USEPA ACTION MEMORANDUM
300, 304-308 Andrews Street and 25 Evans Street
Rochester, New York 14604
USEPA ID #BF-97207900-0
August 2012

I. Purpose

In accordance with the requirements of the City of Rochester's (City) Cooperative Agreement with the United States Environmental Protection Agency (USEPA), the City has prepared this Action Memorandum (Memo). The Action Memo is for the environmental cleanup of the Andrews Street Site located at 300, 304-308 Andrews Street, and 25 Evans Street, Rochester New York (Site). The City's authorized representative under terms of the Cooperative Agreement has signed the Action Memo in accordance with USEPA grant requirements. This Action Memo serves as the primary decision document for federal grant compliance and substantiates the need for remedial action, identifying the proposed remedial actions, and explaining the rationale for the specific cleanup alternative selected to remediate the Site. This Action Memo provides the following required information:

- A description of the proposed environmental cleanup plan.
- An explanation of why the cleanup is authorized by the regulatory agency.
- An explanation of the rationale for selecting that particular action and how the plan meets cleanup goals.
- An explanation of how the selected cleanup will conform to all applicable or relevant and appropriate requirements including federal and state laws and regulations.

The Project is being performed as part of the City's 2008 State Assistance Contract (SAC) with the New York State Department of Environmental Conservation (NYSDEC) to perform investigative and remedial work at the Site under the NYSDEC Environmental Restoration Program (ERP). In 2010, the City submitted a Brownfield Cleanup Grant Proposal to the United States Environmental Protection Agency (USEPA), and was subsequently awarded a Brownfield Cleanup Grant to assist in funding remediation of the Site.

This Action Memo considers the June 2012 Analysis of Brownfields Cleanup Alternatives (ABCA) report and July 2012 Interim Remedial Measures (IRM) Work Plan which contain extensive information regarding previous environmental investigations, subsurface environmental conditions, assessment of potential cleanup alternatives, and plans and specifications to implement the proposed cleanup remedy. The ABCA report for the Site also specifies the anticipated potential future uses of the Site, and contains an evaluation of the potential remedial alternatives and the associated estimated costs for each alternative. The ABCA report includes a specific recommended cleanup alternative to remediate the Site. The IRM Work Plan for the Site contains the procedures, plans, specifications and methodologies to remediate the contaminated soil attributed to former on-site dry cleaner, gas station, bus garage and bus terminal, printers and warehouse, including underground storage tanks (USTs). The IRM Work Plan also specifies post-source removal cleanup and groundwater sampling and analysis. The remedial measures, engineering controls, and institutional controls specified are consistent with the proposed future use of the Site, and may need to be tailored to a Site-specific detailed redevelopment plan if one is identified by the City during the course of the project.

II. Site Conditions and Background

A. Site Description

The Site is located at 300, 304-308, and 320 Andrews Street and 25 Evans Street in the City of Rochester, New York (Figure 1). The Site has a combined area of approximately 1.5 acres and is located at the intersection of Andrews Street and Evans Street. The Site is located in the City of Rochester's Inner Loop area. Four vacant buildings occupied the Site and were demolished prior to the current RI and IRM activities. The Site is surrounded by commercial properties with the exception of and the Inner Loop to the north.

B. Land Use and Site History

The Site was developed in the early 1920's at which time its uses included plumbing and supply, bakery and residential, and printers. A bus terminal occupied 25 Evans Street and 320 Andrews Street from the 1940s until the 1980s. 320 Andrews Street was previously a gas station in the 1930s and 1940s. A dry cleaning equipment and distributor facility operated at 304-308 Andrews Street from 1978-1988. A fuel oil contractor occupied 304-308 Andrews Street in the 1990s. Demolition of the former bus station and remaining structures was performed by the City in 2011. Some floor slabs were left in place during demo in areas of known or suspected contamination. The Site has been vacant since demolition.

Future redevelopment plans have not yet been determined; however, it is anticipated that the Site will be used for multi-family residential (townhouse) purposes, or mixed use (e.g., commercial first floor with residential above) and associated parking.

C. Previous Environmental Studies

- March 1990 – Site Investigation Report Former Greyhound Terminal and Bus Garage (320 Andrews St. and 25 Evans St.).
- October 1990- ESA 304 – 308 Andrews Street.
- March 1997- Phase I ESA 300 Andrews Street.
- October 2005- Pre-Demolition Asbestos Inspections -300 Andrews Street, 304 Andrews Street, 308 Andrews Street, 320 Andrews Street, and 25 Evans Street.
- June 2006- Phase I ESAs (four reports total, one for each parcel): 300 Andrews Street, 304-308 Andrews Street, 320 Andrews Street, and 25 Evans Street.
- October, 2006 -Phase II ESA - 300 Andrews Street, 304-308 Andrews Street, 320 Andrews Street, and 25 Evans Street.
- 2010-2011-At-Grade and Sub-Grade Demolition Phase -300 Andrews Street, 304-308 Andrews Street, 320 Andrews Street, and 25 Evans Street
- Spring 2011- RI-Utility Survey, Geophysical Site Assessment, Subsurface Soil Investigation, including Test Pits/Trenches, Test Borings, and Soil Sampling Groundwater Quality Evaluation including Monitoring Well Installation and Groundwater Sampling- 300 Andrews Street, 304-308 Andrews Street, 320 Andrews Street, and 25 Evans Street

D. State and Local Authorities' Roles

Work plans, fieldwork, and reporting will be completed under the oversight of the New York State Department of Environmental Conservation (NYSDEC) Region 8. The environmental cleanup at the Site will be performed under a State Assistance Contract (SAC) with the NYSDEC. The New York State

Department of Health (NYSDOH) also reviews technical work plans and reports, and conducts site visits during fieldwork as deemed necessary.

III. Known or Suspected Releases or Threatened Releases Into the Environment of a Hazardous Substance, Pollutant or Contaminant

Previous subsurface investigations conducted to date have identified tetrachloroethylene (PCE) as the predominant contaminant detected in soil and groundwater at the Site. Although the City does not have any specific knowledge of releases, the source of the PCE may be associated with the former dry cleaning equipment and supply company that was located on the 304-308 Andrews Street parcel between 1978 and 1988. Based on the work completed to date, there appears to be two source areas of the PCE that are relatively close to each other (one outside the former building in proximity to a garage bay door, and one inside the former building in proximity to a floor drain). The contaminants from these two areas then appear to have impacted the sewer (pipe and bedding material) that is located in the adjoining right-of-way of Evans Street. The buried sewer system may have acted as a preferential migration pathway for the PCE within the saturated zone. It is estimated that approximately 703 cubic yards (1,160 tons) of PCE-contaminated soil above 1.3 mg/kg (NYS Part 375 SCO for protection of groundwater) is located in the approximate 3,500 square-foot source area. Additional environmental conditions include underground storage tanks (USTs), a PCB impacted area, a former trench drain and an underground piping network.

A. Known or Suspected Sources of Site Contamination

The results of the previous Environmental Studies revealed the following suspected sources of contamination at the Site:

- PCE source area and Evans Street Sewer
- UST area
- PCB-impacted area
- Trench drain area
- Piping area

Listed below is a summary of known or suspected sources of Site contamination and the extent of the IRMs. The results of previous Site Investigations were utilized to confirm the presence or absence of a specific contaminant source, and the conclusions are summarized below.

PCE source area and Evans Street Sewer

The area of the Site with the highest concentration of PCE was found in the vicinity of the "barn" or garage structure formerly located at 304-308 Andrews Street, the Evans Street right-of-way, and the westernmost portion of 320 Andrews Street. PCE was also detected in the groundwater monitoring well on the northwest portion of 320 Andrews Street.

PCE concentrations in soil samples collected within the PCE source zone exceed the NYSDEC Part 375 Protection of Groundwater SCO for PCE of 1.3 mg/kg, or parts per million (ppm). PCE in the vadose zone has been confirmed to have migrated vertically and leached into the upper water bearing zone present at approximately 10.5 feet (ft.) below ground surface (bgs), resulting in concentrations of PCE that exceed groundwater standards in overburden groundwater monitoring wells installed within, and hydraulically down-gradient of, the PCE source zone.

PCE was detected at 5,100 mg/kg in a tar-like substance found in the abandoned sewer piping in the northern portion of the Evans Street right-of-way. The buried sewer system appears to have acted as a preferential migration pathway for the PCE from the PCE source area.

UST area
The two abandoned 5,000 gallon USTs, presumed to have stored gasoline and diesel oil, on the eastern portion of the 25 Evans Street parcel have been identified as a potential source area for petroleum contamination. In 1984, the tanks were pumped and filled with K-Crete as a method of closing them in-place. Some petroleum-type VOCs were detected in nearby soil samples during the 2006 Phase II ESA. The extent of petroleum impacted soil is unknown but is anticipated to be relatively minimal based on investigations completed to date.

PCB-impacted area
One small area (i.e., 225 square feet or less) of PCB impacted soil above SCOs was documented in the area of demolition phase test location (PCB = 1.8 mg/kg). Analytical laboratory testing of soil samples from RI borings show that the extent of PCB impact is limited (i.e., 15' x 15' x 4' deep or less).

Trench Drain area
An approximately 130 foot long by 1-foot wide trench drain was located on the 25 Evans Street parcel. The majority of the trench drain structure was removed and disposed of during the demolition phase work. Impacts were documented in underlying soil in proximity to the trench drain. Contaminants exceeding SCOs included various PAH SVOCs and metals, most likely associated with former vehicle repair activities in the former bus garage building.

Piping Area
An area of buried piping is located on the 320 Andrews Street Parcel, formerly used as a bus terminal building and a former gasoline service station. A section of this piping was encountered during excavation of a test pit. A sample of the solid contents from inside this piping contained 0.58 mg/kg of PCE. A soil sample collected from the test pit only contained 0.012 mg/kg of PCE. Based on the EM-61 geophysical survey on this area of the Site, it is estimated that approximately 205 linear feet of piping exists in this area that may have similar solid contents containing PCE. It is possible that contents of some sections of this piping or surrounding soils may contain concentrations of PCE greater than its Protection of Groundwater SCO of 1.3 mg/kg.

Figure 2 illustrates test locations on the Site.

IV. Proposed Corrective Actions

A. Standards, Criteria and Guidance

Standards, Criteria and Guidance (SCG) values to allow for a mixed residential and commercial use were considered in the ABCA. The SCGs assist in defining the extent of contamination requiring remediation, and also are used to evaluate the effectiveness of the remedy. The SCGs for soil, groundwater and soil vapor intrusion to be used for this project are provided below.

- Analytical laboratory results for groundwater will be compared to groundwater standards and guidance values referenced in the NYSDEC document titled "*Division of Technical and Operational Guidance Series, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*" (TOGS 1..1.1) dated June 1998 as amended by April 2000 and June 2004 Addendums.

- Analytical laboratory results for soil and fill will be compared to SCOs referenced in the NYSDEC document titled "*6 NYCRR Part 375, Environmental Remediation Programs*" dated December 14, 2006. Specific SCOs to be considered will include Unrestricted SCOs, Restricted Residential Use SCOs, Restricted Commercial Use SCOs, and Protection of Groundwater SCOs.

- Analytical laboratory results for soil vapor intrusion samples will be compared to various criteria (e.g., air guidance values, soil vapor/indoor air decision matrices, background concentrations of VOCs in indoor air) referenced in the New York State Department of Health (NYSDOH) document titled "*Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York*" dated October 2006.

B. Description of Cleanup Alternatives

Remedial goals, objectives, and consideration factors were developed in order to prepare remedial alternatives for consideration. A complete, detailed discussion of remedial alternatives, methods, procedures and associated project costs has been prepared as the ABCA completed in June 2012 for this project by Day Environmental Inc. (DAY). Evaluation criteria have been developed in order to compare the remedial alternatives. The alternatives considered for this Site are intended to address contamination in soil, fill and groundwater, and are presented below. The alternatives evaluated for this project are based on the assumption that the Site will be used for multi-family residential (townhouse) purposes, or mixed use (e.g., commercial first floor with residential above).

- Protection of Human Health and the Environment
- Compliance with Standards, Criteria and Guidance Values
- Long-Term Effectiveness and Permanence
- Reduction of Toxicity, Mobility and Volume
- Short-Term Impacts and Effectiveness
- Implementability
- Land Use
- Cost
- Community Acceptance

Alternative#1- No Action:

A no action alternative is a NYSDEC ERP procedural requirement and provides a baseline to evaluate other alternatives. Under this alternative, remedial and monitoring activities, as well as placement of ICs or ECs, at the Site are not implemented. Environmental conditions at the Site would essentially remain as they are, and future use of the Site would not be limited. This alternative would not allow for the City's planned mixed commercial-residential reuse.

Alternative#2- IRM Removals; In-Situ Groundwater Remediation; Institutional Controls; Engineering Controls; and Groundwater Monitoring:

Remediation would consist of an IRM involving removal and off-site disposal of areas of highest impacted soil above soil cleanup criteria for the Site. This IRM includes removal of contaminated soil primarily above the groundwater table in the PCE source areas. It is anticipated that some PCE contaminated soil in the saturated zone would remain in-place subsequent to the IRM. A section of buried public sewer that appears to be acting as a preferential migration pathway, some remaining impacted on-site piping and trench drain structure, and two previously closed in-place USTs would be removed and disposed off-site as part of the IRM. In-situ groundwater remediation would be conducted to assist in remediation of residual VOC concentrations in the groundwater above cleanup criteria in the overburden. The remaining contaminants in soil, fill and groundwater (e.g., SVOCs, metals, residual VOCs) would be

addressed via institutional controls (e.g., Environmental Easement and Site Management Plan, etc.) and engineering controls (e.g., soil vapor mitigation system, cover system). A groundwater monitoring program would be implemented to evaluate the effectiveness of the remedy. This alternative is considered a Track 4 cleanup to allow for restricted residential and restricted commercial use of the Site.

Alternative #3- Full Removal of Impacted Fill Material, Soil and USTs, Groundwater Remediation; and Groundwater Monitoring:
Excavation and off-site disposal would be implemented to completely remediate soil contamination and fill material that exceeds NYSDEC Track 1 SCOs and allows for unrestricted use of the Site. A section of buried public sewer that appears to be acting as a preferential migration pathway, some remaining impacted on-site piping and trench drain structure, and two previously closed in-place USTs would be removed and disposed off-site. Contaminated groundwater that exceeds Track 1 SCOs would be addressed by dewatering excavations, pre-treating the removed water, if necessary, and discharging the water to a publicly owned treatment works (POTW); and/or contaminated areas in overburden and bedrock that are not affected by the excavation dewatering would be addressed by in-situ remediation. Groundwater monitoring would be implemented to evaluate the effectiveness of the remedy. This alternative is considered a Track 1 cleanup to allow for unrestricted use of the Site.

The following table summarizes the comparison of remediation criteria for Alternatives 1, 2, and 3.

Remediation Criteria	Remedial Alternative #1	Remedial Alternative #2	Remedial Alternative #3
Protection of Human Health and Environment	NO	YES	YES
Compliance with SCGs	NO	YES	YES
Long-Term Effectiveness and Permanence	NO	YES	YES
Reduction of Toxicity, Mobility, and Volume	Little	YES	YES
Short-Term Impacts and Effectiveness	Impacts-NO Effectiveness- NO	Impacts- YES Effectiveness- YES	Impacts- YES Effectiveness- YES
Implementability	Easy	Moderate	Difficult
Acceptable for Planned Future Use	NO	YES	YES
Total Present Worth Cost	$0.00	$1,524,389	$3,476,938

C. Recommended Cleanup Alternative

The proposed recommended remedial alternative is based on the results of the Remedial Investigation and the evaluation of alternatives presented herein. A detailed evaluation of the three remedial alternatives was performed, and implementation of Alternative #2 (IRM Removals; In-Situ Groundwater Remediation; Institutional Controls; Engineering Controls; and Groundwater Monitoring) is recommended for the Site. Alternative #2 will achieve the remediation goals for the Site by: removing contaminated soil/fill; removing two closed in-placed petroleum USTs; removing impacted sewer piping; treating contaminated groundwater; controlling exposure to residual contamination through the use of institutional controls and engineering controls; creating conditions that restore groundwater quality to the extent practicable; and monitoring of groundwater to evaluate the effectiveness of the remedy. Alternative #2 satisfies the threshold criteria and provides the best balance of the primary balancing

criteria identified in the ABCA. Alternative #2 is an acceptable alternative, can be implemented easily in relation to future use of the Site, and costs less than Alternative #3.

Goals of this alternative include: remediating the VOC, PCB and petroleum contamination in soil to achieve Restricted Residential Use SCOs and Protection of Groundwater SCOs; remediating the residual VOC contamination in groundwater to achieve standards and guidance values as defined in NYSDEC TOGS 1.1.1 to the extent practicable, and controlling exposure to residual contaminants that may be present in historic fill material and soil at the Site.

Protection of Human Health and the Environment: It is anticipated that Alternative #2 would be protective of human health and the environment under current site conditions, and future restricted residential and/or restricted commercial use of the Site. Risks associated with potential human health exposure pathways would be eliminated or adequately controlled/mitigated. With the exception of restoring the groundwater aquifer to pre-disposal/pre-release conditions, RAOs for soil and groundwater would be adequately addressed by this alternative in relation to protection of on-site public health and the environment. The tasks associated with addressing the RAOs could readily be completed.

Compliance with SCG Values: Alternative #2 would meet SCG values for Restricted Residential Use and Protection of Groundwater for soil contaminated with VOCs. Some soil or fill material containing other types of constituents (e.g. SVOCs, metals) at concentrations exceeding Restricted Residential Use SCOs or Protection of Groundwater Use SCOs would remain on-site, but would be managed in accordance with institutional controls (ICs) and engineering controls (ECs). Alternative #2 provides adequate monitoring to evaluate compliance trends in relation to chemical-specific SCG values for soil and groundwater. This alternative would meet location-specific SCG values for protection of on-site human health and the environment. Action-specific SCG values would also be adequately addressed for this alternative.

Long-Term Effectiveness and Permanence: The long-term risk associated with the contamination would be effectively reduced by: 1) the IRM removals; 2) in-situ remediation of overburden groundwater; and 2) the cover system over the Site. It is anticipated that the components of this alternative would prove to be reliable, and would have the ability to continue to meet RAOs in the future. The remedial components of this alternative are effective in the long term, and permanently remove or destroy the VOCs in the soil and groundwater at the Site that require remediation, and control other contaminants present at the Site. The long-term effectiveness and permanence of this alternative in relation to residual contaminants would be monitored.

Reduction of Toxicity, Mobility and Volume: The IRM removals, in-situ groundwater remediation, natural attenuation, and other factors such as advection, dispersion, sorption, diffusion, etc. would result in reduction of contaminant toxicity, mobility or volume.

Short-Term Impacts and Effectiveness: This alternative would likely result in a slight risk in regard to short-term impacts. It is anticipated that Site workers and the community would have increased risk at exposure to site contamination (i.e., nuisance odors, inhalation and contact with site contaminants, etc.). However, implementation of a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) that include dust and fume control contingencies, and also a Soils Management Plan (SMP), would protect site workers and the nearby community from these short-term risks. In addition, it is anticipated that there would be short-term impacts to the community associated with increased noise and possible traffic congestion during various phases of the remediation field work. It is anticipated that active on-site remediation activities could take a total of three to five months to implement. The IRM removals would result in significant reduction of potential impacts to workers during subsequent redevelopment

activities. Physical hazard risks would also likely increase during excavation and backfill activities (e.g., excavation wall stability issues, dewatering issues, etc.).

Implementability: This alternative can be implemented easily in relation to the anticipated future use of the Site for Restricted Residential Use and/or Restricted Commercial Use. Spatial requirements can be accommodated on this vacant urban Site, and would not impede completion of this alternative.

Planned Future Use of the Site: The Site is currently vacant urban land that the City envisions being redeveloped for Restricted Residential Use and/or Restricted Commercial Use. This alternative would be acceptable in relation to the planned future use of the Site.

Cost:

Capital/Initial Costs	$1,408,800
Years 1-2 Groundwater Monitoring Present Worth (F=1.8594)	$68,519
Years 3-5 Groundwater Monitoring Present Worth (F=4.3295-1.8594)	$23,095
Closeout Costs (F= 0.7835)	$23,975
Total Present Worth Cost	**$1,524,389**

D. Proposed Action Description

The primary goal of the IRM is to address areas of contamination and environmental conditions that are considered to have the greatest potential for human exposure and migration. The IRM will include: removal of soils primarily in the unsaturated zone that are impacted with PCE, PCBs, petroleum, PAH SVOCs, and metals at specific source areas; as well as two (2) closed in-place 5,000-gallon USTs; remaining concrete building slabs, foundations, footers and asphalt over source areas; and buried piping that is contaminated or potentially acting as a preferential migration pathway. IRM locations are shown on Figure 3. IRM actions will be completed in six (6) distinct areas of concern, as follows.

- IRM-01: PCE Source Area
- IRM-02: Buried Sewer System in Evans Street Right-of-Way
- IRM-03: UST Removal Area
- IRM-04: PCB-Impacted Area
- IRM-05: Trench Drain Area
- IRM-06: Piping Network Area

IRM-01: PCE Source Area

The source area of PCE-contaminated soil will be removed, characterized during on-site staging, and subsequently disposed off-site. Using the determined extent of soil exceeding 1.3 ppm of PCE as a guide, it is estimated that approximately 703 CY (1,160 tons) of PCE contaminated soil primarily above the water table or capillary fringe will be removed. It is also estimated that approximately 673 CY (1,109 tons) of clean re-usable soil will need to be excavated and staged on-site in order to remove the extent of PCE contaminated soil projected for off-site disposal. The clean soil will later be re-used to partially backfill the excavation. It is assumed that dewatering will be required to advance the excavation to the required depth. A total of approximately 700 CY of imported crushed stone will also be required to return the excavation area to grade. It is assumed that up to 40,000 gallons of contaminated water may be handled and disposed of as part of IRM-01 and IRM-02.

Once soils removal has taken place, the bottom and side walls of the excavated area will be sampled. It is understood that additional RI soil samples may be obtained for analysis by the City in order to more

precisely define the limits and concentrations of contamination left in-place after completion of IRM-01. The RI soil samples will also assist the City in evaluating future remedial alternatives and remedial design.

Limited over excavation may be conducted to the maximum attainable depths in IRM-01 and IRM-02 to evaluate soil conditions as thoroughly as possible. Soils disturbed during this process will be returned to the excavation once the evaluation process is complete. Vapor screening with a PID will be conducted continuously during excavation and handling of contaminated soil for protection of on-site workers and the nearby community.

A handheld GPS unit will be used during and after excavation activities to the extent possible in order to locate the sample points, the limits of IRM excavation, and other significant features of interest.

IRM-02: Buried Sewer System in Evans Street Right-of-Way

Closely related to the planned excavation and related work associated with IRM-01, removal of PCE-contaminated materials within IRM-02 will generally be limited to the 12 to 14-foot depth interval except in the southern portion of IRM-02, which lies beneath IRM-01. Concrete will be removed from the surface within the northern half of IRM-02. This material is considered to be uncontaminated, but will be staged in the "Staged Material Exclusion Zone", characterized, and then crushed to the extent deemed necessary for off-site disposal.

An approximate 96-foot long sewer system piping and associated manholes located within and north of the PCE source areas will be removed and disposed off-site. Based on dimensions of 96 ft. long by 8 ft. wide by 2 ft. thick, and accounting for some sloughing, it is anticipated that approximately 61 CY (101 tons) of PCE contaminated soil, sewer material and contents will be removed and disposed off-site.

Once removal of the approximate 96 linear feet of 1.25-foot diameter vitrified clay tile (VCT) sewer line is complete, the portion of pipe that will remain in place will be plugged and filled as deemed necessary by, and under the protocol of, Monroe County Pure Waters (MCPW). The blocking of the sewer is intended to prevent potential residual contaminant migration through the remaining pipe and/or pipe bedding material.

Backfilling of the IRM-02 excavation will be done concurrently with the backfilling of IRM-01. It is assumed that two to three backfill wells will be installed in this area during the backfill process.

It is understood that the City has obtained verbal approval from MCPW to allow closure of the on-Site portion of the Evans Street sewer. It is also understood that the City has submitted an official Map Amendment to abandon the Evans Street Right-of-Way.

IRM-03: UST Area

The two abandoned USTs and an estimated 24 CY (40 tons) or less of petroleum contaminated soil will be removed and disposed off-site.

It will be necessary to demolish the concrete slab located at 25 Evans Street to access and remove two (2) 5,000-gallons USTs as well as to investigate the tank pit and surrounding soils.

Lu Engineers will observe and screen soils beneath the slab with a MiniRAE 3000, or equivalent, PID to assess possible chlorinated solvent and petroleum impacts to sub-slab soils, especially around floor drains and other significant features. Concrete pieces will be staged in the "Staged Materials Exclusion Zone", characterized, and disposed off-site.

Sub-slab piping and drainage structures can potentially act as migration pathways for contaminants to follow. If any such piping or drainage structures are encountered, they will be investigated for evidence of suspect contamination and removed during the concrete slab removal.

It is anticipated that petroleum impacted soils exist in the vicinity of the USTs, and that the removal of approximately 40 tons or less of petroleum contaminated soil from the tank excavation and/or piping trenches will be completed during the IRM.

The two (2) USTs that were closed in-place with flowable fill (K-Crete) and are located beneath the 25 Evans Street concrete floor will be exposed, emptied of K-Crete, cleaned, excavated, and removed from the Site for scrapping and recycling in accordance with NYSDEC protocols in DER-10. Any remaining connecting lines will also be disconnected and removed.

Once the tanks are removed from the excavation, soil conditions will be evaluated for evidence of suspect contamination and limited over-excavation will be completed to remove grossly contaminated soils (anticipated to be 40 tons or less).

Upon removal of the USTs, associated piping, and contaminated soil to the extent possible, Lu Engineers will examine the tank pit for any physical evidence of contamination and screen the sidewalls and excavation floor along transects no more than 5 feet apart. Closure samples from suspected areas of the greatest contamination will be collected to verify remaining soil conditions, in accordance with NYSDEC DER-10. To the extent possible under the current budget, soils exhibiting evidence of petroleum contamination will be removed for disposal if headspace PID readings exceed 50 ppm. If groundwater is encountered in the excavation, it will be visually examined and screened with a PID, and per DER-10 an overburden monitoring well will be installed, if warranted. Post-excavation soil samples will then be collected and analyzed in accordance with DER-10.

Soils surrounding associated underground piping will be evaluated to identify any evidence of a release. One sample for each 15 feet of piping length and one sample for each additional 20 feet will be collected and analyzed for the parameters listed in the Quality Assurance Project Plan (QAPP).

IRM-04: PCB Impacted Area

The area of PCB-contaminated soil with levels of PCB above the 1.0 mg/kg SCO with an estimated volume of 33 cubic yards (55 tons) or less will be removed, and disposed off-site as non-hazardous waste. Confirmatory sampling will not be necessary for completion of this IRM as the perimeter has already been defined by laboratory testing of soil samples collected during the RI.

IRM-05: Trench Drain Area

Heavy equipment will be used to excavate and crush the remaining concrete trench drain and immediately surrounding concrete slab associated with IRM-05. Soils will be evaluated in the field for indications of contamination and segregated into the IRM-05 staging area. Uncontaminated soils will be staged in the "Uncontaminated" staging location. Concrete will be reduced (crushed) to the extent deemed necessary, staged, characterized, and disposed off-site in accordance with applicable regulations.

An estimated volume of 77 CY (125 tons) of SVOC and/or metal-contaminated soil above SCOs located in proximity to the former trench drain at 25 Evans Street will be removed and disposed off-site at a permitted landfill.

The excavation will be sampled to confirm that contaminated soils have been removed in accordance with DER-10 and the QAPP. The excavation will be backfilled and compacted to 95% (contractor to verify) to

grade with clean soil and imported crushed stone. Imported materials will be from approved sources that meet requirements set forth in DER-10.

IRM-06 Piping Area

The area of shallow, buried PCE-contaminated piping, its contents and surrounding soils on the 320 Andrews Street parcel with an estimated volume of 68 CY (113 tons) or less will be removed and disposed off-site. Piping, piping contents and immediately surrounding soils will be consolidated for disposal as a single waste stream. Post excavation sampling will be conducted as specified in DER-10 and the QAPP. Analytical results will be evaluated with respect to 6 NYCRR Part 375 SCOs.

The excavation will be backfilled and compacted to 95% (contractor to verify) to grade with clean soil and imported crushed stone. Imported material will be from approved sources that meet requirements set forth in DER-10.

Groundwater Monitoring Well Decommissioning

Two wells will be decommissioned prior to beginning intrusive Site work (MW-3 and the Modified Sump "well"). These two wells will be decommissioned in accordance with appropriate NYSDEC protocols. The remaining existing wells will be maintained until such time that their decommissioning is formally requested. It is anticipated that new monitoring wells will be installed to replace decommissioned monitoring wells after the IRM removal and backfilling work is completed.

Utility Decommissioning

An existing water main located in the Evans Street right-of-way will be disconnected/ decommissioned prior to the start of excavation work.

In-Situ Groundwater Remediation

In-situ groundwater remediation at the Site would be conducted to target residual PCE in groundwater, aquifer material, or DNAPL (if present) within the overburden. Figure 9 depicts the approximate plume area currently targeted for in-situ groundwater treatment. It is anticipated that the in-situ remediation would consist of one or more technology, possibly including chemical oxidation products, bioremediation products, zero-valent iron reactive zone/barrier technology and/or thermal treatment. It is presumed that in-situ remediation could include zero valent iron treatment zones/reactive barriers, one or more injection through a delivery system that is installed in the former PCE source area excavation and the former Evans Street right-of-way sewer excavation and also at vertical injection points as deemed necessary, etc. Depending upon the remedial technology selected, it is anticipated that the in-situ groundwater remediation would be completed within a one to three year timeframe (e.g., one year for chemical oxidation, three years for bioremediation). Bench-scale treatability tests, a pilot scale study, baseline monitoring, process monitoring and performance monitoring would likely be completed as part of this remedial component.

Groundwater Monitoring

Subsequent to the IRM removals and in-situ groundwater remediation, a groundwater monitoring program would be implemented to evaluate the effectiveness of the remedy. For each monitoring event, static water level measurements would be collected from monitoring wells and one or more potentiometric groundwater contour maps would be prepared. This alternative presumes that groundwater monitoring would be performed on a quarterly basis for a period of two years, and on an annual basis for up to three additional years. However, the actual groundwater monitoring plan would be identified in a subsequent Remedial Work Plan, and would be dependent upon post-IRM conditions and the specific in-situ groundwater remediation technology that is implemented (e.g. more aggressive remediation will likely require shorter duration of monitoring). During each monitoring event, it is anticipated that

groundwater samples would be collected from at least eight monitoring wells. Samples would be monitored for water quality parameters (e.g., dissolved oxygen, oxidation-reduction potential, conductivity, temperature, turbidity and pH), and also undergo analytical laboratory testing for TCL VOCs using USEPA Method 8260 and other parameters as necessary to monitor the effectiveness of the remedy based on the remedial technology selected. With approval from regulatory agencies, the duration and frequency of the groundwater monitoring, as well as the parameters to be tested, may be adjusted based on the test results of samples collected during the first year of the monitoring program.

V. Project Schedule

IRMs are scheduled to commence in late August or early September in 2012. On-site remedial construction activities including site preparation, excavation, confirmatory testing, backfilling, and Site restoration are expected to continue through October 2012.

VI. Signature of City of Rochester Representative

The following individual is an authorized representative of the City of Rochester as the USEPA Cooperative Agreement Recipient.

8-16-2012

Mark D. Gregor, CHMM
Manager, Division of Environmental Quality
City of Rochester, New York

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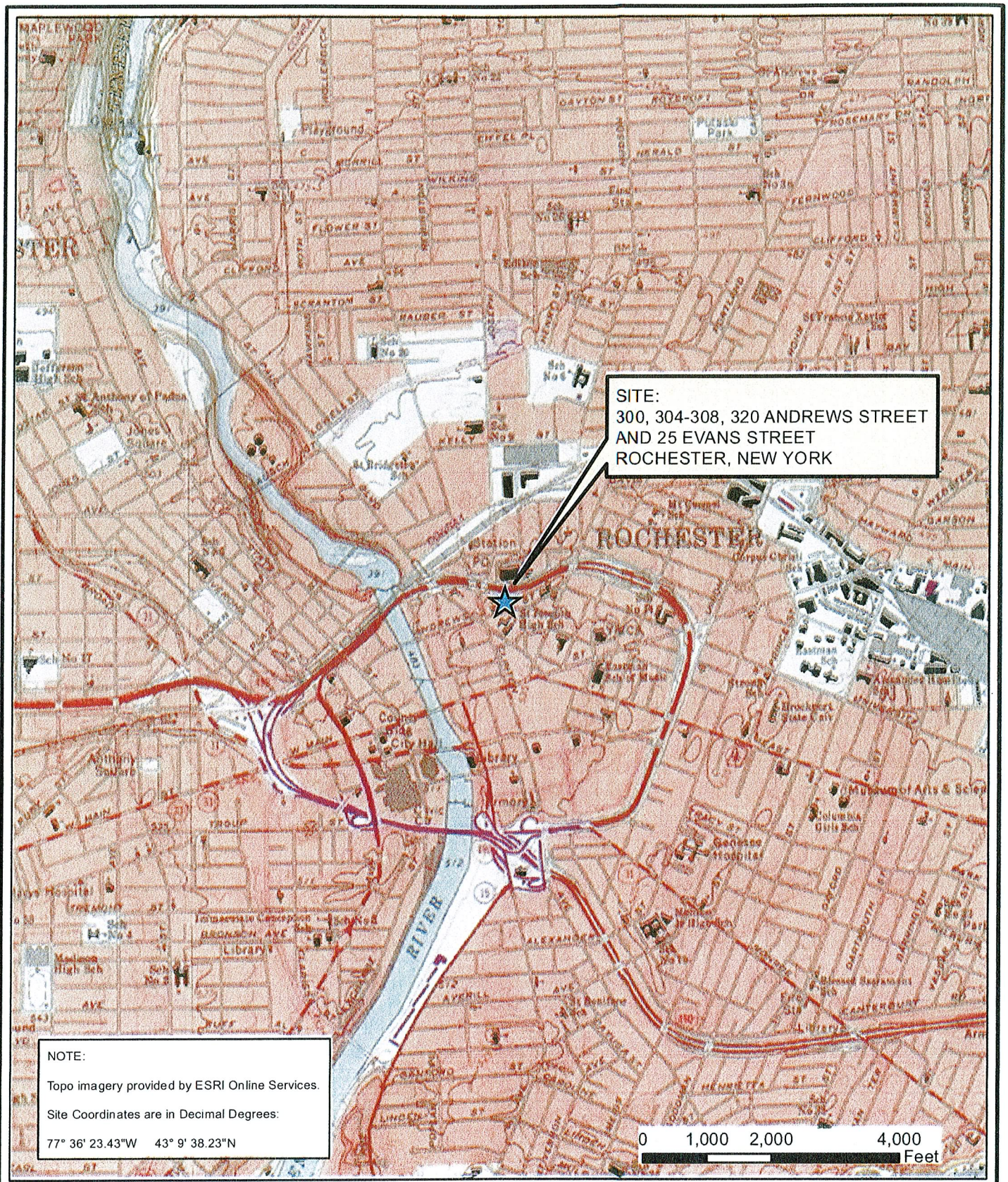
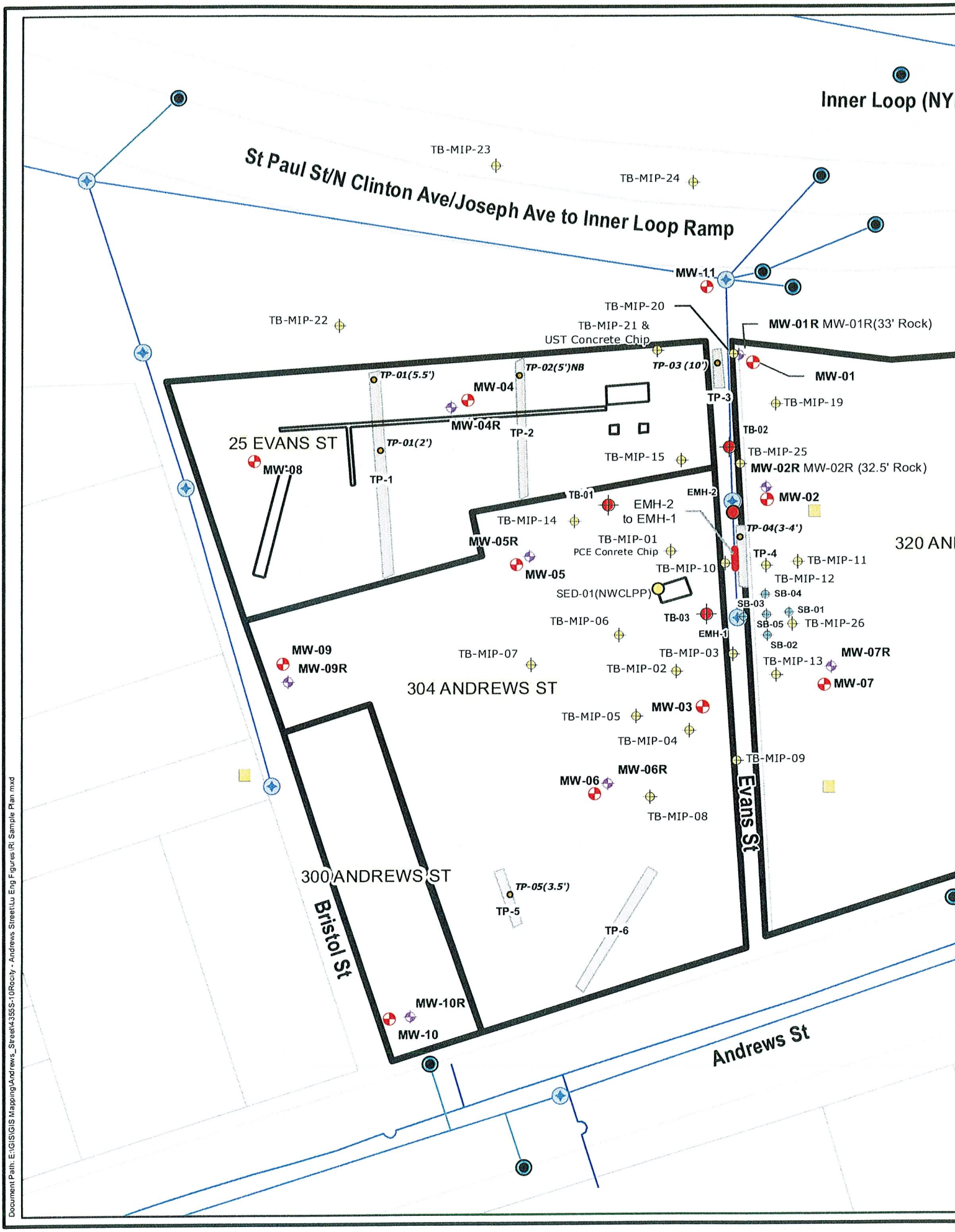


Date 06-06-2012 Drawn By CPS Scale AS NOTED	Lu Engineers 175 Sully's Trail, Suite 202 Pittsford, NY 14534	Project Title 300, 304-308, 320 ANDREWS STREET AND 25 EVANS STREET ROCHESTER, NEW YORK (NYSDEC SITE NO.: E828144) ENVIRONMENTAL RESTORATION PROJECT Drawing Title Project Locus Map	Project No. FIGURE 1



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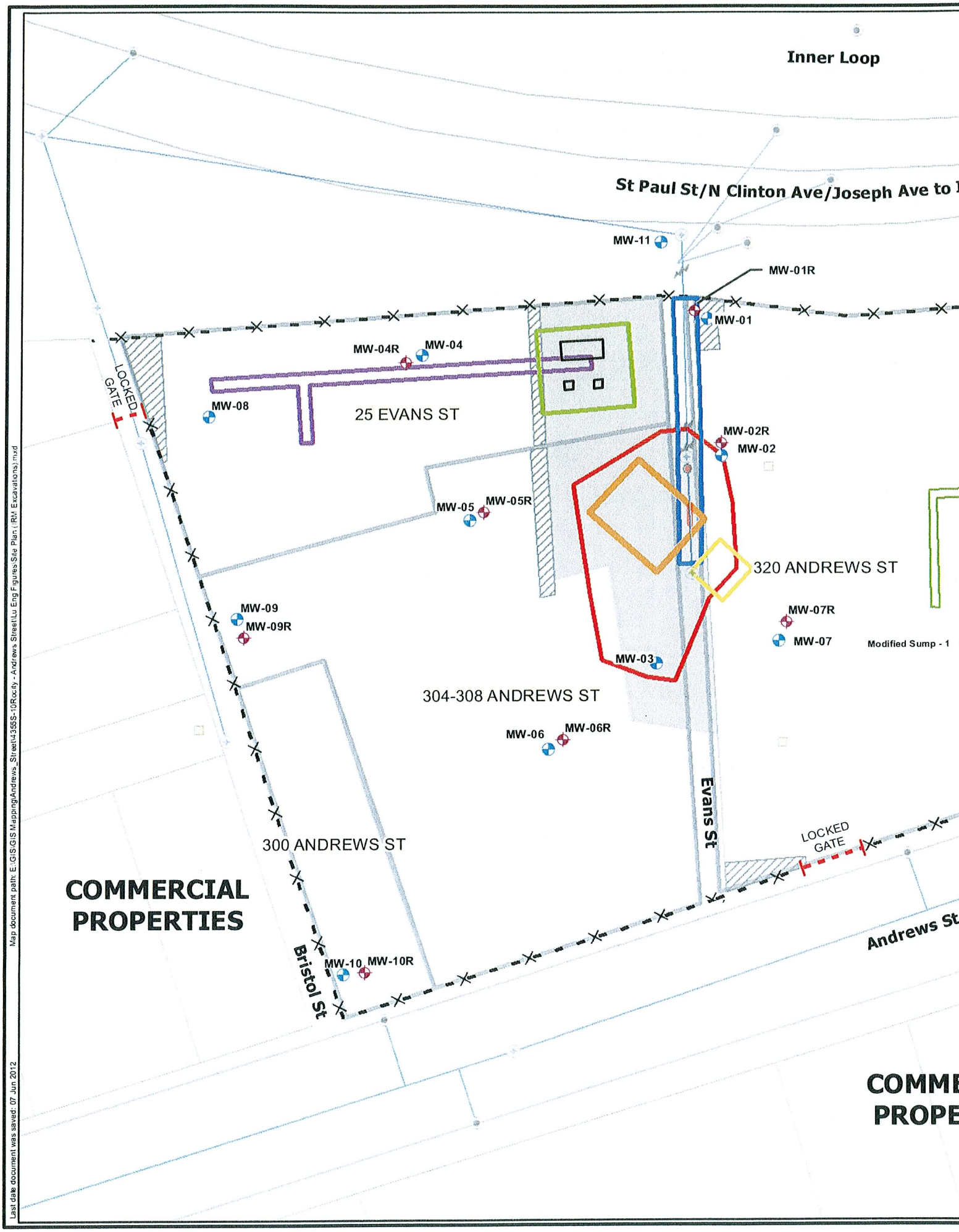
Inner Loop
St Paul St/N Clinton Ave/Joseph Ave to I
MW-11
MW-01R
MW-01
MW-04R
MW-04
MW-08
LOCKED GATE
25 EVANS ST
MW-02R
MW-02
MW-05
MW-05R
320 ANDREWS ST
MW-09
MW-09R
MW-07R
MW-07
Modified Sump - 1
MW-03
304-308 ANDREWS ST
MW-06
MW-06R
Evans St
300 ANDREWS ST
LOCKED GATE
COMMERCIAL PROPERTIES
Bristol St
MW-10
MW-10R
Andrews St
COMME
PROPE
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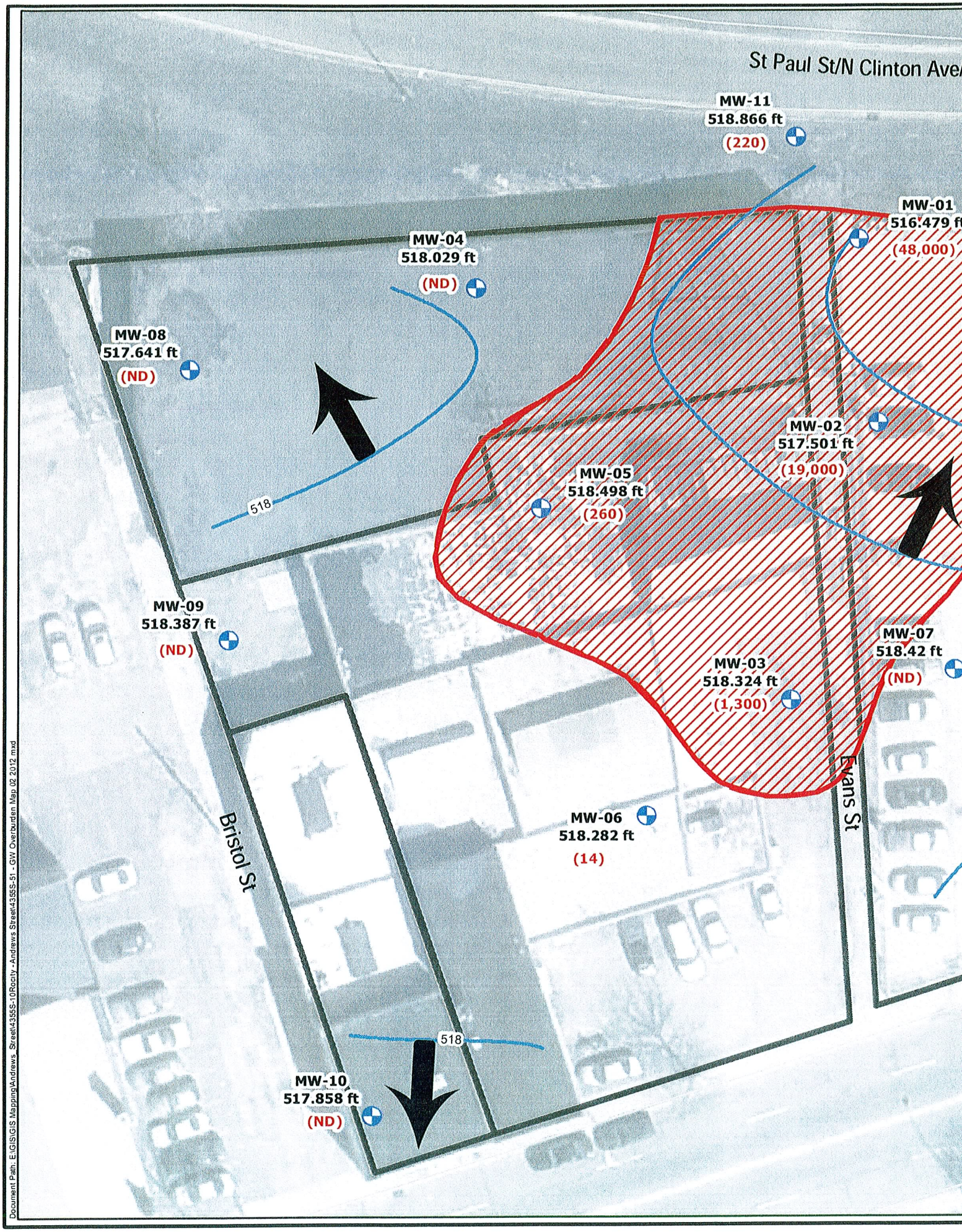
St Paul St/N Clinton Ave
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(220)
MW-01
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(48,000)
MW-04
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(ND)
MW-08
517.641 ft
(ND)
518
MW-02
517.501 ft
(19,000)
MW-05
518.498 ft
(260)
MW-09
518.387 ft
(ND)
MW-07
518.42 ft
(ND)
MW-03
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(1,300)
Evans St
Bristol St
MW-06
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(14)
518
MW-10
517.858 ft
(ND)
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