA QUALITY OBJECTIVES

2.1 BACKGROUND

Data quality objectives (DQOs) are qualitative and quantitative statements, which specify the quality of data required supporting the investigation for the site. DQOs focus on the identification of the end use of the data to be collected. The project DQOs are achieved utilizing the definitive data category as outlined in *Guidance for the Data Quality Objectives Process,* EPA QA/G-4

(September 1994). All sample analyses will provide definitive data, which are generated using rigorous analytical methods such as reference methods approved by the United States Environmental Protection Agency (USEPA). The purpose of this investigation is to determine the nature and extent of contamination at the site.

Within the context of the purpose stated above, the project DQOs for data collected during this investigation are:

- To assess the nature and extent of contamination in soil, groundwater, and soil vapor;
- To maintain the highest possible scientific/professional standards for each procedure;
- To develop sufficient data to assess whether the levels of contaminates identified in the media sampled exceed regulatory guidelines.

2.2 QA Objectives for Chemical Data Measurement

Sample analytical methodology for the media sampled and data deliverables are required to adhere to the requirements in NYSDEC Analytical Services Protocol. Laboratories are instructed to complete Sample Preparation and Analysis Summary forms and submit them with the data packages. The laboratory is instructed that matrix interferences must be fixed to the extent practicable. To achieve the definitive data category described above, the data quality indicators of precision, accuracy, representativeness, comparability, and completeness are measured during analysis.

2.2.1 Precision

Precision examines the distribution of the reported values about their mean. The distribution of reported values refers to how different the individual reported values are from the average reported value. Precision may be affected by the natural variation of the matrix or contamination within that matrix and by errors made in field or laboratory handling procedures. Precision is evaluated using analyses of a laboratory matrix spike/matrix spike duplicate (for organics) and matrix duplicates (for inorganics), which indicate analytical precision through the reproducibility of the analytical results. Relative Percent Difference (RPD) is used to evaluate precision and it must meet the method requirements.

2.2.2 Accuracy

Accuracy measures the analytical bias in a measurement system. Sources of error are the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analysis techniques. This data helps to assess the potential concentration contribution from various outside sources. The laboratory objective for accuracy is to equal or exceed the accuracy demonstrated for the applied analytical methods on samples of the same matrix. The percent recovery criterion is used to estimate accuracy based on recovery in the matrix spike/matrix spike duplicate and matrix spike blank samples. The spike and spike duplicate, which will give an indication of matrix effects that may be affecting target compounds is also a good gauge of method efficiency.

2.2.3 Representativeness

Representativeness expresses the degree to which the sample data accurately and precisely represents the characteristics of a population of samples, parameter variations at a sampling point, or environmental conditions. Representativeness is a qualitative parameter, which is most

concerned with the proper design of the sampling program or sub-sampling of a given sample. Objectives for representativeness are defined for sampling and analysis tasks and are a function of the investigative objectives. The sampling procedures described in the Field Sampling Plan have been selected with the goal of obtaining representative samples for the media of concern.

2.2.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. A DQO for this program is to produce data with the greatest possible degree of comparability. This goal is achieved through using standard techniques to collect and analyze representative samples and reporting analytical results in appropriate units. Complete field documentation will support the assessment of comparability. Comparability is limited by the other parameters (e.g., precision, accuracy, representativeness, completeness, comparability), because only when precision and accuracy are known can data sets be compared with confidence. For data sets to be comparable, it is imperative that contract-required methods and procedures be explicitly followed.

2.2.5 Completeness

Completeness is defined as a measure of the amount of valid data obtainable from a measurement system compared to the amount that was expected to be obtained under normal conditions. It is important that appropriate QA procedures be maintained to verify that valid data are obtained to meet project needs. For the data generated, a goal of 90% is required for completeness (or usability) of the analytical data. If this goal is not met, then project personnel will determine whether the deviations might cause the data to be rejected.

3.0 SAMPLING LOCATIONS, CUSTODY, AND HOLDING TIMES

Sampling locations are discussed in the Work Plan. Procedures addressing field and laboratory sample chain-of-custody and holding times details are presented in the Field Sampling Plan. The laboratory must meet the method required detection limits which are referenced within the methods.

4.0 CALIBRATION PROCEDURES AND FREQUENCY

To obtain a high level of precision and accuracy during sample processing procedures, laboratory instruments must be calibrated properly. Several analytical support areas must be considered so the integrity of standards and reagents is upheld prior to instrument calibration. The following sections describe the analytical support areas and laboratory instrument calibration procedures.

4.1 ANALYTICAL SUPPORT AREAS

Prior to generating quality data, several analytical support areas must be considered; these are detailed in the following paragraphs.

Standard/Reagent Preparation – Primary reference standards and secondary standard solutions shall be obtained from National Institute of Standards and Technology (NIST), or other reliable commercial sources to verify the highest purity possible. The preparation and maintenance of standards and reagents will be accomplished according to the methods referenced. All

standards and standard solutions are to be formally documented (i.e., in a logbook) and should identify the supplier, lot number, purity/concentration, receipt/preparation date, preparers name, method of preparation, expiration date, and any other pertinent information. All standard solutions shall be validated prior to use. Care shall be exercised in the proper storage and handling of standard solutions (e.g., separating volatile standards from nonvolatile standards). The laboratory shall continually monitor the quality of the standards and reagents through well documented procedures.

Balances – The analytical balances shall be calibrated and maintained in accordance with manufacturer specifications. Calibration is conducted with two Class AS" weights that bracket the expected balance use range. The laboratory shall check the accuracy of the balances daily and they must be properly documented in permanently bound logbooks.

Refrigerators/Freezers – The temperature of the refrigerators and freezers within the laboratory shall be monitored and recorded daily. This will verify that the quality of the standards and reagents is not compromised, and the integrity of the analytical samples is upheld. Appropriate acceptance ranges (2 to 6°C for refrigerators) shall be clearly posted on each unit in service.

Water Supply System – The laboratory must maintain a sufficient water supply for all project needs. The grade of the water must be of the highest quality (analyte-free) to eliminate false positives from the analytical results. Ultraviolet cartridges or carbon absorption treatments are recommended for organic analyses and ion-exchange treatment is recommended for inorganic tests. Appropriate documentation of the quality of the water supply system(s) will be performed on a regular basis.

4.2 LABORATORY INSTRUMENTS

Calibration of instruments is required to verify that the analytical system is operating properly and at the sensitivity necessary to meet established quantitation limits. Each instrument for organic and inorganic analyses shall be calibrated with standards appropriate to the type of instrument and linear range established within the analytical method(s). Calibration of laboratory instruments will be performed according to specified methods.

In addition to the requirements stated within the analytical methods, the contract laboratory will be required to analyze an additional low-level standard at or near the detection limits. In general, standards will be used that bracket the expected concentration of the samples. This will require the use of different concentration levels, which are used to demonstrate the instrument's linear range of calibration.

Calibration of an instrument must be performed prior to the analysis of any samples and then at periodic intervals (continuing calibration) during the sample analysis to verify that the instrument is still calibrated. If the contract laboratory cannot meet the method required calibration requirements, corrective action shall be taken. All corrective action procedures taken by the contract laboratory are to be documented, summarized within the case narrative, and submitted with the analytical results.

5.0 INTERNAL QUALITY CONTROL CHECKS

Internal QC checks are used to determine if analytical operations at the laboratory are in control, as well as determining the effect sample matrix may have on data being generated. Two types

of internal checks are performed and are described as batch QC and matrix-specific QC procedures. The type and frequency of specific QC samples performed by the contract laboratory will be according to the specified analytical method and project specific requirements. Acceptable criteria and target ranges for these QC samples are presented within the referenced analytical methods.

QC results which vary from acceptable ranges shall result in the implementation of appropriate corrective measures, potential application of qualifiers, and/or an assessment of the impact these corrective measures have on the established data quality objectives. Quality control samples including any project-specific QC will be analyzed are discussed below.

5.1 BATCH QC

Method Blanks – A method blank is defined as laboratory-distilled or deionized water that is carried through the entire analytical procedure. The method blank is used to determine the level of laboratory background contamination. Method blanks are analyzed at a frequency of one per analytical batch.

Matrix Spike Blank Samples – A matrix spike blank (MSB) sample is an aliquot of water spiked (fortified) with all the elements being analyzed for calculation of precision and accuracy to verify that the analysis that is being performed is in control. An MSB will be performed for each matrix and organic parameter only.

5.2 MATRIX-SPECIFIC QC

Matrix Spike Samples – An aliquot of a matrix is spiked with known concentrations of specific compounds as stipulated by the methodology. The matrix spike (MS) and matrix spike duplicate (MSD) are subjected to the entire analytical procedure to assess both accuracy and precision of the method for the matrix by measuring the percent recovery and relative percent difference of the two spiked samples. The samples are used to assess matrix interference effects on the method, as well as to evaluate instrument performance. MS/MSDs are analyzed at a frequency of one each per 20 samples per matrix.

Matrix Duplicates – The matrix duplicate (MD) is two representative aliquots of the same sample which are prepared and analyzed identically. The collection of duplicate samples provides for the evaluation of precision both in the field and at the laboratory by comparing the analytical results of two samples taken from the same location. Obtaining duplicate samples from a soil matrix requires homogenization (except for volatile organic compounds) of the sample aliquot prior to filling sample containers, to best achieve representative samples. Every effort will be made to obtain replicate samples; however, due to interferences, lack of homogeneity, and the nature of the soil samples, the analytical results are not always reproducible.

Rinsate (Equipment) Blanks – A rinsate blank is a sample of laboratory demonstrated analyte-free water passed through and over the cleaned sampling equipment. A rinsate blank is used to indicate potential contamination from ambient air and from sample instruments used to collect and transfer samples. This water must originate from one common source within the laboratory and must be the same water used by the laboratory performing the analysis. The rinsate blank should be collected, transported, and analyzed in the same manner as the samples acquired that day. Rinsate blanks for nonaqueous matrices should be performed at a rate of 10 percent of the total number of samples collected throughout the sampling event. Rinse blanks will not be performed on samples (i.e., groundwater) where dedicated disposable equipment is used.

Trip Blanks – Trip blanks are not required for nonaqueous matrices. Trip blanks are required for aqueous sampling events. They consist of a set of sample bottles filled at the laboratory with laboratory demonstrated analyte free water. These samples then accompany the bottles that are prepared at the lab into the field and back to the laboratory, along with the collected samples for analysis. These bottles are never opened in the field. Trip blanks must return to the lab with the same set of bottles they accompanied to the field. Trip blanks will be analyzed for volatile organic parameters. Trip blanks must be included at a rate of one per volatile sample shipment.

6.0 CALCULATION OF DATA QUALITY INDICATORS

6.1 PRECISION

Precision is evaluated using analyses of a field duplicate or a laboratory MS/MSD that indicate analytical precision through the reproducibility of the analytical results. RPD is used to evaluate precision by the following formula:

$$RPD = \frac{(X_1 - X_2)}{[(X_1 + X_2)/2]} \times 100\%$$

where:

X_1 = Measured value of sample or matrix spike
X_2 = Measured value of duplicate or matrix spike duplicate

Precision will be determined using MS/MSD (for organics) and matrix duplicates (for inorganics) analyses.

6.2 ACCURACY

Accuracy is defined as the degree of difference between the measured or calculated value and the true value. The closer the numerical value of the measurement comes to the true value or actual concentration, the more accurate the measurement is. Analytical accuracy is expressed as the percent recovery of a compound or element that has been added to the environmental sample at known concentrations before analysis. Analytical accuracy may be assessed using known and unknown QC samples and spiked samples. It is presented as percent recovery. Accuracy will be determined from matrix spike, matrix spike duplicate, and matrix spike blank samples, as well as from surrogate compounds added to organic fractions (i.e., volatiles, semivolatiles, PCB), and is calculated as follows:

$$Accuracy\ (\%R) = \frac{(X_s - X_u)}{K} \times 100\%$$

where:

X_s - Measured value of the spike sample
X_u - Measured value of the unspiked sample
K - Known amount of spike in the sample

6.3 COMPLETENESS

Completeness is calculated on a per matrix basis for the project and is calculated as follows:

$$Completeness\ (\%C) = \frac{(X_v - X_n)}{N} \quad x\ 100\%$$

where:
X_v - Number of valid measurements
X_n - Number of invalid measurements
N - Number of valid measurements expected to be obtained

7.0 CORRECTIVE ACTIONS

Laboratory corrective actions shall be implemented to resolve problems and restore proper functioning to the analytical system when errors, deficiencies, or out-of-control situations exist at the laboratory. Full documentation of the corrective action procedure needed to resolve the problem shall be filed in the project records, and the information summarized in the case narrative. A discussion of the corrective actions to be taken is presented in the following sections.

7.1 INCOMING SAMPLES

Problems noted during sample receipt shall be documented by the laboratory. The Project Manager shall be contacted immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.2 SAMPLE HOLDING TIMES

If any sample extraction or analyses exceed method holding time requirements, the Project Manager shall be notified immediately for problem resolution. All corrective actions shall be documented thoroughly.

7.3 INSTRUMENT CALIBRATION

Sample analysis shall not be allowed until all initial calibrations meet the appropriate requirements. All laboratory instrumentation must be calibrated in accordance with method requirements. If any initial/continuing calibration standards exceed method QC limits, recalibration must be performed and, if necessary, reanalysis of all samples affected back to the previous acceptable calibration check.

7.4 REPORTING LIMITS

The laboratory must meet the method required detection limits listed in NYSDEC ASP, 10/95 criteria. If difficulties arise in achieving these limits due to a sample matrix, the laboratory must notify PEI project personnel for problem resolution. To achieve those detection limits, the laboratory must utilize all appropriate cleanup procedures to retain the project required detection limits. When any sample requires a secondary dilution due to high levels of target analytes, the laboratory must document all initial analyses and secondary dilution results. Secondary dilution will be permitted only to bring target analytes within the linear range of calibration. If samples are analyzed at a secondary dilution with no target analytes detected, the Project Manager will be immediately notified so that appropriate corrective actions can be initiated.

7.5 METHOD QC

All QC method-specified QC samples shall meet the method requirements referenced in the analytical methods. Failure of method-required QC will result in the review and possible qualification of all affected data. If the laboratory cannot find any errors, the affected sample(s) shall be reanalyzed or re-extracted/redigested, then reanalyzed within method-required holding times to verify the presence or absence of matrix effects. If matrix effect is confirmed, the corresponding data shall be flagged accordingly using the flagging symbols and criteria. If matrix effect is not confirmed, then the entire batch of samples may have to be reanalyzed or re-extracted/redigested, then reanalyzed at no cost. The Project Manager shall be notified as soon as possible to discuss possible corrective actions should unusually difficult sample matrices be encountered.

7.6 CALCULATION ERRORS

All analytical results must be reviewed systematically for accuracy prior to submittal. If upon data review calculation or reporting errors exist, the laboratory will be required to reissue the analytical data report with the corrective actions appropriately documented in the case narrative.

8.0 DATA REDUCTION, VALIDATION, AND USABILITY

8.1 DATA REDUCTION

Laboratory analytical data are first generated in raw form at the instrument. These data may be either in a graphic or printed tabular format. Specific data generation procedures and calculations are found in each of the referenced methods. Analytical results must be reported consistently. Identification of all analytes must be accomplished with an authentic standard of the analyte traceable to NIST or USEPA sources. Individuals experienced with an analysis and knowledgeable of requirements will perform data reduction.

8.2 DATA VALIDATION

Data validation is a systematic procedure of reviewing a body of data against a set of established criteria to provide a specified level of assurance of validity prior to its intended use. All analytical results from soil and groundwater samples will have ASP Category B deliverables and DUSRs. The data validation will be in accordance with DER-10 Section 2.2 with ASP - Category B data deliverables provided by the laboratory and a DUSR provided for validation. Where possible, discrepancies will be resolved by the project manager.

- Technical holding times will be in accordance with NYSDEC ASP, 7/2005 edition.
- Organic calibration and QC criteria will be in accordance with NYSDEC ASP, 7/2005 edition. Data will be qualified if it does not meet NYSDEC ASP, 7/2005 criteria.

Note that analytical results from the PCB Survey will also complete DUSRs and be submitted to EQuIS, in accordance with the Quality Assurance/Quality Control Plan (QA/QC Plan).

9.0 REFERENCES

Comprehensive Environmental Response Compensation and Liability Act (CERCLA) Quality Assurance Manual, Final Copy, Revision I, October 1989.

National Enforcement Investigations Center of USEPA Office of Enforcement. *NEIC Policies and Procedures.* Washington: USEPA.
New York State Department of Environmental Conservation (NYSDEC) 2005. *Analytical Services Protocol*, (ASP) 7/2005 Edition. Albany: NYSDEC.

NYSDEC "DER-10 Technical Guidance for Site Investigation and Remediation (DER-10)," dated May 3, 2010, Appendix 2B

TABLE 2
ANALYTE LIST

Part 375 Metals (ICP)
EPA 6010C

Analyte

Arsenic
Barium
Beryllium
Cadmium
Chromium
Copper
Lead
Manganese
Nickel
Selenium
Silver
Zinc
Mercury EPA 7471B
Cyanide, Total EPA 9014

PCBs **EPA 7471B**

PCB-1016
PCB-1221
PCB-1232
PCB-1242
PCB-1248

Chlorinated Pesticides
EPA 8081B/ Herbicides EPA 8151

4,4-DDD
4,4-DDE
4,4-DDT
Aldrin
alpha-BHC
beta-BHC
cis-Chlordane
delta-BHC
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan Sulfate
Endrin
Endrin Aldehyde
Endrin Ketone
gamma-BHC (Lindane)
Heptachlor
Heptachlor Epoxide
Methoxychlor
Toxaphene
trans-Chlordane
2,4,5-TP Acid (Silvex)

Semi-Volatile Organics (Acid/Base Neutrals)
EPA 8270D

1,1-Biphenyl
1,2,4,5-Tetrachlorobenzene
1,2,4-Trichlorobenzene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
2,2-Oxybis (1-chloropropane)
2,3,4,6-Tetrachlorophenol
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
2-Chloronaphthalene
2-Chlorophenol
2-Methylnapthalene
2-Methylphenol
2-Nitroaniline
2-Nitrophenol
3&4-Methylphenol
3,3'-Dichlorobenzidine
3-Nitroaniline
4,6-Dinitro-2-methylphenol
4-Bromophenyl phenyl
4-Chloro-3-methylphenol
4-Chloroaniline
4-Chlorophenyl phenyl ether
4-Nitroaniline
4-Nitrophenol
Acenaphthene
Acenaphthylene
Acetophenone
Anthracene
Atrazine
Benzaldehyde
Benzo (a) anthracene
Benzo (a) pyrene
Benzo (b) fluoranthene
Benzo (g,h,i) perylene
Benzo (k) fluoranthene
Bis (2-chloroethoxy) methane
Bis (2-chloroethyl) ether
Bis (2-ethylhexyl) phthalate
Butylbenzylphthalate
Caprolactam
Carbazole
Chrysene
Dibenz (a,h) anthracene
Dibenzofuran
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
Di-n-octylphthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno (1,2,3-cd) pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitroso-di-n-propylamine
N-Nitrosodiphenylamine
Pentachlorophenol
Phenanthrene
Phenol
Pyrene

Volatile Organics
EPA 8260C

1,1,1-Trichloroethane
1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane
1,1-Dichloroethane
1,1-Dichloroethene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,2,4-Trimethylbenzene
1,2-Dibromo-3-Chloropropane
1,2-Dibromoethane
1,2-Dichlorobenzene
1,2-Dichloroethane
1,2-Dichloropropane
1,3,5-Trimethylbenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
1,4-dioxane
2-Butanone
2-Hexanone
4-Methyl-2-pentanone
Acetone
Benzene
Bromochloromethane
Bromodichloromethane

TABLE 2 (Continued)

Volatile Organics
(Continued)

Bromomethane
Carbon disulfide
Carbon Tetrachloride
Chlorobenzene
Chloroethane
Chloroform
Chloromethane
cis-1,2-Dichloroethene
cis-1,3-Dichloropropene
Cyclohexane
Dibromochloromethane
Dichlorodifluoromethane
Ethylbenzene
Freon 113
Isopropylbenzene
m,p-Xylene
Methyl acetate
Methyl tert-butyl Ether
Methylcyclohexane
Methylene chloride
Naphthalene
n-Butylbenzene
n-Propylbenzene
o-Xylene
p-Isopropyltoluene
sec-Butylbenzene
Styrene
tert-Butylbenzene
Tetrachloroethene
Toluene
trans-1,2-Dichloroethene
trans-1,3-Dichloropropene
Trichloroethene
Trichlorofluoromethane
Vinyl chloride

Volatiles-Air - TO-15

Acetone
Benzene
Carbon disulfide
Chloromethane
Dichlorodifluoromethane
Ethanol
Ethylbenzene
Ethyl Acetate
4-Ethyltoluene
Heptane
Hexane
Isopropyl Alcohol
Methylene chloride
Methyl ethyl ketone
Propylene
1,1,1-Trichloroethane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
2,2,4-Trimethylpentane
Tertiary Butyl Alcohol
Tetrachloroethylene
Toluene
Trichloroethylene
Trichlorofluoromethane
m,p-Xylene
o-Xylene
Xylenes (total)
Acetone
Benzene
Carbon disulfide
Chloromethane
Dichlorodifluoromethane
Ethanol
Ethylbenzene
Ethyl Acetate
4-Ethyltoluene
Heptane
Hexane
Isopropyl Alcohol
Methylene
Methyl ethyl ketone
Propylene
1,1,1-Trichloroethane

PFAS ANALYTE LIST

Group	Chemical Name	Abbreviation	CAS Number
Perfluoroalkyl sulfonates	Perfluorobutanesulfonic acid	PFBS	375-73-5
	Perfluorohexanesulfonic acid	PFHxS	355-46-4
	Perfluoroheptanesulfonic acid	PFHpS	375-92-8
	Perfluorooctanessulfonic acid	PFOS	1763-23-1
	Perfluorodecanesulfonic acid	PFDS	335-77-3
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	375-22-4
	Perfluoropentanoic acid	PFPeA	2706-90-3
	Perfluorohexanoic acid	PFHxA	307-24-4
	Perfluoroheptanoic acid	PFHpA	375-85-9
	Perfluorooctanoic acid	PFOA	335-67-1
	Perfluorononanoic acid	PFNA	375-95-1
	Perfluorodecanoic acid	PFDA	335-76-2
	Perfluoroundecanoic acid	PFUA/PFUdA	2058-94-8
	Perfluorododecanoic acid	PFDoA	307-55-1
	Perfluorotridecanoic acid	PFTriA/PFTrDA	72629-94-8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	376-06-7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	27619-97-2
	8:2 Fluorotelomer sulfonate	8:2 FTS	39108-34-4
Perfluorooctane-sulfonamides	Perfluroroctanesulfonamide	FOSA	754-91-6
Perfluorooctane-sulfonamidoacetic acids	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	2355-31-9
	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	2991-50-6

TABLE 3 - ANALYTICAL METHODS & PROCEDURES SUMMARY

Groundwaters

Analyte(s)	Method	Preservation	Holding Time	Container
Volatile Organics	8260	HCl to pH <2, cool to ≤6°C	14 days	2 - 40 ml septum sealed vials
Semivolatile Organics	8270	cool to ≤6°C	Samples extracted within 7 days and extracts analyzed within 40 days following extraction	1 liter amber with Teflon lined cap
Organochlorine Pesticides	8081	cool to ≤6°C		1 liter amber with Teflon lined cap
Chlorinated Herbicides (silvex)	8151	cool to ≤6°C		1 liter amber with Teflon lined cap
PCBs	8082	cool to ≤6°C	none	1 liter amber with Teflon lined cap
ICP Metals	6010	HNO3 to pH <2	6 months	250 ml. plastic
Mercury	7470	HNO3 to pH <2	28 days	250 ml. plastic
Hexavalent Chromium	7196	cool to ≤6°C	24 hours	125 ml. plastic
Cyanide, Total	9010	NaOH to pH >12, cool to ≤6°C	14 days	250 ml. plastic
PFAS	1633	cool to ≤6°C	Samples extracted within 14 days and extracts analyzed within 28 days following extraction	250 ml. HDPE
1,4-Dioxane	8270 SIM	cool to ≤6°C	Samples extracted within 7 days and extracts analyzed within 40 days following extraction	1 liter amber with Teflon lined cap

Soils

Analyte(s)	Method	Preservation	Holding Time	Container
Volatile Organics	8260	cool to ≤6°C	14 days	4 oz. widemouth glass with Teflon lined cap
Semivolatile Organics	8270	cool to ≤6°C	Samples extracted within 14 days and extracts analyzed within 40 days following extraction	4 oz. widemouth glass with Teflon lined cap
Organochlorine Pesticides	8081	cool to ≤6°C		4 oz. widemouth glass with Teflon lined cap
Chlorinated Herbicides (silvex)	8151	cool to ≤6°C		4 oz. widemouth glass with Teflon lined cap
PCBs	8082	cool to ≤6°C	none	4 oz. widemouth glass with Teflon lined cap
ICP Metals	6010	none	6 months	4 oz. widemouth glass with Teflon lined cap
Mercury	7471	cool to ≤6°C	28 days	4 oz. widemouth glass with Teflon lined cap
Hexavalent Chromium	3060/7196	cool to ≤6°C	30 days to extraction 7 days from extraction to analysis	4 oz. widemouth glass with Teflon lined cap
Cyanide, Total	9012	cool to ≤6°C	14 days	4 oz. widemouth glass with Teflon lined cap
PFAS	1633	cool to ≤6°C	Samples extracted within 14 days and extracts analyzed within 40 days following extraction	250 ml.HDPE
1,4-Dioxane	8270 SIM	cool to ≤6°C	Samples extracted within 7 days and extracts analyzed within 40 days following extraction	4 oz. widemouth glass with Teflon lined cap

APPENDIX D

FIELD SAMPLING PLAN

The Nest
333 1st Street
City of Niagara Falls, New York
Tax Map ID No.: 159.09-1-2.11
Property County: Niagara
Site No.: C932183

Prepared for:

Community Services for Every1, Inc.
180 Oak Street
Buffalo, NY 14203

Prepared by:

960 Busti Avenue, Suite B-150
Buffalo, New York 14213

June 2024

Table of Contents

1.0 INTRODUCTION

This Field Sampling Plan (FSP) provides procedures for the field activities designed in the Work Plan where soil, groundwater, and vapor sampling are required at the Site. The field procedures presented in this manual should be followed by all field personnel, as adherence can help to ensure the quality and usability of the data collected. The FSP should be used collectively with and comply with the following documents:

- The HASP.
- The QA/QC Plan.
- The RI Work Plan.

PFAS sampling and analysis should be done in accordance with the NYSDEC document: "Sampling, Analysis, and Assessment of PFAS under NYSDEC's Part 375 Remedial Programs document, dated October 2020." This document is to be used with both soil and groundwater samples.

All field equipment requiring calibration will be calibrated per, and at the frequency, recommended by the equipment manufacturer.

2.0 SOIL SAMPLING

Soil samples are obtained as outlined in the Work Plan, considering the following general protocol:

1. Inspect newly created test pit or boring core stratigraphy once obtained in/from the subsurface.
2. Quickly place the calibrated PID into the exposed soil and record the instrument readings in the logbook.
3. Sample soil, and record depth and any physical characteristics (e.g., contamination, odor, discoloration, debris, etc.) in the logbook.
4.
5. Samples should be collected at locations and frequency per the Work Plan and QA/QC Plan.
6. Decontaminate sampling implements after use and between sample locations. In most cases, dedicated sampling equipment is utilized thereby eliminating equipment decontamination. If dedicated equipment is not used, "dry" decontamination will be applied and "wet" as necessary.
7. Label each sample container with the appropriate sample identification and place samples in a cooler (cooled to 4 degrees C.) for shipment to the laboratory.
8. Initiate chain-of-custody procedures.

2.1 TEST PIT PROCEDURES

Test pit sampling is a standard method of soil sampling to obtain representative samples for identification as well as to serve as a means of obtaining significant information about the subsurface. The following steps describe the procedures for test pit operations.

2.1.1 Field Preparation

1. Verify underground utilities have been found.

2. Review scope of work, safety procedures and communication signals with site personnel.
3. Pre-clean the sampling equipment prior to use, as necessary.
4. Mark and review trench locations. Specific locations are determined in the field and are selected based on areas of visible or potential surface contamination or debris, pre-determined locations representing specific Site areas, and field obstructions.

2.1.2 Excavation and Sample Collection

1. Position backhoe/equipment into appropriate area considering direction of excavation, obstructions, safety concerns, etc.
2. Commence excavation with the backhoe upwind of the excavation, as possible.
3. Ensure continuous air monitoring has been activated.
4. Screen soil regularly for VOCs as excavation progresses and soil is stockpiled.
5. As directed by field technician for each test trench, topsoil, or cover soil (if any) is excavated and placed on poly/plastic sheeting.
6. Soil/material below the topsoil is excavated to the depth as directed by field technician and placed on poly/plastic sheeting separate from the topsoil/cover soil.
7. Segregate 'clean' material from impacted material, as possible, using visual observations and PID screening.
8. Record geologic log as trenches are excavated visually inspecting subsurface material for discoloration or staining and documenting pit/trench with photos. The following information will be recorded for each test pit log:
    - Depth, length, and width of the excavation.
    - Description of each lithological unit including depth and thickness of distinct soil, fill, or rock layers.
    - Description of any man-made impacts or apparent contamination.
    - Depth to groundwater and bedrock, if encountered.
9. Collect soil samples using dedicated stainless-steel spoons directly from the bucket of the backhoe at ground surface. No personnel shall enter the excavation to collect samples unless provisions in the HASP have been addressed for entering an excavation.
10. Place each soil sample directly into appropriate sample bottles/jars.
11. Clearly label the sample bottles and jars.
12. Place each jar in an ice-filled cooler.
13. Ship samples to the laboratory as soon as possible, but no later than 24 hours after collection.
14. Document the types and numbers of samples collected on Chain-of-Custody.
15. Record time and date of sample collection and a description of the sample and any associated air monitoring measurements in the field logbook.
16. After sampling, backfill and compact (e.g., bucket and equipment tracks/wheels) the excavated material from each trench or pit prior to moving to the next location.
17. Backfill with indigenous soil in the order in which the material was removed with the topsoil/cover soil placed last to cover the trench, placing impacted material at bottom of pit/trench and covering with 'clean' material.
18. Decontaminate sampling and excavation equipment between sampling locations (i.e., if not dedicated) and at completion over top of excavation area using dry methods initially and steam cleaning, as needed.

2.2 GEOPROBE PROCEDURES

Geoprobe direct push sampling is a standard method of soil sampling to obtain representative samples from the subsurface. Field preparation, sample collection, and data logging activities for Geoprobe sampling are identical to that of test pitting/trenching listed above. The following procedures detail activities, as directed by the field technician, for the execution of Macro Core drilling operations:

1. Startup drill rig and raise mast.
2. Use star bit with rig in rotary setting to penetrate pavement (if applicable).
3. Excavate a hole large enough to set a road box before you advance the borehole (if applicable).
4. Unthread the shoe from the bottom of the sample tube and inset a sample liner and rethread the shoe on the bottom of the sample tube.
5. Thread the drive cap on the top of the sample tube.
6. Align the sample tube so it is plumb in both directions to ensure a straight borehole is drilled.
7. Drive the top of the sample tube into ground surface to a depth of 4-feet for the first 4-foot sample.
8. Unthread the drive cap from the top of the sample tube and thread the pull cap in its place.
9. Pull the sample tube from the ground using caution to not pinch your hand between the drill rods, pull cap, or rig.
10. Unthread the cutting shoe and pull the sample liner from the bottom of the sample tube. Use pliers to reach in the sample tube and grab the liner, if needed.
11. Cut the sample liner lengthwise in two places and present the sample on a table or plastic sheeting (or similar) to ensure all sample material is contained. Quickly screen the soil for volatile organic vapors using a PID. Describe the soil and collect any necessary samples into appropriate containers and label the containers.
12. Insert a new liner and thread on the cutting shoe and repeat steps from #4 to #11 with the addition of a 4-foot-long drill rod onto the top of the sample tube to advance a second 4-foot interval.
13. Proceed with this procedure until the desired depth or refusal is reached.
14. Upon completion of probing, decontaminate all equipment in contact with the soil/fill in a decontamination area using Alcon ox and water.
15. Backfill borings with indigenous soil in the order in which the material was removed with the topsoil/sand/cover soil placed last to cover the hole. Soil samples that exhibit detectable vapors or exhibit grossly other contaminated characteristics shall not be placed back into the borehole but shall be containerized for proper disposal.

Reference: American Society for Testing Material (ASTM), 1992, ASTM D1586-84, Standard Method for Penetration Test and Split Barrel Sampling of Soils.

2.3 HOLLOW-STEM AUGER DRILLING AND SAMPLING PROCEDURES

Drilling with Hollow Stem Augers (HSAs) is a standard method for collecting undisturbed soil samples at depths that can exceed 100 feet below ground surface (bgs). This drilling and sampling method uses auger flights with a hollow center that can be used for sample collection during the drilling program. For environmental soil investigations, augers are typically 5-feet in length with a 4 1/4-inch hollow center section.

While drilling with HSAs, a plug is placed at the base of the auger string to prevent soil from entering the augers. When the sampling depth is reached, the center plug is removed and replaced with a 2-foot-long split-spoon soil sampler. A 140-pound hammer, mounted on the drill rig, is then used to drive the soil sampler and connect drill rods 2 feet into the undisturbed soil at the base of the augers. Removal of the soil sampler from the augers allows description and sampling of the collected soil. To sample the next lower 2-foot soil sample, the center plug is again placed at the base of the auger string and drilling and then sampling is continued. Continuous soil samples can be collected using HSAs to any drillable depths.

Field procedures.

1. HSAs, drill rods and the drilling rig will be thoroughly decontaminated prior to initial borehole installation, and between each borehole, at the centralized decontamination area. All decontamination liquids and solids will be collected and placed in DOT approved 55-gallon drums.
2. The drill rig will be inspected for oil leaks and any other leaks prior to starting drilling operations.
3. Lower the center plug to the bottom of the augers. Advance the boring by rotating and advancing the HSAs to the desired depth. The boring will be advanced incrementally to permit continuous or intermittent subsurface soil sampling, as required.
4. Remove the center plug from the HSAs and lower the 2-foot-long split-spoon sampler to the base of the augers. Use the rigs 140 hammer to drive the split-spoon sampler 2-feet into the undisturbed soil. Record the number of hammer blows (blow counts) for each 6-inches of sampler penetration.
5. Remove the split-spoon sampler from the borehole, open the split-spoon and quickly scan the soil for VOCs with a PID or FID. Describe the soil, collect the project required samples, place them in the proper containers, label the containers and place on ice.
6. Continue the above drilling and sampling steps until the final desired depth is reached.
7. If a monitoring well will not be constructed in the borehole, backfill the borehole with either uncontaminated soil cuttings or grout, as specified by the project work plan.

Reference: American Society for Testing Material (ASTM), ASTM D5784, Standard Guide for Use of Hollow-Stem Augers for Geoenvironmental Exploration and the Installation of Subsurface Water Quality Monitoring Devices

3.0 GROUNDWATER SAMPLING

3.1 WELL INSTALLATION PROCEDURES

The following procedure outlines a NYSDEC-approved method of constructing groundwater wells within unconsolidated material to monitor groundwater elevation and acquiring groundwater samples for laboratory testing. The well screen is 4" Schedule 40 pipe with 0.010 slot size. The following is a step-by-step method for the open-hole method of installing a groundwater well once a boring or augured hole has been drilled to a desired depth within the subsurface:

1. Thread a cap on the bottom section of the well screen. If more than one section of

the well screen is required, thread the last section.
2. Lower the screen into the borehole with the riser section ready.
3. Add the riser sections to the screen. Do not drop the screen in the borehole.
4. Add riser sections as required until the bottom screen section touches the bottom of the borehole.
5. If completing the well with a road box, mark the riser two inches below the lid of the road box and then cut the riser.
6. Place a slip cap over the top of the rise section.
7. Place sand in the space between the borehole and the PVC screen and riser to the required depth. Place the sand in very slowly so it does not bridge in the well bore.
8. Place bentonite and cement above the sand-pack.
9. Grout in the road box with concrete mix.

3.2 Well Development Procedures

At least 24 hours after completion of drilling and installation, well development is completed through pumping or bailing until the discharged water is relatively sediment free and the indicator parameters (e.g., pH, temperature, specific conductivity, etc.) have reached steady state. Development removes sediment and can improve the hydraulic properties of the sand pack. The effectiveness of this process is monitored to minimize the volume of discharged waters to obtain sediment-free samples. Well development water will be containerized upon generation and will not be discharged or disposed of without prior department approval.

1. Select an appropriate well development method based upon water depth, well productivity, and sediment content of the water. Well development options include: (a) bailing; (b) manual pumping; and (c) submersible pumps. These options are utilized with surging of the well screen using an appropriately sized surge block.
2. Decontaminate, as needed, and assemble equipment in the monitoring well based upon the method selected. Care should be taken not to introduce contaminants into the equipment or well during installation.
3. Proceed with development by repeated removal of water from the well until the discharged water is relatively sediment-free (i.e., < 50 NTUs). Volume of water removed pH, temperature and conductivity measurements are recorded on the Well Development/Purging Logs.

3.3 Well Purging Procedures

To collect representative samples, groundwater wells must be adequately purged prior to sampling. Purging will require removing three to five volumes of standing water in rapidly recharging wells and at least one volume from wells with slow recharge rate. In addition to the required well volumes, water quality parameters (pH, temperature, specific conductivity and turbidity) should have stabilized prior to sampling. Sampling should commence as soon as adequate recharge has occurred. Although not required, it is recommended that purging and sampling occur at least 7 days after development. Well development water will be containerized upon generation and will not be discharged or disposed of without prior department approval.

1. Remove well cover ensuring no foreign material enters the well.

2. Monitor the interior of the riser pipe for organic vapors using a PID. If a reading of greater than 5 ppm is recorded, the well will be vented until levels are below 5 ppm before pumping is started.
3. Measure the water level below top of casing using an electronic water level indicator.
4. Determine the volume of water within the well by knowing the total depth of the well.
5. Wash the end of the probe with soap and rinse with deionized water between wells.
6. Calibrate field instruments for measuring water quality parameters (e.g., pH, specific conductance, turbidity, etc.)
7. In all wells, a peristaltic pump will be used to purge the required water volume (i.e., until stabilization of pH, temperature specific conductivity and turbidity). If depths to water exceed about 25 feet below ground, bailers and/or submersible pumps may be used.
8. Utilize dedicated, new polyethylene bailers and tubing for sampling. If sampling for emerging contaminants such as PFAS, HDPE bailers and tubing must be used.
9. Purge until the required volume is removed. If the well purges to dryness and recharges within 15 minutes, purging can continue as it recharges. If the well purges to dryness and the recharge is greater than 15 minutes, purging is terminated, and sampling can occur as soon as the well recharges.
10. Calculate the well volumes and record measurements for pH, temperature, turbidity, and conductivity during the purging along with physical observations.

3.4 WELL SAMPLING PROCEDURES

1. Perform well sampling within 24 hours of purging if well has recovered sufficiently to sample. If sufficient volume for analytical testing cannot be obtained from a well or if recharge exceeds 24 hours, then DEC should be consulted on analytical priorities and validity of the sample.
2. Collect samples using appropriate containers.
3. Label sample bottles using a waterproof permanent marker per procedures outlined below.
4. Use verifiably clean sample bottles (containing required preservatives) and place samples on ice in coolers for transport to the analytical laboratory, who will certify bottles are analyte-free.
5. Initiate chain-of-custody.
6. Record well sampling data field notebook and on the Well Development/Purging Log.

4.0 SAMPLE DOCUMENTATION

Each soil and groundwater sample are logged in a bound field notebook by the technician or geologist. Field notes should include, but are not limited to the following:

- descriptions of subsurface material encountered during sampling,
- sample numbers and types of samples recovered, and
- date and time of sampling event.

The technician or geologist also completes a daily drilling or sampling record and chains-of-custody for all samples collected that are being transported to the laboratory. Once the sampling program is complete, the geologist or technician transfers field notes/logs onto standard forms (e.g., boring logs, sampling logs, daily reports, etc.) to be included with the formal investigation report.

5.0 SAMPLING CONTAINER SELECTION

The selection of sample containers is based on the media being sampled and the required analysis. Container selection should be completed in advance of mobilizing into the field with close communications with the laboratory.

6.0 SAMPLE LABELING

The following procedure helps to prevent misidentification of samples and to clarify the location and purpose of environmental samples collected during the investigation:

1. Fix a non-removable (when wet) label to each container.
2. Wrap each sample bottle with 2-inch cellophane tape.
3. Write the following information with permanent marker on each label:
    A. Site name
    B. Sample identification
    C. Project number
    D. Date/time
    E. Sampler's initials
    F. Sample preservation
    G. Analysis required

Each sample is assigned a unique identification alpha-numeric code, such as RR-ss1 or WS-TP1 (2-3'), where the abbreviations represent RR – River Road (site), surface sample 1 and Waste Site, test pit 1, obtained at 2-3' bgs. Other common abbreviations include the following:

- BH = Geoprobe Borehole
- SW = Surface Water
- SED = Sediment
- SB = Soil Boring
- MSB = Matrix Spike Blank
- NSS = Near Surface Soil (1' - 2' depth)
- EB = Equipment Rinse Blank
- HW = Hydrant Water (Decon/Drilling Water)
- GW = Groundwater
- TB = Trip Blank
- RB = Rinse Blank
- MS/MSD =Matrix Spike/Matrix Spike Duplicate

7.0 SAMPLE SHIPPING

Proper documentation of sample collection and the methods used to control these documents are referred to as chain-of-custody procedures. Chain-of-custody procedures are essential for (1) presenting analytical results in a legal or regulatory forum (e.g., evidence in litigation or administrative hearings), (2) minimizing loss or misidentification of samples, and (3) ensuring that unauthorized persons do not tamper with collected samples.

The following chain-of-custody guidelines should be utilized during sample collection as outlined in and prepared by the National Enforcement Investigations Center (NEIC) Policies and Procedures of the USEPA Office of Enforcement:

1) Complete chain-of-custody record with all relevant information.
2) Send original chain with the samples in a sealed, waterproof bag taped inside the sample cooler.
3) Place adequate inert cushioning material (e.g., corrugated plastic, polypropylene foam wrap, etc.) in bottom of cooler.
4) Place bottles in cooler so they do not touch (use cushioning material for dividers).
5) Place VOA vials in sealed/waterproof bags in the center of the cooler.
6) Pack cooler with ice in sealed/waterproof plastic bags.
7) Pack the cooler with cushioning material.
8) Place any additional paperwork in sealed bag with original chain.
9) Tape cooler drain shut.
10) Wrap cooler with packing tape at two locations to secure lid. Do not cover labels.
11) Place lab address on top of cooler.
12) Ship samples via overnight carrier the same day that they are collected.
13) Label cooler with "This side up" on all sides and "Fragile" on at least two sides.
14) Fix custody seals on front right and left of cooler and cover with packaging tape.

8.0 SOIL VAPOR SAMPLING

Soil vapor investigation consists of sampling contaminant vapors that may exist beneath the building slabs, inside the buildings, and outside the building. Sample collection includes the following procedures per New York State Department of Health *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*.

8.1 SUB-SLAB AIR SAMPLING PROCEDURES

8.1.1 Sampling Locations

Select the sub-slab sample collection points by observing the condition of the building floor slab for apparent penetrations such as concrete floor cracks, floor drains, or sump holes. The floor conditions will be noted, and potential locations of subsurface probes will be selected. The locations will ideally be away from the foundation walls, apparent penetrations, and buried pipes.

8.1.2 Sampling Probes

Drill a 5/8-inch diameter hole approximately one inch deep into the concrete floor using a 5/8-inch diameter drill bit and a hammer drill. Extend the hole through the remaining thickness of the slab and about three inches below the base of the slab using a ½-inch diameter drill bit. Remove the concrete cuttings using the ½-inch drill bit in an up-down motion. Clean out the shallow 5/8-inch drilled hole using a round steel wire brush. Carefully clean the surface of the concrete adjacent to the 5/8-inch hole using a flat wire brush to remove any residual concrete dust from the floor's surface. Dabbing the surface with clay can also remove the dust. These steps will allow the clay seal (see below) to better adhere to the concrete surface.

Insert one end of a 1.5-foot length of ¼-inch diameter (OD) Teflon or HDPE tubing through the center hole of a 5/8-inch diameter rubber stopper. About two inches of the tubing should extend beyond and below the narrow end of the stopper. Insert the tubing into the 5/8-inch diameter borehole so that the bottom of the stopper rests on top of the 1/2-inch diameter drilled hole. Pack the annulus of the 5/8-inch diameter hole with Sculpy modeling clay and extend the clay about 1.5-inches above the floor adhering tightly to the tubing. The clay should be in a volcano-like shape with a wide base adhering to the concrete floor and narrowing at the upper end of contact with the tubing. This shape allows the tubing to move without disturbing the contact of the clay with the floor and the tubing. The clay should cover and adhere to a minimum of one-half inch of the concrete surface beyond the borehole.

8.1.3 Helium Tracer Gas Testing

Place a 1-quart (or similar size) container over the sample probe after threading the sample tube through a hole in the top of the bucket. Seal the tube to the bucket with clay. The bucket should also have another hole drilled in the top for the injection of helium, and a hole in the side near the floor for the measurement of helium gas concentrations.

Connect a helium (99.999% pure) cylinder tubing to the top port of bucket enclosure and seal with clay or other sealing material. Insert a helium detector probe in the bottom port of the bucket. Release enough helium to displace any ambient air in the bucket until the concentration of helium reaches a minimum of 90%. Maintain this minimum concentration by testing with a helium detector. The Helium cylinder should be open during the purge time to cause a slight positive pressure within the enclosure.

Connect the sample tubing to a GilAir vacuum pump or equivalent using 3/8-inch O.D. silicone tubing. Connect a 1-liter Tedlar bag to the outlet of the pump using silicone tubing and collect a 1-liter sample. Purging flow rates must not exceed 0.2 liters per minute (L/min). Analyze the Tedlar bag for helium using a helium detector and record the results on the Summa Canister Data Sheet. A concentration of helium 10% or greater indicates a poor seal of the sample probe and it must be reinstalled and retested. After purging, remove the bucket enclosure from over the sample probe.

8.1.4 Sample Collection

Assign sample identification to the Summa Canister sample identification tag and record on chain of custody (COC), and the Summa Canister Data Sheet. Also record the Summa canister and flow controller (regulator) serial numbers on the COC and Summa Canister Data Sheet. Attach a pre-calibrated/certified 8-hour or 24-hour flow controller, and particulate filter to the Summa canister. Attach the sample tube to the Summa canister using a ¼-inch Swagelok nut with appropriate ferrules, to the end of the flow controller/particulate filter assembly. The sampling period will be 8 hours for most commercial facilities and 24 hours for mixed use residential/commercial.

Open canister valve to initiate sample collection and record sample start time, date, and initial canister vacuum on the canister identification tag and on the Summa Canister Data Sheet. If the canister does not show sufficient vacuum (generally less than 25“Hg), do not use. Take a digital photograph of canister setup and surrounding area. Include in the photograph a dry erase board or similar display which presents sample ID, location, and date.

After 8 or 24 hours, record sample end time and canister pressure on the Summa Canister Data Sheet, and close valve. Disconnect the Teflon tubing and remove flow controller/particulate filter assembly from canister. Seal canister with laboratory supplied brass plug. Ship the samples, with COCs, overnight, to the selected laboratory for standard TO-15 analysis.

8.2 Indoor/Outdoor Air Sampling Procedures

Place the indoor air Summa canister/flow controller inlet at breathing height in the approximate center of the space being sampled, or, for the outdoor air sample, elevated on a table or other object in a location upwind of the building being sampled. The breathing height is defined as four to six feet above the floor or ground. As an option, a length of Teflon tubing can be attached to the Summa canister/flow controller inlet and raised to breathing zone height.

Record the canister and flow controller serial numbers on the canister identification tag, COC and the Summa Canister Data Sheet. Assign sample identification to the canister identification tag, and record on the COC and the Summa Canister Data Sheet. Remove brass plug from canister fitting and save.

Attach a pre-calibrated/certified 8 or 24-hour flow controller and particulate filter to the Summa canister. For the outside air sample, also connect the laboratory supplied “candy cane” fitting to the flow controller. Open canister valve to initiate sample collection and record start time, date, and gauge vacuum reading on the canister identification tag and on the Summa Canister Data Sheet. Take a photograph of canister setup and surrounding area.

After 8 or 24 hours, record the gauge vacuum reading, close the Summa canister valve completely and record the end time on the Summa Canister Data Sheet. There should still be a slight vacuum in the Summa canister. If no vacuum remains in the canister, or the canister does not show a significant net loss in vacuum after sampling, the sample should be re-collected using a new Summa canister and flow controller. Disconnect any tubing and candy cane fittings from the Summa canister and remove the flow controller. Replace the brass plug on the canister. Ship canister, with COCs, overnight, to the selected laboratory

8.3 Quality Control

The number of Quality Control samples (duplicates) to be taken during sub-slab sampling may be found in the QA/QC Plan. The duplicate sample rate is usually 10 percent. Field duplicates for sub-slab, indoor air and outdoor air samples will be collected by attaching the T-fitting supplied by the laboratory to two Summa canisters with attached regulators. For sub-slab samples, the inlet of the T-fitting will then be attached to the sub-slab sample tubing using a Swagelok fitting. For indoor and outdoor air samples, any tubing used to raise the sampling height will also be attached to the inlet of the T fitting. For sampling, both Summa canister valves are opened and closed simultaneously.

8.4 Sample Labeling

Each sub-slab sample should have the following information at a minimum placed on the laboratory supplied sample label:

- Site name
- Sample identification – see below
- Date/time

- Sampler's initials
- Analysis required – TO-15

The serial number of the canister and regulator used during sampling is also noted on the Summa canister identification tag and on the COC. Each sub-slab, indoor air and outdoor air sample will be assigned a unique alpha-numeric code. An example of this code and a description of its components are presented below. Field duplicate samples will be assigned a unique identification alphanumeric code that specifies the date of collection, the letters FD (for field duplicate) and an ascending number that records the number of duplicate samples collected that day. For example, the first field duplicate collected on February 22, 2023, would be assigned the sample number in the format YYYYMMDD-FD-1 = 20230222-FD-1.

Subsequent duplicates collected on the same day will be assigned FD-2, FD-3 etc. Field sampling crew will record the duplicate sample information on the Summa Canister Data Sheets and in the field book.

8.5 Field Documentation

Field notebooks are used during all on-site work. A dedicated field notebook is maintained by the field technician overseeing the site activities. Sub-slab sampling procedures should be photo-documented. The field sampling team will maintain sampling records that include the following data:

- Sample Identification
- Date and time of sample collection
- Identity of samplers
- Sampling methods and devices
- Purge volumes (soil vapor)
- Volume of soil vapor sample extracted
- The Summa canister vacuum before and after samples collected
- Chain of Custody and shipping information

The proper completion of the following forms/logs is considered correct procedure for documentation during the indoor air-sampling program:

1. Field Logbook - weather-proof hand-bound field book
2. Summa Canister Data Sheet
3. Chain of Custody Form

8.6 Sample Shipping

Proper documentation of sample collection and the methods used to control these documents are referred to as chain-of-custody procedures. Chain-of-custody procedures are essential for presentation of sample analytical chemistry results as evidence in litigation or at administrative hearings held by regulatory agencies. Chain-of-custody procedures also serve to minimize loss or misidentification of samples and to ensure that unauthorized persons do not tamper with collected samples.

The following chain-of-custody guidelines should be utilized during sample collection as outlined in and prepared by the National Enforcement Investigations Center (NEIC) Policies and Procedures of the USEPA Office of Enforcement:

- Complete the chain-of-custody (COC) record with all relevant information.

- Ship original COC with the samples in a sealed waterproof plastic bag and place inside the box containing a Summa canister.
- Retain a copy of the COC for field records.
- Ship Summa canisters in the same boxes the laboratory used for shipping.
- Place the lab address on top of sample box/cooler.
- Fix numbered custody seals across box lid flaps and cooler lid.
- Cover seals with wide, clear tape.
- Ship samples via overnight carrier within three days of sample collection if possible.

APPENDIX E

Appendix 3C Fish and Wildlife Resources Impact Analysis Decision Key	If YES Go to:	If NO Go to:
1. Is the site or area of concern a discharge or spill event?	13	2
2. Is the site or area of concern a point source of contamination to the groundwater which will be prevented from discharging to surface water? Soil contamination is not widespread, or if widespread, is confined under buildings and paved areas.	13	3
3. Is the site and all adjacent property a developed area with buildings, paved surfaces and little or no vegetation?	4	9
4. Does the site contain habitat of an endangered, threatened or special concern species?	Section 3.10.1	5
5. Has the contamination gone off-site?	6	14
6. Is there any discharge or erosion of contamination to surface water or the potential for discharge or erosion of contamination?	7	14
7. Are the site contaminants PCBs, pesticides or other persistent, bioaccumulable substances?	Section 3.10.1	8
8. Does contamination exist at concentrations that could exceed ecological impact SCGs or be toxic to aquatic life if discharged to surface water?	Section 3.10.1	14
9. Does the site or any adjacent or downgradient property contain any of the following resources? i. Any endangered, threatened or special concern species or rare plants or their habitat ii. Any DEC designated significant habitats or rare NYS Ecological Communities iii. Tidal or freshwater wetlands iv. Stream, creek or river v. Pond, lake, lagoon vi. Drainage ditch or channel vii. Other surface water feature viii. Other marine or freshwater habitat ix. Forest x. Grassland or grassy field xi. Parkland or woodland xii. Shrubby area xiii. Urban wildlife habitat xiv. Other terrestrial habitat	11	10
10. Is the lack of resources due to the contamination?	3.10.1	14
11. Is the contamination a localized source which has not migrated and will not migrate from the source to impact any on-site or off-site resources?	14	12
12. Does the site have widespread surface soil contamination that is not confined under and around buildings or paved areas?	Section 3.10.1	12
13. Does the contamination at the site or area of concern have the potential to migrate to, erode into or otherwise impact any on-site or off-site habitat of endangered, threatened or special concern species or other fish and wildlife resource? (See #9 for list of potential resources. Contact DEC for information regarding endangered species.)	Section 3.10.1	14
14. No Fish and Wildlife Resources Impact Analysis needed.		

ATTACHMENT

Hazardous Materials Reports

Asbestos, Lead-Based Paint (LBP) and PCB Caulk Inspection
Lower Section of Windows
(Outlined in Red)

of

Covered Walkway on Old Falls Street

Prepared for

The City of Niagara Falls Department of Engineering

Prepared by

STOHL ENVIRONMENTAL, LLC

Environmental – Asbestos, Lead and Mold Consultants

4169 Allendale Pkwy, Suite 100
Blasdell, New York 14219

☎ (716) 312-0070
(716) 312-8092

Conditions as of September 22, 2011

STOHL ENVIRONMENTAL, LLC

Environmental – Asbestos, Lead and Mold Consultants

SUMMARY TABULATION

1.2 Executive summary

The scope of services included the identification of suspect asbestos containing building materials in areas of planned renovations; sampling and analysis of the suspect materials; and identifying the locations and estimated quantities of the confirmed asbestos containing materials.

The inspection was conducted on September 22, 2011 and revealed the following:

SAMPLING AND ANALYSIS OF ALL SUSPECT MATERIALS SAMPLED AS PART OF THIS INSPECTION TESTED NEGATIVE FOR ASBESTOS.

1.4 Methodology for inspection (continued)

Based on the homogeneous areas, samples of suspect materials were collected. Techniques used for sample collection were designed to minimize damage to suspected areas, reduce any potential for fiber release, and ensure the safety of the inspector and building occupants. Samples were collected by Stohl Environmental using the following procedures:

1. The surface to be sampled was sprayed with amended water (detergent and water) as necessary
2. A plastic sample bag was held to the surface sampled
3. The sample was collected using tools appropriate to the friability of the material sampled
4. Sample bags were labeled with a unique sample identification number
5. Samples were recorded on a Chain of Custody form, and submitted under strict chain-of-custody procedures to an ELAP and NYSDOH approved and certified laboratory for analysis

Samples were first analyzed using PLM, Polarized Light Microscopy in accordance with US Environmental Protection Agency Interim Method, 40 CFR Pt 763, Supt F, App A(7-1-87). For the sample results not considered definitive, additional analysis was performed under Transmission Electron Microscopy (TEM) in accordance with NYS DOH ELAP Item #198.4, for Non-friable Organically Bound Bulk Material (NOB). The results of this analysis confirmed whether or not a suspect materials actually contained asbestos. The confirmed materials are listed in **SECTION 1.5 Inspection Report.**

Section 2.0 Lead-Based Paint Inspection

2.1 Introduction

Stohl Environmental was retained by the City of Niagara Falls Department of Engineering to inspect the lower section of the windows of the Covered Walkway located at Old Falls Street in Niagara Falls, New York for the presence of surfaces containing lead-based paint (LBP).

Stohl Environmental was charged with:

1. locating suspect surfaces,
2. measuring lead concentrations on suspect surfaces using an X-ray florescence spectrum analyzer, and
3. bulk sampling for lab analysis where necessary.

Although this report is a comprehensive analysis of the lead-based paint in this structure, the following information, as well as a reading of the sources listed at the end of this section, will help ensure compliance to applicable rules, laws and regulations regarding lead based paint.

TITLE X:

On October 28, 1995, the Housing and Community Development Act of 1992 was signed into law. Title X, as this bill is commonly referred to, is comprehensive and significant in addressing lead poisoning and prevention. Under the Toxic Substances Control Act (TSCA), as amended by Title X, EPA is developing regulations governing lead-based paint hazard evaluation and abatement in private and public housing, public and commercial buildings and commercial structures. When the changes brought about by this legislation are fully defined and enacted, virtually all parties involved in ownership, rental, management, financing/lending, contracting/abatement, and insurance will be affected.

2.1 Introduction (continued)

OSHA

On May 4, 1993, OSHA promulgated the Lead Exposure in Construction Rule (29 CFR Part 1926.62). This regulation applies to all construction activities involving potential lead exposures. This regulation defines construction work as "...work for construction, alteration and/or repair including painting and decorating" and further states "...the standard for the construction industry applies to all occupational exposure to lead in all construction work in which
lead, in any amount, is present in an occupationally related context ... where the source of the lead is employment related..."

The employer must ensure that no worker is exposed to concentrations of lead in excess of the permissible exposure limit (PEL) for lead, which is an eight hour time weighted average (TWA) exposure of 50 mg/m3 (micrograms per cubic meter). This means that the pre-project site must be inspected to determine if a lead hazard exists. If determined to exist, the employer must either perform an "Exposure Assessment" as defined in 29 CFR Part 1926.62 paragraph (d), or implement employee protective measures as prescribed in paragraph (d)(2)(v) including appropriate respiratory protection, personal protective clothing, change areas, hand washing facilities, biological monitoring, and training.

HUD

The statutory requirements and foundations for HUD Guidelines can be found in Section 302 of the Lead-Based Paint Poisoning Prevention Act (LBPPPA).

Certain aspects of the HUD Guidelines are typically applied to public and commercial buildings. The most common adopted techniques used to identify LBP are X-ray Fluorescence Spectrum Analyzer (XRF) and Atomic Absorption Spectroscopy (AAS). HUD defines LBP as having an XRF reading greater than 1.0 mg of lead per centimeter squared, or a paint chip analyzed by AAS having greater than 0.5 percent lead by weight.

The above information coupled with this report will help assure compliance to applicable laws and regulations and protect the occupants and contractors from exposure while in the building.

2.3 Inspection Report

During the lead-based paint inspection conducted on September 22, 2011, both the interior and exterior painted components of the site were inspected. Painted components were identified and tested based on component groups and paint history.

The XRF analysis indicated that the following painted surfaces have a lead content at greater than the Title X threshold (greater than 1.0 mg/cm^2) for classification as lead-based paint. For any renovations undertaken that require demolition of these painted surfaces, contractors should be advised of the presence of lead, and required to comply with the aforementioned OSHA regulations for construction worker safety.

Component groups that were identified to contain LBP are:

- **Structural Steel**

(SEE THE TABLE IN SECTION 2.4 FOR XRF ANALYSIS OF INDIVIDUAL COMPONENTS/SUBSTRATES)

Section 3.0 PCBs in Caulk Sampling

3.1 Introduction

Stohl Environmental was retained by the City of Niagara Falls Department of Engineering to inspect the lower section of the windows of the Covered Walkway on Old Falls Street in Niagara Falls, New York for the presence of caulking/sealant materials suspected of containing Polychlorinated Biphenyls (PCBs) that may be impacted by planned renovations.

Stohl Environmental was charged with:

1. locating suspect materials,
2. bulk sampling of caulking/sealants for lab analysis to determine PCB content.
3. submission of samples to and independent certified laboratory, and preparation of a summary report

3.2 Background

PCBs are mixtures of synthetic organic chemicals with the same basic chemical structure and similar physical properties ranging from oily liquids to waxy solids. Due to their non-flammability, chemical stability, high boiling point and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications including electrical, heat transfer, and hydraulic equipment; as plasticizers in paints, plastics, rubber and caulking products; in pigments, dyes and carbonless copy paper and many other applications. More than 1.5 billion pounds of PCBs were manufactured in the United States prior to cessation of production in 1977.

Concern over the toxicity and persistence in the environment of Polychlorinated Biphenyls (PCBs) led Congress in 1976 to enact 6(e) of the Toxic Substances Control Act (TSCA) that included among other things, prohibitions on the manufacture, processing, and distribution in commerce of PCBs.

The following is a partial listing of applicable regulations regarding proper handling and disposal:

* New York State Department of Environmental Conservation - 6 NYCRR Part 371
* USEPA 40 CFR Part 761.62 Disposal of PCB Bulk Product Waste

3.5 PCB Analysis Report

HAN 601 – Old Window Caulk - White

Sample #	Parameter/ PCB Compound	Analysis Method	Results (µg/kg) ppb	Results reported in ppm	Hazardous Waste (Y/N)
0922-CW-601P-1	PCB-1016	EPA 8082	Not Detected	Not Detected	No
	PCB-1221	EPA 8082	Not Detected	Not Detected	No
	PCB-1232	EPA 8082	Not Detected	Not Detected	No
	PCB-1242	EPA 8082	Not Detected	Not Detected	No
	PCB-1248	EPA 8082	Not Detected	Not Detected	No
	PCB-1254	EPA 8082	Not Detected	Not Detected	No
	PCB-1260	EPA 8082	Not Detected	Not Detected	No
	PCB 1262	EPA 8082	Not Detected	Not Detected	No
	PCB-1268	EPA 8082	Not Detected	Not Detected	No
TOTAL				Not Detected	No

HAN 602 – Door / Seam Caulk - Brown

Sample #	Parameter/ PCB Compound	Analysis Method	Results (µg/kg) ppb	Results reported in ppm	Hazardous Waste (Y/N)
0922-CW-602P-1	PCB-1016	EPA 8082	Not Detected	Not Detected	No
	PCB-1221	EPA 8082	Not Detected	Not Detected	No
	PCB-1232	EPA 8082	Not Detected	Not Detected	No
	PCB-1242	EPA 8082	Not Detected	Not Detected	No
	PCB-1248	EPA 8082	Not Detected	Not Detected	No
	PCB-1254	EPA 8082	Not Detected	Not Detected	No
	PCB-1260	EPA 8082	Not Detected	Not Detected	No
	PCB 1262	EPA 8082	Not Detected	Not Detected	No
	PCB-1268	EPA 8082	Not Detected	Not Detected	No
TOTAL				Not Detected	No

HAN 603 – Door Glazing Compound - Brown

Sample #	Parameter/ PCB Compound	Analysis Method	Results (µg/kg) ppb	Results reported in ppm	Hazardous Waste (Y/N)
0922-CW-603P-1	PCB-1016	EPA 8082	Not Detected	Not Detected	No
	PCB-1221	EPA 8082	Not Detected	Not Detected	No
	PCB-1232	EPA 8082	Not Detected	Not Detected	No
	PCB-1242	EPA 8082	Not Detected	Not Detected	No
	PCB-1248	EPA 8082	Not Detected	Not Detected	No
	PCB-1254	EPA 8082	Not Detected	Not Detected	No
	PCB-1260	EPA 8082	Not Detected	Not Detected	No
	PCB 1262	EPA 8082	Not Detected	Not Detected	No
	PCB-1268	EPA 8082	Not Detected	Not Detected	No
TOTAL				Not Detected	No

TABLE CONTINUES ON FOLLOWING PAGE

STOHL ENVIRONMENTAL, LLC

Environmental – Asbestos, Lead and Mold Consultants

Appendix A Site Photos

Lead Based Paint Photo:

Structural Steel – Red / Brown

STOHL ENVIRONMENTAL, LLC

Environmental – Asbestos, Lead and Mold Consultants

Appendix C Certifications and licenses

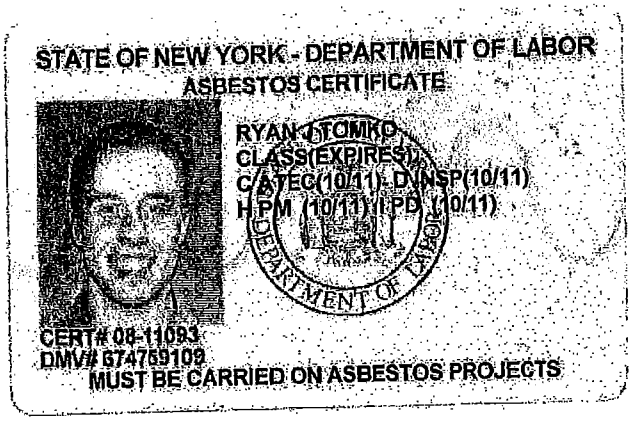
STOHL ENVIRONMENTAL, LLC

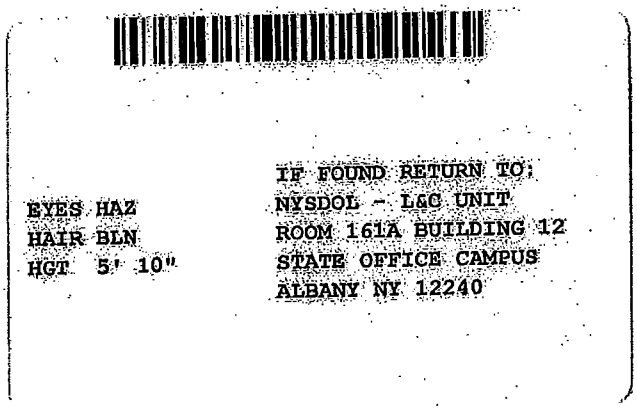
Environmental – Asbestos, Lead and Mold Consultants

4169 Allendale Pkwy., Suite 100
Blasdell New York 14219

☎ (716) 312-0070
(716) 312-8092

RYAN TOMKO





NYS ASBESTOS CERTIFICATIONS

PROJECT MONITOR

AIR MONITOR

INSPECTOR

PROJECT DESIGNER

Asbestos Consulting Services **Environmental Assessments** **Lead Services**

AmeriSci New York
117 EAST 30TH ST.
NEW YORK, NY 10016
TEL: (212) 679-8600 • FAX: (212) 679-3114

PLM Bulk Asbestos Report

Stohl Environmental, LLC.
Attn: Tony Franjoine
4169 Allendale Parkway
Suite 100
Blasdell, NY 14219

Date Received 10/04/11 **AmeriSci Job #** 211101306
Date Examined 10/06/11 **P.O. #**
ELAP # 11480 **Page** 1 **of** 3
RE: 2011-675; City Of Niagara Falls Engineering Dept.; Covered Walkway On Old Falls St., Niagara Falls, NY

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
0922-CW-601-1 601	211101306-01 **Location:** Old Window Caulk - White / Exterior	*No*	NAD (by NYS ELAP 198.6) by Ella Babayeva on 10/06/11
Analyst Description: White, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 1.9 %			
0922-CW-601-2 601	211101306-02 **Location:** Old Window Caulk - White / Exterior		NA
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
0922-CW-602-1 602	211101306-03 **Location:** Door / Seam Caulk - Brown / Exterior	*No*	NAD (by NYS ELAP 198.6) by Ella Babayeva on 10/06/11
Analyst Description: Brown, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 6.5 %			
0922-CW-602-2 602	211101306-04 **Location:** Door / Seam Caulk - Brown / Exterior		NA
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:**			
0922-CW-604-1 604	211101306-05 **Location:** Window Horizontal Bar Seam Caulk - Gray / Exterior	*No*	NAD (by NYS ELAP 198.6) by Ella Babayeva on 10/06/11
Analyst Description: Grey, Homogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 15 %			

See Reporting notes on last page

AmeriSci Job #: **211101306**

Client Name: Stohl Environmental, LLC

Table I
Summary of Bulk Asbestos Analysis Results
2011-675; City Of Niagara Falls Engineering Dept.; Covered Walkway On Old Falls St., Niagara Falls, NY

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	0922-CW-601-1	601	0.154	22.1	76.0	1.9	NAD	NA
Location:	Old Window Caulk - White / Exterior							
02	0922-CW-601-2	601	0.173	24.3	72.3	3.5	NA	NAD
Location:	Old Window Caulk - White / Exterior							
03	0922-CW-602-1	602	0.186	59.7	33.9	6.5	NAD	NA
Location:	Door / Seam Caulk - Brown / Exterior							
04	0922-CW-602-2	602	0.203	56.7	38.9	4.4	NA	NAD
Location:	Door / Seam Caulk - Brown / Exterior							
05	0922-CW-604-1	604	0.353	47.3	37.7	15.0	NAD	NA
Location:	Window Horizontal Bar Seam Caulk - Gray / Exterior							
06	0922-CW-604-2	604	0.152	46.7	41.4	11.6	NA	Chrysotile <1.0
Location:	Window Horizontal Bar Seam Caulk - Gray / Exterior							
07	0922-CW-605-1	605	0.164	57.3	36.6	6.1	NAD	NA
Location:	Window Glazing Compound - Red / Brown / Exterior							
08	0922-CW-605-2	605	0.307	57.3	37.5	5.1	NA	Chrysotile Trace
Location:	Window Glazing Compound - Red / Brown / Exterior							
09	0922-CW-607-1	607	0.248	33.9	43.5	22.6	Chrysotile <0.25 Anthophyllite <0.25	NA
Location:	Interior Window Bedding Compound - Black / Interior							
10	0922-CW-607-2	607	0.122	29.5	54.9	15.4	NA	Chrysotile Trace Anthophyllite Trace
Location:	Interior Window Bedding Compound - Black / Interior							

Analyzed by: Marik Peysakhov_____; Date Analyzed 10/7/2011

**Quantitative Analysis (Semi/Full); Bulk Asbestos Analysis - PLM by EPA 600/M4-82-020 per 40 CFR or ELAP 198.1 for New York friable samples or ELAP 198.6 for New York NOB samples; TEM (Semi/Full) by EPA 600/R-93/116 (not covered by NVLAP Bulk accreditation) or ELAP 198.4; for New York samples; NAD = no asbestos detected during a quantitative analysis; NA = not analyzed; Trace = <1%; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only; Qualitative Analysis: Asbestos analysis results of "Present" or "NVA = No Visible Asbestos" represents results for Qualitative PLM or TEM Analysis only (no accreditation coverage available from any regulatory agency for qualitative analyses); AIHA Lab # 102843, NVLAP Lab Code 200546-0, NYSDOH ELAP Lab ID#11480.

Warning Note: PLM limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris for which PLM evaluation is recommended (i.e. soils and other heterogenous materials).

Reviewed By:_____

STOHL ENVIRONMENTAL

4169 Allendale Pkwy. Suite 100
Blasdell, NY 14219
Phone# (716) 312-0070
Fax # (716)312-8092

Chain of Custody Document

211101306

Submitted to: (Lab Name) Amerisci NY

STOHL Job # 2011-675

Client: City of Niagara Falls Engineering Dept.

Contact: Jeff Skurka

Building: Covered Walkway on Old Falls St

Location: Niagara Falls, NY

LEAD
Wipes: ____
ASTM wipes were used
Soil: ____
Bulk: ____

PCB's
EPA 8082 ____

ASBESTOS
PLM X
TEM X

Turnaround
RUSH ____ Hr
☐ 24 Hour ☐ 48 Hour
☑ 72 Hour ☐ 5 Day
Other: ____

Sample #	Description of Sample	Location of Sample	Notes
0922-CW-601-1	Old Window Caulk - White	Exterior	PLM
0922-CW-601-2	Old Window Caulk - White	Exterior	TEM
0922-CW-602-1	Door/Seam Caulk - Brown	Exterior	PLM
0922-CW-602-2	Door/Seam Caulk - Brown	Exterior	TEM
0922-CW-604-1	Window Horizontal Bar Seam Caulk - Gray	Exterior	PLM
0922-CW-604-2	Window Horizontal Bar Seam Caulk - Gray	Exterior	TEM
0922-CW-605-1	Window Glazing Compound - Red/Brown	Exterior	PLM
0922-CW-605-2	Window Glazing Compound - Red/Brown	Exterior	TEM
0922-CW-607-1	Interior Window Bedding Compound - Black	Interior	PLM
0922-CW-607-2	Interior Window Bedding Compound - Black	Interior	TEM

Standard Instructions: (unless otherwise noted)
Stop at first positive for homogeneous materials

Special Instructions: (perform only if marked)
☑ Analyze as indicated in the "Notes" column by first analyzing PLM Samples (NOBS by Gravimetric). If positive by PLM, do not analyze corresponding TEM sample.

Page 1 of 1 Samples ____ of ____

Notes:
PLEASE SEE STANDARD AND SPECIAL INSTRUCTIONS

Please e-mail lab results to labs@stohlenv.com
☒ If checked, also e-mail lab results to Rtomko@stohlenv.com

Sampled By: [signature] Print Name Ryan Tomko Date: 9/22/11

Relinquished By: [signature] Print Name Ryan Tomko Date: 10/3/11

Received By: [signature] Date: 10/4 1302

PHOENIX
Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Analysis Report

October 07, 2011

FOR: Attn: Mr. Timothy Bromund
Stohl Environmental
4169 Allendale Pkwy
Suite 100
Blasdell, NY 14219

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		09/22/11	0:00
Location Code:	STOHL | CW P	Received by:	LDA	10/04/11	13:49
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	2011-675				

Laboratory Data

SDG ID: GBA83671
Phoenix ID: BA83672

Project ID: COVERED WALKWAY ON OLD FALLS ST
Client ID: 0922-CW-602P-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	100	1	%	10/04/11			E160.3
Caulk Extraction for PCB	Completed			10/04/11		BB/K	SW3540C
PCB (Soxhlet)							
PCB-1016	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1221	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1232	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1242	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1248	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1254	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1260	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1262	ND	800	ug/Kg	10/05/11		MH	3540C/8082
PCB-1268	ND	800	ug/Kg	10/05/11		MH	3540C/8082
QA/QC Surrogates							
% DCBP	87		%	10/05/11		MH	30 - 150 %
% TCMX	85		%	10/05/11		MH	30 - 150 %

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller, Laboratory Director
October 10, 2011

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY #11301

Analysis Report

October 07, 2011

FOR: Attn: Mr. Timothy Bromund
Stohl Environmental
4169 Allendale Pkwy
Suite 100
Blasdell, NY 14219

Sample Information		Custody Information		Date	Time
Matrix:	SOLID	Collected by:		09/22/11	0:00
Location Code:	STOHL | CW P	Received by:	LDA	10/04/11	13:49
Rush Request:		Analyzed by:	see "By" below		
P.O.#:	2011-675				

Laboratory Data

SDG ID: GBA83671
Phoenix ID: BA83674

Project ID: COVERED WALKWAY ON OLD FALLS ST

Client ID: 0922-CW-604P-1

Parameter	Result	RL	Units	Date	Time	By	Reference
Percent Solid	100	1	%	10/04/11			E160.3
Caulk Extraction for PCB	Completed			10/04/11		BB/K	SW3540C
PCB (Soxhlet)							
PCB-1016	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1221	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1232	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1242	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1248	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1254	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1260	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1262	ND	790	ug/Kg	10/05/11		MH	3540C/8082
PCB-1268	ND	790	ug/Kg	10/05/11		MH	3540C/8082
QA/QC Surrogates							
% DCBP	88		%	10/05/11		MH	30 - 150 %
% TCMX	80		%	10/05/11		MH	30 - 150 %

Comments:

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 10, 2011

Project ID: COVERED WALKWAY ON OLD FALLS ST
Client ID: 0922-CW-605P-1

Phoenix I.D.: BA83675

Parameter	Result	RL	Units	Date	Time	By	Reference

Comments:

* For PCBs, due to matrix interference from non target compounds in the sample an elevated RL was reported. Multiple cleanup steps were performed but were unsuccessful. The extract was cleaned up with a combination of sulfuric acid, potassium permanganate, copper powder and additional florisil.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

ND=Not detected BDL=Below Detection Level RL=Reporting Level

Phyllis Shiller

Phyllis Shiller, Laboratory Director
October 10, 2011

PHOENIX

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY #11301

QA/QC Report

October 10, 2011

QA/QC Data

SDG I.D.: GBA83671

Parameter	Blank	LCS %	LCSD %	LCS RPD	MS Rec %	MS Dup Rec %	RPD	% Rec Limits	% RPD Limits
QA/QC Batch 186137, QC Sample No: BA84128 (BA83671, BA83672, BA83673, BA83674, BA83675, BA83676)									
Polychlorinated Biphenyls - Soil									
PCB-1016	ND	114	115	0.9	108	109	0.9	40 - 140	30
PCB-1221	ND							40 - 140	30
PCB-1232	ND							40 - 140	30
PCB-1242	ND							40 - 140	30
PCB-1248	ND							40 - 140	30
PCB-1254	ND							40 - 140	30
PCB-1260	ND	109	105	3.7	133	131	1.5	40 - 140	30
PCB-1262	ND							40 - 140	30
PCB-1268	ND							40 - 140	30
% DCBP (Surrogate Rec)	91	91	86	5.6	73	76	4.0	30 - 150	30
% TCMX (Surrogate Rec)	91	83	79	4.9	78	81	3.8	30 - 150	30

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria

Phyllis Shiller, Laboratory Director
October 10, 2011

24 ONC

STOHL ENVIRONMENTAL

Chain of Custody Document

4169 Allendale Pkwy. Suite 100
Blasdell, NY 14219

Phone# (716) 312-0070
Fax # (716)312-8092

Submitted to: (Lab Name) Phoenix

STOHL Job # 2011-675

Client: City of Niagara Falls Engineering Dept.

Contact: Jeff Skurka

Building: Covered Walkway on Old Falls St

Location: Niagara Falls, NY

LEAD
Wipes: ____
ASTM wipes were used
Soil: ____
Bulk: ____

PCB's
EPA 8082 6

ASBESTOS
PLM ____
TEM ____

Turnaround
RUSH ____ Hr
☐ 24 Hour ☐ 48 Hour
☐ 72 Hour ☑ 5 Day
Other: ____

Sample #	Description of Sample	Location of Sample	Notes
0922-CW-601P-1	Old Window Caulk - White	Exterior 83671	
0922-CW-602P-1	Door/Seam Caulk - Brown	Exterior 83672	
0922-CW-603P-1	Door Glazing Compound - Brown	Exterior 83673	
0922-CW-604P-1	Window Horizontal Bar Seam Caulk - Gray	Exterior 83674	
0922-CW-605P-1	Window Glazing Compound - Red/Brown	Exterior 83675	
0922-CW-607P-1	Interior Window Bedding Compound - Black	Interior 83676	

Standard Instructions: (unless otherwise noted)
Stop at first positive for homogeneous materials

Special Instructions:(perform only if marked)
☐ Analyze as indicated in the "Notes" column by first analyzing PLM Samples (NOBS by Gravimetric). If positive by PLM, do not analyze corresponding TEM sample.

Page 1 of 1 | Samples ____ of ____

Notes:

Please e-mail lab results to labs@stohlenv.com

☒ If checked, also e-mail lab results to Rtomko@stohlenv.com

Sampled By: [signature] Print Name Ryan Tomko Date: 9/22/11

Relinquished By: [signature] Print Name Ryan Tomko Date: 10/3/11

Received By: UPS [signature] Date: 10/4/11 13:49

- ORIGINAL DESIGN - STORES -

- CONCERN OVER COVERED WALKWAY - APPROACH - BEST PLAN IS TO DEMO WALKWAY "START NEW,

- FACADE WORK - DESIGN OF DEMO -

- EXTENT OF UTILITIES
- ELECTRICAL ROOM - FIBER OPTIC CABLE
- PIT ON FALLS STREET (Weather protection)
- STOHL SURVEY? -
-
- DRYWALL ON BUILDING WALL - TEMPORARY
- SCHEDULE - NOT PRIOR TO WINTER FESTIVAL JAN 1
- SPRINKLER SYSTEM - TARGET END of JAN.
- FIBER OPTIC CABLE - BID DATE ~~JAN~~ 1 BIDS DEC.
- EXISTING DRAWINGS?
- PAVEMENT REPAIRS -
- ELECTRICAL ROOM UNDER ESCALATOR (TONY George Electricians) PAUL TRONCO

- STOHL SURVEYS -

- NO PLANNING BOARD APPROVAL

- OPEN - ~~SHARRADAN~~ END of SITE NEED ENCLOSURE

PRE-RENOVATION SURVEY

FOR

LEAD-BASED PAINT

AT

SMOKING JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NEW YORK

OCTOBER 2018

PREPARED FOR:

USA Niagara Development Corporation
222 First Street, 7th Floor
Niagara Falls, New York

PREPARED BY:

WATTS
ARCHITECTURE &
ENGINEERING

95 Perry Street, Suite 300
Buffalo, New York 14203
p: 716.206.5100
f: 716.206.5199

TABLE OF CONTENTS

1.0 - EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

Watts Architecture & Engineering (Watts) was retained by USA Niagara Development Corporation (USA Niagara) to perform a pre-renovation survey for lead-based paint (LBP) at the Smokin Joes Native Center located at 333 First Street and 217 Old Falls Street in Niagara Falls, New York.

Per information provided by the City of Niagara Falls, USA Niagara and representatives from Smokin Joes, the subject property consists of an approximate 85,423 square foot pre-engineered steel building that was used as a Native American Indian center and theater, buffet, coffee shop, souvenir store and as a small graphics art studio and clothing manufacturing operation. The structure consists of U-shaped building that wraps around the Niagara Falls First Presbyterian Church. The facility was reportedly built in approximately 1987 and was formerly a telecommunications/call center. The southwest wing was reportedly renovated in approximately 1996. The facility was renovated in approximately 2015 and was converted to the Smokin Joes Native center with a buffet, bar, kitchen, indoor miniature golf course, coffee shop, souvenir store and theater.

The purpose of the survey was to identify LBP at the facility as part of due diligence. LBP is defined, when analyzed by portable X-Ray Fluorescence (XRF) methods, as paint that contains lead at 1.0 milligram per square centimeter (1 mg/cm^2) or greater.

The field work for the lead-based paint (LBP) investigation included the following:

- A review of existing drawings with respect to the project limits and the proposed scope of work.
- A visual site inspection of the subject building to test representative surfaces for suspect lead-based paint (LBP).
- Utilization of a portable XRF analyzer to test representative surfaces for the presence of LBP or lead-containing materials (i.e. ceramic wall tile); and
- Documentation of tested areas with reference drawings.

TESTING METHODOLOGY

Painted building components were grouped by testing combinations. A testing combination is characterized by location, component type, substrate, and visible color. Refer to Section 2.1 for a complete listing of all XRF readings that were taken for this project.

For a typical lead-based paint evaluation, each XRF reading is identified by the side of the room it was collected from (North, East, South and West), the component analyzed, the substrate and the paint color of the visible paint film. Sides East, South and West progress in a clockwise direction from the North side. Watts utilized directional coordination for this evaluation. Refer to the reference drawings in Section 3.0 for floor plans referencing the different areas that were

tested as part of this project.

For the purposes of this project, the Occupational Safety & Health Administration's (OSHA) Lead in Construction Standard (29 CFR 1926.62) applies. This standard applies to all construction work where an employee may be occupationally exposed to lead. Construction work is defined as work for construction, alteration and/or repair, including painting and decorating. It includes but is not limited to the following:

- Demolition or salvage of structures where lead or materials containing lead are present;
- Removal or encapsulation of materials containing lead;
- New construction, alteration, repair, or renovation of structures, substrates, or portions thereof, that contain lead, or materials containing lead;
- Installation of products containing lead;
- Lead contamination/emergency cleanup;
- Transportation, disposal, storage, or containment of lead or materials containing lead on the site or location at which construction activities are performed, and
- Maintenance operations associated with the construction activities.

XRF CALIBRATION

In order to field verify the calibration and accuracy of the XRF equipment, "calibration checks" are made both by the equipment itself and by the operator. Before the XRF will allow any testing for lead-based paint, it requires a "standardization" reading. This is accomplished by placing the standardization clip over the end of the XRF when prompted by the XRF. Upon the completion of the standardization reading, the XRF will display a Pass or Fail result. If the standardization is successful, the operator checks the calibration of the XRF against National Institute of Standards and Technology (NIST) lead samples that were provided by the manufacturer. The operator's calibration checks are taken at the beginning and the end of the testing period, and approximately every four hours, if necessary. The calibration checks are acceptable if the average of the readings is between 1.0 and 1.1 mg/cm^2. All standardization and calibration readings were within the acceptable limits for the readings collected for this project.

FINDINGS

Representative XRF readings were taken on representative surfaces of all building components throughout the facility and exterior.

None of the building components at the Smokin Joes Native Center were identified to be lead-containing or to be coated with lead-based paint.

The following building components at the Smokin Joes Native Center were determined to be coated with non-lead-based paint:

- Interior and exterior window frames.
- Window sills.
- Interior and exterior door frames.
- Wood, metal and fiberglass doors.
- Drywall surfaces with a variety of colors on walls, soffits, ceilings and the circular ceiling detail in the buffet area, all office areas, buffet, theater, displays and corridors.
- Ceramic wall tiles in bathrooms (non-lead glazing).
- Ceramic floor tiles in bathrooms (non-lead glazing).
- Painted exterior stucco walls and columns.
- Handrails.
- Painted murals on the concrete floor.
- Concrete floors in the buffet area, south display area and theater.
- Painted 12″ x 12″ floor tiles.
- Wood platforms on the theater stage.
- Paint on support steels to roof-mounted components.
- Metal caps on the roof parapets.
- Metal foil membrane on the roof decks.
- Metal roof decks.

This report is based primarily on the results of visual site observations and a general survey of the conditions at the Smokin Joes Native Center in Niagara Falls, New York. Watts did not perform a comprehensive inspection (room by room) of all interior and exterior building components. Representative XRF readings were taken from each distinct type of building component associated with each building in order to be able to determine if those components were covered with lead-based paint.

The lead-based paint survey was performed by Watts' personnel on October 10, 2018.

Edward J. Jones
Lead Inspector

Edward J Jones
Signature
NY-R-128144-1
Certification Number

Facility Address and Date(s) of Construction:	333 First Street and 217 Old Falls Street Niagara Falls, NY Constructed approximately 1987 Renovated approximately 1996 and 2016

2.0 – LEAD-BASED PAINT

2.1 – X-RAY FLUORESCENCE (XRF) ANALYZER LEAD DATA TABLE

XRF READINGS
SMOKIN JOES NATIVE CENTER
333 THIRD STREET AND 217 OLD FALLS STREET, NEW YORK

Testing Dates: October 10, 2018 Innov-X Serial No. 571370

Reading	Room	Side	Component	Substrate	Color	Condition	Floor	Results (mg/cm^2)
1	Standardization							Pass
2	Calibration							1.04
3	Calibration							1.05
4	Calibration							1.05
5	South Entrance	North	Wall	Drywall	Beige	Cracked	First	0
6	South Entrance	South	Wall	Drywall	Beige	Cracked	First	0
7	South Entrance	South	Window Frame	Metal	Black	Intact	First	0
8	South Entrance	South	Window Sill	Fiberglass	Black	Intact	First	0
9	Standardization							Pass
10	South Entrance	West	Door	Plastic	Black	Intact	First	0
11	South Entrance	West	Door Casing	Fiberglass	Black	Intact	First	0
12	South Entrance	N/A	Floor	Concrete	Yellow	Intact	First	0
13	South Entrance	N/A	Ceiling	Drywall	Beige	Intact	First	0
14	South Entrance	N/A	Ceiling	Drywall	Beige	Intact	First	0
15	South Entrance	South	Door Casing	Metal	Black	Intact	First	0
16	South Entrance	South	Door	Metal	Black	Intact	First	0
17	South Display Area	North	Column	Drywall	Yellow	Intact	First	0
18	Coffee Storage	North	Wall	Drywall	Purple	Intact	First	0
19	Southeast Mini Golf	North	Wall	Drywall	Black	Intact	First	0
20	Southeast Mini Golf	N/A	Floor	12" Floor Tile	Black	Intact	First	0
21	Southeast Mini Golf	West	Floor	12" Floor Tile	Purple	Intact	First	0
22	Southeast Mini Golf	North	Wall	Drywall	Green	Intact	First	0

XRF READINGS
SMOKIN JOES NATIVE CENTER
333 THIRD STREET AND 217 OLD FALLS STREET, NEW YORK

Testing Dates: October 10, 2018 Innov-X Serial No. 571370

Reading	Room	Side	Component	Substrate	Color	Condition	Floor	Results (mg/cm^2)
23	Southeast Mini Golf	North	Wall	Drywall	Red	Intact	First	0
24	Southeast Mini Golf	South	Wall	Drywall	Beige	Intact	First	0
25	South Display Area	East	Wall	Drywall	Beige	Intact	First	0
26	South Display Area	South	Wall	Drywall	Purple	Intact	First	0
27	South Display Area West Cases	West	Window Casing	Metal	Black	Intact	First	0
28	South Display Area West Cases	West	Door Casing	Metal	Black	Intact	First	0
29	South Display Area Wall Mural	East	Wall	Drywall	Green	Intact	First	0
30	South Display Area Floor Mural	N/A	Floor	Concrete	Black	Intact	First	0
31	South Display Area Floor Mural	N/A	Floor	Concrete	White	Intact	First	0
32	South Display Area Floor Mural	N/A	Floor	Concrete	Beige	Intact	First	0
33	South Display Area Floor Mural	N/A	Floor	Concrete	Yellow	Intact	First	0
34	South Men's Toilet	East	Wall	Ceramic	White	Intact	First	0.01
35	South Men's Toilet	East	Wall	Ceramic	Black	Intact	First	0
36	South Men's Toilet	East	Floor	Ceramic	Grey	Intact	First	0.01
37	South Men's Toilet	East	Stall Wall	Fiberglass	Black	Intact	First	0
38	South Women's Toilet	East	Stall Door	Metal	Black	Intact	First	0
39	South Women's Toilet	N/A	Floor	Ceramic	Grey	Intact	First	0

XRF READINGS
SMOKIN JOES NATIVE CENTER
333 THIRD STREET AND 217 OLD FALLS STREET, NEW YORK

Testing Dates: October 10, 2018 Innov-X Serial No. 571370

Reading	Room	Side	Component	Substrate	Color	Condition	Floor	Results (mg/cm^2)
40	South Women's Toilet	North	Wall	Ceramic	White	Intact	First	0.01
41	South Women's Toilet	North	Wall	Ceramic	Brown	Intact	First	0.01
42	South Women's Toilet	North	Wall	Ceramic	Green	Intact	First	0
43	South Women's Toilet	East	Door Casing	Metal	Black	Intact	First	0
44	South Women's Toilet	East	Door	Wood	Black	Intact	First	0
45	Buffet Area	West	Wall	Drywall	Beige	Intact	First	0
46	Buffet Area	North	Wall	Drywall	Beige	Intact	First	0
47	Buffet Area	East	Wall	Drywall	Beige	Intact	First	0
48	Buffet Area	North	Window Casing	Metal	Black	Intact	First	0
49	Buffet Area	North	Wall	Drywall	Red	Intact	First	0
50	Buffet Area	N/A	Floor	Concrete	Yellow	Intact	First	0
51	Kitchen	East	Floor	Drywall	Beige	Intact	First	0
52	Kitchen	West	Floor	Drywall	Beige	Intact	First	0
53	Bar East of Buffet Area	Cap on Half Wall	Wall	Wood	Black	Intact	First	0
54	Bar East of Buffet Area	Column at Bar	Column	Drywall	Yellow	Intact	First	0
55	Bar East of Buffet Area	Column at Bar	Column	Drywall	Yellow	Intact	First	0
56	Buffet Area	Column at Buffet	Column	Drywall	White	Intact	First	0
57	Buffet Area	Column at Buffet	Column	Drywall	White	Intact	First	0
58	Buffet Area	N/A	Floor	Concrete	Peach	Intact	First	0
59	Buffet Area	Lower Ceiling	Soffit	Drywall	Red	Intact	First	0
60	Buffet Area	Lower Ceiling	Soffit	Drywall	Orange	Intact	First	0
61	Buffet Area	North	Door Casing	Metal	Black	Intact	First	0
62	Buffet Area	North	Door	Metal	Black	Intact	First	0
63	Buffet Area	North	Railing	Metal	Black	Intact	First	0.03
64	Buffet Area	North	Window Sill	Wood	Black	Intact	First	0

XRF READINGS
SMOKIN JOES NATIVE CENTER
333 THIRD STREET AND 217 OLD FALLS STREET, NEW YORK

Testing Dates: October 10, 2018 Innov-X Serial No. 571370

Reading	Room	Side	Component	Substrate	Color	Condition	Floor	Results (mg/cm^2)
65	Buffet Area	North	Window Sill	Wood	Black	Intact	First	0
66	Buffet Area	Lower Ceiling	Soffit	Drywall	Green	Intact	First	0
67	Northwest Lobby	North	Wall	Drywall	White	Intact	First	0
68	Northwest Lobby	North	Chair Rail	Wood	Black	Intact	First	0
69	Northwest Lobby	South	Wall	Drywall	Red	Intact	First	0
70	Northwest Lobby	North	Soffit	Drywall	Yellow	Intact	First	0
71	Northwest Lobby	East	Wall	Drywall	Purple	Intact	First	0
72	Northwest Lobby to Buffet	East	Casing	Metal	Black	Intact	First	0
73	Northwest Lobby to Buffet	East	Door	Metal	Black	Intact	First	0
74	Northwest Lobby	South	Soffit	Drywall	Green	Intact	First	0
75	Northwest Lobby	South	Soffit	Drywall	Green	Intact	First	0
76	Northwest Corridor to North Toilets	N/A	Ceiling	Drywall	Green	Intact	First	0
77	Reception by North Toilets	N/A	Ceiling	Drywall	White	Intact	First	0
78	Reception by North Toilets	N/A	Soffit	Drywall	Yellow	Intact	First	0
70	Reception by North Toilets	North	Wall	Drywall	Red	Intact	First	0
80	Reception by North Toilets	South	Wall	Drywall	Beige	Intact	First	0
81	Reception by North Toilets	East	Wall	Drywall	Purple	Intact	First	0
82	Corridor at North Toilets	West	Wall	Ceramic	White	Intact	First	0.01
83	North Men's Toilet	West	Wall	Ceramic	Brown	Intact	First	0.01

XRF READINGS
SMOKIN JOES NATIVE CENTER
333 THIRD STREET AND 217 OLD FALLS STREET, NEW YORK

Testing Dates: October 10, 2018 Innov-X Serial No. 571370

Reading	Room	Side	Component	Substrate	Color	Condition	Floor	Results (mg/cm^2)
84	North Men's Toilet	N/A	Floor	Ceramic	Grey	Intact	First	0.01
85	North Women's Toilet	N/A	Floor	Ceramic	Grey	Intact	First	0
86	North Women's Toilet	South	Wall	Ceramic	White	Intact	First	0.01
87	North Women's Toilet	South	Wall	Ceramic	Black	Intact	First	0
88	North Women's Toilet	South	Wall	Ceramic	Green	Intact	First	0
89	Northwest Vestibule	North	Wall	Drywall	White	Intact	First	0
90	Northwest Vestibule	West	Casing	Metal	Black	Intact	First	0
91	Northwest Vestibule	West	Door	Metal	Black	Intact	First	0
92	Northwest Vestibule	N/A	Ceiling	Drywall	White	Intact	First	0
93	Northwest Vestibule	North	Wall	Drywall	Yellow	Intact	First	0
94	Office South of Northwest Vestibule	North	Wall	Drywall	Yellow	Intact	First	0
95	Office South of Northwest Vestibule	North	Casing	Wood	Black	Intact	First	0
96	Office South of Northwest Vestibule	North	Door	Wood	Black	Intact	First	0
97	Northwest Office	North	Wall	Drywall	Yellow	Intact	First	0
98	Northwest Office	East	Wall	Drywall	Yellow	Intact	First	0
99	Northwest Graphics Studio	West	Wall	Drywall	Beige	Intact	First	0
100	Northwest Graphics Studio	South	Wall	Drywall	Beige	Intact	First	0

XRF READINGS
SMOKIN JOES NATIVE CENTER
333 THIRD STREET AND 217 OLD FALLS STREET, NEW YORK

Testing Dates: October 10, 2018 Innov-X Serial No. 571370

Reading	Room	Side	Component	Substrate	Color	Condition	Floor	Results (mg/cm^2)
101	Northwest Graphics Studio	South	Door Casing	Metal	Black	Intact	First	0
102	Northwest Graphics Studio	South	Wood	Door	Black	Intact	First	0
103	Northwest Office by Buffet	East	Wall	Drywall	White	Intact	First	0
104		North	Wall	Drywall	White	Intact	First	0
105	Standardization							Pass
106	Northwest Office by Buffet	South	Wall	Drywall	White	Intact	First	0
107	Northwest Office by Buffet	East	Wall	Drywall	White	Intact	First	0
108	Northwest Office by Buffet	North	Window Frame	Metal	Black	Intact	First	0
109	Northwest Office by Buffet	North	Window Sill	Wood	Black	Intact	First	0
110	Theater	North	Wall	Drywall	White	Intact	First	0
111	Theater	West	Wall	Drywall	White	Intact	First	0
112	Theater	East	Wall	Drywall	White	Intact	First	0
113	Theater	East	Wall	Drywall	Purple	Intact	First	0
114	Theater	East	Wall	Drywall	Black	Intact	First	0
115	Theater	West	Wall	Drywall	Black	Intact	First	0
116	Theater	South	Bridge	Wood	Black	Intact	First	0
117	Theater	N/A	Floor	Concrete	Peach	Intact	First	0
118	Theater	South	Wall	Drywall	Beige	Intact	First	0
119	Bar East of Buffet Area	East	Handrail	Metal	Black	Chipped	First	0
120	Bar East of Buffet Area	East	Handrail	Metal	Black	Intact	First	0.01
121	Kitchen	East	Floor	Concrete	Peach	Pitted	First	0
122	Kitchen	South	Ladder	Metal	Black	Chipped	First	0.01
123	Roof	East	Roof Membrane	Metal	Silver	Peeling	Roof	0

XRF READINGS
SMOKIN JOES NATIVE CENTER
333 THIRD STREET AND 217 OLD FALLS STREET, NEW YORK

Testing Dates: October 10, 2018 Innov-X Serial No. 571370

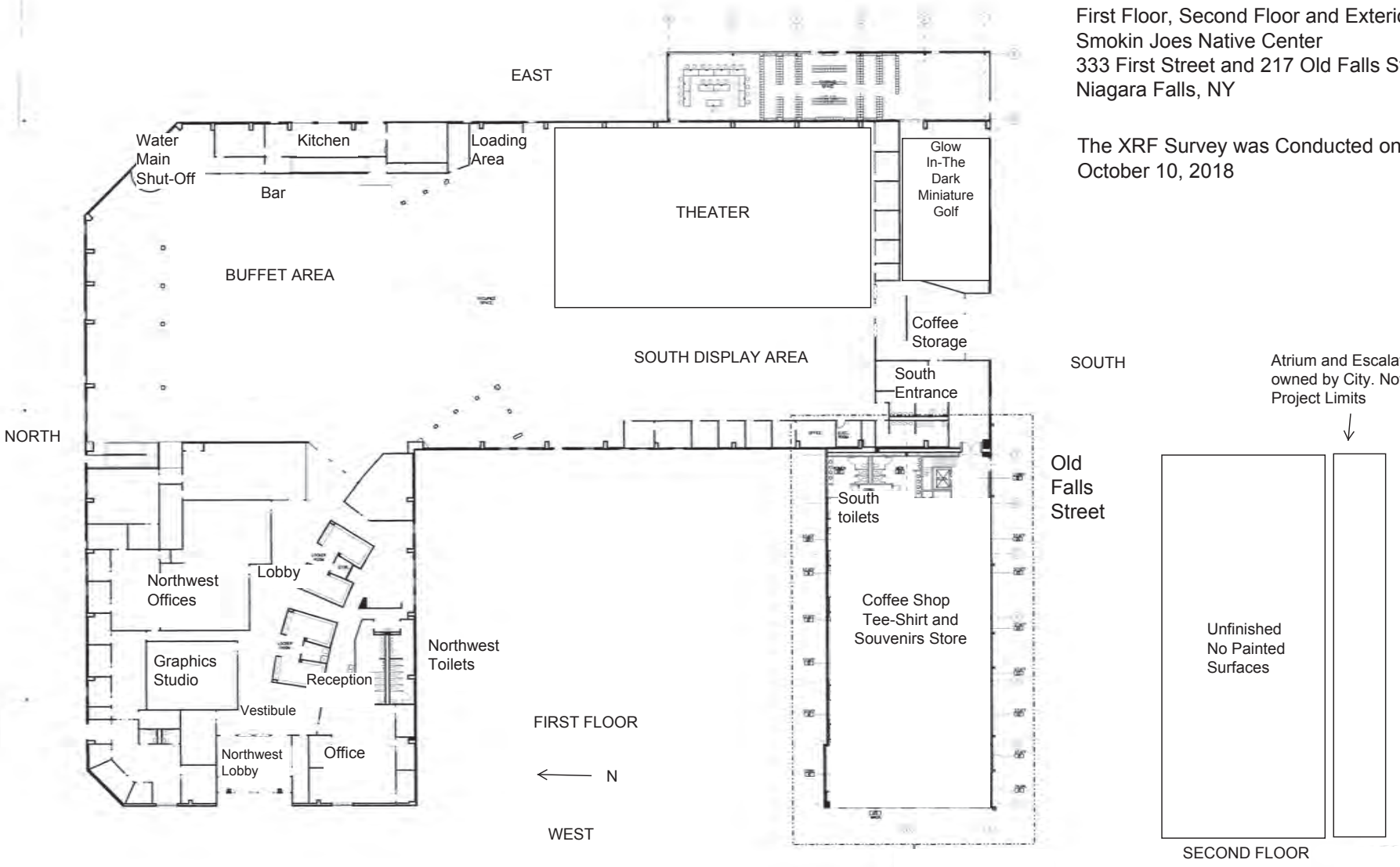
Reading	Room	Side	Component	Substrate	Color	Condition	Floor	Results (mg/cm^2)
124	Roof	South	HVAC Support	Metal	Red	Peeling	Roof	0.01
125	Roof	West	Roof Membrane	Metal Foil on Parapet	Silver	Peeling	Roof	0
126	Roof	South	Metal Foil on Parapet	Membrane on Parapet	Silver	Intact	Roof	0
127	Roof	South	Cap on Parapet	Metal	Brown	Peeling	Roof	0
128	Roof	West	Cap on Parapet	Metal	Brown	Peeling	Roof	0
129	Roof	North	Cap on Parapet	Metal	Brown	Peeling	Roof	0
130	Roof	N/A	Roof Deck	Metal	Brown	Intact	Roof	0
131	Roof	South	Roof Deck	Metal	Brown	Intact	Roof	0
132	Roof	South	Window Casing	Metal	Grey	Worn, Chipped	Exterior	0
133	South Atrium	West	Wall	Stucco	Red	Intact	Exterior	0
134	West Exterior	West	Wall	Stucco	Pink	Intact	Exterior	0
135	West Exterior	West	Wall	Stucco	Beige	Intact	Exterior	0
136	West Exterior	West	Wall	Stucco	Beige	Intact	Exterior	0
137	West Exterior	West	Window Casing	Metal	Black	Intact	Exterior	0
138	West Exterior	West	Window Casing	Metal	Black	Intact	Exterior	0
139	North Exterior	North	Wall	Stucco	Purple	Intact	Exterior	0
140	North Exterior	North	Door	Metal	Black	Intact	Exterior	0
141	North Exterior	North	Door Casing	Metal	Black	Intact	Exterior	0
142	Calibration							1.04
143	Calibration							1.07
144	Calibration							1.04

Bold Exceeds 1.0 mg/cm^2

3.0 – XRF TESTING REFERENCE DRAWING

XRF Lead-Based Paint Refernce Drawing
First Floor, Second Floor and Exterior
Smokin Joes Native Center
333 First Street and 217 Old Falls Street
Niagara Falls, NY

The XRF Survey was Conducted on
October 10, 2018



4.0 - CONSULTANT'S LICENSES AND CERTIFICATIONS

120 E. Washington St., Suite 414
Syracuse, NY 13202

95 Perry Street, Suite 300
Buffalo, NY 14203

315 5th Ave, 11th Floor
New York, NY 10016

United States Environmental Protection Agency

This is to certify that

Watts Architecture & Engineering

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226

In the Jurisdiction of:

All EPA Administered Lead-based Paint Activities Program States, Tribes and Territories

This certification is valid from the date of issuance and expires May 21, 2021

LBP-1952-1
Certification #

January 24, 2018
Issued On

Michelle Price, Chief
Lead, Heavy Metals, and Inorganics Branch

120 E. Washington St., Suite 414
Syracuse, NY 13202

95 Perry Street, Suite 300
Buffalo, NY 14203

315 5th Ave, 11th Floor
New York, NY 10016

State of New York
Department of Health

CERTIFICATE OF REGISTRATION

This certificate is to certify that the following Radiation Installation is registered at the premises indicated pursuant to section 16.50 of the New York State Sanitary Code. This certificate must be conspicuously displayed at the Radiation Installation.

Registration Number
14023601

WATTS ARCHITECTURE AND ENGINEERINC
95 PERRY STREET
SUITE 300
BUFFALO NY 14203

Maximum inspection interval for installation type of Commercial is 4 years

Registration period begins December 8, 2017 and expires December 8, 2019

Director, Bureau of Environmental Radiation Protection

Howard Zucker M.D.
Commissioner

DOH-3376 (04/200 RI 217381

WATTS ARCHITECTURE & ENGINEERING

120 E. Washington St., Suite 414
Syracuse, NY 13202

95 Perry Street, Suite 300
Buffalo, NY 14203

315 5th Ave, 11th Floor
New York, NY 10016

United States Environmental Protection Agency

This is to certify that

Edward J Jones

has fulfilled the requirements of the Toxic Substances Control Act (TSCA) Section 402, and has received certification to conduct lead-based paint activities pursuant to 40 CFR Part 745.226 as:

Risk Assessor

In the Jurisdiction of:

New York

This certification is valid from the date of issuance and expires January 02, 2019

NY-R-128144-2
Certification #

December 22, 2015
Issued On

John Gorman, Chief
Pesticides & Toxic Substances Branch

PRE-RENOVATION SURVEY

FOR

ASBESTOS-CONTAINING MATERIALS

AT

SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NEW YORK

OCTOBER 2018

PREPARED FOR:

USA Niagara Development Corporation
222 First Street, 7th Floor
Niagara Falls, New York

PREPARED BY:

WATTS
ARCHITECTURE &
ENGINEERING

95 Perry Street, Suite 300
Buffalo, New York 14203
p: 716.206.5100
f: *716.206.5199*

TABLE OF CONTENTS

1.0 – EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

Watts Architecture & Engineering (Watts) was retained by USA Niagara Development Corporation (USA Niagara) to perform a pre-renovation survey for asbestos-containing materials (ACM) at the Smokin Joes Native Center located at 333 First Street and 217 Old Falls Street in Niagara Falls, New York.

The purpose of the survey was to identify ACM at the facility and as part of the due diligence process as part of property acquisition. Watts was not authorized to perform destructive testing such as but not limited to: disassembly/cutting of equipment and utilities; demolition of walls/ceilings to inspect for concealed suspect ACM; coring of floor slabs and sub floors; excavation of perimeter concrete/asphalt to expose foundation walls; etc.. Suspect ACM that may be associated with destructive methods such as these is not represented in this report. Prior to any renovation or demolition activities, it is recommended that testing of this nature be performed to ensure that ACM is not disturbed.

Per information provided by the City of Niagara Falls, USA Niagara and representatives from Smokin Joes, the subject property consists of an approximate 85,423 square foot pre-engineered steel building that was used as a Native American Indian center and theater, buffet, coffee shop, souvenir store and as a small graphics art studio and clothing manufacturing operation. The structure consists of U-shaped building that wraps around the Niagara Falls First Presbyterian Church. The facility was reportedly built in approximately 1987 and was formerly a telecommunications/call center. The southwest wing was reportedly renovated in approximately 1996. The facility was renovated in approximately 2015 and was converted to the Smokin Joes Native center with a buffet, bar, kitchen, indoor miniature golf course, coffee shop, souvenir store and theater. At the time of the Watts' site visits the coffee shop and souvenir store were open seasonally and the graphic arts operation was in the process of re-locating to another off-site location. The theater, buffet, bar and kitchen operations had ceased and equipment associated with operations was in the process of being sold or moved off-site.

Field survey work for this asbestos survey was conducted by Watts' personnel on October 3 - 16, 2018 and included the following:

- A visual site inspection to identify suspect ACM within the proposed project limits.
- Collection and laboratory analysis of bulk samples from each identified suspect material within the proposed project limits for ACM.
- Documentation of bulk sample locations on site drawings and chain-of-custody forms; and
- Photographs.

ASBESTOS-CONTAINING MATERIALS

The inspection included the collection of one hundred-forty (140) bulk samples of suspect ACM materials identified at the subject property. ACM is defined as any material containing more than one percent (1%) of asbestos.

Based on the laboratory analysis and visual observations, **the following materials at the Smokin Joes Native Center have been identified as ACM:**

- **Gray-black tar at the base of roof-mounted HVAC components, curbs, vent pipes and access hatch.** The tar was observed on the support bases for the roof-mounted heating and air conditioning units, ventilation fans, elevated curbs (former component locations) and at the base of vent pipes across the roofs (both the main north-south roof and the separate but attached southwest building roof). There are approximately 34 HVAC components, 11 round vents with square curbs and 23 vent pipes/support pipes on the roof. The tar was observed or assumed to be present beneath metal foil jackets at the base of all roof mounted air conditioning units, heating equipment, vents, pipes and curbs and extending onto the adjacent metal roof. A total of approximately 965 square feet of asbestos-containing tar is present. The tar was observed to be non-friable and to be to be in fair condition.

- **Gray-black tar on the south parapet cap for the north-south wing.** The tar was limited to the west half of the far south end parapet cap, extending to but not past the roof peak. Approximately 32 square feet of asbestos-containing tar was observed at this location. The tar was observed to be non-friable and to be in fair condition.

- **Gray-black tar along the east edge of the southwest roof and extending onto the adjacent north-south roof**. The tar extended approximately 2 feet along the roof edge and along the roof drain along the east edge of the southwest roof. The same tar continued as patches on the southwest edge of the adjacent north-south roof. Approximately 130 square feet of tar was observed along the east edge of the southwest roof and approximately 120 square feet was observed on the adjacent west edge of the north-south roof, totaling approximately 250 square feet. The tar was observed to be non-friable and to be in fair condition.

NON-ASBESTOS-CONTAINING MATERIALS

The following materials have been determined to be non-ACM:

- 12″ x 12″ beige floor tiles and associated mastic.
- 12″ x 12″ tan floor tiles (lower layer beneath 12″ x 12″ floor tiles in vestibule/lobby areas) and associated mastic.
- Leveling compound beneath 12″ x 12″ beige floor tiles.

Non-ACM Materials (Continued)

- 12″ x 12″ beige floor tiles with multi-colored streaks and associated mastic.
- 12″ x 12″ yellow floor tiles and associated mastic.
- 4″ black cove base and associated mastic.
- Drywall, joint compound and paper tape on ceilings.
- Drywall, joint compound and paper tape on walls.
- Glazing compound on door and windows of storefront entrance.
- Glazing compound on 2nd floor storefront windows.
- Caulk on exterior metal door frames.
- 2′ x 2′ rough finish ceiling tile.
- Carpet adhesive on concrete.
- Grout and thin set associated with 4″ ceramic wall tiles.
- Grout and set coat associated with 8″ x 8″ gray ceramic floor tiles.
- Bathroom caulk (Men's and Women's Bathrooms.)
- 2′ x 4′ pin hole and slot pattern ceiling tile.
- 2′ x 4′ ceiling tiles with faux 2′ x 2′ pattern.
- 2′ x 2′ hard suspended ceiling tile.
- Yellow epoxy coating on concrete floor.
- Gaskets at water supply line valves and gasket flanges.
- Butt end sealant on fiberglass insulated piping.
- Paper and foil jackets on fiberglass insulation on piping.
- Wall panel adhesive on drywall.
- Gray flange sealant on sheet metal HVAC ducts.
- Black tar sealant on the metal deck beneath metal foil.
- Brown tar patch on screw heads of roof peak.
- Black tar and rubber 12″ x 12″ patches on the metal roof*.
- Black caulk on screw heads-southwest roof.
- Black tar and rubber patches-far west parapet southwest roof.
- Black tar seam on the west concrete parapet north-south wing roof.

Non-ACM Materials (Continued)

- Black window frame caulk-exterior windows.
- Exterior stucco.
- Spray-on fireproofing on columns and beams.
- Soft black window glazing compound in windows set in fire doors*.
- Soft gray caulk beneath the metal cap on roof edges.

*All Contractors shall note these materials had detectable levels of asbestos present but were found to be less than or equal to less than 1% total asbestos. Therefore, these materials are classified as Non-ACM. Contractors shall follow Federal regulations including those established for OSHA for work involving such non-ACM asbestos materials.

OBSERVATIONS

The circa 2015 renovations for the Smokin Joes Cultural center included repainting of existing walls, new floor tiles, ceiling tiles, renovations to bathrooms and the theater, kitchen, bar and native Indian cultural display areas. The building materials associated with the renovations were sampled separately from earlier materials and were determined to be non-ACM. Building materials associated with the original building materials (such as drywall, joint compound and 12" x 12" beige floor tiles and suspended ceiling tiles) were also determined to be non-ACM.

Spray-on fireproofing was collected from beams and columns from first floor areas and from the unfinished second floor. No asbestos or vermiculite was detected in samples of the spray-on fireproofing.

The facility does not have a basement. Hand-dug test excavations at the foundation did not reveal evidence of suspect ACM waterproofing on the foundation.

The windows on the facility were of similar style and materials. No asbestos was detected in window or storefront-style window/door system sealanats.

Steel fire doors were located in the facility. The fire doors did not have any suspect ACM fill. The fire doors were steel with cardboard interiors.

Included in this report are: drawings indicating approximate bulk sample locations, chain-of-custody forms, laboratory results, laboratory accreditations, and consultant's license and certification.

It is the belief of Watts that this investigation has sampled all readily accessible materials associated with the building. However, if additional suspect materials are identified that have not been tested, it is recommended that samples of each material be collected and analyzed for asbestos as appropriate.

2.0 – ASBESTOS-CONTAINING MATERIALS

2.0 ASBESTOS-CONTAINING MATERIALS

Sampling and Laboratory Methodology

A NYSDOL-certified asbestos inspector from Watts collected bulk samples of all readily accessible suspect ACM that was identified associated with the facility. Bulk samples were collected using simple hand tools from each matrix identified as a potential ACM.

Samples were delivered with the proper chain-of-custody forms to AmeriSci Richmond located in Richmond, VA a New York State accredited laboratory that is a participant in the Environmental Laboratory Approval Program (ELAP) and National Voluntary Laboratory Approval Program (NVLAP). All materials, except ceiling tiles and non-friable organically bound (NOB) materials, were analyzed using Polarized Light Microscopy (PLM) using Method 198.1. Ceiling tiles and NOBs, which include, but are not limited to, flooring materials, mastics, and caulks underwent gravimetric reduction and were analyzed by Polarized Light Microscopy (PLM) Method 198.6. Any ceiling tiles or NOB materials that were found to be negative under PLM were then analyzed by Transmission Electron Microscopy (TEM) Method 198.4. The New York State Department of Health (NYSDOH) protocol requires analysis by TEM if the PLM analysis does not confirm the presence of asbestos.

This section includes information on all suspect ACM sampled. This section contains the following: A Homogeneous Materials List containing the homogeneous materials identified, their corresponding sample numbers, and whether or not they are ACM, as well as a drawing identifying the approximate locations of asbestos bulk samples.

Where possible, Watts visually inspected the identified ACM to assess its condition. The condition of the ACM was classified as good, fair or poor. The requirement for each designation is as follows:

Good: Material with no visible damage or deterioration or showing very limited damage or deterioration.

Fair: The surface of the material is crumbling, blistering, water-stained, gouged, punctured or otherwise damaged with the damage covering less than one tenth of the surface if the damage is evenly distributed or up to 25% of the material if the damage is localized.

Poor: The surface of the material is crumbling, blistering, water-stained, gouged, punctured or otherwise damaged with the damage covering more than one tenth of the surface if the damage is evenly distributed or more than 25% of the material if the damage is localized. Material with large areas hanging from the substrate, delaminated, heavily gouged, crushed, etc.

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
12″ X 12″ Beige Floor Tile	Northwest Lobby	M	18165-13-01	NAD	NAD	N
	West Entrance to Buffet		18165-13-02	NAD	NAD	
Mastic Associate with 12″ x 12″ Beige Floor Tile	North West Lobby	M	18165-13-03	NAD	NAD	N
	West Entrance to Buffet		18165-13-04	NAD	NAD	
Lower Layer 12″ x 12″ Tan Floor Tile Beneath Beige and Purple	Northwest Lobby	M	18165-12-05	NAD	NAD	N
	Northwest Lobby		18165-13-06	NAD	NAD	
Mastic Associated with Lower Layer 12″ x 12″ Tan Floor Tile	Northwest Lobby	M	18165-13-07	NAD	NAD	N
	West lobby		18165-13-08	NAD	NAD	
Leveling Compound Beneath12″ x 12″ Beige and Tan Tiles	Northwest Lobby	M	18165-13-09	NAD	NA	N
	Northwest Lobby		18165-13-10	NAD	NA	
12″ x 12″ Floor Tile-Beige Rainbow Multi-Colored with Streaks	Northwest Vestibule	M	18165-13-11	NAD	NAD	N
	East Side Loading Area Behind Kitchen		18165-13-12	NAD	NAD	
Mastic Associated with 12″ x 12″ Beige Floor Tile with Rainbow Multi-Colored with Streaks	North West Vestibule	M	18165-13-13	NAD	NAD	N
	East Side Loading Area Behind Kitchen		18165-13-14	NAD	NAD	
12″ x 12″ Purple Floor Tile	North West Reception Room by Northwest Lobby	M	18165-13-15	NAD	NAD	N
	Reception Room to Toilets		18165-13-16	NAD	NAD	
Mastic Associated with 12″ x 12″ Purple Floor Tile	Reception Room off Northwest Lobby	M	18165-13-17	NAD	NAD	N
	Reception Room off Northwest Lobby		18165-13-18	NAD	NAD	
4″ Black Cove Base	Northwest Lobby	M	18165-13-19	NAD	NAD	N
	Northwest Offices West of Buffet		18165-13-20	NAD	NAD	

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
Mastic Associated with 4" Black Cove Base	Northwest Lobby	M	18165-13-21	NAD	NAD	N
	Northwest Offices West of Buffet		18165-13-22	NAD	NAD	
Drywall Ceiling	Northwest Lobby	M	18165-13-23	NAD	NA	N
	Northwest Corridor Past Offices to Buffet		18165-13-24	NAD	NA	
Joint Compound on Ceiling	Northwest Lobby	M	18165-13-25	NAD	NA	N
	Northwest Corridor Past Offices to Buffet		18165-13-26	NAD	NA	
Paper Tape Beneath Joint Compound on Ceiling	Northwest Lobby	M	18165-13-27	NAD	NA	N
	Northwest Corridor Past Offices to Buffet		18165-13-28	NAD	NA	
Door and Window Glazing Compound on Storefront Style Entrance	Northwest Vestibule	M	18165-13-29	NAD	NAD	N
	North Wall Center Entrance to Dining Area		18165-13-30	NAD	NAD	
Storefront Style Exterior Metal Door Frame Caulk	Northwest Vestibule	M	18165-13-31	NAD	NAD	N
	North Wall Center to Dining		18165-13-32	NAD	NAD	
2' x 2' Rough Finish Ceiling Tile	Office South of North West Lobby	M	18165-13-33	NAD	NAD	N
	Northwest Office West of Buffet		18165-13-34	NAD	NAD	
Carpet Adhesive on Concrete	Office South of North West Lobby	M	18165-13-35	NAD	NAD	N
	Northwest Office West of Buffet		18165-13-36	NAD	NAD	
Grout Associated with 4" Ceramic Wall Tiles	Men's Toilet-North West Area	M	18165-13-37	NAD	NA	N
	North West Toilets		18165-13-38	NAD	NA	
Thin Set Associated with 4" Ceramic Wall Tiles	Men's Toilet-North West Area	M	18165-13-39	NAD	NAD	N
	Women's Toilet North West		18165-13-40	NAD	NAD	
Grout Associated 8" x 8" Gray Ceramic Floor Tiles	Men's Toilet-Northwest Area	M	18165-13-41	NAD	NA	N
	Women's Toilet North West		18165-13-42	NAD	NA	

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
Set Coat Associated with 8" x 8" Gray Ceramic Floor Tiles	Men's Toilet-North West Area	M	18165-13-43	NAD	NA	N
	Women's Toilet North West		18165-13-44	NAD	NA	
Bathroom Caulk	Men's Toilet-Northwest Area Perimeter of Sink	M	18165-13-45	NAD	NAD	N
	Women's Toilet Northwest Area Perimeter of Toilet		18165-13-46	NAD	NAD	
2' x 4' Pinhole and Slot Pattern Ceiling Tile	North West Offices	M	18165-13-47	NAD	NAD	N
	North West Offices		18165-13-48	NAD	NAD	
2' x 4' Ceiling Tiles with Faux 2' x 2' Pattern	Southwest of Store-Smokin Joes Coffee House Ceiling	M	18165-13-49	NAD	NAD	N
	Southwest of Store-Smokin Joes Coffee House Ceiling		18165-13-50	NAD	NAD	
2' x 2' Hard Suspended Ceiling Tile	Northeast Buffet Room at North Wall	M	18165-13-51	NAD	NAD	N
	Northeast Buffet Room-East Area by Kitchen		18165-13-52	NAD	NAD	
Window Glazing Compound	Northeast Buffet Room- North Wall Center	M	18165-13-53	NAD	NAD	N
	Northwest Office, West of Dining Area- North Wall		18165-13-54	NAD	NAD	
Yellow Epoxy Coating on Concrete Floor	Northeast Buffet Room-North East Corner	M	18165-13-55	NAD	NAD	N
	Buffet Room by Theater-North East		18165-13-56	NAD	NAD	
4" Black Cove Base	Buffet Area-Northeast Corner	M	18165-13-57	NAD	NAD	N
	Buffet Area-Behind Bar		18165-13-58	NAD	NAD	
Mastic Associated with 4" Black Cove Base	Buffet Area-Northeast Corner	M	18165-13-59	NAD	NAD	N
	Buffet Area-Behind Bar		18165-13-60	NAD	NAD	
Gasket at Water Supply Line	Water Main Shut Off Room-North East	M	18165-13-61	NAD	NAD	N
	Water Main Shut Off Room-North East		18165-13-62	NAD	NAD	

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
Gasket in Flange-Water Supply Line	Water Main Shut Off Room-North East	M	18165-13-63	NAD	NAD	N
	Water Main Shut Off Room-North East		18165-13-64	NAD	NAD	
Butt End Sealant on Water Shut Off Valve	Water Main Shut Off Room	M	18165-13-65	NAD	NAD	N
	Water Main Shut Off Room-Northeast Area		18165-13-66	NAD	NAD	
Drywall	Buffet Area-Electrical Room Wall	M	18165-13-67	NAD	NA	N
	Buffet Area- East Wall		18165-13-68	NAD	NA	
Joint Compound	Buffet Area-Electrical Room Wall	M	18165-13-69	NAD	NA	N
	Buffet Area- East Wall		18165-13-70	NAD	NA	
Paper Beneath Joint Compound	Buffet Area-Electrical Room Wall	M	18165-13-71	NAD	NA	N
	Buffet Area- East Wall		18165-13-72	NAD	NA	
Panel Adhesive on Drywall	Buffet Area- South Corridor-West Wall	M	18165-13-73	NAD	NAD	N
	Buffet Area- South Corridor-West Wall		18165-13-74	NAD	NAD	
2' x 2' Hard Ceiling Tile	Theater-Above Stage	M	18165-13-75	NAD	NAD	N
	Theater-East Area		18165-13-76	NAD	NAD	
Drywall	Theater, Stage Area-East Wall	M	18165-13-77	NAD	NA	N
	Theater, Northeast Area-East Wall		18165-13-78	NAD	NA	
Joint Compound	Theater, Stage Area-East Wall	M	18165-13-79	NAD	NA	N
	Theater, Northeast Area-East Wall		18165-13-80	NAD	NA	
Carpet Adhesive on Concrete	Theater, South Stage-Southeast Area	M	18165-13-81	NAD	NAD	N
	Theater, South Stage-Southwest Area		18165-13-82	NAD	NAD	

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
Gray Flange Sealant	Second Floor-Northeast Vertical Duct on North East HVAC Duct on Floor	M	18165-13-83	NAD	NAD	N
	Second Floor-North West Vertical Duct on Bare Sheet Metal Duct		18165-13-84	NAD	NAD	
Storefront Style Window Glazing Compound	Second Floor-Northwest Wall, Center Window	M	18165-13-85	NAD	NAD	N
	Second Floor-South Center Window		18165-13-86	NAD	NAD	
Joint Compound	Second Floor-West Wall (Damaged Area) by Window	M	18165-13-87	NAD	NA	N
	Second Floor-South Wall at Window Well		18165-13-88	NAD	NA	
Paper Tape Beneath Joint Compound	Second Floor-South Wall Center Window	M	18165-13-89	NAD	NA	N
	Second Floor-West Wall, Below Window		18165-13-90	NAD	NA	
Drywall	Second Floor-West Wall Damaged Area by Window	M	18165-13-91	NAD	NA	N
	Second Floor-South Wall Center		18165-13-92	NAD	NA	
Roof Tar Sealant Beneath Metal Foil on Metal Deck	Roof-North-South Wing, Center, West of Hatch	M	18165-13-93	NAD	NAD	N
	Roof-East-West Wing, Center Roof		18165-13-94	NAD	NAD	
Black Tar at Base of Round Vent Support Base	**Roof-North-South Wing, East Center Vent**	**M**	**18165-13-95**	**14.2% Chrysotile**	**NA**	**Y**
	Roof North East Corner		**18165-13-96**	**NA/PS**	**NA**	
Brown Tar Patch on Screw Heads of Roof Peak	Roof-North-South Wing, South Portion	M	18165-13-97	NAD	NAD	N
	Roof-South End of North-South Roof		18165-13-98	NAD	NAD	

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
Gray-Black Tar Patch on Base of Copper Vent Metal Roof	Roof-South Portion of North-South Rear Part	M	18165-13-99	8.3% Chrysotile	NA	Y
	Roof-Near Peak of South End		18165-13-100	NA/PS	NA	
Tar and Rubber Patch- 12" x 12"	Roof-West Side of Far South Roof	M	18165-13-101	NAD	Chrysotile Trace	N
	Roof-Northern Most Patch on South End		18165-13-102	NAD	Chrysotile Trace	
Gray-Black Tar on Flashing	Roof-East End of South West Roof-North East Corner	M	18165-13-103	11.1% Chrysotile	NA	Y
	Roof-East End of South West Roof-North East Corner		18165-13-104	NA/PS	NA	
Tar on Metal Parapet Cap	Roof-North-South Wing, South End	M	18165-13-105	NAD	NA	Y
	Roof-North-South Wing at Peak		18165-13-106	4.4% Chrysotile	NA	
Black Caulk on Screw Heads	Roof-South West Roof, South Corner	M	18165-13-107	NAD	NAD	N
	Roof-South West Roof, South East Corner		18165-13-108	NAD	NAD	
Tar and Rubber Patch	Roof Far West Parapet on Southwest Roof	M	18165-13-109	NAD	NAD	N
			18165-13-110	NAD	NAD	
Gray-Black Tar at the Base of AHU	Roof Southwest Metal Roof	M	18165-13-111	4.3% Chrysotile	NA	Y
	Roof Southwest Roof Northeast Corner		18165-13-112	NA/PS	NA	
Black tar on Concrete Parapet	Roof North-South Wing, West Parapet	M	18165-13-113	NAD	NAD	N
	Roof Northwest Corner at Bend to East Roof		18165-13-114	NAD	NAD	
Window Frame Caulk	Exterior North Wall Center Window	M	18165-13-115	NAD	NAD	N
	Exterior West Side Center-North Window		18165-13-116	NAD	NAD	

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
Stucco	Exterior-West Side, Center-North	S	18165-13-117	NAD	NA	N
	Exterior-West Side, Center-South		18165-13-118	NAD	NA	
	Exterior-West Side, Center-North		18165-13-119	NAD	NA	
	Exterior-West Side, Far South West at Coffee Shop		18165-13-120	NAD	NA	
	Exterior-South West Corner of Coffee Shop at South Wall Corner		18165-13-121	NAD	NA	
Door Fame Caulk	Exterior-North Door Center	M	18165-13-122	NAD	NAD	N
	Exterior-North Side Center		18165-13-123	NAD	NAD	
Spray-on Fireproofing Note: No Vermiculite Was Detected	North West Lobby-on Beam Near Ceiling, Above Ceiling Tiles	S	18165-13-124	NAD	NA	N
	Second Floor-Column, Center, West		18165-13-125	NAD	NA	
	Second Floor-Column, Center, East		18165-13-126	NAD	NA	
	Second Floor-Beam at Ceiling, East Wall		18165-13-127	NAD	NA	
	First Floor-Valve Room Behind Kitchen, North East		18165-13-128	NAD	NA	
	Theater, on Beams Above Suspended Ceiling Tiles		18165-13-129	NAD	NA	
	First Floor-South East Miniature Golf on Column		18165-13-130	NAD	NA	
Soft Black Window Glazing Compound Window Pane in Fire Doors	Southwest corridor double fire doors to southwest coffee Shop and Tee Shirt Sales Store	M	18165-13-131	NAD	Trace Anthophyllite	N
	West Center Double Fire Doors on West Center Wall of Indoor Miniature Golf Room		18165-13-132	NAD	Trace Anthophyllite	

TABLE 1
HOMOGENEOUS MATERIALS LIST
SMOKIN JOES NATIVE CENTER
333 FIRST STREET AND 217 OLD FALLS STREET
NIAGARA FALLS, NY

Material Description	Sample Location	Type	Sample Number	Results (% Asbestos)		ACM
				PLM	TEM	Y/N
12" x 12" Yellow Floor Tiles on Concrete	South Coffee Grinding and Storage Room by South Entrance	M	18165-13-133	NAD	NAD	N
	Southeast Indoor Miniature Golf Roof by South Entrance		18165-13-134	NAD	NAD	
Black Mastic Associated with 12" x 12" Yellow Floor Tiles on Concrete	South Coffee Grinding and Storage Room by South Entrance	M	18165-13-135	NAD	NAD	N
	Southeast Indoor Miniature Golf Roof by South Entrance		18165-13-136	NAD	NAD	
Paper and Foil on Fiberglass Insulation on Pipes	Water Main Shut Off Pipe in Water Shut Off Room Northeast Corner of the Building	M	18165-13-137	NAD	NA	N
	Pipe Above Hot Water Tank in Janitor Storage Room Across from the Northwest Toilets		18165-13-138	NAD	NA	
Gray Roof Caulk Beneath Metal Cap East Roof Edge Southwest Wing	Roof Southwest Wing, Beneath Metal Cap on East Roof Edge Northeast Corner	M	18165-13-139	NAD	NAD	N
	Roof Southwest Wing, Beneath Metal Cap on East Roof Edge Southeast Corner		18165-13-140	NAD	NAD	

Abbreviations:
NA = Not analyzed
NAD = No asbestos detected
NA/PS = Not Analyzed Positive Stop
Non-ACM: Remaining residue less than 1% of original sample after processing. Material is material is Non-ACM

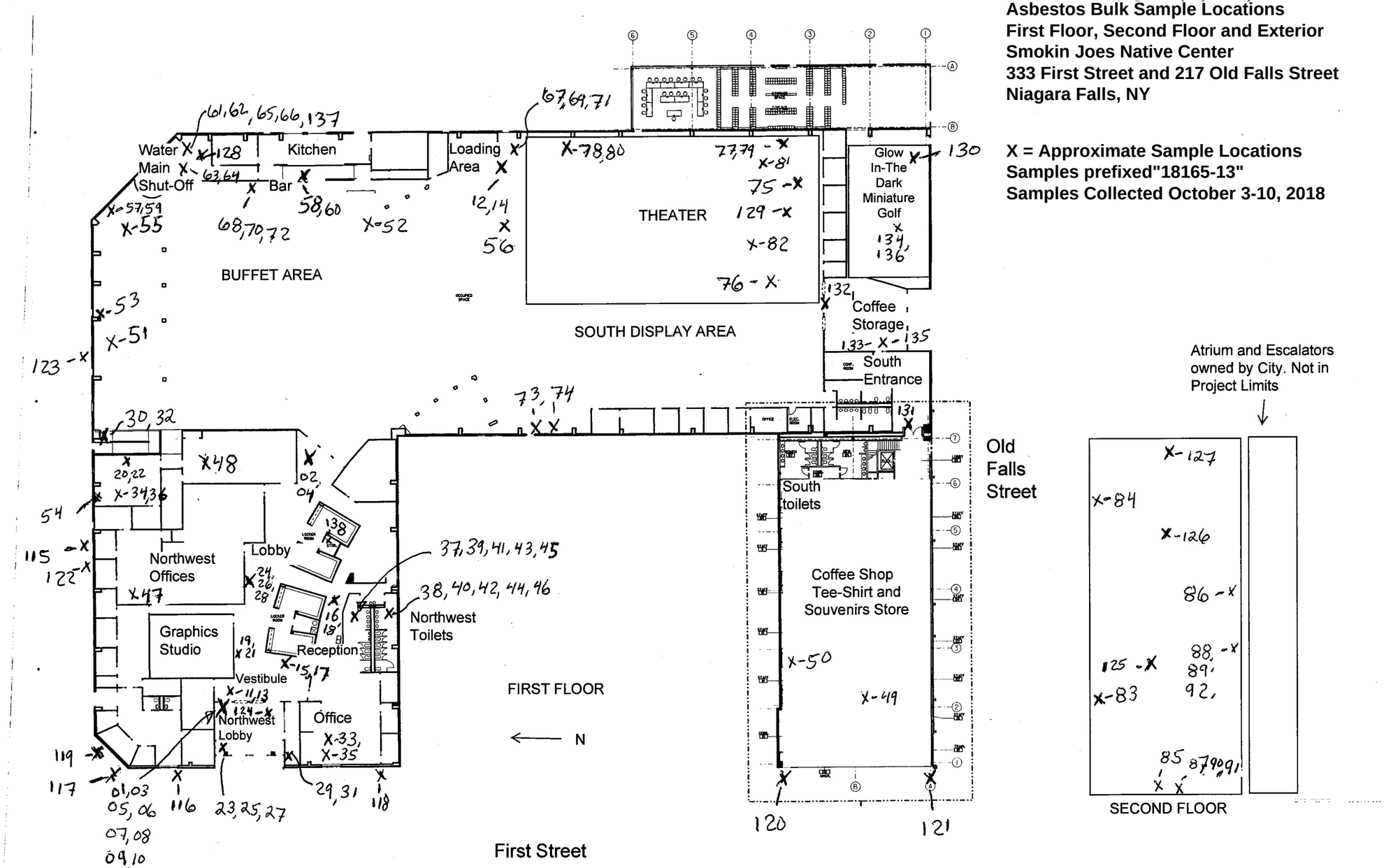
Type
T = Thermal
S = Surfacing

ACM
Y = Yes
N = No
M = Miscellaneous

2.1 – ASBESTOS SAMPLE LOCATION DRAWINGS

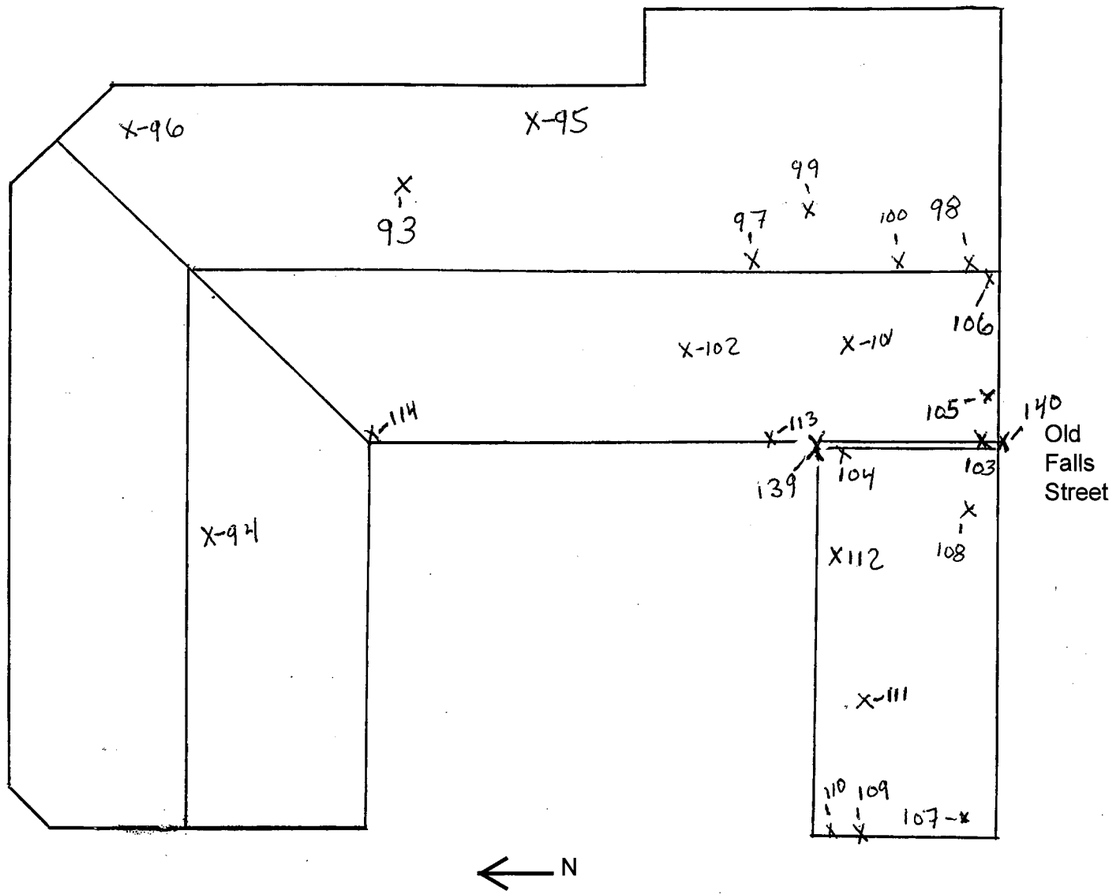
Asbestos Bulk Sample Locations
First Floor, Second Floor and Exterior
Smokin Joes Native Center
333 First Street and 217 Old Falls Street
Niagara Falls, NY

X = Approximate Sample Locations
Samples prefixed"18165-13"
Samples Collected October 3-10, 2018



Asbestos Bulk Sample Locations
Roof
Smokin Joes Native Center
333 First Street and 217 Old Falls Street
Niagara Falls, NY

X = Approximate Sample Locations
Samples Prefixed "18165-13"
Samples Collected October 3 - 10, 2018



2.2 – PHOTOGRAPHS

Photo 1 – View of the northwest entrance lobby. No asbestos was detected in samples of drywall, joint compound, tape, floor tiles or floor tile mastic in the facility.

Photo 2 – View of the buffet seating area and bar. No asbestos was detected in samples of drywall, joint compound, flooring, ceiling tiles or spray-on fireproofing.

Photo 3 – View of the northwest entrance and vestibule. No asbestos was detected in samples of floor tiles, floor tile mastic, drywall, joint compound or ceiling mastic.

Photo 4 – View of spray-on fireproofing on beams and columns. No asbestos or vermiculite was detected in samples of the spray-on fireproofing.

Photo 5 – View of the theater area. No asbestos was detected in samples of drywall, joint compound, ceiling tiles, carpet adhesive or spray-on fireproofing.

Photo 6 – View of northwest Men's Restroom. No asbestos was detected in samples of ceramic wall tile grout or thin set or in the ceramic floor tile grout or set coat in the various bathrooms.

Photo 7 – View of insulation on piping. No asbestos was detected in gaskets, pipe insulation or end sealant.

Photo 8 – View of floor tiles in the southeast former indoor miniature golf area and coffee shop. No asbestos was detected in samples of floor tiles or the associated mastic.

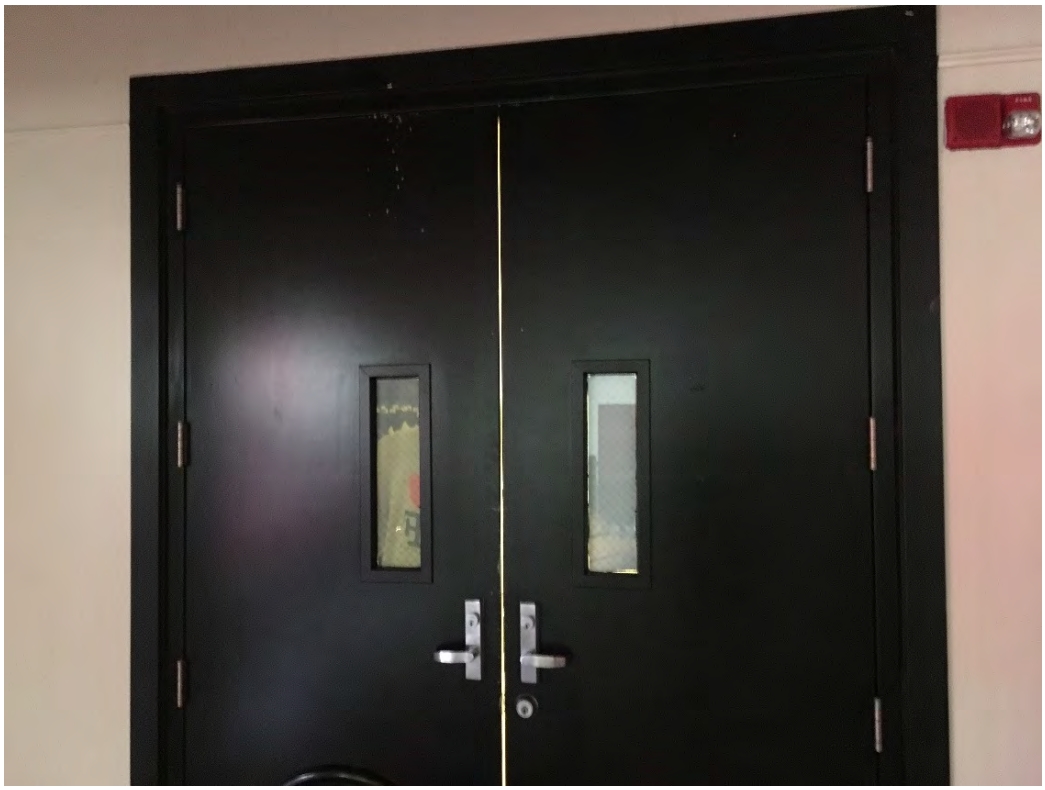


Photo 9 – View of a set of fire doors at the southwest corridor leading to the Smokin Joes Coffee Shop and souvenir store. No asbestos was detected in the window glazing compound in the fire doors. No suspect ACM was observed in the door interior packing.

Photo 10– View of the unfinished second floor level. No asbestos was detected in samples of drywall, joint compound, tape, window glazing compound, duct sealant or spray-on fireproofing.

Photo 11 –Exterior view of the north wall of the facility. No asbestos was detected in samples of window glazing compound or window frame caulk, door glazing compound or door frame caulk.

Photo 12 – Exterior view of the southwest elevation. No asbestos was detected in samples of stucco, window glazing compound or caulk.

Photo 13 – View of the metal foil and tar surface covering the majority of the metal deck to the roof. ACM black tar was observed at the base of roof mounted components, vents and pipes.

Photo 14 – Close-up view of a section of the metal foil and underlying non-ACM tar across the majority of the roof metal deck. The foil was not observed on the southern portion of the north-south roof or the southwest wing roof.

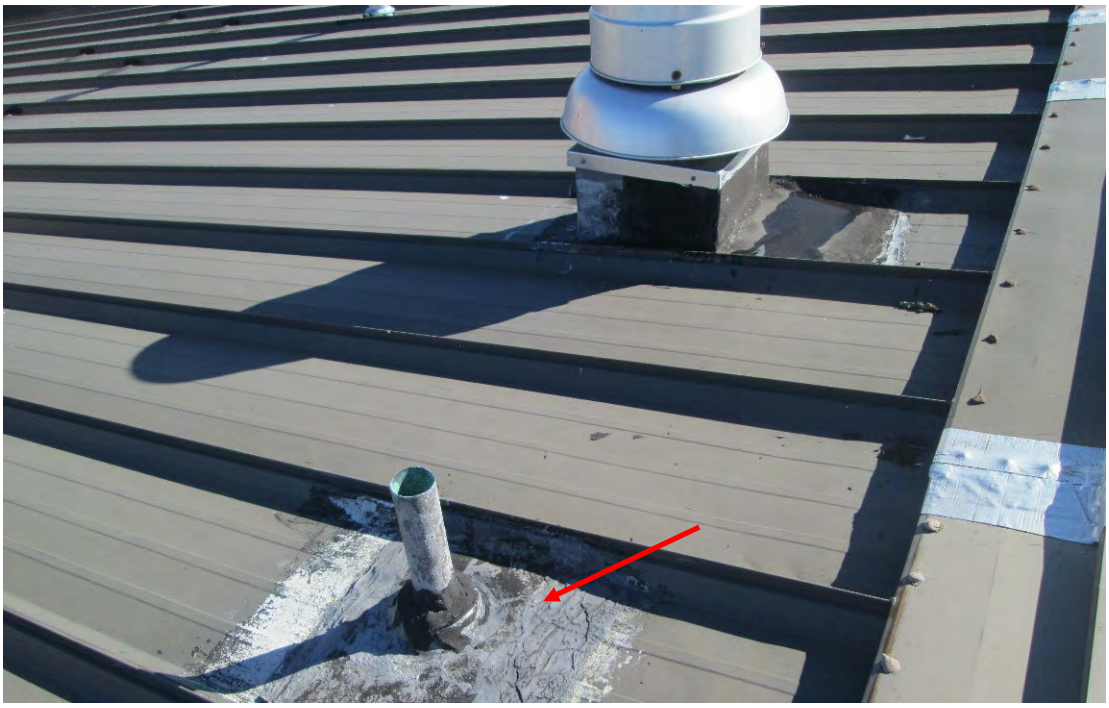


Photo 15 – View of ACM black tar at the base of a vent pipe and on the metal deck at the southern portion of the north-south roof (arrow).

Photo 16 – View of ACM gray-black tar along the eastern edge of the southwest roof (arrow). The same tar was observed as patches along the southwest edge of the adjacent north-south wing roof.

Photo 17 – View of ACM tar along the south parapet of the north-south wing roof (arrow). The tar was observed along the western half of the south parapet only.

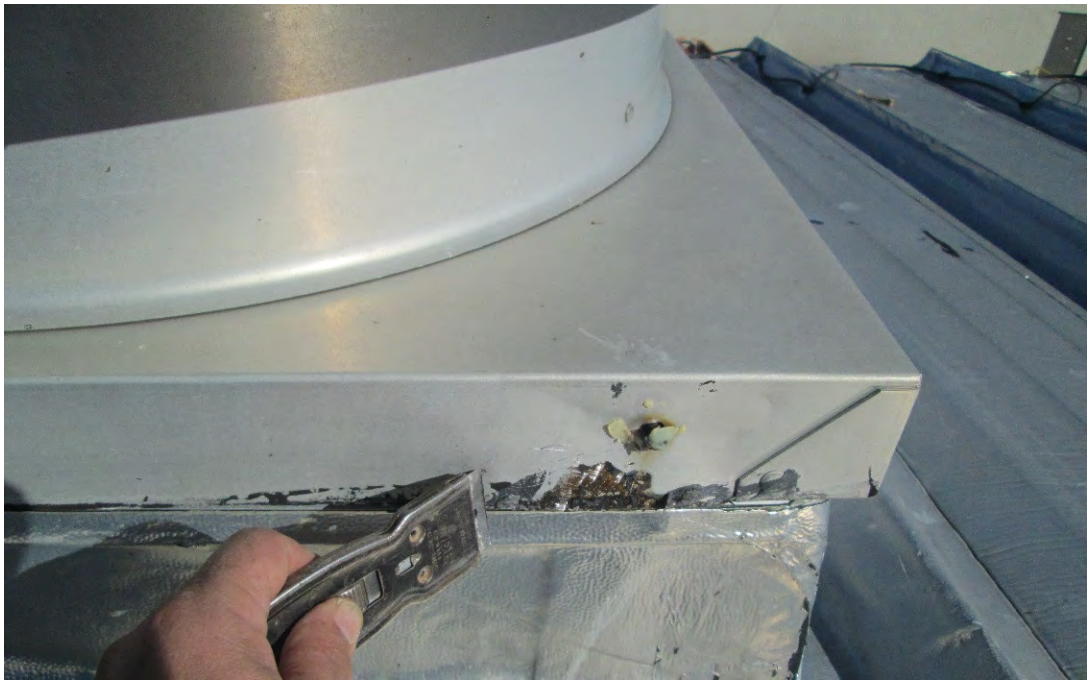


Photo 18 – View of ACM tar at the base to a roof mounted vent. The tar extended beneath the metal foil on the vent base.

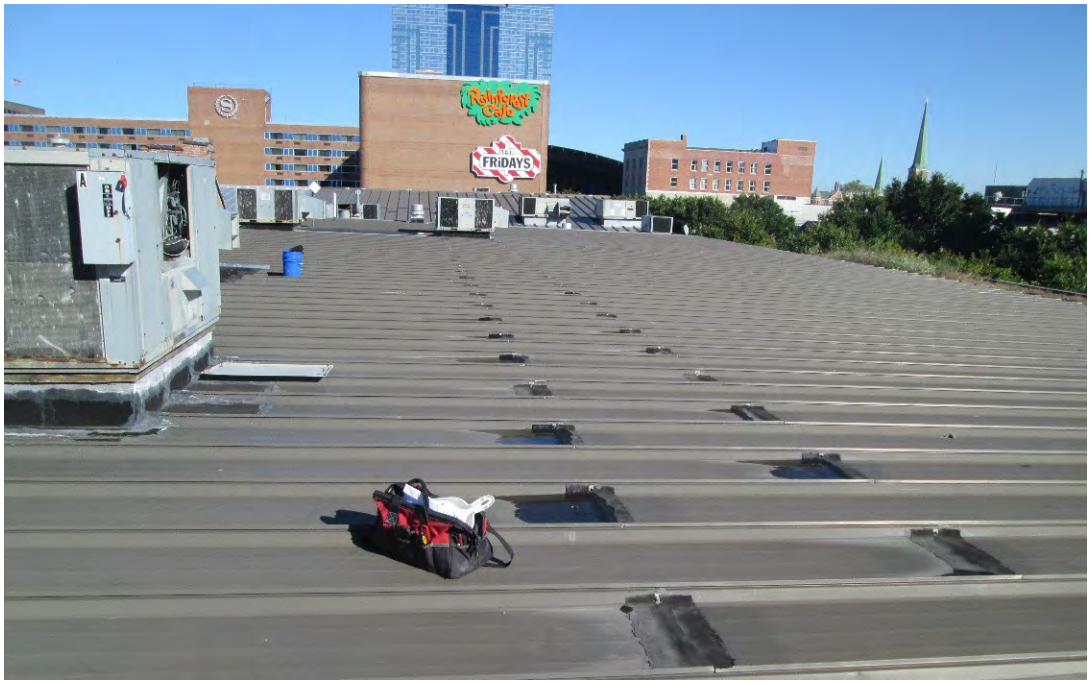


Photo 19 – View of rubber and tar patches observed in an orderly pattern on the southern portion of the north-south roof and the southwest roof. The tar and patches were determined to be non-ACM.

Photo 20 – View of black tar on the north-south roof west concrete parapet (arrow). The tar was determined to be non-ACM.

2.3 – LABORATORY REPORTS

BULK SAMPLE CHAIN-OF-CUSTODY FORMS

The purpose of the chain-of-custody form is to reduce the possibility of misidentifying individual samples, to help trace any samples that may be lost, and to provide a record certifying that the samples were delivered to and received by the analytical laboratory.

An important feature of this form is the signature section at the bottom, identifying all persons who handled the samples.

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Watts Architecture & Engineers
Attn: Edward Jones
95 Perry Street
Suite 300
Buffalo, NY 14203

Date Received 10/08/18 **AmeriSci Job #** 118101276
Date Examined 10/11/18 **P.O. #**
ELAP # 10984 **Page** 1 **of** 27
RE: 18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-01	118101276-01	*No*	NAD
1	**Location:** 12" x 12 " Beige Floor Tile; NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 2.9 %
Comment: Heat Sensitive (organic): 16.0%; Acid Soluble (inorganic): 81.1%; Inert (Non-asbestos): 2.9%

18165-13-02	118101276-02	*No*	NAD
1	**Location:** 12" x 12 " Beige Floor Tile; West Entrance to Buffet		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18

Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 2.2 %
Comment: Heat Sensitive (organic): 14.7%; Acid Soluble (inorganic): 83.2%; Inert (Non-asbestos): 2.2%

18165-13-03	118101276-03	*No*	NAD
2	**Location:** Mastic Associated with 12" x 12" Beige Floor Tile; NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18

Analyst Description: Tan/Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 10.8 %
Comment: Heat Sensitive (organic): 50.0%; Acid Soluble (inorganic): 39.3%; Inert (Non-asbestos): 10.8%

18165-13-04	118101276-04	*No*	NAD
2	**Location:** Mastic Associated with 12" x 12" Beige Floor Tile; West Entrance to Buffet		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18

Analyst Description: Tan/Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 13.3 %
Comment: Heat Sensitive (organic): 24.5%; Acid Soluble (inorganic): 62.2%; Inert (Non-asbestos): 13.3%

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-05	118101276-05	*No*	NAD
3	**Location:** Lower Layer 12" x 12" Tan Floor Tiles, Beneath Beige and Purple; NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 33 %			
Comment: Heat Sensitive (organic): 21.9%; Acid Soluble (inorganic): 45.1%; Inert (Non-asbestos): 33.0%			
18165-13-06	118101276-06	*No*	NAD
3	**Location:** Lower Layer 12" x 12" Tan Floor Tiles, Beneath Beige and Purple; NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 30.3 %			
Comment: Heat Sensitive (organic): 20.9%; Acid Soluble (inorganic): 48.8%; Inert (Non-asbestos): 30.3%			
18165-13-07	118101276-07	*No*	NAD
4	**Location:** Mastic Associated with Lower Layer 12" x 12" ; NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 9.2 %			
Comment: Heat Sensitive (organic): 20.3%; Acid Soluble (inorganic): 70.5%; Inert (Non-asbestos): 9.2%			
18165-13-08	118101276-08	*No*	NAD
4	**Location:** Mastic Associated with Lower Layer 12" x 12" ; West Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 9.7 %			
Comment: Heat Sensitive (organic): 21.9%; Acid Soluble (inorganic): 68.4%; Inert (Non-asbestos): 9.7%			
18165-13-09	118101276-09	*No*	NAD
5	**Location:** Leveling Compound Beneath Top Layers 12" x 12" Beige and Tan Tiles; NW Lobby		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-10	118101276-10	*No*	NAD
5	**Location:** Leveling Compound Beneath Top Layers 12" x 12" Beige and Tan Tiles; NW Lobby		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-11	118101276-11	*No*	NAD
6	**Location:** 12" x 12" Floor Tile - Beige Rainbow Multi-color with Streaks; NW Vestibule		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 30.5 % **Comment:** Heat Sensitive (organic): 23.2%; Acid Soluble (inorganic): 46.3%; Inert (Non-asbestos): 30.5%			
18165-13-12	118101276-12	*No*	NAD
6	**Location:** 12" x 12" Floor Tile - Beige Rainbow Multi-color with Streaks; East Side Loading Area Behind Kitchen		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 28.5 % **Comment:** Heat Sensitive (organic): 22.9%; Acid Soluble (inorganic): 48.6%; Inert (Non-asbestos): 28.5%			
18165-13-13	118101276-13	*No*	NAD
7	**Location:** Mastic Associated with 12" x 12" Beige Floor Tiles with Rainbow; NW Vestibule		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Cream, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 15.5 % **Comment:** Heat Sensitive (organic): 62.9%; Acid Soluble (inorganic): 21.5%; Inert (Non-asbestos): 15.5%			
18165-13-14	118101276-14	*No*	NAD
7	**Location:** Mastic Associated with 12" x 12" Beige Floor Tiles with Rainbow; East Side Loading Area Behind Kitchen		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Cream, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 13.3 % **Comment:** Heat Sensitive (organic): 39.4%; Acid Soluble (inorganic): 47.3%; Inert (Non-asbestos): 13.3%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-15	118101276-15	*No*	NAD
8	**Location:** 12" x 12" Purple Floor Tile; NW Reception Room by NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Purple, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 16.7 %			
Comment: Heat Sensitive (organic): 21.3%; Acid Soluble (inorganic): 62.0%; Inert (Non-asbestos): 16.7%			
18165-13-16	118101276-16	*No*	NAD
8	**Location:** 12" x 12" Purple Floor Tile; Reception Room to Toilets		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Purple, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 14.1 %			
Comment: Heat Sensitive (organic): 19.3%; Acid Soluble (inorganic): 66.6%; Inert (Non-asbestos): 14.1%			
18165-13-17	118101276-17	*No*	NAD
9	**Location:** Mastic Associated with 12" x 12" Floor Tiles; Reception Room off NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 5.7 %			
Comment: Heat Sensitive (organic): 81.3%; Acid Soluble (inorganic): 13.0%; Inert (Non-asbestos): 5.7%			
18165-13-18	118101276-18	*No*	NAD
9	**Location:** Mastic Associated with 12" x 12" Floor Tiles; Reception Room off NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 7.8 %			
Comment: Heat Sensitive (organic): 60.3%; Acid Soluble (inorganic): 31.8%; Inert (Non-asbestos): 7.8%			
18165-13-19	118101276-19	*No*	NAD
10	**Location:** 4" Black Cove Base; NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 56.3 %			
Comment: Heat Sensitive (organic): 40.5%; Acid Soluble (inorganic): 3.2%; Inert (Non-asbestos): 56.3%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-20	118101276-20	*No*	NAD
10	**Location:** 4" Black Cove Base; NW Offices West of Buffet		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 56.3 % **Comment:** Heat Sensitive (organic): 39.6%; Acid Soluble (inorganic): 4.1%; Inert (Non-asbestos): 56.3%			
18165-13-21	118101276-21	*No*	NAD
11	**Location:** Mastic Associated with 4" Cove Base; NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 % **Comment:** Heat Sensitive (organic): 33.4%; Acid Soluble (inorganic): 51.0%; Inert (Non-asbestos): 15.6%			
18165-13-22	118101276-22	*No*	NAD
11	**Location:** Mastic Associated with 4" Cove Base; NW Offices West of Buffet		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 10.4 % **Comment:** Heat Sensitive (organic): 33.1%; Acid Soluble (inorganic): 56.5%; Inert (Non-asbestos): 10.4%			
18165-13-23	118101276-23	*No*	NAD
12	**Location:** Drywall Ceiling; NW Lobby		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White/Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 10 %, Non-fibrous 90 %			
18165-13-24	118101276-24	*No*	NAD
12	**Location:** Drywall Ceiling; NW Corridor Past Offices to Buffet		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White/Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 10 %, Fibrous glass 1 %, Non-fibrous 89 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-25	118101276-25	*No*	NAD
13	**Location:** Joint Compound on Ceiling; NW Lobby		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-26	118101276-26	*No*	NAD
13	**Location:** Joint Compound on Ceiling; NW Corridor Past Offices to Buffet		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-27	118101276-27	*No*	NAD
14	**Location:** Paper Tape Beneath Joint Compound on Ceiling; NW Lobby		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
18165-13-28	118101276-28	*No*	NAD
14	**Location:** Paper Tape Beneath Joint Compound on Ceiling; NW Corridor Past Offices to Buffet		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
18165-13-29	118101276-29	*No*	NAD
15	**Location:** Door and Window Glazing Compound on Store Front Style Entrance; NW Vestibule		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.1 % **Comment:** Heat Sensitive (organic): 90.5%; Acid Soluble (inorganic): 9.4%; Inert (Non-asbestos): 0.1%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-30	118101276-30	*No*	NAD
15	**Location:** Door and Window Glazing Compound on Store Front Style Entrance; North Wall Center Entrance to Dining Area		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 0.1 %			
Comment: Heat Sensitive (organic): 88.2%; Acid Soluble (inorganic): 11.7%; Inert (Non-asbestos): 0.1%			
18165-13-31	118101276-31	*No*	NAD
16	**Location:** Store Front Style Exterior Metal Door Frame Caulk; NW Vestibule		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 7.8 %			
Comment: Heat Sensitive (organic): 64.0%; Acid Soluble (inorganic): 28.2%; Inert (Non-asbestos): 7.8%			
18165-13-32	118101276-32	*No*	NAD
16	**Location:** Store Front Style Exterior Metal Door Frame Caulk; North Wall Center to Dining		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 3.3 %			
Comment: Heat Sensitive (organic): 51.7%; Acid Soluble (inorganic): 45.1%; Inert (Non-asbestos): 3.3%			
18165-13-33	118101276-33	*No*	NAD
17	**Location:** 2' x 2' Rough Finish Ceiling Tile ; Office South of NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 33 %			
Comment: Heat Sensitive (organic): 14.1%; Acid Soluble (inorganic): 52.9%; Inert (Non-asbestos): 33.0%			
18165-13-34	118101276-34	*No*	NAD
17	**Location:** 2' x 2' Rough Finish Ceiling Tile ; NW Offices West of Buffet		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 34.5 %			
Comment: Heat Sensitive (organic): 13.8%; Acid Soluble (inorganic): 51.7%; Inert (Non-asbestos): 34.5%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-35	118101276-35	*No*	NAD
18	**Location:** Carpet Adhesive on Concrete; Office South of NW Lobby		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 35.1 %			
Comment: Heat Sensitive (organic): 52.8%; Acid Soluble (inorganic): 12.1%; Inert (Non-asbestos): 35.1%			
18165-13-36	118101276-36	*No*	NAD
18	**Location:** Carpet Adhesive on Concrete; NW Offices West of Buffet		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 35.7 %			
Comment: Heat Sensitive (organic): 55.5%; Acid Soluble (inorganic): 8.8%; Inert (Non-asbestos): 35.7%			
18165-13-37	118101276-37	*No*	NAD
19	**Location:** Grout Associated with 4" Ceramic Wall Tiles; Men's Toilet - NW Area		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
18165-13-38	118101276-38	*No*	NAD
19	**Location:** Grout Associated with 4" Ceramic Wall Tiles; NW Toilets		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
18165-13-39	118101276-39	*No*	NAD
20	**Location:** Thin Set Associated with 4" Ceramic Wall Tiles; Men's Toilet - NW Area		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Cream, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 9.5 %			
Comment: Heat Sensitive (organic): 35.4%; Acid Soluble (inorganic): 55.1%; Inert (Non-asbestos): 9.5%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-40	118101276-40	*No*	NAD
20	**Location:** Thin Set Associated with 4" Ceramic Wall Tiles; Women's Toilet - NW Area		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: Cream, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 10.7 %			
Comment: Heat Sensitive (organic): 40.8%; Acid Soluble (inorganic): 48.5%; Inert (Non-asbestos): 10.7%			
18165-13-41	118101276-41	*No*	NAD
21	**Location:** Grout Associated with 8" x 8" Gray Ceramic Floor Tiles; Men's Toilet - NW Area		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
18165-13-42	118101276-42	*No*	NAD
21	**Location:** Grout Associated with 8" x 8" Gray Ceramic Floor Tiles; Women's Toilet - NW Area		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
18165-13-43	118101276-43	*No*	NAD
22	**Location:** Set Coat Associated with 8" x 8" Gray Ceramic Floor Tiles; Men's Toilet - NW Area		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			
18165-13-44	118101276-44	*No*	NAD
22	**Location:** Set Coat Associated with 8" x 8" Gray Ceramic Floor Tiles; Women's Toilet - NW Area		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 100 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-45	118101276-45	*No*	NAD
23	**Location:** Bathroom Caulk; Men's Toilet - NW Area perimeter of sink		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 23.5 % **Comment:** Heat Sensitive (organic): 72.8%; Acid Soluble (inorganic): 3.7%; Inert (Non-asbestos): 23.5%			
18165-13-46	118101276-46	*No*	NAD
23	**Location:** Bathroom Caulk; Women's Toilet - NW Area perimeter of toilet		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 23.5 % **Comment:** Heat Sensitive (organic): 63.9%; Acid Soluble (inorganic): 12.6%; Inert (Non-asbestos): 23.5%			
18165-13-47	118101276-47	*No*	NAD
24	**Location:** 2' x 4' Pinhole and Slot Pattern Ceiling Tile; NW Offices		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 39.6 % **Comment:** Heat Sensitive (organic): 21.7%; Acid Soluble (inorganic): 38.7%; Inert (Non-asbestos): 39.6%			
18165-13-48	118101276-48	*No*	NAD
24	**Location:** 2' x 4' Pinhole and Slot Pattern Ceiling Tile; NW Offices		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 40 % **Comment:** Heat Sensitive (organic): 22.1%; Acid Soluble (inorganic): 37.9%; Inert (Non-asbestos): 40.0%			
18165-13-49	118101276-49	*No*	NAD
25	**Location:** 2' x 4' Ceiling Tiles with Faux 2' x 2' Pattern; SW of Store - Smokin' Joe's Coffee House Ceiling		(by NYS ELAP 198.6) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 48.7 % **Comment:** Heat Sensitive (organic): 15.4%; Acid Soluble (inorganic): 35.9%; Inert (Non-asbestos): 48.7%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-50	118101276-50	*No*	NAD
25	**Location:** 2' x 4' Ceiling Tiles with Faux 2' x 2' Pattern; SW of Store - Smokin' Joe's Coffee House Ceiling		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 50.5 % **Comment:** Heat Sensitive (organic): 14.8%; Acid Soluble (inorganic): 34.6%; Inert (Non-asbestos): 50.5%			
18165-13-51	118101276-51	*No*	NAD
26	**Location:** 2' x 2' Hard Suspended Ceiling Tile; NE Buffet Room at North Wall		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: White/Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 33.7 % **Comment:** Heat Sensitive (organic): 17.3%; Acid Soluble (inorganic): 49.0%; Inert (Non-asbestos): 33.7%			
18165-13-52	118101276-52	*No*	NAD
26	**Location:** 2' x 2' Hard Suspended Ceiling Tile; NE Buffet Room - East Area by Kitchen		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: White/Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 31.5 % **Comment:** Heat Sensitive (organic): 13.3%; Acid Soluble (inorganic): 55.2%; Inert (Non-asbestos): 31.5%			
18165-13-53	118101276-53	*No*	NAD
27	**Location:** Window Glazing Compound; NE Buffet Room - North Wall Center		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.1 % **Comment:** Heat Sensitive (organic): 90.5%; Acid Soluble (inorganic): 9.3%; Inert (Non-asbestos): 0.1%			
18165-13-54	118101276-54	*No*	NAD
27	**Location:** Window Glazing Compound; NW Office, West of Dining Area - North Wall		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.1 % **Comment:** Heat Sensitive (organic): 91.0%; Acid Soluble (inorganic): 9.0%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-55	118101276-55	*No*	NAD
28	**Location:** Yellow Epoxy Coating on Concrete Floor; NE Buffet Room - NE Corner		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 36.4 %
Comment: Heat Sensitive (organic): 58.2%; Acid Soluble (inorganic): 5.3%; Inert (Non-asbestos): 36.4%

18165-13-56	118101276-56	*No*	NAD
28	**Location:** Yellow Epoxy Coating on Concrete Floor; Buffet Room by Theater - NE		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 37.1 %
Comment: Heat Sensitive (organic): 54.6%; Acid Soluble (inorganic): 8.3%; Inert (Non-asbestos): 37.1%

18165-13-57	118101276-57	*No*	NAD
29	**Location:** 4" Black Cove Base; Buffet Area - NE Corner		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 56.6 %
Comment: Heat Sensitive (organic): 38.1%; Acid Soluble (inorganic): 5.4%; Inert (Non-asbestos): 56.6%

18165-13-58	118101276-58	*No*	NAD
29	**Location:** 4" Black Cove Base; Buffet Area - Behind Bar		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 0.9 %
Comment: Heat Sensitive (organic): 47.0%; Acid Soluble (inorganic): 52.1%; Inert (Non-asbestos): 0.9%

18165-13-59	118101276-59	*No*	NAD
30	**Location:** Mastic Associated with 4" Black Cove Base; Buffet Area - NE Corner		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Cream, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 29.9 %
Comment: Heat Sensitive (organic): 35.1%; Acid Soluble (inorganic): 35.0%; Inert (Non-asbestos): 29.9%

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-60	118101276-60	*No*	NAD
30	**Location:** Mastic Associated with 4" Black Cove Base; Buffet Area - Behind Bar		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Cream, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 11.9 %
Comment: Heat Sensitive (organic): 45.6%; Acid Soluble (inorganic): 42.4%; Inert (Non-asbestos): 11.9%

18165-13-61	118101276-61	*No*	NAD
31	**Location:** Gasket at Water Supply Line; Water Main Shut Off Room - NE		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 2.2 %
Comment: Heat Sensitive (organic): 92.4%; Acid Soluble (inorganic): 5.4%; Inert (Non-asbestos): 2.2%

18165-13-62	118101276-62	*No*	NAD
31	**Location:** Gasket at Water Supply Line; Water Main Shut Off Room - NE		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 2.9 %
Comment: Heat Sensitive (organic): 93.4%; Acid Soluble (inorganic): 3.7%; Inert (Non-asbestos): 2.9%

18165-13-63	118101276-63	*No*	NAD
32	**Location:** Gasket in Flange - Water Supply Line; Water Main Shut Off Room - NE		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 3 %
Comment: Heat Sensitive (organic): 93.3%; Acid Soluble (inorganic): 3.6%; Inert (Non-asbestos): 3.0%

18165-13-64	118101276-64	*No*	NAD
32	**Location:** Gasket in Flange - Water Supply Line; Water Main Shut Off Room - NE		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 2.7 %
Comment: Heat Sensitive (organic): 93.3%; Acid Soluble (inorganic): 4.0%; Inert (Non-asbestos): 2.7%

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-65	118101276-65	*No*	NAD
33	**Location:** Butt End Sealant on Water Shut Off Valve; Water Main Shut Off Room		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 54.7 % **Comment:** Heat Sensitive (organic): 42.7%; Acid Soluble (inorganic): 2.5%; Inert (Non-asbestos): 54.7%			
18165-13-66	118101276-66	*No*	NAD
33	**Location:** Butt End Sealant on Water Shut Off Valve; Water Main Shut Off Room - NE		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 55.2 % **Comment:** Heat Sensitive (organic): 42.3%; Acid Soluble (inorganic): 2.5%; Inert (Non-asbestos): 55.2%			
18165-13-67	118101276-67	*No*	NAD
34	**Location:** Drywall; Buffet Area - Electrical Room Wall		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 5 %, Non-fibrous 95 %			
18165-13-68	118101276-68	*No*	NAD
34	**Location:** Drywall; Buffet Area - East Wall		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White/Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 5 %, Fibrous glass 2 %, Non-fibrous 93 %			
18165-13-69	118101276-69	*No*	NAD
35	**Location:** Joint Compound ; Buffet Area - Electrical Room Wall		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-70 35	118101276-70 **Location:** Joint Compound ; Buffet Area - East Wall	*No*	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-71 36	118101276-71 **Location:** Paper Tape Beneath Joint Compound ; Buffet Area - Electrical Room Wall	*No*	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
18165-13-72 36	118101276-72 **Location:** Paper Tape Beneath Joint Compound ; Buffet Area - East Wall	*No*	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Brown, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
18165-13-73 37	118101276-73 **Location:** Panel Adhesive on Drywall; Buffet Area, South Corridor - West Wall	*No*	NAD (by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 14.9 % **Comment:** Heat Sensitive (organic): 30.5%; Acid Soluble (inorganic): 54.6%; Inert (Non-asbestos): 14.9%			
18165-13-74 37	118101276-74 **Location:** Panel Adhesive on Drywall; Buffet Area, South Corridor - West Wall	*No*	NAD (by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 13.2 % **Comment:** Heat Sensitive (organic): 41.9%; Acid Soluble (inorganic): 44.9%; Inert (Non-asbestos): 13.2%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-75 38	118101276-75 **Location:** 2' x 2' Hard Ceiling Tile; Theater - Above Stage	*No*	NAD (by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 34 % **Comment:** Heat Sensitive (organic): 17.4%; Acid Soluble (inorganic): 48.6%; Inert (Non-asbestos): 34.0%			
18165-13-76 38	118101276-76 **Location:** 2' x 2' Hard Ceiling Tile; Theater - East Arch	*No*	NAD (by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 29.4 % **Comment:** Heat Sensitive (organic): 17.4%; Acid Soluble (inorganic): 53.2%; Inert (Non-asbestos): 29.4%			
18165-13-77 39	118101276-77 **Location:** Drywall; Theater, Stage Area - East Wall	*No*	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White/Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 20 %, Fibrous glass 2 %, Non-fibrous 78 %			
18165-13-78 39	118101276-78 **Location:** Drywall; Theater, NE Area - East Wall	*No*	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White/Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 10 %, Fibrous glass 5 %, Non-fibrous 85 %			
18165-13-79 40	118101276-79 **Location:** Joint Compound; Theater, Stage Area - East Wall	*No*	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-80	118101276-80	*No*	NAD
40	**Location:** Joint Compound; Theater, NE Area - East Wall		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-81	118101276-81	*No*	NAD
41	**Location:** Carpet Adhesive on Concrete; Theater, South Stage - SE Area		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Tan, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 22 % **Comment:** Heat Sensitive (organic): 41.2%; Acid Soluble (inorganic): 36.8%; Inert (Non-asbestos): 22.0%			
18165-13-82	118101276-82	*No*	NAD
41	**Location:** Carpet Adhesive on Concrete; Theater, South Stage - SW Area		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Beige, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 30.6 % **Comment:** Heat Sensitive (organic): 56.2%; Acid Soluble (inorganic): 13.2%; Inert (Non-asbestos): 30.6%			
18165-13-83	118101276-83	*No*	NAD
42	**Location:** Gray Flange Sealant; 2nd Floor - NE Vertical Duct on NE HVAC Duct on Floor		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 7.7 % **Comment:** Heat Sensitive (organic): 54.0%; Acid Soluble (inorganic): 38.3%; Inert (Non-asbestos): 7.7%			
18165-13-84	118101276-84	*No*	NAD
42	**Location:** Gray Flange Sealant; 2nd Floor - NW Vertical Duct on Bare Sheet Metal Duct		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 7.8 % **Comment:** Heat Sensitive (organic): 54.2%; Acid Soluble (inorganic): 38.0%; Inert (Non-asbestos): 7.8%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-85	118101276-85	*No*	NAD
43	**Location:** Store Front Style Window Glazing Compound; 2nd Floor - West Wall, Center Window		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 12.2 % **Comment:** Heat Sensitive (organic): 87.8%; Acid Soluble (inorganic): -0.1%; Inert (Non-asbestos): 12.2%			
18165-13-86	118101276-86	*No*	NAD
43	**Location:** Store Front Style Window Glazing Compound; 2nd Floor - South Center Window		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 11.7 % **Comment:** Heat Sensitive (organic): 87.8%; Acid Soluble (inorganic): 0.5%; Inert (Non-asbestos): 11.7%			
18165-13-87	118101276-87	*No*	NAD
44	**Location:** Joint Compound; 2nd Floor - West Wall (Damaged Area) by Window		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-88	118101276-88	*No*	NAD
44	**Location:** Joint Compound; 2nd Floor - South Wall at Window Well		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-89	118101276-89	*No*	NAD
45	**Location:** Paper Tape Beneath Joint Compoud; 2nd Floor - South Wall, Center Window		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-90	118101276-90	*No*	NAD
45	**Location:** Paper Tape Beneath Joint Compoud; 2nd Floor - West Wall, Below Window		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 95 %, Non-fibrous 5 %			
18165-13-91	118101276-91	*No*	NAD
46	**Location:** Drywall; 2nd Floor - West Wall (Damaged Area) by Window		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 5 %, Non-fibrous 95 %			
18165-13-92	118101276-92	*No*	NAD
46	**Location:** Drywall; 2nd Floor - South Wall, Center		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 4 %, Non-fibrous 96 %			
18165-13-93	118101276-93	*No*	NAD
47	**Location:** Roof Tar Sealant Beneath Metal Foil on Metal Deck; Roof - North-South Wing, Center, West of Hatch		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 2.4 % **Comment:** Heat Sensitive (organic): 77.9%; Acid Soluble (inorganic): 19.7%; Inert (Non-asbestos): 2.4%			
18165-13-94	118101276-94	*No*	NAD
47	**Location:** Roof Tar Sealant Beneath Metal Foil on Metal Deck; Roof - East-West Wing, Center Roof		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 1.7 % **Comment:** Heat Sensitive (organic): 79.4%; Acid Soluble (inorganic): 18.9%; Inert (Non-asbestos): 1.7%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-95	118101276-95	*Yes*	14.2 %
48	**Location:** Black Tar at Base of Round Vent Support Base; Roof - North-South Wing, East Center Vent		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 14.2 % **Other Material:** Non-fibrous 3.6 % **Comment:** Heat Sensitive (organic): 79.2%; Acid Soluble (inorganic): 3.0%; Inert (Non-asbestos): 3.6%			
18165-13-96	118101276-96		NA/PS
48	**Location:** Black Tar at Base of Round Vent Support Base; Roof - NE Corner		
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:** **Comment:** Heat Sensitive (organic): 71.9%; Acid Soluble (inorganic): 20.2%; Inert (Non-asbestos): 7.9%			
18165-13-97	118101276-97	*No*	NAD
49	**Location:** Brown Tar Patch on Screw Heads of Roof Peak; Roof - North-SouthWing, South Portion		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 9.4 % **Comment:** Heat Sensitive (organic): 52.8%; Acid Soluble (inorganic): 37.8%; Inert (Non-asbestos): 9.4%			
18165-13-98	118101276-98	*No*	NAD
49	**Location:** Brown Tar Patch on Screw Heads of Roof Peak; Roof - South end of North-South Roof		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Brown, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 9.1 % **Comment:** Heat Sensitive (organic): 62.8%; Acid Soluble (inorganic): 28.0%; Inert (Non-asbestos): 9.1%			
18165-13-99	118101276-99	*Yes*	8.3 %
50	**Location:** Gray-Black Tar Patch on Base of Copper Vent on Metal Roof; Roof - South Portion of North-South Rear Part		(by NYS ELAP 198.6) by Jean L. Mayes on 10/12/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 8.3 % **Other Material:** Non-fibrous 10.4 % **Comment:** Heat Sensitive (organic): 77.8%; Acid Soluble (inorganic): 3.5%; Inert (Non-asbestos): 10.4%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-100 50	118101276-100 **Location:** Gray-Black Tar Patch on Base of Copper Vent on Metal Roof; Roof - Near Peak of South end		NA/PS
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:** **Comment:** Heat Sensitive (organic): 76.1%; Acid Soluble (inorganic): 6.7%; Inert (Non-asbestos): 17.2%			
18165-13-101 51	118101276-101 **Location:** Tar and Rubber Patch - 12" x 12"; Roof - West Side of Far South Roof	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 1.3 % **Comment:** Heat Sensitive (organic): 73.9%; Acid Soluble (inorganic): 24.8%; Inert (Non-asbestos): 1.3%			
18165-13-102 51	118101276-102 **Location:** Tar and Rubber Patch - 12" x 12"; Roof - Northern Most Patch on South End	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 1.5 % **Comment:** Heat Sensitive (organic): 72.5%; Acid Soluble (inorganic): 26.0%; Inert (Non-asbestos): 1.5%			
18165-13-103 52	118101276-103 **Location:** Gray-Black Tar on Flashing ; Roof - East End of SW Roof - NE Corner	***Yes***	11.1 % (by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 11.1 % **Other Material:** Non-fibrous 5.6 % **Comment:** Heat Sensitive (organic): 79.5%; Acid Soluble (inorganic): 3.8%; Inert (Non-asbestos): 5.6%			
18165-13-104 52	118101276-104 **Location:** Gray-Black Tar on Flashing ; Roof - East End of SW Roof - NE Corner		NA/PS
Analyst Description: Bulk Material **Asbestos Types:** **Other Material:** **Comment:** Heat Sensitive (organic): 78.3%; Acid Soluble (inorganic): 4.0%; Inert (Non-asbestos): 17.7%			

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-105 53	118101276-105 **Location:** Tar on Metal Parapet Cap; Roof - North-South Wing, South end	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 5.2 % **Comment:** Heat Sensitive (organic): 93.9%; Acid Soluble (inorganic): 0.9%; Inert (Non-asbestos): 5.2%			
18165-13-106 53	118101276-106 **Location:** Tar on Metal Parapet Cap; Roof - North-South Wing at Peak	***Yes***	4.4 % (by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** Chrysotile 4.4 % **Other Material:** Non-fibrous 12.1 % **Comment:** Heat Sensitive (organic): 80.1%; Acid Soluble (inorganic): 3.4%; Inert (Non-asbestos): 12.1%			
18165-13-107 54	118101276-107 **Location:** Black Caulk on Screw Heads; Roof - SW Roof, SW Corner	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/11/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.1 % **Comment:** Heat Sensitive (organic): 99.6%; Acid Soluble (inorganic): 0.3%; Inert (Non-asbestos): 0.1%			
18165-13-108 54	118101276-108 **Location:** Black Caulk on Screw Heads; Roof - SW Roof, SE Corner	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 0.5 % **Comment:** Heat Sensitive (organic): 99.3%; Acid Soluble (inorganic): 0.2%; Inert (Non-asbestos): 0.5%			
18165-13-109 55	118101276-109 **Location:** Tar and Rubber Patch ; Roof - Far West Parapet on SW Roof	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 1.6 % **Comment:** Heat Sensitive (organic): 77.6%; Acid Soluble (inorganic): 20.8%; Inert (Non-asbestos): 1.6%			

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PLM Bulk Asbestos Report

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-110	118101276-110	*No*	NAD
55	**Location:** Tar and Rubber Patch ; Roof - Far West Parapet on SW Roof		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 1.9 %			
Comment: Heat Sensitive (organic): 76.9%; Acid Soluble (inorganic): 21.3%; Inert (Non-asbestos): 1.9%			
18165-13-111	118101276-111	*Yes*	4.3 %
56	**Location:** Gray-Black Tar at the Base of AHU; Roof - SW Metal Roof		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Chrysotile 4.3 %			
Other Material: Non-fibrous 8.7 %			
Comment: Heat Sensitive (organic): 71.9%; Acid Soluble (inorganic): 15.1%; Inert (Non-asbestos): 8.7%			
18165-13-112	118101276-112		NA/PS
56	**Location:** Gray-Black Tar at the Base of AHU; Roof - SW Roof, NE Corner		
Analyst Description: Bulk Material			
Asbestos Types:			
Other Material:			
Comment: Heat Sensitive (organic): 78.0%; Acid Soluble (inorganic): 7.6%; Inert (Non-asbestos): 14.4%			
18165-13-113	118101276-113	*No*	NAD
57	**Location:** Black Tar on Concrete Parapet - 2" Seam; Roof - North-South Wing, West Parapet		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 11.7 %			
Comment: Heat Sensitive (organic): 85.2%; Acid Soluble (inorganic): 3.1%; Inert (Non-asbestos): 11.7%			
18165-13-114	118101276-114	*No*	NAD
57	**Location:** Black Tar on Concrete Parapet - 2" Seam; Roof - NW Corner at Bend to East Roof		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 13.1 %			
Comment: Heat Sensitive (organic): 58.0%; Acid Soluble (inorganic): 28.9%; Inert (Non-asbestos): 13.1%			

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PLM Bulk Asbestos Report

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Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-115 58	118101276-115 **Location:** Window Frame Caulk ; Exterior - North Wall, Center Window	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 9.8 % **Comment:** Heat Sensitive (organic): 63.7%; Acid Soluble (inorganic): 26.4%; Inert (Non-asbestos): 9.8%			
18165-13-116 58	118101276-116 **Location:** Window Frame Caulk ; Exterior - West Side, Center - North	***No***	NAD (by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 14.9 % **Comment:** Heat Sensitive (organic): 34.8%; Acid Soluble (inorganic): 50.2%; Inert (Non-asbestos): 14.9%			
18165-13-117 59	118101276-117 **Location:** Stucco; Exterior - West Side, Center - North	***No***	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Multi-Colored, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 5 %, Non-fibrous 95 %			
18165-13-118 59	118101276-118 **Location:** Stucco; Exterior - West Side, Center - South	***No***	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Multi-Colored, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			
18165-13-119 59	118101276-119 **Location:** Stucco; Exterior - West Side, Center - North	***No***	NAD (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Multi-Colored, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 100 %			

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PLM Bulk Asbestos Report

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-120	118101276-120	*No*	NAD
59	**Location:** Stucco; Exterior - West Side, Far SW at Coffee Shop		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Multi-Colored, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Fibrous glass 10 %, Non-fibrous 90 %			
18165-13-121	118101276-121	*No*	NAD
59	**Location:** Stucco; Exterior - SW Corner of Coffee Shop at South Wall Corner		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Multi-Colored, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Fibrous glass 5 %, Non-fibrous 95 %			
18165-13-122	118101276-122	*No*	NAD
60	**Location:** Door Frame Caulk; Exterior - North Door Center		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: White/Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 36.3 %			
Comment: Heat Sensitive (organic): 21.4%; Acid Soluble (inorganic): 42.4%; Inert (Non-asbestos): 36.3%			
18165-13-123	118101276-123	*No*	NAD
60	**Location:** Door Frame Caulk; Exterior - North Side, Center		(by NYS ELAP 198.6) by Donna M. Blackwell on 10/10/18
Analyst Description: White/Black, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Non-fibrous 20.2 %			
Comment: Heat Sensitive (organic): 22.0%; Acid Soluble (inorganic): 57.8%; Inert (Non-asbestos): 20.2%			
18165-13-124	118101276-124	*No*	NAD [1]
61	**Location:** Spray-On Fireproofing; NW Lobby - on Beam Near Ceiling, Above Ceiling Tiles		(by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material			
Asbestos Types:			
Other Material: Fibrous glass 80 %, Non-fibrous 20 %			

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PLM Bulk Asbestos Report

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-125 61	118101276-125 **Location:** Spray-On Fireproofing; 2nd Floor - Column, Center, West	***No***	NAD [1] (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 80 %, Non-fibrous 20 %			
18165-13-126 61	118101276-126 **Location:** Spray-On Fireproofing; 2nd Floor - Column, Center, East	***No***	NAD [1] (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 80 %, Non-fibrous 20 %			
18165-13-127 61	118101276-127 **Location:** Spray-On Fireproofing; 2nd Floor - Beam at Ceiling, East Wall	***No***	NAD [1] (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 80 %, Non-fibrous 20 %			
18165-13-128 61	118101276-128 **Location:** Spray-On Fireproofing; 1st Floor - Valve Room Behind Kitchen, NE	***No***	NAD [1] (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 80 %, Non-fibrous 20 %			
18165-13-129 61	118101276-129 **Location:** Spray-On Fireproofing; Theater - on Beams Above Suspended Ceiling Tiles	***No***	NAD [1] (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 80 %, Non-fibrous 20 %			
18165-13-130 61	118101276-130 **Location:** Spray-on Fireproofing; 1st Floor - SE Miniature Golf, on Column	***No***	NAD [1] (by NYS ELAP 198.1) by Jean L. Mayes on 10/11/18
Analyst Description: Gray, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Fibrous glass 80 %, Non-fibrous 20 %			

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PLM Bulk Asbestos Report

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

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Reporting Notes:

(1) Vermiculite was not detected during analysis.

Analyzed by: Jean L. Mayes Date: 10/11/2018 Reviewed by:

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). This PLM report relates ONLY to the items tested.

Client Name: Watts Architecture & Engineers

Table I

Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	18165-13-01	1	0.480	16.0	81.1	2.9	NAD	NAD
Location:	12" x 12 " Beige Floor Tile; NW Lobby							
02	18165-13-02	1	0.359	14.7	83.2	2.2	NAD	NAD
Location:	12" x 12 " Beige Floor Tile; West Entrance to Buffet							
03	18165-13-03	2	0.295	50.0	39.3	10.8	NAD	NAD
Location:	Mastic Associated with 12" x 12" Beige Floor Tile; NW Lobby							
04	18165-13-04	2	0.210	24.5	62.2	13.3	NAD	NAD
Location:	Mastic Associated with 12" x 12" Beige Floor Tile; West Entrance to Buffet							
05	18165-13-05	3	0.455	21.9	45.1	33.0	NAD	NAD
Location:	Lower Layer 12" x 12" Tan Floor Tiles, Beneath Beige and Purple; NW Lobby							
06	18165-13-06	3	0.219	20.9	48.8	30.3	NAD	NAD
Location:	Lower Layer 12" x 12" Tan Floor Tiles, Beneath Beige and Purple; NW Lobby							
07	18165-13-07	4	0.324	20.3	70.5	9.2	NAD	NAD
Location:	Mastic Associated with Lower Layer 12" x 12" ; NW Lobby							
08	18165-13-08	4	0.300	21.9	68.4	9.7	NAD	NAD
Location:	Mastic Associated with Lower Layer 12" x 12" ; West Lobby							
09	18165-13-09	5	----	----	----	----	NAD	NA
Location:	Leveling Compound Beneath Top Layers 12" x 12" Beige and Tan Tiles; NW Lobby							
10	18165-13-10	5	----	----	----	----	NAD	NA
Location:	Leveling Compound Beneath Top Layers 12" x 12" Beige and Tan Tiles; NW Lobby							
11	18165-13-11	6	0.367	23.2	46.3	30.5	NAD	NAD
Location:	12" x 12" Floor Tile - Beige Rainbow Multi-color with Streaks; NW Vestibule							
12	18165-13-12	6	0.410	22.9	48.6	28.5	NAD	NAD
Location:	12" x 12" Floor Tile - Beige Rainbow Multi-color with Streaks; East Side Loading Area Behind Kitchen							
13	18165-13-13	7	0.184	62.9	21.5	15.5	NAD	NAD
Location:	Mastic Associated with 12" x 12" Beige Floor Tiles with Rainbow; NW Vestibule							
14	18165-13-14	7	0.463	39.4	47.3	13.3	NAD	NAD
Location:	Mastic Associated with 12" x 12" Beige Floor Tiles with Rainbow; East Side Loading Area Behind Kitchen							
15	18165-13-15	8	0.423	21.3	62.0	16.7	NAD	NAD
Location:	12" x 12" Purple Floor Tile; NW Reception Room by NW Lobby							
16	18165-13-16	8	0.302	19.3	66.6	14.1	NAD	NAD
Location:	12" x 12" Purple Floor Tile; Reception Room to Toilets							

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Table I
Summary of Bulk Asbestos Analysis Results
18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
17	18165-13-17	9	0.158	81.3	13.0	5.7	NAD	NAD
Location:	Mastic Associated with 12" x 12" Floor Tiles; Reception Room off NW Lobby							
18	18165-13-18	9	0.195	60.3	31.8	7.8	NAD	NAD
Location:	Mastic Associated with 12" x 12" Floor Tiles; Reception Room off NW Lobby							
19	18165-13-19	10	0.357	40.5	3.2	56.3	NAD	NAD
Location:	4" Black Cove Base; NW Lobby							
20	18165-13-20	10	0.291	39.6	4.1	56.3	NAD	NAD
Location:	4" Black Cove Base; NW Offices West of Buffet							
21	18165-13-21	11	0.466	33.4	51.0	15.6	NAD	NAD
Location:	Mastic Associated with 4" Cove Base; NW Lobby							
22	18165-13-22	11	0.675	33.1	56.5	10.4	NAD	NAD
Location:	Mastic Associated with 4" Cove Base; NW Offices West of Buffet							
23	18165-13-23	12	----	----	----	----	NAD	NA
Location:	Drywall Ceiling; NW Lobby							
24	18165-13-24	12	----	----	----	----	NAD	NA
Location:	Drywall Ceiling; NW Corridor Past Offices to Buffet							
25	18165-13-25	13	----	----	----	----	NAD	NA
Location:	Joint Compound on Ceiling; NW Lobby							
26	18165-13-26	13	----	----	----	----	NAD	NA
Location:	Joint Compound on Ceiling; NW Corridor Past Offices to Buffet							
27	18165-13-27	14	----	----	----	----	NAD	NA
Location:	Paper Tape Beneath Joint Compound on Ceiling; NW Lobby							
28	18165-13-28	14	----	----	----	----	NAD	NA
Location:	Paper Tape Beneath Joint Compound on Ceiling; NW Corridor Past Offices to Buffet							
29	18165-13-29	15	0.314	90.5	9.4	0.1	NAD	NAD
Location:	Door and Window Glazing Compound on Store Front Style Entrance; NW Vestibule							
30	18165-13-30	15	0.291	88.2	11.7	0.1	NAD	NAD
Location:	Door and Window Glazing Compound on Store Front Style Entrance; North Wall Center Entrance to Dining Area							
31	18165-13-31	16	0.536	64.0	28.2	7.8	NAD	NAD
Location:	Store Front Style Exterior Metal Door Frame Caulk; NW Vestibule							
32	18165-13-32	16	0.433	51.7	45.1	3.3	NAD	NAD
Location:	Store Front Style Exterior Metal Door Frame Caulk; North Wall Center to Dining							

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Table I

Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
33	18165-13-33	17	0.201	14.1	52.9	33.0	NAD	NAD
Location:	2' x 2' Rough Finish Ceiling Tile ; Office South of NW Lobby							
34	18165-13-34	17	0.268	13.8	51.7	34.5	NAD	NAD
Location:	2' x 2' Rough Finish Ceiling Tile ; NW Offices West of Buffet							
35	18165-13-35	18	0.475	52.8	12.1	35.1	NAD	NAD
Location:	Carpet Adhesive on Concrete; Office South of NW Lobby							
36	18165-13-36	18	0.466	55.5	8.8	35.7	NAD	NAD
Location:	Carpet Adhesive on Concrete; NW Offices West of Buffet							
37	18165-13-37	19	----	----	----	----	NAD	NA
Location:	Grout Associated with 4" Ceramic Wall Tiles; Men's Toilet - NW Area							
38	18165-13-38	19	----	----	----	----	NAD	NA
Location:	Grout Associated with 4" Ceramic Wall Tiles; NW Toilets							
39	18165-13-39	20	0.341	35.4	55.1	9.5	NAD	NAD
Location:	Thin Set Associated with 4" Ceramic Wall Tiles; Men's Toilet - NW Area							
40	18165-13-40	20	0.461	40.8	48.5	10.7	NAD	NAD
Location:	Thin Set Associated with 4" Ceramic Wall Tiles; Women's Toilet - NW Area							
41	18165-13-41	21	----	----	----	----	NAD	NA
Location:	Grout Associated with 8" x 8" Gray Ceramic Floor Tiles; Men's Toilet - NW Area							
42	18165-13-42	21	----	----	----	----	NAD	NA
Location:	Grout Associated with 8" x 8" Gray Ceramic Floor Tiles; Women's Toilet - NW Area							
43	18165-13-43	22	----	----	----	----	NAD	NA
Location:	Set Coat Associated with 8" x 8" Gray Ceramic Floor Tiles; Men's Toilet - NW Area							
44	18165-13-44	22	----	----	----	----	NAD	NA
Location:	Set Coat Associated with 8" x 8" Gray Ceramic Floor Tiles; Women's Toilet - NW Area							
45	18165-13-45	23	0.291	72.8	3.7	23.5	NAD	NAD
Location:	Bathroom Caulk; Men's Toilet - NW Area perimeter of sink							
46	18165-13-46	23	0.298	63.9	12.6	23.5	NAD	NAD
Location:	Bathroom Caulk; Women's Toilet - NW Area perimeter of toilet							
47	18165-13-47	24	0.255	21.7	38.7	39.6	NAD	NAD
Location:	2' x 4' Pinhole and Slot Pattern Ceiling Tile; NW Offices							
48	18165-13-48	24	0.162	22.1	37.9	40.0	NAD	NAD
Location:	2' x 4' Pinhole and Slot Pattern Ceiling Tile; NW Offices							

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Table I
Summary of Bulk Asbestos Analysis Results
18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
49	18165-13-49	25	0.333	15.4	35.9	48.7	NAD	NAD
Location:	2' x 4' Ceiling Tiles with Faux 2' x 2' Pattern; SW of Store - Smokin' Joe's Coffee House Ceiling							
50	18165-13-50	25	0.230	14.8	34.6	50.5	NAD	NAD
Location:	2' x 4' Ceiling Tiles with Faux 2' x 2' Pattern; SW of Store - Smokin' Joe's Coffee House Ceiling							
51	18165-13-51	26	0.422	17.3	49.0	33.7	NAD	NAD
Location:	2' x 2' Hard Suspended Ceiling Tile; NE Buffet Room at North Wall							
52	18165-13-52	26	0.213	13.3	55.2	31.5	NAD	NAD
Location:	2' x 2' Hard Suspended Ceiling Tile; NE Buffet Room - East Area by Kitchen							
53	18165-13-53	27	0.369	90.5	9.3	0.1	NAD	NAD
Location:	Window Glazing Compound; NE Buffet Room - North Wall Center							
54	18165-13-54	27	0.211	91.0	8.7	0.3	NAD	NAD
Location:	Window Glazing Compound; NW Office, West of Dining Area - North Wall							
55	18165-13-55	28	0.575	58.2	5.3	36.4	NAD	NAD
Location:	Yellow Epoxy Coating on Concrete Floor; NE Buffet Room - NE Corner							
56	18165-13-56	28	0.510	54.6	8.3	37.1	NAD	NAD
Location:	Yellow Epoxy Coating on Concrete Floor; Buffet Room by Theater - NE							
57	18165-13-57	29	0.307	38.1	5.4	56.6	NAD	NAD
Location:	4" Black Cove Base; Buffet Area - NE Corner							
58	18165-13-58	29	0.340	47.0	52.1	0.9	NAD	NAD
Location:	4" Black Cove Base; Buffet Area - Behind Bar							
59	18165-13-59	30	0.761	35.1	35.0	29.9	NAD	NAD
Location:	Mastic Associated with 4" Black Cove Base; Buffet Area - NE Corner							
60	18165-13-60	30	0.462	45.6	42.4	11.9	NAD	NAD
Location:	Mastic Associated with 4" Black Cove Base; Buffet Area - Behind Bar							
61	18165-13-61	31	0.248	92.4	5.4	2.2	NAD	NAD
Location:	Gasket at Water Supply Line; Water Main Shut Off Room - NE							
62	18165-13-62	31	0.345	93.4	3.7	2.9	NAD	NAD
Location:	Gasket at Water Supply Line; Water Main Shut Off Room - NE							
63	18165-13-63	32	0.417	93.3	3.6	3.0	NAD	NAD
Location:	Gasket in Flange - Water Supply Line; Water Main Shut Off Room - NE							
64	18165-13-64	32	0.419	93.3	4.0	2.7	NAD	NAD
Location:	Gasket in Flange - Water Supply Line; Water Main Shut Off Room - NE							

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Table I
Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
65	18165-13-65	33	0.694	42.7	2.5	54.7	NAD	NAD
Location:	Butt End Sealant on Water Shut Off Valve; Water Main Shut Off Room							
66	18165-13-66	33	0.528	42.3	2.5	55.2	NAD	NAD
Location:	Butt End Sealant on Water Shut Off Valve; Water Main Shut Off Room - NE							
67	18165-13-67	34	----	----	----	----	NAD	NA
Location:	Drywall; Buffet Area - Electrical Room Wall							
68	18165-13-68	34	----	----	----	----	NAD	NA
Location:	Drywall; Buffet Area - East Wall							
69	18165-13-69	35	----	----	----	----	NAD	NA
Location:	Joint Compound ; Buffet Area - Electrical Room Wall							
70	18165-13-70	35	----	----	----	----	NAD	NA
Location:	Joint Compound ; Buffet Area - East Wall							
71	18165-13-71	36	----	----	----	----	NAD	NA
Location:	Paper Tape Beneath Joint Compound ; Buffet Area - Electrical Room Wall							
72	18165-13-72	36	----	----	----	----	NAD	NA
Location:	Paper Tape Beneath Joint Compound ; Buffet Area - East Wall							
73	18165-13-73	37	0.367	30.5	54.6	14.9	NAD	NAD
Location:	Panel Adhesive on Drywall; Buffet Area, South Corridor - West Wall							
74	18165-13-74	37	0.295	41.9	44.9	13.2	NAD	NAD
Location:	Panel Adhesive on Drywall; Buffet Area, South Corridor - West Wall							
75	18165-13-75	38	0.294	17.4	48.6	34.0	NAD	NAD
Location:	2' x 2' Hard Ceiling Tile; Theater - Above Stage							
76	18165-13-76	38	0.359	17.4	53.2	29.4	NAD	NAD
Location:	2' x 2' Hard Ceiling Tile; Theater - East Arch							
77	18165-13-77	39	----	----	----	----	NAD	NA
Location:	Drywall; Theater, Stage Area - East Wall							
78	18165-13-78	39	----	----	----	----	NAD	NA
Location:	Drywall; Theater, NE Area - East Wall							
79	18165-13-79	40	----	----	----	----	NAD	NA
Location:	Joint Compound; Theater, Stage Area - East Wall							
80	18165-13-80	40	----	----	----	----	NAD	NA
Location:	Joint Compound; Theater, NE Area - East Wall							

See Reporting notes on last page

Table I

Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
81	18165-13-81	41	0.748	41.2	36.8	22.0	NAD	NAD
Location:	Carpet Adhesive on Concrete; Theater, South Stage - SE Area							
82	18165-13-82	41	0.221	56.2	13.2	30.6	NAD	NAD
Location:	Carpet Adhesive on Concrete; Theater, South Stage - SW Area							
83	18165-13-83	42	0.313	54.0	38.3	7.7	NAD	NAD
Location:	Gray Flange Sealant; 2nd Floor - NE Vertical Duct on NE HVAC Duct on Floor							
84	18165-13-84	42	0.419	54.2	38.0	7.8	NAD	NAD
Location:	Gray Flange Sealant; 2nd Floor - NW Vertical Duct on Bare Sheet Metal Duct							
85	18165-13-85	43	0.152	87.8	-0.1	12.2	NAD	NAD
Location:	Store Front Style Window Glazing Compound; 2nd Floor - West Wall, Center Window							
86	18165-13-86	43	0.189	87.8	0.5	11.7	NAD	NAD
Location:	Store Front Style Window Glazing Compound; 2nd Floor - South Center Window							
87	18165-13-87	44	----	----	----	----	NAD	NA
Location:	Joint Compound; 2nd Floor - West Wall (Damaged Area) by Window							
88	18165-13-88	44	----	----	----	----	NAD	NA
Location:	Joint Compound; 2nd Floor - South Wall at Window Well							
89	18165-13-89	45	----	----	----	----	NAD	NA
Location:	Paper Tape Beneath Joint Compoud; 2nd Floor - South Wall, Center Window							
90	18165-13-90	45	----	----	----	----	NAD	NA
Location:	Paper Tape Beneath Joint Compoud; 2nd Floor - West Wall, Below Window							
91	18165-13-91	46	----	----	----	----	NAD	NA
Location:	Drywall; 2nd Floor - West Wall (Damaged Area) by Window							
92	18165-13-92	46	----	----	----	----	NAD	NA
Location:	Drywall; 2nd Floor - South Wall, Center							
93	18165-13-93	47	0.338	77.9	19.7	2.4	NAD	NAD
Location:	Roof Tar Sealant Beneath Metal Foil on Metal Deck; Roof - North-South Wing, Center, West of Hatch							
94	18165-13-94	47	0.440	79.4	18.9	1.7	NAD	NAD
Location:	Roof Tar Sealant Beneath Metal Foil on Metal Deck; Roof - East-West Wing, Center Roof							
95	18165-13-95	48	0.339	79.2	3.0	3.6	Chrysotile 14.2	NA
Location:	Black Tar at Base of Round Vent Support Base; Roof - North-South Wing, East Center Vent							
96	18165-13-96	48	0.232	71.9	20.2	7.9	NA/PS	NA
Location:	Black Tar at Base of Round Vent Support Base; Roof - NE Corner							

See Reporting notes on last page

Table I
Summary of Bulk Asbestos Analysis Results
18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
97	18165-13-97	49	0.278	52.8	37.8	9.4	NAD	NAD
Location:	Brown Tar Patch on Screw Heads of Roof Peak; Roof - North-SouthWing, South Portion							
98	18165-13-98	49	0.327	62.8	28.0	9.1	NAD	NAD
Location:	Brown Tar Patch on Screw Heads of Roof Peak; Roof - South end of North-South Roof							
99	18165-13-99	50	0.378	77.8	3.5	10.4	Chrysotile 8.3	NA
Location:	Gray-Black Tar Patch on Base of Copper Vent on Metal Roof; Roof - South Portion of North-South Rear Part							
100	18165-13-100	50	0.295	76.1	6.7	17.2	NA/PS	NA
Location:	Gray-Black Tar Patch on Base of Copper Vent on Metal Roof; Roof - Near Peak of South end							
101	18165-13-101	51	0.289	73.9	24.8	1.2	NAD	Chrysotile Trace
Location:	Tar and Rubber Patch - 12" x 12"; Roof - West Side of Far South Roof							
102	18165-13-102	51	0.418	72.5	26.0	1.4	NAD	Chrysotile Trace
Location:	Tar and Rubber Patch - 12" x 12"; Roof - Northern Most Patch on South End							
103	18165-13-103	52	0.330	79.5	3.8	5.6	Chrysotile 11.1	NA
Location:	Gray-Black Tar on Flashing ; Roof - East End of SW Roof - NE Corner							
104	18165-13-104	52	0.280	78.3	4.0	17.7	NA/PS	NA
Location:	Gray-Black Tar on Flashing ; Roof - East End of SW Roof - NE Corner							
105	18165-13-105	53	0.335	93.9	0.9	5.2	NAD	NA
Location:	Tar on Metal Parapet Cap; Roof - North-South Wing, South end							
106	18165-13-106	53	0.269	80.1	3.4	12.1	Chrysotile 4.4	NA
Location:	Tar on Metal Parapet Cap; Roof - North-South Wing at Peak							
107	18165-13-107	54	0.308	99.6	0.3	0.1	NAD	NAD
Location:	Black Caulk on Screw Heads; Roof - SW Roof, SW Corner							
108	18165-13-108	54	0.242	99.3	0.2	0.5	NAD	NAD
Location:	Black Caulk on Screw Heads; Roof - SW Roof, SE Corner							
109	18165-13-109	55	0.246	77.6	20.8	1.6	NAD	NAD
Location:	Tar and Rubber Patch ; Roof - Far West Parapet on SW Roof							
110	18165-13-110	55	0.279	76.9	21.3	1.9	NAD	NAD
Location:	Tar and Rubber Patch ; Roof - Far West Parapet on SW Roof							
111	18165-13-111	56	0.338	71.9	15.1	8.7	Chrysotile 4.3	NA
Location:	Gray-Black Tar at the Base of AHU; Roof - SW Metal Roof							
112	18165-13-112	56	0.538	78.0	7.6	14.4	NA/PS	NA
Location:	Gray-Black Tar at the Base of AHU; Roof - SW Roof, NE Corner							

See Reporting notes on last page

Table I

Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
113	18165-13-113	57	0.331	85.2	3.1	11.7	NAD	NAD
Location:	Black Tar on Concrete Parapet - 2" Seam; Roof - North-South Wing, West Parapet							
114	18165-13-114	57	0.513	58.0	28.9	13.1	NAD	NAD
Location:	Black Tar on Concrete Parapet - 2" Seam; Roof - NW Corner at Bend to East Roof							
115	18165-13-115	58	0.411	63.7	26.4	9.8	NAD	NAD
Location:	Window Frame Caulk ; Exterior - North Wall, Center Window							
116	18165-13-116	58	0.340	34.8	50.2	14.9	NAD	NAD
Location:	Window Frame Caulk ; Exterior - West Side, Center - North							
117	18165-13-117	59	----	----	----	----	NAD	NA
Location:	Stucco; Exterior - West Side, Center - North							
118	18165-13-118	59	----	----	----	----	NAD	NA
Location:	Stucco; Exterior - West Side, Center - South							
119	18165-13-119	59	----	----	----	----	NAD	NA
Location:	Stucco; Exterior - West Side, Center - North							
120	18165-13-120	59	----	----	----	----	NAD	NA
Location:	Stucco; Exterior - West Side, Far SW at Coffee Shop							
121	18165-13-121	59	----	----	----	----	NAD	NA
Location:	Stucco; Exterior - SW Corner of Coffee Shop at South Wall Corner							
122	18165-13-122	60	0.863	21.4	42.4	36.3	NAD	NAD
Location:	Door Frame Caulk; Exterior - North Door Center							
123	18165-13-123	60	0.606	22.0	57.8	20.2	NAD	NAD
Location:	Door Frame Caulk; Exterior - North Side, Center							
124	18165-13-124	61	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; NW Lobby - on Beam Near Ceiling, Above Ceiling Tiles							
125	18165-13-125	61	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; 2nd Floor - Column, Center, West							
126	18165-13-126	61	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; 2nd Floor - Column, Center, East							
127	18165-13-127	61	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; 2nd Floor - Beam at Ceiling, East Wall							
128	18165-13-128	61	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; 1st Floor - Valve Room Behind Kitchen, NE							

See Reporting notes on last page

Table I

Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
129	18165-13-129	61	----	----	----	----	NAD	NA
Location:	Spray-On Fireproofing; Theater - on Beams Above Suspended Ceiling Tiles							
130	18165-13-130	61	----	----	----	----	NAD	NA
Location:	Spray-on Fireproofing; 1st Floor - SE Miniature Golf, on Column							

TEM Analyzed By: T. Brian Keith_____ Date Analyzed: 10/12/2018 Reviewed By: _____ Date Reviewed: 10/12/2018

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%;
PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984);
TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984);

** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

118101276

Client: USA Niagara Development Corporation
Date: Thurs 10/04/2018
Project: Niagara Falls Due Diligence Reports - Downtown Properties
Watts Project No.: 18165
Building / Location: 333 1st St./217 Old Falls St. Smokin' Joe's Native Center
Contact: Edward J. Jones at (716) 206-5142
Preliminary Results to: ejones@watts-ae.com
Mail Report & Invoice to: Watts Architecture & Engineering, 95 Perry Street, Buffalo, NY 14203

Analysis Requested:
198.1 x 198.6 x 198.4 x

Turnaround Requested:

3 Hr.	48 Hr.
6 Hr.	72 Hr.
12 Hr.	4 Day
24 Hr.	X 5 Day
	7 Day

	Homogeneous Material Description		Sample Location	Laboratory Use PLM	Laboratory Use TEM
18165-13-01	12" x 12 " Beige Floor Tile	1	NW Lobby		
18165-13-02	12" x 12 " Beige Floor Tile	1	West Entrance to Buffet		
18165-13-03	Mastic Associated with 12" x 12" Beige Floor Tile	2	NW Lobby		
18165-13-04	Mastic Associated with 12" x 12" Beige Floor Tile	2	West Entrance to Buffet		
18165-13-05	Lowe Layer 12" x 12" Tan Floor Tiles, Beneath Beige and Purple	3	NW Lobby		
18165-13-06	Lowe Layer 12" x 12" Tan Floor Tiles, Beneath Beige and Purple	3	NW Lobby		
18165-13-07	Mastic Associated with Lower Layer 12" x 12"	4	NW Lobby		
18165-13-08	Mastic Associated with Lower Layer 12" x 12"	4	West Lobby		
18165-13-09	Leveling Compound Beneath Top Layers 12" x 12" Beige and Tan Tiles	5	NW Lobby		
18165-13-10	Leveling Compound Beneath Top Layers 12" x 12" Beige and Tan Tiles	5	NW Lobby		
18165-13-11	12" x 12" Floor Tile - Beige Rainbow Multi-color with Streaks	6	NW Vestibule		
18165-13-12	12" x 12" Floor Tile - Beige Rainbow Multi-color with Streaks	6	East Side Loading Area Behind Kitchen		
18165-13-13	Mastic Associated with 12" x 12" Beige Floor Tiles with Rainbow	7	NW Vestibule		
18165-13-14	Mastic Associated with 12" x 12" Beige Floor Tiles with Rainbow	7	East Side Loading Area Behind Kitchen		
18165-13-15	12" x 12" Purple Floor Tile	8	NW Reception Room by NW Lobby		
18165-13-16	12" x 12" Purple Floor Tile	8	Reception Room to Toilets		
18165-13-17	Mastic Associated with 12" x 12" Floor Tiles	9	Reception Room off NW Lobby		
18165-13-18	Mastic Associated with 12" x 12" Floor Tiles	9	Reception Room off NW Lobby		

Sampled By: Edward J Jones **Date:** 10/04/18 **Received By:** _____ **Date:** _____

Relinquished By: Edward J Jones **Date:** 10/05/18 16:30 **Received By:** _____ **Date:** _____

Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group.
If Vermiculite is detected , cease analysis on that sample and contact the Watts Project Manager for further instructions.

RECEIVED
OCT 08 2018
By

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

118101276

Client: USA Niagara Development Corporation **Date:** Thurs 10/04/2018

Project: Niagara Falls Due Diligence Reports - Downtown Properties **Watts Project No.:** 18165

Building / Location: 333 1st St./217 Old Falls St. Smokin' Joe's Native Center

Contact: Edward J. Jones **at (716) 206-5142**

Preliminary Results to: ejones@watts-ae.com

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95 Perry Street, Buffalo, NY 14203

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24 Hr.	X 5 Day
	7 Day

18165-13-19	4" Black Cove Base	10	NW Lobby		
18165-13-20	4" Black Cove Base	10	NW Offices West of Buffet		
18165-13-21	Mastic Associated with 4" Cove Base	11	NW Lobby		
18165-13-22	Mastic Associated with 4" Cove Base	11	NW Offices West of Buffet		
18165-13-23	Drywall Ceiling	12	NW Lobby		
18165-13-24	Drywall Ceiling	12	NW Corridor Past Offices to Buffet		
18165-13-25	Joint Compound on Ceiling	13	NW Lobby		
18165-13-26	Joint Compound on Ceiling	13	NW Corridor Past Offices to Buffet		
18165-13-27	Paper Tape Beneath Joint Compound on Ceiling	14	NW Lobby		
18165-13-28	Paper Tape Beneath Joint Compound on Ceiling	14	NW Corridor Past Offices to Buffet		
18165-13-29	Door and Window Glazing Compound on Store Front Style Entrance	15	NW Vestibule		
18165-13-30	Door and Window Glazing Compound on Store Front Style Entrance	15	North Wall Center Entrance to Dining Area		
18165-13-31	Store Front Style Exterior Metal Door Frame Caulk	16	NW Vestibule		
18165-13-32	Store Front Style Exterior Metal Door Frame Caulk	16	North Wall Center to Dining		
18165-13-33	2' x 2' Rough Finish Ceiling Tile	17	Office South of NW Lobby		
18165-13-34	2' x 2' Rough Finish Ceiling Tile	17	NW Offices West of Buffet		
18165-13-35	Carpet Adhesive on Concrete	18	Office South of NW Lobby		
18165-13-36	Carpet Adhesive on Concrete	18	NW Offices West of Buffet		

Sampled By: Edward J Jones **Date:** 10/04/18 **Received By:** _____ **Date:** _____

Relinquished By: Edward J Jones **Date:** 10/05/18 1630 **Received By:** _____ **Date:** RECEIVED

OCT 08 2018

BY

Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group.

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118101276

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

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___ 6 Hr. ___ 72 Hr.
___ 12 Hr. ___ 4 Day
___ 24 Hr. X 5 Day
7 Day

18165-13-37	Grout Associated with 4" Ceramic Wall Tiles	19	Men's Toilet - NW Area		
18165-13-38	Grout Associated with 4" Ceramic Wall Tiles	19	NW Toilets		
18165-13-39	Thin Set Associated with 4" Ceramic Wall Tiles	20	Men's Toilet - NW Area		
18165-13-40	Thin Set Associated with 4" Ceramic Wall Tiles	20	Women's Toilet - NW Area		
18165-13-41	Grout Associated with 8" x 8" Gray Ceramic Floor Tiles	21	Men's Toilet - NW Area		
18165-13-42	Grout Associated with 8" x 8" Gray Ceramic Floor Tiles	21	Women's Toilet - NW Area		
18165-13-43	Set Coat Associated with 8" x 8" Gray Ceramic Floor Tiles	22	Men's Toilet - NW Area		
18165-13-44	Set Coat Associated with 8" x 8" Gray Ceramic Floor Tiles	22	Women's Toilet - NW Area		
18165-13-45	Bathroom Caulk	23	Men's Toilet - NW Area perimeter of sink		
18165-13-46	Bathroom Caulk	23	Women's Toilet - NW Area perimeter of toilet		
18165-13-47	2' x 4' Pinhole and Slot Pattern Ceiling Tile	24	NW Offices		
18165-13-48	2' x 4' Pinhole and Slot Pattern Ceiling Tile	24	NW Offices		
18165-13-49	2' x 4' Ceiling Tiles with Faux 2' x 2' Pattern	25	SW of Store - Smokin' Joe's Coffee House Ceiling		
18165-13-50	2' x 4' Ceiling Tiles with Faux 2' x 2' Pattern	25	SW of Store - Smokin' Joe's Coffee House Ceiling		
18165-13-51	2' x 2' Hard Suspended Ceiling Tile	26	NE Buffet Room at North Wall		
18165-13-52	2' x 2' Hard Suspended Ceiling Tile	26	NE Buffet Room - East Area by Kitchen		
18165-13-53	Window Glazing Compound	27	NE Buffet Room - North Wall Center		
18165-13-54	Window Glazing Compound	27	NW Office, West of Dining Area - North Wall		

Sampled By: Edward J. Jones **Date:** 10/04/18 **Received By:** _____ **Date:** _____
Relinquished By: Edward J. Jones **Date:** 10/05/18 1630 **Received By:** _____ **Date:** RECEIVED

Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group.

OCT 08 2018
BY

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

118101276 **Page:** 4 **of** 7

Client: USA Niagara Development Corporation **Date:** Thurs 10/04/2018
Project: Niagara Falls Due Diligence Reports - Downtown Properties **Watts Project No.:** 18165
Building / Location: 333 1st St./217 Old Falls St. Smokin' Joe's Native Center
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95 Perry Street, Buffalo, NY 14203

Analysis Requested:
198.1 x **198.6** x **198.4** x

Turnaround Requested:
___ **3 Hr.** ___ **48 Hr.**
___ **6 Hr.** ___ **72 Hr.**
___ **12 Hr.** ___ **4 Day**
___ **24 Hr.** X **5 Day**
7 Day

18165-13-55	Yellow Epoxy Coating on Concrete Floor	28	NE Buffet Room - NE Corner		
18165-13-56	Yellow Epoxy Coating on Concrete Floor	28	Buffet Room by Theater - NE		
18165-13-57	4" Black Cove Base	29	Buffet Area - NE Corner		
18165-13-58	4" Black Cove Base	29	Buffet Area - Behind Bar		
18165-13-59	Mastic Associated with 4" Black Cove Base	30	Buffet Area - NE Corner		
18165-13-60	Mastic Associated with 4" Black Cove Base	30	Buffet Area - Behind Bar		
18165-13-61	Gasket at Water Supply Line	31	Water Main Shut Off Room - NE		
18165-13-62	Gasket at Water Supply Line	31	Water Main Shut Off Room - NE		
18165-13-63	Gasket in Flange - Water Supply Line	32	Water Main Shut Off Room - NE		
18165-13-64	Gasket in Flange - Water Supply Line	32	Water Main Shut Off Room - NE		
18165-13-65	Butt End Sealant on Water Shut Off Valve	33	Water Main Shut Off Room		
18165-13-66	Butt End Sealant on Water Shut Off Valve	33	Water Main Shut Off Room - NE		
18165-13-67	Drywall	34	Buffet Area - Electrical Room Wall		
18165-13-68	Drywall	34	Buffet Area - East Wall		
18165-13-69	Joint Compound	35	Buffet Area - Electrical Room Wall		
18165-13-70	Joint Compound	35	Buffet Area - East Wall		
18165-13-71	Paper Tape Beneath Joint Compound	36	Buffet Area - Electrical Room Wall		
18165-13-72	Paper Tape Beneath Joint Compound	36	Buffet Area - East Wall		
18165-13-73	Panel Adhesive on Drywall	37	Buffet Area, South Corridor - West Wall		
18165-13-74	Panel Adhesive on Drywall	37	Buffet Area, South Corridor - West Wall		

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Sampled By: Edward J. Jones **Date:** 10/04/18 **Received By:** _____ **Date:** _____
Relinquished By: Edward J. Jones **Date:** 10/05/18 1630 **Received By:** _____ **Date:** OCT 08 2018

Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group.
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By

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

118101276

Client: USA Niagara Development Corporation **Date:** Thurs 10/04/2018
Project: Niagara Falls Due Diligence Reports - Downtown Properties **Watts Project No.:** 18165
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198.4 x

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6 Hr. 72 Hr.
12 Hr. 4 Day
24 Hr. X 5 Day
7 Day

18165-13-75	2' x 2' Hard Ceiling Tile	38	Theater - Above Stage		
18165-13-76	2' x 2' Hard Ceiling Tile	38	Theater - East Arch		
18165-13-77	Drywall	39	Theater, Stage Area - East Wall		
18165-13-78	Drywall	39	Theater, NE Area - East Wall		
18165-13-79	Joint Compound	40	Theater, Stage Area - East Wall		
18165-13-80	Joint Compound	40	Theater, NE Area - East Wall		
18165-13-81	Carpet Adhesive on Concrete	41	Theater, South Stage - SE Area		
18165-13-82	Carpet Adhesive on Concrete	41	Theater, South Stage - SW Area		
18165-13-83	Gray Flange Sealant	42	2nd Floor - NE Vertical Duct on NE HVAC Duct on Floor		
18165-13-84	Gray Flange Sealant	42	2nd Floor - NW Vertical Duct on Bare Sheet Metal Duct		
18165-13-85	Store Front Style Window Glazing Compoundd	43	2nd Floor - West Wall, Center Window		
18165-13-86	Store Front Style Window Glazing Compoundd	43	2nd Floor - South Center Window		
18165-13-87	Joint Compound	44	2nd Floor - West Wall (Damaged Area) by Window		
18165-13-88	Joint Compound	44	2nd Floor - South Wall at Window Well		
18165-13-89	Paper Tape Beneath Joint Compoud	45	2nd Floor - South Wall, Center Window		
18165-13-90	Paper Tape Beneath Joint Compoud	45	2nd Floor - West Wall, Below Window		
18165-13-91	Drywall	46	2nd Floor - West Wall (Damaged Area) by Window		
18165-13-92	Drywall	46	2nd Floor - South Wall, Center		
18165-13-93	Roof Tar Sealant Beneath Metal Foil on Metal Deck	47	Roof - North-South Wing, Center, West of Hatch		
18165-13-94	Roof Tar Sealant Beneath Metal Foil on Metal Deck	47	Roof - East-West Wing, Center Roof		

Sampled By: Edward J. Jones **Date:** 10/04/18 **Received By:** _____ **Date:** RECEIVED
Relinquished By: Edward J. Jones **Date:** 10/05/18 1630 **Received By:** _____ **Date:** OCT 08 2018
Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group.
If Vermiculite is detected, cease analysis on that sample and contact the Watts Project Manager for further instructions. By

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

118101276

Client: USA Niagara Development Corporation **Date:** Thurs 10/04/2018
Project: Niagara Falls Due Diligence Reports - Downtown Properties **Watts Project No.:** 18165
Building / Location: 333 1st St./217 Old Falls St. Smokin' Joe's Native Center
Contact: Edward J. Jones **at (716) 206-5142**
Preliminary Results to: ejones@watts-ae.com
Mail Report & Invoice to: **Watts Architecture & Engineering**
95 Perry Street, Buffalo, NY 14203

Analysis Requested:
198.1 x **198.6** x **198.4** x

Turnaround Requested:
___ 3 Hr. ___ 48 Hr.
___ 6 Hr. ___ 72 Hr.
___ 12 Hr. ___ 4 Day
___ 24 Hr. X 5 Day
7 Day

18165-13-95	Black Tar at Base of Round Vent Support Base	48	Roof - North-South Wing, East Center Vent		
18165-13-96	Black Tar at Base of Round Vent Support Base	48	Roof - NE Corner		
18165-13-97	Brown Tar Patch on Screw Heads of Roof Peak	49	Roof - North-SouthWing, South Portion		
18165-13-98	Brown Tar Patch on Screw Heads of Roof Peak	49	Roof - South end of North-South Roof		
18165-13-99	Gray-Black Tar Patch on Base of Copper Vent on Metal Roof	50	Roof - South Portion of North-South Rear Part		
18165-13-100	Gray-Black Tar Patch on Base of Copper Vent on Metal Roof	50	Roof - Near Peak of South ene		
18165-13-101	Tar and Rubber Patch - 12" x 12"	51	Roof - West Side of Far South Roof		
18165-13-102	Tar and Rubber Patch - 12" x 12"	51	Roof - Northern Most Patch on South End		
18165-13-103	Gray-Black Tar on Flashing	52	Roof - East End of SW Roof - NE Corner		
18165-13-104	Gray-Black Tar on Flashing	52	Roof - East End of SW Roof - NE Corner		
18165-13-105	Tar on Metal Parapet Cap	53	Roof - North-South Wing, South end		
18165-13-106	Tar on Metal Parapet Cap	53	Roof - North-South Wing at Peak		
18165-13-107	Black Caulk on Screw Heads	54	Roof - SW Roof, SW Corner		
18165-13-108	Black Caulk on Screw Heads	54	Roof - SW Roof, SE Corner		
18165-13-109	Tar and Rubber Patch	55	Roof - Far West Parapet on SW Roof		
18165-13-110	Tar and Rubber Patch	55	Roof - Far West Parapet on SW Roof		
18165-13-111	Gray-Black Tar at the Base of AHU	56	Roof - SW Metal Roof		
18165-13-112	Gray-Black Tar at the Base of AHU	56	Roof - SW Roof, NE Corner		

Sampled By: Edward J. Jones **Date:** 10/04/18 **Received By:** _____ **Date:** RECEIVED
Relinquished By: Edward J. Jones **Date:** 10/05/18 16:30 **Received By:** _____ **Date:** OCT 08 2018
Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group. By

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY

118101276 Page: 7 of 7

Client: USA Niagara Development Corporation
Project: Niagara Falls Due Diligence Reports - Downtown Properties
Building / Location: 333 1st St./217 Old Falls St. Smokin' Joe's Native Center
Contact: Edward J. Jones at (716) 206-5142
Preliminary Results to: ejones@watts-ae.com
Mail Report & Invoice to: Watts Architecture & Engineering
95 Perry Street, Buffalo, NY 14203

Date: Thurs 10/04/2018
Watts Project No.: 18165

Analysis Requested:
198.1 x 198.6 x 198.4 x

Turnaround Requested:

3 Hr.	48 Hr.
6 Hr.	72 Hr.
12 Hr.	4 Day
24 Hr.	X 5 Day
	7 Day

18165-13-113	Black Tar on Concrete Parapet - 2" Seam	57	Roof - North-South Wing, West Parapet		
18165-13-114	Black Tar on Concrete Parapet - 2" Seam	57	Roof - NW Corner at Bent to East Roof		
18165-13-115	Window Frame Caulk	58	Exterior - North Wall, Center Window		
18165-13-116	Window Frame Caulk	58	Exterior - West Side, Center - North		
18165-13-117	Stucco	59	Exterior - West Side, Center - North		
18165-13-118	Stucco	59	Exterior - West Side, Center - South		
18165-13-119	Stucco	59	Exterior - West Side, Center - North		
18165-13-120	Stucco	59	Exterior - West Side, Far SW at Coffee Shop		
18165-13-121	Stucco	59	Exterior - SW Corner of Coffee Shop at Sout Wall Corner		
18165-13-122	Door Frame Caulk	60	Exterior - North Door Center		
18165-13-123	Door Frame Caulk	60	Exterior - North Side, Center		
18165-13-124	Spray-On Fireproofing	61	NW Lobby - on Beam Near Ceiling, Above Ceiling Tiles		
18165-13-125	Spray-On Fireproofing	61	2nd Floor - Column, Center, West		
18165-13-126	Spray-On Fireproofing	61	2nd Floor - Column, Center, East		
18165-13-127	Spray-On Fireproofing	61	2nd Floor - Beam at Ceiling, East Wall		
18165-13-128	Spray-On Fireproofing	61	1st Floor - Valve Room Behind Kitchen, NE		
18165-13-129	Spray-On Fireproofing	61	Theater - on Beams Above Suspended Ceiling Tiles		
18165-13-130	Spray-on Fireproofing	61	1st Floor - SE Miniature Golf, on Column		

Sampled By: Edward J Jones **Date:** 10/04/18 **Received By:** _____ **Date:** _____

Relinquished By: Edward J Jones **Date:** 10/05/18 1636 **Received By:** _____ **Date:** _____

RECEIVED
OCT 08 2018
By

Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group.

Client Name: Watts Architecture & Engineers

Table I
Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM
01	18165-13-131	62	0.088	41.2	51.3	7.4	NAD	Anthophyllite Trace
Location:	Soft Black Window Glazing Compound Pane In Fire Door, Down In Frame; Southeast Corridor Double Fire Doors To Southeast Coffee Shop And Tee Shirt Sales Store							
02	18165-13-132	62	0.078	40.0	55.0	4.9	NAD	Anthophyllite Trace
Location:	Soft Black Window Glazing Compound Pane In Fire Door, Down In Frame; West Center Double Fire Doors On West Center Wall Of Indoor Miniature Golf Room 5"x							
03	18165-13-133	63	0.234	20.3	62.9	16.8	NAD	NAD
Location:	12"x12" Yellow Floor Tiles On Concrete; South Coffee Grinding And Storage Room By South Entrance							
04	18165-13-134	63	0.227	19.4	65.5	15.2	NAD	NAD
Location:	12"x12" Yellow Floor Tiles On Concrete; Southeast Indoor Miniature Golf Room By South Entrance							
05	18165-13-135	64	0.088	50.3	43.1	6.6	NAD	NAD
Location:	Black Mastic Associated With 12"x12" Yellow Floor Tiles; South Coffee Grinding And Storage Room By South Entrance							
06	18165-13-136	64	0.111	31.6	54.6	13.7	NAD	NAD
Location:	Black Mastic Associated With 12"x12" Yellow Floor Tiles; Southeast Indoor Miniature Golf Room By South Entrance							
07	18165-13-137	65	----	----	----	----	NAD	NA
Location:	Paper And Foil On Fiberglass Insulation On Pipe; Water Main Shut Off Pipe, Water Shut Off Room Northeast Corner Of Bldg							
08	18165-13-138	65	----	----	----	----	NAD	NA
Location:	Paper And Foil On Fiberglass Insulation On Pipe; Pipe Above Hot Water Tank In Janitor Storage Room Across From Northwest Toilet							
09	18165-13-139	66	0.212	22.3	65.9	11.9	NAD	NAD
Location:	Gray Roof Caulk, Beneath Metal Cap East Roof Edge Southwest Wing; Roof Southwest Wing, Beneath Metal Cap On East Roof Edge, Northeast Corner							
10	18165-13-140	66	0.164	31.4	34.5	34.1	NAD	NAD
Location:	Gray Roof Caulk, Beneath Metal Cap East Roof Edge Southwest Wing; Roof Southwest Wing, Beneath Metal Cap On East Roof Edge, Southeast Corner							

See Reporting notes on last page

Client Name: Watts Architecture & Engineers

Table I
Summary of Bulk Asbestos Analysis Results

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

AmeriSci Sample #	Client Sample#	HG Area	Sample Weight (gram)	Heat Sensitive Organic %	Acid Soluble Inorganic %	Insoluble Non-Asbestos Inorganic %	** Asbestos % by PLM/DS	** Asbestos % by TEM

TEM Analyzed By: Jean L. Mayes _____ Date Analyzed: 10/15/2018 Reviewed By: _____ Date Reviewed: 10/15/2018

Semi-Quantitative Analysis: NAD = no asbestos detected; NA = not analyzed; NA/PS = not analyzed due to positive stop; Trace = <1%;
PLM analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) or NY ELAP 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NY ELAP Lab # 10984);
TEM prep by EPA 600/R-93/116 Section 2.3 (analysis by Section 2.5, not covered by NVLAP Bulk accreditation); or NY ELAP 198.4 for New York NOB samples (NY ELAP Lab # 10984);

** Warning Notes: Consider PLM fiber diameter limitation, only TEM will resolve fibers <0.25 micrometers in diameter. TEM bulk analysis is representative of the fine grained matrix material and may not be representative of non-uniformly dispersed debris, soils or other heterogeneous materials for which a combination PLM/TEM evaluation is recommended; Quantitation for beginning weights of <0.1 grams should be considered as qualitative only.

AmeriSci Richmond
13635 GENITO ROAD
MIDLOTHIAN, VIRGINIA 23112
TEL: (804) 763-1200 • FAX: (804) 763-1800

PLM Bulk Asbestos Report

Watts Architecture & Engineers
Attn: Edward Jones
95 Perry Street
Suite 300
Buffalo, NY 14203

Date Received 10/11/18 **AmeriSci Job #** 118101401
Date Examined 10/15/18 **P.O. #**
ELAP # 10984 **Page** 1 **of** 3
RE: 18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-131 62	118101401-01 **Location:** Soft Black Window Glazing Compound Pane In Fire Door, Down In Frame; Southeast Corridor Double Fire Doors To Southeast Coffee Shop And Tee Shirt Sales Store	***No***	NAD (by NYS ELAP 198.6) by William M. Dunstan on 10/15/18

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 7.5 %
Comment: Heat Sensitive (organic): 41.2%; Acid Soluble (inorganic): 51.3%; Inert (Non-asbestos): 7.5%

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-132 62	118101401-02 **Location:** Soft Black Window Glazing Compound Pane In Fire Door, Down In Frame; West Center Double Fire Doors On West Center Wall Of Indoor Miniature Golf Room 5"x	***No***	NAD (by NYS ELAP 198.6) by William M. Dunstan on 10/15/18

Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 5 %
Comment: Heat Sensitive (organic): 40.0%; Acid Soluble (inorganic): 55.0%; Inert (Non-asbestos): 5.0%

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-133 63	118101401-03 **Location:** 12"x12" Yellow Floor Tiles On Concrete; South Coffee Grinding And Storage Room By South Entrance	***No***	NAD (by NYS ELAP 198.6) by William M. Dunstan on 10/15/18

Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 16.8 %
Comment: Heat Sensitive (organic): 20.3%; Acid Soluble (inorganic): 62.9%; Inert (Non-asbestos): 16.8%

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-134 63	118101401-04 **Location:** 12"x12" Yellow Floor Tiles On Concrete; Southeast Indoor Miniature Golf Room By South Entrance	***No***	NAD (by NYS ELAP 198.6) by William M. Dunstan on 10/15/18

Analyst Description: Yellow, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 15.2 %
Comment: Heat Sensitive (organic): 19.4%; Acid Soluble (inorganic): 65.5%; Inert (Non-asbestos): 15.2%

See Reporting notes on last page

PLM Bulk Asbestos Report

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-135 64	118101401-05 **Location:** Black Mastic Associated With 12"x12" Yellow Floor Tiles; South Coffee Grinding And Storage Room By South Entrance	***No***	NAD (by NYS ELAP 198.6) by William M. Dunstan on 10/15/18
	Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 6.6 % **Comment:** Heat Sensitive (organic): 50.3%; Acid Soluble (inorganic): 43.1%; Inert (Non-asbestos): 6.6%		
18165-13-136 64	118101401-06 **Location:** Black Mastic Associated With 12"x12" Yellow Floor Tiles; Southeast Indoor Miniature Golf Room By South Entrance	***No***	NAD (by NYS ELAP 198.6) by William M. Dunstan on 10/15/18
	Analyst Description: Black, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 13.7 % **Comment:** Heat Sensitive (organic): 31.6%; Acid Soluble (inorganic): 54.6%; Inert (Non-asbestos): 13.7%		
18165-13-137 65	118101401-07 **Location:** Paper And Foil On Fiberglass Insulation On Pipe; Water Main Shut Off Pipe, Water Shut Off Room Northeast Corner Of Bldg	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 10/15/18
	Analyst Description: White/Silver, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 40 %, Fibrous glass 10 %, Non-fibrous 50 %		
18165-13-138 65	118101401-08 **Location:** Paper And Foil On Fiberglass Insulation On Pipe; Pipe Above Hot Water Tank In Janitor Storage Room Across From Northwest Toilets	***No***	NAD (by NYS ELAP 198.1) by William M. Dunstan on 10/15/18
	Analyst Description: White/Silver, Heterogeneous, Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Cellulose 40 %, Fibrous glass 10 %, Non-fibrous 50 %		
18165-13-139 66	118101401-09 **Location:** Gray Roof Caulk, Beneath Metal Cap East Roof Edge Southwest Wing; Roof Southwest Wing, Beneath Metal Cap On East Roof Edge, Northeast Corner	***No***	NAD (by NYS ELAP 198.6) by William M. Dunstan on 10/15/18
	Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material **Asbestos Types:** **Other Material:** Non-fibrous 11.9 % **Comment:** Heat Sensitive (organic): 22.3%; Acid Soluble (inorganic): 65.9%; Inert (Non-asbestos): 11.9%		

See Reporting notes on last page

PLM Bulk Asbestos Report

18165; Niagara Falls Due Diligence Reports - Downtown Properties; 333 1st St/217 Old Falls St Smokin' Joe's Native Center

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
18165-13-140	118101401-10	***No***	NAD
66	**Location:** Gray Roof Caulk, Beneath Metal Cap East Roof Edge Southwest Wing; Roof Southwest Wing, Beneath Metal Cap On East Roof Edge, Southeast Corner		(by NYS ELAP 198.6) by William M. Dunstan on 10/15/18

Analyst Description: Gray, Heterogeneous, Non-Fibrous, Bulk Material
Asbestos Types:
Other Material: Non-fibrous 34.1 %
Comment: Heat Sensitive (organic): 31.4%; Acid Soluble (inorganic): 34.5%; Inert (Non-asbestos): 34.1%

Reporting Notes:

Analyzed by: William M. Dunstan Wm M Dunstan Date: 10/15/2018 Reviewed by: Wm M Dunstan

*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

WATTS ARCHITECTURE & ENGINEERING
ASBESTOS BULK SAMPLE CHAIN-OF-CUSTODY 118101401

Page: 1 of 1

Client: USA Niagara Development Corporation
Date: Weds 10/10/2018
Project: Niagara Falls Due Diligence Reports - Downtown Properties
Watts Project No.: 18165
Building / Location: 333 1st St./217 Old Falls St. Smokin' Joe's Native Center
Contact: Edward J. Jones at (716) 206-5142
Preliminary Results to: ejones@watts-ae.com
Mail Report & Invoice to: Watts Architecture & Engineering
95 Perry Street, Buffalo, NY 14203

Analysis Requested:
198.1 x 198.6 x 198.4 x

Turnaround Requested:
3 Hr. ____ 48 Hr. ____
6 Hr. ____ 72 Hr. ____
12 Hr. ____ 4 Day ____
24 Hr. ____ X 5 Day
7 Day

Sample Number	Material Description	HA	Sample Location	Laboratory Results PLM	TEM
18165-13-131	Soft black window glazing compound pane in fire door, down in frame	62	Southeast corridor double fire doors to southeast coffee shop and Tee shirt sales store		
18165-13-132	Soft black window glazing compound pane in fire door, down in frame	62	West center double fire doors on west center wall of indoor miniature golf room 5" x		
18165-13-133	12" x 12" yellow floor tiles on concrete	63	South coffee grinding and storage room by south entrance		
18165-13-134	12" x 12" yellow floor tiles on concrete	63	Southeast indoor miniature golf room by south entrance		
18165-13-135	Black mastic associated with 12" x 12" yellow floor tiles	64	South coffee grinding and storage room by south entrance		
18165-13-136	Black mastic associated with 12" x 12" yellow floor tiles	64	Southeast indoor miniature golf room by south entrance		
18165-13-137	Paper and foil on fiberglass insulation on pipe	65	Water main shut off pipe, water shut off room northeast corner of bldg.		
18165-13-138	Paper and foil on fiberglass insulation on pipe	65	Pipe above hot water tank in janitor storage room across from northwest toilets		
18165-13-139	Gray roof caulk, beneath metal cap east roof edge southwest wing	66	Roof southwest wing, beneath metal cap on east roof edge, northeast corner		
18165-13-140	Gray roof caulk, beneath metal cap east roof edge southwest wing	66	Roof southwest wing, beneath metal cap on east roof edge, southeast corner		

Sampled By: Edward J Jones **Date:** 10/10/18 **Received By:** ____ **Date:** ____
Relinquished By: Edward J Jones **Date:** 10/10/18 16:30 **Received By:** ____ **Date:** ____

Comments: If PLM NOB is negative, analyze by TEM. Stop at first positive for each homogeneous material description group.
If Vermiculite is detected , cease analysis on that sample and contact the Watts Project Manager for further instructions.

RECEIVED
OCT 11 2018
BY KNM

3.0 – LABORATORY ACCREDITATIONS

NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER

Expires 12:01 AM April 01, 2019
Issued April 01, 2018

CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE

Issued in accordance with and pursuant to section 502 Public Health Law of New York State

DR. THOMAS R. MCKEE
AMERISCI RICHMOND
13635 GENITO RD
MIDLOTHIAN, VA 23112

NY Lab Id No: 10984

is hereby APPROVED as an Environmental Laboratory for the category
ENVIRONMENTAL ANALYSES SOLID AND HAZARDOUS WASTE
All approved subcategories and/or analytes are listed below:

Miscellaneous

Asbestos in Friable Material	Item 198.1 of Manual
	EPA 600/M4/82/020
Asbestos in Non-Friable Material-PLM	Item 198.6 of Manual (NOB by PLM)
Asbestos in Non-Friable Material-TEM	Item 198.4 of Manual
Asbestos-Vermiculite-Containing Material	Item 198.8 of Manual

Serial No.: 57653

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101904-0

AmeriSci Richmond

Midlothian, VA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-07-01 through 2019-06-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

AmeriSci Richmond
dba AmeriSci Richmond
13635 Genito Road
Midlothian, VA 23112
Mr. Thomas B. Keith
Phone: 804-763-1200 Fax: 804-763-1800
Email: bkeith@amerisci.com
http://www.amerisci.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 101904-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

Code	*Description*
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

For the National Voluntary Laboratory Accreditation Program

Effective 2018-07-01 through 2019-06-30

4.0 – CONSULTANT'S LICENSES AND CERTIFICATIONS

WATTS ARCHITECTURE & ENGINEERING

120 E. Washington St., Suite 414
Syracuse, NY 13202

95 Perry Street, Suite 300
Buffalo, NY 14203

315 5th Ave, 11th Floor
New York, NY 10016

New York State – Department of Labor
Division of Safety and Health
License and Certificate Unit
State Campus, Building 12
Albany, NY 12240

ASBESTOS HANDLING LICENSE

Watts Architecture & Engineering, D.P.C.
Suite 300
95 Perry Street

Buffalo, NY 14203

FILE NUMBER: 12-68007
LICENSE NUMBER: 68007
LICENSE CLASS: RESTRICTED
DATE OF ISSUE: 09/20/2018
EXPIRATION DATE: 09/30/2019

Duly Authorized Representative – Edward Watts:

This license has been issued in accordance with applicable provisions of Article 30 of the Labor Law of New York State and of the New York State Codes, Rules and Regulations (12 NYCRR Part 56). It is subject to suspension or revocation for a (1) serious violation of state, federal or local laws with regard to the conduct of an asbestos project, or (2) demonstrated lack of responsibility in the conduct of any job involving asbestos or asbestos material.

This license is valid only for the contractor named above and this license or a photocopy must be prominently displayed at the asbestos project worksite. This license verifies that all persons employed by the licensee on an asbestos project in New York State have been issued an Asbestos Certificate, appropriate for the type of work they perform, by the New York State Department of Labor.

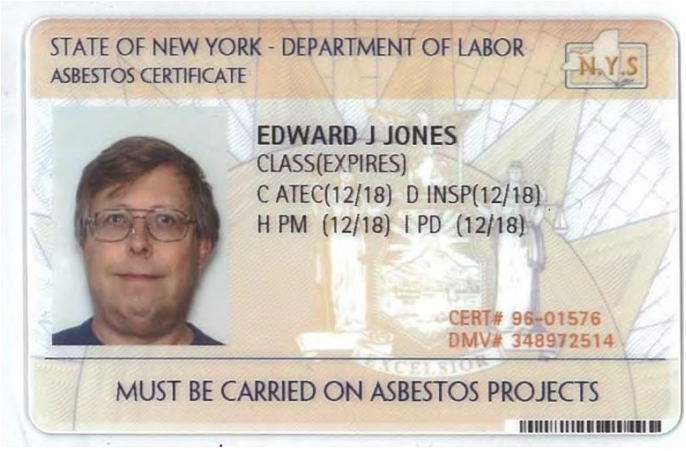
Eileen M. Franko, Director
For the Commissioner of Labor

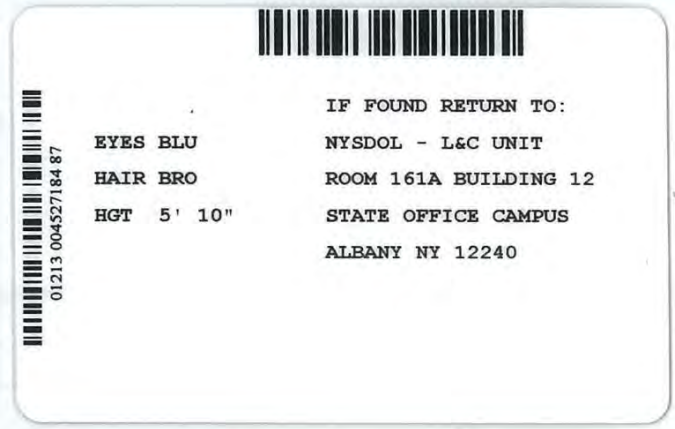
SH 432 (8/12)

120 E. Washington St., Suite 414
Syracuse, NY 13202

95 Perry Street, Suite 300
Buffalo, NY 14203

315 5th Ave, 11th Floor
New York, NY 10016





Edward Jones

C – Air Sampling Technician
D – Inspector
H – Project Monitor
I – Project Designer

ATTACHMENT
GEOTECHNICAL REPORT

Foundation Design, P.C.

SOIL ● BEDROCK ● GROUNDWATER

April 19, 2022

Edgemere Development, Inc.
277 Alexander Street, Suite 400
Rochester, NY 14607

Attention: Mr. Brad Mack

Reference: Old Falls Street Development
Old Falls & First Street, Niagara Falls, New York
Geotechnical Evaluation, E5357.0

Dear: Mr. Mack

This report summarizes our geotechnical evaluation for the associated project. We understand the project consists of demolishing the existing building and the construction of a 6-story, 76-unit building and associated parking in its place. The site is located at the intersection of First and Old Falls Street in an older, well-developed section of Niagara Falls. This previous development will impact the proposed redevelopment of this site. We intend for this report to be used exclusively for this project. We base this evaluation on our review of U.S.G.S. geologic mapping; new exploration; review of historic Sanborn mapping; laboratory testing; and consultation with the design team. Foundation Design, P.C. was retained to provide the services outlined in our January 20, 2023 *Geotechnical Services Proposal, P5248.0.*

We point out the Niagara boundary survey dated July 17, 2018 shows an easement to the Niagara Mohawk Power Corporation for the Adams Station Tunnel that crosses the proposed building area from southeast to northwest. Our limited understanding is that this tunnel is on the order of sixty feet or more below grade and we know of no limitations to existing or proposed construction above the tunnel on this or adjacent properties. We recommend that you review your project plans with the city (as current landowner) and Niagara Mohawk to get clarification from those parties on associated impacts. Assuming that the tunnel is embedded in bedrock, well maintained and self-supporting, and not impacted by surface construction loads such as the proposed structure, we offer the following 'standard' Geotechnical Engineering Evaluation:

The site is currently occupied by an existing single-story structure that will be demolished to make room for the new construction. The proposed development encompasses the northern portion of the existing structure. An access road and a parking lot lie to the north, First Street lies to the west, an access road and a hotel lies to the

east. An older church and the remainder of the existing structure, then Old Falls Street, lie to the south. Attached is a *General Location Plan* on 2019 U.S.G.S. topographic mapping. Historic mapping shows numerous buildings in this current parcel area, typical mapping is also attached.

SJB Services provided the drilling work we used for our exploration under contract to BE3, the environmental consultant. BE3 had a technician on site full time during the work, logging the soils and screening them for their purposes. SJB used a balloon tire mounted CME-550x drill rig with an auto hammer on March 8, 2023 to drill the four soil borings, B23-1 through B23-4. The soil borings were advanced in accordance with ASTM D-1586, with soil samples recovered to a depth of 8.5 to 16.0 feet below the ground surface. Our staff logged the soil profiles and collected representative soil samples obtained with the split spoon sampler. Upon completion, the bore holes were backfilled with auger spoils and patched with asphalt patch. We surveyed the holes, referencing the finish floor of the existing building that is being demolished (assumed elevation of 100.0). SJB also performed a series of nine soil borings with a geoprobe inside the building on March 9 and April 4, 2023. We witnessed the operations and reviewed BE3's classifications. A *Boring Location Plan* and the boring logs are attached.

The following interpretations of the soil, bedrock, and groundwater conditions are based on our soil borings, BE3 environmental logs and our site observations. Variations from the inferred subsurface profile are possible. See the attached logs for soil descriptions at the test locations. Call us to the site if variations are encountered during construction so we can assess the impacts on these recommendations.

A typical soil profile at the borings consists of asphalt over crusher-run, fill, sand and gravel, then bedrock. The asphalt was associated with existing parking lots and was between 2 and 6 inches thick with a crusher-run subbase encountered at B23-2 through B23-4 that ranged from 4 to 19 inches. We noted concrete below the crusher-run at B23-3 that was 5 inches thick. At B23-4 we encountered concrete directly below the asphalt that was 8 inches thick. The fill encountered at all locations consisted of silty sand with gravel to a clayey silt with gravel and sand with varying amounts of organics, concrete, asphalt, and brick. The fill depths were quite erratic, we noted fill depths at the borings roughly ranging from 4 to 10 feet below grade (poor recoveries causing uncertainty). The native soil was noted as very dense sand and gravel.

Fill was also encountered within the existing building envelope at all of the geoprobe borings. Fill was described as 'cindery', black, urban fill with concrete noted. There was a large variation in refusal depths. We also noted intermittent very hard augering a few feet above auger refusal depths at all locations. During the intermittent hard augering we noted numerous times that the augers would 'drop', likely encountering a softer zone. Due to the poor sample recoveries noted and equipment limitations it was difficult to ascertain what material was causing this intermittent hard augering/shallow refusal depths but we suspect that the earlier, historical structures that pre-date the existing structure were built over top of/left in place as part of previous demolition operations. The hard augering/refusals were likely in place slabs or large pieces of demolition debris.

Groundwater was not encountered during exploration. Groundwater levels will be heavily influenced by and fluctuate with the nearby Niagara River.

Bedrock was encountered at all the soil borings. Auger refusals were encountered at depths ranging from 8.5 feet to 11.9 feet below grade at the traditional soil borings. At soil boring B23-4, the drillers augered to refusal before beginning a rock core; we noted a recovery of 100 percent of the rock cored and an RQD (measurement of rock core equal to or greater than four inches) of 0 percent. We noted a hard grey horizontally bedded dolomite that had numerous vugs/fractures, chert inclusions, and black shale partings. Geologic mapping shows the bedrock as the Lockport Group. This formation consists of Dolostone and Limestone.

We conclude that the existing fill soil is not acceptable for support of new construction and that this condition likely encompasses the entire new building footprint. Due to the erratic fill/hard augering/shallow refusals/poor recoveries we suggest the contractor excavate test pits as soon as is practical during the demolition/site preparation phase to better assess the fill conditions. For preliminary/budgetary purposes estimate the fill depth to be seven feet across the entire building footprint. After removal and replacement of the fill, the new building can be supported on spread footing foundations.

We make the following specific recommendations:

1. Completely remove the in-place structures. This includes the floor slab(s), foundations, and utilities. Remove the asphalt, old foundations, and deleterious fill material from within the proposed building footprint. Extend the undercuts to at least five feet beyond the edge of the new footings.

2. Expect unsuitable fills to be somewhere between four and ten feet deep. Adjust actual removal limits during construction to reflect in-place conditions and include provisions in the contract for this adjustment, typically via unit pricing. Note that removing old foundations could result in undermining of the adjacent structures or sidewalks/utilities. One option to deal with this would be to excavate short sections/areas of the perimeter of the proposed structure and backfill with a low strength concrete, providing both vertical support to the new footings and a bulkhead to allow for mass excavation inside the building area. Other, more traditional Support of Excavation methods are also potentially applicable. Require the contractor to include costs for their approach to this scenario in the base bid and to submit their plan prior to construction. Excavate some supplemental test pits early in the construction sequence to allow for review of the field conditions and to confirm fill/bedrock depths.

3. Have the geotechnical engineer or representative visually review/classify the subgrade and observe proof-rolling of subgrades prior to backfill placement to confirm unsuitable material limits prior to new fill placement. The contractor should provide a loaded ten-wheel truck or similar heavy construction equipment for the proof-rolling. Rework as directed areas that rut, weave, quake, or are otherwise deemed to be unsuitable by the geotechnical engineer or representative.

4. Use an imported granular material similar in gradation to N.Y.S.D.O.T. Item 304.12 (crusher-run stone) for the structural fill. Clean on-site soils could be used as structural fill but limited quantities are anticipated. Submit fill sources (including re-use of on-site soils) to the geotechnical engineer for review and approval on a case-by-case basis.

   We define structural fill as fill under and around footings, floor slabs, sidewalks, and pavements. Moisture condition structural fill to within two percent of optimum moisture for compaction. Compact structural fill to at least 95 percent of maximum dry density as determined by the Modified Proctor method, ASTM D-1557. Compact other fill to at least 90 percent of Modified Proctor or as specified by the site engineer. Place fill in eight-inch loose lifts. Always maintain good surface drainage.

5. Support the new building(s) on spread footing foundations. Design footings based on a net new bearing pressure of 6,000 pounds per square foot (psf) when bearing on native soil or new structural fill. Footings shall be at least two feet wide or square. Hand clean loose soil from the bearing surface. Footings shall bear at least four feet below the lowest adjacent exterior grade for frost protection. Based on the presumed moderately loaded 6 story building (i.e. up to 300 kips or 15 kips per lineal foot), we estimate the maximum total settlement at less than one-half inch. We believe that this is within the 'normal' tolerance for these types of structures. The geotechnical engineer, or our representative, should check the foundation excavations to confirm the allowable bearing capacity assumed in design.

6. Place six inches of granular material under the slabs-on-grade. An N.Y.S.D.O.T. Item 304.12, No. 2 crusher-run stone, would be a suitable material for this use. Proof-roll the floor subgrade prior to placing the subbase. Rework or replace areas that rut, weave, quake, or are otherwise deemed unsatisfactory. Call us if subgrade conditions prove difficult to stabilize. Again, do not allow water to collect in the subbase during construction.

Design the floors using a Modulus of Subgrade Reaction (K_{vi}) of 225 psi/in. The architect and/or structural engineer should review the proposed interior finishes and humidity control requirements to determine whether a vapor barrier is appropriate under the slab and if so, where it should be installed. See the American Concrete Institute Document 302.1R, *Concrete Floor and Slab Construction*, for more information.

7. The NYS Building Code identifies various seismic design criteria for this project. Use a Site Classification of C (Very Dense Soil Profile) for the site. Based on ASCE 7-16, we recommend using the following seismic design parameters.

Table No. 1 – Seismic Design Parameters 7-16					
Spectral Response Acceleration		**Soil Factors**		**Design Spectral Response Acceleration**	
S_S	**S_1**	**S_{MS}**	**S_{M1}**	**SD_s**	**SD_1**
0.156g	0.044g	0.203g	0.065g	0.135g	0.044g

8. We noted fill soils underlie the parking lots and drive lanes. Box out these areas down to design subgrade and proof-roll the areas. The proof-roll should be observed by the geotechnical engineer to determine if the underlying fills can remain in place or if complete removal and replacement is required. It is our intention to keep the fills in place as long as the soils are stable. Backfill undercut areas to subgrade with crusher-run stone.

Use the following pavement section for the parking lots and drive lanes.

Table No. 2 - Pavement Section		
1.5"	Asphalt Topcoat	NYSDOT Item 403.198902
2.5"	Asphalt Binder	NYSDOT Item 403.138902
12.0"	Crusher-Run Stone Subbase	NYSDOT Item 304.12
	Geotextile Stabilization Fabric	Tensar T-130 or equivalent
	Subgrade	Approved Proof-Roll

Subgrade and subbase drainage are critical to the long-term performance of the pavement surface. Slope both the pavement surface and subgrade at slopes of at least 1.5 and preferably 2.0 percent and provide drainage out of the subbase. Use a concrete pad in front of the dumpster or other areas subject to heavy, concentrated loads. Check the subgrade integrity and stability prior to placing the subbase course.

9. Perform trenching and excavating work in accordance with the Occupational Safety and Health Administration (OSHA) and New York State Building Code Standards. The contractor is responsible for determining what measures are required to meet these Standards. Cut unsupported temporary excavations to a stable slope, but in no case steeper than 1 (H) on 1 (V). Remove water that accumulates in excavations using open sumps and/or pumps.

10. As the Geotechnical Engineer of Record, Foundation Design, P.C. should make periodic site visits to confirm that the conditions are as expected, provide recommendations to address areas where conditions differ, and make the engineering judgments concerning soil issues during construction (items not covered by standardized test methods). Specifically, we should observe the following:

    A. Witness test pits excavated just prior to construction to confirm fill depths and excavation limits. Observe the proof-rolling of the building/pavement subgrades to confirm unsuitable soil removal limits and check for subgrade stability.

    B. Review and approve of materials used for structural fill. Review of lab testing of structural fill.

    C. Spot-check the foundation excavations and bearing grade conditions.

    D. Consult on soils-related aspects of the project.

- The owner, or construction manager acting as their agent, should retain an independent test agency to perform periodic observation of mass fill placement and backfilling operations. Upon completion of the fill placement, we recommend that the testing agency submit a letter certifying that the work was performed in accordance with this report. This letter should contain a copy of all soils-related test reports.

  Specific testing requirements follow:

  A. Conduct at least one density test on each 2,500 square feet of mass fill placed under floor slabs and sidewalks with at least two tests for each partial lift.

  B. Conduct at least one density test per 50 lineal feet of foundation backfill and utility trench backfill on alternating lifts.

  C. Place fill in lifts not-to-exceed eight inches in loose thickness.

  D. Compact structural fill to at least 95 percent of the maximum dry density as determined by the Modified Proctor Test (ASTM D-1557). A new proctor will be needed for each material or change in material.

  E. Compact other fill to 90 percent of Modified Proctor or as otherwise determined by the site engineer.

Attached to the end of this text is a GBA paper entitled *Important Information about This Geotechnical Engineering Report* that you should read. It describes how we intend this report to be used and discusses risks and risk allocation. We will continue to work cooperatively with you and other interested parties to achieve win/win solutions.

This concludes our design phase services. We are available to answer questions that you may have about the data or interpretations of the soil, bedrock, and groundwater conditions.

Very truly yours,

FOUNDATION DESIGN, P.C.

James M. Baker, P.E.
President
Enc.

Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

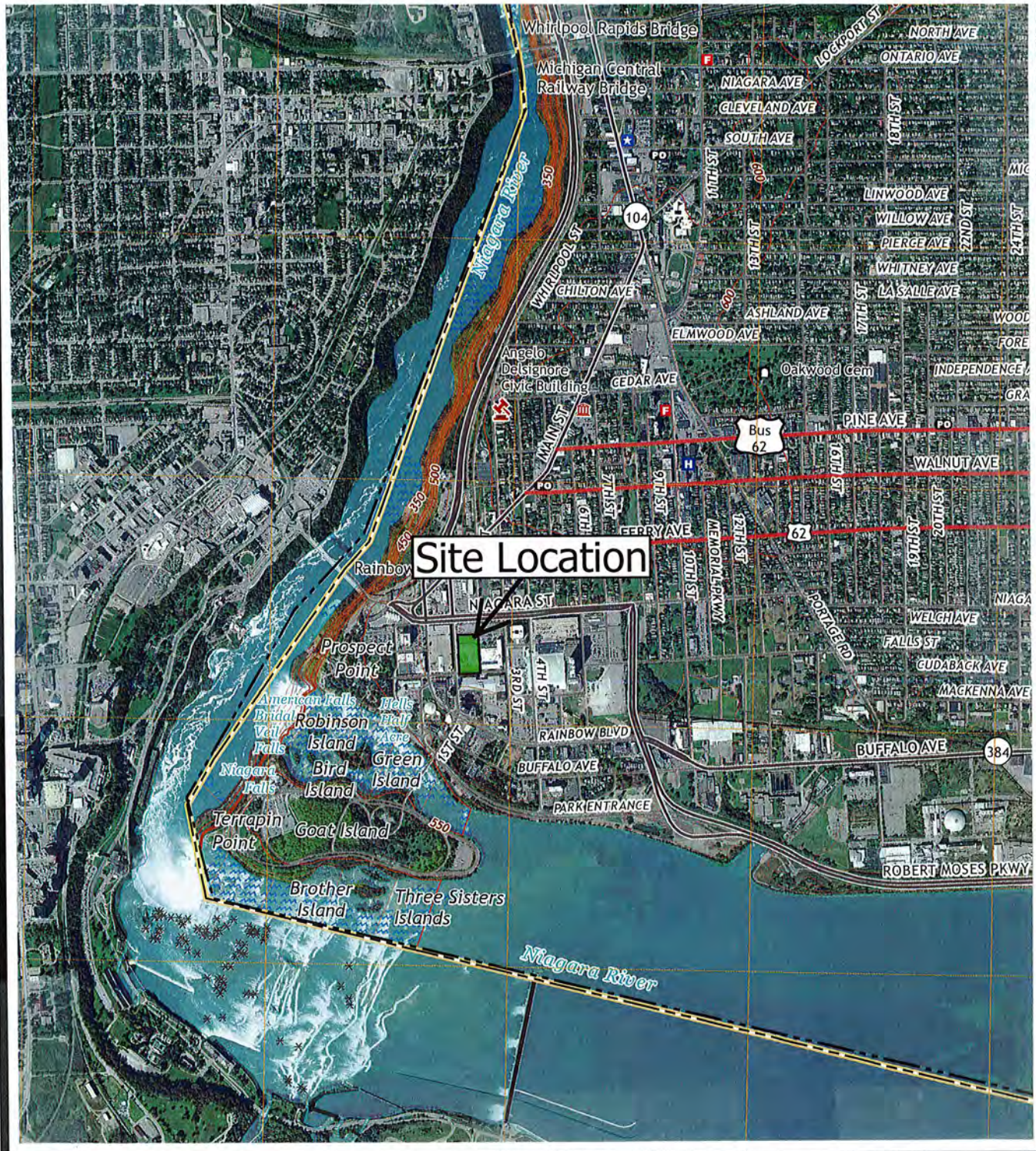
The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

Telephone: 301/565-2733
e-mail: info@geoprofessional.org www.geoprofessional.org



Foundation Design, P.C.

46A Sager Drive
Rochester, New York 14607
Phone (585) 458-0824
FAX (585) 458-3323

Old Falls Street Development

Old Falls Street, Niagara Falls, New York

General Location Plan

Adapted from: USGS Topographic Mapping

2019 Niagara Falls Quadrangle

CHECKED BY:	**JMB**	Scale 1"= 2000'	**DATE: 3/2/23**
DRAWN BY:	**JCS**		**JOB NO.: 5357.0**

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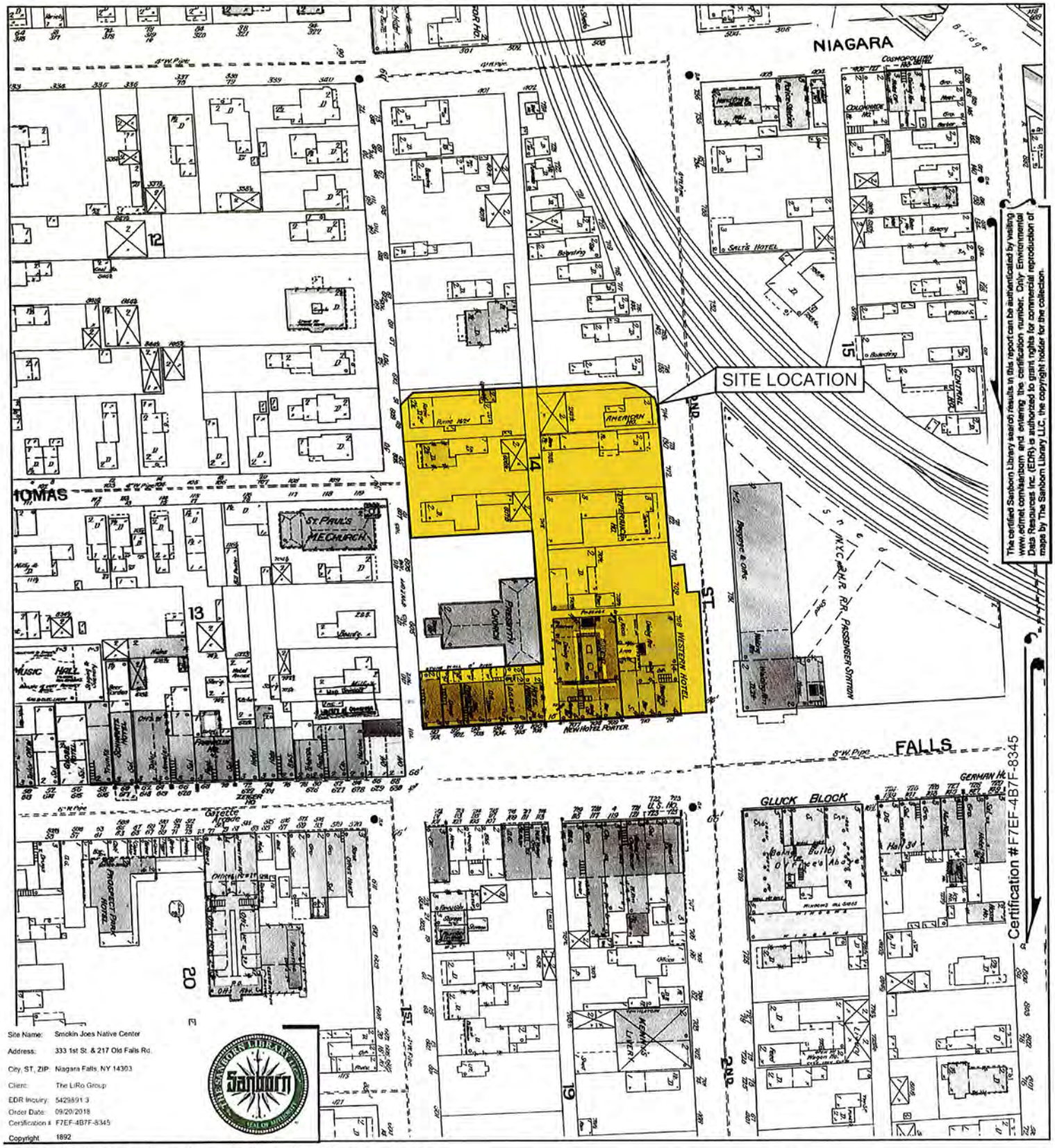

Site Name: Smokin Joes Native Center
Address: 333 1st St. & 217 Old Falls Rd.
City, ST, ZIP: Niagara Falls, NY 14303
Client: The LiRo Group
EDR Inquiry: 5429891.3
Order Date: 09/20/2018
Certification #: F7EF-4B7F-8345
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Volume 1, Sheet 6
Volume 1, Sheet 5
Volume 1, Sheet 4
Volume 1, Sheet 3

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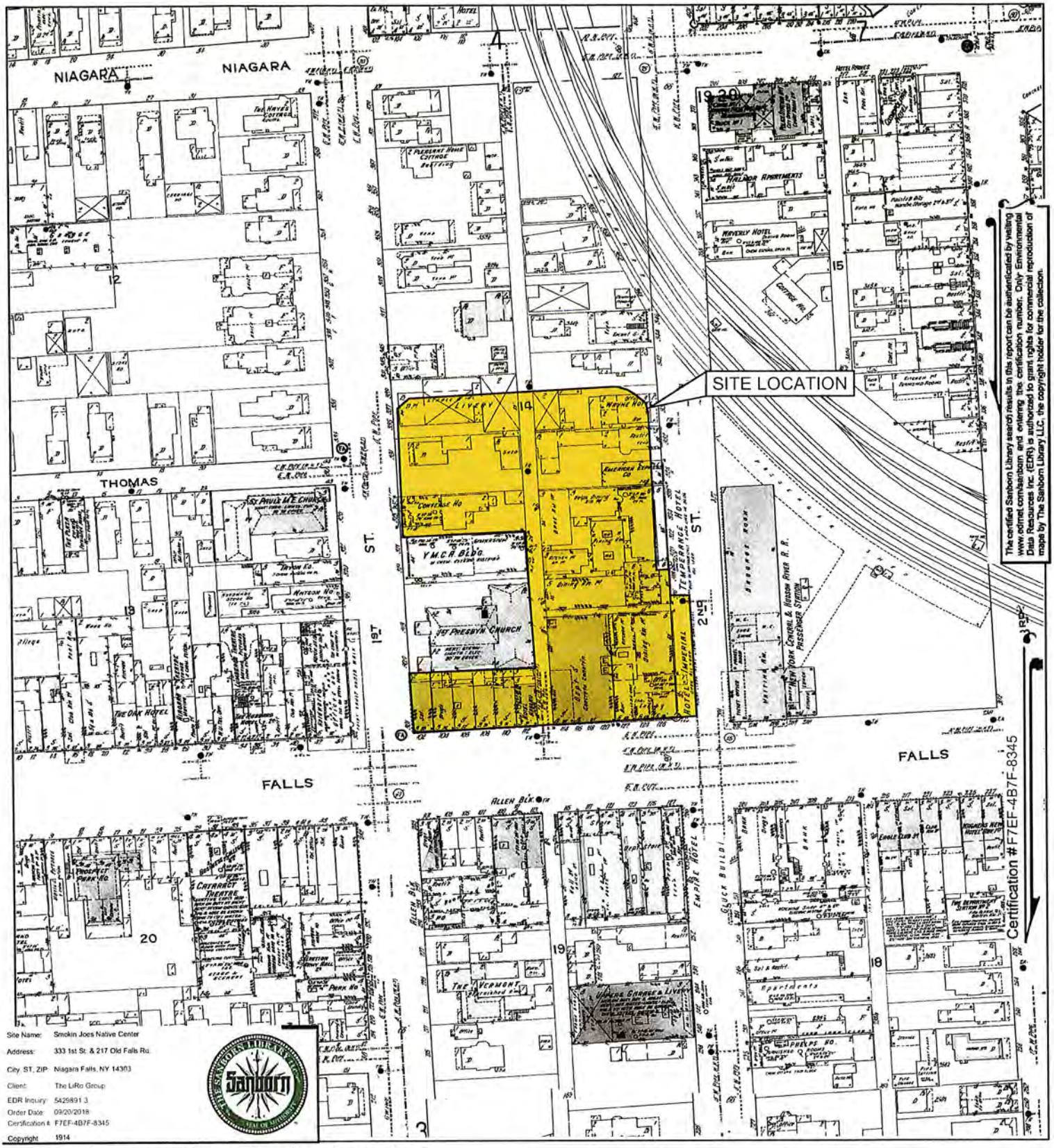
Certified Sanborn® Map

1914



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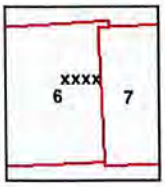

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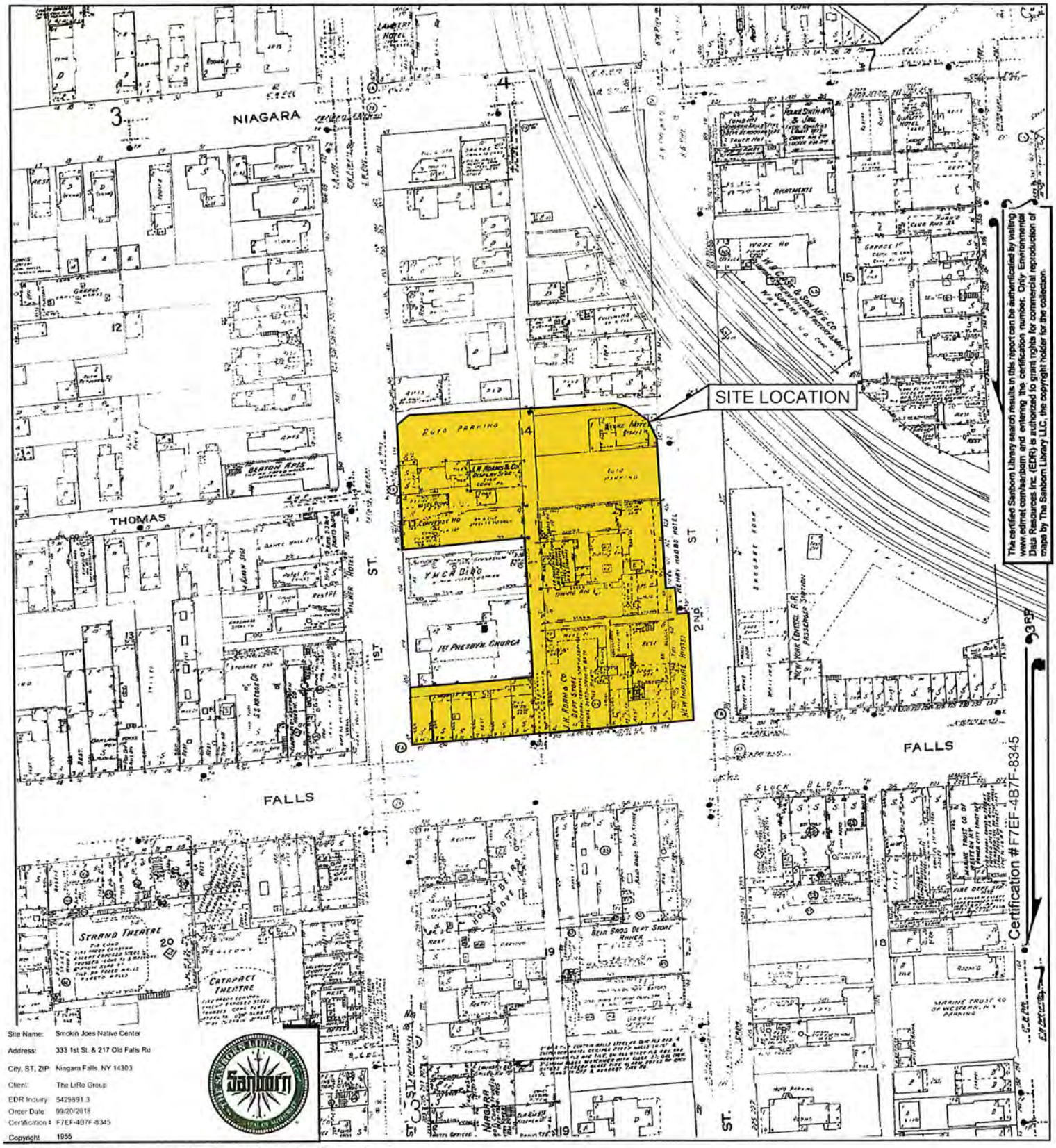
1955



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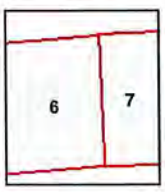

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Volume 1, Sheet 6

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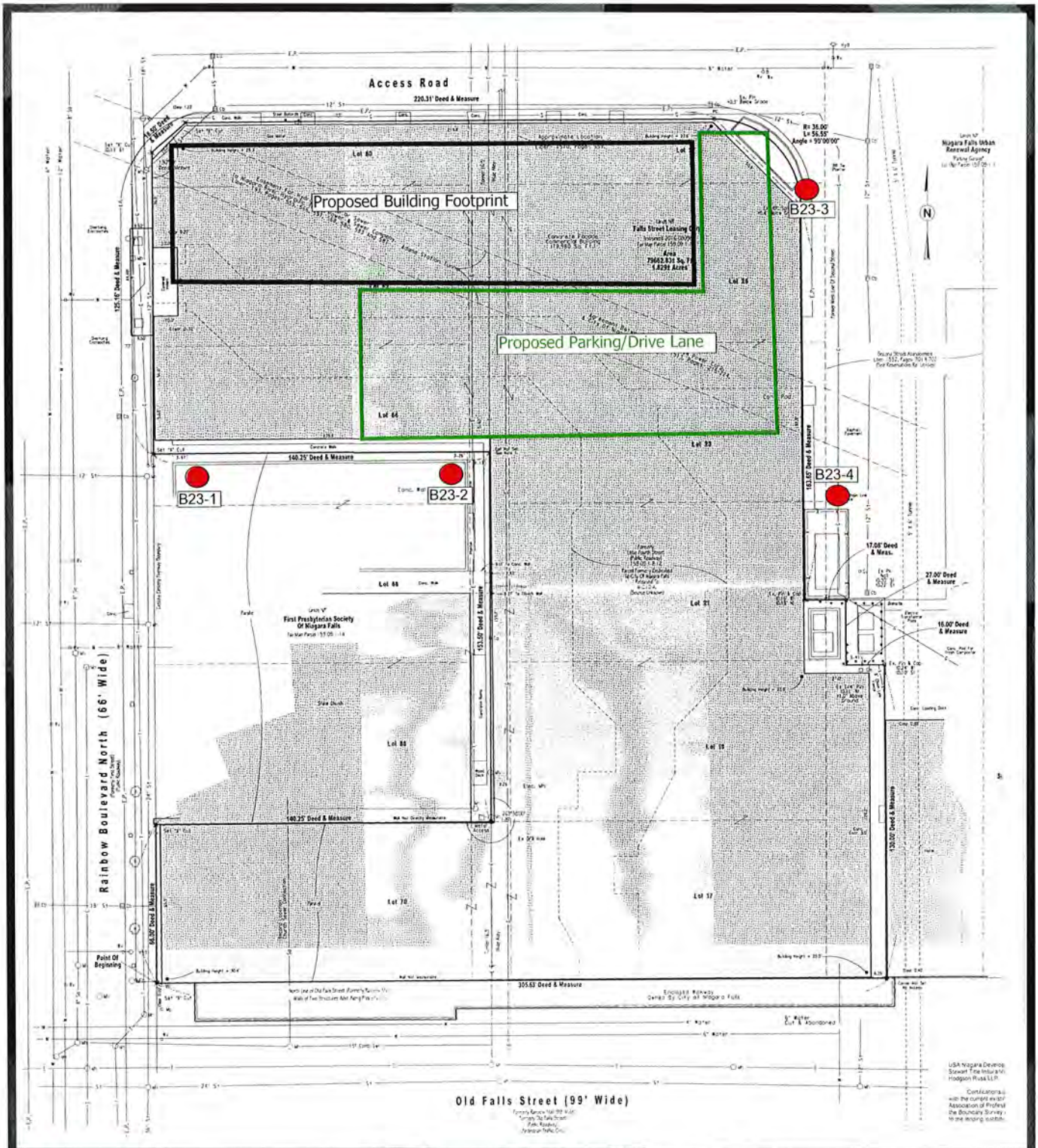


Foundation Design, P.C.

46A Sager Drive
Rochester, New York 14607
Phone (585) 458-0824
FAX (585) 458-3323

Old Falls Street Development

Old Falls Street, Niagara Falls, New York

Boring Location Plan

Adapted from: Niagara Boundary and Mapping Services

Map Showing Boundary Survey of Lands Owned by Falls Street Leasing Corp

CHECKED BY:	**JMB**	Scale 1" = 60'	**DATE: 3/10/23**
DRAWN BY:	**ZEW**		**JOB NO.: 5357.0**

Foundation Design, P.C.

SOIL • BEDROCK • GROUNDWATER

SOIL DESCRIPTIONS

COHESIVE SOIL

Very fine grained soils. Plastic soils that can be rolled into a thin thread if moist. Clays and silty clays show cohesion.

DESCRIPTION	SPT –BLOWS/FOOT
Very Soft	0-2
Soft	3-5
Medium	6-15
Stiff	16-25
Hard	26 or more

NON-COHESIVE SOIL

Soils composed of silt, sand and gravel, showing no cohesion or very slight cohesion

DESCRIPTION	SPT –BLOWS/FOOT
Loose	0-10
Firm	11-25
Compact	26-40
Dense	41-50
Very Dense	51 or more

SOIL COMPOSITION	DESCRIPTION	ESTIMATED PERCENTAGE
	and	50
	some	30-49
	little	11-29
	trace	0-10

MOISTURE CONDITIONS Dry, Damp, Moist, Wet, Saturated
Groundwater measured in the boring or test pit may not have reached equilibrium

SOIL STRATA:	TERM	DESCRIPTION
	layer	Soil deposit more than 6" thick
	seam	Soil deposit less than 6" thick
	parting	Soil deposit less than 1/8" thick
	varved	Horizontal uniform layers or seams of soil

GRAIN SIZE

MATERIAL		SIEVE SIZE
Boulder		Larger than 12 inches
Cobble		3 inches to 12 inches
Gravel	- coarse	1 inch to 3 inches
	- medium	3/8 inch to 1 inch
	- fine	No. 4 to 3/8 inch
Sand	- coarse	No. 10 to No. 4
	- medium	No. 40 to No. 10
	- fine	No. 200 to No. 40
Silt and Clay		Less than No. 200

Standard Penetration Test: The number of blows required to drive a split spoon sampler into the soil with a 140 pound hammer dropped 30 inches. The number of blows required for each 6-inches of penetration is recorded. The total number of blows required for the second and third 6-inches of penetration is termed the penetration resistance, or the "N" value.

Split Spoon Sampler: Typically a 2-foot long, 2-inch diameter hollow steel tube that breaks apart or splits in two down the tube length.

Refusal: Depth in the boring where more than 100 blows per 5-inches are needed to advance the sample spoon.

Core Recovery (%): The total length of rock core recovered divided by the total core run.

RQD (%): Rock Quality Designation – the total length of all the pieces of the rock core longer than 4-inches divided by the total length of the rock core run.

Foundation Design, P.C.

Boring Log

Project No.	5357.0	**Page** 1 **of** 1		**Test Boring No.**	B23-1
Project Name	Old Falls Street Development, Old Falls @ 1st Street, Niagara Falls, New York				
Client	Edgemere Development, Inc., 277 Alexander Street, Suite 400, Rochester, New York 14607				
Elevation	98.2	**Weather**	Sunny 30s	**Engineer**	B. Valentino
Date Started	3/8/2023	**Completed**	3/8/2023	**Driller**	Art
Drilling Company:	SJB Services			**Drilling Equipment:**	CME 550X

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
		8							ASPHALT 0'6"
			8	12	16	S-1	0'6"-2'	10"	FILL: Firm dark brown damp SAND, some silt, some gravel, trace organics
	14	10							
			8	18	18	S-2	2'-4'	5"	
5	6	4							S-3: Loose, trace brick
			4	4	8	S-3	4'-6'	3"	
	50/1"				50/1"	S-4	6'-6'1"	1"	S-4: Very dense, poor recovery Obstruction from 6'7" to 7'0"
	7	50/3"			50/3"	S-5	8'-8'9"	6"	S-5: Rock fragments in shoe
10									Hard augering below 8'9" 8'9"
	50/4"				50/4"	S-6	10'-10'4"	1"	Very dense tan-brown dry SAND and GRAVEL S-6: Trace rock fragment in shoe
									Hard below 10' (1000 psf down pressure) 11'7"
									Boring Terminated at 11'7" Auger Refusal
15									
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5357.0	**Page** 1 **of** 1		**Test Boring No.**	B23-2
Project Name	Old Falls Street Development, Old Falls @ 1st Street, Niagara Falls, New York				
Client	Edgemere Development, Inc., 277 Alexander Street, Suite 400, Rochester, New York 14607				
Elevation	99.3	**Weather**	Sunny 30s	**Engineer**	B. Valentino
Date Started	3/8/2023	**Completed**	3/8/2023	**Driller**	Art
Drilling Company:	SJB Services			**Drilling Equipment:**	CME 550X

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
		5							ASPHALT 0'5"
			11	14	16	S-1	0'6"-2'	12"	Brown-gray CRUSHER-RUN, some silt 1'0"
	10	10							FILL: Firm dark brown damp SILT, some clay, some gravel, little sand, trace organics
			12	12	22	S-2	2'-4'	12"	S-2: Trace brick
5	8	6							S-3: Trace brick, hard augering 6'-7'
			6	6	12	S-3	4'-6'	4"	6'0"
	14	12							FILL: Firm brown-tan dry SAND and GRAVEL, trace brick
			8	7	20	S-4	6'-8'	4"	8'0"
	4	5							FILL: Firm gray-brown damp SILT, some sand, little to some gravel, little to some clay, trace brick
10			9	9	14	S-5	8'-10'	12"	
	11	50/2"			50/2"	S-6	10'-10'8"	1"	S-6: Rock fragments in shoe
									Hard augering below 10'6" (750 psi down) 11'11"
									Boring Terminated at 11'11" Auger Refusal
15									
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

Project No.	5357.0	**Page** 1 **of** 1		**Test Boring No.**	B23-3
Project Name	Old Falls Street Development, Old Falls @ 1st Street, Niagara Falls, New York				
Client	Edgemere Development, Inc., 277 Alexander Street, Suite 400, Rochester, New York 14607				
Elevation	100.8	**Weather**	Sunny 30s	**Engineer**	B. Valentino
Date Started	3/8/2023	**Completed**	3/8/2023	**Driller**	Art
Drilling Company:	SJB Services			**Drilling Equipment:**	CME 550X

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
									ASPHALT 0'2"
			11	16	27	S-1	1'-2'	4"	Brown-gray CRUSHER-RUN 0'6"
	48	35							CONCRETE 0'11"
			20	9	55	S-2	2'-4'	4"	FILL: Compact brown-gray damp SAND, some silt, some gravel, trace brick
5	50/4"				50/4"	S-3	4'-4'4"	2"	S-2: Black 4'0"
									Very dense tan dry SAND and GRAVEL
	50/2"				50/2"	S-4	6'-6'2"	1"	Hard augering below 4' (750 psi)
									S-4: Rock fragments in shoe
	50/2"				50/2"	S-5	8'-8'2"	1"	S-5: Rock fragments in shoe 8'6"
10									Boring Terminated at 8'6" Auger Refusal
15									
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Foundation Design, P.C.

Boring Log

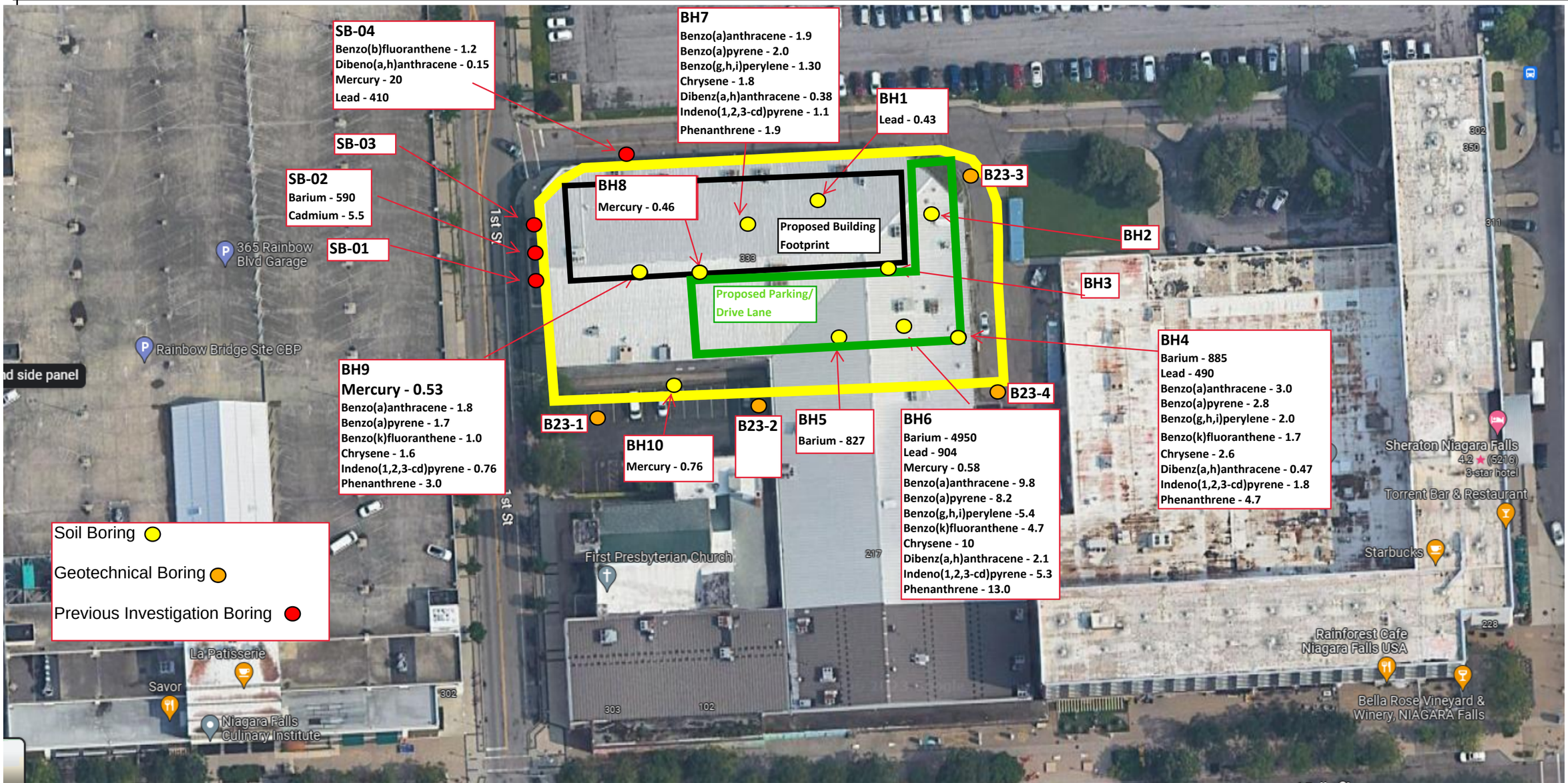
Project No.	5357.0	**Page** 1 **of** 1		**Test Boring No.**	B23-4
Project Name	Old Falls Street Development, Old Falls @ 1st Street, Niagara Falls, New York				
Client	Edgemere Development, Inc., 277 Alexander Street, Suite 400, Rochester, New York 14607				
Elevation	98.4	**Weather**	Sunny 30s	**Engineer**	B. Valentino
Date Started	3/8/2023	**Completed**	3/8/2023	**Driller**	Art
Drilling Company:	SJB Services			**Drilling Equipment:**	CME 550X

Ft.	Blows Per Six Inches 0"/6"	6"/12"	12"/18"	18"/24"	N Value	Sample No.	Depth	Rec	Visual Soil and Rock Classifications / Remarks
									ASPHALT 0'3"
			8	13	21	S-1	1'-2'	4"	CONCRETE 0'11"
	13	14							Firm brown-gray damp CRUSHER-RUN, some silt 2'6"
			14	9	28	S-2	2'-4'	12"	FILL: Compact black damp SILT and SAND, some gravel (asphalt-like) 4'0"
5	7	4							FILL: Firm brown wet SAND and GRAVEL, trace brick
			11	4	15	S-3	4'-6'	8"	S-4: Red-brown below 7', clay ball noted
	7	16							
			7	16	23	S-4	6'-8'	8"	
	5	4							S-5: Very dense, trace asphalt, trace brick, trace clay, rock fragment in shoe
10			50/5"		54/11"	S-5	8'-9'5"	8"	Very hard augering below 9'
	50/0"				50/0"	S-6	10'		11'0"
									Hard grey horizontally bedded DOLOMITE, numerous horizontal fractures,
						Core	11'		numerous high-angle/vertical fractures,
						Run	To		few vugs, black shale partings noted,
15						#1	16'		chert inclusions noted
									Rec: 60"/60" = 100% RQD: 0"/60" = 0%
									16'0"
									Boring Terminated at 16'0"
20									
25									
30									

Notes:
1. Dry upon completion.
2. Advanced hole using hollow stem augers.
3. Bore hole backfilled using auger spoils.

N=No. of blows to Drive 2" Spoon 12" with 140 lb. Wt. 30" Ea. Blow Hammer: Auto Size Rod: 2"

Figure 2: Old Falls Street Boring Locations



BRYDGES ENGINEERING IN ENVIRONMENT AND ENERGY, DPC	Figure 2: Old Falls Street Boring Locations	
	Old Falls Street	4/3/2023
	Niagara Falls, New York	Edgemere

Geoprobe
Bore Hole Log

BE3 BRYDGES ENGINEERING IN ENVIRONMENT AND ENERGY, DPC
960 Busti Avenue, Suite B-150
Buffalo, NY 14213
716.249.6880 be3corp.com

Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	3/9/2023	Equipment Model:	Geoprobe
Date Completed:	3/9/2023	Geologist/Technician:	Pete Gorton/Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH1**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
1					
2				0.0	0 - 2 feet - Brown sand and silt, some rock
3				0.0	2 - 3 feet - Brown sand and rock
4				0.0	3 - 4 feet - Brown clay, some rock. Odor present.
5					
6					
7					
8				0.0	4 - 8 feet - Brown sandy silty clay, some rock.
					Rock is covered in shiny/lustery specs. Mineral or metal.
9					Refusal at 8 feet.
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 3-6 feet, metals and SVOCs
Soil sample 7-8 feet, VOCs and TICs

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Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	3/9/2023	Equipment Model:	Geoprobe
Date Completed:	3/9/2023	Geologist/Technician:	Pete Gorton/Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH2**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
1				0.0	0 - 1 feet - Brown clay, black cinder, some rock. Rock has a shiny luster.
2					
3					
4				0.0	1 - 4 feet - Brown sily sand. Highlt elevated PID readings, odor present.
5					
6					
7					4 - 7 feet - Brown sily sand, some rock with mineral or metallic luster.
					Odor present.
8					7 - 8 feet - Highly weathered rock.
					Refusal at 8 feet
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 3-6 feet, metals and SVOCs
Soil sample 3-4 feet, VOCs and TICs
Odor Present.

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Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH3**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Concrete
1					
2				0.0	0.5 - 2 feet - Brown sand, black and white cinder, fill
3					
				0.0	2 - 3.5 feet - Concrete, rock
4				0.0	3.5 - 4 feet - Brown sand, black cinder, fill
5				0.0	4 - 5 feet - concrete
6					
7				0.0	5 - 7 feet - Black/brown/orange/ sandy fill
8					7 - 8 feet - Brown-black silty clay, some rock
					Refusal at 8 feet
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 3-7 feet, metals and SVOCs
No odor present.

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Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH4**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Concrete
1					
2				0.0	0.5 - 2 feet - Black/brown/orange sandy fill
					Refusal at 2 feet
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 1-2 feet, metals and SVOCs
No odor present.

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Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH5**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Concrete
1					
2					
					Refusal at 2 feet
3					
4				0.0	0.5 - 4 feet - Black/brown/orange/gray cindery sandy fill, some rock
5				0.0	4 - 5 feet - Black/brown/orange/gray cindery sandy fill, some rock
					slightly wet. No odor
6					
7					
8				0.0	5 - 8 feet - Black/brown/orange/gray cindery sandy fill, some rock,
					concrete, mixed earth.
9					
				0.0	8 -9.5 feet - Black/brown/orange/gray cindery sandy fill, some rock,
10					Refusal at 9.5 feet
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 3-6 feet, metals and SVOCs
No odor present.

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Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH6**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Concrete
1					
				0.0	0.5 - 1 feet - Concrete, Rock
2					
3					
4				0.0	1 - 4 feet - Black/brown/orange/gray cindery sandy fill, some rock
5					
6					
				0.0	4 - 6.5 feet - Concrete, brown/orange silty urban fill
7					Refusal at 6.5 feet
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 2-4 feet, metals and SVOCs
No odor present.

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Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH7**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Concrete
1					
				0.0	0.5 - 1 feet - Concrete, Rock
2					
3					
4				0.0	0.5 - 4 feet - Black/brown/orange/white cindery sandy fill, some rock
5					
6					
				0.0	4 - 6 feet - Black/brown/orange/white cindery sandy fill, some rock
7					Refusal at 6 feet
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 1-4 feet, metals and SVOCs
No odor present.

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Bore Hole Log

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Buffalo, NY 14213
716.249.6880 be3corp.com

Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH8**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Concrete
1					
2				0.0	0.5 - 2 feet - Black cindery fill
3					
				8.4	2 - 3.5 feet - Black/brown/orange sandy fill, some rock
4					PID elevated readings
					3.5 - 4 feet - concrete
5				5.8	4 - 4.5 feet - Brown clay, semitight, orange debris brick, fill
					Refusal at 4.5 feet
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 2-4 feet, metals, SVOCs, and VOCs
No odor present.

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960 Busti Avenue, Suite B-150
Buffalo, NY 14213
716.249.6880 be3corp.com

Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH9**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Concrete
1					
2				0.0	0.5 - 2 feet - Black/gray cindery fill
3				4.0	2 - 3 feet - Brown/Black silty clay, some rock
					PID elevated readings
4				4.0	3 - 4 feet - Brown/Black/orange silty fill, some rock
					PID elevated readings
5					
6					4 - 6 feet - concrete and rock
7					6 - 7 feet - brown silty sandy fill
					7 - 7.5 feet - rock
8					7.5 - 8 feet - brown silty sandy fill, some debris
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 2-4 feet, metals, SVOCs, and VOCs
No odor present.

Geoprobe
Bore Hole Log

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960 Busti Avenue, Suite B-150
Buffalo, NY 14213
716.249.6880 be3corp.com

Project:		Old Falls Street - Phase II	
Client:	AMD-Edgemere	Location:	Old Falls Street and 1st Street, Niagara Falls, New York 14303
Contractor:	SJB	Lat/Long:	
Date Started:	4/3/2023	Equipment Model:	Geoprobe
Date Completed:	4/3/2023	Geologist/Technician:	Jacob Cox
Operator:	Art Koske (SJB)	Ground Water:	N/A
Bore Hole Number:	**BH9**	Depth to Bedrock:	N/A

Depth (Ft)	Sample NO	Sample TYPE	REC	PID (ppm)	Description
0					
				0.0	0 - 0.5 feet - Stone
1				0.0	0.5 - 1 feet - Sandy silty soil, some stone
2				0.0	1 - 2 feet - Slightly moist silty clay, some brick and rock
3					
4				0.0	2 - 4 feet - Silty sandy clay, black/gray cinder
5					Refusal at 4.5 feet
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Comments:
Soil sample 2-4 feet, metals and SVOCs
No odor present.

ATTACHMENT
DEMOLITION PLAN

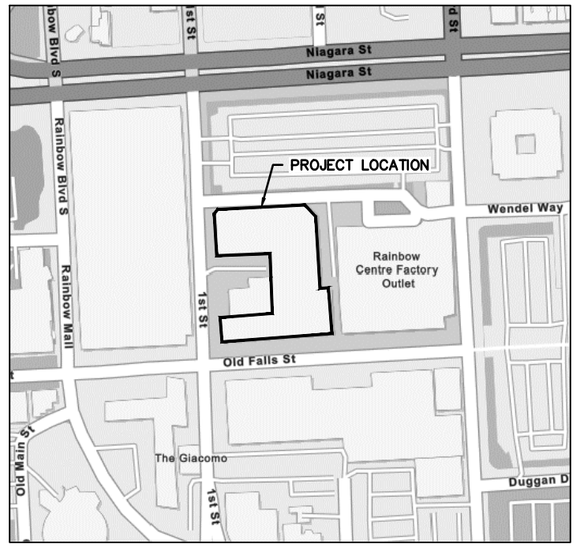
217 OLD FALLS STREET
& 333 FIRST STREET DEMOLITION
NIAGARA FALLS, NY 14303

PREPARED FOR:

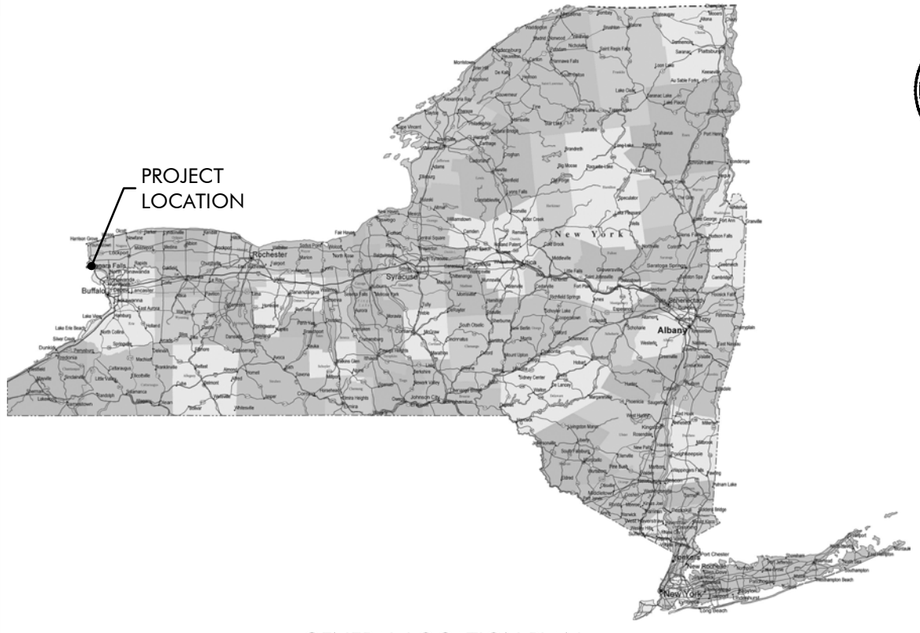
NEW YORK STATE OF OPPORTUNITY. | USA Niagara Development Corporation

PREPARED BY:

LIRO ENGINEERS INC.
690 DELAWARE AVENUE
BUFFALO, NEW YORK 14209



PROJECT LOCATION PLAN
N.T.S.



GENERAL LOCATION PLAN
N.T.S.

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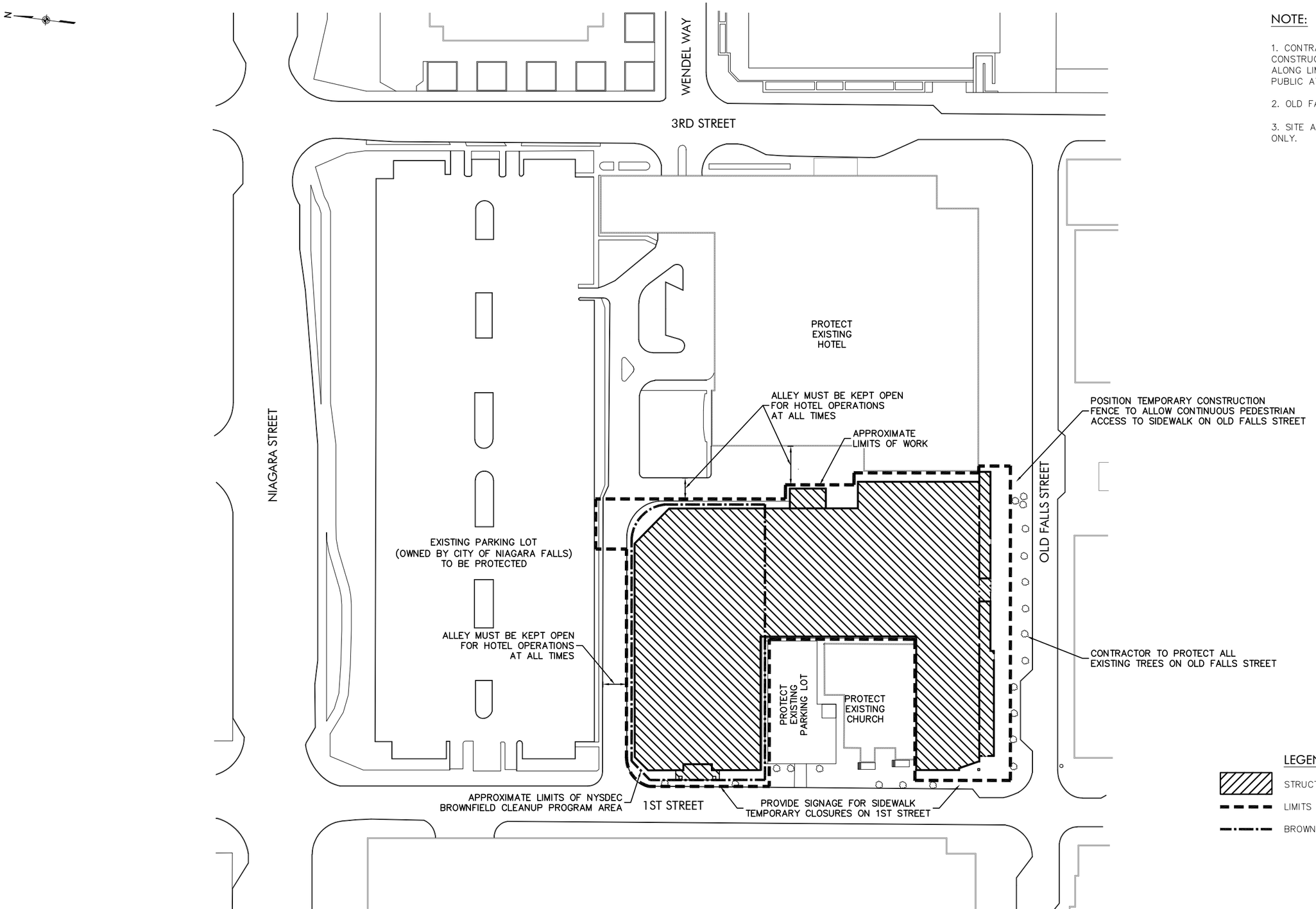
BID SET
MARCH 1, 2024



NOTE:

1. CONTRACTOR SHALL MAINTAIN PROPER TEMPORARY CONSTRUCTION FENCING DURING THE DEMOLITION WORK ALONG LIMITS OF WORK TO PROTECT THE SITE AND PUBLIC AT LIMITS OF WORK.

2. OLD FALLS STREET MUST REMAIN OPEN AT ALL TIMES.

3. SITE ACCESS/EGRESS SHALL BE FROM NORTH SIDE ONLY.

LEGEND:

- STRUCTURE TO BE ABATED AND DEMOLISHED
- LIMITS OF WORK
- BROWNFIELD CLEANUP PROGRAM AREA

50 0 50
SCALE IN FEET

NO.	DATE	DESCRIPTION

REVISIONS

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.
CLIENT:	NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE:	MARCH 2024
SCALE:	NONE
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
LIRO JOB NO.:	23-028-1342
SHEET OF	2 15
DRAWING TITLE:	GENERAL SITE PLAN AND APPROXIMATE LIMITS OF WORK
FIGURE NO.	G-001

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GENERAL NOTES:

1. THE INFORMATION PROVIDED IN THESE DRAWINGS IS FOR GUIDANCE PURPOSES ONLY. THE DRAWINGS MAY NOT REPRESENT ACTUAL AS-BUILT DIMENSIONS AND SIZES. NO ADDITIONAL PAYMENT WILL BE MADE TO THE CONTRACTOR IF THE INFORMATION PROVIDED IN THE DRAWINGS VARIES FROM THE EXISTING CONDITIONS.

2. ANY DAMAGE RESULTING FROM CONTRACTORS ACTIONS DURING THE EXECUTION OF THE PROJECT TO ANY NEIGHBORING PROPERTY OUTSIDE THE PROJECT LIMITS INCLUDING BUT NOT LIMITED TO STRUCTURES, ROADWAYS, TREES, UTILITIES AND SIGNS SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

3. THE ADJACENT CHURCH IS A HISTORIC STRUCTURE ON THE NATIONAL REGISTER OF HISTORIC PLACES. THE CONTRACTOR SHALL PROTECT THE CHURCH IN ACCORDANCE WITH THE CONSTRUCTION PROTECTION PLAN INCLUDED WITH THE BID DOCUMENTS.

4. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, RULES AND REGULATIONS.

5. THE CONTRACTOR SHALL RESEARCH, SECURE AND PAY FOR ALL PERMITS, MUNICIPAL APPROVALS, FEES AND SIMILAR ITEMS REQUIRED TO COMPLETE THE WORK.

6. THE CONTRACTOR SHALL MAINTAIN SITE CONDITIONS AND PREVENT TRACKING OR FLOWING OF SEDIMENT, SOIL, AND/OR DEBRIS ONTO PUBLIC RIGHT-OF-WAYS OR ONTO ADJACENT PROPERTIES. THE CONTRACTOR SHALL KEEP CLEAN AND FREE ALL SIDEWALKS, STREETS, DRIVES AND OTHER PAVEMENTS FROM SEDIMENT, SOIL, AND/OR DEBRIS AS A RESULT OF CONTRACTOR'S WORK.

7. IN ACCORDANCE WITH 16NYCRR PART 753, THE CONTRACTOR SHALL PERFORM A "DIG SAFELY NEW YORK" ONCE CALL FOR UTILITY MARKOUTS IN ACCORDANCE WITH NEW YORK STATE CODE RULE 753 (811). THE CONTRACTOR SHALL ENGAGE THE SERVICES AND PERFORM MARKOUTS BY PRIVATE MARKOUT COMPANY TO LOCATE MARKED AND UNMARKED UTILITIES.

8. THE CONTRACTOR SHALL SUPPLY ALL TEMPORARY WATER, NATURAL GAS, AND ELECTRIC SUPPLY REQUIRED FOR EXECUTION OF THE CONTRACT WORK. THE CONTRACTOR SHALL INCLUDE SETUP, SUPPLY, PAYMENT AND DISMANTLEMENT COSTS FOR TEMPORARY WATER, HEAT, AND POWER SERVICE IN THE CONTRACTOR'S LUMP SUM BID PRICE.

9. ALL COSTS FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, PERMITS AND INCIDENTALS REQUIRED TO COMPLETE THE CONTRACT WORK SHALL BE INCLUDED IN THE CONTRACTOR'S LUMP SUM BID PRICE.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SECURITY AND CONTROL OF THE PROJECT SITE WITHIN THE PROJECT LIMITS THROUGHOUT THE DURATION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING TRESPASSERS FROM ENTERING AND TRESPASSING ON THE SITE. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ALL OF CONTRACTOR'S OWN EQUIPMENT AND SHALL BE RESPONSIBLE TO REPLACE IN KIND AT CONTRACTOR'S EXPENSE ANY DAMAGE OR LOSS TO THE PROPERTY DUE TO THE INABILITY OF THE CONTRACTOR TO MAINTAIN SECURITY AND CONTROL OF THE PROPERTY.

11. THE CONTRACTOR SHALL PROVIDE SECURITY SUCH THAT SITE ACCESS IS LIMITED TO AUTHORIZED PERSONAL.

12. THE CONTRACTOR SHALL PROVIDE DETAILED DEMOLITION AND ABATEMENT WORK PLANS FOR ALL WORK AREAS. ALL PLANS MUST BE REVIEWED BY THE CONSTRUCTION MANAGER PRIOR TO INITIATION OF ANY DEMOLITION OR ABATEMENT WORK.

13. THE CONTRACT DRAWINGS ARE INTENDED TO BE COMPLIMENTARY TO THE CONTRACT SPECIFICATIONS CONSTRUCTION PROTECTION PLAN AND THE ASBESTOS CONTAINING MATERIALS AND INSPECTION REPORTS. ALL WORK AND MATERIALS MENTIONED IN ONE DOCUMENT BUT NOT MENTIONED IN THE OTHERS SHALL BE FURNISHED AND PERFORMED AND DONE AS IF THE SAME WERE MENTIONED IN ALL DOCUMENTS.

14. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, STAGING, LABORATORY ANALYSIS, CHARACTERIZATION, TRANSPORT, DISPOSAL AND ALL ASSOCIATED COST OF ALL HAZARDOUS WASTES, UNIVERSAL WASTES, EXCAVATED SOIL/FILL AND CONTRACT DERIVED WASTES IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, RULES, AND REGULATIONS.

15. CONTRACTOR SHALL, PROVIDE WATER FOR DUST CONTROL AND OTHER CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE FOR OBTAINING NECESSARY HYDRANT PERMITS AND FOR PAYING ALL ASSOCIATED COSTS.

16. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ON SITE FEATURES (NOT INCLUDED IN PROJECT DEMOLITION) AS IDENTIFIED ON THE PROJECT DRAWINGS OR IDENTIFIED IN THE FIELD BY THE CONSTRUCTION MANAGER. DAMAGE CAUSED BY THE CONTRACTOR TO ANY SUCH FEATURES SHALL BE REPAIRED OR REPLACED IN KIND BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

17. CONTRACTOR SHALL BEGIN BUILDING DEMOLITION WORK FROM THE NORTH SIDE OF THE SITE. ACCESS AND EGRESS TO SITE SHALL BE FROM NORTH SIDE OF SITE ONLY.

18. THE NORTHERN PORTION OF THE BUILDING IS WITHIN A NYSDEC BROWNFIELD CLEANUP PROGRAM SITE. NO GROUND INTRUSIVE WORK OR SUBGRADE CLEARING IS PERMITTED IN THE BROWNFIELD AREA.

GENERAL DEMOLITION NOTES:

1. THE PROJECT SCOPE OF WORK INCLUDES ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO DEMOLISH ALL BUILDING WALLS, SLABS, SUBSLAB SOIL/FILL, AND FOUNDATIONS DOWN TO 8" BELOW SURROUNDING SIDEWALK ELEVATION IN THE CENTRAL AND SOUTHERN PORTION OF THE SITE (OUTSIDE OF THE BROWNFIELD AREA). DEMOLITION WITHIN THE BROWNFIELD AREA SHALL BE TERMINATED AT THE TOP OF THE EXISTING FLOOR SLAB.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL STRUCTURES TO REMAIN. THESE STRUCTURES SHALL BE PROTECTED FROM DAMAGE DURING DEMOLITION.

3. SAFE AND CONTINUOUS THROUGH TRAFFIC AND INGRESS AND EGRESS FOR ADJACENT DRIVEWAYS, SERVICE ROADS, AND PUBLIC STREETS SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF CONSTRUCTION.

4. THE ADJACENT CHURCH IS A HISTORIC STRUCTURE ON THE NATIONAL REGISTER OF HISTORIC PLACES. THE CONTRACTOR SHALL PROTECT THE CHURCH IN ACCORDANCE WITH THE CONSTRUCTION PROTECTION PLAN INCLUDED WITH THE BID DOCUMENTS.

5. THE CONTRACTOR SHALL PROVIDE SIDEWALK AND STREET LANE CLOSURE SIGNAGE AND OBTAIN ALL APPROPRIATE PERMITS. THE CONTRACTOR SHALL PROVIDE A MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ANY SIDEWALK AND/OR STREET CLOSURES AND PROVIDE ALL REQUIRED SIGNAGE.

6. RODENT AND ANIMAL CONTROL: THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A CERTIFIED COMMERCIAL APPLICATOR, CERTIFIED BY THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC), TO EXTERMINATE AND REMOVE RODENTS AND ANIMALS THAT MAY EXIST IN THE AREAS IDENTIFIED TO BE DEMOLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING THE AREAS AS RODENT AND ANIMAL FREE PRIOR TO DEMOLITION ACTIVITIES. THE CONTRACTOR SHALL PROVIDE A CERTIFICATE OF RODENT FREE INSPECTION AS ISSUED BY THE CONTRACTOR'S CERTIFIED COMMERCIAL APPLICATOR.

7. THE CONTRACTOR SHALL BACKFILL ALL VOID SPACES AND PITS AS SHOWN AND NOT SHOWN ON THE CONTRACT DRAWINGS.

8. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL EQUIPMENT AND MISCELLANEOUS ITEMS, ALONG WITH ROOF TOP HVAC UNITS. THE LOCATIONS OF THESE ITEMS ARE NOT SHOWN ON THE DRAWINGS. THERE ARE GENERAL LISTINGS PROVIDED ON THE APPROPRIATE DRAWINGS.

9. DURING DEMOLITION ACTIVITIES, THE CONTRACTOR SHALL PERFORM NUISANCE DUST MONITORING AND DUST CONTROL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

10. AFTER BUILDING DEMOLITION IS COMPLETE AND FLOOR SLAB IS REMOVED, CONTRACTOR SHALL EXCAVATE FOUR TEST PITS OUTSIDE OF THE BROWNFIELD AREA TO A DEPTH OF APPROXIMATELY FIVE FEET AT PERIMETER FOUNDATION AND INTERIOR COLUMN PIER LOCATIONS AS DIRECTED BY THE CONSTRUCTION MANAGER. EXCAVATIONS SHALL BE BACKFILLED WITH THE EXCAVATED MATERIAL.

SURFACE DEMOLITION NOTES:

1. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL PERIMETER SIDEWALKS AND TREES WITHIN THE RIGHT-OF-WAY. ALL ON-SITE CATCH BASINS AND MANHOLES TO BE USED FOR SITE DRAINAGE AS A FINISHED CONDITION SHALL BE PRESERVED AND PROTECTED. TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH CONTRACT DOCUMENTS PRIOR TO THE INITIATION OF DEMOLITION AND SITE GRADING.

2. THE CONTRACTOR SHALL RESTORE THE SITE SURFACE AS SPECIFIED BY THE CONTRACT DOCUMENTS.

EROSION CONTROL NOTES:

1. TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

SITE FENCING NOTES:

1. PRIOR TO MOBILIZING TO THE SITE, THE CONTRACTOR SHALL PROVIDE A TEMPORARY FENCE AROUND THE WORK AREA TO PROVIDE A SECURE SITE. SITE CONDITIONS MAY CHANGE BY THE TIME THE CONTRACTOR MOBILIZES TO THE SITE. ANY ADDITIONAL PREPARATION NECESSARY TO CREATE A SECURE SITE SHALL BE THE CONTRACTOR'S FINANCIAL RESPONSIBILITY.

UTILITY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER TERMINATION, PROTECTION AND/OR RE-ROUTING OF SITE UTILITIES (GAS, ELECTRICITY, WATER, SEWER, COMMUNICATION) FEEDING THE FACILITY AS SHOWN ON THE CONTRACT DRAWINGS. THE CONTRACTOR SHALL COORDINATE UTILITY ABANDONMENT, DISCONNECTS AND RE-ROUTING WITH THE OWNER OF EACH UTILITY, AS APPLICABLE.

2. ALL UTILITY INFORMATION PROVIDED ON THE CONTRACT DRAWINGS WAS OBTAINED FROM AVAILABLE RECORD DRAWINGS, AND SITE RECONNAISSANCE. THE LOCATIONS SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND NO ADDITIONAL PAYMENT WILL BE MADE TO THE CONTRACTOR IF THE INFORMATION PROVIDED IN THE DRAWINGS VARIES FROM EXISTING CONDITIONS.

3. THE CONTRACTOR SHALL PROTECT AND MAINTAIN THROUGHOUT THE PROJECT DURATION EXISTING STORM SEWER MANHOLES, CATCH BASINS AND DRAIN INLETS DESIGNATED TO REMAIN AS A FINISHED CONDITION. THE CONTRACTOR SHALL INSTALL AND MAINTAIN TEMPORARY EROSION AND SEDIMENTATION CONTROLS AT EACH SEWER MANHOLE, CATCH BASIN AND DRAIN INLET FROM THE INITIATION OF DEMOLITION UNTIL THE COMPLETION OF SITE RESTORATION. THE CONTRACTOR SHALL REPLACE DRAIN INLET PROTECTION AS REQUIRED BY THE CONSTRUCTION MANAGER WHERE THE CONSTRUCTION MANAGER DETERMINES THE PROTECTION IS INADEQUATE, PLUGGED OR NOT PERFORMING PROPERLY.

4. THE CONTRACTOR SHALL PROVIDE THE CONSTRUCTION MANAGER WITH DOCUMENTATION THAT ALL INTERIOR DRAINS HAVE BEEN SEALED PRIOR TO INITIATING ABATEMENT, THAT ELECTRIC, GAS, AND WATER UTILITY CONNECTIONS TO BUILDINGS HAVE BEEN TERMINATED PRIOR TO INITIATING INTERIOR DEMOLITION, AND THAT ALL SEWER UTILITIES HAVE BEEN DISCONNECTED AND TERMINATED OR ADJUSTED TO THEIR FINISHED CONDITION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS BEFORE INITIATING GRADING.

SPECIFIC UTILITY TERMINATION REQUIREMENTS:

SEWER – ALL SERVICE LATERALS SHOWN HAVE BEEN IDENTIFIED THROUGH RECORD SEARCH AND VISUAL INSPECTION. ADDITIONAL LATERALS MAYBE IDENTIFIED DURING THE WORK WHICH THE CONTRACTOR SHALL BE REQUIRED TO TERMINATE AS PART OF THE WORK. A LICENSED PLUMBER SHALL PERFORM ALL TERMINATIONS. ALL SITE STORM DRAINAGE CONNECTIONS SHALL BE FITTED WITH EROSION AND SEDIMENTATION CONTROLS ACCORDING TO THE CONTRACT DOCUMENTS, PRESERVED, PROTECTED AND KEPT CLEAR UNTIL DISCONNECTION/TERMINATION OR ADJUSTMENT TO FINISHED CONDITION PRIOR TO FINAL GRADING. STORM DRAINAGE TERMINATIONS SHALL BE LOCATED (VERTICALLY AND HORIZONTALLY) UTILIZING A NEW YORK STATE LICENSED LAND SURVEYOR.

WATER – ALL SERVICE CONNECTIONS SHOWN HAVE BEEN IDENTIFIED THROUGH RECORD SEARCH AND VISUAL INSPECTION. ACCORDING TO RECORDS, ALL SERVICE CONNECTIONS TO THE FACILITY HAVE BEEN SHUT OFF AT THE STREET LOCATIONS. THE CONTRACTOR SHALL VERIFY THESE CONDITIONS AND TERMINATE THE SERVICES ACCORDING TO REGULATIONS. THE TERMINATIONS SHALL BE LOCATED (VERTICALLY AND HORIZONTALLY) UTILIZING A NEW YORK STATE LICENSED LAND SURVEYOR.

GAS – DISCUSSION WITH NATIONAL FUEL ENGINEERING DEPARTMENT CONVEYED THAT SERVICE LATERALS COMING INTO THE FACILITY HAS BEEN CUT OFF. THE CONTRACTOR SHALL CONTACT THE NATIONAL FUEL AND COORDINATE SITE MEETINGS TO DISCUSS APPROPRIATE CUT OFFS BEFORE ANY INTRUSIVE WORK COMMENCES. THE CONTRACTOR SHALL COORDINATE THE TERMINATIONS AND REMOVALS OF ALL GAS SERVICES WITH NATIONAL FUEL (1-800-365-3234). ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE INCLUDED IN CONTRACTOR'S LUMP SUM BID PRICE. ADDITIONAL INFORMATION CAN BE FOUND AT: HTTP://WWW.NATIONALFUELGAS.COM/ENCROACHMENT/UTILITY.PDF

ELECTRIC – RECORDS FROM NATIONAL GRID INDICATE THAT ELECTRICAL SUPPLY HAS BEEN TERMINATED. THE CONTRACTOR SHALL VERIFY THE STATUS OF ALL ELECTRICAL LINES FEEDING THE PROPERTY. REMOVAL OF THE SURFACE-MOUNTED TRANSFORMERS DESIGNATED TO BE REMOVED ON THE CONTRACT DRAWINGS AND OTHER SERVICE TERMINATIONS SHALL BE COORDINATED WITH NATIONAL GRID (1-800-260-0054).

COMMUNICATION – ONCE THE CONTRACTOR PERFORMS A "DIG SAFELY NEW YORK" ONE CALL, THE CONTRACTOR SHALL COORDINATE WITH ANY UTILITY LISTED IN THE "ONE CALL" RESPONSE REGARDING THE LOCATION OF ANY COMMUNICATION CONDUITS.

STORM SEWER PROTECTION – STORM SEWER MANHOLES SHALL BE PROTECTED AND PRESERVED. WHILE DEMOLISHING THE PROPERTY, THE CONTRACTOR SHALL INSTALL TERMINATION PLUGS FOR ANY ROOF LEADERS AT LOCATION(S) AS DIRECTED BY THE CONSTRUCTION MANAGER. THE CONTRACTOR SHALL UTILIZE DRAWING UT-101 AS A GUIDE FOR DETERMINING THE LOCATIONS.

NO.	DATE	DESCRIPTION
		REVISIONS

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.

CLIENT: NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation

DATE: MARCH 2024

SCALE: NONE

JOB TITLE AND LOCATION:
217 OLD FALLS STREET
& 333 FIRST STREET DEMOLITION
NIAGARA FALLS, NY 14303

LIRO JOB NO.: 23-028-1342

SHEET 3 OF 15

DRAWING TITLE:
GENERAL, DEMOLITION, AND
UTILITY TERMINATION NOTES

G-002

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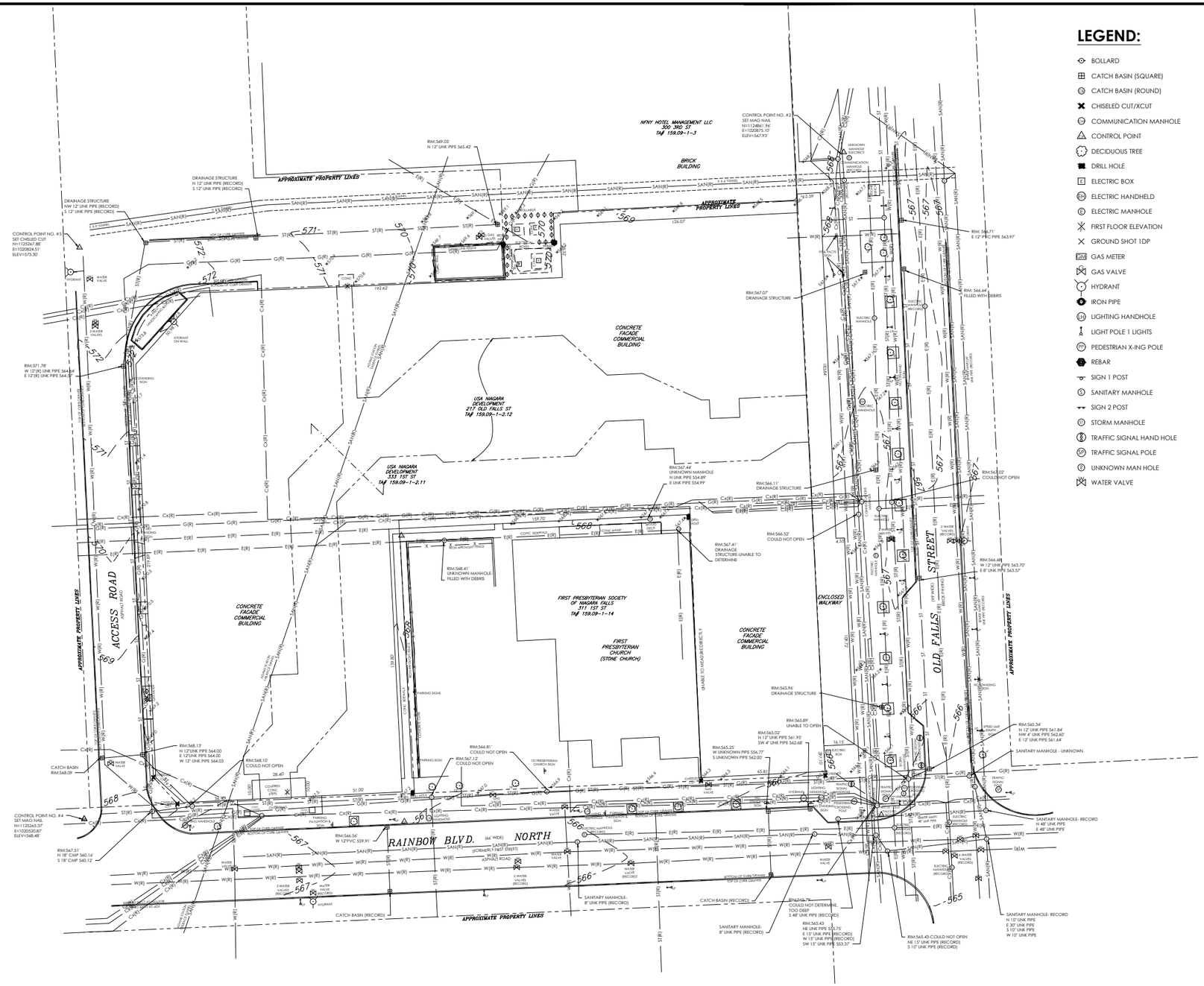


GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 30 ft.

LEGEND:

- BOLLARD
- CATCH BASIN (SQUARE)
- CATCH BASIN (ROUND)
- CHISELED CUT/XCUT
- COMMUNICATION MANHOLE
- CONTROL POINT
- DECIDUOUS TREE
- DRILL HOLE
- ELECTRIC BOX
- ELECTRIC HANDHELD
- ELECTRIC MANHOLE
- FIRST FLOOR ELEVATION
- GROUND SHOT 1DP
- GAS METER
- GAS VALVE
- HYDRANT
- IRON PIPE
- LIGHTING HANDHOLE
- LIGHT POLE 1 LIGHTS
- PEDESTRIAN X-ING POLE
- REBAR
- SIGN 1 POST
- SANITARY MANHOLE
- SIGN 2 POST
- STORM MANHOLE
- TRAFFIC SIGNAL HAND HOLE
- TRAFFIC SIGNAL POLE
- UNKNOWN MAN HOLE
- WATER VALVE

UTILITY LINE TYPES:

- COMMUNICATION LINE (RECORD) — Cx(R) — Cx(R)
- GAS LINE (RECORD) — G(R) — G(R)
- SANITARY SEWER LINE — SAN — SAN
- SANITARY SEWER LINE (RECORD) — SAN(R) — SAN(R)
- STORM SEWER LINE — ST — ST — ST
- STORM SEWER LINE (RECORD) — ST(R) — ST(R)
- WATER LINE (RECORD) — W(R) — W(R)

SURVEY LINE TYPES:

- CONTOUR (MAJOR) — 580
- CONTOUR (MINOR) — 581
- FENCE — X — X — X — X — X
- HANDRAIL
- PROPERTY SUBLOT
- PROPERTY LOT LINE (APPROX)
- ROAD CENTERLINE
- ROW (APPROX)

DIG SAFE UTILITY:

TYPE	COMPANY	RESPONSE	AFFECTED
COMMUNICATION	TIME WARNER/CHARTER	NO	NO INFO
	VERIZON	YES	YES
	FIRSTLIGHT	YES	NO
ELECTRIC	NATIONAL GRID	YES	NO
GAS	NATIONAL FUEL	YES	YES
STORM SEWER	NIAGARA FALLS WATER AUTHORITY	YES	YES
SANITARY	NIAGARA FALLS WATER AUTHORITY	YES	YES
WATER	NIAGARA FALLS WATER AUTHORITY	YES	YES

NOTE:

UTILITY INFORMATION WAS PROVIDED FROM FIELD SURVEY AND DIG SAFE. DIG SAFE DESIGN TICKET IS #10272-001-572 10/27/2022. UTILITY COMPANIES WERE CONTACTED VIA PHONE AND EMAIL. IF NO RESPONSE FROM UTILITY COMPANY BEFORE PROJECT GOES TO CLIENT; KHEOPS WILL FORWARD ON TO THE CLIENT ANY LATE UTILITY INFO/EMAILS RECEIVED.

THE UTILITY INFORMATION SHOWN ON THE SURVEY DRAWING ARE FROM A DIG SAFE DESIGN TICKET AND SHOULD NOT REPLACE AN ACTUAL DIG LOCATION TICKET.

GENERAL NOTES:

THIS MAP IS BASED ON A FIELD SURVEY COMPLETED ON DATED 1/14/2023.

THE PROPERTY LINES, DISTANCES, AND ACREAGE SHOWN ARE APPROXIMATE ONLY AND ARE BASED ON DEED AND TAX MAP INFORMATION PROVIDED. A COMPLETE BOUNDARY SURVEY WAS NOT PERFORMED FOR THE PREPARATION OF THIS MAP.

COORDINATES ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE, NAD 83.

ELEVATIONS ARE REFERENCED TO THE NAVD 88 VERTICAL DATUM.

KHEOPS Architecture, Engineering & Survey, DPC
300 Pearl Street, Suite 500
Buffalo, New York 14202
P. 716.849.8739
F. 716.856.0981
WWW.KHAFRA.COM

SURVEY NOTE:

1. SURVEY AND CONTOUR INFORMATION PROVIDED BY:
   KHEOPS ARCHITECTURE, ENGINEERING, & SURVEY, DPC.
   300 PEARL STREET, SUITE 500
   BUFFALO, NEW YORK 14202

   MAP NUMBER: 65379
   FILE NAME: 22NY159-LIRO
   DATE: 1/25/2023

NO.	DATE	DESCRIPTION
REVISIONS		

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.
DATE:	MARCH 2024
SCALE:	AS SHOWN

CLIENT: NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation

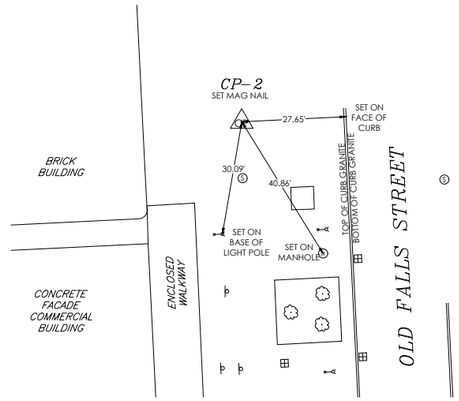
JOB TITLE AND LOCATION:
217 OLD FALLS STREET
& 333 FIRST STREET DEMOLITION
NIAGARA FALLS, NY 14303

LIRO JOB NO.: 23-028-1342
SHEET OF: 4 15

DRAWING TITLE:
EXISTING SITE SURVEY AND LEGEND

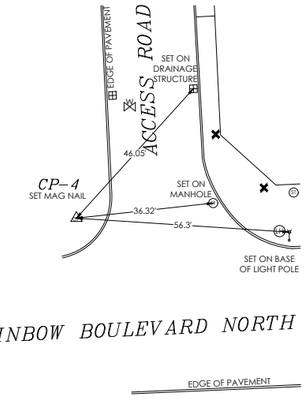
FIGURE NO.: G-003

V:\USA\N\23-028-1342 - USA Niagara 217 Old Falls Street\Design\DEMO\BID SET\G-003.dwg 2/27/2024 12:25 PM



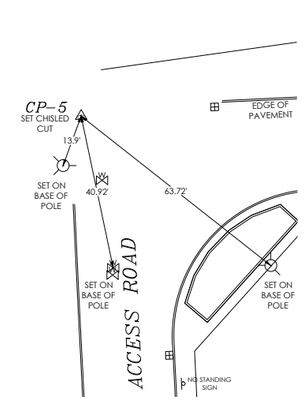
TIE NOT TO SCALE

CONTROL POINT #2
SET MAG NAIL
N=1124861.96', E=1020875.10', ELEV=567.93'



TIE NOT TO SCALE

CONTROL POINT #4
SET MAG NAIL
N=1125265.37' ,E=1020520.87' ,ELEV=568.48'



TIE NOT TO SCALE

CONTROL POINT #5
SET CHISLED CUT
N=1125267.88' ,E=1020824.51' ,ELEV=573.30'

LEGEND:

- BOLLARD
- CATCH BASIN (SQUARE)
- CATCH BASIN (ROUND)
- CHISELED CUT/XCUT
- COMMUNICATION MANHOLE
- CONTROL POINT
- DECIDUOUS TREE
- DRILL HOLE
- ELECTRIC BOX
- ELECTRIC HANDHELD
- ELECTRIC MANHOLE
- FIRST FLOOR ELEVATION
- GROUND SHOT 1DP
- GAS METER
- GAS VALVE
- HYDRANT
- IRON PIPE
- LIGHTING HANDHOLE
- LIGHT POLE 1 LIGHTS
- PEDESTRIAN X-ING POLE
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- SIGN 1 POST
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UTILITY LINE TYPES:

- COMMUNICATION LINE (RECORD) — Cx(R) — Cx(R)
- GAS LINE (RECORD) — G(R) — G(R)
- SANITARY SEWER LINE — SAN — SAN
- SANITARY SEWER LINE (RECORD) — SAN(R) — SAN(R)
- STORM SEWER LINE — ST — ST — ST
- STORM SEWER LINE (RECORD) — ST(R) — ST(R)
- WATER LINE (RECORD) — W(R) — W(R)

SURVEY LINE TYPES:

- CONTOUR (MAJOR) — 580
- CONTOUR (MINOR) — 581
- FENCE — X — X — X — X — X
- HANDRAIL
- PROPERTY SUBLOT
- PROPERTY LOT LINE (APPROX)
- ROAD CENTERLINE
- ROW (APPROX)

DIG SAFE UTILITY:

TYPE	COMPANY	RESPONSE	AFFECTED
COMMUNICATION	TIME WARNER/CHARTER	NO	NO INFO
	VERIZON	YES	YES
	FIRSTLIGHT	YES	NO
ELECTRIC	NATIONAL GRID	YES	NO
GAS	NATIONAL FUEL	YES	YES
STORM SEWER	NIAGARA FALLS WATER AUTHORITY	YES	YES
SANITARY	NIAGARA FALLS WATER AUTHORITY	YES	YES
WATER	NIAGARA FALLS WATER AUTHORITY	YES	YES

KHEOPS Architecture, Engineering & Survey, DPC
300 Pearl Street, Suite 500
Buffalo, New York 14202
P. 716.849.8739
F. 716.856.0981
WWW.KHAFRA.COM

SURVEY NOTE:

1. SURVEY AND CONTOUR INFORMATION PROVIDED BY:
   KHEOPS ARCHITECTURE, ENGINEERING, & SURVEY, DPC.
   300 PEARL STREET, SUITE 500
   BUFFALO, NEW YORK 14202

   MAP NUMBER: 65379
   FILE NAME: 22NY159-LIRO
   DATE: 1/25/2023

NOTE:

UTILITY INFORMATION WAS PROVIDED FROM FIELD SURVEY AND DIG SAFE. DIG SAFE DESIGN TICKET IS #10272-001-572 10/27/2022. UTILITY COMPANIES WERE CONTACTED VIA PHONE AND EMAIL. IF NO RESPONSE FROM UTILITY COMPANY BEFORE PROJECT GOES TO CLIENT; KHEOPS WILL FORWARD ON TO THE CLIENT ANY LATE UTILITY INFO/EMAILS RECEIVED.

THE UTILITY INFORMATION SHOWN ON THE SURVEY DRAWING ARE FROM A DIG SAFE DESIGN TICKET AND SHOULD NOT REPLACE AN ACTUAL DIG LOCATION TICKET.

GENERAL NOTES:

THIS MAP IS BASED ON A FIELD SURVEY COMPLETED ON DATED 1/14/2023.

THE PROPERTY LINES, DISTANCES, AND ACREAGE SHOWN ARE APPROXIMATE ONLY AND ARE BASED ON DEED AND TAX MAP INFORMATION PROVIDED. A COMPLETE BOUNDARY SURVEY WAS NOT PERFORMED FOR THE PREPARATION OF THIS MAP.

COORDINATES ARE REFERENCED TO THE NEW YORK STATE PLANE COORDINATE SYSTEM WEST ZONE, NAD 83.

ELEVATIONS ARE REFERENCED TO THE NAVD 88 VERTICAL DATUM.

NO.	DATE	DESCRIPTION
		REVISIONS

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.
CLIENT:	NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE:	MARCH 2024
SCALE:	AS SHOWN
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
DRAWING TITLE:	SITE SURVEY CONTROL POINTS AND LEGEND
LIRO JOB NO.:	23-028-1342
SHEET OF	5 15
FIGURE NO.	G-004

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ASBESTOS CONTAINING MATERIAL (ACM) REMOVAL NOTES:

1. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, AND SERVICES, NECESSARY TO PERFORM THE WORK REQUIRED FOR ASBESTOS ABATEMENT IN ACCORDANCE WITH CONTRACT DOCUMENTS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, RULES, AND REGULATIONS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, TRANSPORT AND DISPOSAL OF ALL ASBESTOS CONTAINING MATERIALS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, RULES, AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, 12 NYCRR PART 56 (CODE RULE 56), 40 CFR PART 61 (NESHAP), AND 29 CFR 1926.1101 (OSHA ASBESTOS STANDARD).

3. CONTRACTOR SHALL DEVELOP, SUBMIT FOR REVIEW AND IMPLEMENT A WRITTEN STANDARD PROCEDURE FOR ABATEMENT WORK TO ENSURE MAXIMUM PROTECTION AND SAFEGUARD FROM ASBESTOS EXPOSURE OF THE WORKERS, VISITORS, EMPLOYEES, GENERAL PUBLIC, AND THE ENVIRONMENT.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NYSDOL AND USEPA NOTIFICATION, FILING AND VARIANCE FEES. MULTIPLE FILINGS, NOTIFICATIONS AND VARIANCES MAY BE REQUIRED.

5. THE CONTRACTOR SHALL RECEIVE APPROVAL FOR ALL VARIANCES FROM THE CONSTRUCTION MANAGER PRIOR TO REQUESTING SUCH VARIANCE FROM A REGULATORY AGENCY. THE CONSTRUCTION MANAGER RETAINS THE RIGHT TO REJECT ANY VARIANCE PETITION WHICH IN THE SOLE OPINION OF THE CONSTRUCTION MANAGER PUTS ADDITIONAL BURDEN OR COST ON THE OWNER, THE CONSTRUCTION MANAGER, OR THE PROJECT MONITOR.

6. CONTRACTOR SHALL PROVIDE SIGNS, LABELS, WARNINGS, AND POST INSTRUCTIONS THAT ARE NECESSARY TO PROTECT, INFORM AND WARN PEOPLE OF THE HAZARD FROM ASBESTOS EXPOSURE. POST IN A PROMINENT AND CONVENIENT PLACE FOR THE WORKERS A COPY OF THE LATEST APPLICABLE REGULATIONS FROM OSHA, EPA, AND NYSDOL.

7. ANY DISTURBANCE OF ASBESTOS CONTAINING MATERIALS (ACM) SHALL BE PERFORMED BY A NYSDOL LICENSED ASBESTOS ABATEMENT CONTRACTOR EMPLOYING CERTIFIED WORKERS.

8. SHOWER AND WASTEWATER MUST BE COLLECTED AND FILTERED THROUGH A SYSTEM WITH AT LEAST 5.0 MICRON PARTICLE SIZE FILTRATION CAPACITY AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES, RULES AND REGULATIONS. THE CONTAMINATED FILTERS SHALL BE DISPOSED OF AS ASBESTOS WASTE.

9. CONTRACTOR SHALL PROVIDE TEMPORARY ELECTRIC, HEAT AND LIGHT THROUGHOUT THE WORK AREA(S), AS REQUIRED, IN ACCORDANCE WITH ALL APPLICABLE CODES, RULES, AND REGULATIONS.

10. CONTRACTOR SHALL PROVIDE SUFFICIENT GFCI PROTECTED ELECTRIC TO ALL LOCATIONS AS REQUIRED BY THE THIRD PARTY PROJECT MONITOR TO ACCOMMODATE PROJECT REQUIRED AIR SAMPLING.

11. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE JOB SITE AND DETERMINING ALL QUANTITIES, MEASUREMENTS, AND ANY OTHER CONDITIONS RELATIVE TO THE ENTIRE PROJECT. THE DRAWINGS ARE ONLY A DIAGRAMMATICAL REPRESENTATION OF THE WORK AREAS AND MAY NOT CONSTITUTE THE ACTUAL QUANTITIES AND LOCATIONS OF THE MATERIAL. CONTRACTOR IS RESPONSIBLE FOR CONFIRMATION OF THE ACTUAL TOTAL QUANTITIES AND LOCATIONS OF THE WORK PRIOR TO BIDDING.

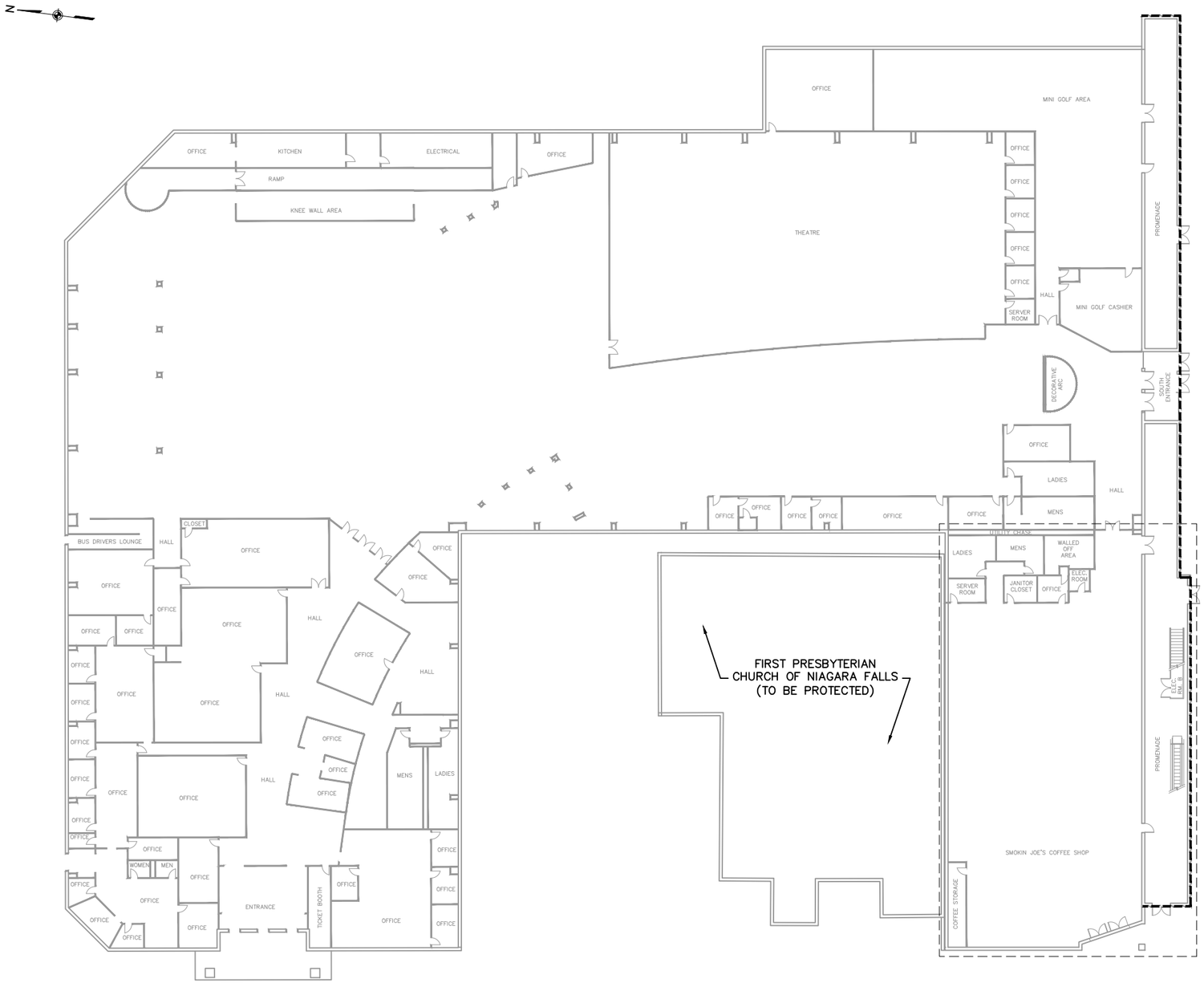
12. SHOULD SUSPECT ACM BE IDENTIFIED WHICH ARE NOT SHOWN ON THE CONTRACT DRAWINGS OR SURVEY, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER PRIOR TO CONDUCTING ANY WORK THAT COULD DISTURB THE SUSPECT ACM. IF DEEMED NECESSARY BY THE CONSTRUCTION MANAGER, THE CONSTRUCTION MANAGER WILL ARRANGE FOR SAMPLING AND ANALYSIS OF THE SUSPECT ACM AND WILL PROVIDE THE CONTRACTOR WITH THE RESULTS. THE CONTRACTOR SHALL NOT PERFORM SAMPLING WITHOUT THE WRITTEN PERMISSION OF THE CONSTRUCTION MANAGER.

13. ALL LOCATIONS OF ACM ARE APPROXIMATE. THE PRESENCE OF ACM IN LOCATIONS OTHER THAN THOSE PROVIDED IN THE CONTRACT DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY OF ITS REMOVAL AND DISPOSAL IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

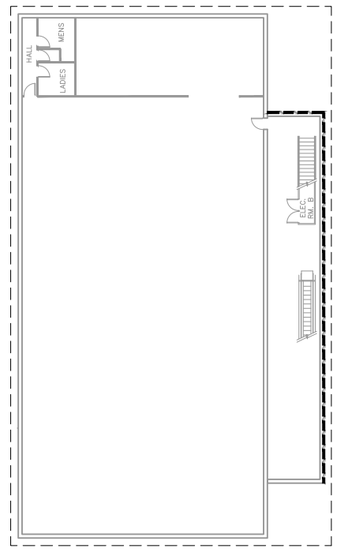
NO.	DATE	DESCRIPTION
REVISIONS		

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.J.C.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.
CLIENT:	NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE:	MARCH 2024
SCALE:	NONE
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
LIRO JOB NO.:	23-028-1342
SHEET OF	6 15
DRAWING TITLE:	ASBESTOS CONTAINING MATERIALS (ACM) REMOVAL NOTES
FIGURE NO.	AA-100



FIRST FLOOR PLAN



SECOND FLOOR PLAN

GENERAL DRAWING NOTES:

1. THE CONTRACT DRAWINGS ARE INTENDED TO BE COMPLIMENTARY TO THE CONTRACT SPECIFICATIONS. ALL WORK AND MATERIALS MENTIONED IN ONE DOCUMENT BUT NOT IN OTHER DOCUMENTS SHALL BE FURNISHED AND PERFORMED AS IF THE SAME WERE MENTIONED IN ALL DOCUMENTS.

2. THE PROVIDED LOCATIONS AND QUANTITIES ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL JOB CONDITIONS AND MATERIAL QUANTITIES PRIOR TO BIDDING. NO ADDITIONAL PAYMENT WILL BE MADE TO THE CONTRACTOR IF THE INFORMATION IN THESE DOCUMENTS DIFFERS FROM THE EXISTING SITE CONDITIONS.

3. ALL DISPOSAL OF CONTRACT DERIVED WASTES SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL CODES, RULES AND REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS REQUIRED AND THE COST OF DISPOSAL.

4. THE LOCATION OF ANY ONSITE STORAGE OF MATERIAL, DECONTAMINATION FACILITIES, AND DUMPSTER/WASTE TRAILER SHALL BE COORDINATED WITH AND APPROVED BY THE FACILITY AND THE ENGINEER.

ASBESTOS ABATEMENT NOTES:

1. ANY DISTURBANCE OF ASBESTOS CONTAINING MATERIALS SHALL BE PERFORMED BY A NYSDOL LICENSED ASBESTOS ABATEMENT CONTRACTOR EMPLOYING CERTIFIED WORKERS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICABLE PROJECT NOTIFICATION AND VARIANCE FEES UNDER HIS LUMP SUM BID PRICE.

3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NEW YORK STATE INDUSTRIAL CODE RULE 56, APPLICABLE EPA AND OSHA REGULATIONS, THE CONTRACT SPECIFICATIONS AND ANY APPLICABLE NYSDOL APPROVED VARIANCES.

4. THE CONTRACTOR SHALL RECEIVE APPROVAL FOR ALL VARIANCES FROM THE ENGINEER PRIOR TO REQUESTING SUCH VARIANCES FROM THE NYSDOL. THE ENGINEER RETAINS THE RIGHT TO REJECT ANY PROPOSED VARIANCE FROM THE CONTRACTOR WHICH IN THE SOLE OPINION OF THE ENGINEER PUTS ADDITIONAL BURDEN OR RISK ON THE OWNER, ENGINEER, ENVIRONMENTAL CONSULTANT OR PROJECT MONITOR.

5. THE CONTRACTOR SHALL NOT PERFORM ANY SAMPLING WITHOUT AUTHORIZATION OF THE ENGINEER. ANY QUESTIONABLE MATERIAL OR MATERIAL SUSPECTED TO CONTAIN ASBESTOS SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR AN ACCURATE INTERPRETATION AND/OR SAMPLING AND ANALYSIS.

ASBESTOS CONTAINING MATERIAL TO BE REMOVED:

ACM INTERIOR WINDOW GLAZE – 200 SF

20 0 20
SCALE IN FEET

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690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
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CLIENT:	NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE:	MARCH 2024
SCALE:	AS SHOWN
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
LIRO JOB NO.:	23-028-1342
SHEET OF	7 15
DRAWING TITLE:	ASBESTOS ABATEMENT PLAN FIRST FLOOR AND SECOND FLOOR
FIGURE NO.	AA-101

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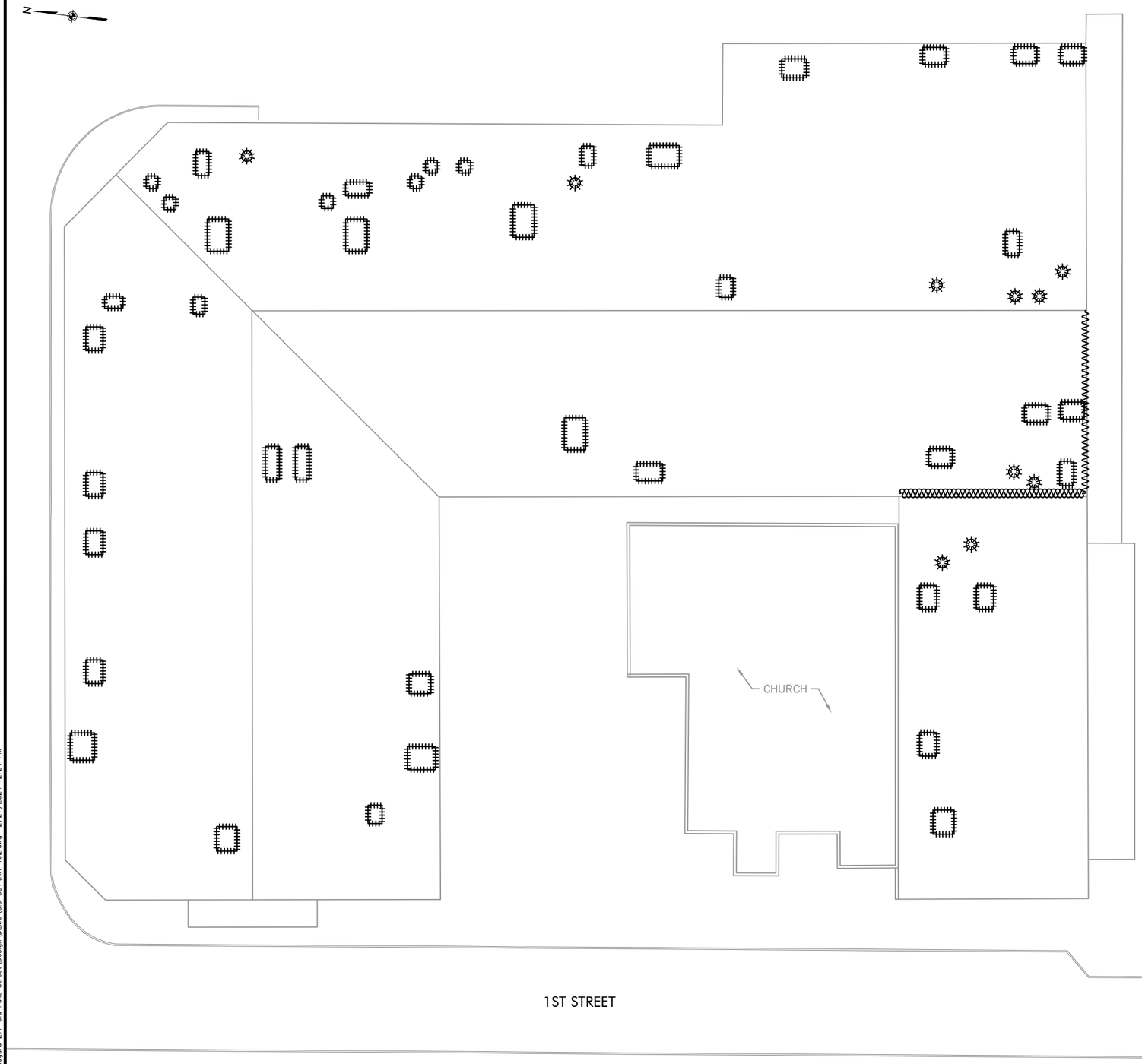

GENERAL DRAWING NOTES:

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2. THE PROVIDED LOCATIONS AND QUANTITIES ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL JOB CONDITIONS AND MATERIAL QUANTITIES PRIOR TO BIDDING. NO ADDITIONAL PAYMENT WILL BE MADE TO THE CONTRACTOR IF THE INFORMATION IN THESE DOCUMENTS DIFFERS FROM THE EXISTING SITE CONDITIONS.

3. ALL DISPOSAL OF CONTRACT DERIVED WASTES SHALL BE IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL CODES, RULES AND REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS REQUIRED AND THE COST OF DISPOSAL.

4. THE LOCATION OF ANY ONSITE STORAGE OF MATERIAL, DECONTAMINATION FACILITIES, AND DUMPSTER/WASTE TRAILER SHALL BE COORDINATED WITH AND APPROVED BY THE FACILITY AND THE ENGINEER.

ASBESTOS ABATEMENT NOTES:

1. ANY DISTURBANCE OF ASBESTOS CONTAINING MATERIALS SHALL BE PERFORMED BY A NYSDOL LICENSED ASBESTOS ABATEMENT CONTRACTOR EMPLOYING CERTIFIED WORKERS.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICABLE PROJECT NOTIFICATION AND VARIANCE FEES UNDER HIS LUMP SUM BID PRICE.

3. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NEW YORK STATE INDUSTRIAL CODE RULE 56, APPLICABLE EPA AND OSHA REGULATIONS, THE CONTRACT SPECIFICATIONS AND ANY APPLICABLE NYSDOL APPROVED VARIANCES.

4. THE CONTRACTOR SHALL RECEIVE APPROVAL FOR ALL VARIANCES FROM THE ENGINEER PRIOR TO REQUESTING SUCH VARIANCES FROM THE NYSDOL. THE ENGINEER RETAINS THE RIGHT TO REJECT ANY PROPOSED VARIANCE FROM THE CONTRACTOR WHICH IN THE SOLE OPINION OF THE ENGINEER PUTS ADDITIONAL BURDEN OR RISK ON THE OWNER, ENGINEER, ENVIRONMENTAL CONSULTANT OR PROJECT MONITOR.

5. THE CONTRACTOR SHALL NOT PERFORM ANY SAMPLING WITHOUT AUTHORIZATION OF THE ENGINEER. ANY QUESTIONABLE MATERIAL OR MATERIAL SUSPECTED TO CONTAIN ASBESTOS SHALL NOT BE DISTURBED AND SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR AN ACCURATE INTERPRETATION AND/OR SAMPLING AND ANALYSIS.

ASBESTOS CONTAINING MATERIAL TO BE REMOVED:

TAR AT ROOF EDGE/PARAPET	– 75 SF
TAR AT ROOF EDGE & DRAIN	– 250 SF
TAR AT EQUIPMENT BASES, CURBS, VENTS, PENETRATIONS & HATCHES	– 1,020 SF

20 0 20
SCALE IN FEET

NO.	DATE	DESCRIPTION
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690 Delaware Avenue
Buffalo, New York

PROJ. ENG.: J.P.
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CHECKED BY: M.J.W.
DRAWN BY: A.M.K.

CLIENT: NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation

DATE: MARCH 2024
SCALE: AS SHOWN

JOB TITLE AND LOCATION:
217 OLD FALLS STREET
& 333 FIRST STREET DEMOLITION
NIAGARA FALLS, NY 14303

LIRO JOB NO.: 23-028-1342
SHEET OF: 8 15

DRAWING TITLE:
ASBESTOS ABATEMENT PLAN
ROOF

DRAWING NO.: AA-102

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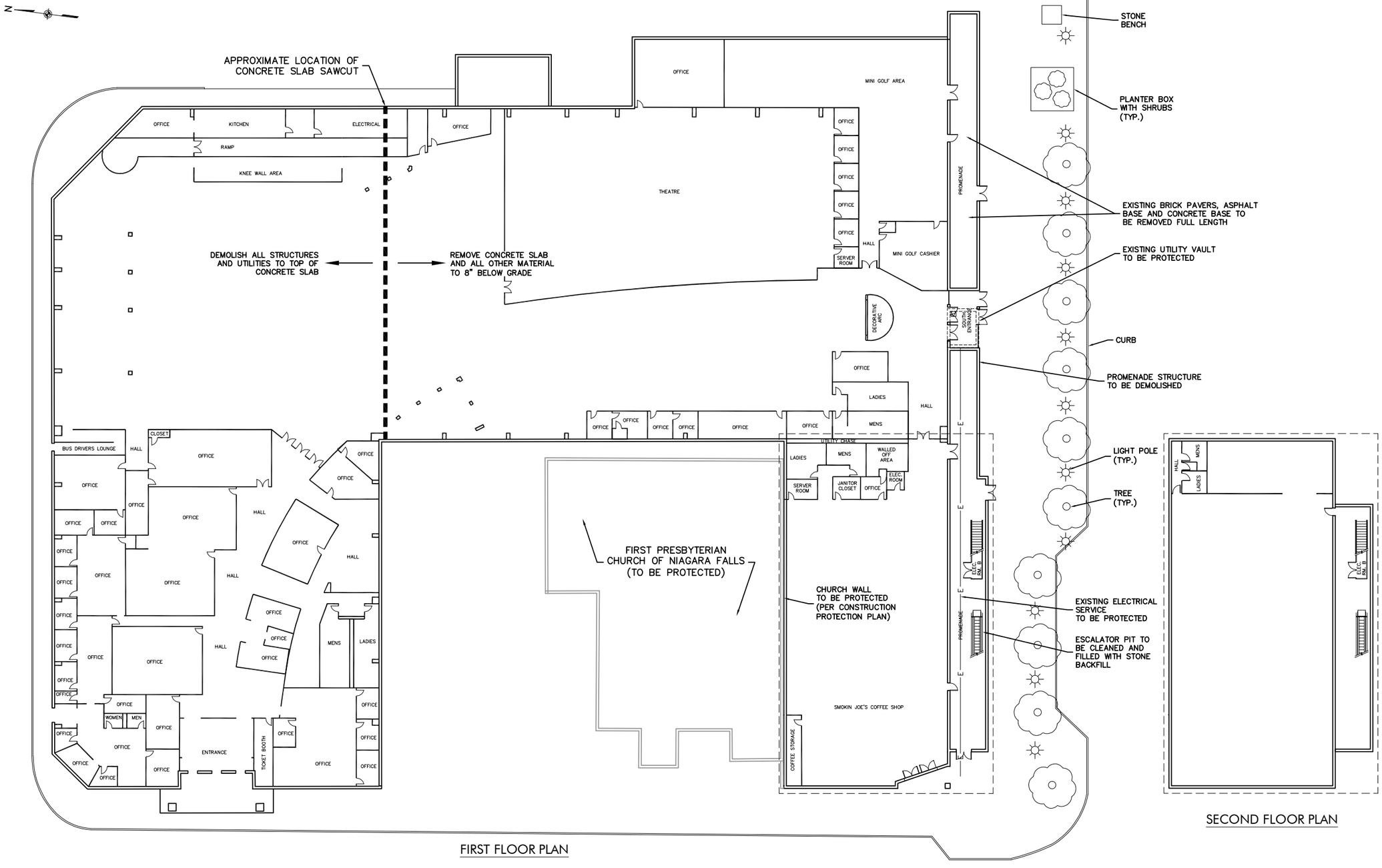


FIRST FLOOR PLAN

SECOND FLOOR PLAN

NOTES:

1. THE INFORMATION PROVIDED IN THESE DRAWINGS ARE FOR GUIDANCE PURPOSES ONLY. THEY MAY NOT REPRESENT ACTUAL AS-BUILT DIMENSIONS AND SIZES. NO ADDITIONAL PAYMENT WILL BE MADE TO THE CONTRACTOR IF THE INFORMATION PROVIDED IN THE PLAN VARIES WITH THE EXISTING CONDITIONS.

2. UNLESS OTHERWISE SHOWN ON PLANS, DEMOLITION OF THE BUILDING SHALL MEAN ALL STRUCTURES AND THEIR CONTENTS ABOVE SLAB ON GRADE. EXISTING BRICK PAVERS, ASPHALT BASE AND CONCRETE BASE SHALL BE REMOVED DOWN TO AN ELEVATION OF 0'-8" BELOW SURROUNDING SIDEWALK ELEVATION. STEEL COLUMNS SHALL BE CUT OFF AT AN ELEVATION OF 0'-8" BELOW FINISHED ELEVATION.

3. THE CONTRACT DRAWINGS DO NOT SHOW ALL STRUCTURES AND EQUIPMENT PRESENT AT THE SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY AND QUANTIFY ALL STRUCTURES AND EQUIPMENT REQUIRING REMOVAL AND DISPOSAL PRIOR TO BIDDING.

4. INTERNAL BUILT-IN COMPONENTS, SUCH AS LIGHTS, HEATERS, SPRINKLERS, ETC., AND ALL ITEMS LEFT BY THE OWNER FOR REMOVAL SHALL CONSTITUTE PART OF DEMOLITION AND DISPOSAL AS PER CONTRACT SPECIFICATION.

5. IN ACCORDANCE WITH 16NYCRR PART 753, THE CONTRACTOR SHALL CONTACT THE UNDERGROUND FACILITIES PROTECTION AGENCY (UFPO) PRIOR TO PERFORMING ANY EXCAVATION OR DEMOLITION WORK.

6. THE FINAL DEMOLITION WORK INCLUDES THE BACKFILLING OF ALL UNSEALED PITS, SUMPS, TRENCHES, AND ESCALATOR PITS WITH STONE FILL AND SITE RESTORATION AS SHOWN ON THE CONTRACT DRAWINGS AND SPECIFICATIONS.

7. CONTRACTOR SHALL MAINTAIN PROPER TEMPORARY CONSTRUCTION FENCING DURING THE DEMOLITION WORK AS PER THE REQUIREMENTS OF THE CITY AGENCIES AND AS ORDERED BY THE ENGINEER.

8. THE RED/BROWN PAINT COATING THE STRUCTURAL STEEL AND ADJACENT COMPONENTS WAS DETERMINED TO BE LEAD-BASED PAINT (LBP). ALL PERSONNEL HANDLING OR DISTURBING LBP SHALL BE MADE AWARE OF ITS PRESENCE AND BE PROVIDED WITH APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE) TO LIMIT THE RISK OF EXPOSURE. THE CONTACTOR SHALL BE RESPONSIBLE FOR CONDUCTING ALL WORK IN ACCORDANCE WITH OSHA 29 CFR 1926.62 (THE OSHA LEAD EXPOSURE IN CONSTRUCTION RULE).

9. ALL COSTS FOR ALL LABOR, MATERIAL, TOOLS, EQUIPMENT AND INCIDENTALS REQUIRED TO DEMOLISH THE EXISTING BUILDING AS SHOWN ON THE CONTRACT DRAWINGS, AS SPECIFIED, OR AS DIRECTED BY THE ENGINEER SHALL BE INCLUDED.

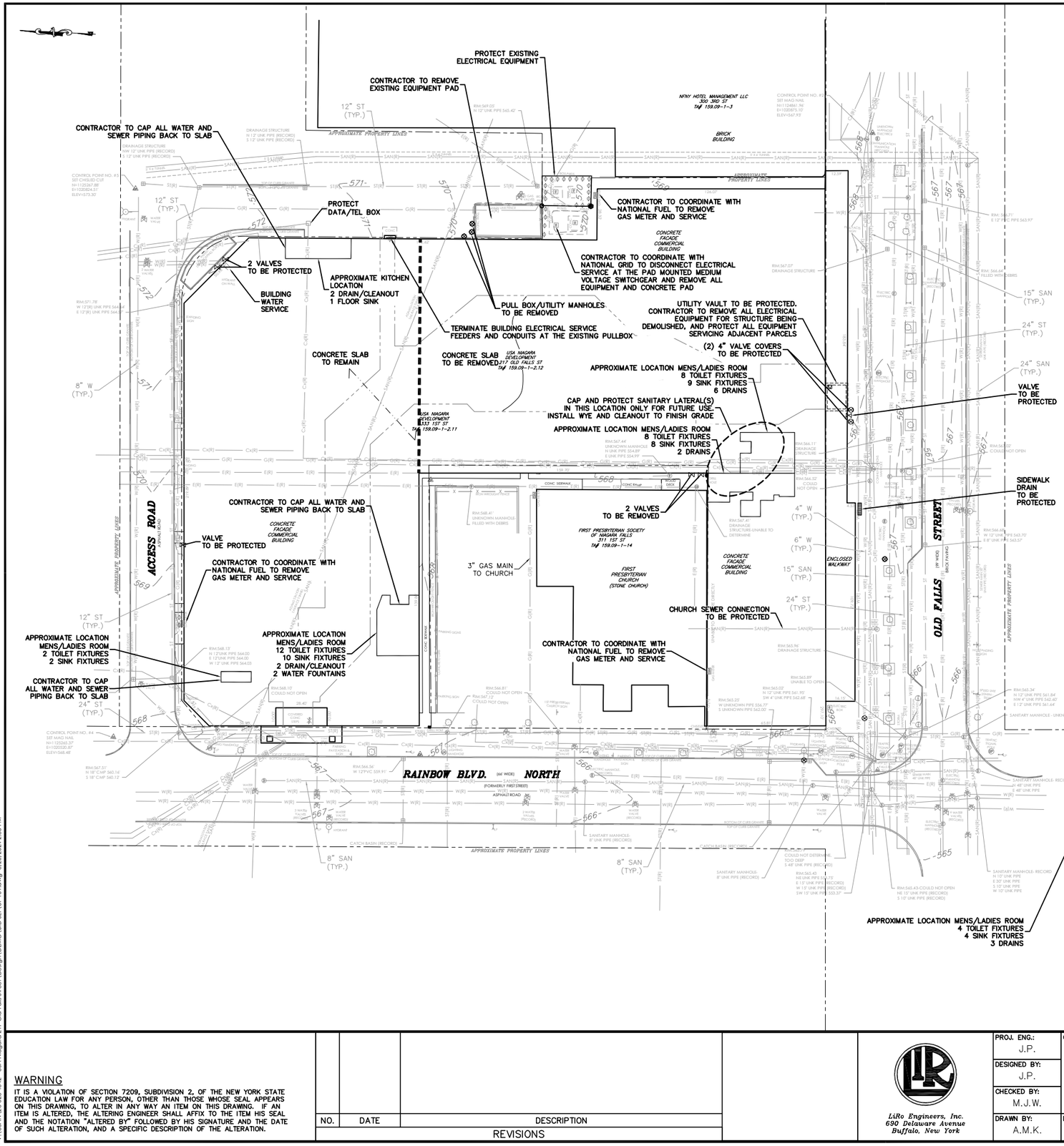
20 0 20
SCALE IN FEET

NO.	DATE	DESCRIPTION
REVISIONS		

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.
CLIENT:	NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE:	MARCH 2024
SCALE:	AS SHOWN
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
DRAWING TITLE:	DEMOLITION PLAN FIRST FLOOR AND SECOND FLOOR
LIRO JOB NO.:	23-028-1342
SHEET OF	9 15
FIGURE NO.	D-101

V:\USAN\23-028-1342 - USA Niagara 217 Old Falls Street\Design\DEMO\BID SET\D-101.dwg 3/20/2024 2:52 PM



SANITARY SEWER:

1. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL SANITARY LATERALS FROM SUBJECT PARCEL TO TRUNK SEWER.
2. THE CONTRACTOR SHALL REMOVE ALL LATERALS FROM SANITARY FIXTURE UNIT LOCATIONS ON PLAN (UNLESS NOTED OTHERWISE ON DRAWING) TO TRUNK SEWER AND PROVIDE SPOOL PIECE AT TRUNK PER DETAIL 2/UT–501.
3. THE CONTRACTOR SHALL PROTECT ALL LATERALS SERVICING ADJACENT PARCELS.

STORM SEWER:

1. THE CONTRACTOR SHALL PROTECT ALL STORM SEWER AND DRAINAGE INLETS FROM DAMAGE, SILT, AND DEBRIS.

WATER:

1. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL WATER LINES FROM SUBJECT PARCEL TO MAIN.
2. THE CONTRACTOR SHALL CAP ALL WATER CONNECTIONS.
3. THE CONTRACTOR SHALL PROTECT ALL WATER SERVICES ON ADJACENT PROPERTIES AND WITHIN RIGHT OF WAY (ROW).

GAS:

1. THE CONTRACTOR SHALL COORDINATE WITH NATIONAL FUEL TO REMOVE GAS METER AND SERVICE(S).
2. THE CONTRACTOR SHALL PROTECT ALL GAS LINES TO REMAIN.

ELECTRICAL:

1. THE CONTRACTOR SHALL COORDINATE WITH NATIONAL GRID TO DISCONNECT ELECTRICAL SERVICE(S) AT THE PAD MOUNTED MEDIUM VOLTAGE SWITCHGEAR.
2. PRIOR TO REMOVAL OF EQUIPMENT FROM THE VAULT, CONTRACTOR SHALL CONFIRM THAT INCOMING FEEDERS FOR ALL PANELS, TRANSFORMERS, AND DISCONNECTS ARE INACTIVE AND MEASURING ZERO VOLTS ON EACH PHASE.

DATA/TEL/COMMUNICATIONS:

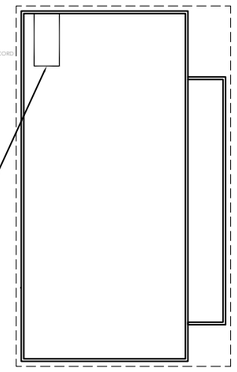
1. THE CONTRACTOR SHALL COORDINATE WITH VERIZON FOR DATA/TELECOM DISCONNECTS AT JUNCTION BOXES/MANHOLES.

GENERAL UTILITIES NOTE:

1. THE CONTRACTOR SHALL PROVIDE A PRIVATE UTILITY MARKOUT COMPANY TO LOCATE AND MARKOUT ALL UTILITIES. THE CONTRACTOR SHALL FULLY INVESTIGATE ALL UTILITY REFERENCES ON RECORD DRAWING(S) TO DETERMINE ACTUAL LOCATION AND FUNCTIONAL STATUS. CONTRACTOR RESPONSIBLE FOR PROTECTING ALL UTILITIES ON ADJACENT PROPERTIES AND ROW. CONTRACTOR RESPONSIBLE FOR REPAIRS ON ANY PAVED AREAS AND/OR CONCRETE, INCLUDING SIDEWALK DAMAGED DURING UTILITY DECOMMISSIONING AND/OR DEMOLITION ACTIVITIES ASSOCIATED WITH THIS PROJECT.
2. NOT ALL UTILITIES REQUIRING TERMINATION ARE SHOWN. THE CONTRACTOR SHALL IDENTIFY AND TERMINATE ALL REQUIRED UTILITIES. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER PRIOR TO TERMINATION OF UTILITIES NOT SHOWN ON THE DRAWING THAT ARE LOCATED DURING THE WORK.
3. THE CONTRACTOR SHALL REMOVE ALL SANITARY SEWER PIPING (UNLESS NOTED OTHERWISE ON DRAWING) FROM LISTED PLUMBING FIXTURES TO EXISTING SANITARY SEWER MAIN. TERMINATION PER DETAIL 2/UT–501.
4. CONTRACTOR SHALL PROTECT ALL UTILITIES IN RIGHT OF WAY AND ADJACENT PROPERTIES SPECIFIED ON PLAN.

SITE INVESTIGATION LEGEND:

- UTILITY MANHOLE/PULL BOX
- VALVE(S)
- 4" VALVE COVER



SECOND FLOOR PLAN

30 0 30
SCALE IN FEET

WARNING

IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NO.	DATE	DESCRIPTION
		REVISIONS

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.

CLIENT: NEW YORK STATE OF OPPORTUNITY. | USA Niagara Development Corporation

DATE: MARCH 2024

SCALE: AS SHOWN

JOB TITLE AND LOCATION:
217 OLD FALLS STREET
& 333 FIRST STREET DEMOLITION
NIAGARA FALLS, NY 14303

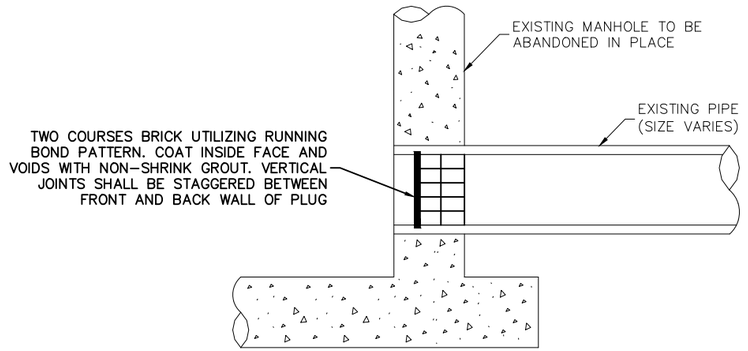
DRAWING TITLE:
UTILITY DISCONNECT PLAN

LIRO JOB NO.: 23–028–1342

SHEET 10 OF 15

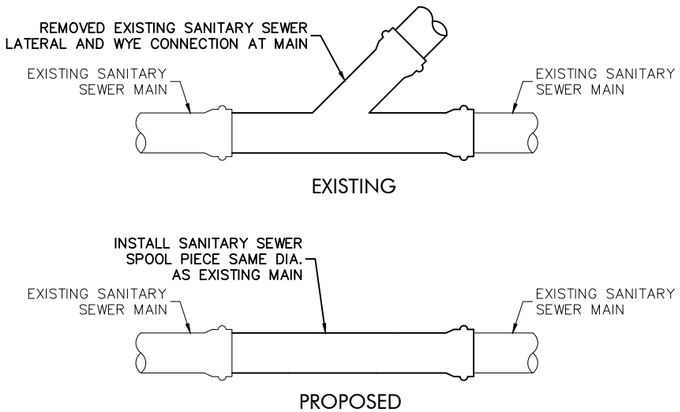
FIGURE NO. UT-101

V:\USA\N\23-028-1342 - USA Niagara\217 Old Falls Street\Design\DBAE\BID SET\UT-101.dwg 3/20/2024 2:35 PM



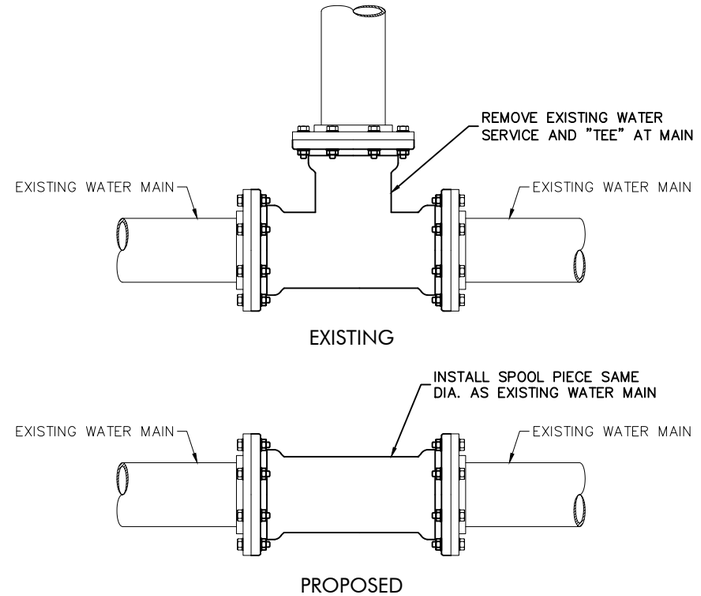
1 / UT-501 PIPELINE BULKHEAD IN EXISTING MANHOLE DETAIL

NTS



2 / UT-501 REMOVAL/INSTALLATION OF EXISTING SANITARY SEWER DETAIL

NTS



3 / UT-501 REMOVAL/INSTALLATION OF EXISTING WATER SERVICE DETAIL

NTS

NO.	DATE	DESCRIPTION

REVISIONS

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
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DATE:	MARCH 2024
SCALE:	AS SHOWN
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
LIRO JOB NO.:	19-244-0074
SHEET / OF	11 / 15
DRAWING TITLE:	UTILITY DISCONNECT DETAILS
FIGURE NO.	UT-501

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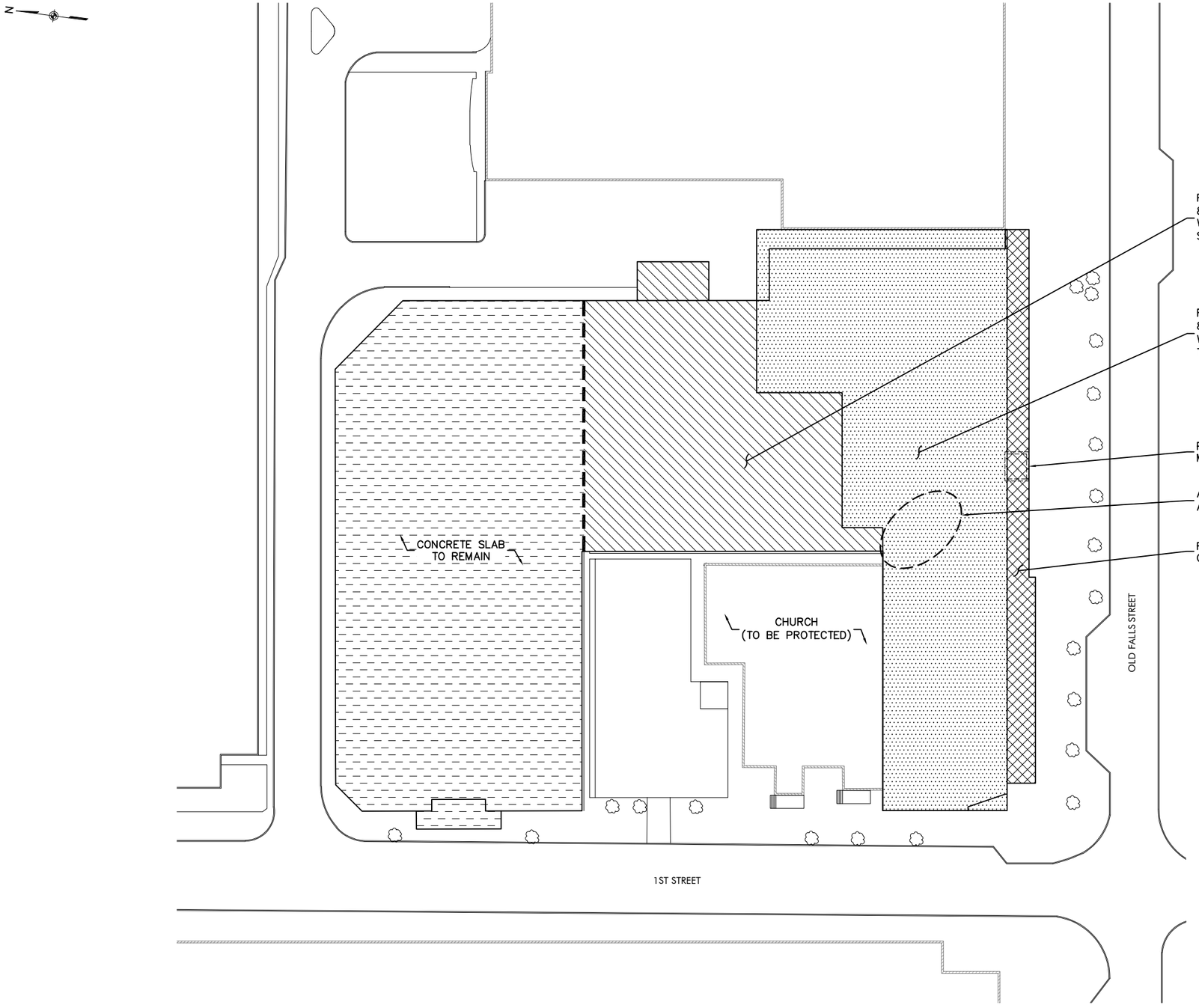

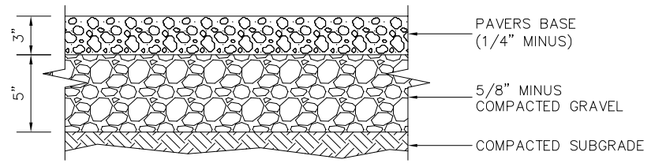

1/C-101 FINISHED GRADE SECTION
N.T.S.

30 0 30
SCALE IN FEET

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WARNING
IT IS A VIOLATION OF SECTION 7209, SUBDIVISION 2, OF THE NEW YORK STATE EDUCATION LAW FOR ANY PERSON, OTHER THAN THOSE WHOSE SEAL APPEARS ON THIS DRAWING, TO ALTER IN ANY WAY AN ITEM ON THIS DRAWING. IF AN ITEM IS ALTERED, THE ALTERING ENGINEER SHALL AFFIX TO THE ITEM HIS SEAL AND THE NOTATION "ALTERED BY" FOLLOWED BY HIS SIGNATURE AND THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

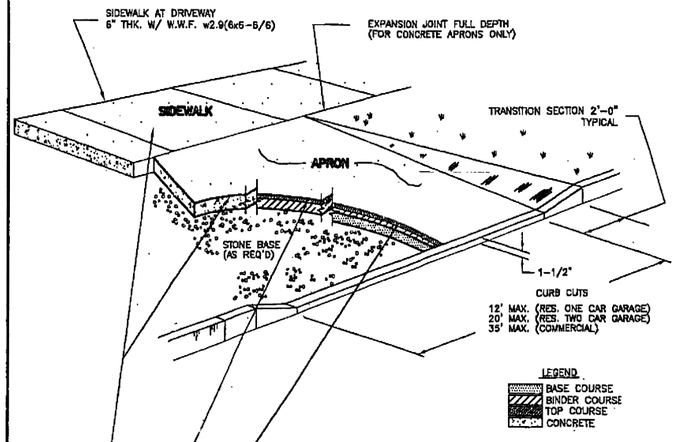
NO.	DATE	DESCRIPTION
		REVISIONS

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.
CLIENT:	NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE:	MARCH 2024
SCALE:	AS SHOWN
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
DRAWING TITLE:	FINISHED CONDITION PLAN
LIRO JOB NO.:	23-028-1342
SHEET OF	12 15
FIGURE NO.	C-101

/std1

NOTE: ALL SIDEWALK CONNECTING TO DRIVEWAY APRONS SHALL BE CONCRETE & SHALL BE CONSTRUCTED THE SAME AS CONCRETE DRIVEWAY APRON.



COMMERCIAL– ASPHALT CONCRETE APRON
1. STONE SUB BASE– #2 R.O.C., MAX. (6" COMPACTED THK.)
2. ASPHALT CONCRETE BASE COURSE– TYPE 1 (7" COMPACTED THK.)
3. ASPHALT CONCRETE BINDER COURSE– TYPE 3 (2" COMPACTED THK.)
4. ASPHALT CONCRETE TOP COURSE– TYPE 7 (1" COMPACTED THK.)

RESIDENTIAL– ASPHALT CONCRETE APRON
1. STONE BASE– #2 R.O.C., MAX. (6" THK. COMPACTED)
2. ASPHALT CONCRETE BINDER COURSE– TYPE 3 (4" THK. COMPACTED)
3. ASPHALT CONCRETE TOP COURSE– TYPE 1 (2" COMPACTED THK.)

CONCRETE APRON & SIDEWALK CROSSING DRIVEWAY
1. STONE BASE– #1 R.O.C., (4" COMPACTED THK.)
2. WELDED WIRE FABRIC– W2.9(6x6–B/6)
3. CONCRETE– CLASS A, 3000 PSI, 6" DEPTH

DETAIL– DRIVEWAY APRON

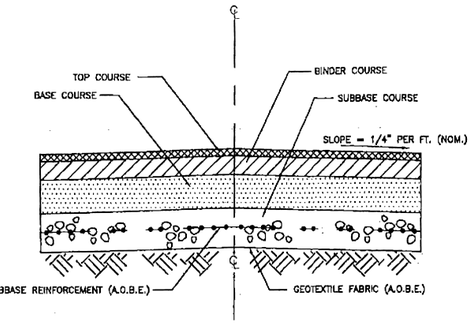
NO SCALE

SD–3

STANDARD DETAILS

CITY OF NIAGARA FALLS, N.Y.
DEPARTMENT OF ENGINEERING

9/22/99 M. DeSantis



TYPE 'A' – EXISTING PAVEMENT RESTORATION
1. TOP COURSE– 1 1/2" ASPHALT CONCRETE TYPE 7 (NYSDOT ITEM 403.18)
2. BINDER COURSE– 2" ASPHALT CONCRETE TYPE 3 (NYSDOT ITEM 403.13)
3. BASE COURSE– 6" CONCRETE 3500 PSI, RESIDENTIAL 8" CONCRETE 3500 PSI, COMMERCIAL
4. SUBBASE COURSE– R.O.C. STONE 2" MAX. 8" RESIDENTIAL, 12" COMMERCIAL (NYSDOT ITEM 304.03)

NOTES:
1. SAW CUT PAVEMENT AND BASE TO FULL DEPTH IN ONE PASS
2. GENERAL EXCAVATION AND SPOIL MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS
3. NYSDOT ITEM 405 COLD PATCH SHALL BE USED WHEN ADVERSE WEATHER PREVENTS PERMANENT RESTORATION, COMPLETE RESTORATION WHEN WEATHER PERMITS

TYPE 'B' – NEW PAVEMENT
1. TOP COURSE– 1 1/2" ASPHALT CONCRETE TYPE 7 (NYSDOT ITEM 403.18)
2. BINDER COURSE– 2" ASPHALT CONCRETE TYPE 3 (NYSDOT ITEM 403.13)
3. BASE COURSE– 7" ASPHALT CONCRETE TYPE 1 (NYSDOT ITEM 403.11) (2 COURSES)
4. SUBBASE COURSE– R.O.C. STONE 2" MAX. 8" RESIDENTIAL, 12" COMMERCIAL (NYSDOT ITEM 304.03)
5. GEOTEXTILE FABRIC – NON–WOVEN OR WOVEN, A.O.B.E. (NYSDOT SECTION 207)
6. SUBBASE REINFORCEMENT– A.O.B.E. (NYSDOT SECTION 207)

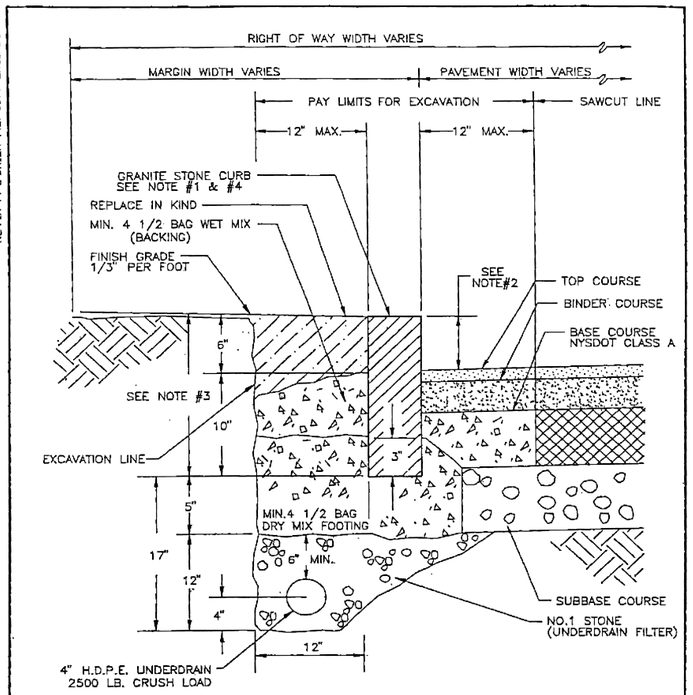
STANDARD PAVEMENT CROSS–SECTION

N.T.S.

STANDARD DETAILS

CITY OF NIAGARA FALLS
NEW YORK

CHECKED BY ---------- APPROVED BY ----------
KEVIN P. O'BRIEN P.E. CITY ENGINEER



NOTES:
1. FULL HT. CURB SHALL BE 4"x16", DROP CURB SHALL BE 4"x12"
2. STANDARD REVEAL SHALL BE 6", DRIVEWAY REVEAL SHALL BE 1 1/2", SIDEWALK RAMP REVEAL SHALL BE 0"
3. ADJUST DIMENSIONS FOR SIDEWALK RAMP & DRIVEWAY REVEAL
4. ANY/ALL GRANITE CURBING TO BE RESET WILL BE FREE OF DEFECT TO THE SATISFACTION OF THE ENGINEER. ANY COSTS ASSOCIATED WITH CONCRETE REMOVAL, SQUARING CHIPPED CORNERS AND ALL LIKE WORK ARE TO BE BORNE BY THE CONTRACTOR.

SD–1A

DETAIL – GRANITE STONE CURB (IN EXISTING PAVEMENT)

NO SCALE

STANDARD DETAILS

CITY OF NIAGARA FALLS, N.Y.
DEPARTMENT OF ENGINEERING

2/15/96

NOTE:

1. CONTRACTOR TO UTILIZE CITY OF NIAGARA FALLS STANDARD DETAILS TO REPAIR ANY DAMAGED DRIVEWAY APRONS, PAVEMENT SECTIONS, AND CURB SECTIONS DUE TO THE PROJECT WORK.

NO.	DATE	DESCRIPTION
		REVISIONS

LiRo Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.: J.P.
DESIGNED BY: J.P.
CHECKED BY: M.J.W.
DRAWN BY: A.M.K.
CLIENT: NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE: MARCH 2024
SCALE: NONE

JOB TITLE AND LOCATION:
217 OLD FALLS STREET
& 333 FIRST STREET DEMOLITION
NIAGARA FALLS, NY 14303

DRAWING TITLE:
ROAD AND SIDEWALK REPAIR DETAILS
SHEET 1 OF 2

LIRO JOB NO.: 19–244–0074
SHEET OF 13 15
FIGURE NO.: C-501

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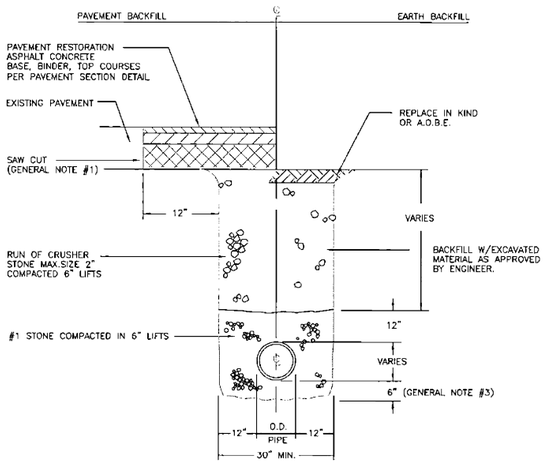


PIPE TRENCH DETAIL

GENERAL NOTES:

1. SAW CUT ALL EDGES OF PAVEMENT AND BASE TO FULL DEPTH IN ONE PASS.
2. GENERAL EXCAVATION, ALL SPOIL MATERIAL SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
3. PLACE A MIN. OF 6" OF #1 STONE SCOOPED TO RECEIVE PIPE WITH "NO BEARING ON BELL".
4. FOR COLD WEATHER USE ITEM 15-403.2030 (COLD PATCH) UNTIL WEATHER PERMITS PERMANENT RESTORATION.

STANDARD TRENCH DETAIL

N.T.S.

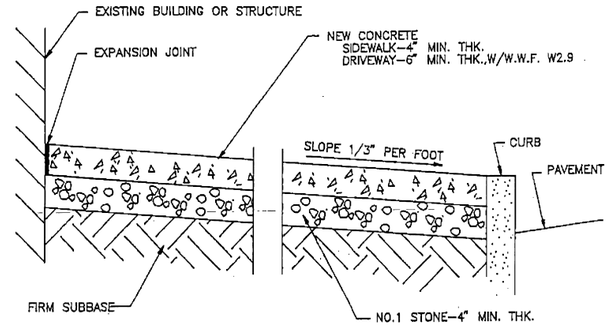
STANDARD DETAILS

CITY OF NIAGARA FALLS
NEW YORK

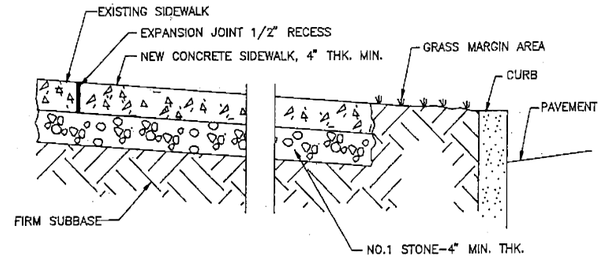
APPROVED BY _____
KEVIN P. O'BRIEN P.E. CITY ENGINEER

CHECKED BY _____

CHECKED BY _____



SIDEWALK UP TO R.O.W. / BLDG. LINE



SIDEWALK W/ GRASS MARGIN

DETAIL SIDEWALK CONSTRUCTION SD-4

NO SCALE S.M.S

STANDARD DETAILS

CITY OF NIAGARA FALLS, N.Y.
DEPARTMENT OF ENGINEERING

REV. 10/28/97

NOTE:

1. CONTRACTOR TO UTILIZE CITY OF NIAGARA FALLS STANDARD DETAILS TO REPAIR ANY DAMAGED DRIVEWAY APRONS, PAVEMENT SECTIONS, AND CURB SECTIONS DUE TO THE PROJECT WORK.

NO.	DATE	DESCRIPTION
		REVISIONS

Liro Engineers, Inc.
690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
CHECKED BY:	M.J.W.
DRAWN BY:	A.M.K.
CLIENT:	NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation
DATE:	MARCH 2024
SCALE:	NONE
JOB TITLE AND LOCATION:	217 OLD FALLS STREET & 333 FIRST STREET DEMOLITION NIAGARA FALLS, NY 14303
LIRO JOB NO.:	19-244-0074
SHEET OF	14 15
DRAWING TITLE:	ROAD AND SIDEWALK REPAIR DETAILS SHEET 2 OF 2
FIGURE NO.	C-502

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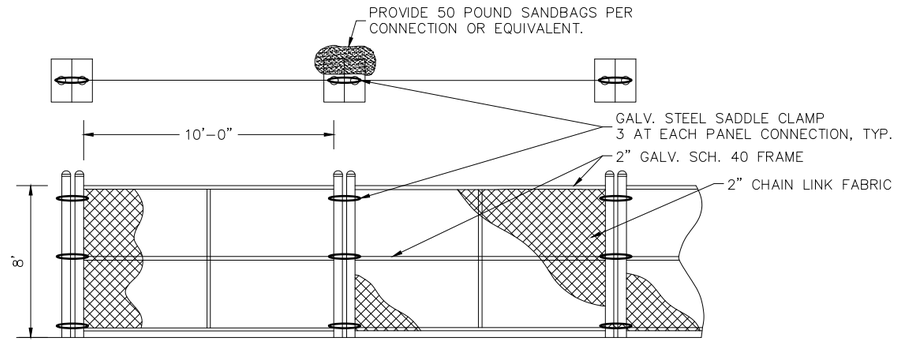


1 / C-503 TEMPORARY CONSTRUCTION FENCE, GATE AND POST DETAIL

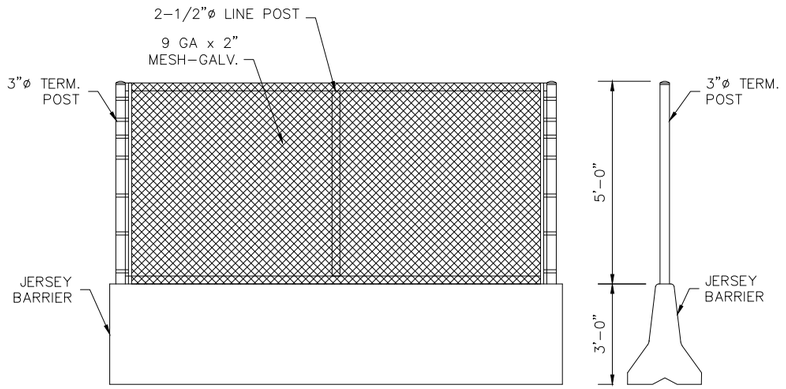
N.T.S.

TEMPORARY FENCE NOTES:

1. CONTRACTOR MUST REMOVE SECTIONS OF FENCE TO ACCESS WORK AREAS AND IMMEDIATELY RE-ESTABLISH FENCE TO BE CONTINUOUS.

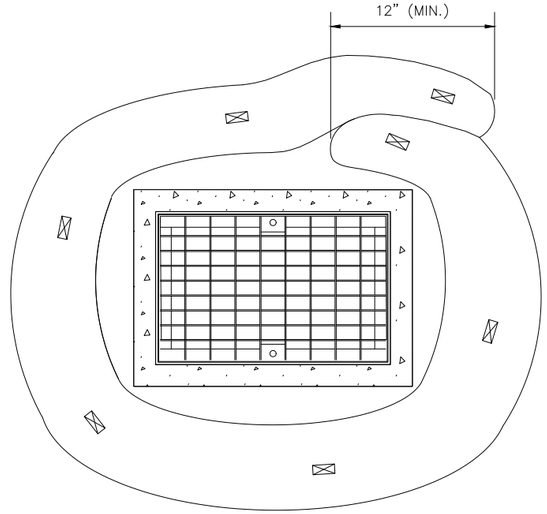
2. CONTRACTOR TO, ON A DAILY BASIS, SECURE ALL EQUIPMENT, MACHINERY, ETC. WITHIN THE FENCED AREAS OR STAGING AREAS, OUTSIDE OF NORMAL WORKING HOURS.

3. CONTRACTOR MUST INSPECT, REPAIR, MAINTAIN AND PERFORM HOUSEKEEPING TO ALL FENCING ON A DAILY BASIS.

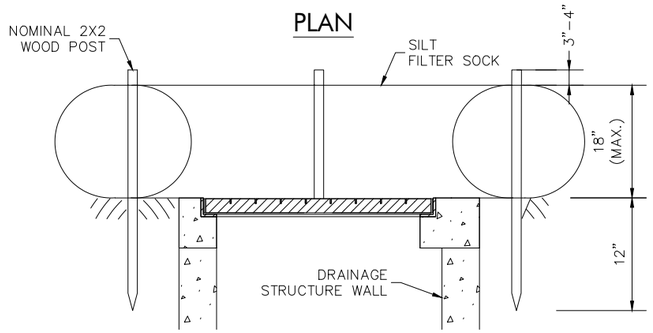


2 / C-503 JERSEY BARRIER TEMPORARY FENCE DETAIL

N.T.S.



PLAN



CROSS-SECTION

3 / C-503 DRAINAGE STRUCTURE INLET PROTECTION - TEMPORARY - NTS (SILT FILTER SOCK)

NOTES:

1. PROVIDE AND MAINTAIN INLET PROTECTION ON ALL EXISTING DRAINAGE STRUCTURES WITHIN AND DOWNSTREAM OF THE GLL AND ON ALL NEW DRAINAGE STRUCTURES UNTIL GRADING AND SURFACE ESTABLISHMENT IS COMPLETE.

2. SPACE POSTS EVENLY AROUND INLET WITH A MAXIMUM SPACING OF 2-FEET. POSTS SHALL BE DRIVEN CLOSE TO THE INLET TO MINIMIZE EXPOSED SOIL BETWEEN THE INLET AND THE PRACTICE. DRIVE POSTS A MINIMUM OF 12" (SILT FILTER SOCK).

3. WHEN USED ON A PAVED SURFACE, THE FILTER SOCK ENDS SHALL BE FASTENED WITH PLASTIC TIES OR IN ACCORDANCE WITH MANUFACTURER'S PRINTED RECOMMENDATIONS.

4. SILT BUILDUP SHALL BE MEASURED AFTER EVERY RUNOFF EVENT AND REPAIRED AS NECESSARY. SEDIMENT SHALL BE REMOVED WHEN IT REACHES ONE-HALF THE MEASURE HEIGHT (STORAGE CAPACITY). SEDIMENT SHALL BE DISPOSED OF AS UNSUITABLE MATERIALS.

NO.	DATE	DESCRIPTION
		REVISIONS

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690 Delaware Avenue
Buffalo, New York

PROJ. ENG.:	J.P.
DESIGNED BY:	J.P.
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DRAWN BY:	A.M.K.
DATE:	MARCH 2024
SCALE:	NONE

CLIENT: NEW YORK STATE OF OPPORTUNITY. USA Niagara Development Corporation

JOB TITLE AND LOCATION:
217 OLD FALLS STREET
& 333 FIRST STREET DEMOLITION
NIAGARA FALLS, NY 14303

DRAWING TITLE:
MISCELLANEOUS DETAILS

LIRO JOB NO.: 19-244-0074
SHEET OF: 15 15
FIGURE NO.: C-503

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