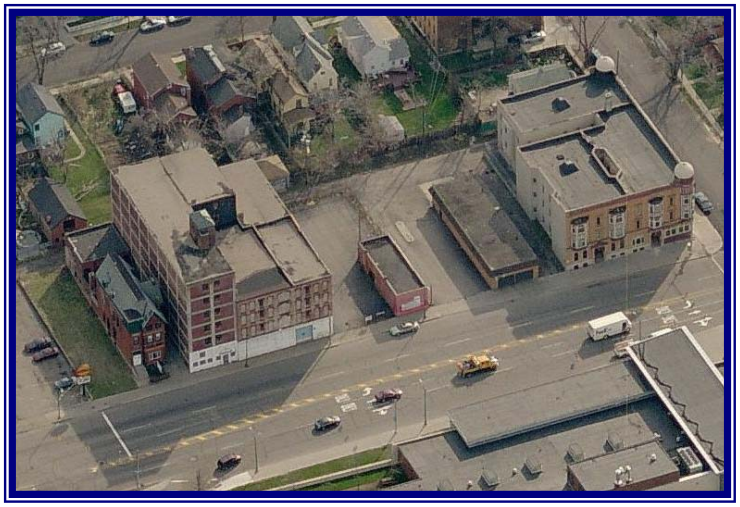
Remedial Investigation / Interim Remedial Measures / Alternatives Analysis Report (RI/IRM/AAR)

285-295 Niagara Street Site
Buffalo, New York

Revised May 2013 0236-001-102

Prepared For:

285 Niagara Operating Co., LLC



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REMEDIAL INVESTIGATION / INTERIM REMEDIAL MEASURES / ALTERNATIVES ANALYSIS REPORT

285-295 NIAGARA STREET SITE
BUFFALO, NEW YORK
BCP SITE No. C915259

Revised May 2013 0236-001-102

Prepared for:

285 Niagara Operating Co., LLC

Prepared By:

TurnKey Environmental Restoration, LLC

In Association With:

Benchmark Environmental Engineering & Science, PLLC

RI/IRM/AA REPORT
285-295 Niagara Street Site

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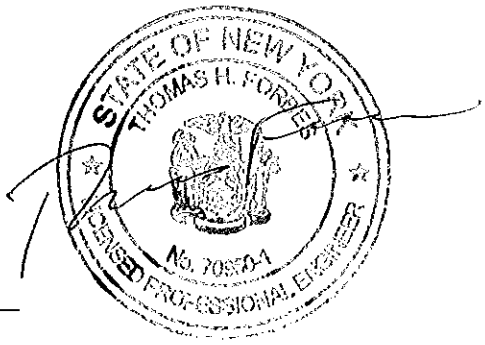
Certification

I, Thomas H. Forbes, certify that I am currently a NYS registered professional engineer as defined in 6NYCRR Part 375 and that this Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report (RI/IRM/AAR) was prepared in general accordance with applicable statutes and regulations and in general conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10) and that activities were performed in general accordance with the DER-approved work plan and any DER-approved modifications.



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Date

1.0 INTRODUCTION

This Remedial Investigation/Interim Remedial Measures/Alternatives Analysis Report (RI/IRM/AAR) has been prepared on behalf of 285 Niagara Operating Co., LLC (285 Niagara Operating Co.), for the 285-295 Niagara Street Site, in the City of Buffalo, Erie County, New York (Site; see Figures 1 and 2).

285 Niagara Operating Co. elected to pursue cleanup and redevelopment of the Site under the New York State Brownfield Cleanup Program (BCP), and the amended Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) was executed on March 6, 2012 (BCP Site No. C915259). The RI/IRM Work Plan was approved by the NYSDEC, with concurrence of the New York State Department of Health (NYSDOH), on May 30, 2012. TurnKey Environmental Restoration, LLC (TurnKey) in association with Benchmark Environmental Engineering and Science, PLLC (Benchmark) performed RI activities at the Site during April 2012, and IRM activities were completed at the Site in December 2012 through January 2013.

1.1 Purpose and Scope

This RI/IRM/AAR has been prepared on behalf of 285 Niagara Operating Co. to describe and present the findings of the RI and IRM activities, and evaluate remedial alternatives for the Site.

This report contains the following sections:

- Section 2.0 presents the approach for the RI
- Section 3.0 describes the physical characteristics of the Site as they pertain to the investigation findings
- Section 4.0 presents the investigation results by media
- Section 5.0 summarizes the IRM activities
- Section 6.0 describes the fate and transport of the constituents of primary concern (COPCs).
- Section 7.0 presents the qualitative risk assessment.
- Section 8.0 evaluates remedial alternatives for the Site.

- Section 9.0 presents the RI/IRM/AA summary and conclusions
- Section 10.0 provides a list of references for this report.

1.2 Background

1.2.1 Property and Site Description

The BCP property is addressed from 285-295 Niagara Street, in the City of Buffalo, New York (Erie County S.B.L. Nos. 110.44-1-15.1/-17.1, respectively) totaling an approximate 0.68 acre parcel. The Site is bound by Fell Alley to the north, Niagara Street to the south, an apartment building to the east, and commercial property to the west. The northern portion of the Site (295 Niagara St. parcel) was historically used as a carriage and bicycle manufacturing operation; and the southern portion of the Site (285 Niagara St. parcel) was an automobile filling station and car wash operation, including multiple underground storage tanks (USTs) and fuel dispensers. The Site is currently improved with a single building located on the northern portion of the Site, and planned for mixed-use residential and commercial redevelopment. Former buildings previously located in the center and southern portions of the Site were demolished as part of the Site redevelopment (see Figure 2).

1.2.2 Previous Investigations

A summary of the investigations that have occurred at the Site are presented below.

October 2009 – Remedial Excavation Report

Nature's Way Environmental Consultants and Contractors, Inc. (NWEC&C) conducted preliminary excavation activities on a portion of the 285 Niagara Street parcel.

The findings of the report are summarized below.

- Removal activities included the excavation of former underground storage tanks and filling dispensers, and excavation of approximately 4360 tons of contaminated soil/fill on the 285 Niagara Street parcel.
- Post-excavation soil samples show elevated VOCs exceeding NYSDEC CP-51 soil cleanup objectives (SCOs) remained on-Site at that time. NYSDEC Spill No.

0904123 was opened. The NYSDEC Spills file (0904123) was administratively closed upon acceptance in the BCP. All remedial measures related to the Spill were completed under the BCP with NYSDEC approval.

- Approximately 20,000 gallons of contaminated groundwater was extracted and discharged to the municipal sewer with permission from Buffalo Sewer Authority (BSA) during the remedial excavation.

December 2009 –Off-Site Subsurface Investigation (295 Niagara Street)

Nature's Way Environmental Consultants and Contractors, Inc. (NWEC&C) conducted a limited subsurface investigation on a portion of the 295 Niagara Street parcel (identified as 305 within the letter-report), and the findings are summarized below.

- Elevated photoionization detector (PID) readings for volatile organic compounds (VOCs) were detected in multiple locations across the site, with readings as high as 1,460 ppm being detected. Elevated PID readings were noted in seven (7) out of nine (9) boring locations.

1.3 Constituents of Potential Concern (COPCs)

Based on the findings related to historic use of the Site, the constituents of potential concern (COPCs) are presented below:

- ***Soil:*** Petroleum VOCs.

- ***Groundwater and Sub-slab Vapor:*** Petroleum VOCs

2.0 INVESTIGATION APPROACH

The purpose of the RI field activities was to define the nature and extent of contamination on the BCP Site, and to collect data of sufficient quantity and quality to perform the remedial alternatives evaluation. The field investigation was completed across the BCP Site to supplement previous environmental data and to delineate areas requiring remediation. On-site field activities included: advancement of soil borings; subsurface soil sampling; monitoring well installation; sub-slab vapor investigation, groundwater sampling; and collection of hydrogeologic data.

Field team personnel collected environmental samples in accordance with the rationale and protocols described in the Field Sampling Plan (FSP) presented in the Quality Assurance Project Plan (QAPP). USEPA and NYSDEC-approved sample collection and handling techniques were used. Samples for chemical analysis were analyzed in accordance with USEPA SW-846 methodology with an equivalent Category B deliverable package to meet the definitive-level data requirements. Analytical results were evaluated by a third-party data validation expert in accordance with provisions described in the QAPP.

The investigation activities are described below. Figure 3 presents the RI sample locations; as well as identifying historic sample locations.

2.1 Soil/Fill Investigation

A soil/fill investigation was completed across the site to supplement previous environmental data and to further delineate contamination on-Site. The Soil/Fill Investigation included the advancement of soil borings across the Site. No surface samples were collected as the Site is primarily covered by buildings and asphalt parking areas.

2.1.1 Subsurface Soil/Fill

The subsurface soil/fill investigation included the advancement of soil borings and test pits to investigate and characterize the Site. A total of nineteen (19) soil borings identified as SB-1 through SB-19 (see Figure 3). . were advanced using direct-push drilling techniques to a target depth of 16 feet below ground surface (fbgs) or refusal for exterior boring locations and building interior borings were advanced by hand auger to a target depth of 2 feet below the slab. Three test pit locations, identified as TP-A, TP-A(R) and TP-B

where advanced within the previously completed NYSDEC Spill excavation area to investigate and characterize the placed backfill material using an excavator.

Subsurface soil/fill samples were field-screened for the presence of VOCs using a field photoionization detector (PID), and samples were collected from 18 of the borings locations. Soil/fill samples were collected using dedicated stainless steel sampling tools. Representative soil samples were placed in pre-cleaned laboratory provided sample bottles, cooled to 4ºC in the field, and transported under chain-of-custody command to a NYSDOH ELAP-certified analytical laboratory.

2.1.2 Soil/Fill Sample Analyses

Nineteen (19) subsurface soil/fill samples were analyzed for Target Compound List (TCL) SVOCs including tentatively identified compounds (TICs), and ten (10) sample locations, (SB-3, SB-4, SB-5, SB-6, SB-11(7-9'), SB-11(14-15'), SB-15, SB-17, SB-18, and TP-A) were analyzed for TCL plus STARS List VOCs including TICs. Site characterization samples for pesticides, herbicides, polychlorinated biphenyls (PCBs), and Target Analyte List (TAL) metals were collected from SB-3, SB-4, SB-6, SB-7, SB-15, SB-17 and TP-A. TP-A(R) and TP-B were analyzed for pesticides. (Table 1 doesn't reflect these test pits)

All samples were collected and analyzed in accordance with USEPA SW-846 methodology with equivalent NYSDEC Category B deliverables to allow for independent third-party data usability assessment.

2.2 Groundwater Investigation

TurnKey personnel provided oversight for the installation of five new groundwater monitoring wells (i.e., MW-1 through MW-5) to investigate groundwater flow and quality. Details of the well installation, well development and groundwater sampling are provided below. Figure 4 presents the location of the monitoring well network.

2.2.1 Monitoring Well Installation

After completion of the subsurface investigation, five (5) soil boring locations, were subsequently converted to monitoring wells, identified as SB-1/MW-1, SB-4/MW-2, SB-7/MW-3, SB-10/MW-4, and SB-14/MW-5 (see Figure 4). The monitoring wells were installed using a direct-push drill rig capable of advancing hollow-stem augers to install two-

inch inside diameter (ID) monitoring wells in accordance with the approved RI/IRM Work Plan. Monitoring well construction details are presented on the Borehole Logs in Appendix B. Locations of the monitoring wells are presented on Figures 3 and 4.

2.2.2 Groundwater Sample Collection

The five newly installed monitoring wells were developed on April 18th, 2012, in general accordance with the approved Work Plan. After completion of well development, TurnKey personnel purged and sampled monitoring wells using a pump and dedicated pump tubing following low-flow/minimal drawdown purge and sample collection procedures on April 23rd, 2013. Field measurements for pH, specific conductance, temperature, turbidity, dissolved oxygen, and water level, as well as visual and olfactory field observations, were periodically recorded and monitored for stabilization. All collected groundwater samples were placed in pre-cleaned, pre-preserved laboratory provided sample bottles, cooled to 4°C in the field, and transported under chain-of-custody command to a NYSDOH ELAP-certified analytical laboratory.

2.2.3 Groundwater Sample Analyses

All groundwater samples collected from wells MW-1 through MW-5 were analyzed for TCL plus STARS VOCs, TCL SVOCs, dissolved metals, and PCBs. Samples from MW-1 through MW-4 were also sampled for pesticides and herbicides. All sampling was performed in accordance with USEPA SW-846 methodology with equivalent NYSDEC Category B deliverables to allow for independent third-party data usability assessment.

2.3 Soil Vapor Investigation

Based on the historical use of Building No. 1, a soil vapor investigation was completed in accordance with the approved Work Plan.

2.3.1 Sub-Slab Vapor, Indoor Air and Outdoor Air Sampling

On April 23, 2012, TurnKey conducted sub-slab vapor sampling in accordance with the approved Work Plan. Sample locations included two sub-slab and two indoor air samples collected within Building No.1. In addition, one outdoor ambient air sample was collected along the eastern boundary of the Site adjacent to Fell Alley (see Figure 3).

At each subslab sample location, TurnKey used a hand-held hammer drill to advance a ¾-inch diameter hole through the concrete floor (approximately 6-inches thick). Following advancement through the concrete, an appropriately sized silicone stopper fitted with a ¼-inch hollow Teflon tube was immediately inserted into the concrete core hole and secured. A laboratory supplied Summa Canister fitted with an 8-hour regulator was attached to the opposite end of the Teflon tubing. Concurrent with each sub-slab sample location, an indoor ambient air sample was prepared by staging a second summa canister on a ladder (approximately 5 feet above ground surface) adjacent to the sub-slab sample location. Indoor air sample locations were assembled similar to the outdoor ambient air sample.

2.3.2 Sample Collection

All Summa Canister valves remained closed until the borings were complete and all the canisters were in their respective positions. The valves were then opened for the required 8-hour collection period. Because the building was vacant and sealed for over a year, the building ventilation system was not fully functional at the time of the sampling. Doors and windows were shut throughout the sampling event.

2.3.3 Sample Analysis

Following sample collection, TurnKey personnel closed and capped each canister valve. The air samples were shipped to and transported under chain-of-custody command to a NYSDOH ELAP-certified analytical laboratory for VOC analysis in accordance with USEPA Method TO-15. All concrete openings were repaired with a cement patch.

2.4 On-Site Soil Reuse and Backfill Source Assessment

Shallow overburden on-Site soils, approximately 0.5 to 2 fbgs, located north of the former Building #2, were removed and stockpiled on-Site prior to completion of the IRM excavation. Approximately 150 cubic yards of clean overburden soil was stockpiled and sampled in accordance in DER-10, Table 5.4(e), including three (3) discreet grab samples for analysis of TCL plus STARS VOCs, and one composite sample for analysis of TCL SVOCs, TAL metals, PCBs, herbicides and pesticides. All analytical results were below Unrestricted

Use SCOs (see Table 7), demonstrating conformance with reuse criteria. The stockpiled soils were approved for use as backfill by the Department.

Approximately 4,268 tons of recycled concrete originating from Battaglia Demolition, Inc., located at 1037 Seneca Street, Buffalo NY (registered facility – 15W31) was transported to the Site by R. E. Lorenz for use as backfill. The recycled concrete source material was characterized in accordance with the approved work plan, DER-10 and/or correspondence with the Department. Analytical results for the recycled concrete are presented on Table 7.

2.5 Field Specific Quality Assurance/Quality Control Sampling

In addition to the subsurface soil/fill, groundwater, and sub-slab vapor samples described above, field-specific quality assurance/quality control (QA/QC) samples were collected and analyzed to ensure the reliability of the generated data as described in the QAPP and to support the required third-party data usability assessment effort. Site-specific QA/QC samples included matrix spikes, matrix spike duplicates, blind duplicates, and trip blanks.

2.6 Site Mapping

A Site map was developed during the RI field investigation. All sample points and relevant Site features were located on the map. TurnKey personnel employed a handheld GPS unit to identify the locations of all sample locations relative to State planar grid coordinates. Monitoring well elevations were measured by TurnKey's surveyor. An isopotential map showing the groundwater elevations was prepared based on water level measurements relative to the site vertical datum (see Figure 4).

3.0 SITE PHYSICAL CHARACTERISTICS

The physical characteristics of the Site observed during the RI are described in the following sections.

3.1 Site Topography and Drainage

The Site is generally flat lying with limited distinguishable Site features. The surface was predominately covered with pavement (i.e. asphalt and concrete), and Building No. 1. It should be noted that the former Building No. 2 and Building No. 3 were demolished to grade (see Figure 2). Precipitation (i.e., rain or melting snow) moves to the storm drains in the roadways via overland flow. Surface and shallow groundwater flow are likely impacted by various cycles of development and filling, as well as utility lines and foundations.

3.2 Geology and Hydrogeology

3.2.1 Overburden

The U.S. Department of Agriculture Soil Conservation Service soil survey map of Erie County describes the general soil type at the Site as Urban Land (Ud) with 0-3 percent slopes. This is indicative of the level to gently sloping land with at least 40 percent of the soil surface covered by asphalt, concrete, buildings, or other impervious structures typical of an urban environment.

The geology at the Site was investigated during the RI and is generally described as asphalt and subbase fill overlying reddish-brown sandy lean clay.

3.2.2 Bedrock

Based on the bedrock geologic map of Erie County (Ref. 4), the Site is situated over the Hamilton Group Formation of the Middle Devonian Series. The Hamilton Group, Skaneateles Formation is comprised of Levanna Shale, and Stratford Limestone. The unit has an approximate thickness of 200 to 500 feet. Structurally, the bedrock formations strike in an east-west direction and exhibit a regional dip that approximates 50 feet per mile (3 to 5 degrees) toward the south and southwest. Bedrock was not encountered during RI/IRM activities.

3.2.3 Hydrogeology

Based on the groundwater gauging completed during the RI, localized groundwater flow was determined to be to the southwest. Groundwater was typically encountered between 5.5 to 6.0 fbgs during the soil boring investigation. Figure 4 depicts the groundwater isopotential map, and monitoring well and groundwater elevation data are shown on Table 4.

4.0 INVESTIGATION RESULTS BY MEDIA

The following sections discuss the analytical results of the Remedial Investigation. Tables 2 through 5 summarize the soil/fill, groundwater, and soil vapor and air analytical data, respectively. Appendix C includes the laboratory analytical data packages. Sample locations are shown on Figure 3.

4.1 Subsurface Soil/Fill

The soil/fill investigation completed during the RI is discussed in the following section. Table 2 presents a comparison of the detected soil parameters to the 6NYCRR Part 375 Soil Cleanup Objectives (SCOs) for Unrestricted Use (December 2006).

4.1.1 Volatile Organic Compounds

No VOCs were detected above Unrestricted Use SCOs during the RI, with the exception of xylene in SB-5, SB-11, and SB-18; and, 1,2,4-trimethylbenzene in SB-18 (see Table 2). These boring locations were subsequently excavated and disposed off-site during the IRM activities (see Section 5, below).

4.1.2 Semi-Volatile Organic Compounds

No SVOCs were detected above Unrestricted Use SCOs, with the exception of SB-5 (see Table 2). The vast majority of the analytes were reported as non-detectable or at trace (estimated) concentrations below the sample quantitation limit by the analytical laboratory.

As noted above, this boring location was excavated and disposed off-site during IRM activities. Details of the IRM are provided in Section 5.0, below.

4.1.3 Inorganic Compounds

No metals were detected above Unrestricted Use SCOs.

4.1.4 Pesticides, Herbicides and Polychlorinated Biphenyls

No PCBs, herbicides or pesticides were detected above Unrestricted Use SCOs, with the minor exceptions of 4,4'-DDE and 4,4,'-DDT in select test pit location TP-A, TP-A(R), and/or TP-B. As noted above, test pits were advanced within an area of the Site that was previously remediated to characterize historic backfill material. No pesticides and herbicides

were detected above Unrestricted Use SCOs in the soil boring locations. All results were detected below Residential Use SCOs.

4.1.5 Subsurface Soil Summary

As described above, no VOCs, SVOCs, pesticides, herbicides, PCBs or inorganic compounds (metals) were detected above Unrestricted Use SCOs, with the exception of SB-5, SB-11 and SB-18. These boring locations were subsequently excavated and disposed off-site during IRM activities (see Section 5.0, below). 4,4-DDE and 4,4-DDT were detected above Unrestricted Use SCOs in TP-A, TP-A(R) and/or TP-B; which were completed within the historic backfill. All results were below their respective Residential Use SCOs.

4.2 Groundwater

The sampling results for groundwater monitoring completed during the RI are discussed in the following sections. Table 3 presents a comparison of the detected groundwater parameters to the Class GA Groundwater Quality Standards (GWQS) per NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1988). The groundwater results were collected prior to IRM excavation of impacted soil/fill and the extraction and permitted discharge of groundwater from within the IRM excavation.

4.2.1 Volatile Organic Compounds

The majority of analytes were reported as non-detectable or trace (estimated) concentrations below the laboratory quantitation limit. Two VOCs, 1,3,5-trimethylbenzene and xylene, were detected slightly above their respective GWQS in one well (MW-2; see Table 3). It should be noted that MW-2 and the surrounding soil was excavated to a depth approximately 16 fbgs and laterally to the adjacent northern and eastern property boundaries during IRM activities (see Section 5, below).

4.2.2 Semi-Volatile Organic Compounds

No SVOCs were detected above the GWQS. All analytes were reported as non-detectable or trace (estimated) concentrations below the laboratory quantitation limit (see Table 3).

4.2.3 Inorganic Compounds

Metals detected at concentrations above GWQS were primarily limited to naturally-occurring minerals, including iron, magnesium, manganese, nickel and sodium.

4.2.4 Pesticides, Herbicides and Polychlorinated Biphenyls

No pesticides, herbicides, or PCBs were detected above GWQS (see Table 3).

4.2.5 Summary

As described above and shown on Table 3 VOCs, SVOCs, PCBs, pesticides, and herbicides were predominantly reported as non-detectable, trace (estimated), or detected at concentrations below the GWQS. Two VOCs were detected slightly above GWQS in MW-2. Metals detected at concentrations above GWQS are primarily naturally occurring minerals.

It should be noted that IRM activities removed MW-2, and the surrounding soil was excavated to approximately 16 fbgs and to the adjacent northern and eastern property boundaries (see Section 5, below). Furthermore, approximately 20,000-gallons of groundwater was extracted and discharged with permission from BSA during the IRM. All apparent sources of petroleum contamination were removed during the IRM and any residual VOCs that may remain will naturally attenuate over time.

4.3 Sub-Slab Vapor, Indoor Air and Outdoor Air

A total of five air samples were collected on April 23rd, 2012. The sampling included two sub-slab vapor samples, two indoor air samples (taken adjacent the sub-slab sample points), and one outdoor ambient air sample. Table 5 compares the analytical results to the NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006).

4.3.1 Volatile Organic Compounds

Utilizing NYSDOH Matrix 1 and Matrix 2, the majority of the results indicate "No Further Action (NFA)" (see Table 5). One constituent, carbon tetrachloride, was detected at a level indicating "Take reasonable and practicable actions to identify source(s) and reduce exposure (I.R)". Carbon tetrachloride results were reported as non-detect (ND) from the

SSV samples, and Interior air sample results were less than the Outdoor Ambient air sample result.

4.3.2 Summary

The majority of air results indicate "No Further Action" (NFA), with one minor exception of carbon tetrachloride which was designated as "Take reasonable and practical actions to identify source(s) and reduce exposures (I,R). Both SSV results were reported as non-detect (ND), and both Interior air sample results were less than the Outdoor Ambient air result for carbon tetrachloride.

4.4 Data Usability Summary

In accordance with the RI/ IRM Work Plan, the laboratory analytical data from this investigation was assessed and, as required, submitted for independent review. Data Validation Services located in North Creek, New York performed the data usability summary assessment, which involved a review of the summary form information and sample raw data, and a limited review of associated QC raw data. Specifically, the following items were reviewed:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate Recoveries
- Field Duplicate Correlation
- Preparation/Calibration Blanks
- Control Spike/Laboratory Control Samples
- Instrumental IDLs
- Calibration/CRI/CRA Standards
- ICP Interference Check Standards
- ICP Serial Dilution Correlations
- Sample Results Verification

The Data Usability Summary Report (DUSR) was conducted using guidance from the USEPA Region 2 validation Standard Operating Procedures, the USEPA National Functional Guidelines for Data Review, as well as professional judgment.

In summary, sample analyses were primarily conducted in compliance with the required analytical protocols. Most sample results are usable either as reported or with qualification. One volatile analyte (1,4-dioxane) in all samples was rejected, one volatile analyte (isopropyl alcohol) in all aqueous samples was rejected; and one semi-volatile analyte (3,3-dichlorobenzidine) in one sample (MW-4) was rejected. Some data were further qualified during the data validation. Qualifications of the data have been incorporated to the summary data tables. Appendix D includes the DUSR.

5.0 INTERIM REMEDIAL MEASURES

In accordance with the NYSDEC-approved RI/IRM Work Plan, following the completion of RI fieldwork, an IRM was implemented based on the nature and extent of the impacts identified during the RI. As stated in the approved RI/IRM Work Plan, 285 Niagara Operating Co.'s intent was for the IRM to substantially or completely constitute the final NYSDEC-approved BCP remedy for the Site. Figure 5 presents the location of IRM excavation areas.

Specific elements of the IRM, as implemented, included:

- Demolition and off-Site disposal of Buildings No.2 and 3.
- Removal and off-site recycling of approximately 374 tons of non-impacted asphalt and concrete.
- Excavation of approximately 4,360 tons of non-hazardous petroleum-impacted soil followed by off-site transportation by R. E. Lorenz for biotreatment at Tonawanda Terminal Biotreatment facility, located in Tonawanda, New York.
- Collection of a total of 48 post-excavation confirmatory soil samples including: thirty-five (35) side wall samples, and thirteen (13) bottom samples. Analytical results indicate that all remaining on-Site side wall and bottom samples were below Part 375 Unrestricted Use SCOs, with the minor exception of B-6 (16 fbgs).
- During IRM excavation activities, two (2) abandoned underground storage tanks (USTs) where discovered. UST-1 was an approximate 500 gallon steel UST discovered under the former Bldg. No. 3. UST-2 was an approximate 100 gallon steel UST discovered in the vicinity of SB-6. USTs were inspected, cleaned, and transported off-site by R. E. Lorenz for recycling as scrap at Gateway Recycling, located in Cheektowaga, NY.
- Approximately 20,000 gallons of groundwater from the on-Site excavation areas was extracted and transferred to an on-Site temporary storage tank during IRM activities. The accumulated excavation water was discharged to the sewer under approved temporary discharge permit from the Buffalo Sewer Authority (BSA).
- Placement and compaction of approximately 4,268 tons of approved recycled concrete backfill originating from Battaglia, located in Buffalo, NY

The Final Engineering Report, to be submitted as a separate document, includes additional details and supporting documentation of the IRM.

6.0 FATE AND TRANSPORT OF COPCS

The subsurface soil/fill, groundwater, and air sample analytical results were incorporated with the physical characterization of the Site to evaluate the fate and transport of COPCs in Site media. The mechanisms by which the COPCs can migrate to other areas or media are briefly outlined below. In all instances, the potential pathways are evaluated in the context of post-IRM conditions.

6.1 Fugitive Dust Generation

Volatile and non-volatile chemicals present in soil can be released to ambient air as a result of fugitive dust generation. Impacted soil/fill was excavated/removed and disposed of off-Site as part of the IRM activities and the completed remedial action achieved an Unrestricted Use cleanup.

Based on the achieved Unrestricted Use cleanup, which is deemed fully protective of human and environmental health, and the planned redevelopment of the Site with the majority of the Site covered by buildings, concrete, and asphalt, this migration pathway is not considered relevant..

6.2 Volatilization

Volatile chemicals present in soil/fill, groundwater and soil vapor may be released to ambient or indoor air through volatilization through the underlying building structures. Volatile chemicals typically have a low organic-carbon partition coefficient (K_{oc}), low molecular weight, and a high Henry's Law constant.

A soil vapor investigation was completed as part of the RI. Utilizing the NYSDOH Matrix 1 and Matrix 2 guidelines, the majority of results indicated "No Further Action (NFA)." One constituent, carbon tetrachloride, was detected in the indoor air at a level which indicated "Take reasonable and practicable actions to identify source(s) and reduce exposure (I.R)" utilizing NYSDOH Matrix 1, however, subslab vapor samples were reported by the laboratory as non-detect (ND) for carbon tetrachloride, and indoor air samples were detected below the outdoor ambient air sample result for carbon tetrachloride. As such, soil volatilization to the existing Building No. 1 is not considered a migration pathway.

Two petroleum VOCs were detected in on-Site groundwater at concentrations slightly above Class GA GWQS in MW-2. Based on the completed IRM in the vicinity of MW-2, which removed the petroleum impacted soil/fill to the property boundaries and to a

depth of approximately 16 fbgs, with on-Site post-excavation sample results below Unrestricted Use SCOs, it is expected that any residual groundwater concentrations to decrease naturally over time.

No volatile organic compounds were detected in any on-Site post-excavation sidewall and bottom samples above Unrestricted Use SCOs, with the minor exception of benzene in B-6 at approximately 16 fbgs, which was below the Residential Use SCO. Therefore, the release of VOCs from soils is not considered relevant in current and future use scenarios.

Based on the achieved Unrestricted Use cleanup, and results of the Building No. 1 soil vapor investigation, volatilization from soil and/or groundwater is not considered a relevant pathway.

6.3 Surface Water Runoff

The potential for soil particle transport with surface water runoff is low, as the majority of the Site is planned to be covered by concrete, asphalt and/or buildings. Precipitation waters are collected in on-Site catch basins, and transmitted to the municipal sewer and treated by Buffalo Sewer Authority. The storm sewer system provides a mechanism for controlled surface water transport but will ultimately result in sediment capture in the Buffalo Sewer Authority's grit chambers followed by disposal at a permitted sanitary landfill. As such, surface water runoff is not considered a relevant migration pathway.

6.4 Leaching

Leaching refers to chemicals present in soil/fill migrating downward to groundwater as a result of infiltration of precipitation. The completed IRM excavation/removal and off-Site disposal of impacted soil/fill from the Site which achieved an Unrestricted Use cleanup mitigates any potential leaching of chemicals to groundwater. Furthermore, the majority of the Site is planned to be covered by impermeable surfaces (i.e., asphalt, concrete, and buildings) which limit infiltration of precipitation. As such, leaching is not considered a relevant migration pathway.

6.5 Groundwater Transport

Regional groundwater migrates southwest towards Lake Erie. Groundwater on-Site may be influenced by underground utilities and building foundations. Volatile chemicals

detected in groundwater are present at relatively low concentrations (i.e., 16 ug/L was the maximum individual VOC concentration detected). Groundwater flows through a relatively low permeability sandy lean clay geologic unit, with an estimated hydraulic conductivity of $1x10^{-5}$ to $1x10^{-6}$ centimeters per second (cm/s) and porosity range of 0.3 and 0.4 (Ref. 6); and a measured average hydraulic gradient of approximately 0.01419 ft/ft. Darcy's velocity calculation indicates that shallow overburden groundwater migrates to the southwest at a rate of approximately $1.15x10^{-3}$ to $1.15x10^{-4}$ ft/day.

The completed IRM activities effectively removed potential source areas, with all remaining groundwater monitoring wells analytical results below GWQS for VOCs and SVOCs. Dissolved metals that were detected above GWQS are mainly natural occurring minerals. The surrounding areas in the vicinity of the Site are serviced by a municipal (supplied) water service by Buffalo Water Authority, with no evidence of potable wells in the area of the subject property. As such, transport off-site via groundwater migration is not a relevant migration pathway.

6.6 Exposure Pathways

Based on the analysis of chemical fate and transport provided above, and the achieved Unrestricted Use cleanup, whereby no COPCs and/or pathways were identified as potential migration pathways or receptors. The achieved Unrestricted Use cleanup is fully protective of human health and the environment.

7.0 QUALITATIVE RISK ASSESSMENT

7.1 Potential Human Health Risks

Based on the achieved Unrestricted Use cleanup, the 285-295 Niagara Street Site is fully protective of human health. The planned mixed-use residential and commercial redevelopment is consistent with the surrounding property use and zoning. As such, under current conditions (i.e., redevelopment) human contact with the Site can be expected to occur primarily by two types of receptors: trespassers who may traverse the property during redevelopment, and construction workers. Trespassers may be comprised of adolescents or adults, whereas construction workers would be limited to adults. In both instances, exposure frequency is expected to be negligible with remaining on-Site samples below Part 375 Unrestricted Use SCOs with minor exceptions.

Three constituents were identified above their respective Part 375 Unrestricted Use SCOs, including benzene at B-6 (16 fbgs), and 4,4'-DDE and 4,4-DDT were detected in TP-A, TP-A(R), and/or TP-B (see Table 2)

The NYSDEC Part 375 Unrestricted Use SCOs were developed to be fully protective of human health and the environment, regardless of the end use of the property. In establishing the final Unrestricted Use SCOs, the Department utilized the lowest value from the final human-health based screening, the protection of groundwater, and the protection ecological resources values. Based on Part 375-6, the utilization of the protection of groundwater SCOs would not be applicable for this Site as the three constituents were reported as non-detect (ND) in site-specific groundwater samples. Accordingly the groundwater data show that site soils do not impair or threaten groundwater quality. Additionally, the protection of ecological resources SCOs are not applicable as the Site is located in a highly developed urban area of the City of Buffalo, and the former and planned redevelopment of the Site includes primarily impervious surfaces cover (i.e. asphalt and concrete paving and buildings), whereby the Site does not provide suitable habitat to support flora or fauna. Therefore, the remedial SCOs are directed by the human health-based soil values.

Final human-heath based SCOs, as presented in Table 5.6-1 of the Technical Support Document (2006) list unrestricted human-health based SCOs for benzene of 2.0 mg/Kg, 4,4'-DDE of 0.18 mg/Kg, and 0.17 mg/Kg 4,4-DDT. All results from this investigation

and remediation were below the final human health based SCOs. Therefore, the site has met the requirements for an Unrestricted Use cleanup.

For groundwater, given the extent of soil/fill excavated during the IRMs, particularly when the excavation was continued to the property boundaries in the vicinity of MW-2, and no exceedance of VOCs or SVOCs above GWQS were detected in the remaining wells.; and, the availability of municipal water source at the Site, the potential for routine direct human contact or ingestion (i.e., as might occur with use of on-Site groundwater water for potable or process purposes) is highly unlikely. Non-routine contact with Site groundwater is expected to be limited to short durations under specific construction conditions (e.g., a construction worker managing groundwater during deep excavation work below the 6 to 8 fbgs groundwater table). Given the limited frequency and duration of these non-routine activities direct groundwater exposure pathways for on-Site receptors are not considered significant. Municipally supplied potable water is provided, and required to be used in the City of Buffalo.

The IRMs were completed to reduce/eliminate exposure to COPCs and were successful in achieving an Unrestricted Use cleanup.

7.2 Potential Ecological Risks

The 285-295 Niagara Street BCP Site is a former commercial facility located within a highly developed area in the City of Buffalo. The Site was primarily covered with asphalt, concrete and buildings, which provide little or no wildlife habitat or food value. No natural waterways are present on or adjacent to the Site. The reasonably anticipated future use of the Site is a mixed-use residential and commercial redevelopment with the majority of the Site covered by buildings, concrete sidewalks and asphalt. IRM activities eliminated source areas and achieved an Unrestricted Use cleanup. As such, no unacceptable ecological risks are anticipated under the current or reasonably anticipated future use scenario.

7.3 Potential Off-Site Exposure Risk

As a Volunteer, 285 Niagara Operating Co. did not perform off-site investigation or sampling activities during the RI; however, results from the RI and IRM have been reviewed to assess the potential of off-site contamination.

Based on the lateral extents of the IRM excavation, which was continued to the property boundary along portions of the northeast, east, and southwest boundaries (see Figure 5), sidewall confirmatory post-excavation soil samples collected off-site (i.e. property boundary) can be used to assess potential residual offsite impacts. Post-excavation confirmatory soil analytical results indicate that only two (2) sidewall samples collected off-site were detected above Unrestricted Use SCOs, identified as SW-2 and SW-22 (see Table 6). Elevated VOCs were detected above Unrestricted Use SCOs in SW-2 and SW-22, and elevated VOCs were detected above Residential Use SCOs in SW-2. One VOC constituent, 1,2,4-trimethylbenzene was detected slightly above its Restricted-Residential Use SCO (59 mg/Kg vs. 52 mg/Kg SCO, respectively) in SW-2. Elevated PID readings and odors were noted at SW-2.

Though potential off-site subsurface soil contamination may be present in the vicinity of SW-2, exposure to the low-level contamination is highly unlikely due to the impermeable surface cover (asphalt) and current use as parking and driveway off of Fell Alley. Potential exposure would be limited to subgrade excavation (e.g. utilities); however, contaminant concentrations in SW-2 are below Commercial Use SCOs which are protective of the utility worker.

Based on groundwater gauging collected during the RI, groundwater is estimated to flow in a south and southwest direction. Upgradient on-Site monitoring wells MW-2 and MW-4 analytical results were primarily below GWQS, with minor exception of naturally occurring metals, including iron, magnesium, manganese and sodium; and, slight exceedance of two VOCs in MW-2, including 1,3,5-trimethylbenzene (16 ug/L vs. 5 ug/l GWQS) and xylene (5.7 ug/L vs. 5 ug/L GWQS). The groundwater samples were collected prior to completion of the IRMs, which effectively removed the potential source area and achieved Protection of Groundwater SCOs; with all remaining groundwater monitoring wells analytical results below GWQS for VOCs and SVOCs. Any residual groundwater impacts are expected to naturally degrade over time.

8.0 REMEDIAL ALTERNATIVES EVALUATION

8.1 Remedial Action Objectives

The final remedial measures for the 285-295 Niagara Street Site must satisfy Remedial Action Objectives (RAOs). Remedial Action Objectives are site-specific statements that convey the goals for minimizing or eliminating substantial risks to public health and the environment. Appropriate RAOs for the 285-295 Niagara Street Site are:

- Prevent ingestion of or direct contact with groundwater containing contaminant levels exceeding drinking water standards.
- Prevent contact with, or inhalation of, volatiles emanating from contaminated groundwater.
- Remove the source of ground water contamination.
- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.
- Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

In addition to achieving RAOs, NYSDEC's Brownfield Cleanup Program calls for remedy evaluation in accordance with DER-10 Technical Guidance for Site Investigation and Remediation. Specifically, the guidance states "When proposing an appropriate remedy, the person responsible for conducting the investigation and/or remediation should identify and develop a remedial action that is based on the following criteria..:"

- **Overall Protection of Public Health and the Environment**. This criterion is an evaluation of the remedy's ability to protect public health and the environment, assessing how risks posed through each existing or potential pathway of exposure

are eliminated, reduced, or controlled through removal, treatment, engineering controls, or institutional controls.

- **Compliance with Standards, Criteria, and Guidance (SCGs)**. Compliance with SCGs addresses whether a remedy will meet applicable environmental laws, regulations, standards, and guidance.
- **Long-Term Effectiveness and Permanence**. This criterion evaluates the long-term effectiveness of the remedy after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: (i) the magnitude of the remaining risks (i.e., will there be any significant threats, exposure pathways, or risks to the community and environment from the remaining wastes or treated residuals), (ii) the adequacy of the engineering and institutional controls intended to limit the risk, (iii) the reliability of these controls, and (iv) the ability of the remedy to continue to meet RAOs in the future.
- **Reduction of Toxicity, Mobility or Volume with Treatment**. This criterion evaluates the remedy's ability to reduce the toxicity, mobility, or volume of Site contamination. Preference is given to remedies that permanently and significantly reduce the toxicity, mobility, or volume of the wastes at the Site.
- **Short-Term Effectiveness**. Short-term effectiveness is an evaluation of the potential short-term adverse impacts and risks of the remedy upon the community, the workers, and the environment during construction and/or implementation. This includes a discussion of how the identified adverse impacts and health risks to the community or workers at the Site will be controlled, and the effectiveness of the controls. This criterion also includes a discussion of engineering controls that will be used to mitigate short term impacts (i.e., dust control measures), and an estimate of the length of time needed to achieve the remedial objectives.
- **Implementation**. The implementation criterion evaluates the technical and administrative feasibility of implementing the remedy. Technical feasibility includes the difficulties associated with the construction and the ability to monitor the effectiveness of the remedy. For administrative feasibility, the availability of

the necessary personnel and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

- **Cost**. Capital, operation, maintenance, and monitoring costs are estimated for the remedy and presented on a present worth basis.
- **Community Acceptance**. This criterion evaluates the public's comments, concerns, and overall perception of the remedy.

8.2 Future Land Use Evaluation

In developing and screening remedial alternatives, NYSDEC's Part 375 regulations require that the reasonableness of the anticipated future land be factored into the evaluation. The regulations identify 16 criteria that must be considered. These criteria and the resultant outcome for the 285-295 Niagara Street Site are presented in the Land Use Evaluation presented in Appendix E. As indicated, this evaluation supports residential/commercial use as the reasonably anticipated future use of the Site, which is consistent with past use.

Although the Site is intended to be used for residential/commercial purposes, the IRM effectively achieved an Unrestricted Use cleanup. Therefore, Tables 2 and 6 present a comparison of the soil/fill analytical data to Part 375 Unrestricted Use SCOs, and the only alternatives discussed in detail in Section 8.3 is:

- No Further Action beyond which was completed as IRMs; Unrestricted Use Cleanup

8.3 Alternatives Evaluation

8.3.1 IRM/Unrestricted Use/No Further Action

Under this alternative, the Site would remain in its current state, with no additional controls in-place.

Overall Protection of Public Health and the Environment – The Site is fully protective of human health and the environment, based on the achieved level of cleanup (i.e. Unrestricted Use). Accordingly, no further action is protective of public health and does satisfy the RAOs.

Compliance with SCGs – Under the current and reasonably anticipated future use scenario (residential/commercial), the concentrations of constituents detected in the soil/fill, groundwater, and air generally comply with applicable SCOs and GWQS.

Long-Term Effectiveness and Permanence – The no further action alternative involves no additional equipment, institutional controls or facilities subject to maintenance. Based on the extent of removal completed during the IRMs, this alternative does provide long-term effectiveness, and achieves the RAOs.

Reduction of Toxicity, Mobility, or Volume with Treatment – The IRMs completed at the Site have reduced the toxicity, mobility and volume of COPCs. The IRMs were successful in achieving Unrestricted Use SCOs, and therefore this alternative is protective of public health and satisfies the RAOs.

Short-Term Effectiveness – No short-term adverse impacts and risks to the community, workers, or the environment attributable to implementation of the IRM/no further action alternative.

Implementation – No technical or administrative implementation issues are associated with the no further action alternative.

Cost – The capital cost of the IRM was approximately $500,000. There would be no capital or long-term operation, maintenance, or monitoring costs associated with the no further action alternative.

Community Acceptance – The RI/IRM Work Plan was made available for comment from February 16, 2012 through March 16, 2012. No comments opposing the work were received. The Site was remediated to Unrestricted Use SCOs.

8.4 Recommended Remedial Measure

Based on the Alternatives Analysis evaluation, the completed IRM/No Further Action fully satisfies the remedial action objectives, achieved Unrestricted Use SCOs, and is therefore fully protective of human health and the environment.

Accordingly, the completed IRM/No Further Action is the recommended final remedial approach for the 285-295 Niagara Street Site.

9.0 RI/IRM/AAR SUMMARY AND CONCLUSIONS

Based on the data and analyses presented in the preceding sections, we offer the following summary and conclusions:

- Based on the sub-surface soil data, concentrations of VOCs, SVOCs, metals, pesticides, herbicides, and PCBs were below Part 375 Unrestricted Use SCOs, with the minor exception of one analyte at B-6 (16 fbgs), and 4,4-DDE and 4,4-DDT identified selectively in TP-A, TP-A(R), and/or TP-B. All values were below the NYSDEC Unrestricted Final Human Health Based SCOs.

- Based on the groundwater data, the vast majority of analytes were detected below GWQS. Two VOCs and certain naturally-occurring metals were detected slight above GWQS. However, no VOCs or SVOCs were detected above GWQS in the remaining on-Site wells. Furthermore, on-Site groundwater is not used for potable or other purposes, further reducing any potential contact with or ingestion of groundwater.

- Based on the nature and extent of the impacts identified during the RI, as well as previously known conditions (e.g., former site use including: gasoline station, car wash, and manufacturing operations; open Spill file, and elevated VOCs in soil/fill), planned IRMs were discussed with and approved by NYSDEC with concurrence from the NYSDOH. The IRMs included: excavation and off-site treatment of approximately 4,360 tons of petroleum impacted soil/fill; excavation, cleaning and off-site recycling as scrap of two, approximate 100 and 500 gallon, respectively, steel abandoned USTs; extraction and permitted discharge of approximately 20,000-gallons of excavation water; and placement and compaction of approved recycled concrete backfill material.

- Post-excavation confirmatory soil sample results indicate that all confirmatory samples are below Part 375 Unrestricted Use SCOs with the minor exception of benzene at B-6, which was below its Part 375 Residential Use SCO. Based on the RI and IRM data, the remedial work effectively achieved an Unrestricted Use cleanup.

The Final Engineering Report, to be submitted as a separate document, includes additional details and supporting documentation of the IRMs.

- As stated in the approved RI/IRM Work Plan, 285 Niagara Operating Co.'s intent was for the IRMs to substantially or completely constitute the final NYSDEC-approved BCP remedy for the Site. The remedial work achieved an Unrestricted Use cleanup. Based on the Alternatives Analysis evaluation, the completed IRMs fully satisfies the remedial action objectives and is protective of human health and the environment. Accordingly, the completed IRM is the recommended final remedy for the 285-295 Niagara Street Site.

10.0 REFERENCES

1. Nature's Way Environmental Consultants and Contractors, Inc. *Limited Subsurface Investigation, 305[295] Niagara Street, Buffalo, New York*. December 2009.

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3. New York State Department of Environmental Conservation. *DER-10; Technical Guidance for Site Investigation and Remediation*. May 2010.

4. New York State Department of Health. *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*. October 2006, June 2007 addendum.

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6. Chow, V., Maidment, D., and Mays, L. 1988. Applied Hydrology. McGraw-Hill.

TABLES

TABLE 1

SUMMARY OF SAMPLING AND ANALYSIS PROGRAM

285-295 NIAGARA STREET SITE

BUFFALO, NY

Sample Identifier	Data Source	Depth Sampled/ Screened (fbgs)	Analysis						Date Sampled	Comments
			TCL VOCs	TCL SVOCs	PCBs	TAL Metals	Pesticides	Herbicides		
Subsurface Soil/Fill										
SB-1	Remedial Investigation	0-2		X					04/16/2012	
SB-2	Remedial Investigation	3-5		X					04/16/2012	
SB-3	Remedial Investigation	5-7	X	X	X	X	X	X	04/16/2012	
SB-4	Remedial Investigation	9-11	X	X	X	X	X	X	04/16/2012	
SB-5	Remedial Investigation	0-4		X	X	X	X	X	04/16/2012	MS/MSD
SB-5	Remedial Investigation	7-9	X	X					04/16/2012	
SB-6	Remedial Investigation	7-9	X	X	X	X	X	X	04/16/2012	
SB-7	Remedial Investigation	5-7		X	X	X	X	X	04/16/2012	
SB-8	Remedial Investigation	3-5		X					04/16/2012	
SB-9	Remedial Investigation	10-12		X					04/16/2012	
SB-10	Remedial Investigation	0-1		X					04/16/2012	
SB-11	Remedial Investigation	7-9	X						04/17/2012	
SB-11	Remedial Investigation	14-15	X						04/17/2012	
SB-13	Remedial Investigation	1-3		X					04/17/2012	
SB-14	Remedial Investigation	5-7		X					04/17/2012	
SB-15	Remedial Investigation	0-2	X	X	X	X	X	X	04/17/2012	
SB-16	Remedial Investigation	0-2		X					04/17/2012	
SB-17	Remedial Investigation	0-2	X	X	X	X	X	X	04/17/2012	
SB-18	Remedial Investigation	7-9	X	X					04/17/2012	
SB-19	Remedial Investigation	3-5		X					04/17/2012	
TP-A	Remedial Investigation	--	X	X	X	X	X	X	01/15/2013	
TP-A (R)	Remedial Investigation	--					X		05/01/2013	
TP-B	Remedial Investigation	--					X		05/01/2013	
SW-1	Interim Remedial Measures	--	X						12/27/2012	
SW-2	Interim Remedial Measures	--	X						12/27/2012	
SW-3	Interim Remedial Measures	--	X						12/27/2012	
SW-4	Interim Remedial Measures	--	X						12/27/2012	
SW-5	Interim Remedial Measures	--	X						12/31/2012	
SW-6	Interim Remedial Measures	--	X						12/31/2012	
SW-7	Interim Remedial Measures	--	X						12/31/2012	
SW-8	Interim Remedial Measures	--	X						01/02/2013	
SW-11	Interim Remedial Measures	--	X						01/02/2013	
SW-12	Interim Remedial Measures	--	X						01/02/2013	
SW-13	Interim Remedial Measures	--	X						01/02/2013	
SW-14	Interim Remedial Measures	--	X						01/02/2013	
SW-15	Interim Remedial Measures	--	X						01/03/2013	
SW-16	Interim Remedial Measures	--	X						01/07/2013	MS/MSD
SW-17	Interim Remedial Measures	--	X						01/07/2013	
SW-18	Interim Remedial Measures	--	X						01/08/2013	
SW-19	Interim Remedial Measures	--	X						01/07/2013	
SW-22	Interim Remedial Measures	--	X						01/09/2013	
SW-23	Interim Remedial Measures	--	X						01/09/2013	
SW-24	Interim Remedial Measures	--	X						01/09/2013	
SW-25	Interim Remedial Measures	--	X						01/09/2013	

TABLE 1

SUMMARY OF SAMPLING AND ANALYSIS PROGRAM

285-295 NIAGARA STREET SITE

BUFFALO, NY

Sample Identifier	Data Source	Depth Sampled/ Screened (fbgs)	Analysis						Date Sampled	Comments
			TCL VOCs	TCL SVOCs	PCBs	TAL Metals	Pesticides	Herbicides		
Subsurface Soil/Fill (continued)										
SW-26	Interim Remedial Measures	--	X						01/09/2013	
SW-27	Interim Remedial Measures	--	X						01/09/2013	
SW-29	Interim Remedial Measures	--	X						01/10/2013	
SW-30	Interim Remedial Measures	--	X	X					01/10/2013	
SW-31	Interim Remedial Measures	--	X						01/10/2013	
SW-32	Interim Remedial Measures	--	X						01/10/2013	
SW-33	Interim Remedial Measures	--	X						01/16/2013	
SW-34	Interim Remedial Measures	--	X						01/16/2013	
SW-35	Interim Remedial Measures	--	X						01/16/2013	
Bottom-1	Interim Remedial Measures	--	X						12/27/2012	MS/MSD
Bottom-2	Interim Remedial Measures	--	X						12/31/2012	
Bottom-3	Interim Remedial Measures	--	X						01/02/2013	
Bottom-4	Interim Remedial Measures	--	X						01/02/2013	
Bottom-5	Interim Remedial Measures	--	X						01/03/2013	
Bottom-6	Interim Remedial Measures	--	X						01/07/2013	
Bottom-7	Interim Remedial Measures	--	X						01/08/2013	
Bottom-8	Interim Remedial Measures	--	X						01/09/2013	
Bottom-9	Interim Remedial Measures	--	X						01/09/2013	
Bottom-10	Interim Remedial Measures	--	X						01/09/2013	
Bottom-11	Interim Remedial Measures	--	X						01/10/2013	
Bottom-12	Interim Remedial Measures	--	X						01/10/2013	MS/MSD
Bottom-13	Interim Remedial Measures	--	X						01/16/2013	
Soil Reuse Grab 1	Interim Remedial Measures	--	X						01/08/2013	
Soil Reuse Grab 2	Interim Remedial Measures	--	X						01/08/2013	
Soil Reuse Grab 3	Interim Remedial Measures	--	X						01/08/2013	
Soil Reuse Comp 1	Interim Remedial Measures	--	X	X	X	X	X	X	01/08/2013	
Groundwater										
MW-1	Remedial Investigation	--	X	X	X	X	X	X	04/23/2012	
MW-2	Remedial Investigation	--	X	X	X	X	X	X	04/23/2012	
MW-3	Remedial Investigation	--	X	X	X	X	X	X	04/23/2012	
MW-4	Remedial Investigation	--	X	X	X	X	X	X	04/23/2012	MS/MSD
MW-5	Remedial Investigation	--	X	X	X	X			04/23/2012	
Air										
SSV-1	Remedial Investigation	--	X						04/23/2012	
SSV-2	Remedial Investigation	--	X						04/23/2012	
Interior-1	Remedial Investigation	--	X						04/23/2012	
Interior-2	Remedial Investigation	--	X						04/23/2012	
Outdoor	Remedial Investigation	--	X						04/23/2012	
		Totals:	**67**	**26**	**14**	**14**	**15**	**13**		

TABLE 2

SUMMARY OF SUBSURFACE SOIL ANALYTICAL RESULTS

285-295 NIAGARA STREET SITE

BUFFALO, NY

PARAMETER[1]	Unrestricted Use SCOs[2]	Residential Use SCOs[2]	SAMPLE LOCATION (DEPTH)																					
			SB-01 (0-2')	SB-02 (3-5')	SB-03 (5-7')	SB-04 (9-11')	SB-05 (0-4')	SB-05 (7-9)	SB-06 (7-9')	SB-07 (5-7')	SB-08 (3-5')	SB-09 (10-12')	SB-10 (1-2')	SB-11 (7-9')	SB-11 (14-15')	SB-13 (1-3')	SB-14 (5-7')	SB-15 (0-2')	SB-16 (0-2')	SB-17 (0-2')	SB-18 (7-9')	SB-19 (3-5')	TP-A	TP-A(R)	TP-B
Volatile Organic Compounds (VOCs) - mg/Kg [3]																								
1,2,4-Trimethylbenzene	**3.6**	**47**	--	--	ND	0.0056 J	--	**10**	3.3	--	--	--	ND	0.94	0.62	--	--	ND	--	ND	**6.4**	--	ND	--	--
1,2,4,5-Tetramethylbenzene	**--**	**--**	--	--	0.00058 J	ND	--	1.7	2.2	--	--	--	ND	0.14	0.088	--	--	ND	--	ND	4.5	--	ND	--	--
1,3,5-Trimethylbenzene	**8.4**	**47**	--	--	ND	0.0042 J	--	3.1	6.1	--	--	--	ND	0.44	0.26	--	--	ND	--	ND	2.6	--	ND	--	--
1,4-Dichlorobenzene	**1.8**	**9.8**	--	--	ND	ND	--	ND	ND	--	--	--	ND	ND	ND	--	--	0.43	--	ND	ND	--	ND	--	--
1,4-Diethylbenzene	**--**	**--**	--	--	ND	0.0057 J	--	4.2	5.2	--	--	--	ND	0.33	0.11	--	--	ND	--	ND	14	--	ND	--	--
4-Ethyltoluene	**--**	**--**	--	--	0.0013 J	0.0092 J	--	6.6	7.7	--	--	--	ND	0.61	0.3	--	--	ND	--	ND	6.4	--	ND	--	--
Acetone	**0.05**	**1.05**	--	--	ND	ND	--	ND	ND	--	--	--	ND	ND	ND	--	--	ND	--	ND	ND	--	0.0045 J	--	--
Bromomethane (Methyl bromide)	**--**	**--**	--	--	ND	ND	--	0.1 J	ND	--	--	--	ND	ND	ND	--	--	ND	--	ND	0.08 J	--	ND	--	--
Ethylbenzene	**1**	**30**	--	--	ND	ND	--	ND	0.1 J	--	--	--	ND	0.093	0.084	--	--	ND	--	ND	ND	--	ND	--	--
Isopropylbenzene (Cumene)	**--**	**--**	--	--	ND	ND	--	0.17	0.38	--	--	--	ND	0.03	0.018	--	--	ND	--	ND	0.23	--	ND	--	--
Methylene chloride	**0.05**	**51**	--	--	ND	ND	--	ND	ND	--	--	--	ND	ND	ND	--	--	0.0055 J	--	ND	ND	--	0.0093 J	--	--
n-Propylbenzene	**3.9**	**100**	--	--	ND	0.0028 J	--	1.1	2.5	--	--	--	ND	0.16	0.097	--	--	ND	--	ND	1.8	--	ND	--	--
p-Isopropyltoluene	**--**	**--**	--	--	ND	ND	--	0.097 J	0.14	--	--	--	ND	0.009	0.0042	--	--	ND	--	ND	0.44	--	ND	--	--
sec-Butylbenzene	**11**	**100**	--	--	ND	ND	--	ND	0.24	--	--	--	ND	0.014	0.008	--	--	ND	--	ND	0.81	--	ND	--	--
Toluene	**0.7**	**100**	--	--	ND	ND	--	0.045 J	ND	--	--	--	ND	ND	0.001 J	--	--	ND	--	ND	ND	--	ND	--	--
Total Xylenes	**0.26**	**100**	--	--	ND	0.0016 J	--	**3.03**	ND	--	--	--	ND	**0.2724**	0.125	--	--	ND	--	ND	**0.3**	--	ND	--	--
Total Tentatively Identified Compounds	--	--	--	--	0.0491 J	0.22 J	--	22.6 J	61.9 J	--	--	--	0.0031 J	2.743 J	0.709 J	--	--	0.062 J	--	ND	184 J	--	ND	--	--
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg [3]																								
2-Methylnaphthalene	**--**	**--**	ND	ND	ND	0.05	0.082 J	1.9	2.4	ND	ND	0.0069 J	ND	--	--	0.0059 J	ND	0.0054 J	0.0064 J	0.0024 J	2.2	ND	ND	--	--
Acenaphthene	**20**	**100**	ND	ND	ND	ND	0.23	ND	ND	ND	ND	0.015	ND	--	--	0.026	ND	ND	ND	ND	ND	ND	ND	--	--
Anthracene	**100**	**100**	ND	ND	ND	ND	0.54	ND	ND	ND	ND	0.023	ND	--	--	0.046	0.0066 J	ND	0.0036 J	0.013	0.038 J	ND	ND	--	--
Benzo(a)anthracene	**1**	**1**	0.34 J	ND	0.0023 J	ND	**1.4**	0.02 J	ND	0.0058 J	0.0049 J	0.057	ND	--	--	0.068	0.016	0.0073 J	0.02	0.054	0.014 J	ND	ND	--	--
Benzo(a)pyrene	**1**	**1**	ND	ND	ND	ND	**1.1**	0.046	ND	0.0097	0.0099	0.051	ND	--	--	0.046	0.016	0.011	0.016	0.08	ND	ND	ND	--	--
Benzo(b)fluoranthene	**1**	**1**	ND	ND	ND	ND	1	0.032 J	ND	0.0066 J	0.0078	0.055	0.061 J	--	--	0.038	0.013	0.01	0.014	0.065	ND	ND	0.36 J	--	--
Benzo(ghi)perylene	**100**	**100**	ND	ND	ND	ND	0.86		ND	0.0084	0.0099	0.043	ND	--	--	0.027	0.011	0.0094	0.011	0.069	ND	ND	ND	--	--
Benzo(k)fluoranthene	**0.8**	**1**	ND	ND	ND	ND	**1**	0.013 J	ND	0.0032 J	0.0043 J	0.047	ND	--	--	0.038	0.0086	0.0048 J	0.01	0.057	ND	ND	ND	--	--
Bis(2-ethylhexyl) phthalate	**--**	**--**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	0.089 J	ND	ND	--	--
Carbazole	**--**	**--**	ND	ND	ND	ND	0.27 J	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND	--	--
Chrysene	**1**	**1**	0.33 J	ND	0.0032 J	ND	**1.4**	0.02 J	ND	0.0052 J	0.0058 J	0.063	0.046 J	--	--	0.055	0.013	0.011	0.018	0.044	0.013 J	ND	0.35 J	--	--
Dibenzo(a,h)anthracene	**0.33**	**0.33**	ND	ND	ND	ND	**0.36**	ND	ND	ND	ND	0.019	ND	--	--	0.018	0.012	0.012	0.012	0.026	ND	ND	ND	--	--
Dibenzofuran	**7**	**14**	ND	ND	ND	ND	0.16 J	ND	ND	ND	ND	ND	ND	--	--	ND	ND	ND	ND	ND	ND	ND	ND	--	--
Fluoranthene	**100**	**100**	0.8 J	ND	0.0083	ND	3.5	0.05	0.0098 J	ND	0.012	0.17	0.061 J	--	--	0.14	0.032	0.015	0.018	0.056	0.05	ND	0.83 J	--	--
Fluorene	**30**	**100**	ND	ND	ND	ND	0.23	0.012 J	ND	ND	ND	0.014	ND	--	--	0.025	0.0022 J	ND	0.002 J	0.0048 J	0.12	ND	ND	--	--
Indeno(1,2,3-cd)pyrene	**0.5**	**0.5**	ND	ND	ND	ND	**0.84**	ND	ND	0.011	0.012	0.042	ND	--	--	0.03	0.014	0.011	0.012	0.069	ND	ND	ND	--	--
Naphthalene	**12**	**100**	ND	ND	ND	0.13	0.083 J	0.68	0.1	ND	ND	0.0088	ND	0.099	0.18	0.0063 J	ND	0.017	0.0041 J	0.0027 J	0.27	ND	ND	--	--
Phenanthrene	**100**	**100**	0.48 J	ND	0.0073 J	ND	2.5	0.046	0.017 J	0.0088	0.0065 J	0.14	ND	--	--	0.14	0.023	0.013	0.019	0.038	0.28	ND	0.65 J	--	--
Pyrene	**100**	**100**	0.56 J	ND	0.0072 J	ND	2.8	0.041	ND	0.0086	0.0093	0.13	0.053 J	--	--	0.11	0.027	0.012	0.018	0.052	0.041	ND	0.61 J	--	--
Total Tentatively Identified Compounds	--	--	ND	ND	ND	ND	117.5 J	24.45 J	27.62 J	16.2 J	ND	ND	14.35 J	--	--	ND	ND	ND	ND	1.67 J	47.22 J	1.01 J	--	--	--
Total Metals - mg/Kg [3]																									
Aluminum	**--**	**--**	--	--	6500	6100	8700	--	5300	5800	--	--	--	--	--	--	--	18000	--	4500	--	--	3600	--	--
Antimony	**--**	**--**	--	--	1.1 J	ND	0.81 J	--	1.4 J	ND	--	--	--	--	--	--	--	2.5 J	--	ND	--	--	1.3 J	--	--
Arsenic	**13**	**16**	--	--	2.4	2.1	4.3	--	2.1	2.2	--	--	--	--	--	--	--	4.8	--	1.7	--	--	3	--	--
Barium	**350**	**350**	--	--	52	46	65	--	35	39	--	--	--	--	--	--	--	160	--	31	--	--	30	--	--
Beryllium	**7.2**	**14**	--	--	0.29 J	0.28 J	0.6	--	0.25 J	0.27 J	--	--	--	--	--	--	--	0.74	--	0.22 J	--	--	0.35	--	--
Cadmium	**2.5**	**2.5**	--	--	ND	ND	0.26 J	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	--	--
Calcium	**--**	**--**	--	--	70000	65000	150000	--	62000	68000	--	--	--	--	--	--	--	4800	--	66000	--	--	190000	--	--
Chromium	**30**	**36**	--	--	8.8	8.4	11	--	7.4	7.9	--	--	--	--	--	--	--	23	--	7	--	--	6.5	--	--
Cobalt	**--**	**--**	--	--	3.8	4	3.1	--	3.7	3.5	--	--	--	--	--	--	--	10	--	4.1	--	--	1.7	--	--
Copper	**50**	**270**	--	--	11	10	14	--	9.1	9.8	--	--	--	--	--	--	--	18	--	8.7	--	--	6.3	--	--
Iron	**--**	**--**	--	--	11000	11000	8500	--	9600	10000	--	--	--	--	--	--	--	25000	--	9600	--	--	6200	--	--
Lead	**63**	**400**	--	--	9.4	11	56	--	9.8	9.4	--	--	--	--	--	--	--	18	--	17	--	--	17	--	--
Magnesium	**--**	**--**	--	--	27000	26000	27000	--	25000	27000	--	--	--	--	--	--	--	5600	--	24000	--	--	53000	--	--
Manganese	**1600**	**2000**	--	--	360	350	520	--	330	340	--	--	--	--	--	--	--	910	--	290	--	--	730	--	--
Nickel	**30**	**140**	--	--	8.7	8.6	10	--	7.4	8	--	--	--	--	--	--	--	24	--	6.5	--	--	4.8	--	--
Potassium	**--**	**--**	--	--	1700	1600	1300	--	1500	1500	--	--	--	--	--	--	--	2300	--	1200	--	--	710	--	--
Selenium	**3.9**	**36**	--	--	0.58 J	0.52 J	0.68 J	--	ND	ND	--	--	--	--	--	--	--	1.4 J	--	0.54 J	--	--	0.73 J	--	--
Silver	**2**	**36**	--	--	ND	ND	0.14 J	--	ND	ND	--	--	--	--	--	--	--	0.16 J	--	ND	--	--	0.16 J	--	--
Sodium	**--**	**--**	--	--	440	430	470	--	140 J	280	--	--	--	--	--	--	--	500	--	450	--	--	160	--	--
Thallium	**--**	**--**	--	--	ND	0.56 J	0.6	--	0.56 J	ND	--	--	--	--	--	--	--	1.3 J	--	0.66 J	--	--	ND	--	--
Vanadium	**--**	**--**	--	--	15	15	13	--	14	14	--	--	--	--	--	--	--	33	--	13	--	--	7.2	--	--
Zinc	**109**	**2200**	--	--	58 J	63	100	--	53	52	--	--	--	--	--	--	--	83	--	50	--	--	33	--	--
Mercury	**0.18**	**0.81**	--	--	0.02	0.02 J	0.04 J	--	0.02 J	0.02 J	--	--	--	--	--	--	--	0.14	--	0.04 J	--	--	0.02 J	--	--
Pesticides and Herbicides - mg/Kg [3]																									
4,4'-DDD	**0.0033**	**2.6**	--	--	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	0.000735 J	ND
4,4'-DDE	**0.0033**	**1.8**	--	--	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	**0.0152**	0.00284 P	**0.00448 P**
4,4'-DDT	**0.0033**	**1.7**	--	--	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	**0.00501**	**0.00423**
Chlordane	**0.094**	**0.91**	--	--	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	0.0357	0.0336
cis-Chlordane	**--**	**--**	--	--	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	0.00248 P	0.00189 JP
trans-Chlordane	**--**	**--**	--	--	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	0.00449 P	0.00445 P
Dieldrin	**0.005**	**0.039**	--	--	ND	ND	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	0.00237	0.00078 JP
Heptachlor	**0.042**	**0.42**	--	--	0.000683 J	0.000698 J	ND	--	ND	ND	--	--	--	--	--	--	--	ND	--	ND	--	--	ND	ND	ND

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (SCOs).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparisons to SCOs

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = No value available for the parameter. Or parameter not analysed for.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
P = The RPD between the results for the two columns exceeds the method specified criteria.

Bold	= Result exceeds Unrestricted Use SCO's.
Bold	= Result exceeds Residential Use SCO's.

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

285-295 NIAGARA STREET SITE

BUFFALO, NY

Parameters [1]	Class GA (GWQS) [2]	Sample Location and Date				
		MW-1	MW-2[3]	MW-3	MW-4	MW-5
		4/23/12	4/23/12	4/23/12	4/23/12	4/23/12
Volatile Organic Compounds (VOCs) - ug/L						
1,2,4,5-Tetramethylbenzene	--	ND	6.2	ND	ND	ND
1,2,4-Trimethylbenzene	**5**	ND	3.5	1.1 J	ND	ND
1,3,5-Trimethylbenzene	**5**	ND	**16**	ND	ND	ND
1,4-Diethylbenzene	--	ND	9.3	ND	ND	ND
2-Butanone (MEK)	--	2.7 J	4.8	4.8 J	2 J	ND
2-Hexanone	**50**	2.5 J	ND	6	2.4 J	ND
4-Ethyltoluene	--	ND	20	0.97 J	ND	ND
4-Methyl-2-pentanone	--	ND	ND	1 J	ND	ND
Acetone	**50**	14	32	17	9.1	ND
Carbon disulfide	**60**	5.2	3.5 J	5.5	5.2	ND
Ethylbenzene	**5**	ND	1.4 J	ND	ND	ND
Isopropylbenzene	**5**	ND	0.7 J	ND	ND	ND
p-Isopropyltoluene	**5**	ND	1.4 J	ND	ND	ND
n-Proplybenzene	**5**	ND	1.9 J	ND	ND	ND
Toluene	**5**	ND	0.7 J	ND	ND	ND
Xylene, Total	**5**	1.2 J	**5.7**	ND	ND	ND
Tentatively Identified Compounds (TICs)	--	3.9	148.2	26.4	6	ND
Semivolatile Organic Compounds (SVOCs) - ug/L						
2-Methylnaphthalene	--	0.56	ND	0.68	0.53	ND
Acenaphthene	**20**	ND	ND	ND	ND	0.09 J
Benzo(a)anthracene	**0.002**	ND	ND	ND	ND	0.08 J
Benzo(b)fluoranthene	**0.002**	ND	ND	ND	ND	0.14 J
Chrysene	**0.002**	ND	ND	ND	ND	0.09 J
Fluoranthene	**50**	0.05 J	ND	ND	ND	0.21
Fluorene	**50**	0.14 J	0.06 J	0.18 J	0.2	0.05 J
Naphthalene	**10**	0.24	ND	0.33	0.21	0.11 J
Phenanthrene	**50**	0.56	ND	0.59	0.69	0.19
Pyrene	**50**	ND	ND	ND	ND	0.17 J
Tentatively Identified Compounds (TICs)	--	124.7	275.4	140.1	146.6	10
Dissolved Metals - ug/L						
Aluminum	--	240	40 J	90 J	260	ND
Antimony	**3**	1.3	1.4	1.1	1.5	1.1
Barium	**1000**	23	27	13	30	22
Calcium	--	69000	120000	83000	98000	71000
Cobalt	--	48	63	14 J	13 J	ND
Iron	**300**	**1700**	300	140	**400**	60
Magnesium	**35000**	18000	30000	15000	**38000**	**37000**
Manganese	**300**	**413**	**700**	**389**	**426**	29
Nickel	**100**	81	**106**	31	27	ND
Potassium	--	1500 J	3600	3400	16000	5000
Selenium	**10**	7 J	ND	10	ND	ND
Sodium	**20000**	**130000**	**310000**	**280000**	**91000**	**200000**
Thallium	--	ND	0.05	ND	0.04	ND
Zinc	**2000**	127	137	20 J	19 J	10 J
Pesticides - ug/L						
trans-Chlordane	--	0.031 P	0.007 J	ND	0.042 P	--

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per NYSDEC TOGS 1.1.1 Class GA Groundwater Quality Standards.
3. MW-2 was removed during IRM excavation activities.

Qualifiers:

ND = Parameter not detected above laboratory detection limit.

"--" = Sample not analyzed for parameter or no GWQS available for the parameter.

J = Estimated Value - Below calibration range

P= The dual column RPD's are above the acceptance criteria, however due to obvious column interferences the lower of the two results is reported.

BOLD = Result exceeds GWQS.

TABLE 4

SUMMARY OF GROUNDWATER ELEVATIONS

285-295 NIAGARA STREET SITE

BUFFALO, NEW YORK

Location	TOR Elevation (fmsl)	DTGW (fbTOR)	Groundwater Elevation (fmsl)
MW-01	497.83	6.73	491.10
MW-02	498.64	6.39	492.25
MW-03	497.69	6.60	491.09
MW-04	498.96	5.56	493.40
MW-05	500.01	8.00	492.01

Notes:

1. Fmsl = feet above mean sea level.
2. DTGW = field measured Depth To Ground Water
3. fbTOR = feet below Top of Riser
4. TOR = top of riser
5. Depth to groundwater per April 23rd, 2012 sample event.

TABLE 5

SUMMARY OF SUB-SLAB VAPOR INVESTIGATION ANALYTICAL RESULTS

285-295 NIAGARA STREET SITE

BUFFALO, NEW YORK

Sample Location	Trichloroethene (TCE)		Carbon Tetrachloride		Vinyl Chloride		Tetrachloroethene (PCE)		1,1-Dichloroethene		cis-1,2-Dichloroethene		1,1,1 -Trichloroethane	
	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 1	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 1	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 1	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2	Lab Reported Concentration (ug/m^3)	Soil Vapor / Indoor Air Matrix 2
SSV - 1	ND		ND		ND		2.85		ND		ND		ND	
Interior - 1	ND	NFA	0.402	I,R	ND	NFA	0.827	NFA	ND	NFA	ND	NFA	ND	NFA
SSV - 2	4.82		ND		ND		2.03		ND		ND		ND	
Interior - 2	ND	NFA	0.384	I,R	ND	NFA	0.644	NFA	ND	NFA	ND	NFA	ND	NFA
Outdoor ambient	ND		0.459		ND		0.38		ND		ND		ND	

Notes:

ND = Not Detected

NFA = No further action.

I, R = Take reasonable and practical actions to identify source(s) and reduce exposures.

Samples taken during April 2012 SSV investigation.

TABLE 6

SUMMARY OF POST EXCAVATION SOIL ANALYTICAL RESULTS

285-295 NIAGARA STREET SITE

BUFFALO, NY

Parameter[1]	Unrestricted Use SCOs[2]	Residential Use SCOs[2]	Sample Locations														
			On-Site														
			SW-1	SW-3	SW-4	SW-5	SW-6	SW-7	SW-8[4]	SW-11	SW-12	SW-13	SW-14	SW-15	SW-16	SW-17	SW-18
			12/27/12	12/27/12	12/27/12	12/31/12	12/31/12	12/31/12	01/02/13	01/02/13	01/02/13	01/02/13	01/02/13	01/03/13	01/07/13	01/07/13	01/08/13
Volatile Organic Compounds (VOCs) - mg/Kg [3]																	
1,2,4,5-Tetramethylbenzene	--	--	0.00026 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00038 J	0.0012 J	0.00036 J
1,2,4-Trimethylbenzene	**3.6**	**47**	ND	ND	ND	0.00083 J	ND	ND	ND	ND	ND	ND	ND	ND	0.0027 J	ND	ND
1,3,5-Trimethylbenzene	**8.4**	**47**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Diethylbenzene	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00064 J	0.00059 J	ND
2-Butanone (MEK)	**0.12**	**100**	0.0082 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0046 J	ND
4-Ethyltoluene	--	--	0.0012 J	ND	ND	0.00049 J	ND	ND	ND	ND	ND	ND	ND	ND	0.0011 J	ND	ND
Acetone	**0.05**	**100**	0.02 J	ND	ND	U	ND	ND	ND	ND	ND	U	ND	ND	ND	ND	0.015
Ethylbenzene	**1**	**30**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Isopropylbenzene (Cumene)	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	**0.05**	**51**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	U	U	ND
Naphthalene	**12**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0014 J	ND	ND
n-Butylbenzene	**12**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	**3.9**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Cymene (p-isopropyltoluene)	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
sec-Butylbenzene	**11**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	**0.7**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylene	**0.26**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00082 J	ND	ND
Tentatively Identified Compounds	--	--	ND	ND	0.005 J	ND	ND	ND	ND	ND	ND	0.0184 NJ	ND	ND	ND	0.005 J	0.01 J

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (December 2006).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparison to SCOs.
4. Sample SW-8 was also analysed for SVOCs; all reported as non-detect.

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = Sample not analyzed for parameter or no SCO available for the parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

BOLD = Result exceeds Part 375 Unrestricted Use SCOs.
BOLD = Result exceeds Part 375 Residential Use SCOs.

TABLE 6

SUMMARY OF POST EXCAVATION SOIL ANALYTICAL RESULTS

285-295 NIAGARA STREET SITE

BUFFALO, NY

Parameter[1]	Unrestricted Use SCOs[2]	Residential Use SCOs[2]	Sample Locations														
			On-Site									Off-Site					
			SW-19	SW-23	SW-25	SW-27	SW-29	SW-31	SW-32	SW-34	SW-35	SW-2	SW-22	SW-24	SW-26	SW-30[4]	SW-33
			01/07/13	01/09/13	01/09/13	01/09/13	01/10/13	01/10/13	01/10/13	01/16/13	01/16/13	12/27/12	01/09/13	01/09/13	01/09/13	01/10/13	01/16/13
Volatile Organic Compounds (VOCs) - mg/Kg [3]																	
1,2,4,5-Tetramethylbenzene	--	--	ND	ND	0.00073 J	ND	0.00028 J	ND	ND	0.0012 J	ND	7.5	1.1	0.029	ND	0.004 J	0.0096
1,2,4-Trimethylbenzene	**3.6**	**47**	ND	0.0011 J	0.007	0.001 J	0.00065 J	0.0022 J	ND	0.0049 J	ND	**59**	**6.9**	0.091	0.0026 J	0.022	0.0082
1,3,5-Trimethylbenzene	**8.4**	**47**	ND	ND	0.0022 J	ND	ND	ND	ND	0.0016 J	ND	**17**	2.2	0.036	0.0015 J	0.0027 J	0.0032 NJ
1,4-Diethylbenzene	--	--	ND	ND	ND	ND	0.00043 J	ND	ND	0.0024 J	ND	21	2.8	0.047	0.0014 J	0.0023 J	0.011
2-Butanone (MEK)	**0.12**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0013 J	ND
4-Ethyltoluene	--	--	ND	0.0016 J	0.0042 J	0.00088 J	0.00059 J	ND	ND	0.0026 J	ND	40	4.8	0.064	0.0031 J	ND	0.0074
Acetone	**0.05**	**100**	ND	ND	ND	ND	0.0046 J	ND	ND	ND	ND	ND	ND	0.01 J	0.0079 J	ND	ND
Benzene	**0.06**	**2.9**	ND	ND	ND	ND	ND	0.00043 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	**1**	**30**	ND	0.002	0.00074 J	ND	ND	0.0011 J	ND	0.00033 J	ND	**9.1**	0.5	0.012	ND	0.0043	ND
Isopropylbenzene (Cumene)	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.2	0.16	0.0016	ND	0.00054 J	0.00031 J
Methylene chloride	**0.05**	**51**	U	ND	ND	U	0.0028 J	ND	ND	U	U	ND	ND	U	U	U	U
Naphthalene	**12**	**100**	ND	ND	0.0021	ND	ND	ND	ND	ND	ND	7.1	0.89	0.045	ND	ND	ND
n-Butylbenzene	**12**	**100**	ND	ND	ND	ND	ND	ND	ND	0.00052 J	ND	2.9	0.45	0.0059	ND	0.00085 J	0.0034 NJ
n-Propylbenzene	**3.9**	**100**	ND	ND	ND	ND	ND	ND	ND	0.00059 J	ND	**6.6**	0.92	0.009	ND	0.0035	0.00360
p-Cymene (p-isopropyltoluene)	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.46 NJ	0.064	0.0015	ND	ND	ND
sec-Butylbenzene	**11**	**100**	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.84	0.12	0.0017 NJ	ND	ND	0.00066 J
Toluene	**0.7**	**100**	ND	0.0022 NJ	ND	ND	ND	ND	0.0003 J	ND	ND	**9.4**	0.072 J	ND	ND	0.0011 J	ND
Total Xylene	**0.26**	**100**	ND	0.012 NJ	0.0065 J	ND	0.00058 J	0.0017 J	0.00055 J	0.00081 J	ND	**71**	**4.96 J**	0.046	0.00079 J	0.0082 J	ND
Tentatively Identified Compounds	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	174 NJ	45.2 NJ	0.674 NJ	0.012 NJ	0.0619 J	0.0997 NJ

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (December 2006).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparison to SCOs.
4. Sample SW-30 was also analysed for SVOCs; all reported as non-detect.

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = Sample not analyzed for parameter or no SCO available for the parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
NJ = The detection is tentative inb identification and estimated in value.
U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

BOLD	= Result exceeds Part 375 Unrestricted Use SCOs.
BOLD	= Result exceeds Part 375 Residential Use SCOs.

TABLE 6

SUMMARY OF POST EXCAVATION SOIL ANALYTICAL RESULTS

285-295 NIAGARA STREET SITE

BUFFALO, NY

Parameter[1]	Unrestricted Use SCOs[2]	Residential Use SCOs[2]	Sample Locations												
			On-Site												
			Bottom 1	Bottom 2	Bottom 3[4]	Bottom 4	Bottom 5	Bottom 6	Bottom 7	Bottom 8	Bottom 9	Bottom 10	Bottom 11	Bottom 12	Bottom 13
			12/27/12	01/02/13	01/02/13	01/02/13	01/03/13	01/07/13	01/08/13	01/09/13	01/09/13	01/09/13	01/10/13	01/10/13	01/16/13
Volatile Organic Compounds (VOCs) - mg/Kg [3]															
1,2,3-Trichloropropane	--	--	ND	ND	ND	0.0057 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4,5-Tetramethylbenzene	--	--	ND	0.18 J	ND	0.03	0.009	ND	ND	ND	0.005	ND	0.0064	ND	0.0012 J
1,2,4-Trimethylbenzene	**3.6**	**47**	ND	1.7	ND	0.26	0.13	ND	ND	0.0022 J	ND	ND	0.0074	ND	ND
1,3,5-Trimethylbenzene	**8.4**	**47**	ND	0.54	ND	0.15	0.1 NJ	ND	ND	0.00074 J	ND	ND	0.036	ND	ND
1,4-Diethylbenzene	--	--	ND	0.42	ND	0.064	0.02	ND	ND	ND	ND	ND	0.0014 J	ND	0.00061 J
2-Hexanone	--	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0019 J	ND	ND
4-Ethyltoluene	--	--	ND	1.1	ND	0.12	0.092	ND	ND	0.0014 J	ND	ND	0.06	ND	ND
Acetone	**0.05**	**100**	ND	ND	ND	ND	ND	ND	0.0054 J	ND	ND	ND	0.018	ND	0.014
Benzene	**0.06**	**2.9**	ND	ND	ND	0.014 NJ	0.0088	**0.23**	0.016	ND	ND	ND	0.0021	0.0012	ND
Ethylbenzene	**1**	**30**	ND	0.039 J	ND	0.16	0.19	ND	ND	ND	ND	ND	0.009	ND	ND
Isopropylbenzene (Cumene)	--	--	ND	ND	ND	0.013	0.0081	ND	ND	ND	ND	ND	0.0041	ND	ND
Methylene chloride	**0.05**	**51**	ND	ND	ND	ND	ND	U	ND	ND	ND	U	U	ND	U
Naphthalene	**12**	**100**	ND	0.29	ND	0.15	0.12	ND	ND	0.0023 J	ND	ND	0.017	ND	ND
n-Butylbenzene	**12**	**100**	ND	0.07	ND	ND	0.0016 NJ	ND	ND	ND	0.00084 J	ND	ND	ND	ND
n-Propylbenzene	**3.9**	**100**	ND	0.22	ND	0.06	0.038	ND	ND	ND	ND	ND	0.0045	ND	ND
o-Chlorotoluene	--	--	ND	0.066 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Cymene (p-isopropyltoluene)	--	--	ND	ND	ND	0.0014	0.00078 J	ND	ND	ND	ND	ND	0.00073 J	ND	ND
sec-Butylbenzene	**11**	**100**	ND	ND	ND	0.0026	0.00086 NJ	ND	ND	ND	ND	ND	0.00034 J	ND	0.00046 J
Toluene	**0.7**	**100**	ND	ND	ND	0.18	0.006	ND	ND	ND	ND	ND	0.0044	ND	ND
Total Xylene	**0.26**	**100**	ND	0.19	ND	0.301	0.1623	0.0012 J	ND	0.0011 J	ND	ND	0.0533	ND	ND
Tentatively Identified Compounds	--	--	ND	7.13 NJ	ND	1.359 NJ	1.11 NJ	ND	ND	0.369	0.1733 NJ	ND	0.612	0.013 NJ	ND

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per 6NYCRR Part 375 Soil Cleanup Objectives (December 2006).
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparison to SCOs.
4. Sample Bottom 3 was also analysed for SVOCs; all reported as non-detect.

Definitions:

ND = Parameter not detected above laboratory detection limit.
"--" = Sample not analyzed for parameter or no SCO available for the parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
NJ = The detection is tentative inb identification and estimated in value.
U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

BOLD	= Result exceeds Part 375 Unrestricted Use SCOs.
BOLD	= Result exceeds Part 375 Residential Use SCOs.

TURNKEY ENVIRONMENTAL RESTORATION, LLC

TABLE 7

SUMMARY OF BACKFILL SOIL ANALYTICAL RESULTS

285-295 NIAGARA STREET SITE

BUFFALO, NY

Parameter[1]	Unrestricted Use SCOs[2]	Residential Use SCOs[2]	Sample Location				
			Soil Reuse Grab 1	Soil Reuse Grab 2	Soil Reuse Grab 3	Soil Reuse Comp 1	Battaglia Recycled Concrete
			1/8/2012	1/8/2012	1/8/2012	1/8/2012	
Volatile Organic Compounds (VOCs) - mg/Kg [3]							
1,2,4,5-Tetramethylbenzene	--	--	0.0051	0.00035 J	0.00065 J	--	ND
1,2,4-Trimethylbenzene	**3.6**	**47**	0.022	0.00085 J	ND	--	ND
1,3,5-Trimethylbenzene	**8.4**	**47**	0.0067	ND	ND	--	ND
1,4-Diethylbenzene	--	--	0.01	0.00056 J	ND	--	ND
4-Ethyltoluene	--	--	0.0092	0.00032 J	0.00034 J	--	ND
Acetone	**0.05**	**100**	ND	ND	ND	--	0.0094 J
Ethylbenzene	**1**	**30**	0.0016	ND	ND	--	ND
Methylene chloride	**0.05**	**51**	ND	U	ND	--	0.0051 J
Naphthalene	**12**	**100**	0.0077	ND	0.0012 J	--	ND
n-Butylbenzene	**12**	**100**	0.0011	ND	ND	--	ND
n-Propylbenzene	**3.9**	**100**	0.0022	ND	ND	--	ND
Total Xylene	**0.26**	**100**	0.0021 J	ND	ND	--	ND
Semi-Volatile Organic Compounds (SVOCs) - mg/Kg [3]							
Anthracene	**100**	**100**	--	--	--	0.038 J	0.26 J
Benzo(a)anthracene	**1**	**1**	--	--	--	0.065 J	0.64 J
Benzo(a)pyrene	**1**	**1**	--	--	--	0.058 J	0.61 J
Benzo(b)fluoranthene	**1**	**1**	--	--	--	0.07 J	0.8 J
Benzo(k)fluoranthene	**0.8**	**1**	--	--	--	0.038 J	0.31 J
Chrysene	**1**	**1**	--	--	--	0.063 J	0.76 J
Fluoranthene	**100**	**100**	--	--	--	0.16	1.7
Phenanthrene	**100**	**100**	--	--	--	0.15	1 J
Pyrene	**100**	**100**	--	--	--	0.13	1.3
Total Metals (mg/kg)							
Aluminum	--	--	--	--	--	9400	7300
Antimony	--	--	--	--	--	1.1 J	1.5 J
Arsenic	**13**	**16**	--	--	--	2.1	5.6
Barium	**350**	**350**	--	--	--	65	82
Beryllium	**7.2**	**14**	--	--	--	0.41 J	0.42 J
Cadmium	**2.5**	**2.5**	--	--	--	0.08 J	0.31 J
Calcium	--	--	--	--	--	65000	130000
Chromium	**30**	**36**	--	--	--	13 J	20
Cobalt	--	--	--	--	--	4.3	3.7
Copper	**50**	**270**	--	--	--	12 J	33
Iron	--	--	--	--	--	13000	10000
Lead	**63**	**400**	--	--	--	11 J	110
Magnesium	--	--	--	--	--	20000	19000
Manganese	**1600**	**2000**	--	--	--	310	350
Nickel	**30**	**140**	--	--	--	11 J	11
Potassium	--	--	--	--	--	2500 J	1400
Selenium	**3.9**	**36**	--	--	--	0.38 J	0.48 J
Silver	**2**	**36**	--	--	--	ND	0.14 J
Sodium	--	--	--	--	--	380 J	540
Vanadium	--	--	--	--	--	18 J	14
Zinc	**109**	**2200**	--	--	--	60 J	99
Mercury	**0.18**	**0.81**	--	--	--	0.03 J	0.05 J

Notes:

1. Only those parameters detected at a minimum of one sample location are presented in this table; all other compounds were reported as non-detect.
2. Values per NYSDEC Part 375 Soil Cleanup Objectives (December 2006)
3. Sample results were reported by the laboratory in ug/kg and converted to mg/kg for comparison to SCOs.
4. Samples 'Soil Reuse Comp 1' and 'Battaglia Recycling Source' were also analyzed for PCBs, pesticides, and herbicides; all parameters reported as non-detect.

Definitions:

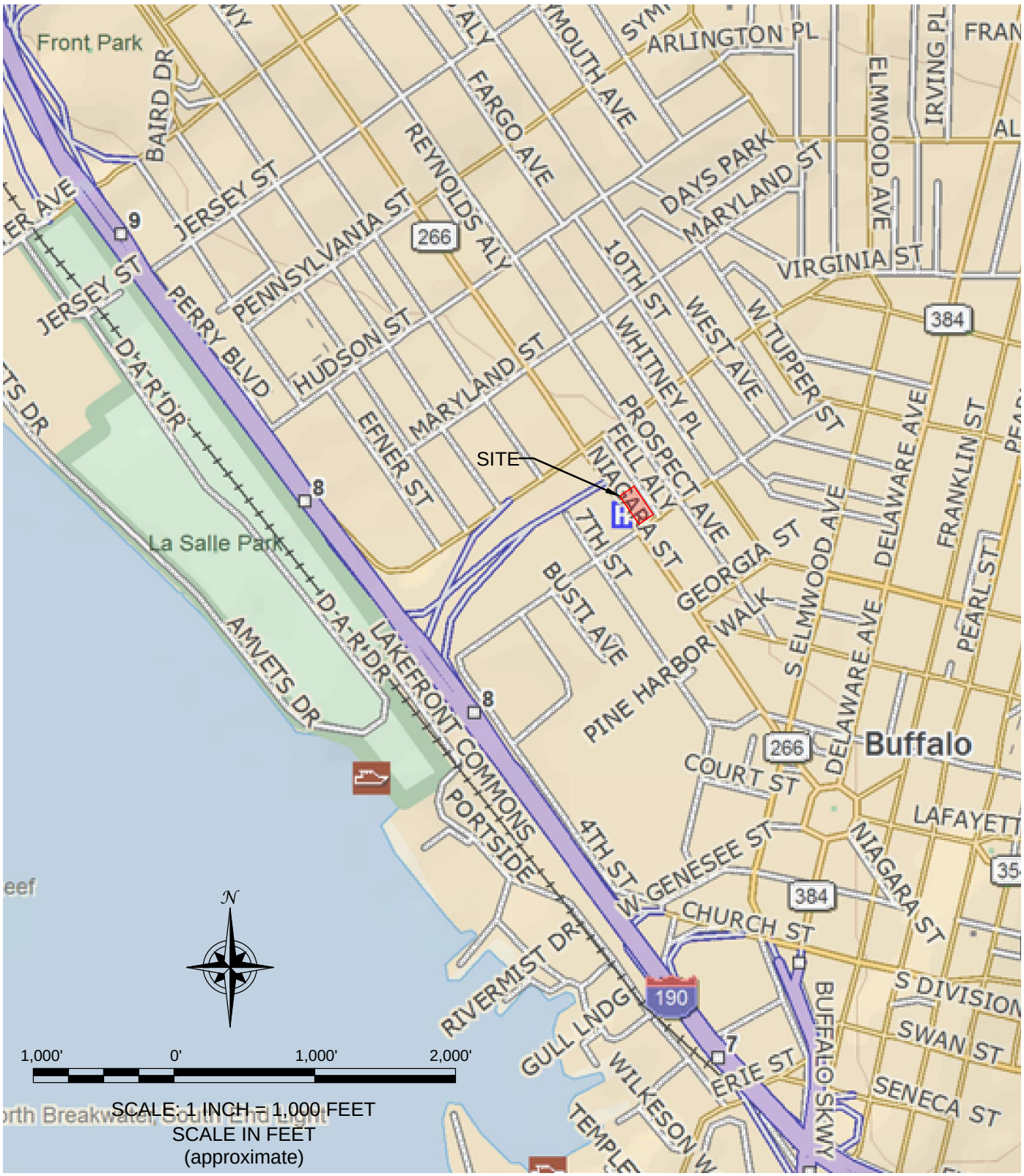
ND = Parameter not detected above laboratory detection limit.
"--" = Sample not analyzed for parameter or no SCO available for the parameter.
J = Estimated value; result is less than the sample quantitation limit but greater than zero.
U = The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

BOLD	= Result exceeds Part 375 Unrestricted Use SCO.
BOLD	= Result exceeds Part 375 Residential Use SCO.

FIGURES

F:\CAD\TurnKey\LoFaso\285-295 Niagara Street\Remedial Investigation Report\Figure 1; Site Location and Vicinity Map - JGT.dwg

FIGURE 1



TurnKey Environmental Restoration, LLC
2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
(716) 856-0635

PROJECT NO.: 0236-001-102

DATE: JANUARY 2013

DRAFTED BY: JGT

SITE LOCATION AND VICINITY MAP

RI/IRM/AA REPORT

285-295 NIAGARA STREET SITE

BUFFALO. NEW YORK

PREPARED FOR

285 NIAGARA OPERATING CO., LLC

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DATE: JANUARY 2013
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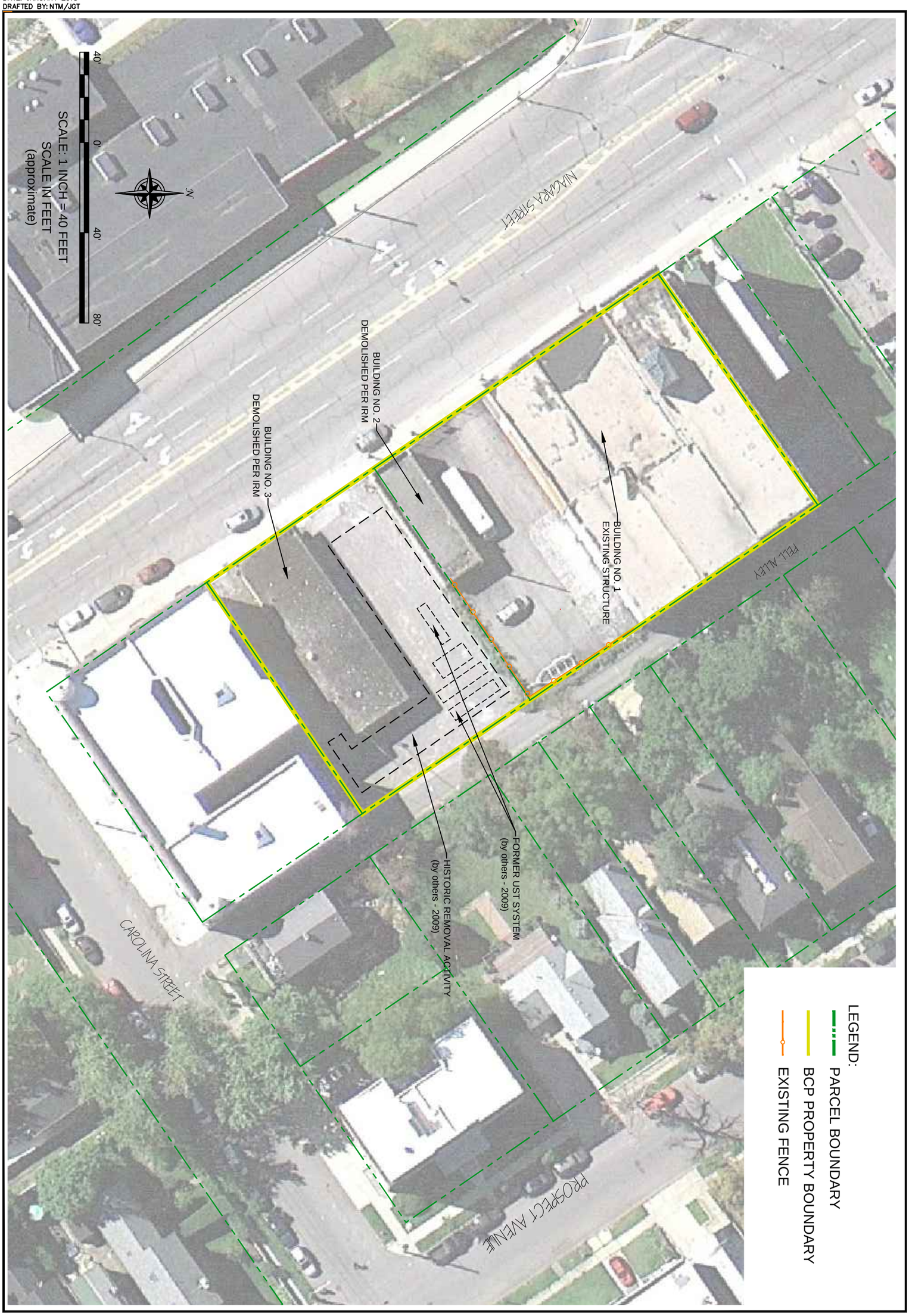

FIGURE 2

SITE PLAN (AERIAL)

RI/IRM/AA REPORT

285-295 NIAGARA STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

285 NIAGARA OPERATING CO., LLC

TURNKEY ENVIRONMENTAL RESTORATION, LLC

2558 HAMBURG TURNPIKE
SUITE 300
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(716) 856-0635

JOB NO.: 0236-001-102

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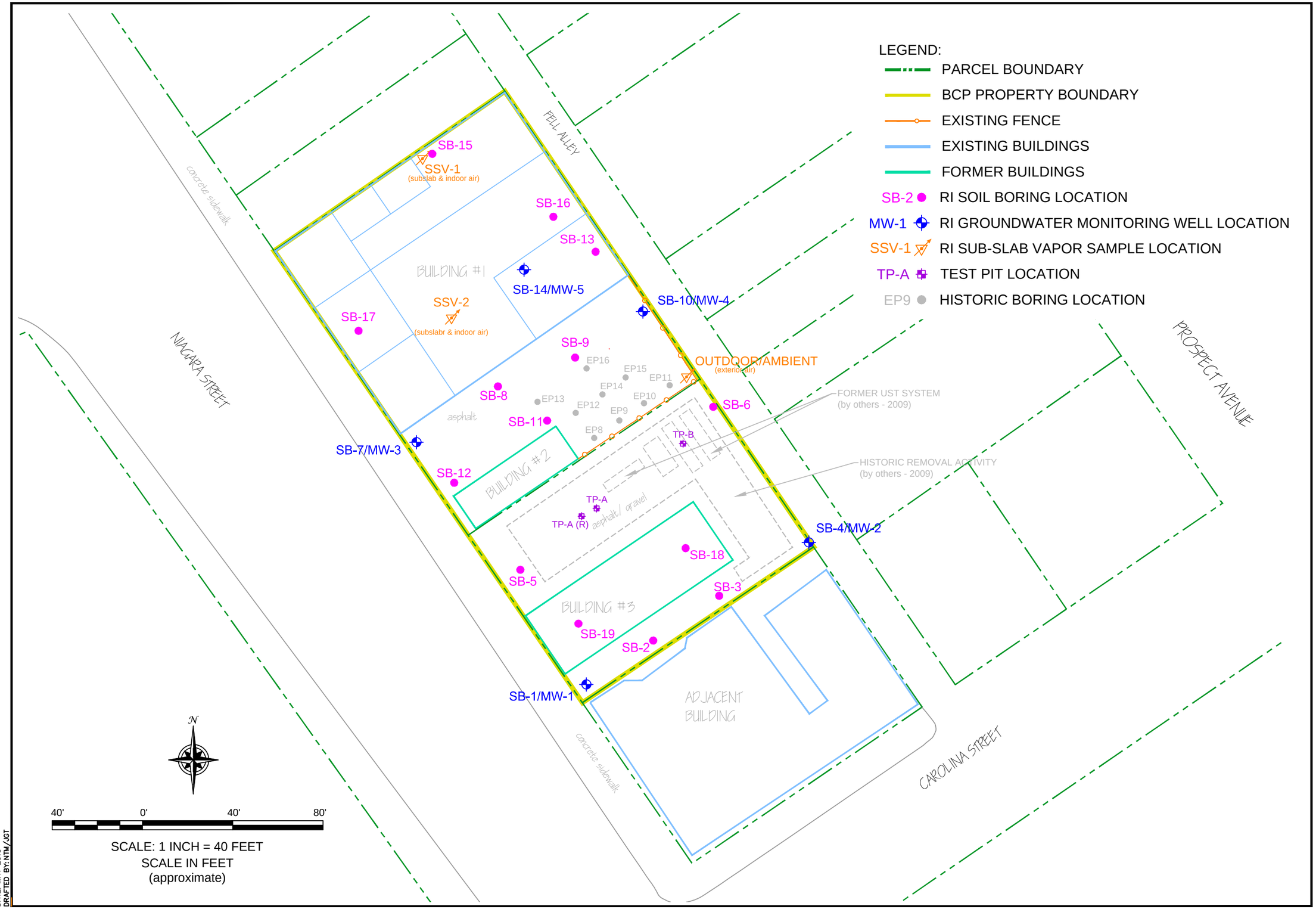

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2558 HAMBURG TURNPIKE
SUITE 300
BUFFALO, NY 14218
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JOB NO.: 0236-001-102

REMEDIAL INVESTIGATION SAMPLE LOCATIONS

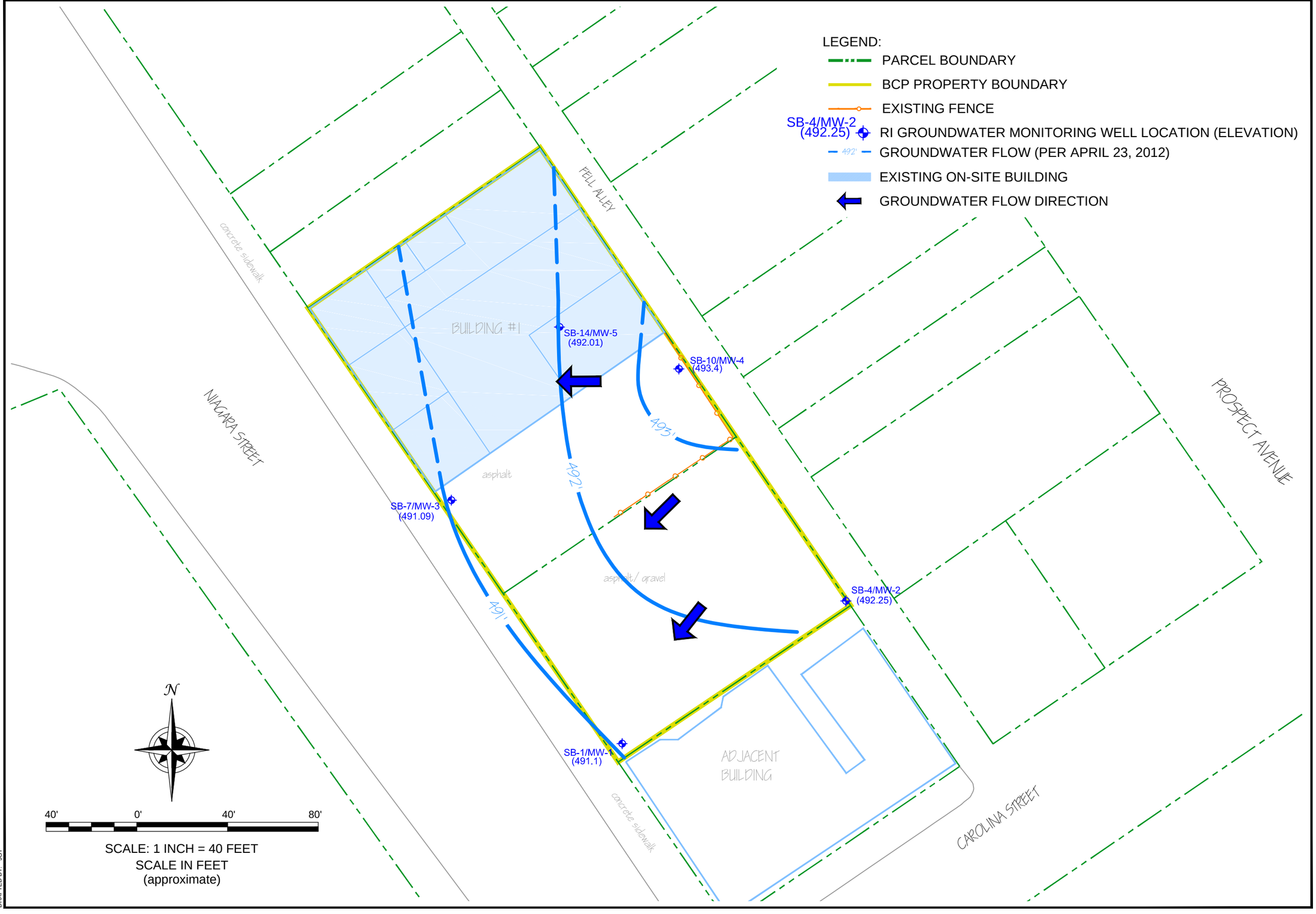
RI/IRM/AA REPORT
285-295 NIAGARA STREET SITE
BUFFALO, NEW YORK
PREPARED FOR
285 NIAGARA OPERATING CO., LLC

FIGURE 3

F:\CAD\TurnKey\LoFaso\285-295 Niagara Street\Remedial Investigation Report\Figure 4; Groundwater Isopotential Map.dwg

LEGEND:

- PARCEL BOUNDARY
- BCP PROPERTY BOUNDARY
- EXISTING FENCE
- SB-4/MW-2 (492.25) — RI GROUNDWATER MONITORING WELL LOCATION (ELEVATION)
- 492' — GROUNDWATER FLOW (PER APRIL 23, 2012)
- EXISTING ON-SITE BUILDING
- GROUNDWATER FLOW DIRECTION



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SUITE 300
BUFFALO, NY 14218
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JOB NO.: 0236-001-102

GROUNDWATER ISOPOTENTIAL MAP

RI/IRM/AA REPORT
285-295 NIAGARA STREET SITE
BUFFALO, NEW YORK
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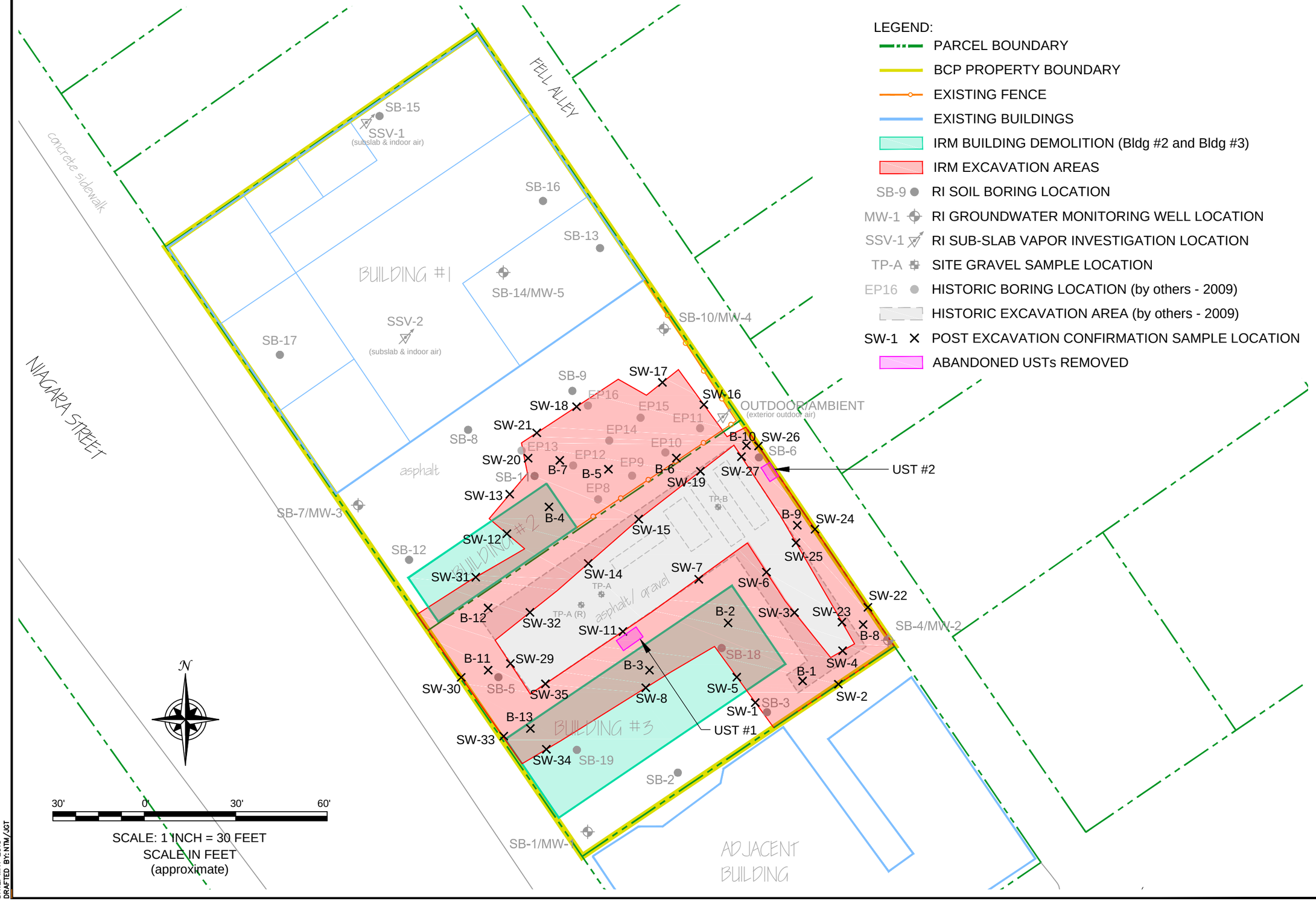
FIGURE 4

F:\CAD\TurnKey\LoFaso\285-295 Niagara Street\Remedial Investigation Report\RI Report Base Map.dwg



LEGEND:

- PARCEL BOUNDARY
- BCP PROPERTY BOUNDARY
- EXISTING FENCE
- EXISTING BUILDINGS
- IRM BUILDING DEMOLITION (Bldg #2 and Bldg #3)
- IRM EXCAVATION AREAS
- SB-9 RI SOIL BORING LOCATION
- MW-1 RI GROUNDWATER MONITORING WELL LOCATION
- SSV-1 RI SUB-SLAB VAPOR INVESTIGATION LOCATION
- TP-A SITE GRAVEL SAMPLE LOCATION
- EP16 HISTORIC BORING LOCATION (by others - 2009)
- HISTORIC EXCAVATION AREA (by others - 2009)
- SW-1 POST EXCAVATION CONFIRMATION SAMPLE LOCATION
- ABANDONED USTs REMOVED

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TurnKey Environmental Restoration, LLC

JOB NO.: 0236-001-102

IRM ACTIVITIES

RI/IRM/AA REPORT

285-295 NIAGARA STREET SITE

BUFFALO, NEW YORK

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285 NIAGARA OPERATING CO., LLC

FIGURE 5

DATE: MAY 2013
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DATE: MAY 2013
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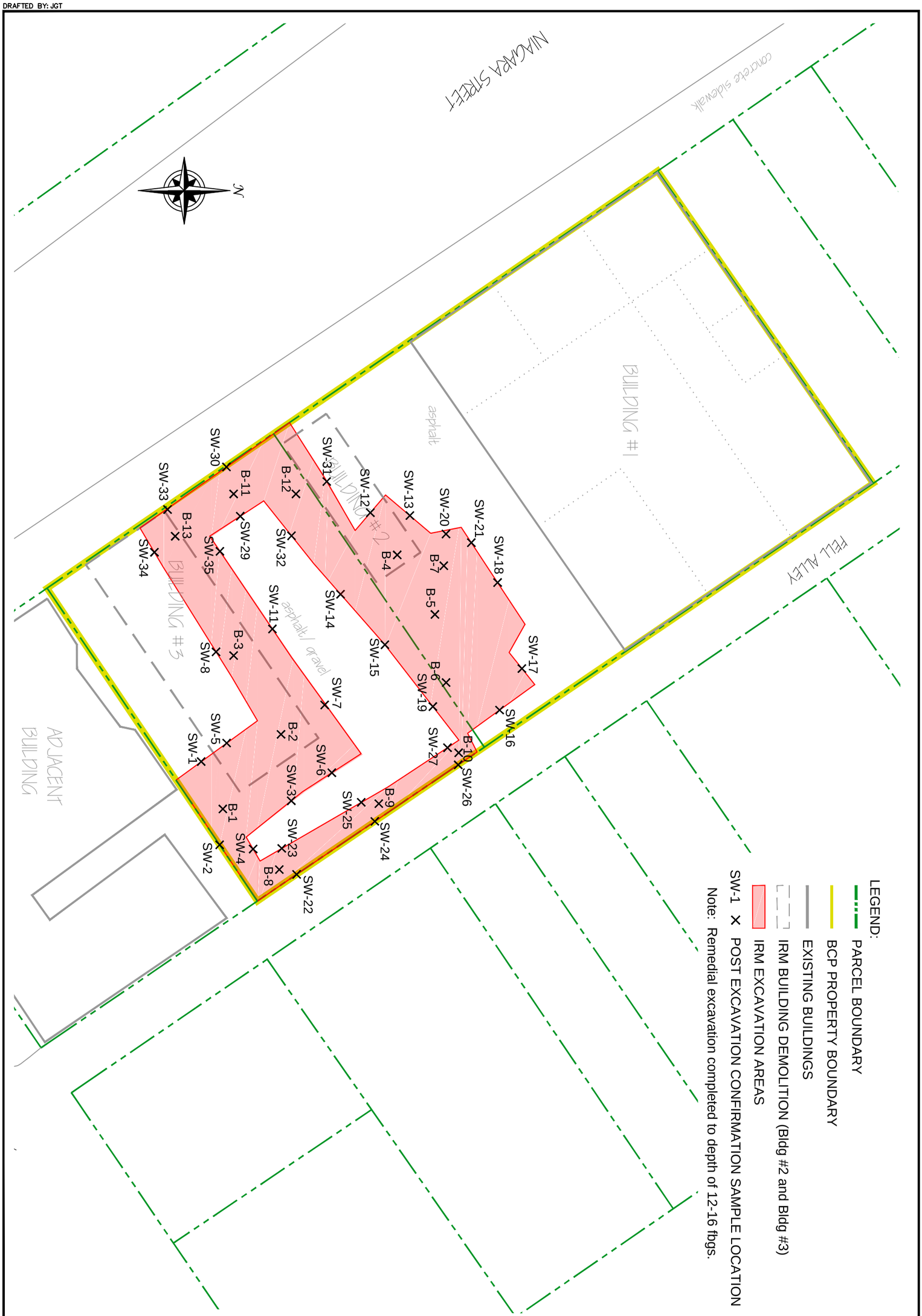

FIGURE 6

REMEDIAL EXCAVATION LIMITS (RECORD DRAWING)

RI/IRM/AA REPORT

285-295 NIAGARA STREET SITE

BUFFALO, NEW YORK

PREPARED FOR

285 NIAGARA OPERATING CO., LLC

BENCHMARK ENVIRONMENTAL ENGINEERING & SCIENCE, PLLC
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(716) 856-0635

JOB NO.: 0236-001-102

APPENDIX A

PROJECT PHOTOLOG

SITE PHOTOGRAPHS

Photo 1:

Photo 2:

Photo 3:

Photo 4:

Photo 1: RI – Building No.3: Former Car Wash – south Site boundary – (Looking northeast).

Photo 2: RI – Building No.3: Former Car Wash – (Looking north).

Photo 3: RI – Former UST system area – Building No. 3(left); Building No.2 (right) – (Looking west).

Photo 4: RI – Building No.1 – (Looking north).

SITE PHOTOGRAPHS

Photo 5:

Photo 6:

Photo 7:

Photo 8:

Photo 5: RI – Building No.1 – Interior – (Looking west).

Photo 6: RI – Building No.1 – Basement – Interior.

Photo 7: RI – Building No.1 – Sump – Interior.

Photo 8: RI – Building No.1 – Pit – Interior.

SITE PHOTOGRAPHS

Photo 9:

Photo 10:

Photo 11:

Photo 12:

Photo 9: RI – Building No.1 – Pit – Interior.

Photo 10: RI – Building No.1 – Maintenance materials – Interior.

Photo 11: RI – Building No.3 – Soil Boring No.18 – Building Interior.

Photo 12: RI – Building No.3 – Building Interior.

SITE PHOTOGRAPHS

Photo 13:

Photo 14:

Photo 15:

Photo 16:

Photo 13: RI – Building No.3 – Plastic drums.

Photo 14: RI – Building No.3 –Interior pit.

Photo 15: IRM – Building No.1 demolition – (looking east).

Photo 16: IRM – Building demolition – (looking north).

SITE PHOTOGRAPHS

Photo 17:

Photo 18:

Photo 19:

Photo 20:

Photo 17: IRM – Building demolition debris – (looking northwest).

Photo 18: IRM – Dust suppression – During demolition activities.

Photo 19: IRM – Air monitoring – During demolition activities.

Photo 20: IRM – Post demolition – Site condition (looking west).

SITE PHOTOGRAPHS

Photo 21:

Photo 22:

Photo 23:

Photo 24:

Photo 21: IRM – Post demolition – Site condition (looking northwest).

Photo 22: IRM – Excavation work (looking south).

Photo 23: IRM – Excavation work (looking north).

Photo 24: IRM – Excavation area (looking north).

SITE PHOTOGRAPHS

Photo 25:

Photo 26:

Photo 27:

Photo 28:

Photo 25: IRM – UST 1 removal – Under former Building No. 3.

Photo 26: IRM – UST 2 removal – Near eastern Site boundary, along Fell Alley.

Photo 27: IRM – Excavation area along southwest border of the Site.

Photo 28: IRM – Excavation of soils south of Building No. 1.

SITE PHOTOGRAPHS

Photo 29:

Photo 30:

Photo 31:

Photo 32:

Photo 29: IRM – Excavation backfill and compaction.

Photo 30: IRM – Excavation backfill and compaction (looking south)

Photo 31: IRM – Temporary on-Site water storage.

Photo 32: IRM – Site grading (post-backfilling).

APPENDIX B

FIELD BOREHOLE LOGS AND WELL COMPLETION DETAILS

Project No: 0236-001-102

Borehole Number: SB-01 / MW-01

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

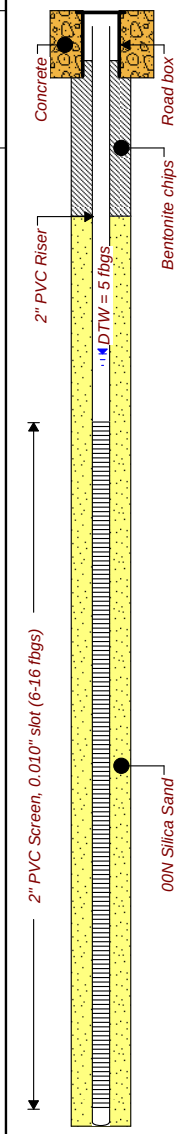
Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
0.0	498.3 / 0.0	Ground Surface							
	497.8 / 0.5	***Asphalt***					2.0		
		Sandy Lean Clay Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	4.0		0.0	Sampled (0-2)	
							0.0		
5.0			S-2	NA	4.0		0.0		
							0.0		
10.0			S-3	NA	2.5		0.0		
							0.0		
			S-4	NA	0.9		0.0		
15.0							0.0		
	482.3 / 16.0	End of Borehole							



Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-02

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
0.0	0.0	***Asphalt with Slag Sub-base***					0.0		
	-1.5						0.0		
	1.5	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	3.2		0.0		
5.0			S-2	NA	4.0		0.0	Sampled (3-5)	
							0.0		
							0.0		
10.0			S-3	NA	3.1		0.0		
							0.0		
							0.0		
15.0			S-4	NA	2.9		0.0		
	-16.0								
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-03

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
0.0	0.0	***Asphalt with Slag Sub-base***					0.0		
	-2.0 / 2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, firm, massive, medium dry strength, medium toughness, no visual impacts, no odor	S-1	NA	3.0		0.0 4.7		
5.0			S-2	NA	3.0		11.4 20.0	Sampled (5-7)	
10.0			S-3	NA	3.0		3.4 0.0		
			S-4	NA	1.0		0.0 0.0		
15.0	-16.0 / 16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-04 / MW-02

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
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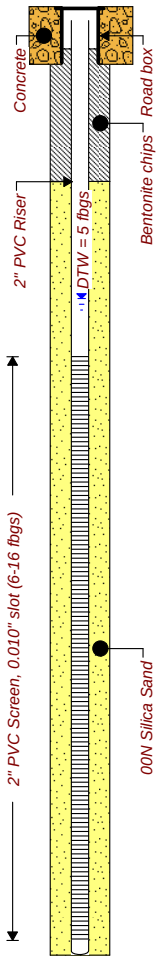
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
0.0	499.0 / 0.0	Ground Surface					0 1000 2000 3000		
		Asphalt with Slag Sub-base					0.0		
	497.0 / 2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive, slow dilatency	S-1	NA	3.0		0.0		
5.0			S-2	NA	3.0		0.0		
							94.1		
			S-3	NA	3.0		864.0	Sampled (9-11)	
10.0		Weathered petroleum-like odor					2023.0		
			S-4	NA	1.0		6.0		
15.0							0.0		
	483.0 / 16.0	End of Borehole							
20.0									



Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-05

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 1000 / 2000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Grey, moist, mostly broken concrete, slag and brick with some non-plastic fines, low toughness, low dry strength, loose when disturbed	S-1	NA	3.0		0.0, 0.0, 0.0	Sampled (0-4)	
5.0			S-2	NA	3.0		0.0, 0.0		
	-8.5 / 8.5	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive, weathered petroleum-like odor at fill/clay interface	S-3	NA	3.0		1008.0, 72.0	Sampled (7-9)	
10.0			S-4	NA	1.0		0.0, 0.0		
15.0	-16.0 / 16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-06

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
0.0	0.0	***Asphalt with Slag Sub-base***					0.0		
	-2.0						0.0		
	2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive,	S-1	NA	3.0		0.0		
5.0			S-2	NA	3.0		189.0		
							1071.0		
		petroleum-like odor						Sampled (7-9)	
							2443.0		
10.0			S-3	NA	3.0		172.0		
			S-4	NA	1.0		36.0		
15.0							0.0		
	-16.0								
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-07 / MW-03

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

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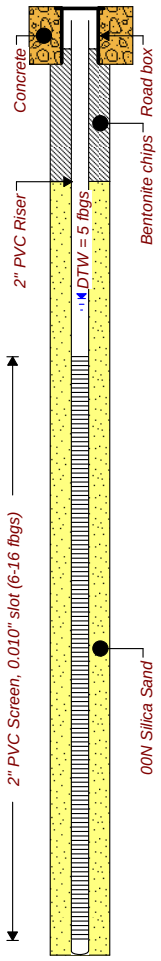
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	498.2 / 0.0	Ground Surface							
		Fill Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness	S-1	NA	1.7		0.0 / 0.0		
	493.7 / 4.5	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive, slow dilatency	S-2	NA	4.0		0.0 / 0.0	Sampled (5-7)	
5.0			S-3	NA	3.9		0.0 / 0.0		
10.0			S-4	NA	1.0		0.0 / 0.0		
15.0	482.2 / 16.0	End of Borehole							
20.0									



Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-08

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
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Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness	S-1	NA	4.0		0.0		
	-2.5						0.0		
	2.5	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive						Sampled (3-5)	
5.0			S-2	NA	4.0		0.0		
							0.0		
			S-3	NA	3.6		0.0		
10.0							0.0		
			S-4	NA	1.0		0.0		
15.0							0.0		
	-16.0								
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-09

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
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Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness	S-1	NA	4.0		0.0		
	-2.5						0.0		
	2.5	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive							
5.0			S-2	NA	4.0		0.0		
							0.0		
			S-3	NA	3.0		0.0	Sampled (10-12)	
10.0							0.0		
			S-4	NA	1.0		0.0		
15.0							0.0		
	-16.0								
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-10 / MW-4

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

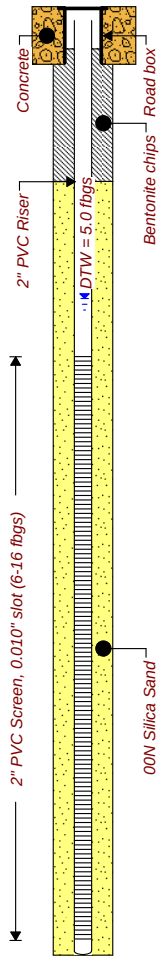
Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
0.0	499.5 / 0.0	Ground Surface					0 – 12.5 – 25		
		Fill Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness					0.0	Sampled	
	497.5 / 2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	4.0		0.0		
5.0			S-2	NA	4.0		0.0		
							0.0		
10.0			S-3	NA	4.0		0.0		
							0.0		
			S-4	NA	1.0		0.0		
15.0							0.0		
	483.5 / 16.0	End of Borehole							
20.0									



Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/16/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-11

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 500 / 1000)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness					0.0		
	-2.0						0.0		
	2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	4.0		0.0		
5.0			S-2	NA	4.0		0.0		
							5.5	Sampled (7-9)	
		Petroleum-like odor	S-3	NA	3.7		590.0		
10.0							200.0		
			S-4	NA	1.0		200.0		
							10.1		
15.0							0.0	Sampled (14-15)	
	-16.0								
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-12

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness					0.0		
	-2.0		S-1	NA	4.0		0.0		
	2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive							
5.0			S-2	NA	3.8		0.0		
							0.0		
			S-3	NA	3.9		0.0		
10.0							0.0		
			S-4	NA	1.4		0.0		
							0.0		
15.0							0.0		
	-16.0								
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-13

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Fill*** Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness					0.0		
	-1.0 / 1.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	4.0		0.0	Sampled (1-3)	
5.0			S-2	NA	4.0		0.0		
							0.0		
10.0			S-3	NA	4.0		0.0		
							0.0		
15.0			S-4	NA	4.0		0.0		
							0.0		
	-16.0 / 16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-14 / MW-5

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

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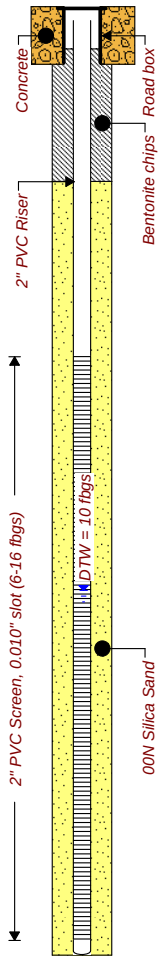
Buffalo, NY 14218
(716) 856-0635

Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs (ppm)	Lab Sample	Well Completion Details or Remarks
0.0	500.2 / 0.0	Ground Surface							
	499.2 / 1.0	***Fill*** Grey, moist, mostly asphalt, brick and concrete with some non-plastic fines, low dry strength, low toughness							
		Sandy Lean Clay Reddish brown, moist to wet (10'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	4.0		0.0		
							0.0		
5.0			S-2	NA	4.0		0.0	Sampled (5-7)	
							0.0		
10.0			S-3	NA	4.0		0.0		
							0.0		
			S-4	NA	4.0		0.0		
							0.0		
15.0							0.0		
	484.2 / 16.0	End of Borehole							
20.0									



Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-15

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

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Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	2.0		0.0	Sampled (0-2)	
	-2.0								
	2.0	End of Borehole							
5.0									
10.0									
15.0									
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: None
Drill Method: Hand Auger
Comments: Near surface, only beneath cored concrete floor
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-16

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	2		0.0	Sampled (0-2)	
	-2.0								
	2.0	End of Borehole							
5.0									
10.0									
15.0									
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: None
Drill Method: Hand Auger
Comments: Near surface, only beneath cored concrete floor
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-17

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 – 12.5 – 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	2		0.0	Sampled (0-2)	
	-2.0								
	2.0	End of Borehole							
5.0									
10.0									
15.0									
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: None
Drill Method: Hand Auger
Comments: Near surface, only beneath cored concrete
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-18

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface					0 250 500		
	0.0	***Asphalt with Slag Sub-base***					0.0		
	-2.0						0.0		
	2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	3.0		0.0		
5.0		petroleum like odor	S-2	NA	3.0		189.0		
							486.0	Sampled (7-9)	
			S-3	NA	3.0		400.0		
10.0							59.0		
			S-4	NA	1.0		36.0		
15.0							1.4		
	-16.0								
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

Project No: 0236-001-102

Borehole Number: SB-19

Project: Remedial Investigation

A.K.A.:

Client: 285 Niagara Operating Co., LLC

Logged By: PWW

Site Location: 285-295 Niagara St

Checked By: BCH

TurnKey Environmental Restoration, LLC
2558 Hamburg Turnpike, Suite 300
Buffalo, NY 14218
(716) 856-0635

SUBSURFACE PROFILE			SAMPLE						
Depth (fbgs)	Elev. /Depth	Description (ASTM D2488: Visual-Manual Procedure)	Sample No.	SPT N-Value	Recovery (ft)	Symbol	PID VOCs ppm (0 / 12.5 / 25)	Lab Sample	Well Completion Details or Remarks
0.0	0.0	Ground Surface							
	0.0	***Asphalt with Slag Sub-base***					0.0		
	-2.0						0.0		
	2.0	***Sandy Lean Clay*** Reddish brown, moist to wet (5'), mostly medium plasticity fines with some fine sand, few medium sand, medium dry strength, medium toughness, firm, massive	S-1	NA	3.0		0.0		
5.0			S-2	NA	3.0		0.0		
							0.0	Sampled (7-9)	
10.0			S-3	NA	3.0		0.0		
							0.0		
15.0			S-4	NA	1.0		0.0		
	-16.0						0.0		
	16.0	End of Borehole							
20.0									

Drilled By: TREC Environmental Inc.
Drill Rig Type: 540 UT Truck Mounted Geoprobe Rig
Drill Method: Direct Push with 4' macrocore
Comments:
Drill Date(s): 4/17/12

Hole Size: 2"
Stick-up: Flush mount
Datum: Mean Sea Level

Sheet: 1 of 1

APPENDIX C

LABORATORY ANALYTICAL DATA

(PROVIDED ELECTRONICALLY ON ENCLOSED CD)

APPENDIX E

LAND USE EVALUATION

APPENDIX E
LAND USE EVALUATION

NYSDEC's Part 375 regulations require that the reasonableness of the anticipated future land be factored into the evaluation of remedial alternatives. The regulations identify 16 criteria that must be considered. These criteria and the resultant outcome for the 285-295 Niagara Street Site are presented below.

1. *Current use and historical and/or recent development patterns:* The 285-295 Niagara Street Site was formerly used as a manufacturing operation, automobile filling station, and car wash facility, located in a historically mixed residential, commercial, and industrial area in the City of Buffalo. The Site is presently being redeveloped into a mixed-use residential and commercial development. **Accordingly, residential/commercial site redevelopment would be consistent with historic site use.**

2. *Applicable zoning laws and maps:* The Site is located in an area of the City zoned for Commercial use. **Continued use in a residential/commercial capacity is therefore consistent with current zoning.**

3. *Brownfield opportunity areas as designated set forth in GML 970-r:* The Brownfield Opportunity Area (BOA) Program provides municipalities and community based organizations with assistance to complete revitalization plans and implementation strategies for areas or communities affected by the presence of brownfield sites, and site assessments for strategic sites. **The subject property does not lie within a BOA.**

4. *Applicable comprehensive community master plans, local waterfront revitalization plans as provided for in EL article 42, or any other applicable land use plan formally adopted by a municipality:* The 285-295 Niagara Street Site does not fall within the boundaries of any designated Buffalo redevelopment plan. **Sites outside of such designated revitalization or waterfront development areas are not likely to require rezoning or change in use.**

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LAND USE EVALUATION

5. *Proximity to real property currently used for residential use, and to urban, commercial, industrial, agricultural and recreational areas:* The surrounding land is mixed use, including residential, commercial, and industrial use parcels. **Nearby and adjacent property mixed use, including residential and commercial. Maintaining the use of the Site in a residential/commercial capacity is consistent with surrounding property.**

6. *Any written and oral comments submitted by members of the public on the proposed use as part of the activities performed pursuant to the citizen participation plan:* **No comments have been received from the public relevant to Site use concerns.**

7. *Environmental justice concerns, which include the extent to which the proposed use may reasonably be expected to cause or increase a disproportionate burden on the community in which the site is located, including low-income minority communities, or to result in a disproportionate concentration of commercial or industrial uses in what has historically been a mixed use or residential community:* **Nearby and adjacent property is actively used in a commercial and residential capacity. Maintaining use of the site in a residential/commercial capacity does not pose environmental justice issues.**

8. *Federal or State land use designations:* The property is designated Commercial Land Use by the City of Buffalo (GIS). **Reuse in a restricted capacity (residential/commercial) is consistent with the current land use designation.**

9. *Population growth patterns and projections:* The City of Buffalo, encompassing 40.38 square miles, has a population of 261,025 (2011 [estimate] US Census Bureau), a decrease of 285 from the 2010 U.S. Census. A slight decrease in population is not expected to have a significant impact on the housing market**. Reuse of the Site in a residential/commercial capacity expands opportunities for residential growth.**

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LAND USE EVALUATION

10. *Accessibility to existing infrastructure:* Access to the Site is from Niagara Street. Utilities (sewer, water, and electric) are present along Niagara Street**. Existing infrastructure supports reuse in a residential/commercial capacity**.

11. *Proximity of the site to important cultural resources, including federal or State historic or heritage sites or Native American religious sites*: **No such resources or sites are known to be present on or adjacent to the Site.**

12. *Natural resources, including proximity of the site to important federal, State or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species:* The Erie County Internet Mapping System shows that no State or Federal wetlands exist on the subject property. Lake Erie and the Niagara River are located approximately 0.25 miles west of the Site. **Cleanup to unrestricted use conditions and the absence of significant ecological resources on or adjacent to the Site will not pose an ecological threat.**

13. *Potential vulnerability of groundwater to contamination that might emanate from the site, including proximity to wellhead protection and groundwater recharge areas and other areas identified by the Department and the State's comprehensive groundwater remediation and protection program established set forth in ECL article 15 title 31:* Groundwater at the Site is assigned Class "GA" by 6NYCRR Part 701.15. Five groundwater monitoring wells were installed on Site as part of the RI. Groundwater data obtained during the RI indicated low-level residual impacts from VOCs and nickel at well MW-01; and naturally occurring metals across the Site. Source areas removed during IRM activities to Unrestricted Use SCOs and natural degradation/attenuation is expected to decrease concentrations over time. There are no groundwater supply wells present on the Site. Regionally, groundwater in the area has not been developed for industrial, agriculture, or public supply purposes. Potable water service is provided off-site and on-site by the local municipal water authority. **The absence of potable wells, wellhead**

APPENDIX E
LAND USE EVALUATION

protection and groundwater recharge areas indicates that cleanup to unrestricted use conditions will not pose a drinking water threat.

14. *Proximity to flood plains:* The Erie County Internet Mapping System indicates that Lake Erie and The Niagara River are located approximately 0.25-miles west from the Site have designated flood zones. No flood zones are present on the property; there is no risk of significant soil erosion due to flooding. **As such, cleanup to unrestricted standards does not pose a threat to surface water.**

15. *Geography and geology:* The Site is located within the Erie-Ontario lake plain physiographic province, which is typified by little topographic relief and gentle slope toward Lake Erie, except in the immediate vicinity of major drainage ways (USDA, 1978). The surficial geology of the Lake Erie Plain consists of a thin glacial till (if present), glaciolacustrine deposits, recent alluvium, and the soils derived from these deposits. Surface soils within the vicinity of the Site are described as Urban Land (Ud) with 0-3 percent slopes. This is indicative of the level to gently sloping land with at least 40 percent of the soil surface covered by asphalt, concrete, buildings, or other impervious structures typical of an urban environment. Former development activities covered the Site in asphalt, concrete and building foundations. **Geography and geology are consistent with a residential/commercial re-use.**

16. *Current institutional controls applicable to the site:* **No institutional controls are currently present that would affect redevelopment options.**

Based on the above analysis, reuse of the Site in a residential/commercial capacity is consistent with past and current development and zoning on and around the Site, and does not pose additional environmental or human health risk.

APPENDIX F

ELECTRONIC COPY OF RI/IRM/AA REPORT