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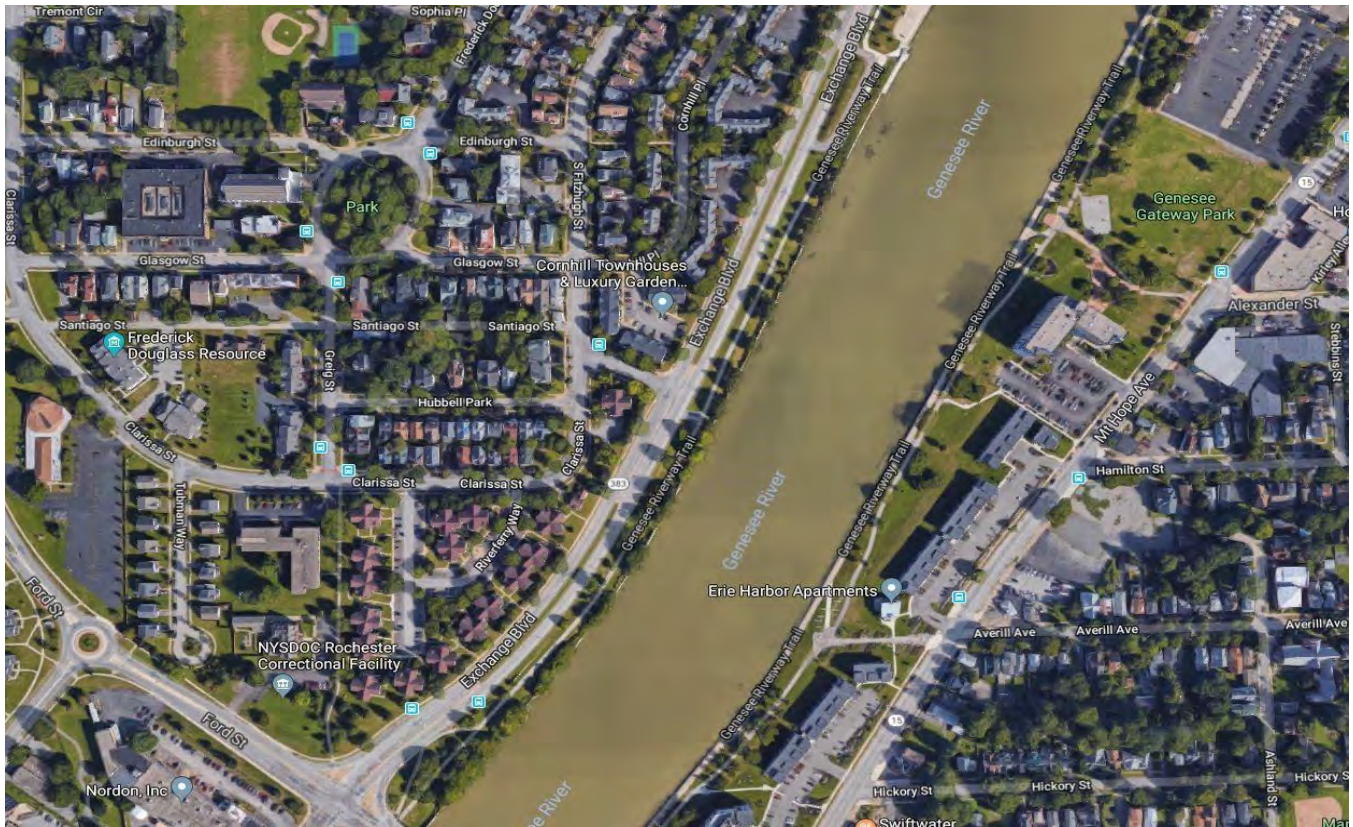
# Environmental Management Plan

City of Rochester

WEST RIVER WALL IMPROVEMENTS – SEGMENT 1

CORN HILL PROJECT SITE

ROCHESTER, NEW YORK



**Bergmann**

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## 1.0 INTRODUCTION

This Environmental Management Plan (EMP) was developed on behalf of the City of Rochester (the City) to address known and potential environmental conditions associated with the West River Wall Improvements Segment 1 – Cornhill Project (Site). The Site is located along the Genesee River, east of Exchange Boulevard and between South Plymouth Avenue and Ford Street, in the City of Rochester, Monroe County, New York. The objectives of the West River Wall Improvements include improving flood protection, enhancement of the public recreational area and trail, and connections to the riverfront area and to the Genesee Riverway Trail from the adjacent Corn Hill neighborhood.

The purpose of the EMP is to discuss procedures to manage existing and potential environmental conditions in accordance with applicable federal, state, and local regulations, including New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)-10. This EMP is intended to provide guidance to minimize project delays as a result of addressing environmental conditions within the Site.

Bergmann will implement the EMP on behalf of and with concurrence and oversight by the City. Bergmann will provide trained and qualified staff to be present on-Site during intrusive/ground-disturbing activities associated with the redevelopment of the West River Wall – Segment 1 Cornhill Project. This oversight includes but is not limited to disturbance of fill materials and impacted surface and subsurface media in known and unknown areas of the Site.

### 1.1 PLAN ORGANIZATION

This EMP is organized as follows:

- Section 2.0 Site Description and History
- Section 3.0 Objectives
- Section 4.0 Applicable Regulatory Limits, Regulations, and Guidance
- Section 5.0 Environmental Management Plan (EMP)
- Section 6.0 Implementation of the EMP
- Section 7.0 Equipment Decontamination
- Section 8.0 Community Air Monitoring Plan (CAMP)
- Section 9.0 Health and Safety Plan (HASP)
- Section 10.0 Laboratory Testing
- Section 11.0 Reporting
- Section 12.0 Schedule



## 2.0 SITE DESCRIPTION AND BACKGROUND

### 2.1 SITE DESCRIPTION AND SURROUNDING PROPERTIES

The Site is located along the Genesee River, east of Exchange Boulevard and between South Plymouth Avenue and Ford Street, in the City of Rochester, Monroe County, New York. The Site consists of approximately 3.5 acres of land as part of Segment 1 of the Cornhill neighborhood alignment. The River Wall is bounded on the east by approximately 1,905 feet of Genesee riverfront beginning in the south at the Ford Street Bridge and terminating north at the Cornhill Landing property line, currently owned by Mark IV Construction (300 Exchange Boulevard). The City has recently acquired an easement on 300 Exchange Boulevard, however, this property was not included or considered as part of this report. Current property addresses and associated owners are tabulated below and included as Figure 7.

Property Address	Property Tax ID	Property Owner
392 Exchange Boulevard	121.54-3-9	City of Rochester
400 Exchange Boulevard	121.54-3-69	City of Rochester
482 Exchange Boulevard	121.54-3-24.001	City of Rochester
420 Exchange Boulevard	121.54-3-62	City of Rochester
424 Exchange Boulevard	121.54-3-61	City of Rochester
430 Exchange Boulevard	121.54-3-66	City of Rochester
436 Exchange Boulevard	121.54-3-57	City of Rochester
446 Exchange Boulevard	121.54-3-58	City of Rochester
452 Exchange Boulevard	121.54-3-59	City of Rochester
466 Exchange Boulevard	121.62-1-44	City of Rochester
476 Exchange Boulevard	121.62-1-27	City of Rochester
492 Exchange Boulevard	121.62-1-28	City of Rochester
494 Exchange Boulevard	121.62-1-29	City of Rochester
496 Exchange Boulevard	121.62-1-30	City of Rochester
500-504 Exchange Boulevard	121.62-1-31	City of Rochester
508 Exchange Boulevard	121.62-1-32	City of Rochester
102 Violetta Street	121.70-1-39.001	City of Rochester
350 Exchange Boulevard	121.54-3-10	New York State Canals Corporation

### 2.2 SITE BACKGROUND

The existing West River Wall was constructed in 1918 as part of the Barge Canal System, which was recently placed on the National Register of Historic Places. The current wall is generally in poor condition and displays signs of significant deterioration including delamination, spalling, and efflorescence. The State of New York, under jurisdiction of NYSCC, owns the wall and immediate river frontage. Significant vegetation, including poison ivy and





volunteer trees, is present along the back side of the wall. Vegetation limits observation of the wall and river in areas of the Site. The wall currently exists as a physical and visual barrier between the adjacent Corn Hill Neighborhood and the Genesee River.

A review of City Plat maps and an EDR® data search was completed to assist in determining historic site uses which were determined to be railroad and commercial/industrial uses with multiple buildings. Site buildings were demolished decades ago. The former industrial and commercial facility operations identified on-Site may have impacted surface and subsurface soil and groundwater. Such facilities included a coal yard and associated railroad, Rochester Lead Works, Vacuum Oil Co., Marriot's French Works, Inc., and a historic gasoline station.

## 2.3 PREVIOUS ENVIRONMENTAL REPORTS

Based upon readily available information for the Site, the following previous environmental studies have been completed at the Site are summarized below and provided as appendices.

### 2.3.1 Phase I and Phase II Environmental Site Assessments – Corn Hill Landing (Sear-Brown, June 2002)

This Phase I ESA was completed for contiguous parcels known as Corn Hill Landing (200 - 382 Exchange Boulevard). Recognized Environmental Conditions (RECs) identified in this report include historic uses of the subject property as a rail yard and commercial and industrial uses as well as known subsurface use of fill material, former petroleum tanks, and an adjacent petroleum spill. In addition, two (2) closed and one (1) active NYSDEC spill listings. The subject property was a listed RCRA Hazardous Waste Notifier List for Large Quantity Generators (LQG).

Phase II Environmental Site Assessments completed on a portion of the Site by Sear-Brown indicated petroleum, Polycyclic Aromatic Hydrocarbons (PAHs), and RCRA metal-impacted soil. A NYSDEC-approved Corrective Action Plan (CAP) and Soil Management Plan (SMP) were developed and implemented for the Site. Refer to Appendix A for these reports.

### 2.3.2 Phase II Environmental Site Assessment Report (Bergmann, 2019)

The objective of the Phase II ESA was to complete subsurface explorations concurrently with planned geotechnical (structural) soil borings to allow for assessment of soil quality, groundwater quality, and geotechnical evaluation of the subsurface. The Phase II ESA was required to support planning, design, and future construction requirements for rehabilitation of the Rochester River Wall Segment 1 – Cornhill area and associated landside trail improvements. Location of environmental soil borings were determined based on a review of City of Rochester Platt maps and an Environmental Data Resources (EDR) report, dated February 27, 2018. The approximate locations of environmental and structural soil borings (for geotechnical purposes) collectively as subsurface explorations are presented on Figure 2 – Subsurface Explorations Plan. A total of 22 soil borings were installed, including the conversion of ten (10) soil borings into overburden groundwater monitoring wells. The Phase II ESA Report, dated July 2019, is included as Appendix B of this EMP.

The 2019 Phase II ESA field soil sample screening, observations and laboratory sample results are summarized below:



1. Three (3) soil deposits were encountered that include a fill deposit consisting of a sandy topsoil layer at the ground surface that was placed during the most recent landscaping of the Site and underlying historic fill materials of this deposit that consisted of reworked gravel and soil with lesser amounts of cinders, ash, brick, concrete, wood, metal, coal, gravel and other debris. It appears that the historic fill materials were placed to make land during former historic developments, including a section of a former railroad line and as backfill of the river wall. The fill deposit is located throughout the entire Site with thickness ranging from approximately eight (8) to 15 feet.
2. SVOCs and metals are the primary constituents of concern (COCs) in Site soil (surface and subsurface) based on the frequency of detection of elevated levels that exceed 6NYCRR Part 375-6.8(a) Unrestricted Use Soil Cleanup Objectives (SCOs) and planned future use SCOs (Restricted-Residential or Active Recreational). The suspected sources of these COCs is from historic fill materials that consist of cinders, ash, metals, gravel, wood, concrete, brick and coal fragments. The historic fill materials such as ash, cinders as well as slag in fill and in topsoil/surface soil, are considered non-hazardous regulated solid waste and volumes that will be disturbed by excavation during the construction of the West River Wall must be included in the design phase and costs associated with proper NYSDEC Part 360 disposal included.
3. The depth to groundwater ranges from approximately six (6) to 15 feet bgs and has been impacted by metals that are considered Site COCs (exceeding groundwater standards). Antimony, arsenic, beryllium, chromium, lead, mercury and nickel exceeded groundwater standards in the June 2018 sampling event and are summarized below.

Metal	Range of Concentration Exceeding Groundwater Standards (ppb)	Monitoring Well Location	Number of Samples That Exceed Standards	Part 703.5 Groundwater Standard ppb
Antimony	31 to 40	MW-1, MW-8, MW-9 and MW-10	4/6	3
Arsenic	29 to 208	MW-1, MW-2, MW-3, MW-8, MW-9 and MW-10	6/6	25
Beryllium	3.03 to 7.69	MW-1, MW-3, MW-8, MW-9 and MW-10	5/6	3
Chromium	71.4 to 206	MW-1, MW-3, MW-8, MW-9 and MW-10	5/6	50
Lead	63.2 to 622	MW-1, MW-3, MW-8, MW-9 and MW-10	5/6	25
Mercury	1.01 to 15.1	MW-8 and MW-9	2/6	0.7
Nickel	131 to 288	MW-8, MW-9 and MW-10	3/6	100



4. Groundwater samples results for metals from the December 2018 sampling event indicate detection of three (3) to nine (9) metals that exceed groundwater standards in all seven (7) groundwater samples. Arsenic, Chromium, Iron, Lead, Magnesium, Manganese, Mercury, Selenium, and Sodium exceed groundwater standards and are summarized below.

Metal	Range of Concentration Exceeding Groundwater Standards (µg/L)	Monitoring Well Location	Number of Samples That Exceed Standards	Part 703.5 Groundwater Standard (µg/L)
Arsenic	49.1 to 61.8	MW-2 and MW-3	2/7	25
Chromium		MW-3	1/7	50
Iron	6,930 to 61,100	MW-1, MW-2, MW-3, MW-4, MW-5, MW-9, and MW-10	7/7	300
Lead	47.9 to 147	MW-1, MW-2, and MW-3	3/7	25
Magnesium	35,400 to 59,300	MW-1, MW-2, MW-3, MW9, and MW-10	5/7	35000
Manganese	2,250 to 7,210	MW-1, MW-2, MW-3, MW-4, MW-5, MW-9, and MW-10	7/7	300
Mercury	3.32	MW-3	1/7	0.7
Selenium	11.3 to 33.3	MW-1, MW-2, and MW-3	3/7	10
Sodium	27,200 to 572,000	MW-1, MW-2, MW-3, MW-4, MW-5, MW-9, and MW-10	7/7	20,000

5. One (1) discrete petroleum-impacted area was identified and delineated in the area of A-6/SB-18. The location of A-6/SB-18 is shown in the attached Figure 5 and is located on the southern portion of the Site. Per NYSDEC, no active remediation is required for the petroleum-impacted area (NYSDEC Spill No. 1805258 (on City-owned property) and 1805259 (on NYSCC-owned property)). The depth of petroleum impacts are below the groundwater table from approximately 15 to 20 feet bgs. The approximate size of the petroleum spill area is 54 ft. X 28 ft. X 5 ft. The impacted soils underlie approximately 500 cubic yards of non-petroleum impacted soils located from ground surface to approximately 15 feet. These overlying soils are Fill soils that contain historic fill materials to be managed as regulated non-hazardous solid waste throughout the project area when encountered in excavation areas during future construction activates for rehabilitation of the river wall.

The following actions were recommended based off Bergmann's Phase II ESA findings:

1. Preparation and implementation of a comprehensive Environmental Management Plan (EMP) to provide the methods and procedures for management of impacted soils and groundwater during the construction





phases of the River Wall rehabilitation. The EMP will be prepared prior to future earthwork construction phases. The EMP is intended for contractor and consultants use during all phases of earthwork activities such as grading, excavation and backfilling of Site soils. Per NYSDEC direction, no active remediation is required for the petroleum spill area at soil boring A6/SB-18, under Spill No. 1805258 for 102 Violetta Street owned by the City and Spill No. 1805259 for the contiguous parcel at 350 Exchange Street owned by NYSCC during proposed construction phases.

2. One (1) foot of clean cover is recommended given the future use of the Site. A primary element for a cover system over the historic fill soils and would likely include site installation or maintaining a one (1)-foot soil layer thickness of imported soils to provide a barrier from any impacted subsurface soils. Other construction techniques such as installation of sheet piles should be considered to minimize overall excavation of historic fill soils. The cover system can also be impervious surfaces such as pavement or concrete surfaces.
3. The historic fill materials (soils) in the fill deposit are considered non-hazardous regulated solid waste and volumes that may be disturbed by excavation for the future rehabilitation of the river wall should be calculated in design phases to include the cost of managing or disposing of these soils during construction. At the time of this report submission design plans are not completed for on-Site soil and historic fill materials that may be planned for excavation and removal for off-Site disposal, and or re-used on-Site. When design criteria are finalized, the EMP will be revised to allow for the proposed remediation, restoration, and rehabilitation of the River Wall and surrounding improvements in compliance with applicable requirements set forth by the NYSDEC 6 New York Code, Rules and Regulations (NYCRR) part 360 Series Solid Waste Management Facility Regulations, effective November 4, 2017. If soil management methods include off-Site soil disposal at a permitted municipal waste landfill, then additional analytical parameters under 6 NYCRR Part 375 will be required to assist with waste characterization such as toxicity characteristic leaching procedure (TCLP).
4. Management of fill soils that are historic fill materials will be required once historic fill materials are excavated from the Site during future construction. This work will be completed in accordance with the Beneficial Use Determination (BUD) The layer of topsoil fill should be separated from the historic fill materials should excavation and off-Site disposal be required. The layer of topsoil fill may be part of the cover barrier (cap) over the historic fill materials should a cover barrier be designed for management of this material. Overall, it is recommended to minimize excavation of fill soils at the Site. Historic fill materials may only be moved to other historically filled sections of this Site that have similar characteristics and to the extent that the elevation of that Site does not exceed surrounding properties or provisions made to collect surface runoff. In addition, the COC concentrations existing where the fill is to be placed must be equal to or greater than the COC concentrations in the historic fill being moved. The historic fill must not be placed in groundwater and must be capped (covered) with either pavement/concrete improvements or a minimum of two feet of uncontaminated soil to meet restricted residential reuse. These restrictions should be included in design phases of the project to cost-effectively be implemented during a construction with respect to achieving the NYSDEC regulatory framework.
5. With City concurrence, it is recommended that a beneficial use determination (BUD) under Section 360.12, be submitted to NYSDEC to allow for management of the historic fill materials. If accepted by NYSDEC, the historic fill is no longer regulated as solid waste and other reuse options may be available on-Site and off-Site. There are two types of BUDs: pre-determined and case-specific. Pre-determined BUDs include materials and uses that have already been found to not pose a threat to the environment and are not prone to abuse, whereas case-specific BUDs allow the City to apply to DEC for BUD determination in



individualized circumstances. If there is no available use of historic fill materials meeting all of these requirements, then it generally must be disposed of at a landfill. In order to transport historic fill to a landfill, a party must register under Part 364 (Waste Transporter Permits) and comply with other reporting requirements. However, DEC is open to case-specific beneficial use determinations for historic fill, as described in greater detail below.

### 3.0 OBJECTIVE

The purposes of the EMP is to provide methods and procedures for disposition and management of surface and subsurface impacted soil, groundwater, and urban fill encountered during construction phases of the River Wall rehabilitation. The EMP also addresses procedures to adhere if underground storage tanks (USTs) and other subsurface structures of environmental concern are encountered during Site construction.

The objectives of the EMP are to:

- Establish goals, procedures, and appropriate response actions to be used by on-site personnel (including Bergmann and the Contractor) to ensure compliance with applicable federal, state, and local regulations should soil and fill materials containing regulated solid waste or groundwater impacted by COCs be encountered during the project;
- Provide options and alternatives for managing regulated solid waste and impacted media, including on-site management, waste characterization, waste handling, off-site disposal, and/or on-site or off-site reuse using a site-specific Beneficial Use Determination (BUD);
- Development of a Project-specific Health and Safety Plan for Bergmann personnel;
- Provide a Community Air Monitoring Program (CAMP) to implemented during subsurface ground disturbance activities. Camp requirements will include:
  - Particulate air monitoring
  - VOC air monitoring
  - Dust and vapor suppression and site controls to reduce dust, vapors, and particulates
- Design and implement engineering and institutional controls to reduce potential environmental impacts to workers and the community if warranted; and
- Obtain closure of NYSDEC Spill#1805258 and 1805259.

#### 3.1 APPLICABILITY OF ENVIRONMENTAL MANAGEMENT PLAN

This EMP should be referenced during all ground intrusive activities and solid waste handling aspects of the Project. The following Project organizations should reference this EMP during the Project: 1) Developer; 2) Contractor(s); 3) Utility Contractor(s); 4) Municipal Agency(s); 5) Environmental consultant(s); 6) other stakeholders involved in West River Wall redevelopment.



### 3.2 ROLES AND RESPONSIBILITIES

The table and list provided below are for general purposes only and are not meant to be comprehensive of all responsibilities under this EMP.

Organization	Point(s) of Contact	Role
City of Rochester	Kamal Crues City Project Manager 585-428-7343	Assist with coordination between Bergmann and the City with respect to Project direction and Project EMP implementation.
	Joe Biondolillo Associate Environmental Specialist 585-428-6649	City DEQ point-of-contact for environmental aspects of the Project, including but not limited: impacted material disposition, non-hazardous and hazardous material waste disposal.
Bergmann	Ariadna Cheremeteff Environmental Discipline Leader 585-498-7952	Provide project deliverables including weekly Project updates and monthly EMP progress reports and final reporting and documentation for the project. Direct field staff and regularly communicate project progress and deviations (if applicable) with the City.
Contractor	TBD	Complete intrusive work including excavation, segregation, and staging of impacted and non-impacted solid waste under the guidance of Bergmann and City of Rochester and the EMP.

#### Bergmann:

Bergmann will be responsible for managing the following EMP tasks:

- Working with the Contractor, Construction Manager (CM), and the City to select permitted off-Site disposal locations.
- Working with the CM and the City as necessary to characterize excavated material per Section 5.0 and to determine excavated material disposition, including reuse and/or disposal.
- Work with the Contractor(s) to monitor excavations for evidence of environmental impacts.
- Assist the CM as to proper material segregation, staging, and containment of excavated materials as needed.
- Sampling, analysis, and any additional waste stream profiling as required by a receiving NYS Part 360 landfill.
- Assist the Contractor in providing required documentation for temporary discharge permits from Monroe County Pure Waters, as necessary. Documentation will include, but not be limited to the discharge application form, waste characterization of samples, and coordination with Monroe County Pure Waters.
- Implementation of the existing Site-specific Health and Safety Plan (HASP) for Bergmann personnel. Non-Bergmann contractors will be responsible for generating separate HASPs.



- Development and implementation of a Community Air Monitoring Plan (CAMP) for the Project that shall be used during all ground intrusive activities or other activities that may generate particulates or VOCs.

Contractor:

The Contractor shall provide all Project-approved labor, equipment, and materials necessary to complete the following required tasks, including but not limited to:

- Coordination of Underground Facilities Protection Organization (UFPO).
- Segregation and containment of impacted material from non-impacted material.
- Excavation dewatering and containerization and discharge/disposal of wastewater upon approval.
- Particulate/dust suppression measure(s) implementation, as necessary and as determined by Bergmann, the City, or the CM.
- Disposition of impacted material from removal areas, including loading, containment, and transportation to approved on-Site staging areas.
- Draft the waste profile for off-site landfill disposal with input and coordination with Bergmann and the City.
- The Contractor shall not remove any material from the Project without prior approval from Bergmann and/or the City.
- The Contractor is solely responsible for the means, methods, techniques, sequences and procedures for all required Project activities under the Contractors direct discretion.
- The Contractor shall perform all Project tasks pursuant to federal, state, and local regulations, including but not limited regulations enforced by EPA, OSHA, NYSDEC, NYSDOH, and NYSDOT.
- Loading, transportation, and off-site disposal at permitted TSDF.

## 4.0 REGULATORY LIMITS, REGULATIONS AND GUIDANCE

All work will be completed in accordance to applicable state, federal, and local regulations and code requirements, including but not limited to laws, regulations, and codes summarized in the following sections.

### 4.1 SOLID WASTE REGULATIONS

Pursuant to 6 NYCRR Part 360.2(a), subsurface materials consisting of ash and/or cinders, commonly referred as urban fill, is categorized as solid waste and cannot be disposed as Construction and Demolition (C&D) debris.

Pursuant to 6 NYCRR Part 360, urban fill may be relocated on-Site contingent upon NYSDEC approval and appropriate engineering controls (e.g. impermeable surface or appropriate 12" soil cover system or 9" cover in select areas pending on-Site BUD approval). Urban fill may also be disposed at an approved landfill in accordance with 6 NYCRR Part 360, contingent upon waste characterization and disposal facility requirements as non-hazardous waste. Contractors will be notified by Bergmann when urban fill is approved for relocation on-Site or disposal off-Site; no fill material will be relocated or disposed off-Site without Bergmann or the City of Rochester's approval. The Contractor will inform Bergmann when fill relocation or disposal is scheduled so Bergmann can provide oversight and material screening during this process.



## 4.2 HAZARDOUS WASTE REGULATIONS

As defined by the Resource Conservation and Recovery Act (RCRA), waste (e.g. excavated soil, fill materials, or building materials removed during redevelopment activities) can be classified as “hazardous waste” if it meets the following criteria:

- 1) The material meets one (1) of the federal listed wastes
- 2) Material has one (1) of the four (4) hazardous waste characteristics of toxicity, reactivity, corrosivity, and ignitability.

It is noted that there no known listed hazardous waste for the Site at this time.

To assess whether materials are hazardous wastes, representative composite samples of the material are collected and submitted to a laboratory for analysis. Composite samples are representative samples of the material that are collected from multiple locations. If the results of laboratory testing indicate that the physical or toxicity characteristics of the sample exceed RCRA limits pursuant to 40 CFR Part 261, the material is designated hazardous wastes and must be transported and disposed as hazardous waste, separate from non-hazardous waste.

## 4.3 REFERENCE VALUES

Applicable reference values to evaluate environmental impacts including surface/ subsurface soil and groundwater analytical samples will include the following regulatory reference values:

### 4.3.1 Evaluation of Soil and Fill

- NYSDEC Commissioner Policy 51 (CP-51) “Soil Cleanup Guidance,” dated October 2010.
- NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated May 2010.
- 6 NYCRR Part 375-6.8 provides regulatory standards with respect to cleanup standards. The established Site Cleanup Objective (SCO) for this Project is Restricted-Residential (Active-Recreational) Use.

### 4.3.2 Groundwater Standard Values

Standards and/or guidance values to assess constituents in groundwater are included in 6 NYCRR Part 703.5 and Technical and Operational Guidance Series (TOGS) 1.1.1. Groundwater Standards.

### 4.3.3 New York State Guidance on Petroleum Storage Tanks

Guidance on removal and closure of petroleum storage tanks is included in 6 NYCRR Part 613. Under this regulation, petroleum tanks that are out of use for twelve (12) or more months must be closed in place or removed. Tank decommissioning procedures are provided in 6 NYCRR Part 613.3 and Appendix F of this EMP. Over-excavation of impacted soil surrounding the tank, free-phase oil in water, or dissolved petroleum in groundwater, must be removed with NYSDEC oversight for formal closure.



#### 4.3.4 Guidance for Evaluating Soil Vapor Intrusion

Soil Vapor Intrusion (SVI) evaluation procedures are provided in the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 and revised May 2017. The guidance document provides a methodology for assessing SVI in enclosed structures and determining follow-up actions. At this time, no buildings are proposed to be constructed on the Site, therefore, soil vapor intrusion is not considered a potential concern.

#### 4.3.5 Asbestos Containing Materials (ACM)

New York State Department of Labor (NYSDOL) Industrial Code Rule 56 regulates the handling of ACM during sampling, removal, encapsulation, enclosure, repair, and/or disturbance of friable and non-friable asbestos. The likelihood of presumed ACM (PACM) being intermixed with soil and fill at the Site based on known historic uses is low at this time. However, if PACM is encountered at the Site during construction and earthwork, it will be sampled by a NYSDOL-certified Asbestos Inspector in accordance with Code Rule 56.

Additional Federal Regulations pertaining to asbestos that may be applicable for the duration of the Site Redevelopment include:

1. 29 CFR 1910.1001, "Asbestos" (OSHA)
2. 29 CFR 1910.1200, "Hazard Communication" (OSHA)
3. 29 CFR 1910.134, "Respiratory Protection" (OSHA)
4. 29 CFR 1910.145, "Specification for Accident Prevention Signs and Tags" (OSHA)
5. 29 CFR 1910.146 "Permit Required Confined Space" (OSHA)
6. 29 CFR 1926, "Safety and Health Regulations for Construction" (OSHA)
7. 29 CFR 1926.1101, "Asbestos" (OSHA)
8. 40 CFR 61, Subpart A, "General Provisions" (EPA)
9. 40 CFR 61, Subpart M, "National Emission Standard for Asbestos" (EPA)
10. 49 CFR 171-172, Transportation Standards (DOT)

Applicable New York State Asbestos Regulations that may apply during this Site Redevelopment project include:

1. 12 NYCRR, Part 56, "Asbestos", Industrial Code Rule 56 (DOL)
2. 6 NYCRR, Parts 360, 364, Disposal and Transportation (DEC)
3. 10 NYCRR, Part 73, "Asbestos Safety Program Requirements" (DOH)

Additional Standards and Guidance Documents:

1. American National Standard Institute (ANSI) Z88.2-80, Practices for Respiratory Protection
2. ANSI Z9.2-79, Fundamentals Governing the Design and Operation of Local Exhaust Systems
3. EPA 560/585-024, Guidance for Controlling Asbestos Containing Materials in Buildings (Purple Book)
4. EPA 530-SW-85-007, Asbestos Waste Management Guidance





## 5.0 ENVIRONMENTAL MANAGEMENT PLAN

This EMP has been designed for the redevelopment and construction activities at the Site. This EMP pertains to ground intrusive Project activities that will or have the potential to disturb surface/subsurface material at the Site. Known and unknown environmental conditions associated with the Site will be handled in accordance with this EMP. Bergmann will directly coordinate with the City and the Contractor to execute this plan and provide continuous on-Site management during soil disturbance activities.

### 5.1 SITE ENVIRONMENTAL CONTEXT

Known environmental impacts, including SVOCs, metals, and petroleum-related impacted soil and groundwater exist on-Site and should be managed through exercising this EMP to prevent worker, community, and environmental resource(s) exposures. The Contractor shall be responsible for complying with applicable federal, state, and local regulations during the Project. As such, the Contractor shall understand the waste characterization and disposal process so as not to disrupt the Project schedule.

Environmental concerns, including fill material and impacted surface/subsurface soil and groundwater, are known to exist on-Site from historic activities. Fill material is known to contain elevated concentrations of SVOCs (including polycyclic aromatic hydrocarbons (PAHs) and metals in exceedance of Restricted-Residential SCOs. Select areas in exceedance of Restricted-Residential SCOs will be removed and disposed at an approved landfill. Remaining soils on-Site will be covered with at minimum one (1) foot of clean, approved fill with the exception of two (2) areas that will be covered with a 9-inch clean cover, as indicated by Figure 8. Elevated concentrations of metals were also detected in groundwater in exceedance of 6 NYCRR Part 703.5 Class GA Ambient Groundwater Quality Standards. With the exception of the naturalized shoreline, however, groundwater should not be encountered during construction activities proposed for this project, however, if encountered will be handled appropriately as detailed in Section 5.11 of this EMP. Environmental oversight during construction will monitor the groundwater closely during the excavation in the naturalized shoreline to direct in appropriate handling of encountered groundwater.

### 5.2 KNOWN CONTAMINANTS OF CONCERN

The primary Site Contaminants of Concern (COCs) at the Site include SVOCs and Target Analyte List (TAL) metals as determined by frequency of detection and concentrations found during the Phase II ESA. SVOCs and metals (arsenic and lead) exceeded the applicable Restricted-Residential Soil Cleanup Objectives (SCOs) and include surface soil and subsurface samples. Impacted surface soils (topsoil) are anticipated to be transferred off-Site under a New York State Department of Environmental Conservation (NYSDEC)-approved Beneficial Use Determination (BUD). Subsurface soil "hot spot" areas in exceedance of the Restricted-Residential Use SCOs are to be removed and disposed of at an approved landfill as non-hazardous waste. Remaining soils will be covered with new trail, plaza space, and at least one (1) foot of clean cover materials with the exception of two (2) areas expected to be covered with 9-inches of clean cover.

Groundwater samples also contained elevated concentrations of metals in exceedance 6 NYCRR Part 703.5 groundwater standards. The sources of these COCs are presumably associated with historic fill that consists of cinders, ash, metals, gravel, wood, concrete, brick, and coal fragments or PAHs as a result of incomplete combustion. Groundwater encountered during construction will be handled appropriately as detailed in Section 5.11 of this EMP.



### 5.3 PETROLEUM SPILL AREA AT A-6/SB-18

Environmental impacts associated with A-6/SB-18 were delineated in August 2018. Total Petroleum Hydrocarbon results confirmed the presence of medium weight petroleum hydrocarbon associated with diesel fuel. The area of the historic spill that was delineated to approximately an area of 54 ft. X 28 ft. X 5 ft. to an estimated depth range between 15 ft. to 20 ft. bgs. An estimated 500 cubic yards (CY) of historic fill currently overlies the petroleum-impacted soil.

Analytical results from a groundwater sample collected from A-6/SB-18 at MW-9 did not contain elevated concentrations of VOCs or SVOCs; however, impacted groundwater in this area may be encountered during the Project. At present, the source of this spill is unknown and according to the investigative delineation, the petroleum does not seem to have migrated off of the Site.

It is noted that the known petroleum-impacted soil associated with A-6/SB-18 is not anticipated to be encountered during the Project based on existing Project plans and localized cut depths in the area above the historic spill.

### 5.4 POTENTIAL CONTAMINANTS OF CONCERN

#### 5.4.1 Volatile Organic Compounds (VOCs)

No VOCs were detected in exceedance of Restricted-Residential Use SCOs during the Phase II ESA; however, VOCs may be encountered during the Project. VOCs are components of solvents and commercial cleaners and are also produced through biological processes. Petroleum-related VOCs include, but are not limited to, benzene, toluene, ethylbenzene, and xylenes (BTEX). Chlorinated solvents include, but are not limited to, tetrachloroethylene (PCE), trichloroethene (TCE), and vinyl chloride (VC).

#### 5.4.2 Semi-Volatile Organic Compounds (SVOCs)

Several SVOCs were detected in exceedance of Restricted-Residential Use SCOs during the Phase II ESA. These "hot spot" areas are to be removed and disposed of at an appropriate disposal facility prior to construction. The potential for low-level SVOCs to remain on the Project Site exist. SVOCs are by-products, ingredients, and additives to many different manufacturing materials and processes.

#### 5.4.3 Metals

Several metals were detected in exceedance of Restricted-Residential Use SCOs during the Phase II ESA. These "hot spot" areas are to be removed and disposed of at an appropriate facility prior to construction. The potential for low-level metals to remain on-Site exist. Remaining metal exceedances will be covered with clean cover material or impervious surfaces such as asphalt bike trail, or plaza areas.

#### 5.4.4 Asbestos Containing Material (ACM)

The likelihood of presumed ACM (PACM) being intermixed with soil and fill at the Site based on known historic uses at the Site is low at this time. However, historic content of buried fill has been known to contain PACM, therefore, if ACM is encountered in the buried fill materials during the Project it shall be handled pursuant to NYS Code Rule 56.



## 5.5 FIELD SCREENING METHODS

During ground intrusive Site work, Bergmann will use visual and olfactory observation as well as photoionization detector (PID) readings to observe and assess for potentially impacted soils and material.

## 5.6 IDENTIFICATION OF REGULATED SOLID WASTE-IMPACTED MATERIAL

Based on Phase II ESA findings, urban fill materials are present at the Project Site. Fill materials identified at the Site during previous environmental investigations are comprised of ash, cinders, slag, crushed brick, concrete, coal fragments, gravel, and wood. Because such materials may be derived from an industrial source and is therefore considered a regulated solid waste, disposal at a C&D disposal facility is not permitted. Pursuant to 6 NYCRR Part 360.13(c), fill materials containing ash and cinders may be reused on-Site using appropriate cover techniques or disposed off-Site at an approved NYSDEC Part 360 permitted landfill (pending NYSDEC-approved on-Site BUD).

## 5.7 IDENTIFICATION OF PETROLEUM-IMPACTED MATERIAL

Based on Phase II investigations, impacted surface and subsurface material may be encountered during the Project redevelopment work. If petroleum-impacted subsurface material is encountered, it will be identified by the environmental professional through observing petroleum odors, gray to black discoloration, and/or elevated PID readings. Additionally, VOC-impacted groundwater can be identified through petroleum or odors as well as discoloration and surface sheen. Bergmann will evaluate and classify materials during the excavation process and determine generated soil and groundwater handling, if necessary.

## 5.8 ON-SITE MANAGEMENT OF SOLID WASTE-IMPACTED MATERIAL AND CONSTITUENT IMPACTED MATERIAL

The staging of impacted solid waste shall be segregated from non-solid waste impacted material. Staging locations will be identified and/or approved by Bergmann for material from known and unknown removal areas.

Prior to excavation of known removal areas, the Contractor shall strip the top layer of non-solid waste impacted material (e.g. topsoil, asphalt, etc.) and kept separate from impacted solid waste material. If solid waste-impacted material is to be relocated for re-use on-Site, the impacted material shall be directly placed in the fill area or appropriately contained on the designated staging area. Subsurface solid waste-impacted material is not permitted to leave the Site without documented City or Bergmann approval.

Staging areas for solid-waste impacted material and non-solid waste-impacted material shall be segregated to prevent contamination of clean material. All staging area locations and design will be approved by Bergmann.

If encountered, solid (non-aqueous) VOC/SVOC-impacted material shall be segregated from non-VOC/SVOC impacted material into separate staging stockpiles on two (2) layers of 6-mil poly sheeting. The stockpiles shall be covered with at minimum one (1) layer of 6-mil poly sheeting when not in use or at the end of each day. The Contractor shall implement reasonable care to secure sheeting with sandbags or equivalent and replace sheeting when necessary. VOC/SVOC-impacted material will be analyzed for Target Compound List (TCL) VOCs and NYSDEC CP-51 SVOCs. If VOC and SVOC concentrations are below applicable CP-51 SCOs, then the VOC/SVOC-impacted media may be re-used on-Site contingent upon City approval and appropriate cover procedures. If concentrations of VOCs and SVOCs exceed NYSDEC CP-51 SCOs, then VOC/SVOC-impacted material shall be waste characterized and disposed at a NYSDEC Part 360 permitted landfill. The 6 NYCRR Part 375-6.8(b)



Restricted-Residential Use SCOs, or Active Recreational SCOs, shall be used for guidance for VOC and SVOC constituents not included in CP-51 guidance.

If necessary, aqueous VOC/SVOC-impacted material, minor floating product, and/or visible sheen, observed in groundwater, shall be pumped into a frac tank approved by Bergmann. Bergmann will facilitate obtaining a temporary discharge permit from Monroe County Pure Waters. The permit process will involve the following:

- The Contractor shall collect, filter/treat (if deemed warranted), and properly dispose of VOC/SVOC-impacted groundwater encountered during the Project. The Contractor shall complete each task pursuant to federal, state, and local regulations with oversight and direction from Bergmann.
- Characterization analysis required by Monroe County Pure Waters will be collected by Bergmann. Bergmann shall request all required sample analyses from an Environmental Laboratory Approval Program (ELAP)-certified laboratory. The Contractor shall provide all disposal documentation to Bergmann, if necessary.

It is noted that VOC-impacted material shall not leave the Site without written approval from the City and Bergmann.

## 5.9 MANAGEMENT OF DEMOLITION AND SOLID WASTE MATERIAL

Non-impacted buried demolition debris and solid waste material, including but not limited wood, scrap metal, draining piping, masonry, or other solid waste, which are determined not to be appropriate for re-use on-Site, shall be separately stockpiled for off-Site disposal or recycling.

Impacted demolition and solid waste material that cannot be cleaned to a non-impacted condition, as determined by Bergmann, shall be staged on a minimum of two (2) layers of 6-mil polyethylene sheeting and securely covered with at least two (2) layers of 6-mil polyethylene sheeting until waste characterized results are evaluated. Stockpiling design and locations shall be approved by Bergmann. Impacted demolition and solid waste material shall be disposed off-Site at a NYSDEC Part 360 permitted landfill.

Cleaning of impacted demolition and solid waste material shall be removed using physical/mechanical means, including but not limited to scraping, shaking, and brushing. The Contractor shall be responsible for proper containment, segregation, and disposal of liquid waste streams that are generated during cleaning. Individual waste streams shall be segregated to the extent practicable and as approved by Bergmann. Bergmann will determine when the material is deemed clean by visual and/or lab analytical sampling and analysis.

## 5.10 MANAGEMENT OF BURIED ASBESTOS CONTAINING C&D MATERIAL

If buried or potential asbestos containing material (PACM) is encountered, the Contractor shall notify and Bergmann and stop work will be issued for the immediate location of the PACM. Subsequent sampling, containment, removal, and disposal of ACM shall be completed pursuant to federal, state, and local regulations include NYS Code Rule 56. Sampling and removal of ACM shall be completed by a NYSDOL-licensed asbestos handler and Contractor with certified workers.

## 5.11 MANAGEMENT OF EXCAVATION DERIVED GROUNDWATER

If impacted groundwater is encountered during redevelopment activities, the Contractor shall pump impacted groundwater into a frac tank (or equivalent holding tank) and stage on-Site. Bergmann shall perform



characterization sampling and submission to the analytical laboratory for analysis. If groundwater is acceptable for discharge to the sewer, Bergmann will facilitate obtaining a temporary discharge permit from Monroe County Pure Waters. After receiving necessary approvals, groundwater will either be discharged to the sanitary sewer or, if necessary, may be transported off-Site for treatment and/or disposal at a permitted facility.

Impacted stormwater is not expected to be encountered during the project work as no open excavations are anticipated as part of this redevelopment project.

## 5.12 MANAGEMENT OF UNKNOWN UNDERGROUND STORAGE TANKS AND SUBSURFACE STRUCTURES

If unknown USTs or subsurface structures are encountered by the Contractor, work in the area of the tank or structure shall immediately stop and Bergmann will be promptly notified. Bergmann will evaluate the condition of the tank or structure and notify the Contractor when it is appropriate to resume work. Tank decommissioning procedures pursuant to 6 NYCRR Part 613 and local regulations will be adhered to by the Contractor. Details for storage tank(s) removal are outlined in Appendix F – Petroleum Tank Removal Procedure.

The Contractor shall promptly notify Bergmann and the City in the event of chemical/material releases to the environment from tanks or subsurface structures. The City shall determine the applicability of spill reporting requirements with respect to the context of the release. All underground storage tank (UST) removals and closures shall be completed in accordance to the City of Rochester code for UST removal and closure permitting.

If the integrity of a tank or sub-grade structure is compromised and contents are released to environmental media, the Contractor shall provide resources, including appropriately trained personnel and equipment, to address the release through removing the impacted material from the tank/structure and storing in an appropriate container (e.g. frac tank, drum, etc).

Tanks and sub-grade structures may contain sludges, non-aqueous liquids, or contaminated water. To the extent practicable, the Contractor shall prevent compromising the integrity of the structures when encountered during work. Contingent upon the presence of regulated or hazardous waste present in the structure, physical removal of the tank or structure may be completed by others (e.g. environmental response contractor). Such structures shall be decontaminated pursuant to NYSDEC CP-51 and the sludges or liquids appropriately stored and characterized until off-Site disposal is approved. Coordination between the Contractor and environmental response contractor shall be expeditiously coordinated.

Demolition of presumed benign subsurface structures (i.e. catch basins, storm distribution boxes) will be the responsibility of the Contractor. Removal/decommissioning of such structures shall be observed for surrounding soil impacts by Bergmann. Subsurface materials shall be observed and evaluated by Bergmann for the purposes of reuse, recycling, or disposal options with consideration of applicable regulations.

Bergmann shall be responsible for analytical sampling and characterization of impacted material, including buried demolition material, during the Project.

## 5.13 TOPSOIL, SOLID WASTE AND IMPACTED MATERIAL SUMMARY

The table below outlines requirements and re-use options of low-level impacted soils, solid waste, and VOC-impacted material for the Project. NYSDOL Code Rule 56 shall be adhered to for handling and disposal requirements of ACM.



Material Classification	Material Description	Disposal/Re-use	On-Site Cover Requirements
Class 1	<ul style="list-style-type: none"> <li>Existing Site Fill Materials, impacted material below Restricted-Residential SCOs, PID readings &lt;25 pm.</li> </ul>	<ul style="list-style-type: none"> <li>Can be re-used at the Site, selectively, and with a NYSDEC-approved Beneficial Use Determination (BUD)</li> <li>Can be disposed at a NYSDEC Part 360 approved landfill.</li> </ul>	<ul style="list-style-type: none"> <li>Must be covered with a minimum of 12-inches of Class 4 material, imported fill material or with impervious surfaces such as asphalt, concrete slabs, with the exception of select areas designated in the on-Site BUD to be covered with approximately 9" of clean cover.</li> <li>Cannot be placed within 2-ft. of overburden groundwater.</li> </ul>
Class 2	<ul style="list-style-type: none"> <li>Topsoil in exceedance of 6 NYCRR Part 375-6.8(b) Restricted-Residential Use SCOs</li> <li>Subsurface soil in exceedance of Restricted-Residential Use SCOs</li> </ul>	<ul style="list-style-type: none"> <li>Topsoil to be transported to an approved receiving location under a NYSDEC-approved BUD</li> <li>Disposal at a NYSDEC Part 360 permitted landfill</li> </ul>	<ul style="list-style-type: none"> <li>Must be covered with a minimum of 12-inches of Class 4 material, imported fill material or with impervious surfaces such as asphalt, concrete slabs, with the exception of select areas designated in the on-Site BUD to be covered with approximately 9" of clean cover.</li> <li>Cannot be placed within 2-ft. of overburden groundwater.</li> </ul>
Class 3	<ul style="list-style-type: none"> <li>Solid waste physically unacceptable for re-use or recycling (i.e. wood pieces, metal scrap, metal conduit, foundations, crushed concrete or brick, draining piping)</li> <li>Asphalt from existing trails, concrete from existing river wall, C&amp;D, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Off-Site disposal at NYS Part 360 permitted landfill. No visible or olfactory indications of impacts on steel, concrete, and brick may be transported to a recycling facility.</li> <li>Asphalt, concrete may be recycled or disposed of as C&amp;D.</li> </ul>	<ul style="list-style-type: none"> <li>Not suitable for reuse on-Site as part of this project.</li> </ul>
Class 4	<ul style="list-style-type: none"> <li>Layers of native non-impacted soil that does not have indications of impairment.</li> <li>Topsoil below Restricted-Residential Use SCOs.</li> </ul>	<ul style="list-style-type: none"> <li>Can be reused anywhere on-Site pending On-Site BUD approval.</li> <li>Topsoil area below Restricted-Residential Use SCOs may be reused on Site</li> <li>If analytical results exceed 6 NYCRR Part 375-6.8(b) Restricted-Residential use SCOs, the material shall be handled following Class 2 materials</li> </ul>	<ul style="list-style-type: none"> <li>Class 2 Disposal at a NYSDEC Part 360 permitted landfill will require sampling and analysis pursuant to 6 NYCRR Part 360.</li> </ul>
Class 5 (if encountered)	<ul style="list-style-type: none"> <li>Impacted groundwater with visual and/or olfactory indications of</li> </ul>	<ul style="list-style-type: none"> <li>Off-Site disposal at a permitted facility or sanitary sewer discharge contingent upon</li> </ul>	N/A





Material Classification	Material Description	Disposal/Re-use	On-Site Cover Requirements
	impacts or as determined by laboratory analysis.	Monroe County Pure Waters. Bergmann approval required.	
Asbestos Containing Material (if encountered)	<ul style="list-style-type: none"> <li>Material containing <math>\geq 1\%</math> asbestos.</li> </ul>	<ul style="list-style-type: none"> <li>Shall be disposed at a NYSDEC Part 360 permitted landfill pursuant to Code Rule 56 and applicable regulations.</li> </ul>	<ul style="list-style-type: none"> <li>Off-site disposal with Bergmann approval.</li> </ul>

**Notes:**

- 1) Imported fill material is soil, stone, recycled concrete, or other earthen materials that is imported to the Site from an approved off-Site source. The Contractor shall provide certification for materials selected for on-Site import and obtain pre-approval from the City prior to importing fill material.
- 2) TAL metals analyzed by EPA Methods 6010 or 7471
- 3) CP-51 SVOCs analyzed by EPA Method 8270

## 5.14 IMPORTED FILL MATERIAL

Imported fill material proposed for the Project shall be reviewed by Bergmann and approved by the City prior to use on Site. The Contractor shall complete the Imported Fill Material Request Form provided as Appendix E to this plan. Fill material imported from a permitted quarry is anticipated to be accepted for Project use with appropriate documentation and without additional required sampling and analysis of constituents of concern. Fill material imported from a non-permitted quarry is anticipated to require sampling and analysis for constituents of concern. The acceptable quantity and types of samples and analyses will be completed pursuant to DER-10. Material will not be accepted for use at the Project from a NYSDEC spill or remediation site as well as other federal, state, or local remediation sites.

The following information will be requested from the Contractor for approval of imported fill:

- The City and Bergmann will be provided with the type of fill material, source (with quarry permit information), sieve analysis, and anticipated volume of material to be imported to each Project location. Analytical samples and results will also be provided to the City and Bergmann if applicable.
- The City and Bergmann will review the fill material information and determine if the material is acceptable, if additional sampling and analysis is necessary, or if the material is prohibited from use.
- Bergmann will collect samples for laboratory analysis if additional sampling is determined necessary. Analytical results will be evaluated upon receipt and a determination by Bergmann or the City will be made with respect to material use approval or disapproval.

## 5.15 OFF-SITE DISPOSAL OF SOLID WASTE AND VOC/SVOC-IMPACTED MATERIAL

Treatment, Storage, and Disposal Facility (TSDF) and waste transporters must provide documentation of NYSDEC permits to Bergmann and the City prior to handling, transporting, and/or receiving solid waste and/or impacted materials. Removal of Project materials shall receive documented approval by Bergmann and the City. Waste profiles and waste manifests shall be signed by the City or an authorized representative on behalf of the City. Draft waste profile must be submitted to Bergmann and the City prior to submission to any TSDF.



Waste disposal manifests and landfill receipts shall be submitted to Bergmann with two (2) business days after the solid waste and impacted material was removed from the Site.

Solid waste impacted material and VOC/SVOC/Metal-impacted material approved for off-Site disposal by the City and Bergmann shall be transported by a NYSDEC Part 364 permitted vehicle to an approved and permitted NYSDEC Part 360 landfill. Bergmann shall perform additional characterization testing required for landfill disposal approval, if required. The Contractor will be responsible for drafting the waste profile with input and coordination from Bergmann and the City of Rochester.

While hazardous waste is not anticipated to be encountered in this project, special handling procedures, including but not limited to additional waste characterization and disposal to a hazardous waste facility will be required for waste characterized as hazardous.

## 5.16 TRACKING OF OFF-SITE WASTE DISPOSAL

Each waste stream shall be logged by Bergmann using a spread sheet for material quantification. Waste disposal receipts shall be submitted to Bergmann within two (2) business days from removal from the Site.

Solid waste material shall not leave the Site without City permission. As such, documentation including, but not limited to NYSDEC Part 360 landfill permit(s) and NYSDEC Part 364 waste transporter permit(s), will be required by the City for approval. The Contractor shall be responsible for complying with applicable federal, state, and local regulations, including but not limited to:

- 6 NYCRR Part 360 – Solid Waste Management Facilities
- 6 NYCRR Part 364 – Waste Transporter Permits
- 6 NYCRR Part 370 – Hazardous Waste Management System
- 6 NYCRR Part 371 – Identification and Listing of Hazardous Wastes
- 29 CFR 1910.120 – Hazardous Operations and Emergency Response
- 40 CFR 260 – Hazardous Waste Management System
- 40 CFR 261 – Identification and Listing of Hazardous Wastes
- 40 CFR 100 to 179 – DOT Hazardous Materials Transport and Manifest System
- NYSDEC CP-51 – Soil Cleanup Levels
- 6 NYCRR Part 375-6.8 – NYSDEC Remedial Program Soil Cleanup Objectives

Waste Disposal procedures are categorized below:

### Non-Hazardous Impacted Material (Class 1 and 2 Material)

Class 1 and 2 Materials may be disposed at a NYSDEC Part 360 approved landfill with transportation provided by a NYSDEC Part 364 compliant vehicle. Transportation to an approved landfill will be completed within 60-days of generation. Bergmann will complete the required documentation.

### Non-Impacted Demolition and Solid Waste Material (Class 3 Material)

Class 3 Material may be disposed at a recycling facility pursuant to 6 NYCRR Part 360 contingent upon waste characterization analytical results. Waste characterization analytical results shall indicate that the material does not contain contaminants of concern and/or constituents are below 6 NYCRR Part 375-6.8(a) Unrestricted Use SCOs. This material may also be disposed at an approved landfill with City and Bergmann approval.



#### Non-Impacted Soil and Fill Material (Class 4 Material)

Class 4 Material may be used off-Site as clean soil/fill material contingent upon analytical sample results below reuse guidelines as specified in 6 NYCRR Part 360.13(f) Table 2. Non-impacted soil and fill material shall be sampled pursuant to 6 NYCRR Part 360.13(E) Table 1. 48-hour notification will be required to the Site owner or authorized representative prior to Class 4 Material disposal from the Site.

#### Contaminated Water (Class 5 Material)

Impacted groundwater pumped from excavations shall not be discharged to the sewer system until approval is granted from Monroe County Pure Waters. Groundwater shall be containerized and characterized for required constituents by Bergmann. Groundwater not acceptable for sewer system discharge shall be disposed at an approved TSDF pursuant to 6 NYCRR Parts 360, 364, and 370.

#### Hazardous Waste Impacted Material (not anticipated)

Hazardous waste shall be disposed pursuant to federal, state, and local regulations. This material shall be removed from the Site within 90-days of generation.

#### Buried PACM Debris (not anticipated)

PACM debris encountered during redevelopment will be sampled, analyzed, managed, and disposed of pursuant to NYSDOL Code Rule 56.

### 5.17 WASTE DISPOSAL DOCUMENTATION

Documentation for waste disposal, including waste profiles and manifests, shall be completed by Bergmann on behalf of the City. Waste manifests shall be signed by the Site Owner or the designated representative on behalf of the owner. Waste manifests and landfill receipts shall be collected and submitted to Bergmann by the Contractor within two (2)-business days of disposal. Bergmann shall track quantities of material disposed off-Site.

### 5.18 SOIL VAPOR INTRUSION

Based on Project construction plans, a Sub-Slab Depressurization System (SSDS) is not required at this time as there are no enclosed structures currently proposed and the Project Site is designated to be a park space. Additionally, the only area of the project Site that has petroleum impacts is at the south end of the project.

If future Project plans involve construction of an enclosed structure(s), a SSDS should be considered in the building design to preclude the need for soil vapor intrusion (SVI) sampling.

### 5.19 UNKNOWN ENVIRONMENTAL CONDITIONS

In the event of unknown environmental impacts encountered during the Project, Bergmann will determine appropriate measures to proceed, with City concurrence. The Contractor shall immediately inform Bergmann if unknown or potential environmental impacts are encountered during the Project. Indications of impacts in areas previously not identified as impacted, may include but not be limited to the following:

- Petroleum or solvent odor;
- Stained soil or groundwater with a sheen; and
- Presumed or suspect asbestos-containing materials intermixed in subsurface soils.



## 6.0 EMP IMPLEMENTATION

### 6.1 SUBSURFACE EXCAVATIONS, MATERIAL REUSE, AND OFF-SITE DISPOSAL

Bergmann will provide continuous oversight during surface and subsurface intrusive tasks involving impacted and un-impacted soil and solid waste management. Bergmann will also provide continuous oversight for material disposition including on- and off-Site reuse and disposal.

### 6.2 EMP ROLES AND RESPONSIBILITIES

The list below is provided for general purposes only and is not meant to be a comprehensive list of all responsibilities under this EMP.

#### Bergmann:

Bergmann will be responsible for managing the following EMP tasks:

- Working with the Contractor, Construction Manager (CM), and the City to select permitted off-Site disposal locations.
- Working with the CM and the City as necessary to characterize excavated material per Section 5.13 and to determine excavated material disposition, including reuse and/or disposal.
- Work with the Contractor(s) to monitor excavations for evidence of environmental impacts.
- Assist the CM as to proper material segregation, staging, and containment of excavated materials as needed.
- Sampling, analysis, and any additional waste stream profiling as required by a receiving NYS Part 360 landfill.
- Assist the Contractor in providing required documentation for temporary discharge permits from Monroe County Pure Waters, as necessary. Documentation will include, but not be limited to the discharge application form, waste characterization of samples, and coordination with Monroe County Pure Waters.
- Implementation of the existing Site-specific Health and Safety Plan (HASP) for Bergmann personnel. Non-Bergmann contractors will be responsible for generating separate HASPs.
- Development and implementation of a Community Air Monitoring Plan (CAMP) for the Project that shall be used during all ground intrusive activities or other activities that may generate particulates or VOCs.

#### Contractor:

The Contractor shall provide all Project-approved labor, equipment, and materials necessary to complete the following required tasks, including but not limited to:

- Coordination of Underground Facilities Protection Organization (UFPO).
- Segregation and containment of impacted material from non-impacted material.
- Excavation dewatering and containerization and discharge/disposal of wastewater upon approval.
- Particulate/dust suppression measure(s) implementation, as necessary and as determined by Bergmann, the City, or the CM.
- Disposition of impacted material from removal areas, including loading, containment, and transportation to approved on-Site staging areas.



- The Contractor shall not remove any material from the Project without prior approval from Bergmann and/or the City.
- The Contractor is solely responsible for the means, methods, techniques, sequences and procedures for all required Project activities under the Contractors direct discretion.
- The Contractor shall perform all Project tasks pursuant to federal, state, and local regulations, including but not limited regulations enforced by EPA, OSHA, NYSDEC, NYSDOH, and NYSDOT.
- Loading, transportation, and off-site disposal at permitted TSDF.

## 7.0 EQUIPMENT DECONTAMINATION

Field construction equipment coming into contact with impacted Site soils will require brush cleaning loose dirt or debris as adequate decontamination prior to leaving the Site. Refer to Section 5.5 and 5.6 for impacted material identification.

Re-usable sampling equipment will be rough washed with a mixture of water and Alconox® type soap, rinsed with ionized or distilled water, then air or paper towel dried.

Personal decontamination procedures shall follow the steps outlined in the Project-specific HASP and the Contractor shall supply an appropriately staged container (e.g. steel drum) for collection and disposal of personal protective equipment (PPE). The Contractor will be responsible for scheduling and coordinating PPE disposal.

## 8.0 COMMUNITY AIR MONITORING PLAN (CAMP)

The NYSDOH Generic Community Air Monitoring Plan (CAMP) and Fugitive Dust and Particulate Monitoring, included as an appendix to this plan, will be utilized for this EMP. The CAMP describes required NYSDOH VOC vapor and/or particulate monitoring that will be conducted during ground intrusive activities. The intent of this CAMP is monitor for airborne releases of on-Site impacts and particulate dust to protect the surrounding communities. The CAMP specifies potential air emissions, air monitoring procedures, and monitoring schedule. Air monitoring data will be organized and submitted in the EMP Monthly Progress Reports and Construction Completion Report (CCR).

## 9.0 HEALTH AND SAFETY PLAN (HASP)

A Health and Safety Plan (HASP) for Bergmann personnel use is attached as Appendix C to this EMP and will be adhered to during all work. Non-Bergmann project personnel, including other contractors, will be required to develop and adhere to a separate HASP during the project.



## 10.0 SAMPLE LABORATORY ANALYSIS

Samples will be collected in the field in accordance with project QA/QC procedures, as provided in the Quality Assurance/Quality Control Plan. Analytical samples collected during the project will be relinquished for analysis to a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified laboratory for analysis.

## 11.0 REPORTING

Project summaries will be provided to the City by Bergmann on a weekly basis and will include, but not be limited to, the following information:

- Summary of work completed;
- EMP deviations;
- CAMP and/or HASP exceedances and corrective measures; and
- Project schedule and anticipated scope of work for the next week.

EMP Monthly Progress Reports will also be provided to the City during ground intrusive phases of the project including waste disposition/disposal. Impacted and un-impacted soil disturbance, removal and disposal activities as well as regulated solid waste will be summarized in the EMP Monthly Progress Reports. Both known and unknown environmental conditions will be summarized in the progress reports. Figures indicating material removal areas (including known and unknown removal areas) and associated analytical sampling will be generated and provided as an attachment to each progress report. The progress reports will also include non-hazardous and hazardous waste disposal documentation, tabulated analytical laboratory results (compared to applicable SCOs) and reports, and waste stream tracking information. Deviations to the EMP and an updated project schedule will be provided in the monthly progress reports.

Upon completion of ground intrusive work and waste disposition/disposal phases of the project, a Construction Completion Report (CCR) documenting all excavation, sampling, and waste disposal activities will be developed for submission to the City. The CCR will be a comprehensive summary of the work completed during the project, complete with all relevant documentation. The CCR will also include an Operation, Maintenance and Monitoring (OM&M) section for engineering controls, if necessary.

## 12.0 SCHEDULE

To be determined in conjunction with the proposed construction schedule/in progress.





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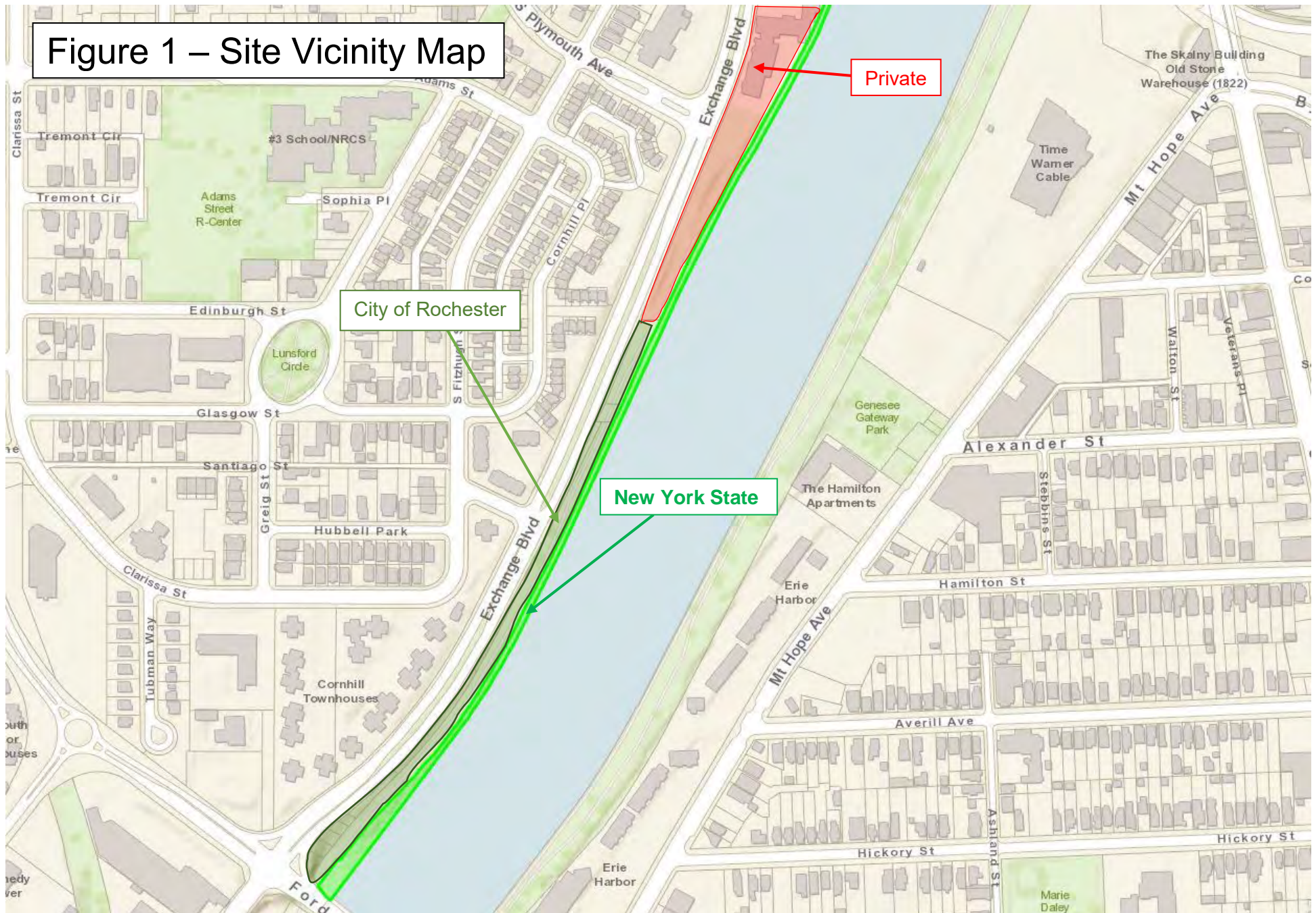
## FIGURES



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Figure 1 – Site Vicinity Map





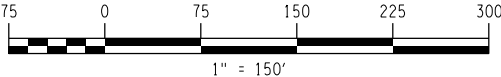


City of Rochester  
Department of  
Environmental Services



West River Wall  
Improvements

Figure 2  
Subsurface Exploration Plan



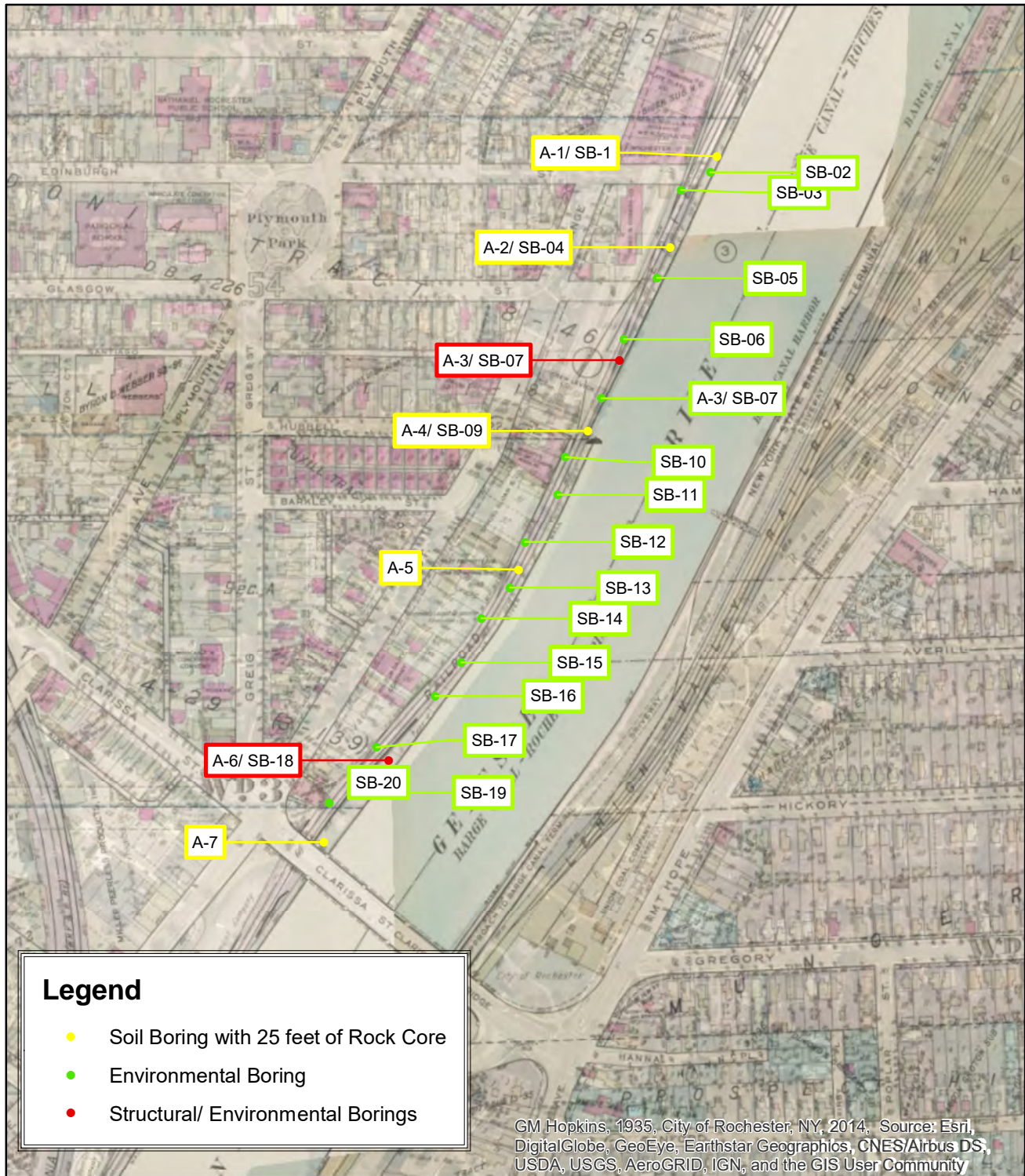
SHEET NO.	SCALE	DATE	BERGMANN
1	1"=150'	11/18	ARCHITECTS ENGINEERS PLANNERS



# City of Rochester West River Wall

1 inch = 500 feet

Figure 2a. Subsurface Exploration  
with Historic Overlay

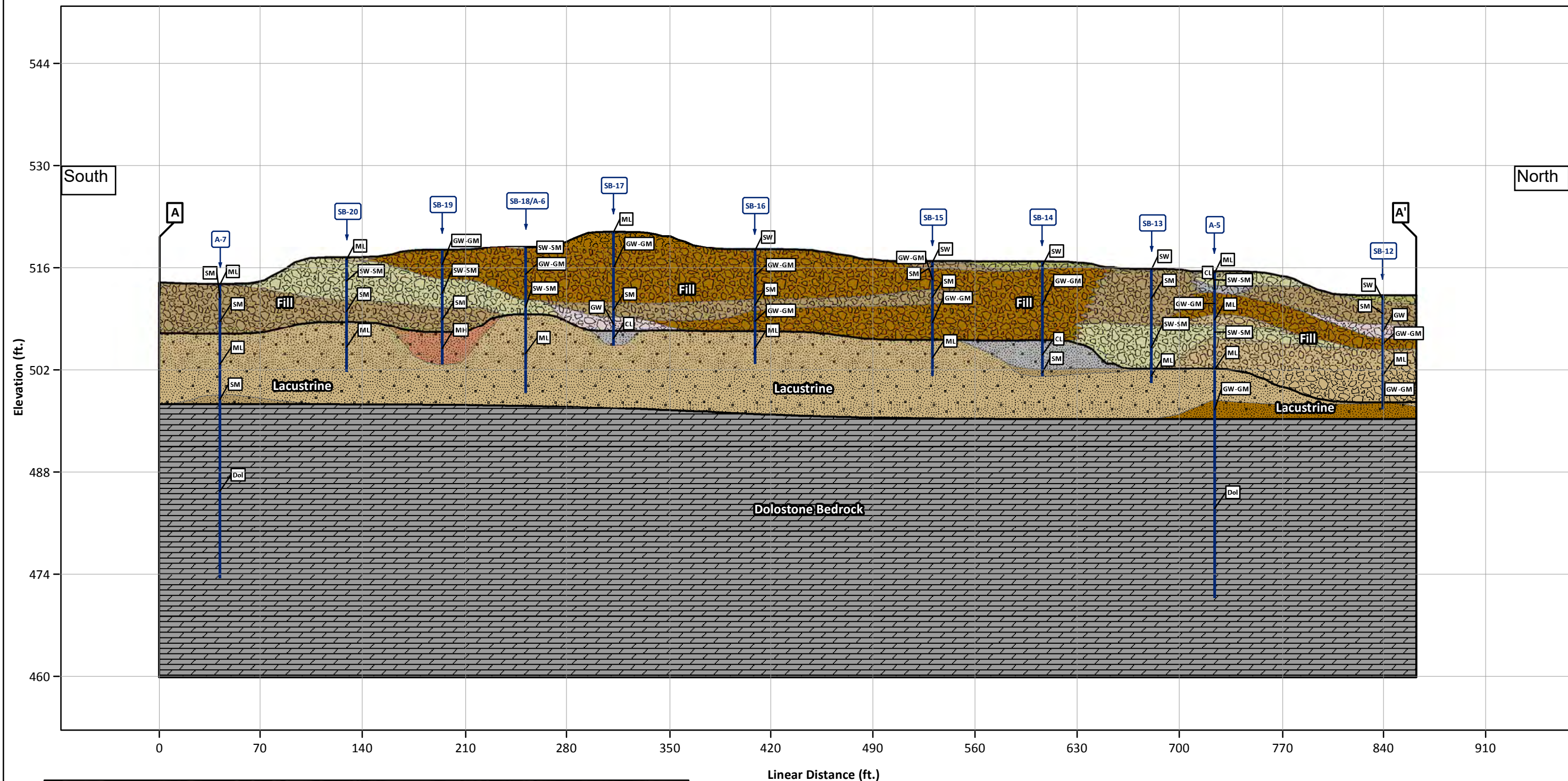


NYS Orthos Online, Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia ©, OpenStreetMap contributors, and the GIS User Community



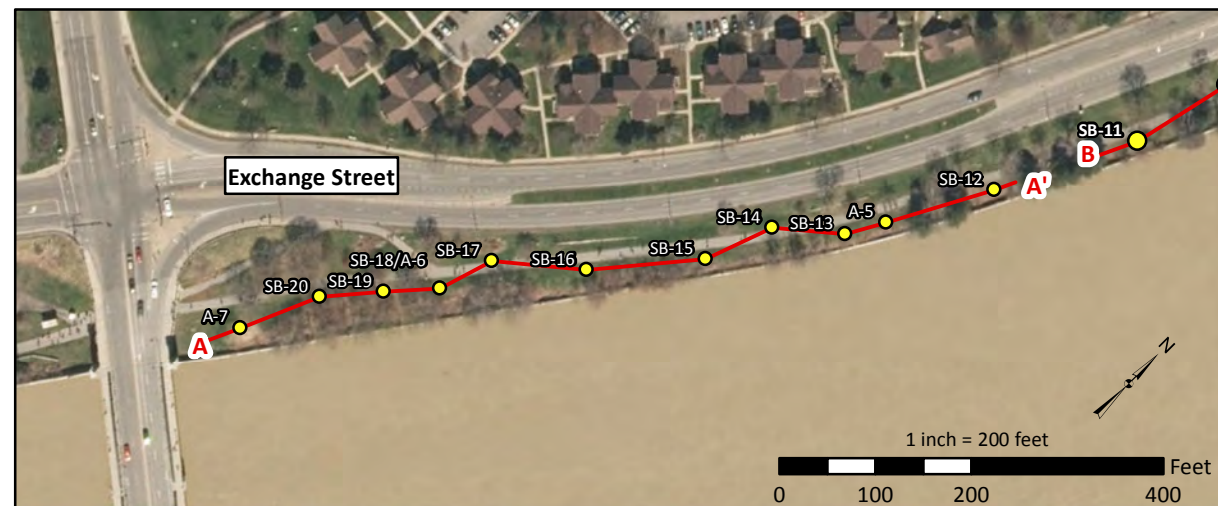
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DATE: October 2018  
 SCALE: As noted  
 DRAWN/CHECKED: BGS/GLA, SD  
 SOURCE: Pictometry  
 Boring logs provided by Bergmann

**FIGURE 3. GEOLOGIC CROSS SECTION A-A'**  
 West River Wall Improvements  
 City of Rochester  
 Monroe County, NY



**Legend**

**Unified Soil Classification Symbol**

- GW-GM: well-graded gravel; fine to coarse gravel to silty gravel
- GW: well graded gravel; fine to coarse gravel
- SW: well-graded sand; fine to coarse sand
- SW-SM: well-graded sand; fine to coarse sand to silty sand
- ML: silt
- MH: silt of high plasticity; elastic silt
- CL: clay of low plasticity; lean clay

**Unit Type**

- Fill
- Lacustrine
- Glacial Till
- Dolostone Bedrock

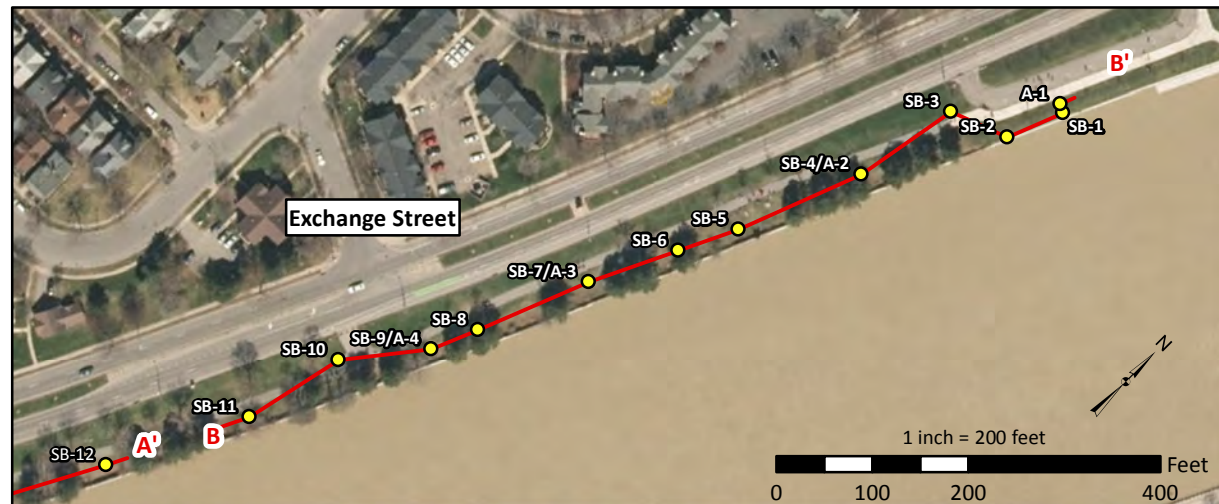
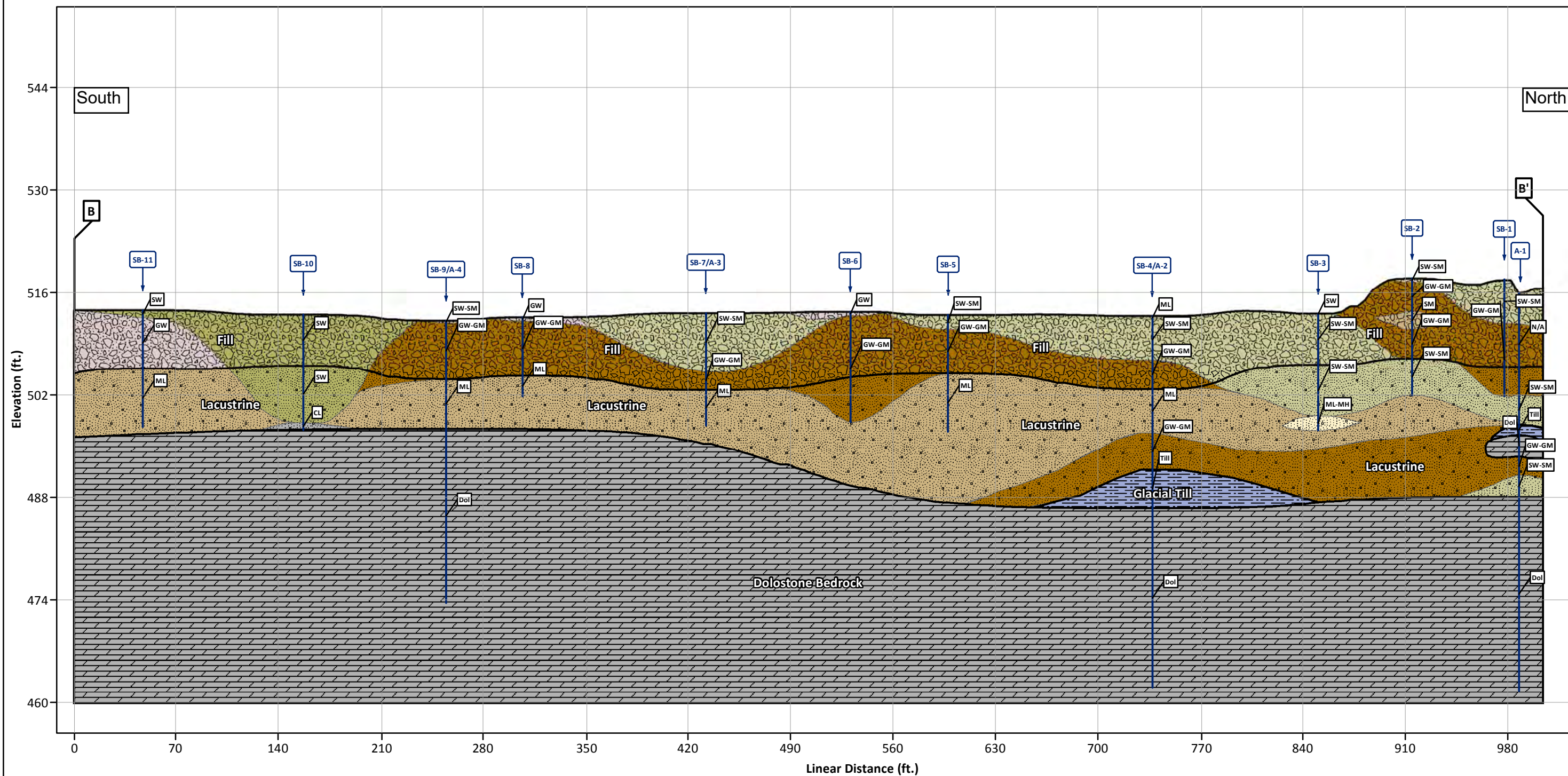
**Note:**

1 inch = approximately 70 feet horizontal  
 1 inch = approximately 14 feet vertical

(Vertical Exaggeration: x5)

**Prepared For:**  
**BERGMANN**  
 ARCHITECTS ENGINEERS PLANNERS





#### Legend

##### Unified Soil Classification Symbol

	GW-GM: well-graded gravel; fine to coarse gravel to silty gravel
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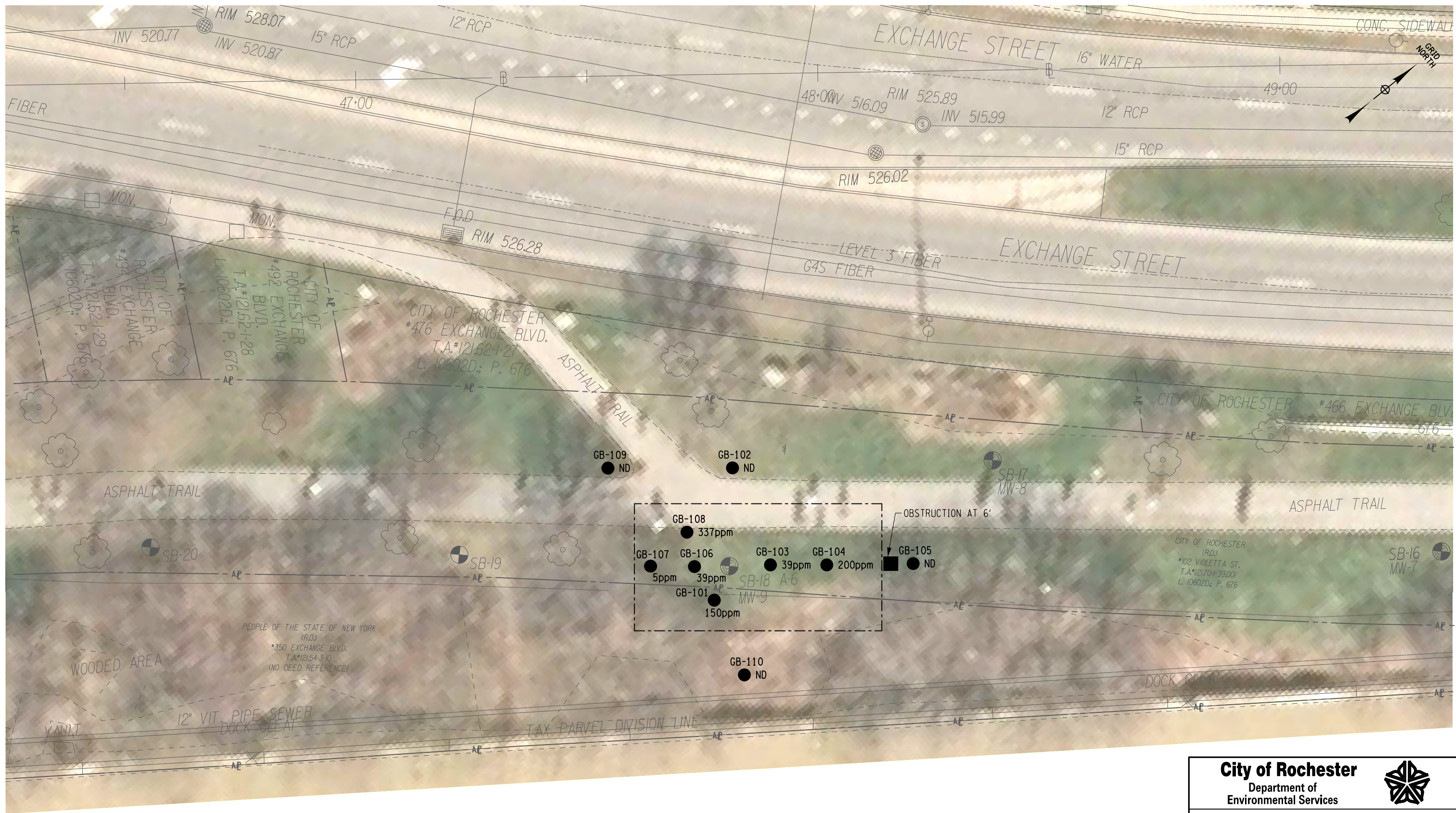
**FIGURE 4. GEOLOGIC CROSS SECTION B-B'**  
West River Wall Improvements  
City of Rochester  
Monroe County, NY



DATE: October 2018  
SCALE: As noted  
DRAWN/CHECKED: BGS/GLA, SD  
SOURCE: Pictometry  
Boring logs provided by Bergmann







**City of Rochester**  
Department of  
Environmental Services

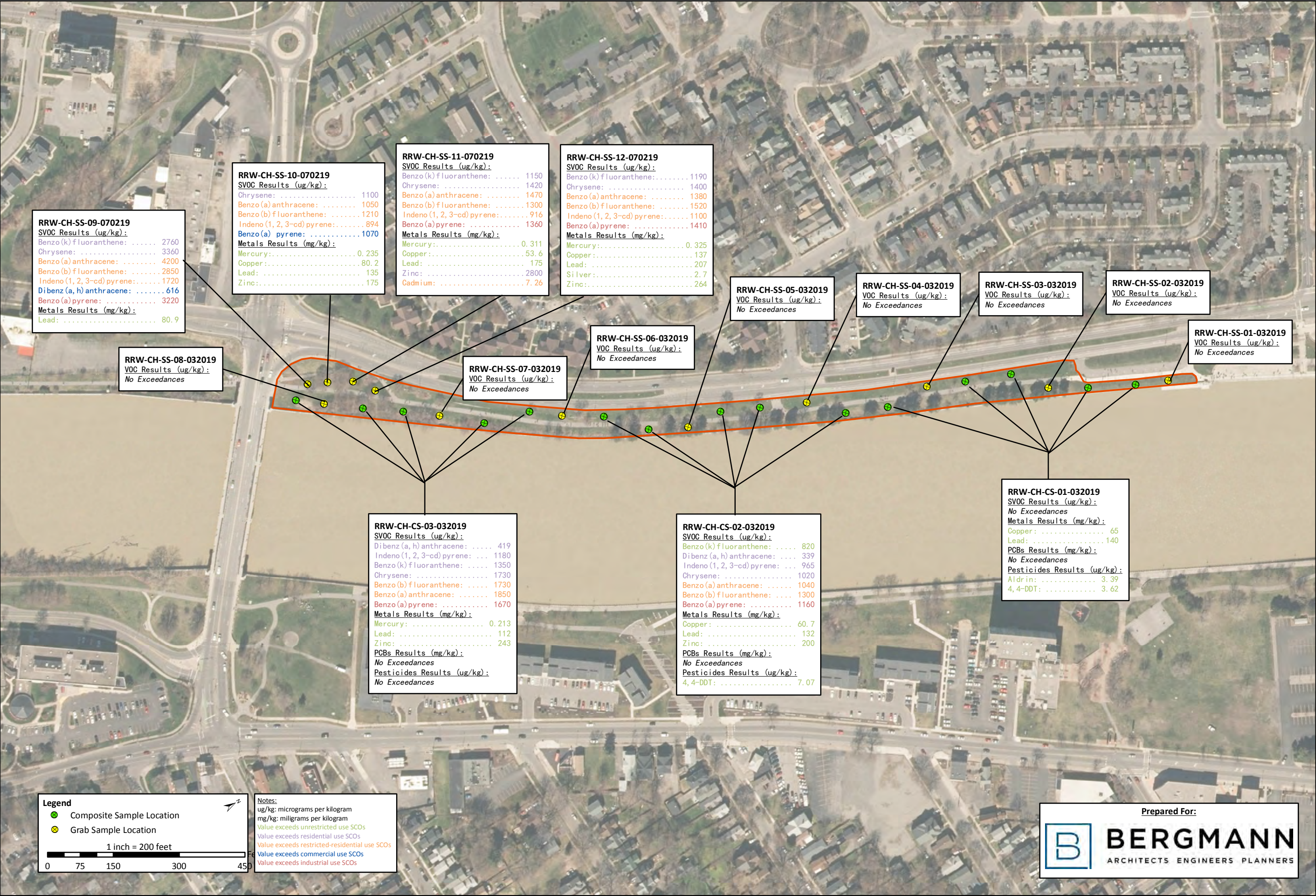


**West River Wall  
Improvements**

**Figure 5  
Petroleum Spill Investigation  
Area at A-6/SB-18**

SHEET NO.	SCALE	DATE	BERGMANN
2	AS SHOWN	10/18	ARCHITECTS ENGINEERS PLANNERS





DATE: July 2019  
Project Number: 50378-02  
DRAWN/CHECKED: BGS/GLA  
DATA SOURCE:  
ESRI online Basemap

Figure 6. Surface Soil Analytical Results Map  
West River Wall  
City of Rochester  
Monroe County, NY



# Rochester West River Wall Segment 1- Corn Hill

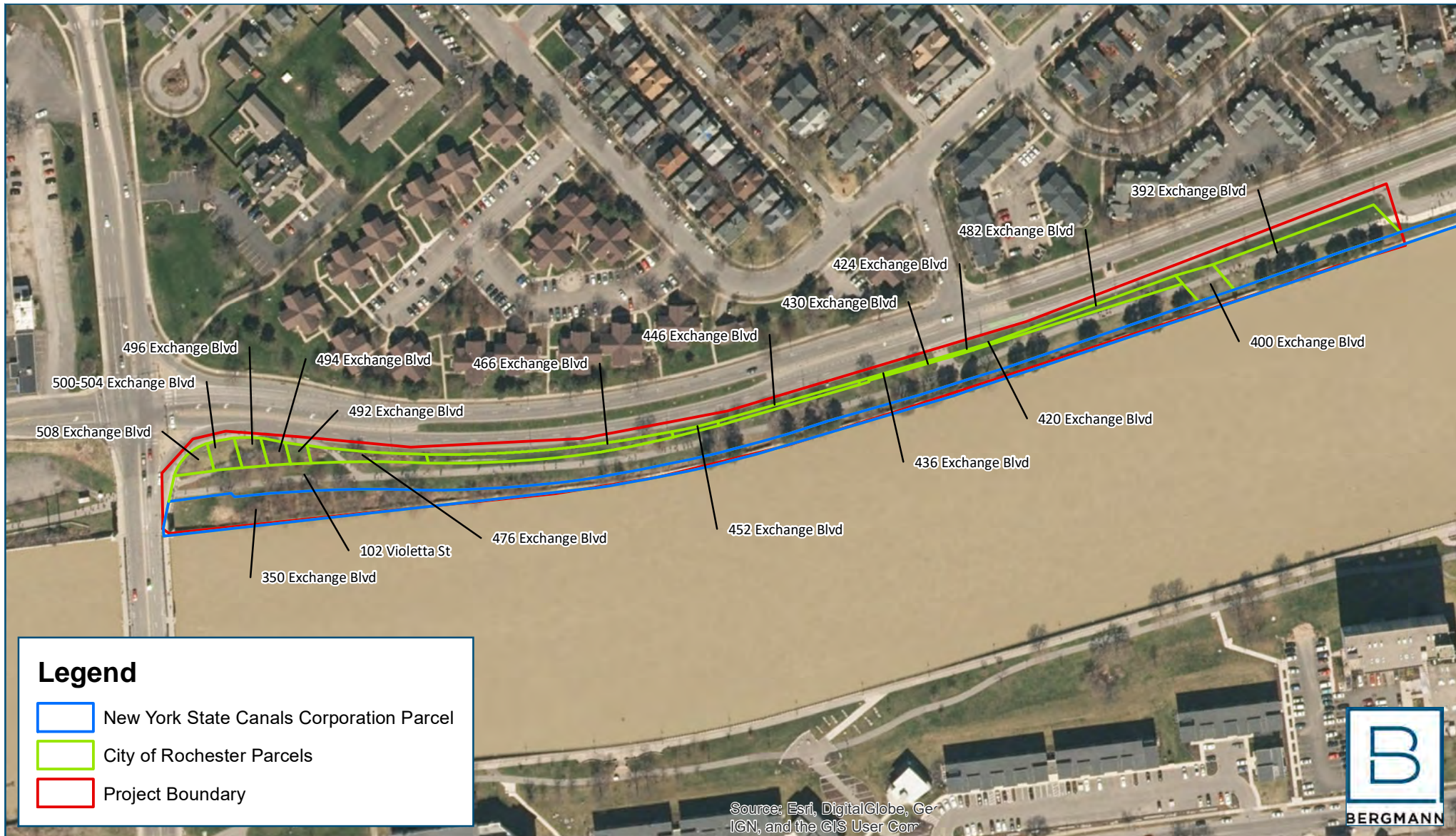
PARCEL LOCATION  
MAP

Fig.7

200  
Feet



City of Rochester, Monroe County, New York



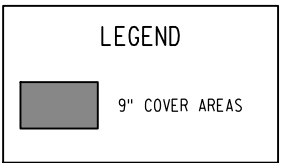
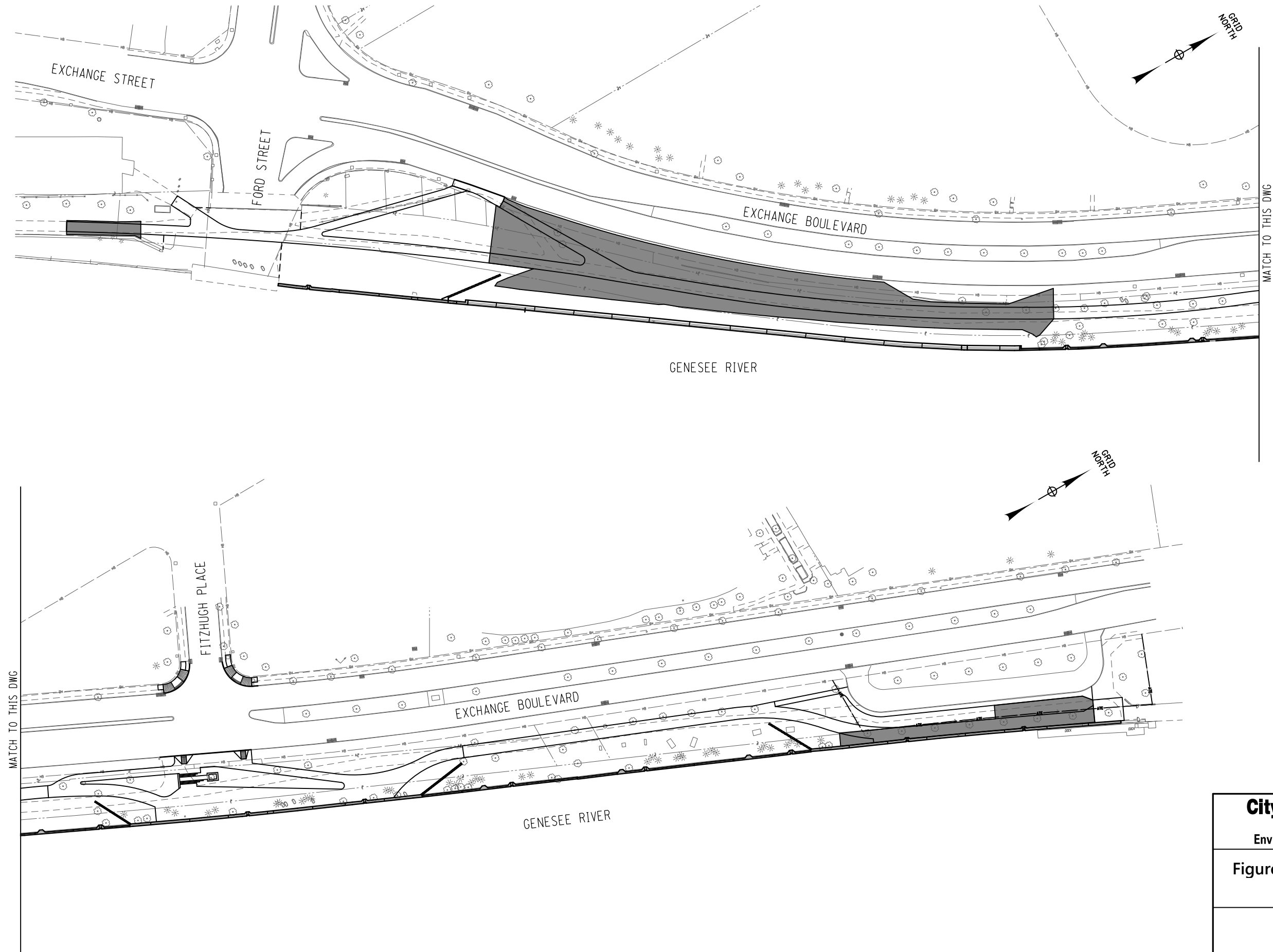
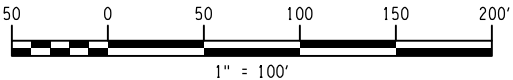




Figure 8



<b>City of Rochester</b> Department of Environmental Services			
<b>Figure 9 West River Wall Improvements</b>			
<b>Site Cover System Map 9" Cover Areas</b>			
SHEET NO. <b>1</b>	SCALE <b>1"=100'</b>	DATE <b>10/19</b>	 <b>BERGMANN</b> <small>ARCHITECTS ENGINEERS PLANNERS</small>