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# 2016 Construction and Restoration Work Plan

# West Branch of Bloody Brook Site
# Bloody Brook Voluntary Cleanup Program
# Onondaga County, New York

**March 2016**

***Prepared for:***

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**2016 CONSTRUCTION AND RESTORATION WORK PLAN**
**WEST BRANCH OF BLOODY BROOK**
**ONONDAGA COUNTY, NEW YORK**

**CERTIFICATION STATEMENT**

I, Nickcole M. Evans, P.E., certify that I am currently a NYS registered professional engineer and that this *2016 Construction and Restoration Work Plan* (CRWP) was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10). This CRWP was also prepared in accordance with Paragraph II.B.2 of the Voluntary Cleanup Agreement for Remedial Investigation/Remedial Action between the New York State Department of Environmental Conservation and Lockheed Martin Corporation (Index #: D7-0001-01-09).


Nickcole M. Evans, P.E.
License Number 085978

In accordance with New York State Education Law, it is a violation for any person, unless he is acting under the direction of a licensed professional engineer, to alter this CRWP in any way.

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# 1 Introduction

This Construction and Restoration Work Plan (CRWP) has been developed for a portion of the West Branch of Bloody Brook (WBBB), Bloody Brook, and surrounding area, pursuant to a Voluntary Cleanup Agreement (VCA) between Lockheed Martin Corporation (Lockheed Martin) and New York State Department of Environmental Conservation (NYSDEC) (Index #: D7-0001-01-09, effective July 20, 2002). For the purposes of this CRWP, the site is defined as that portion of the WBBB and Bloody Brook from below the confluence of the WBBB and Middle Branch of Bloody Brook (MBBB) and the surrounding area commencing on the southern boundary of the New York State Thruway (Thruway) and ending at Onondaga Lake Parkway.[1] The site is located in the Town of Salina, and a portion of the site is located in the Village of Liverpool, Onondaga County, New York. Site location and area maps are included as Figures 1 and 2.

This CRWP defines the procedures by which AECOM Technical Services Northeast, Inc. (AECOM) will complete remediation efforts to address elevated concentrations of cadmium found in the sediments within and soil adjacent to the brook. Pursuant to the March 2014 *Decision Document* issued by NYSDEC, the excavation and off-site disposal of contaminated soil and sediment to be completed during the 2014 through 2016 construction seasons will include the activities summarized below.

- All sediment from the WBBB and Bloody Brook, from below the confluence of the WBBB and Middle Branch of Bloody Brook (MBBB), between the New York State Thruway and the Onondaga Lake Parkway.
- Top 2 feet of side bank soil from the WBBB and Bloody Brook, from below the confluence of the WBBB and MBBB, between the New York State Thruway and Old Liverpool Road, channel side banks will be reconstructed with a minimum of two feet of clean cover material.
- Side bank soil from Bloody Brook between Old Liverpool Road and the Onondaga Lake Parkway that exhibit cadmium concentrations greater than 4 parts per million (ppm) (up to two feet below grade).
- Apartment complex area: soils in the top 2 feet that exhibit cadmium concentrations greater than 4.3 ppm and soils from 2 to 4 feet below grade that exhibit cadmium concentrations greater than 10 ppm

[1] The term “site” in the VCA is defined as: a portion of the banks, surface waters and sediments of the West and Middle Branches of Bloody Brook located in the Town of Salina with a portion of the site located in the Village of Liverpool and commences downstream of Interstate 90, the New York State Thruway, and extends generally southward past the confluence of the West Branch and the Middle Branch of Bloody Brook creating Bloody Brook, and ends on the upstream side of Onondaga Lake Parkway. After examining data developed during remedial investigation work in the Middle Branch, NYSDEC determined that no further action was required for that branch of Bloody Brook. For this reason, the “site” in this CRWP relates only to those areas within the VCA site where the remedial program continues to be implemented and remedial action is being performed.

- Onondaga County drainage district easement: soils in the top two feet that exhibit cadmium concentrations greater than 10 ppm.
- Commercial-light industrial area downstream of Old Liverpool Road: soils in the top two feet that exhibit cadmium concentrations greater than 9.3 ppm where surface disposal of brook dredge spoils occurred.

The remedial action activities described in this CRWP are for work that will be completed during the 2016 construction season, starting at the upstream property line of the apartment complex and ending at Onondaga Lake Parkway, as shown in Appendix A. The 2016 construction and restoration work will be completed in accordance with the existing site-specific Health and Safety Plan that was provided to NYSDEC in March 2016. These remedial action activities will be completed under United States Army Corps of Engineers (USACE) Nationwide Permit No. 38, Application No. 2008-00823 and NYSDEC Individual Water Quality Certification No. 7-3148-00150/00002. The portions of the site to be disturbed during the 2016 construction season have been included in the Phase 1A Cultural Resource Survey completed in 2014 and summarized in the *Phase IA Archaeological Survey Report* submitted to the NYSDEC on May 19, 2014. Details on these remedial construction activities as well as restoration activities to be completed after contaminated sediment and soil are removed are discussed in Section 2 of this document.

In addition to sediment and soil excavation for removal of cadmium contamination at the site, AECOM has also been retained by Lockheed Martin to improve the longevity and integrity of the culverts located at Pearl Street and Town Gardens Drive. The need for the culvert improvements was identified by Onondaga County based on the condition of the structures and the required repairs and maintenance necessary to keep the structures performing as originally designed. The activities to be completed to improve the Pearl Street and Town Gardens Drive culverts are discussed in Section 3 of this document.

The remaining sections of this CRWP, Section 4 (Community Air Monitoring), Section 5 (Waste Management), Section 6 (Quality Assurance and Reporting), Section 7 (Spill Prevention and Response Plan), Section 8 (Green and Sustainable Remediation), and Section 9 (Schedule) pertain to all 2016 activities.

# 2 Remedial Construction

This section discusses the remedial excavation and restoration activities for the 2016 construction season. The 2015 excavation was completed to the upstream property boundary of the apartment complex, as shown in Appendix A. Polyethylene sheets were used as a barrier to separate the clean backfill placed as part of the 2015 construction activities and the remaining contaminated soil to be removed in 2016. In the portions of the site excavated and backfilled during the 2015 construction activities, some final restoration and planting will need to be completed in accordance with the NYSDEC approved *2015 Construction and Restoration Work Plan.*

The empty lot located at 203 Midwood Drive, where the temporary construction facilities were located for the 2014 and 2015 construction seasons, will need to be restored. Restoration of this property and areas adjacent to the property will be completed with input from the property owners and is expected to include removing the gravel base placed as part of the construction activities, disposing of the removed material as non-hazardous waste, grading, replacing the residential fence adjacent to the empty lot, applying top soil, and planting grass seed.

2016 construction season excavation and restoration activities will generally be completed in the following sections:

- Upstream property boundary of the apartment complex to Pearl Street Culvert
- Pearl Street Culvert to Town Gardens Drive Culvert
- Town Gardens Drive Culvert to confluence with MBBB
- Confluence with MBBB to Old Liverpool Road
- Old Liverpool Road to CSX Railroad
- CSX Railroad to Onondaga Lake Parkway

Prior to 2016 excavation activities, site preparation and controls will be implemented and installed as discussed in the following sections.

## 2.1 Site Preparation and Controls

### 2.1.1 Tree Removal

Trees requiring removal to complete the 2016 excavation activities were identified during surveys performed by AECOM on September 11 and 12, 2014 and July 21 and 28, 2015. Tree removal activities were initiated in February 2016 and are planned to be completed prior to March 31, 2016, pursuant to the NYSDEC approved November 2014 *Tree Removal Work Plan for 2015 Construction Season* and October 2015 *Tree Removal Work Plan and Waste Characterization Soil Sampling Plan 2016 Construction Season*. If the tree removal activities cannot be completed by March 31, 2016, the NYSDEC will be notified and the steps required to be completed to allow for trees to be removed between March 31$^{st}$ and November 15$^{th}$ will be followed. Table 1 and Figures 3A and 3B identify the trees that will be leveled, during these activities. Stumps left in place during the initial tree razing activities will be removed during excavation and will be disposed of based on the planned removal actions for the soil from which the material was removed.

### 2.1.2 Erosion and Sediment Controls

Erosion and sediment controls will be installed during the site preparation phase in accordance with the August 2010 *New York State Stormwater Management Design Manual*. Land-based and water-based erosion and sediment controls that will be used for this phase of the project include, but are not limited to:

- Silt fence and straw wattles, as needed, along areas of disturbed ground cover;
- Silt fence, hay bales, and/or straw wattles around active stockpiles;
- Stabilized construction entrances; and
- Temporary cofferdams and/or stone check dams.

Silt fencing will be installed along the site security fence and at locations downgradient of the work areas to intercept runoff and promote deposition of suspended sediments and soils. The filter fabric material that will be used to create the silt fencing will be Mirafi® 100x or an equivalent material. Adjoining sections of filter fabric will be overlapped by six inches and folded. Details regarding the installation of silt fencing and other potential erosion and sediment controls are included in Appendix A.

All erosion and sediment controls will be constructed prior to excavation activities in accordance with the manufacturer's details. Erosion and sediment control measures will be regularly inspected to ensure that they are operating correctly and preventing eroded soil and sediment from leaving the site or entering the brook. Repairs will be made as necessary to maintain all erosion and sediment controls throughout the duration of the project. After restoration activities are completed and ground surfaces are stabilized, the temporary erosion and sediment controls will be removed.

#### 2.1.2.1 Monitoring and Maintenance of Control Measures

AECOM will designate a competent person to inspect the erosion and sediment control measures to verify that the control measures are operating as intended and to identify any control measures in need of repair. The designated inspector will monitor all erosion and sediment control devices at least once every work day and maintain inspection results in site documents. AECOM will begin implementing any corrective actions within one business day of discovery and will complete the corrective actions in a reasonable time frame. Repairs will be made as necessary to maintain the erosion and sediment controls until the controls are no longer needed. Maintenance requirements for the erosion and sediment control devices used during performance of remedial action activities may include repairs or modifications based on site conditions and planned remedial action activities.

Silt fencing will be monitored at least once each day and following a rain event. Eroded soil will be removed from the silt fence if soil has accumulated to a depth of 6 inches above the existing grade, or as deemed appropriate by the on-site inspector.

Maintenance of any stabilized temporary access roads may require periodic top dressing with additional stone or the washing and reworking of existing stone as appropriate. Any site soil deposited on local roads will be removed and, if necessary, street sweeping equipment will be used to wash the road.

Once the remedial action is completed, all staging and support facilities have been removed, and all ground surfaces restored, the temporary erosion and sediment controls will be inspected weekly and after a rainfall event. These inspections will continue until the ground surface is stabilized and the erosion and sediment controls are no longer needed.

### 2.1.3 Temporary Site Security Fencing

Prior to starting excavation activities, a site security fence will be installed around the perimeter of the construction area.

## 2.2 Bypass Pumping

A temporary bypass pumping system will be operated 24 hours per day, seven days a week during impacted material removal and restoration activities in and adjacent to the brook.

The bypass system shown in Appendix A will be capable of conveying the maximum system design flow to the specified discharge point using a combination of pumps and pipes. Bypass pumps and generators, when used, will be sound attenuated. Flow will be conveyed through piping to the proposed discharge point. An outfall will be installed downstream of the construction area for transfer of upstream water back into the active stream as shown in Appendix A. The outfall will limit sediment dispersion associated with the outflow of the bypass system.

A visual leak test of the bypass pumping discharge piping and outfall area will be performed using existing stream water prior to the full operation.

The proposed system will contain the following:

- The pumping system will include a sump with a minimum of two submersible pumps.
- The pumping system will be self-priming and capable of operating with automatic controls based on the liquid level in the bypass pumping system sump.
- The pumping system will be equipped with the necessary float switches or level monitoring devices required for starting and stopping the pump. In addition, the system will be configured to send a message to designated site personnel if the water level in the bypass pumping system reaches a critical depth.

In the event the influent stormwater exceeds the maximum system design flow, the bypass pumping process will continue throughout the duration of the event to reduce the storm flow through the brook channel, and overtopping procedures will be implemented as described below.

### 2.2.1 Water Quality Controls

Temporary cofferdams, hay/straw bales, and/or filter socks will be installed downstream prior to the installation of the bypass pumping system and removed after the system is in place and operating properly.

Pumps will be operated to minimize sediment removal and disturbance during the pumping process. Water will be discharged into an outfall to limit sediment dispersion. If there is an exceedance of the turbidity action level (i.e., greater than 50 nephelometric turbidity units [NTUs] above the upstream monitoring location) downstream of the bypass system, all activities in the brook bottom will stop until the downstream monitoring location turbidity is less than the turbidity action level. The downstream monitoring location will be approximately 100 feet downstream from bypass discharge. Causes for the excessive turbidity will be reviewed and corrections to procedures and or modifications to the erosion control measures will be completed prior to re-starting activities.

### 2.2.2 Bypass Pumping System Monitoring

Direct observation of water levels in the WBBB and Bloody Brook from below the confluence of the WBBB and MBBB relative to critical bypass structure elevations, will be used as the primary indicator of imminent overtopping conditions. The following sections describe the monitoring procedures that will be used to prepare for imminent overtopping events.

#### 2.2.2.1 Weather Monitoring

Weather conditions and weather forecasts, including regional weather patterns, radar, and local weather forecasts, will be monitored on a daily basis to provide advance warning of potential high-flow conditions. Various online resources provide access to daily forecasts and radar loops and will be used to obtain up-to-the-minute weather patterns.

#### 2.2.2.2 Water Level Monitoring

Water levels in the WBBB and Bloody Brook from below the confluence of the WBBB and MBBB will be monitored on a daily basis by direct visual observation and measurement of the relative difference between current water surface elevation and nearest adjacent crest elevations at critical locations (i.e., low points) along the temporary bypass system. The water level during steady flow is expected to be at minimum 0.5 feet below the top of the hydraulic control structure (e.g., sump). The procedures described below will be used to monitor the water level.

**Dry Weather Water Level Monitoring Procedures:** Dry weather shall be any period when there has been no rainfall the previous day and no rainfall forecasted for the current day. During dry weather periods, water levels will be visually inspected daily.

**Wet Weather Water Level Monitoring Procedures:** Wet weather shall be any period when there has been rainfall within or near the WBBB and Bloody Brook watershed within the past 12 hours, or rainfall is forecasted for the current day. During wet weather periods, due to the potentially short response time of the watershed, water levels will be visually inspected and water levels measured for all designated monitoring locations at hourly (i.e., 1-hour) intervals.

If visual observations or water level monitoring indicate that water levels are less than 0.5 feet from the top of the hydraulic control structure or suggest that brook water levels are rising rapidly, appropriate response action will be taken as summarized below.

### 2.2.3 Bypass Pumping System Overtopping

Actions that will be completed to minimize the damaging effects of and in response to an overtopping event are summarized in the following sections.

#### 2.2.3.1 Mitigation Procedures

Mitigation procedures are activities that will be performed on a regular basis to reduce the amount of damage that could result from an overtopping event. To the extent practicable, mitigation procedures are listed below.

- The quantity of equipment, personnel, and construction materials within the in-stream work area, at any given time, will be minimized.

- At the end of each work day, open excavation(s) within the streambed (up to the ordinary high water line) will be backfilled and secured and all equipment that is not necessary for operation of the temporary bypass system will be removed from the in-stream work area, as practicable.
- In the event of overtopping, and if water levels are higher inside the work area than outside, a portion of the downstream end of the bypass system may be removed to minimize the buildup of water within the in-stream work area. If water levels are lower inside the work area, pumping may be employed to dewater the area.

#### 2.2.3.2 Response Actions

Response actions are activities that will be performed in the event of imminent or actual overtopping to minimize the potential for injury to personnel and damage to equipment. Response actions will be performed as outlined below.

| Water Level Threshold* | Response Action |
|---|---|
| Water level less than 0.5 feet from the top of the hydraulic control structure and holding steady or falling | - Perform Wet Weather Water Level Monitoring |
| Water level less than 0.5 feet from the top of the hydraulic control structure and rising | - Start secondary pump to increase pumping volume. During this time, unarmored excavations will be covered with polyethylene sheeting and weighted down with sandbags to minimize contamination of water in the event of overtopping<br>- Remove equipment and personnel from the stream channel<br>- Re-entry into the steam channel will be permitted after the water level has receded to a safe level as determined by the on-site health and safety personnel |

*Note: water levels may fluctuate in response to rainfall and close monitoring of precipitation data will be required.

## 2.3 Remedial Construction Activities

Prior to starting any remedial construction activities, Lockheed Martin and AECOM will obtain access to the affected properties by the property owners. In addition, AECOM will work with property owners and public utility providers to accurately locate all utilities. Excavation activities will begin at the upstream boundary of the apartment complex property. Excavation activities from the upstream boundary of the apartment complex property to the downstream boundary of the apartment complex property were included in the NYSDEC approved *2015 Construction and Restoration Work Plan*. Those activities were not completed during the 2015 construction season and are included in this

CRWP because they will be completed during the 2016 construction season. The 2016 remedial construction activities are summarized below.

### 2.3.1 Sediment and Side Bank Soil Excavation

All non-cohesive sediments overlying either the clay layer or the engineered base within WBBB and Bloody Brook from below the confluence of the WBBB and MBBB and top 2 feet of side bank soil including the flagstone will be excavated. Prior to starting excavation activities in or adjacent to the brook, a bypass system will be installed as described above to temporarily transfer the brook water around the stream channel. The bypass system will be installed and relocated as shown on Figures A-4A and A-4B of Appendix A. Bypass system locations are approximate and will be located as needed in the field to accommodate field conditions.

The removed flagstone may be reused to backfill excavations within the Onondaga County drainage district easement. If used as backfill, the stone material will be placed at depths of 1 foot below final restoration grade to allow for placement of 1 foot of soil or stone armoring over the flagstone. Prior to reuse, the flagstone will be rinsed to remove impacted soil and sediment. All rinse water will be captured and treated as construction water, and the soil rinsed from the flagstone will be captured and properly disposed. The flagstone will be broken into smaller pieces, 12 inches or less, to allow for reuse. In addition to the on-site re-use, the NYSDEC approved September 2015 Beneficial Use Determination (BUD) allows for off-site re-use by Onondaga County following a successful chip sampling protocol as outlined within the BUD. If the flagstones cannot be reused, it will be disposed of with the soil.

### 2.3.2 Upland Soil Excavation

Based on the data summarized in Tables 2A and 2B, upland soil (soil at the top of the steam side banks) from the Onondaga County drainage district easement, the apartment complex property, and commercial properties is required to be removed to depths up to 4 feet, as shown in Appendix A. Excavation will be completed by surveying the existing grade; removing soil to the required depth; and surveying the excavated grade to confirm the required depth has been achieved.

Due to issues with receiving access from the apartment complex property owner, the upland soil that is required to be removed from the apartment complex property will not be removed at this time as shown on Figure A-3B. In addition, the trees located within the apartment complex property will not be removed at this time. The sediment and side bank soils within the Onondaga County drainage district easement will be removed as described above. After the impacted soil has been removed, a demarcation layer (a nonwoven, permeable geotextile fabric [SKAPS GT121] or an approved equivalent), will be placed to mark where the required excavation was completed. Lockheed Martin is continuing their efforts to obtain access to the apartment complex property. If access is granted, the required removal will be completed as described above. If access is not granted, Lockheed Martin will continue to coordinate with NYSDEC regarding the apartment complex property. Prior to completing the soil removal, Lockheed Martin will notify the NYSDEC and submit the necessary notices and work plans.

### 2.3.3 Brook Channel and Side Bank Restoration

Sediment removed from the brook channel will be backfilled with imported low-permeable soil as needed to maintain the hydraulic grade line of the brook channel and with a 6-inch layer of stone to control erosion, as needed. The brook bottom will be restored similar to 2014 and 2015 restoration. The channel will be replaced at a minimum to the existing width and elevation.

The side slopes will be backfilled using the following sequence; demarcation layer, woven geotextile layer (Mirafi FW700 or an equivalent material), 0.5 feet of imported general fill soil, and 1.5 feet of 6- to 12-inch stone. Where flagstone is used as backfill within the stream side bank excavations within the drainage district easement, the following sequence will be used; demarcation layer, woven fabric layer, 1 foot of 12-inch broken flagstone, and 1 foot of light stone fill. The side bank armoring will be installed to the 100 year flood elevation or greater as needed to armor the brook side banks for erosion control. Where the armoring is not placed, 1 foot of the flagstone and 0.5 feet of general fill or 1.5 foot of general backfill will be placed with 0.5 feet of topsoil and planted. All soil backfill will meet the requirements of NYSDEC Technical Guidance for Site Investigation and Remediation (DER-10) Section 5.4(e). Channel and side bank restoration is shown in Appendix A.

The streambed and side banks will be monitored annually for a five year period. The inspection will be conducted in the early summer during typical low flow conditions. Conducting monitoring during this time period will allow for more of the streambed and side banks to be easily inspected. The inspection will consist of a visual inspection of the streambed and side banks for erosion of the placed material. If large areas of erosion are observed (i.e., 5 square feet of material missing) these areas will be replaced. If areas are identified for replacement, an evaluation will be conducted to determine if the selected material or design needs to be changed. Prior to implementation, the changes will be submitted to the NYSDEC for approval. The monitoring activities will be summarized and included in an annual site monitoring report that will be submitted to NYSDEC.

### 2.3.4 Upland Soil Restoration

Restoration of upland areas (areas at the top of the stream side banks) within the Onondaga County drainage district easement and commercial properties will be backfilled with imported soil that meets the requirements of NYSDEC DER-10 Section 5.4(e). A minimum of 2 feet of cover will be placed, including 1.5 feet of general fill and 0.5 feet of topsoil. Prior to placement of backfill material, a demarcation layer will be placed at the bottom of each excavation. The backfilled grade will be surveyed to confirm a minimum of 2 feet of cover is in place. The properties will be restored to existing conditions with consideration of input from the property owner and will include the placement of sod or planting grass and planting of trees, shrubs and other plants similar to what was removed from the area.

Upland areas will be visually inspected annually for a five year period. The inspection will include an evaluation of all plantings and any possible erosion. All plantings will be inspected after the first year. Plantings will be replaced until they are successfully established for a period of one year. If erosion is observed, the affected area will be repaired and an evaluation conducted to determine the cause. In some cases an alternative material or plantings may be installed. Any modifications to the restoration will be discussed with the property owner and reviewed and approved by NYSDEC. The monitoring activities will be summarized and included in an annual site monitoring report that will be submitted to NYSDEC.

### 2.3.5 Dewatering, Collection, and Transfer of Construction Water

Any water identified as potentially contaminated by direct contact with contaminated media (outside of the streambed) will be collected for management. Typical construction water could include, but is not limited to, the following:

- Groundwater or surface water entering excavations.

- Surface water resulting from precipitation during construction which has come in contact with potentially contaminated soils, fill, or debris.
- Liquids drained from covered stockpiles.
- Liquids generated during decontamination and cleaning activities.
- Liquids generated from the dewatering system.

The means and methods of collecting construction water will vary with the location of the water and the estimated volume. Pump type and capability will vary with the application. General pumping will be performed as follows:

- Pre-designed Sumps;
- 2- to 3-inch trash pumps for various excavations; and
- 2-inch submersibles where continuous pumping is needed.

In most cases, construction water will be pumped directly from the water source location to a weir tank through a filtration skid (consisting of a combination of bag and cartridge filters) to a holding tank. The weir tank will allow soil and sediment to settle out of the construction water, and the filtration skid will retain soil and sediment from the construction water. The weir tank and filtration skid will allow clean water to be placed into the holding tank. The treated construction water will be discharged into the brook or the sanitary sewer. Solid wastes resulting from the operation and maintenance of the water treatment system will be disposed of as impacted soil and sediment.

Prior to the construction water being discharge into the brook, it will be sampled to confirm it meets the appropriate discharge requirements [i.e., flow (monitor), total suspended solids (10 milligrams per liter) and cadmium (1.2 micrograms per liter)]. Batch sampling will be conducted prior to the initial discharge. Once water meets appropriate discharge requirements, weekly sampling (continuous flow) will be conducted to ensure compliance.

Prior to the construction water being discharged to the sanitary sewer, a permit will be obtained from Onondaga County Department of Water Environment and Protection, and the permit conditions will be followed including sample frequency and discharge limits.

# 3 Culvert Maintenance and Construction

The Pearl Street, Town Gardens Road, Old Liverpool Road, and CSX culverts will be cleaned of sediment, and the material around the culvert ends up to the edge of asphalt will be removed in sequence as remediation progresses downstream. Data from soil samples collected adjacent to the culverts is summarized in Table 3. Removed material will be disposed of following the same protocol used for adjacent soils as described in Section 5. Similar to the brook channel restoration described in Section 2.3.3, a 6-inch layer of stone, as needed, will be placed in the bottom of each of the culverts. Due to the small size of the CSX culverts (52-inch diameter), stone will not be placed in the bottom of the culverts. The culvert ends will be restored similar to side bank restoration described in Section 2.3.3 with a woven geotextile layer, imported general fill soil, and 6- to 12-inch stone to armor the culvert ends.

In addition to sediment and soil excavation for removal of cadmium contamination at the site, Lockheed Martin agreed to coordinate and execute the lining of the Pearl Street and Town Gardens Drive culverts. This technology, which has been previously implemented by Onondaga County, has shown to extend the life of the culverts by lining the degraded corrugated steel material with a cement mortar material with added polymers. The lining of Pearl Street and Town Gardens culvert will be completed shortly after the remedial activities are completed. Therefore, no stone will be placed in the bottom of the Pearl Street and Town Gardens Drive culverts following the remedial activities, and the culvert ends will be restored with guidance from the culvert lining company to allow for the lining to be properly implemented and the ends to be armored. Implementation of the culvert lining includes each culvert being cleaned of sediment, and the lining material being applied using a rotating sprayer head that evenly applies thin coats as it tracks through the culvert. Once dry, this material will provide approximately a 1-inch thick coating to all exposed interior culvert surfaces, and a 6-inch layer of stone, as needed, will be placed in the bottom of each of the culverts.

# 4 Community Air Monitoring

Community air monitoring will be performed during all intrusive activities at the site in accordance with the Community Air Monitoring Plan (CAMP) (Appendix B). In addition to the equipment designated in the CAMP, site conditions will be continuously monitored for visual dust. Appropriate actions will be taken to mitigate the risk of dust traveling off site following any visual observation of dust. Typical mitigation methods such as wetting the area, covering exposed surfaces, or reducing truck traffic will be employed. The air monitoring data and manual recordings, including any exceedance of the dust alert/action limits in accordance with DER-10 guidance, will be made available to the NYSDEC and New York State Department of Health (NYSDOH) personnel upon request.

# 5 Waste Management

In-situ waste characterization activities were completed in December 2015 in accordance with the October 2015 *Tree Removal Work Plan and Waste Characterization Soil Sampling Plan 2016 Construction Season*. The waste characterization activities included collection and analysis of composite samples for characterization of waste soils and sediments associated with the 2016 construction activities. The sample locations are shown on Figures 4A and 4B, and the analytical results are summarized in Table 4.

The soil and sediment has been characterized as non-hazardous waste and will be disposed of as non-hazardous waste material. The soil and sediment non-hazardous waste material will be excavated and direct loaded or stockpiled and loaded at a later time to be shipped off-site for proper disposal at a permitted landfill. In order to achieve acceptable consistency for the waste facility, the soil and sediment may be mixed with drier non-hazardous material already designated for off-site disposal and/or mixed with drying agents (e.g., cement kiln dust), as needed.

# 6 Quality Assurance and Reporting

Quality assurance associated with this CRWP is meant to reinforce the work to be performed and assure aspects of this CRWP and applicable local, state, and federal guidelines are adhered to during construction. Relevant items that may represent deviations from the approved remedial action design or schedule would be discussed with the NYSDEC representative and field changes will be submitted and approved as needed.

Progress meetings will be held on site on a regular basis (e.g., weekly, semi-weekly, or other mutually agreed upon frequency) to discuss status of project, progress-to-date, issues encountered, deviations from the approved remedial action design or schedule, corrective actions necessary, submittals/approvals necessary, schedule updates, etc.

Reporting will include daily, weekly, and monthly reporting requirements below.

## 6.1 Daily Reporting

A daily construction report assembled following each work day will contain the information listed below, and will be kept in the project files.

- List of personnel, subcontractors, equipment, and visitors on site including interactions held that day with property owners, government officials, or other third party persons
- Inventory of site deliveries including materials brought on site with associated bills of lading, if applicable, (e.g., fill material)
- Description of work performed on site including soil removal activities completed that day with associated waste and shipping documents and materials used or placed on site (e.g., landscaping items and personal protective equipment)
- Documentation of decisions made that impact on-site work including potential deviations from relevant work plans
- Record of samples collected
- Description of soil and sediment erosion controls inspections and repairs and modifications completed
- Summary of quality control activities
- Record of request for information
- List of transmittals and submittals
- Description of any community air monitoring conducted that day in accordance with the CAMP
- Photographic or written documentation associated with the work

## 6.2 Weekly Reporting

A weekly construction report will be assembled and submitted to NYSDEC following each work week and will contain the information listed below.

- Remedial construction activities completed for report week
- Remedial construction samples collected and analytical results received for report week
- Field changes requested and approved during report week

- Remedial construction activities projected for next week
- Remedial construction activities projected for two week outlook
- Remedial construction activities issues, responses, and resolutions

## 6.3 Monthly Reporting

A monthly report will be assembled, submitted to NYSDEC, and distributed consistent with the requirements of the VCA. The monthly report will contain the information listed below.

- Description of administrative activities
- Summary of investigation and remedial program activities including analytical data received
- Field changes requested and/or approved
- Projected work for next month

# 7 Spill Prevention and Response Plan

Performance of the remedial action activities, within the work areas, poses a potential for accidental spills and discharges. The immediate containment of a spill or discharge of hazardous materials is necessary to minimize the potential impact to human health and the environment. This section contains a Spill Prevention and Response Plan that includes procedures to be followed in the event of a spill or release at the work area during the remedial action activities.

## 7.1 Storage and Spill Prevention

Spill prevention has been developed as an integral part of this project. The key elements of the spill prevention program include the items listed below.

- Leak proof containment liners on the decontamination and cleaning pad.
- Portable fuel tanks with secondary containment (i.e., diesel and gasoline) including a 500 gallon tank with 110% secondary containment.
- Lockable steel containers – small chemical storage (e.g., oils, greases, etc.).
- Lined stockpiles with 6-mil polyethylene sheets.
- Secondary containment for the construction water treatment system.
- Storage cabinets for flammable materials.
- On-site inventory of spill response materials including sorbent pads and boom.
- Daily walk-through inspections of the construction site to check the piping, equipment, and tanks for leakage, soils for staining and discoloration, excessive accumulation of rainwater in containment structures, and verification that dike drain valves are sealed closed (which will be repaired or replaced as needed).
- Stormwater management systems have been established to prevent washout and migration of active sediment removal areas including
    - Decontamination graded to a collection sump; secondary containment with curbing and the liner barrier walls;
    - silt fence;
    - turbidity curtain; and
    - stabilized construction entrances.
- Heavy equipment and haul truck operators will be trained in the proper loading of the solid waste materials so that the waste is kept within the truck bed during loading and transit. Haul vehicles will be inspected daily to check for damage that could cause materials to be spilled out during waste transfer. Loading will take place on an impermeable surface (such as polyethylene sheeting) so that spilled waste may be easily cleaned up. Solid wastes spilled outside of the loading or staging areas during transit will be promptly cleaned up, either by hand with shovels or by using heavy equipment.
- Trucks hauling materials off site will be lined and covered, as necessary. Trucks used for transporting materials on site from removal area to stockpile areas would be covered, as needed.

## 7.2 Spill Response Plan

This section addresses spill response measures for potential spills or discharges of contaminant-related materials that could occur at the site during the work activities. A release constitutes potential for groundwater, surface water or atmospheric contamination.

Releases that could occur during the performance of work at this location include but are not limited to the following:

1. Oil/petroleum spills (diesel, gasoline, hydraulic fluid, etc.);
2. Chemical spills/releases (solvents, acid, paints, etc.); and
3. Cadmium impacted soil/sediment spill or release.

Spilled or released materials can be in the form of a solid, liquid, gas, or any combination thereof. The state of the discharged product at the time of release and the physical characteristics of the location could yield the movements summarized below.

1. Vertical movement – downward seepage through soil horizons and upward movement of vapors and dust in the atmosphere.
2. Lateral movement – horizontal movement of product following the contour of ground surfaces.
3. Combination – it is important to recognize the three-dimensional movement when containing a hazardous material.

### 7.2.1 Notification

In the event of a reportable spill, the AECOM on-site Construction Manager will immediately notify the AECOM Project Manager. The AECOM Project Manager will then immediately notify the Lockheed Martin Project Manager.

The AECOM Project Manager will provide the Lockheed Martin Project Manager with the following information.

1. Exact location of the release.
2. Type and description of released material.
3. Estimated amount of material released.
4. Extent of any injury or property damage.
5. Extent of actual or potential environmental damage, if known.
6. Summary of actions, if any, that have been taken to control the release.

The Lockheed Martin Project Manager will be responsible for calling the New York State Spill Hotline within 2 hours of notification of a spill. Other notifications may include the National Response Center (NRC) at 800-424-8802, and/or the Town of Salina and Village of Liverpool emergency response personnel as set forth in the *Technical Field Guidance Spill Reporting and Initial Notification Requirements* (NYSDEC, 1996).

### 7.2.2 Spill Countermeasures

Countermeasures will be implemented and will include the following general procedures:

1. Solid Spills (soil/sediment)
    - Take timely action to control and clean-up the release so that any hazard or potential hazard to human health, life or the environment will be expeditiously controlled and eliminated.
    - Immediately remove and place impacted materials into staging piles or containers.
    - Cover piles, secure and protect containers as appropriate.
    - Perform waste characterization and disposal.
2. Liquid and/or Sludge Spills (fuel, construction water, misc. chemicals)
    - Take timely action to control and clean-up the release so that any hazard or potential hazard to human health, life, or the environment will be expeditiously controlled and eliminated.
    - Absorb with sand, clean fill, or other absorbent material.
    - Remove and place the absorbent/spill mixture into staging piles or containers.
    - Cover piles, secure and protect containers as appropriate.
    - Perform waste characterization and disposal.
3. Fuel spills on water
    - All work activities shall be halted.
    - Take timely action to control and clean-up the release so that any hazard or potential hazard to human health, life or the environment will be expeditiously controlled and eliminated.
    - Will be managed with floating oil booms, sorbent pads and other typical water based spill management practices.
    - Remove and containerize spent sorbents.
    - Decontamination of impacted equipment.
    - Waste characterization and disposal.
4. General Techniques: When choosing the containment techniques to be employed, the possible movements of the material must be considered. The following actions can be employed to limit the movement of a spill.
    - Place a dam – Dams may be constructed of earth, sandbags, absorbent booms, boards, concrete, or other suitable material.
    - Dig a trench – Trenching is often used in lieu of damming. The trenches can be lined to serve as a collection area.
    - Use a dike – Dikes are like dams, only they are typically pre-built as a means of aiding containment at a storage staging area.
    - Remove the source – Retrieve liquids or sludge, if possible.
    - Limit upward movement – Reduce vapors and dust by spraying with water, foam, or other suitable material.

Employees performing these procedures are required to be properly trained, wear the proper protective clothing and equipment for the materials present, and follow established standard operating procedures for spill control. The Health and Safety Officer will evaluate the conditions of the spill and determine the appropriate level of personal protective equipment. Air monitoring, as needed, to determine the appropriate level of personal protective equipment needed in response to the spill/release will be completed.

Once contained, the spill shall be cleaned up in accordance with standard remediation methods. Upon completion of a satisfactory cleanup, the spill incident shall be reviewed by all management personnel in order to determine the conditions leading to the spill, additional prevention methods, and corrective actions to be immediately implemented.

Following the spill/release incident, AECOM will investigate its causes, evaluate response, re-evaluate procedures (and propose procedure modifications, if necessary) and write a report on the findings to be submitted to Lockheed Martin, and NYSDEC within 48 hours. An on-site copy of the New York State *Spill Guidance Manual* will be referenced in the event of a spill or release.

The equipment for spill containment and cleanup will be maintained on site and stored in the main, onsite storage area as summarized below.

| **Equipment / Supplies** | **Minimum Quantities** |
|---|---|
| PIG® Spill Kits | 3 EA |
| 55-gallon drums | 1 EA |
| Sorbent Pads | 20 bales |
| Disposable bags | 5 EA |
| Personal Protective Equipment | For two individuals |
| 8-inch Floating Oil Boom | 500 LF |
| Shovels, brooms, etc. | 3 EA |
| Speedi-Dri | 1 pallet |
| Overpack Drums | 4 EA |
| Enviro-clean | 5 gallons |

## 7.3 Spill Vendors

If an unforeseen spill emergency occurs, and additional supplies or assistance is needed the following vendor will be utilized.

National Response Corporation (NRC) [formerly Op-Tech]
6392 Deere Road
Syracuse, NY 13206
Phone Number: 315-437-2065

# 8 Green and Sustainable Remediation

The work completed as part of this CRWP will comply with all NYSDEC guidance documents including DER-31: Green Remediation. To ensure compliance with DER-31 the work will be completed using the best practices and techniques described below.

- Materials will be collected from local sources as available (e.g., backfill).
- Rechargeable batteries will be used for field instruments versus disposable batteries.
- Biodegradable soil stabilization matting will be used for side bank restoration, as applicable.
- Solid waste volume reductions will be evaluated to properly balance acceptable water content limits for off-site disposal.
- Noise impacts to off-site receptors will be minimized.
- Work and traffic patterns will be sequenced to minimize local traffic congestion.
- Remedial work phases will be sequenced to reduce or limit double handling of materials at the site.
- An idle reduction plan will be implemented for all on-site vehicles and machinery.
- Efficient traffic patterns will be established on site to minimize soil disturbance and noise.
- Equipment will be suitably sized to perform the work.
- Routine and on-time maintenance to equipment will be performed to improve fuel efficiency (i.e., oil changes).
- Re-vegetation/stabilization of excavated areas will be completed as soon as possible to minimize dust control measures.
- To the extent practicable, energy efficient systems and office equipment will be utilized within the site trailers.
- All vehicles and equipment that consume diesel fuel will use Low Sulfur Diesel Fuel.
- Flagstone will be decontaminated for reuse.
- Trees removed to conduct remediation activities will be chipped and used on site for walkways and as temporary ground cover over disturbed areas prior to restoration.

# 9 Schedule

Remedial construction activities for 2016 will begin where activities stopped in 2015 and proceed downstream to avoid any recontamination of downstream soils. Activities related to preparing the site for construction are being completed in accordance to the NYSDEC approved October 2015 *Tree Removal Work Plan and Waste Characterization Soil Sampling Plan 2016 Construction Season*. The site preparation work includes tree removal and installation of the temporary access road, erosion controls, and site security fence downstream of Old Liverpool Road. The activities summarized in this CRWP will be initiated following NYSDEC approval. Excavation activities from the upstream boundary of the apartment complex property to the downstream boundary of the apartment complex property were included in the NYSDEC approved *2015 Construction and Restoration Work Plan* and may be initiated prior to receiving NYSDEC approval of this CRWP. Prior to any work being initiated, NYSDEC will be notified. A project schedule is provided as Appendix C.

# TABLES

**Table 1**
**Trees to be Removed for the 2016 Construction Season**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Tree ID | Species | Common Name | Stem | DBH[1] of Four Largest Stems (inches) | | | | HEIGHT (feet) | CONDITION[2] | CRZ[3] (radial feet from trunk) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DBH | DBH | DBH | DBH | | | |
| T1047 | Acer saccharinum | Silver Maple | 1 | 21.00 | - | - | - | 65 | 3 | 32 |
| T1065 | Acer negundo | Box elder | 2 | 12.00 | 9.00 | - | - | 20 | 3 | 18 |
| T1066 | *Juglans nigra* | Black walnut | 2 | 17.00 | 17.00 | - | - | 75 | 3 | 26 |
| T1067 | *Acer saccharinum* | Silver maple | 1 | 18.00 | - | - | - | 55 | 2-3 | 27 |
| T1068 | *Quercus velutina* | Black Oak | 1 | 5.50 | - | - | - | 30 | 2-3 | 8 |
| T1075 | *Acer saccharinum* | Silver maple | 1 | 18.00 | - | - | - | 65 | 2-3 | 27 |
| T1076 | *Picea sp.* | Spruce | 1 | 12.00 | - | - | - | 55 | 3-4 | 18 |
| T1078 | Salix babylonica | Willow | 1 | 18.00 | - | - | - | 45 | 4-5 | 27 |
| T2000 | Acer negundo | Box elder | 2 | 12.60 | 18.75 | - | - | 40 | 5 | 16 |
| T2001 | Acer negundo | Box elder | 11 | 12.00 | 12.75 | 10.60 | 11.00 | 22 | 3 | 27 |
| T2002 | *Juglans nigra* | Black walnut | 1 | 14.50 | - | - | - | 52 | 3 | 25 |
| T2003 | *Acer saccharinum* | Silver maple | 2 | 13.00 | 13.00 | - | - | 60 | 3 | 25 |
| T2004 | *Acer saccharinum* | Silver maple | 1 | 10.75 | - | - | - | 52 | 6 | - |
| T2005 | Acer negundo | Box elder | 1 | 3.50 | - | - | - | 12 | 4 | 7 |
| *T2006* | *Tilia americana* | Basswood | 2 | 13.50 | 9.50 | - | - | 55 | 4 | 18 |
| *T2008* | *Acer negundo* | Box elder | 1 | 26.25 | - | - | - | 48 | 2 | 20 |
| *T2009* | *Catalpa bignonioides* | Catalpa | 1 | 4.25 | - | - | - | 16 | 3 | 8 |
| *T2010* | *Populus deltoids* | Cottonwood | 1 | 17.50 | - | - | - | 30 | 5 | 8 |
| *T2011* | *Ulmus americana* | Elm | 1 | 8.50 | - | - | - | 38 | 3 | 8 |
| *T2012* | *Acer negundo* | Box elder | 3 | 11.00 | 5.50 | 10.25 | - | 51 | 4 | 15 |
| *T2013* | *Ulmus americana* | Elm | 1 | 14.25 | - | - | - | 50 | 5 | 12 |
| *T2014* | *Ulmus americana* | Elm | 1 | 17.00 | - | - | - | 38 | 6 | - |
| *T2015* | *Acer negundo* | Box elder | 1 | 9.50 | - | - | - | - | 6 | - |
| *T2016* | *Acer negundo* | Box elder | 1 | 13.25 | - | - | - | 50 | 3 | 15 |
| *T2017* | *Acer saccharinum* | Silver maple | 3 | 10.00 | 17.50 | 20.00 | - | 70 | 4 | 15 |
| *T2018* | *Acer negundo* | Box elder | 2 | 5.25 | 7.50 | - | - | 25 | 3 | 10 |
| *T2019* | *Acer negundo* | Box elder | 4 | 10.25 | 7.50 | 9.00 | 11.25 | 19 | 3 | 15 |
| *T2020* | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 26 | 3 | 8 |
| *T2021* | *Acer saccharinum* | Silver maple | 3 | 3.00 | 2.50 | 2.50 | - | 15 | 3 | 8 |
| *T2022* | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 24 | 3 | 8 |
| *T2023* | *Acer negundo* | Box elder | 6 | 4.25 | 3.25 | 3.75 | 2.50 | 16 | 4 | 8 |
| *T2024* | *Acer negundo* | Box elder | 1 | 11.00 | - | - | - | 17 | 2 | 9 |
| *T2025* | *Gleditisia triacanthus* | Honey locust | 2 | 6.25 | 6.50 | - | - | 22 | 3 | 6 |
| *T2026* | *Populus deltoids* | Cottonwood | 1 | 5.50 | - | - | - | 30 | 3 | 5 |

**Table 1**
**Trees to be Removed for the 2016 Construction Season**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Tree ID | Species | Common Name | Stem | DBH[1] of Four Largest Stems (inches) | | | | HEIGHT (feet) | CONDITION[2] | CRZ[3] (radial feet from trunk) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DBH | DBH | DBH | DBH | | | |
| *T2027* | *Populus deltoids* | Cottonwood | 1 | 5.00 | - | - | - | 30 | 3 | 5 |
| *T2028* | *Populus deltoids* | Cottonwood | 1 | 7.50 | - | - | - | 55 | 3 | 10 |
| *T2029* | *Populus deltoids* | Cottonwood | 1 | 9.00 | - | - | - | 53 | 3 | 10 |
| *T2030* | *Populus deltoids* | Cottonwood | 1 | 11.25 | - | - | - | 55 | 3 | 10 |
| *T2031* | *Populus deltoids* | Cottonwood | 1 | 12.00 | - | - | - | 55 | 3 | 10 |
| *T2032* | *Acer negundo* | Box elder | 3 | 9.50 | 2.25 | 2.25 | - | 50 | 3 | 12 |
| *T2033* | *Acer negundo* | Box elder | 7 | 8.50 | 8.00 | 7.50 | 8.25 | 50 | 3 | 12 |
| *T2034* | *Acer negundo* | Box elder | 2 | 6.50 | 7.25 | - | - | 45 | 3 | 12 |
| *T2035* | *Acer negundo* | Box elder | 1 | 10.00 | - | - | - | 45 | 4 | 12 |
| *T2036* | *Acer negundo* | Box elder | 1 | 8.75 | - | - | - | 50 | 3 | 12 |
| *T2037* | *Acer negundo* | Box elder | 5 | 10.50 | 6.25 | 4.25 | 5.50 | 50 | 4 | 12 |
| *T2038* | *Acer negundo* | Box elder | 4 | 5.00 | 4.50 | 2.50 | 2.25 | 38 | 4 | 12 |
| *T2039* | *Gleditisia triacanthus* | Honeylocust | 1 | 5.75 | - | - | - | 35 | 3 | 9 |
| *T2040* | *Acer negundo* | Box elder | 6 | 3.75 | 2.25 | 3.00 | 2.75 | 33 | 5 | 5 |
| *T2041* | *Acer negundo* | Box elder | 1 | 6.50 | - | - | - | 45 | 3 | 12 |
| *T2042* | *Juglans nigra* | Black walnut | 1 | 6.75 | - | - | - | 45 | 3 | 13 |
| *T2043* | *Acer negundo* | Box elder | 3 | 3.25 | 4.00 | 5.25 | - | 35 | 4 | 12 |
| *T2044* | *Acer negundo* | Box elder | 1 | 3.25 | - | - | - | 35 | 3 | 10 |
| *T2045* | *Rhamnus* | Buckthorn | 3 | 4.00 | 2.75 | 2.75 | - | 40 | 2 | 12 |
| *T2046* | *Acer negundo* | Box elder | 1 | 4.75 | - | - | - | 40 | 4 | 12 |
| *T2047* | *Acer negundo* | Box elder | 3 | 4.75 | 4.00 | 6.00 | - | 40 | 4 | 12 |
| *T2048* | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 30 | 4 | 10 |
| *T2049* | *Acer negundo* | Box elder | 3 | 6.00 | 6.50 | 7.00 | - | 30 | 3 | 12 |
| *T2050* | *Acer negundo* | Box elder | 1 | 4.75 | - | - | - | 30 | 3 | 10 |
| *T2051* | *Acer negundo* | Box elder | 1 | 6.25 | - | - | - | 30 | 4 | 12 |
| *T2052* | *Acer negundo* | Box elder | 1 | 7.25 | - | - | - | 38 | 3 | 12 |
| *T2053* | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 25 | 4 | 10 |
| *T2054* | *Acer negundo* | Box elder | 1 | 3.50 | - | - | - | 30 | 5 | 10 |
| *T2055* | *Acer negundo* | Box elder | 1 | 3.50 | - | - | - | 40 | 3 | 12 |
| *T2056* | *Acer negundo* | Box elder | 1 | 7.50 | - | - | - | 45 | 4 | 12 |
| *T2057* | *Acer negundo* | Box elder | 1 | 4.75 | - | - | - | 30 | 3 | 12 |
| *T2058* | *Acer negundo* | Box elder | 1 | 8.75 | - | - | - | 45 | 3 | 12 |
| *T2059* | *Acer negundo* | Box elder | 1 | 5.25 | - | - | - | 40 | 3 | 12 |
| *T2060* | *Acer negundo* | Box elder | 1 | 3.50 | - | - | - | 35 | 3 | 10 |

**Table 1**
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**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Tree ID | Species | Common Name | Stem | DBH[1] of Four Largest Stems (inches) | | | | HEIGHT (feet) | CONDITION[2] | CRZ[3] (radial feet from trunk) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DBH | DBH | DBH | DBH | | | |
| *T2061* | *Acer negundo* | Box elder | 1 | 7.25 | - | - | - | 45 | 3 | 12 |
| *T2062* | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 40 | 3 | 12 |
| *T2063* | *Acer negundo* | Box elder | 1 | 7.00 | - | - | - | 40 | 3 | 12 |
| *T2064* | *Acer negundo* | Box elder | 1 | 6.25 | - | - | - | 35 | 3 | 10 |
| *T2065* | *Acer negundo* | Box elder | 3 | 4.00 | 3.00 | 2.75 | - | 35 | 4 | 10 |
| *T2066* | *Acer negundo* | Box elder | 1 | 5.25 | - | - | - | 35 | 3 | 10 |
| *T2067* | *Acer negundo* | Box elder | 3 | 4.25 | 3.25 | 2.75 | - | 35 | 3 | 11 |
| *T2068* | *Acer negundo* | Box elder | 1 | 9.50 | - | - | - | 45 | 4 | 13 |
| *T2069* | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 45 | 3 | 12 |
| *T2070* | *Gleditisia triacanthus* | Honey locust | 1 | 6.00 | - | - | - | 40 | 3 | 12 |
| *T2071* | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 46 | 3 | 12 |
| *T2072* | *Acer negundo* | Box elder | 1 | 6.00 | - | - | - | 45 | 3 | 12 |
| *T2073* | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 15 | 3 | 5 |
| *T2074* | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 40 | 3 | 8 |
| *T2075* | *Acer negundo* | Box elder | 1 | 5.50 | - | - | - | 45 | 3 | 8 |
| *T2076* | *Acer negundo* | Box elder | 1 | 3.25 | - | - | - | 30 | 3 | 6 |
| *T2077* | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 30 | 3 | 6 |
| *T2078* | *Acer negundo* | Box elder | 1 | 3.50 | - | - | - | 25 | 3 | 5 |
| *T2079* | *Acer negundo* | Box elder | 1 | 5.25 | - | - | - | 35 | 3 | 6 |
| *T2080* | *Acer negundo* | Box elder | 2 | 5.25 | 5.50 | - | - | 30 | 3 | 7 |
| *T2081* | *Acer negundo* | Box elder | 1 | 7.50 | - | - | - | 20 | 4 | 8 |
| *T2082* | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 35 | 3 | 6 |
| *T2083* | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 15 | 4 | 7 |
| *T2084* | *Acer negundo* | Box elder | 3 | 3.25 | 2.00 | 1.75 | - | 25 | 4 | 4 |
| *T2085* | *Acer negundo* | Box elder | 1 | 5.75 | - | - | - | 40 | 3 | 5 |
| *T2086* | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 35 | 3 | 6 |
| *T2087* | *Acer negundo* | Box elder | 1 | 7.75 | - | - | - | 35 | 4 | 7 |
| *T2088* | *Acer negundo* | Box elder | 1 | 5.00 | - | - | - | 35 | 3 | 6 |
| *T2089* | *Gleditisia triacanthus* | Honey locust | 1 | 3.50 | - | - | - | 25 | 3 | 5 |
| *T2090* | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 25 | 3 | 4 |
| *T2091* | *Acer negundo* | Box elder | 1 | 3.25 | - | - | - | 30 | 3 | 5 |
| *T2092* | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 20 | 3 | 4 |
| *T2093* | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 30 | 4 | 4 |
| *T2094* | *Acer negundo* | Box elder | 1 | 5.00 | - | - | - | 30 | 3 | 6 |

**Table 1**
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**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Tree ID | Species | Common Name | Stem | DBH[1] of Four Largest Stems (inches) | | | | HEIGHT (feet) | CONDITION[2] | CRZ[3] (radial feet from trunk) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DBH | DBH | DBH | DBH | | | |
| *T2095* | *Acer negundo* | Box elder | 2 | 5.25 | 3.50 | - | - | 45 | 3 | 6 |
| *T2096* | *Acer negundo* | Box elder | 1 | 6.50 | - | - | - | 18 | 4 | 5 |
| *T2097* | *Acer negundo* | Box elder | 3 | 4.50 | 4.00 | 2.25 | - | 30 | 3 | 7 |
| *T2098* | *Populus deltoids* | Cottonwood | 1 | 10.25 | - | - | - | 50 | 3 | 12 |
| *T2099* | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 20 | 4 | 6 |
| T2100 | *Acer negundo* | Box elder | 1 | 5.00 | - | - | - | 12 | 4 | 8 |
| T2101 | *Gleditisia triacanthus* | Honey locust | 1 | 5.00 | - | - | - | 35 | 3 | 10 |
| T2102 | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 30 | 3 | 6 |
| T2103 | *Acer negundo* | Box elder | 1 | 3.25 | - | - | - | 15 | 5 | 5 |
| T2104 | *Acer negundo* | Box elder | 1 | 6.00 | - | - | - | 30 | 3 | 6 |
| T2105 | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 25 | 3 | 5 |
| T2106 | *Acer negundo* | Box elder | 2 | 5.25 | 2.25 | - | - | 25 | 3 | 5 |
| T2107 | *Acer negundo* | Box elder | 1 | 4.75 | - | - | - | 30 | 3 | 6 |
| T2108 | *Acer negundo* | Box elder | 1 | 5.50 | - | - | - | 35 | 3 | 8 |
| T2109 | *Acer negundo* | Box elder | 2 | 7.25 | 4.25 | - | - | 25 | 3 | 8 |
| T2110 | *Acer negundo* | Box elder | 2 | 11.25 | 4.75 | - | - | 35 | 3 | 10 |
| T2111 | *Acer negundo* | Box elder | 1 | 6.25 | - | - | - | 35 | 3 | 7 |
| T2112 | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 18 | 5 | 6 |
| T2113 | *Juglans nigra* | Black walnut | 1 | 4.00 | - | - | - | 20 | 3 | 7 |
| T2114 | *Robinia Pseudoacacia* | *Black locust* | 1 | 15.50 | - | - | - | 50 | 2 | 15 |
| T2115 | *Acer negundo* | Box elder | 1 | 6.00 | - | - | - | 30 | 3 | 9 |
| T2116 | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 20 | 3 | 5 |
| T2117 | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 20 | 3 | 5 |
| T2118 | *Juglans nigra* | Black walnut | 1 | 3.25 | - | - | - | 18 | 3 | 5 |
| T2119 | *Acer negundo* | Box elder | 1 | 7.00 | - | - | - | 30 | 4 | 7 |
| T2120 | *Acer negundo* | Box elder | 2 | 8.25 | 3.75 | - | - | 40 | 3 | 10 |
| T2121 | *Acer negundo* | Box elder | 1 | 7.00 | - | - | - | 35 | 3 | 7 |
| T2122 | *Acer negundo* | Box elder | 1 | 11.75 | - | - | - | 50 | 3 | 13 |
| T2123 | *Acer negundo* | Box elder | 1 | 7.00 | - | - | - | 40 | 3 | 10 |
| T2124 | *Acer negundo* | Box elder | 1 | 6.75 | - | - | - | 35 | 3 | 9 |
| T2125 | *Acer negundo* | Box elder | 1 | 6.00 | - | - | - | 30 | 3 | 8 |
| T2126 | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 10 | 3 | 4 |
| T2127 | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 30 | 3 | 7 |
| T2128 | *Acer negundo* | Box elder | 1 | 3.50 | - | - | - | 30 | 3 | 6 |

**Table 1**
**Trees to be Removed for the 2016 Construction Season**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Tree ID | Species | Common Name | Stem | DBH[1] of Four Largest Stems (inches) | | | | HEIGHT (feet) | CONDITION[2] | CRZ[3] (radial feet from trunk) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DBH | DBH | DBH | DBH | | | |
| T2129 | *Acer negundo* | Box elder | 1 | 12.50 | - | - | - | 50 | 3 | 16 |
| T2130 | *Acer negundo* | Box elder | 3 | 6.00 | 3.00 | 2.25 | - | 30 | 3 | 8 |
| T2131 | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 30 | 3 | 7 |
| T2132 | *Acer negundo* | Box elder | 1 | 3.25 | - | - | - | 28 | 3 | 6 |
| T2133 | *Acer negundo* | Box elder | 2 | 5.50 | 7.50 | - | - | 30 | 3 | 7 |
| T2134 | *Acer negundo* | Box elder | 1 | 5.75 | - | - | - | 40 | 3 | 8 |
| T2135 | *Acer negundo* | Box elder | 1 | 8.50 | - | - | - | 40 | 3 | 8 |
| T2136 | *Acer negundo* | Box elder | 1 | 6.25 | - | - | - | 25 | 3 | 7 |
| T2137 | *Acer negundo* | Box elder | 1 | 7.50 | - | - | - | 30 | 3 | 8 |
| T2138 | *Acer negundo* | Box elder | 1 | 5.25 | - | - | - | 30 | 3 | 9 |
| T2139 | *Acer negundo* | Box elder | 1 | 6.25 | - | - | - | 35 | 3 | 8 |
| T2140 | *Acer negundo* | Box elder | 2 | 6.50 | 3.50 | - | - | 35 | 3 | 8 |
| T2141 | *Acer negundo* | Box elder | 1 | 6.00 | - | - | - | 35 | 3 | 8 |
| T2142 | *Acer negundo* | Box elder | 1 | 5.00 | - | - | - | 35 | 3 | 8 |
| T2143 | *Acer negundo* | Box elder | 2 | 7.00 | 5.00 | - | - | 35 | 3 | 8 |
| T2144 | *Acer negundo* | Box elder | 1 | 8.50 | - | - | - | 35 | 3 | 8 |
| T2145 | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 12 | 3 | 6 |
| T2146 | *Acer negundo* | Box elder | 1 | 4.00 | - | - | - | 5 | 5 | 2 |
| T2147 | *Acer negundo* | Box elder | 1 | 7.50 | - | - | - | 40 | 3 | 9 |
| T2148 | *Acer negundo* | Box elder | 1 | 4.75 | - | - | - | 30 | 5 | 8 |
| T2149 | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 35 | 3 | 8 |
| T2150 | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 35 | 3 | 3 |
| T2151 | *Acer negundo* | Box elder | 3 | 7.25 | 25.00 | 5.00 | - | 40 | 4 | 9 |
| T2152 | *Acer negundo* | Box elder | 1 | 7.75 | - | - | - | 35 | 3 | 8 |
| T2153 | *Acer negundo* | Box elder | 3 | 4.50 | 4.50 | 2.50 | - | 35 | 4 | 8 |
| T2154 | *Acer negundo* | Box elder | 1 | 7.25 | - | - | - | 40 | 3 | 9 |
| T2155 | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 30 | 3 | 8 |
| T2156 | *Acer negundo* | Box elder | 1 | 5.50 | - | - | - | 40 | 3 | 8 |
| T2157 | *Acer negundo* | Box elder | 1 | 6.50 | - | - | - | 40 | 3 | 8 |
| T2158 | *Acer negundo* | Box elder | 2 | 6.75 | 6.75 | - | - | 35 | 3 | 8 |
| T2159 | *Populus deltoids* | Cottonwood | 1 | 3.75 | - | - | - | 20 | 3 | 4 |
| T2160 | *Populus deltoids* | Cottonwood | 1 | 3.50 | - | - | - | 25 | 3 | 4 |
| T2161 | *Ulmus americana* | Elm | 1 | 4.00 | - | - | - | 20 | 3 | 4 |
| T2162 | *Populus deltoids* | Cottonwood | 5 | 5.75 | 7.00 | 5.00 | 3.00 | 40 | 3 | 6 |

**Table 1**
**Trees to be Removed for the 2016 Construction Season**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Tree ID | Species | Common Name | Stem | DBH[1] of Four Largest Stems (inches) | | | | HEIGHT (feet) | CONDITION[2] | CRZ[3] (radial feet from trunk) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DBH | DBH | DBH | DBH | | | |
| T2163 | *Populus deltoids* | Cottonwood | 3 | 6.50 | 5.25 | 4.25 | - | 40 | 3 | 6 |
| T2164 | *Populus deltoids* | Cottonwood | 2 | 4.75 | 6.25 | - | - | 40 | 3 | 6 |
| T2165 | *Populus deltoids* | Cottonwood | 1 | 4.00 | - | - | - | 35 | 3 | 5 |
| T2166 | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 35 | 3 | 7 |
| T2167 | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 35 | 3 | 6 |
| T2168 | *Populus grandidentata* | Large toothed Poplar | 1 | 8.25 | - | - | - | 50 | 3 | 10 |
| T2169 | *Populus grandidentata* | Large toothed Poplar | 1 | 8.50 | - | - | - | 50 | 3 | 10 |
| T2170 | *Acer negundo* | Box elder | 1 | 5.00 | - | - | - | 35 | 3 | 7 |
| T2171 | *Acer negundo* | Box elder | 1 | 4.25 | - | - | - | 30 | 3 | 6 |
| T2172 | *Acer negundo* | Box elder | 4 | 2.50 | 2.25 | 4.00 | 4.75 | 35 | 3 | 8 |
| T2173 | *Acer negundo* | Box elder | 1 | 3.25 | - | - | - | 35 | 4 | 7 |
| T2174 | *Acer negundo* | Box elder | 1 | 17.25 | - | - | - | 40 | 3 | 13 |
| T2175 | *Acer negundo* | Box elder | 1 | 8.25 | - | - | - | 45 | 3 | 8 |
| T2176 | *Acer negundo* | Box elder | 3 | 4.75 | 4.75 | 2.75 | - | 30 | 3 | 8 |
| T2177 | *Acer negundo* | Box elder | 1 | 7.00 | - | - | - | 35 | 3 | 8 |
| T2178 | *Rhamnus sp.* | Buckthorn | 1 | 7.75 | - | - | - | 18 | 3 | 6 |
| T2179 | *Acer negundo* | Box elder | 2 | 3.25 | 7.50 | - | - | 35 | 3 | 8 |
| T2180 | *Acer negundo* | Box elder | 1 | 7.50 | - | - | - | 35 | 3 | 8 |
| T2181 | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 20 | 6 | - |
| T2182 | *Acer negundo* | Box elder | 1 | 13.50 | - | - | - | 35 | 3 | 10 |
| T2183 | *Acer negundo* | Box elder | 1 | 7.00 | - | - | - | 40 | 3 | 8 |
| T2184 | *Acer negundo* | Box elder | 1 | 6.75 | - | - | - | 35 | 3 | 18 |
| T2185 | *Acer negundo* | Box elder | 1 | 3.75 | - | - | - | 30 | 4 | 2 |
| T2186 | *Acer negundo* | Box elder | 2 | 6.75 | 3.25 | - | - | 35 | 3 | 8 |
| T2187 | *Acer negundo* | Box elder | 1 | 5.75 | - | - | - | 35 | 3 | 8 |
| T2188 | *Acer negundo* | Box elder | 1 | 5.50 | - | - | - | 35 | 3 | 8 |
| T2189 | *Acer negundo* | *Box elder* | 1 | 8.50 | - | - | - | 35 | 3 | 8 |
| T2190 | *Acer negundo* | *Box elder* | 1 | 9.00 | - | - | - | 40 | 3 | 11 |
| T2191 | *Acer negundo* | *Box elder* | 1 | 6.00 | - | - | - | 45 | 4 | 11 |
| T2192 | *Acer negundo* | *Box elder* | 1 | 6.50 | - | - | - | 35 | 4 | 9 |
| T2193 | *Acer negundo* | *Box elder* | 1 | 7.00 | - | - | - | 40 | 3 | 10 |
| T2194 | *Acer negundo* | Box elder | 1 | 4.50 | - | - | - | 25 | 3 | 6 |
| T2195 | *Acer negundo* | Box elder | 1 | 6.25 | - | - | - | 35 | 3 | 7 |
| T2196 | *Acer negundo* | Box elder | 1 | 3.50 | - | - | - | 20 | 4 | 6 |

**Table 1**
**Trees to be Removed for the 2016 Construction Season**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Tree ID | Species | Common Name | Stem | DBH[1] of Four Largest Stems (inches) | | | | HEIGHT (feet) | CONDITION[2] | CRZ[3] (radial feet from trunk) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | DBH | DBH | DBH | DBH | | | |
| T2197 | *Acer negundo* | Box elder | 1 | 10.50 | - | - | - | 45 | 3 | 8 |
| T2198 | *Acer negundo* | Box elder | 1 | 3.50 | - | - | - | 12 | 4 | 3 |
| T2199 | *Acer negundo* | Box elder | 1 | 8.25 | - | - | - | 35 | 3 | 8 |
| T2200 | *Acer negundo* | Box elder | 5 | 10.25 | 7.25 | 11.50 | 6.00 | 35 | 4 | 8 |
| T2201 | *Acer negundo* | Box elder | 1 | 14.25 | - | - | - | 35 | 3 | 8 |
| T2202 | *Fraxinus Americana* | Green Ash | 1 | 7.50 | - | - | - | 35 | 3 | 8 |
| T2203 | *Fraxinus Americana* | Green Ash | 1 | 6.25 | - | - | - | 30 | 3 | 7 |
| T2204 | *Morus alba* | White Mulberry | 3 | 7.75 | 5.25 | 6.50 | - | 25 | 3 | 10 |
| T2205 | *Populus deltoids* | Cottonwood | 1 | 12.00 | - | - | - | 55 | 3 | 15 |
| T2206 | *Populus deltoids* | Cottonwood | 1 | 18.00 | - | - | - | 50 | 4 | 18 |
| T2207 | *Acer negundo* | Box elder | 1 | 12.00 | - | - | - | 40 | 3 | 12 |

DBH - Diameter at Breast Height
Surveyed condition of a Tree
1 - Specimen tree of quality similar to those found in arboretum
2 - Park tree – tree of high quality, maintained, free of competition and nuisance species (e.g., climbing vines, etc.)
3 - Average tree – some minor defects
4 -Tree with some damage, decay, or structural flaws
5 - Tree with major damage, decay, or structural flaws
6 - Dead tree
CRZ - Critical Root Zone refers to the area at which soil disturbance will result in potential damage to the tree
"-" - Not Applicable

**Table 2A**

**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**

**West Branch of Bloody Brook**

**Bloody Brook Voluntary Cleanup Program**

**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| B-6 | E29 | 0.80' - 1.5' | Cadmium | --- | --- | --- | --- | --- | 11/24/2003 | 0.97 |
| | | 1.5' - 7.5' | Cadmium | | --- | --- | --- | --- | 11/24/2003 | <0.59 |
| B-7 | D29 | 0' - 1.5' | Cadmium | --- | --- | --- | --- | --- | 11/24/2003 | 2 |
| | | 1.5' - 10' | Cadmium | | --- | --- | --- | --- | 11/24/2003 | 2.5 |
| B-8 | E28 | 0' - 2.5' | Cadmium | --- | --- | --- | --- | --- | 11/24/2003 | 0.72 |
| | | 2.5' - 10' | Cadmium | | --- | --- | --- | --- | 11/24/2003 | 0.93 |
| B-9 | F27 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/24/2003 | <0.62 |
| | | 1' - 10' | Cadmium | | --- | --- | --- | --- | 11/24/2003 | <0.57 |
| B-10 | F22 | 0' - 1.5' | Cadmium | --- | --- | --- | --- | --- | 11/25/2003 | 7 |
| | | 1.5' - 10' | Cadmium | | --- | --- | --- | --- | 11/25/2003 | 0.95 |
| DI-04-01 | F17 | 0' - 1' | Cadmium | 377.21 | 369.96 | 376.21 | Above | Silt with little clay & little sand | 4/25/2011 | 1.7 |
| | | 5' - 6' | Cadmium | | 369.96 | 371.21 | Above | Silty clay with some fine sand | 4/25/2011 | 0.29 |
| | | 6' - 7' | Cadmium | | 369.96 | 370.21 | At | Clay with little silt (organics) | 4/25/2011 | 1.4 |
| | | 7' - 8' | Cadmium | | 369.96 | 369.21 | Below | Clay with little silt (organics) | 4/25/2011 | 332 |
| | | 8' - 9' | Cadmium | | 369.96 | 368.21 | Below | Clay with little silt (organics) | 4/25/2011 | 0.98 |
| DI-06-01 | F18 | 0' - 1' | Cadmium | 375.82 | 369.18 | 374.82 | Above | Fine sand with little silt | 4/25/2011 | 1.4 |
| | | 1' - 2' | Cadmium | | 369.18 | 373.82 | Above | Fine sand with little silt | 4/25/2011 | 0.19 J |
| | | 2' - 3' | Cadmium | | 369.18 | 372.82 | Above | Silt with some fine sand & trace clay | 4/25/2011 | 0.24 |
| | | 3' - 4' | Cadmium | | 369.18 | 371.82 | Above | Silt with some fine sand & trace clay | 4/25/2011 | 0.25 |
| | | 4' - 5' | Cadmium | | 369.18 | 370.82 | Above | Silt with some fine sand & trace clay | 4/25/2011 | 0.47 |
| | | 5' - 6' | Cadmium | | 369.18 | 369.82 | Above | Silt with little sand & little clay | 4/25/2011 | 10.5 |
| | | 6' - 7' | Cadmium | | 369.18 | 368.82 | At | Silt with little sand & little clay | 4/25/2011 | 0.48 |
| | | 7' - 8' | Cadmium | | 369.18 | 367.82 | Below | Gray clay at 7'-6" | 4/25/2011 | <0.26 U |
| DI-06-02 | F18 | 4' - 5' | Cadmium | 376.21 | 369.98 | 371.21 | Above | Silt with little clay | 4/25/2011 | 0.20 J |
| | | 5' - 6' | Cadmium | | 369.98 | 370.21 | At | Silt with little clay | 4/25/2011 | 3.2 |
| | | 6' - 7' | Cadmium | | 369.98 | 369.21 | Below | Silt with little clay | 4/25/2011 | 0.26 J |
| DI-07-01 | F20 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silt & sand/gravel & organics | 8/14/2009 | 28.8 J |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silty clay/gravel | 8/14/2009 | 32.2 J [36.1 J] |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silt & sand | 8/14/2009 | 20.7 J |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silt & clay | 8/14/2009 | 1.16 J |
| DI-07-02 | F20 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silty clay/gravel & organics | 8/14/2009 | 32.4 J |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silt & clay/gravel | 8/14/2009 | 5.98 J |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silt & clay/gravel | 8/14/2009 | 10.8 J |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silt & sand/clay | 8/14/2009 | 12.1 J |
| | | 4' - 5' | Cadmium | | --- | --- | --- | Silt & sand/clay | 8/14/2009 | 6.11 J |
| | | 5' - 6' | Cadmium | | --- | --- | --- | Silt & sand/clay | 8/14/2009 | 5.25 J |
| DI-07-03 | F20 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silt & clay/gravel & organics | 8/14/2009 | 0.422 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silt & clay | 8/14/2009 | 0.535 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silt & clay | 8/14/2009 | 7.38 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty clay | 8/14/2009 | 3.39 |
| | | 4' - 5' | Cadmium | | --- | --- | --- | Silt & sand/clay & gravel | 8/14/2009 | 5.06 |
| | | 5' - 6' | Cadmium | | --- | --- | --- | Silt & clay | 8/14/2009 | 73 |
| | | 6' - 7' | Cadmium | | --- | --- | --- | Silty clay/sand | 8/14/2009 | <0.267 |
| | | 7' -8' | Cadmium | | --- | --- | --- | Silt & sand | 8/14/2009 | <0.261 |
| | | 8' - 9' | Cadmium | | --- | --- | --- | Silty clay/sand | 8/14/2009 | 0.277 J |
| | | 9' -10' | Cadmium | | --- | --- | --- | Silty clay to sand | 8/14/2009 | 1.49 |
| | | 10' - 11' | Cadmium | | --- | --- | --- | Sand/clay to silty clay | 8/14/2009 | <0.243 |
| DI-08-01 | F21 | 0' - 1' | Cadmium | 376.77 | 367.59 | 375.77 | Above | Clayey silt, sand | 4/26/2011 | 0.25 |
| | | 1' - 2' | Cadmium | | 367.59 | 374.77 | Above | Sand, silty clay | 4/26/2011 | 0.24 |
| | | 2' - 3' | Cadmium | | 367.59 | 373.77 | Above | Silty clay | 4/26/2011 | 0.38 |
| | | 3' - 4' | Cadmium | | 367.59 | 372.77 | Above | Silty clay | 4/26/2011 | 0.10 J |
| | | 4' - 5' | Cadmium | | 367.59 | 371.77 | Above | Clayey silt, silty clay | 4/26/2011 | 5.6 |
| | | 5' - 6' | Cadmium | | 367.59 | 370.77 | Above | Silty clay, clayey silt | 4/26/2011 | 1.0 |
| DI-09-01 | F21 | 0 - 1' | Cadmium | --- | --- | --- | --- | Sand & Silt, trace organics & gravel | 9/21/2009 | 0.601 |
| | | 1 - 2' | Cadmium | | --- | --- | --- | Sand & silt, trace organics & gravel | 9/21/2009 | 0.270 |
| | | 2 - 3' | Cadmium | | --- | --- | --- | Sand & silt, trace organics & gravel | 9/21/2009 | 5.74 |
| | | 3 - 4' | Cadmium | | --- | --- | --- | Silt & sand, trace gravel | 9/21/2009 | 0.246 |
| | | 4 - 5' | Cadmium | | --- | --- | --- | Sand & silt | 9/21/2009 | 0.254 |
| | | 5 - 6' | Cadmium | | --- | --- | --- | Silt & sand, trace gravel | 9/21/2009 | 4.21 |
| | | 6 - 7' | Cadmium | | --- | --- | --- | Silt | 9/21/2009 | 9.12 |
| DI-09-02 | F21 | 0 - 1' | Cadmium | --- | --- | --- | --- | Sand & silt, organics | 9/21/2009 | 3.45 |
| | | 1 - 2' | Cadmium | | --- | --- | --- | Sand & silt, organics | 9/21/2009 | 10.7 |
| | | 2 - 3' | Cadmium | | --- | --- | --- | Sand & silt, organics & trace clay | 9/21/2009 | 0.982 |
| | | 3 - 4' | Cadmium | | --- | --- | --- | Silt & sand, trace organics | 9/21/2009 | 0.77 |
| | | 4 - 5' | Cadmium | | --- | --- | --- | Silt & sand, trace organics | 9/21/2009 | 9.40 |
| | | 5 - 6' | Cadmium | | --- | --- | --- | Silty clay & fine sand | 9/21/2009 | 5.76 |
| | | 6 - 7' | Cadmium | | --- | --- | --- | Fine sand & silt | 9/21/2009 | 3.55 |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| DI-09-03 | G21 | 0' - 1' | Cadmium | 375.67 | 367.69 | 374.67 | Above | Silt, silty sand, trace gravel | 4/25/2011 | 0.98 |
| | | 1' - 2' | Cadmium | | 367.69 | 373.67 | Above | Silty sand, silt, clay, trace gravel | 4/25/2011 | 6.6 |
| DI-09-04 | G21 | 0' - 1' | Cadmium | 376.02 | 367.29 | 375.02 | Above | Silty clay, clay | 4/25/2011 | 0.72 |
| | | 1' - 2' | Cadmium | | 367.29 | 374.02 | Above | Silty clay | 4/25/2011 | 0.72 |
| DI-10-01 | G22 | 0' - 1' | Cadmium | 373.62 | 366.48 | 372.62 | Above | Silty clay, clayey silt | 4/25/2011 | 5.5 B |
| | | 1' - 2' | Cadmium | | 366.48 | 371.62 | Above | Silty clay, clay | 4/25/2011 | 2.4 B |
| DI-11-01 | F22 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silt & sand/ organics & gravel | 8/14/2009 | 7.21 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silt with sand/organics & clay | 8/14/2009 | 6.38 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silt with sand/clay & gravel | 8/14/2009 | 3.76 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silt with sand/clay & gravel | 8/14/2009 | 49 |
| DI-11-02 | F22 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silt with gravel/organics | 8/14/2009 | 0.431 [0.276] |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silt with clay/gravel & organics | 8/14/2009 | 0.062 J |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silt with gravel | 8/14/2009 | 0.266 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silt | 8/14/2009 | 0.240 |
| | | 4' - 5' | Cadmium | | --- | --- | --- | Silt with gravel | 8/14/2009 | 0.213 J |
| | | 5' - 6' | Cadmium | | --- | --- | --- | Silt with gravel | 8/14/2009 | 0.074 J |
| DI-11-03 | F22 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silt & clay/organics & gravel | 8/14/2009 | <0.261 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silt & clay/organics & gravel | 8/14/2009 | 0.523 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silt with gravel/organics | 8/14/2009 | 0.154 J |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silt with gravel/organics | 8/14/2009 | 0.327 |
| | | 4' - 5' | Cadmium | | --- | --- | --- | Silt with gravel/organics | 8/14/2009 | <0.253 |
| | | 5' - 6' | Cadmium | | --- | --- | --- | Silt with gravel/organics, some sand | 8/14/2009 | 0.061 J |
| | | 6' - 7' | Cadmium | | --- | --- | --- | Silt with gravel/organics, some sand | 8/14/2009 | <0.243 |
| | | 7' -8' | Cadmium | | --- | --- | --- | Silt with gravel/organics, some sand | 8/14/2009 | <0.250 |
| | | 8' - 9' | Cadmium | | --- | --- | --- | Silt/clay | 8/14/2009 | <0.265 |
| | | 9' -10' | Cadmium | | --- | --- | --- | Silty clay/sand | 8/14/2009 | <0.235 |
| | | 10' - 11' | Cadmium | | --- | --- | --- | Silty clay/sand | 8/14/2009 | <0.267 |
| DI-13-01 | F27 | 0' - 1' | Cadmium | 371.26 | 364.09 | 370.26 | Above | Fine sand, some gravel, organics | 8/23/2011 | 1.4 |
| | | 1' - 2' | Cadmium | | 364.09 | 369.26 | Above | Fine sand, some gravel, organics | 8/23/2011 | 2.7 |
| | | 2' - 3' | Cadmium | | 364.09 | 368.26 | Above | Fine sand, little silt, trace gravel | 8/23/2011 | 0.30 |
| | | 3' - 4' | Cadmium | | 364.09 | 367.26 | Above | Silty fine sand - silt increasing with depth | 8/23/2011 | 0.35 |
| | | 4' - 5' | Cadmium | | 364.09 | 366.26 | Above | Sandy silt to 4'-6" then silty clay | 8/23/2011 | 0.19 J [0.14 J] |
| | | 5' - 6' | Cadmium | | 364.09 | 365.26 | Above | Clay, trace silt | 8/23/2011 | 0.22 J |
| | | 6' - 7' | Cadmium | | 364.09 | 364.26 | At | Clay, trace silt | 8/23/2011 | 0.16 J |
| DI-13-02 | F27 | 0' - 1' | Cadmium | 371.67 | 364.09 | 370.67 | Above | Fine sand, little gravel, trace silt (organics) | 8/23/2011 | 4.6 |
| | | 1' - 2' | Cadmium | | 364.09 | 369.67 | Above | Fine sand, some gravel, little silt (organics) | 8/23/2011 | 2.3 |
| | | 2' - 3' | Cadmium | | 364.09 | 368.67 | Above | Fine sand, little silt, trace gravel | 8/23/2011 | 0.38 |
| | | 3' - 4' | Cadmium | | 364.09 | 367.67 | Above | Silty sand, trace clay (mottling), trace gravel | 8/23/2011 | 0.30 |
| DI-13-03 | F27 | 0' - 1' | Cadmium | 372.25 | 364.09 | 371.25 | Above | Fine sand, some gravel, organics | 8/23/2011 | 0.91 |
| | | 1' - 2' | Cadmium | | 364.09 | 370.25 | Above | Fine sand, some gravel | 8/23/2011 | 0.072 J |
| | | 2' - 3' | Cadmium | | 364.09 | 369.25 | Above | Fine sand, some gravel, organics | 8/23/2011 | 0.25 |
| | | 3' - 4' | Cadmium | | 364.09 | 368.25 | Above | Fine sand, some gravel, organics | 8/23/2011 | 0.11 J |
| | | 4' - 5' | Cadmium | | 364.09 | 367.25 | Above | Clayey silt, increasing clay with depth | 8/23/2011 | 5.8 |
| | | 5' - 6' | Cadmium | | 364.09 | 366.25 | Above | Silty clay to 5'-8" then silt | 8/23/2011 | 1.1 |
| | | 6' - 7' | Cadmium | | 364.09 | 365.25 | Above | Clayey silt | 8/23/2011 | <0.22 |
| DI-14-01 | E27 | 0' - 1' | Cadmium | 373.33 | 364.23 | 372.33 | Above | Sand, some gravel, trace silt | 8/23/2011 | 0.50 |
| | | 1' - 2' | Cadmium | | 364.23 | 371.33 | Above | Sand, some gravel, some silt | 8/23/2011 | 0.14 J [0.40] |
| | | 2' - 3' | Cadmium | | 364.23 | 370.33 | Above | Sand, some gravel, some silt, trace clay | 8/23/2011 | 0.15 J |
| | | 3' - 4' | Cadmium | | 364.23 | 369.33 | Above | Sand, some gravel, trace silt | 8/23/2011 | 0.045 J |
| | | 4' - 5' | Cadmium | | 364.23 | 368.33 | Above | Sand, some gravel, trace silt to 4'-6" then silt, trace clay | 8/23/2011 | 5.3 |
| | | 5' - 6' | Cadmium | | 364.23 | 367.33 | Above | Silt with organics, trace clay | 8/23/2011 | 78.1 |
| | | 6' - 7' | Cadmium | | 364.23 | 366.33 | Above | Silt with less organics, trace clay | 8/23/2011 | 0.42 |
| DI-14-02 | E27 | 4' - 5' | Cadmium | 373.82 | 364.24 | 368.82 | Above | Sand, some gravel, trace silt | 8/23/2011 | 0.058 J |
| | | 5' - 6' | Cadmium | | 364.24 | 367.82 | Above | Sand, some gravel, trace silt to 5'-6" then silt, organics, trace clay | 8/23/2011 | 4.9 J |
| | | 6' - 7' | Cadmium | | 364.24 | 366.82 | Above | Silt, organics, trace clay | 8/23/2011 | 4.6 J |
| | | 7' - 8' | Cadmium | | 364.24 | 365.82 | Above | Clayey silt, trace fine sand | 8/23/2011 | 0.52 J |
| DI-15-01 | C30 | 0' - 1' | Cadmium | 372.6 | 364.55 | 371.6 | Above | Silty sand, little gravel, trace clay | 8/22/2011 | 0.62 |
| | | 1' - 2' | Cadmium | | 364.55 | 370.6 | Above | Silty sand, little gravel, trace clay | 8/22/2011 | 15.2 |
| | | 2' - 3' | Cadmium | | 364.55 | 369.6 | Above | Silty sand, little gravel, trace clay | 8/22/2011 | 18 |
| | | 3' - 4' | Cadmium | | 364.55 | 368.6 | Above | Silty sand, little gravel, trace clay | 8/22/2011 | 4.9 |
| | | 4' - 5' | Cadmium | | 364.55 | 367.6 | Above | Silt, trace clay | 8/22/2011 | 0.27 |
| | | 5' - 6' | Cadmium | | 364.55 | 366.6 | Above | Silt, little clay | 8/22/2011 | 0.21 J |
| | | 6' - 7' | Cadmium | | 364.55 | 365.6 | Above | Silt, little clay | 8/22/2011 | 0.19 J |
| DI-15-02 | C30 | 0' - 1' | Cadmium | 372.62 | 364.55 | 371.62 | Above | Silty sand & gravel, trace clay | 8/22/2011 | 2.5 |
| | | 1' - 2' | Cadmium | | 364.55 | 370.62 | Above | Silty sand & gravel, trace clay | 8/22/2011 | 3.7 |
| | | 2' - 3' | Cadmium | | 364.55 | 369.62 | Above | Sandy silt with little gravel, trace clay | 8/22/2011 | 2.3 |
| | | 3' - 4' | Cadmium | | 364.55 | 368.62 | Above | Sandy silt with little gravel, trace clay | 8/22/2011 | 2.9 |
| | | 4' - 5' | Cadmium | | 364.55 | 367.62 | Above | Silt, little clay (green & red mottling) | 8/22/2011 | 1.5 |
| | | 5' - 6' | Cadmium | | 364.55 | 366.62 | Above | Silt, little clay | 8/22/2011 | 0.26 [0.20 J] |
| | | 6' - 7' | Cadmium | | 364.55 | 365.62 | Above | Silt, little clay | 8/22/2011 | 0.14 J |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| DI-32A-01 | F20 | 0 - 1' | Cadmium | --- | --- | --- | --- | Silt, organics and gravel | 9/21/2009 | 0.276 [0.215 J] |
| | | 1 - 2' | Cadmium | | --- | --- | --- | Sand & silt, gravel | 9/21/2009 | 1.72 |
| | | 2 - 3' | Cadmium | | --- | --- | --- | Sand & silt, gravel | 9/21/2009 | 4.71 |
| | | 3 - 4' | Cadmium | | --- | --- | --- | Sand & silt, gravel | 9/21/2009 | 0.591 |
| | | 4 - 5' | Cadmium | | --- | --- | --- | Sand & silt, gravel | 9/21/2009 | 78.6 |
| | | 5 - 6' | Cadmium | | --- | --- | --- | Sand & silt, gravel | 9/21/2009 | 6.53 |
| DI-32C-01 | F21 | 0 - 1' | Cadmium | --- | --- | --- | --- | Sand & silt, organics | 9/21/2009 | 0.444 |
| | | 1 - 2' | Cadmium | | --- | --- | --- | Sand & silt, gravel | 9/21/2009 | 1.19 |
| | | 2 - 3' | Cadmium | | --- | --- | --- | Sand & silt, gravel | 9/21/2009 | 0.238 [0.180 J] |
| | | 9 - 10' | Cadmium | | --- | --- | --- | Silty clay | 9/21/2009 | <0.255 |
| | | 10 - 11' | Cadmium | | --- | --- | --- | Silty clay | 9/21/2009 | <0.235 |
| DI-32C-02 | F21 | 0 - 1' | Cadmium | --- | --- | --- | --- | Sand & silt, organics | 9/21/2009 | 0.460 |
| | | 1 - 2' | Cadmium | | --- | --- | --- | Sand & silt, organics | 9/21/2009 | 1.32 |
| | | 2 - 3' | Cadmium | | --- | --- | --- | Silt & sand, trace clay | 9/21/2009 | 0.164 J |
| DI-33-01 | G23 | 0' - 1' | Cadmium | --- | --- | -- | --- | Gravel/silt and sand | 8/11/2009 | 2.26 |
| | | 1' - 2' | Cadmium | | --- | -- | --- | Silty clay with gravel | 8/11/2009 | 2.48 |
| | | 2' - 3' | Cadmium | | --- | -- | --- | Silty clay with gravel | 8/11/2009 | 2.05 [2.74] |
| | | 3' - 4' | Cadmium | | --- | -- | --- | Silty clay with gravel/organics | 8/11/2009 | 3.95 |
| | | 4' - 5' | Cadmium | | --- | -- | --- | Silty clay with gravel/organics | 8/11/2009 | 2.73 |
| DI-34-01 | G24 | 0' - 1' | Cadmium | 371.98 | 365.46 | 370.98 | Above | Fine sandy silt, trace clay & organics | 8/24/2011 | 22.0 |
| | | 1' - 2' | Cadmium | | 365.46 | 369.98 | Above | Sandy silt, trace clay | 8/24/2011 | 101 |
| | | 2' - 3' | Cadmium | | 365.46 | 368.98 | Above | Sandy silt, trace clay | 8/24/2011 | 5.0 |
| | | 3' - 4' | Cadmium | | 365.46 | 367.98 | Above | Silt | 8/24/2011 | 0.51 |
| DI-34-02 | G24 | 0' - 1' | Cadmium | 372.31 | 365.46 | 371.31 | Above | Silt, some fine sand, little clay | 8/24/2011 | 48.2 J |
| | | 1' - 2' | Cadmium | | 365.46 | 370.31 | Above | Silt, little fine sand, little clay | 8/24/2011 | 8.8 J |
| | | 2' - 3' | Cadmium | | 365.46 | 369.31 | Above | Silt, little to trace clay | 8/24/2011 | 23.2 J |
| | | 3' - 4' | Cadmium | | 365.46 | 368.31 | Above | Silt, little fine sand, little clay | 8/24/2011 | 15.6 J |
| DI-45-01 | F19 | 0' - 1' | Cadmium | 375.04 | 369.27 | 374.04 | Above | Clay, silty clay | 4/25/2011 | 3.6 |
| | | 1' - 2' | Cadmium | | 369.27 | 373.04 | Above | Clay, silty clay, fine sand | 4/25/2011 | 0.33 |
| | | 2' - 3' | Cadmium | | 369.27 | 372.04 | Above | Clay, silty clay, silt, trace fine sand | 4/25/2011 | 0.62 |
| | | 3' - 4' | Cadmium | | 369.27 | 371.04 | Above | Clay, silty clay, organics | 4/25/2011 | 530 |
| | | 4' - 5' | Cadmium | | 369.27 | 370.04 | Above | Clay, silty clay, occasional roots | 4/25/2011 | 4.5 |
| | | 5' - 6' | Cadmium | | 369.27 | 369.04 | At | Clay, clayey silt, silt, sandy silt | 4/25/2011 | 2.8 |
| | | 6' - 7' | Cadmium | | 369.27 | 368.04 | Below | Clayey silt, clay, sandy silt | 4/25/2011 | 9.5 |
| | | 7' - 8' | Cadmium | | 369.27 | 367.04 | Below | Clay | 4/25/2011 | 0.58 |
| DI-45-02 | F19 | 0' - 1' | Cadmium | 375.66 | 369.27 | 374.66 | Above | Clay | 4/25/2011 | 4.1 |
| | | 1' - 2' | Cadmium | | 369.27 | 373.66 | Above | Clay, silty clay | 4/25/2011 | 1.9 |
| | | 2' - 3' | Cadmium | | 369.27 | 372.66 | Above | Clay, silty clay | 4/25/2011 | 2.5 |
| | | 3' - 4' | Cadmium | | 369.27 | 371.66 | Above | Clay, silty clay | 4/25/2011 | 2.6 |
| DI-45-03 | F19 | 0' - 1' | Cadmium | 376.01 | 369.27 | 375.01 | Above | Clay, silty clay | 4/25/2011 | 0.50 |
| | | 1' - 2' | Cadmium | | 369.27 | 374.01 | Above | Clay, silty clay | 4/25/2011 | 0.21 J |
| DI-46-01 | F21 | 0' - 1' | Cadmium | 377.47 | 367.00 | 376.47 | Above | Clayey silt, silty clay, trace gravel | 4/27/2011 | 3.6 |
| | | 1' - 2' | Cadmium | | 367.00 | 375.47 | Above | Silty clay, clayey silt, gravel | 4/27/2011 | 0.83 |
| DI-46-02 | F21 | 0' - 1' | Cadmium | 377.39 | 367.00 | 376.39 | Above | Clayey silt, silty clay, fine to coarse gravel | 4/27/2011 | 0.79 |
| | | 1' - 2' | Cadmium | | 367.00 | 375.39 | Above | Fine to coarse gravel, silty clay | 4/27/2011 | 0.70 |
| DI-47-01 | F21 | 0' - 1' | Cadmium | 377.02 | 366.91 | 376.02 | Above | Clayey silt with little fine sand | 4/26/2011 | 2.2 |
| | | 1' - 2' | Cadmium | | 366.91 | 375.02 | Above | Clayey silt with little fine sand | 4/26/2011 | 2.6 |
| DI-47-03 | F21 | 0' - 1' | Cadmium | 377.58 | 366.91 | 376.58 | Above | Clayey silt with little fine sand, trace gravel | 4/26/2011 | 0.60 |
| | | 1' - 2' | Cadmium | | 366.91 | 375.58 | Above | Clayey silt with little fine sand, trace gravel, less clay | 4/26/2011 | 1.4 |
| DI-48-01 | F21 | 0' - 1' | Cadmium | 373.27 | 366.79 | 372.27 | Above | Silty clay, roots | 4/25/2011 | 52.6 B |
| | | 1' - 2' | Cadmium | | 366.79 | 371.27 | Above | Silty clay with clay | 4/25/2011 | 9.6 B |
| | | 2' - 3' | Cadmium | | 366.79 | 370.27 | Above | Silty clay with clay | 4/25/2011 | 6.5 B |
| | | 3' - 4' | Cadmium | | 366.79 | 369.27 | Above | Clay with silty clay | 4/25/2011 | 9.8 B |
| DI-48-02 | G21 | 0' - 1' | Cadmium | 373.67 | 366.79 | 372.67 | Above | Clayey silt, sandy silt, silty sand | 4/25/2011 | 0.31 |
| | | 1' - 2' | Cadmium | | 366.79 | 371.67 | Above | Clayey silt | 4/25/2011 | 0.095 J |
| DI-49-01 | G23 | 0' - 1' | Cadmium | 372.96 | 366.19 | 371.96 | Above | Clayey silt, clay, sandy silt | 4/25/2011 | 4.3 B |
| | | 1' - 2' | Cadmium | | 366.19 | 370.96 | Above | Silty clay, clay | 4/25/2011 | 1.7 B |
| | | 2' - 3' | Cadmium | | 366.19 | 369.96 | Above | Clay, silty clay, little gravel | 4/25/2011 | 3.3 BJ [0.84 BJ] |
| | | 3' - 4' | Cadmium | | 366.19 | 368.96 | Above | Clay, silty clay | 4/25/2011 | 1.7 B |
| DI-49-02 | G23 | 0' - 1' | Cadmium | 373.23 | 366.18 | 372.23 | Above | Silty clay, clay, roots | 4/25/2011 | 6.4 |
| | | 1' - 2' | Cadmium | | 366.18 | 371.23 | Above | Silty clay, clay, coarse gravel | 4/25/2011 | 6.8 |
| DI-49-03 | G23 | 0' - 1' | Cadmium | 373.62 | 366.18 | 372.62 | Above | Silty clay, clay, trace gravel | 4/25/2011 | 0.78 |
| | | 1' - 2' | Cadmium | | 366.18 | 371.62 | Above | Silty clay, clay, cobble | 4/25/2011 | 10.7 |
| DI-55-01 | G23 | 0' - 1' | Cadmium | 373.13 | 366.19 | 372.13 | Above | Silty clay, clay | 4/25/2011 | 2.6 B |
| | | 1' - 2' | Cadmium | | 366.19 | 371.13 | Above | Clay | 4/25/2011 | 1.5 B |
| | | 2' - 3' | Cadmium | | 366.19 | 370.13 | Above | Clay, silty clay, clayey silt | 4/25/2011 | 30.5 B |
| | | 3' - 4' | Cadmium | | 366.19 | 369.13 | Above | Clayey silt, silt | 4/25/2011 | 12.5 B |
| DI-55-02 | F23 | 0' - 1' | Cadmium | 373.56 | 366.21 | 372.56 | Above | Silty clay, clay, roots | 4/25/2011 | 6.9 |
| | | 1' - 2' | Cadmium | | 366.21 | 371.56 | Above | Clay | 4/25/2011 | 1.5 |
| | | 2' - 3' | Cadmium | | 366.21 | 370.56 | Above | Clay | 4/25/2011 | 0.77 |
| | | 3' - 4' | Cadmium | | 366.21 | 369.56 | Above | Clay | 4/25/2011 | 12.4 |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| DI-55-03 | F23 | 0' - 1' | Cadmium | 374.18 | 366.22 | 373.18 | Above | Clay, silty clay, roots | 4/25/2011 | 0.52 |
| | | 1' - 2' | Cadmium | | 366.22 | 372.18 | Above | Silty clay, silt, trace gravel | 4/25/2011 | 1.0 |
| | | 2' - 3' | Cadmium | | 366.22 | 371.18 | Above | Silty clay, little sand | 6/4/2013 | 1.9 |
| | | 3' - 4' | Cadmium | | 366.22 | 370.18 | Above | Silty clay, little sand | 6/4/2013 | 0.87 |
| | | 4' - 5' | Cadmium | | 366.22 | 369.18 | Above | Clayey silt, some sand | 6/4/2013 | 35.9 |
| DI-55-04 | F23 | 4' - 5' | Cadmium | 374.93 | 365.88 | 369.93 | Above | Silty Clay, some sand | 6/4/2013 | 20.3 |
| DI-57-01 | G25 | 0' - 1' | Cadmium | 371.75 | 365.18 | 370.75 | Above | Gravelly silt, little sand, trace clay | 8/24/2011 | 15.6 |
| | | 1' - 2' | Cadmium | | 365.18 | 372.18 | Above | Clayey silt | 8/24/2011 | 0.30 J [1.4 J] |
| | | 2' - 3' | Cadmium | | 365.18 | 372.18 | Above | Clayey silt, clay increases with depth | 8/24/2011 | 1.8 |
| | | 3' - 4' | Cadmium | | 365.18 | 372.18 | Above | Gray clay | 8/24/2011 | 2.8 |
| DI-57-02 | G25 | 0' - 1' | Cadmium | 371.67 | 365.12 | 370.67 | Above | Sandy silt, some gravel, trace clay & organics | 8/24/2011 | 26.3 J |
| | | 1' - 2' | Cadmium | | 365.12 | 372.18 | Above | Clayey silt, trace fine sand, trace organics | 8/24/2011 | 24.1 J [41.0 J] |
| | | 2' - 3' | Cadmium | | 365.12 | 372.18 | Above | Clayey silt, clay increases with depth | 8/24/2011 | 38.4 J |
| | | 3' - 4' | Cadmium | | 365.12 | 372.18 | Above | Clay, trace silt | 8/24/2011 | 61.3 J |
| DI-58-01 | F27 | 0' - 1' | Cadmium | 372.98 | 364.31 | 371.98 | Above | Fine sand | 8/23/2011 | 1.8 |
| | | 1' - 2' | Cadmium | | 364.31 | 372.18 | Above | Fine sand, little silt | 8/23/2011 | 10.1 |
| DI-58-02 | F27 | 0' - 1' | Cadmium | 372 | 364.31 | 371 | Above | Silty sand | 8/23/2011 | 17.9 |
| | | 1' - 2' | Cadmium | | 364.31 | 372.18 | Above | Silty sand | 8/23/2011 | 61.5 |
| | | 2' - 3' | Cadmium | | 364.31 | 372.18 | Above | Silty sand, little clay | 8/23/2011 | 23.1 |
| | | 3' - 4' | Cadmium | | 364.31 | 372.18 | Above | Silty sand, some clay | 8/23/2011 | 11.3 |
| DI-58-03 | F27 | 0' - 1' | Cadmium | 372.06 | 364.00 | 371.06 | Above | Clayey silt, some sand | 6/4/2013 | 2.6 [2.1] |
| | | 1' - 2' | Cadmium | | 364.00 | 370.06 | Above | Clay and silt, some sand | 6/4/2013 | 10.8 |
| | | 2' - 3' | Cadmium | | 364.00 | 369.06 | Above | Silty clay, some sand | 6/4/2013 | 0.25 |
| | | 3' - 4' | Cadmium | | 364.00 | 368.06 | Above | Silty clay, some sand | 6/4/2013 | 16.3 |
| | | 4' - 5' | Cadmium | | 364.00 | 367.06 | Above | Clayey silt, some sand, organics | 6/4/2013 | 1.6 |
| | | 5' - 6' | Cadmium | | 364.00 | 366.06 | Above | Silty clay, green mottling (organics) | 6/4/2013 | 0.22 J |
| DI-58-04 | F27 | 1' - 2' | Cadmium | 372.32 | 364.00 | 370.32 | Above | Clay and silt, little sand | 6/4/2013 | 7.1 |
| | | 3' - 4' | Cadmium | | 364.00 | 368.32 | Above | Clayey silt, some sand, organics | 6/4/2013 | 3.0 |
| DI-58-05 | F26 | 1' - 2' | Cadmium | 372.14 | 364.00 | 364.32 | Below | Silt and Clay, some sand, trace gravel | 8/13/2013 | 2.1 B |
| DI-59-01 | G25 | 0' - 1' | Cadmium | 372.12 | 365.22 | 371.12 | Above | Silt, little sand & clay | 8/24/2011 | 31.7 |
| | | 1' - 2' | Cadmium | | 365.22 | 372.18 | Above | Silt, little sand & clay | 8/24/2011 | 3.4 |
| | | 2' - 3' | Cadmium | | 365.22 | 372.18 | Above | Silt, little sand & clay | 8/24/2011 | 3.1 |
| | | 3' - 4' | Cadmium | | 365.22 | 372.18 | Above | Silt, little clay, trace sand, silt increases with depth | 8/24/2011 | 28.6 |
| DI-59-02 | G25 | 0' - 1' | Cadmium | 372.14 | 365.16 | 371.14 | Above | Silty sand, trace clay | 8/24/2011 | 83.7 J |
| | | 1' - 2' | Cadmium | | 365.16 | 372.18 | Above | Silty sand, little clay | 8/24/2011 | 10.4 J |
| | | 2' - 3' | Cadmium | | 365.16 | 372.18 | Above | Silty sand, little clay | 8/24/2011 | 14.3 J |
| | | 3' - 4' | Cadmium | | 365.16 | 372.18 | Above | Fine sand, silt, trace clay | 8/24/2011 | 11.0 J |
| DI-63-01 | F19 | 0' - 1' | Cadmium | 375.29 | 368.87 | 374.29 | Above | Clay and silt, some sand and gravel | 6/4/2013 | 0.54 |
| DI-64-01 | F21 | 0' - 1' | Cadmium | 376.32 | 367.11 | 375.32 | Above | Clay and sandy silt, some gravel | 6/4/2013 | 3.5 |
| | | 1' - 2' | Cadmium | | 367.11 | 374.32 | Above | Sand, sandy silt and clay | 6/4/2013 | 7.2 |
| DI-64-02 | F21 | 0' - 1' | Cadmium | 377.12 | 367.06 | 376.12 | Above | Silt and sand, trace gravel, organics | 6/4/2013 | 4.5 |
| | | 1' - 2' | Cadmium | | 367.06 | 375.12 | Above | Clay and silt, little sand | 6/4/2013 | 0.94 |
| DI-64-03 | F21 | 0' - 1' | Cadmium | 376.86 | 367.07 | 375.86 | Above | Sand and Silt, trace gravel | 8/13/2013 | 12.7 B |
| | | 1' - 2' | Cadmium | | 367.07 | 374.86 | Above | Sand and Silt, trace gravel | 8/13/2013 | 14.3 B |
| | | 2' - 3' | Cadmium | | 367.07 | 373.86 | Above | Sand and Silt, trace gravel | 8/13/2013 | 10.8 B |
| | | 3' - 4' | Cadmium | | 367.07 | 372.86 | Above | Clayey Silt and Sand | 8/13/2013 | 5.4 B |
| DI-64-04 | F21 | 0' - 1' | Cadmium | 377.39 | 367.03 | 376.39 | Above | Sand, some silt, trace gravel | 8/13/2013 | 0.20 U |
| DI-67-01 | E28 | 0' - 1' | Cadmium | 370.59 | 364.35 | 369.59 | Above | Clayey silt, some sand and gravel, organics | 6/3/2013 | 18.5 |
| | | 1' - 2' | Cadmium | | 364.35 | 368.59 | Above | Clayey silt, some sand and gravel, organics | 6/3/2013 | 1.9 |
| | | 2' - 3' | Cadmium | | 364.35 | 367.59 | Above | Clayey silt, some sand and gravel, organics | 6/3/2013 | 9.9 |
| | | 3' - 4' | Cadmium | | 364.35 | 366.59 | Above | Clay and silt, little sand | 6/3/2013 | 69.5 |
| DI-67-02 | E28 | 0' - 1' | Cadmium | 370.93 | 364.35 | 369.93 | Above | Clayey silt, some sand and gravel | 6/3/2013 | 14.2 |
| | | 1' - 2' | Cadmium | | 364.35 | 368.93 | Above | Clayey silt, some sand and gravel | 6/3/2013 | 1.1 |
| | | 2' - 3' | Cadmium | | 364.35 | 367.93 | Above | Clayey silt, some sand and gravel | 6/3/2013 | 40.7 |
| | | 3' - 4' | Cadmium | | 364.35 | 366.93 | Above | Clayey silt, some sand and gravel | 6/3/2013 | 1.8 |
| DI-68-01 | E28 | 0' - 1' | Cadmium | 371.31 | 364.36 | 370.31 | Above | Clayey silt, some sand | 6/3/2013 | 4.0 |
| | | 1' - 2' | Cadmium | | 364.36 | 369.31 | Above | Clayey silt, some sand | 6/3/2013 | 0.40 |
| | | 2' - 3' | Cadmium | | 364.36 | 368.31 | Above | Clayey silt, some sand, increasing clay content | 6/3/2013 | 0.58 |
| | | 3' - 4' | Cadmium | | 364.36 | 367.31 | Above | Silty clay, some sand | 6/3/2013 | 20.3 |
| DI-68-02 | E28 | 3' - 4' | Cadmium | 371.2 | 364.36 | 367.2 | Above | Silty clay, some sand, organics | 6/3/2013 | 14.9 |
| DI-69-01 | D28 | 0' - 1' | Cadmium | 370.33 | 364.38 | 369.33 | Above | Clayey silt and sand, rock fragments, organics | 6/3/2013 | 17.7 |
| | | 1' - 2' | Cadmium | | 364.38 | 368.33 | Above | Clayey silt and sand, increasing clay | 6/3/2013 | 0.89 |
| | | 2' - 3' | Cadmium | | 364.38 | 367.33 | Above | Clay and silt, some sand, trace gravel | 6/3/2013 | 14.6 |
| | | 3' - 4' | Cadmium | | 364.38 | 366.33 | Above | Clay and silt, some sand, trace gravel | 6/3/2013 | 157 |
| DI-69-02 | D28 | 0' - 1' | Cadmium | 370.17 | 364.38 | 369.17 | Above | Clayey silt, some sand, trace gravel | 6/3/2013 | 13.9 |
| | | 1' - 2' | Cadmium | | 364.38 | 368.17 | Above | Clayey silt, little sand | 6/3/2013 | 23.5 |
| | | 2' - 3' | Cadmium | | 364.38 | 367.17 | Above | Clay and silt, little sand, trace gravel | 6/3/2013 | 3.1 |
| | | 3' - 4' | Cadmium | | 364.38 | 366.17 | Above | Clayey silt, some sand | 6/3/2013 | 17.4 |
| DI-70-01 | D28 | 0' - 1' | Cadmium | 372.59 | 364.38 | 371.59 | Above | Clayey silt, little sand, organics | 6/3/2013 | 6.1 |
| | | 1' - 2' | Cadmium | | 364.38 | 370.59 | Above | Clay and silt, little sand, trace gravel | 6/3/2013 | 0.74 |
| DI-70-02 | D28 | 0' - 1' | Cadmium | 373.89 | 364.38 | 372.89 | Above | Clayey silt, little sand, organics | 6/3/2013 | 2.7 |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| DI-71-01 | D29 | 0' - 1' | Cadmium | 369.83 | 364.39 | 368.83 | Above | Clayey silt, little sand, trace gravel, organics | 6/3/2013 | 21.6 |
| | | 1' - 2' | Cadmium | | 364.39 | 367.83 | Above | Clay and silt, some sand, trace gravel | 6/3/2013 | 6.9 |
| | | 2' - 3' | Cadmium | | 364.39 | 366.83 | Above | Silty clay, some sand, trace gravel | 6/3/2013 | 59.2 |
| | | 3' - 4' | Cadmium | | 364.39 | 365.83 | Above | Silty clay, some sand, trace gravel, increasing clay | 6/3/2013 | 0.35 |
| DI-71-02 | D29 | 0' - 1' | Cadmium | 369.47 | 364.39 | 368.47 | Above | Clayey silt, some sand, trace gravel, organics | 6/3/2013 | 24.5 |
| | | 1' - 2' | Cadmium | | 364.39 | 367.47 | Above | Clayey silt, some sand, trace gravel | 6/3/2013 | 52.9 |
| | | 2' - 3' | Cadmium | | 364.39 | 366.47 | Above | Sandy silt and clay | 6/3/2013 | 3.3 |
| DI-72-01 | F19 | 0' - 1' | Cadmium | 375.22 | 368.84 | 374.22 | Above | Silty clay, little to some sand, trace gravel | 6/5/2013 | 13.8 J [3.8 J] |
| | | 1' - 2' | Cadmium | | 368.84 | 373.22 | Above | Clay and silt, some sand, trace gravel | 6/5/2013 | 0.87 J |
| | | 2' - 3' | Cadmium | | 368.84 | 372.22 | Above | Silty clay, some sand, trace gravel, oxidation zones | 6/5/2013 | 2.7 J [6.1 J] |
| | | 3' - 4' | Cadmium | | 368.84 | 371.22 | Above | Clayey silt and sand | 6/5/2013 | 7.7 J |
| DI-72-02 | F19 | 0' - 1' | Cadmium | 375.72 | 368.84 | 374.72 | Above | Silty clay, little sand, trace gravel | 6/5/2013 | 0.47 |
| DI-73-01 | F19 | 0' - 1' | Cadmium | 375.7 | 368.69 | 374.7 | Above | Silty clay, some sand, trace gravel, increasing clay | 6/5/2013 | 3.1 |
| DI-74-01 | F19 | 0' - 1' | Cadmium | 376.29 | 368.40 | 375.29 | Above | Silty clay, little sand, trace gravel | 6/5/2013 | 12.6 J [4.4 J] |
| | | 1' - 2' | Cadmium | | 368.40 | 374.29 | Above | Clay and silt, some sand, trace gravel | 6/5/2013 | 0.88 J |
| | | 2' - 3' | Cadmium | | 368.40 | 373.29 | Above | Clay and silt, some sand | 6/5/2013 | 0.24 J [0.24 J] |
| | | 3' - 4' | Cadmium | | 368.40 | 372.29 | Above | Clay and silt, some sand, increasing clay | 6/5/2013 | 4.8 J |
| DI-74-02 | F19 | 0' - 1' | Cadmium | 376.52 | 368.43 | 375.52 | Above | Silty clay, little sand, trace gravel | 6/5/2013 | 7.2 |
| DI-75-01 | F21 | 0' - 1' | Cadmium | 375.26 | 367.17 | 374.26 | Above | Silt and sand, organics, roots | 6/4/2013 | 3.8 |
| | | 1' - 2' | Cadmium | | 367.17 | 373.26 | Above | Silt and sand | 6/4/2013 | 0.084 J |
| DI-75-02 | F21 | 0' - 1' | Cadmium | 374.84 | 367.09 | 373.84 | Above | Silt, some sand | 6/4/2013 | 7.0 |
| DI-76-01 | G23 | 0' - 1' | Cadmium | 373.8 | 366.14 | 372.8 | Above | Silty clay, some sand, trace gravel | 6/4/2013 | 0.61 |
| | | 1' - 2' | Cadmium | | 366.14 | 371.8 | Above | Silty clay, some sand, trace gravel | 6/4/2013 | 8.3 [9.6] |
| DI-76-02 | G23 | 1' - 2' | Cadmium | 374.13 | 366.12 | 372.13 | Above | Silty clay, some sand, trace gravel | 6/4/2013 | 1.6 |
| DI-77-01 | G23 | 0' - 1' | Cadmium | 373.84 | 366.18 | 372.84 | Above | Silty clay, some sand, trace gravel | 6/4/2013 | 2.9 |
| | | 1' - 2' | Cadmium | | 366.18 | 371.84 | Above | Silty clay, some sand, trace gravel | 6/4/2013 | 1.2 |
| DI-79-01 | F23 | 0' - 1' | Cadmium | 373.48 | 366.10 | 372.48 | Above | Clayey silt, some sand, trace gravel, organics | 6/4/2013 | 1.1 |
| | | 1' - 2' | Cadmium | | 366.10 | 371.48 | Above | Clayey silt, some sand, trace gravel, organics | 6/4/2013 | 0.23 J |
| | | 2' - 3' | Cadmium | | 366.10 | 370.48 | Above | Clayey and silt, little sand, trace gravel | 6/4/2013 | 1.8 |
| | | 3' - 4' | Cadmium | | 366.10 | 369.48 | Above | Silty clay, little sand, trace gravel | 6/4/2013 | 1.2 |
| | | 4' - 5' | Cadmium | | 366.10 | 368.48 | Above | Silt, some sand, and clay | 6/4/2013 | 29.1 |
| DI-79-02 | F23 | 4' - 5' | Cadmium | 373.48 | 366.12 | 368.48 | Above | Clayey silt, some sand, trace gravel | 6/4/2013 | 13.9 |
| DI-92-01 | G27 | 0' - 1' | Cadmium | 370.25 | 364.31 | 369.25 | Above | Sand and silt, orgnics | 6/17/2015 | 10.2 |
| | | 1' - 2' | Cadmium | | 364.31 | 368.25 | Above | Coarse sand, trace gravel, fill | 6/17/2015 | 0.55 |
| DI-93-01 | G25 | 0' - 3' | Cadmium | 372 | 364.51 | 369.00 | Above | Sand and silt transitioning to clay and silt | 9/15/2015 | 3 |
| DI-SB-05-05 | F19 | 0' - 1' | Cadmium | 377.51 | 368.32 | 376.51 | Above | Silty sand, trace clay | 4/25/2011 | 0.94 |
| | | 1' - 2' | Cadmium | | 368.32 | 375.51 | Above | Sandy silt | 4/25/2011 | 0.24 [0.23] |
| | | 2' - 3' | Cadmium | | 368.32 | 374.51 | Above | Silty sand | 4/25/2011 | <0.26 U |
| | | 3' - 4' | Cadmium | | 368.32 | 373.51 | Above | Fine sand with some gravel, trace silt | 4/25/2011 | 0.52 B |
| | | 4' - 5' | Cadmium | | 368.32 | 372.51 | Above | Grades to Sandy silt with little gravel | 4/25/2011 | 0.33 B |
| | | 5' - 6' | Cadmium | | 368.32 | 371.51 | Above | Sandy silt, trace gravel, trace clay | 4/25/2011 | 0.54 B |
| | | 6' - 7' | Cadmium | | 368.32 | 370.51 | Above | Sandy silt, trace gravel, trace clay | 4/25/2011 | 0.88 B |
| | | 7' - 8' | Cadmium | | 368.32 | 369.51 | Above | Clay, trace gravel at 7' | 4/25/2011 | 1.0 B |
| DI-SB-07-01 | B30 | 0' - 1' | Cadmium | 372.4 | 364.42 | 371.4 | Above | Course sand, some silt, little gravel, trace clay | 8/22/2011 | 0.93 |
| | | 1' - 2' | Cadmium | | 364.42 | 370.4 | Above | Coarse sand, some silt, little gravel & clay | 8/22/2011 | 1.4 |
| | | 2' - 3' | Cadmium | | 364.42 | 369.4 | Above | Fine sandy silt, little to trace clay | 8/22/2011 | 0.061 J |
| | | 3' - 4' | Cadmium | | 364.42 | 368.4 | Above | Clayey silt, trace fine sand | 8/22/2011 | 0.12 J |
| | | 4' - 5' | Cadmium | | 364.42 | 367.4 | Above | Silty Clay | 8/22/2011 | 0.060 J |
| | | 5' - 6' | Cadmium | | 364.42 | 366.4 | Above | Silty Clay | 8/22/2011 | <0.23 |
| | | 6' - 7' | Cadmium | | 364.42 | 365.4 | Above | Silty Clay, silt lense 6'-2", clay at 6'-8" | 8/22/2011 | <0.22 |
| DI-SB-07-02 | B30 | 0' - 1' | Cadmium | 372.45 | 364.42 | 371.45 | Above | Silty Sand, some gravel | 8/22/2011 | 0.32 |
| | | 1' - 2' | Cadmium | | 364.42 | 370.45 | Above | Silty fine sand, trace clay & gravel | 8/22/2011 | 0.28 |
| | | 2' - 3' | Cadmium | | 364.42 | 369.45 | Above | Silty fine sand, trace clay & gravel | 8/22/2011 | 0.10 J |
| | | 3' - 4' | Cadmium | | 364.42 | 368.45 | Above | Sand, silt, little clay | 8/22/2011 | 0.13 J [0.21 J] |
| | | 4' - 5' | Cadmium | | 364.42 | 367.45 | Above | Clayey silt - increasing clay with depth | 8/22/2011 | 0.064 J |
| | | 5' - 6' | Cadmium | | 364.42 | 366.45 | Above | Silty clay - increasing clay with depth | 8/22/2011 | 0.035 J |
| | | 6' - 7' | Cadmium | | 364.42 | 365.45 | Above | Clay, little to trace silt | 8/22/2011 | 0.059 J |
| EPSOIL-2 | G23 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 10/2001 | 29.6 |
| EPSOIL-3 | B30 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 10/2001 | 75.6 |
| SA-SB-05-02 | F19 | 0" - 2" | Cadmium | 376.93 | 368.32 | 376.76 | Above | Topsoil | 10/22/2003 | 1.4 |
| | | 0' - 1' | Cadmium | | 368.32 | 375.93 | Above | Silty Sand | 10/22/2003 | 1.4 |
| | | 1' - 2' | Cadmium | | 368.32 | 374.93 | Above | Silty Sand | 10/22/2003 | <0.58 |
| | | 2' - 3' | Cadmium | | 368.32 | 373.93 | Above | Silty Sand | 10/22/2003 | 1.4 |
| | | 3' - 4' | Cadmium | | 368.32 | 372.93 | Above | Silty Sand | 10/22/2003 | <0.60 |
| | | 4' - 5' | Cadmium | | 368.32 | 371.93 | Above | Clayey Silt | 10/22/2003 | <0.60 |
| | | 5' - 6' | Cadmium | | 368.32 | 370.93 | Above | Clayey Silt | 10/22/2003 | 12.5 |
| | | 6' - 7' | Cadmium | | 368.32 | 369.93 | Above | Sandy Silt | 10/22/2003 | <0.58 |
| | | 7' - 8' | Cadmium | | 368.32 | 368.93 | Above | Sandy Silt to Organic Clayey Silt | 10/22/2003 | <0.59 |
| | | 8' - 9' | Cadmium | | 368.32 | 367.93 | At | Organic Clayey Silt | 10/22/2003 | 5.1 |
| | | 9' - 10' | Cadmium | | 368.32 | 366.93 | Below | Organic Clayey Silt | 10/22/2003 | 5.9 |
| | | 10' - 11' | Cadmium | | 368.32 | 365.93 | Below | Organic Clayey Silt | 10/22/2003 | 8.1 |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| SA-SB-05-03 | F19 | 0" - 2" | Cadmium | 376.62 | 368.31 | 376.45 | Above | Topsoil | 10/22/2003 | 1.51 |
| | | 0' - 1' | Cadmium | | 368.31 | 375.62 | Above | Silty Sand | 10/22/2003 | <0.607 |
| | | 1' - 2' | Cadmium | | 368.31 | 374.62 | Above | Silty Sand | 10/22/2003 | <0.588 |
| | | 2' - 3' | Cadmium | | 368.31 | 373.62 | Above | Silty Sand | 10/22/2003 | <0.581 |
| | | 3' - 4' | Cadmium | | 368.31 | 372.62 | Above | Silty Sand | 10/22/2003 | <0.579 |
| | | 4' - 5' | Cadmium | | 368.31 | 371.62 | Above | Clayey Silt | 10/22/2003 | <0.607 |
| | | 5' - 6' | Cadmium | | 368.31 | 370.62 | Above | Organic Clayey Silt | 10/22/2003 | 2.5 |
| | | 6' - 7' | Cadmium | | 368.31 | 369.62 | Above | Organic Clayey Silt | 10/22/2003 | 0.587 |
| | | 7' - 8' | Cadmium | | 368.31 | 368.62 | At | Organic Clayey Silt | 10/22/2003 | 20.5 |
| | | 8' - 9' | Cadmium | | 368.31 | 367.62 | Below | Clayey Silt | 10/22/2003 | 21.8 |
| | | 9' - 10' | Cadmium | | 368.31 | 366.62 | Below | Clayey Silt | 10/22/2003 | <0.661 |
| SA-SB-05-04 | F19 | 0" - 2" | Cadmium | 375.98 | 368.27 | 375.81 | Above | Topsoil | 10/22/2003 | 4.3 |
| | | 0' - 1' | Cadmium | | 368.27 | 374.98 | Above | Silty Sand | 10/22/2003 | 3.6 |
| | | 1' - 2' | Cadmium | | 368.27 | 373.98 | Above | Silty Sand | 10/22/2003 | 27.9 |
| | | 2' - 3' | Cadmium | | 368.27 | 372.98 | Above | Silty Sand | 10/22/2003 | <0.57 |
| | | 3' - 4' | Cadmium | | 368.27 | 371.98 | Above | Organic clayey Silt | 10/22/2003 | 11.8 |
| | | 4' - 5' | Cadmium | | 368.27 | 370.98 | Above | Organic Silty Clay | 10/22/2003 | 7.5 |
| | | 5' - 6' | Cadmium | | 368.27 | 369.98 | Above | Organic Silty Clay | 10/22/2003 | 2.4 |
| | | 6' - 7' | Cadmium | | 368.27 | 368.98 | Above | Organic Silty Clay | 10/22/2003 | 12.0 |
| | | 7' - 8' | Cadmium | | 368.27 | 367.98 | At | Organic Clayey Silt | 10/22/2003 | 11.3 |
| | | 8' - 9' | Cadmium | | 368.27 | 366.98 | Below | Organic Clayey Silt | 10/22/2003 | 20.9 |
| | | 9' - 10' | Cadmium | | 368.27 | 365.98 | Below | Organic Sand/Silt | 10/22/2003 | <0.72 |
| | | 10' - 11' | Cadmium | | 368.27 | 364.98 | Below | Organic Sand/Silt | 10/22/2003 | <0.85 |
| | | 11' - 12' | Cadmium | | 368.27 | 363.98 | Below | Silty Sand | 10/22/2003 | <0.63 |
| | | 12' - 13' | Cadmium | | 368.27 | 362.98 | Below | Organic Silt/Sand | 10/22/2003 | <0.68 |
| | | 13' - 14' | Cadmium | | 368.27 | 361.98 | Below | Organic Silt/Sand | 10/22/2003 | <0.68 |
| SA-SB-06-01 | E28 | 0" - 2" | Cadmium | 371.39 | 364.30 | 371.22 | Above | Topsoil | 10/24/2003 | 8.5 |
| | | 0' - 1' | Cadmium | | 364.30 | 370.39 | Above | Silty Sand | 10/24/2003 | 6.5 |
| | | 1' - 2' | Cadmium | | 364.30 | 369.39 | Above | Silty Sand | 10/24/2003 | <0.54 |
| | | 2' - 3' | Cadmium | | 364.30 | 368.39 | Above | Silty Sand | 10/24/2003 | 1.1 |
| | | 3' - 4' | Cadmium | | 364.30 | 367.39 | Above | Silty Sand | 10/24/2003 | 41.7 |
| | | 4' - 5' | Cadmium | | 364.30 | 366.39 | Above | Silty Sand | 10/24/2003 | 2.6 |
| | | 5' - 6' | Cadmium | | 364.30 | 365.39 | Above | Silty Sand | 10/24/2003 | 3.4 |
| | | 6' - 7' | Cadmium | | 364.30 | 364.39 | At | Silty Sand to Organic Clayey Silt | 10/24/2003 | <0.60 |
| | | 7' - 8' | Cadmium | | 364.30 | 363.39 | Below | Organic Clayey Silt | 10/24/2003 | <0.63 |
| | | 8' - 9' | Cadmium | | 364.30 | 362.39 | Below | Silty Clay | 10/24/2003 | <0.65 |
| SA-SB-06-02 | E28 | 0" - 2" | Cadmium | 372.31 | 364.30 | 372.14 | Above | Topsoil | 10/24/2003 | 2.49 |
| | | 0' - 1' | Cadmium | | 364.30 | 371.31 | Above | Silty Sand | 10/24/2003 | 1.09 [1.77] |
| | | 1' - 2' | Cadmium | | 364.30 | 370.31 | Above | Silty Sand | 10/24/2003 | <0.567 |
| | | 2' - 3' | Cadmium | | 364.30 | 369.31 | Above | Silty Sand | 10/24/2003 | <0.522 |
| | | 3' - 4' | Cadmium | | 364.30 | 368.31 | Above | Silty Sand | 10/24/2003 | 0.703 |
| | | 4' - 5' | Cadmium | | 364.30 | 367.31 | Above | Silty Sand to Organic Clayey Silt | 10/24/2003 | 30.3 |
| | | 5' - 6' | Cadmium | | 364.30 | 366.31 | Above | Organic Clayey Silt | 10/24/2003 | 60.1 |
| | | 6' - 7' | Cadmium | | 364.30 | 365.31 | Above | Organic Clayey Silt to Silty Clay | 10/24/2003 | 1.44 |
| | | 7' - 8' | Cadmium | | 364.30 | 364.31 | At | Organic Clayey Silt | 10/24/2003 | 6.18 |
| | | 8' - 9' | Cadmium | | 364.30 | 363.31 | Below | Silty Clay | 10/24/2003 | 7.35 |
| SA-SB-06-03 | E28 | 0" - 2" | Cadmium | 372.74 | 364.30 | 372.57 | Above | Topsoil | 10/24/2003 | 1.22 |
| | | 0' - 1' | Cadmium | | 364.30 | 371.74 | Above | Silty Sand | 10/24/2003 | <0.611 |
| | | 1' - 2' | Cadmium | | 364.30 | 370.74 | Above | Organic Silt/Sand | 10/24/2003 | <0.566 |
| | | 2' - 3' | Cadmium | | 364.30 | 369.74 | Above | Silty Sand | 10/24/2003 | <0.579 |
| | | 3' - 4' | Cadmium | | 364.30 | 368.74 | Above | Silty Sand | 10/24/2003 | <0.585 |
| | | 4' - 5' | Cadmium | | 364.30 | 367.74 | Above | Silty Sand | 10/24/2003 | 7.63 |
| | | 5' - 6' | Cadmium | | 364.30 | 366.74 | Above | Organic Clayey Silt | 10/24/2003 | 64.4 |
| | | 6' - 7' | Cadmium | | 364.30 | 365.74 | Above | Organic Clayey Silt | 10/24/2003 | <0.668 |
| | | 7' - 8' | Cadmium | | 364.30 | 364.74 | At | Clayey Silt to Clay | 10/24/2003 | <0.625 |
| | | 8' - 9' | Cadmium | | 364.30 | 363.74 | Below | Clay | 10/24/2003 | <0.634 |
| SA-SB-06-04 | E28 | 0" - 2" | Cadmium | 372.98 | 364.30 | 372.81 | Above | Topsoil | 10/24/2003 | 1.13 |
| | | 0' - 1' | Cadmium | | 364.30 | 371.98 | Above | Silty Sand | 10/24/2003 | <0.605 |
| | | 1' - 2' | Cadmium | | 364.30 | 370.98 | Above | Silty Sand | 10/24/2003 | <0.561 |
| | | 2' - 3' | Cadmium | | 364.30 | 369.98 | Above | Silty Sand | 10/24/2003 | <0.573 |
| | | 3' - 4' | Cadmium | | 364.30 | 368.98 | Above | Silty Sand | 10/24/2003 | <0.554 |
| | | 4' - 5' | Cadmium | | 364.30 | 367.98 | Above | Fill | 10/24/2003 | 1.78 |
| | | 5' - 6' | Cadmium | | 364.30 | 366.98 | Above | Organic Clayey Silt | 10/24/2003 | 88.1 |
| | | 6' - 7' | Cadmium | | 364.30 | 365.98 | Above | Organic Clayey Silt | 10/24/2003 | <0.693 |
| | | 7' - 8' | Cadmium | | 364.30 | 364.98 | Above | Clay to Silty Clay | 10/24/2003 | <0.678 |
| | | 8' - 9' | Cadmium | | 364.30 | 363.98 | At | Clay | 10/24/2003 | <0.636 |
| SA-SB-07-01 | B30 | 0" - 2" | Cadmium | 372.1 | 364.35 | 371.93 | Above | Topsoil | 10/24/2003 | 4.6 |
| SA-SB-07-02 | B30 | 0" - 2" | Cadmium | 371.71 | 364.35 | 371.54 | Above | Topsoil | 10/24/2003 | 1.0 |
| SA-SB-07-03 | B30 | 0" - 2" | Cadmium | 371.04 | 364.35 | 370.87 | Above | Topsoil | 10/24/2003 | 0.845 |
| SA-SB-07-04 | B30 | 0" - 2" | Cadmium | 370.1 | 364.35 | 369.93 | Above | Topsoil | 10/24/2003 | 0.839 |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| SA-SB-216-01 | F19 | 0" - 2" | Cadmium | 375.03 | 368.96 | 374.86 | Above | Topsoil | 10/22/2003 | 3.3 |
| | | 0' - 1' | Cadmium | | 368.96 | 374.03 | Above | Silty Sand | 10/22/2003 | 3.9 |
| | | 1' - 2' | Cadmium | | 368.96 | 373.03 | Above | Silty Sand | 10/22/2003 | <0.59 |
| | | 2' - 3' | Cadmium | | 368.96 | 372.03 | Above | Silty Sand | 10/22/2003 | <0.56 |
| | | 3' - 4' | Cadmium | | 368.96 | 371.03 | Above | Clayey Silt | 10/22/2003 | 0.65 |
| | | 4' - 5' | Cadmium | | 368.96 | 370.03 | Above | Clayey Silt | 10/22/2003 | 24.9 |
| | | 5' - 6' | Cadmium | | 368.96 | 369.03 | At | Clayey Silt | 10/22/2003 | 0.77 |
| | | 6' - 7' | Cadmium | | 368.96 | 368.03 | Below | Clayey Silt | 10/22/2003 | 4.7 |
| | | 7' - 8' | Cadmium | | 368.96 | 367.03 | Below | Clayey Silt | 10/22/2003 | <0.65 |
| | | 8' - 9' | Cadmium | | 368.96 | 366.03 | Below | Clayey Silt | 10/22/2003 | 20.6 |
| | | 9' - 10' | Cadmium | | 368.96 | 365.03 | Below | Organic Clayey Silt | 10/22/2003 | <0.654 |
| SA-SB-216-02 | E19 | 0" - 2" | Cadmium | 376.08 | 368.88 | 375.91 | Above | Topsoil | 10/22/2003 | 1.26 |
| | | 0' - 1' | Cadmium | | 368.88 | 375.08 | Above | Silty Sand | 10/22/2003 | 0.659 |
| | | 1' - 2' | Cadmium | | 368.88 | 374.08 | Above | Silty Sand | 10/22/2003 | <0.588 |
| | | 2' - 3' | Cadmium | | 368.88 | 373.08 | Above | Silty Sand | 10/22/2003 | <0.617 |
| | | 3' - 4' | Cadmium | | 368.88 | 372.08 | Above | Silty Sand | 10/22/2003 | <0.602 |
| | | 4' - 5' | Cadmium | | 368.88 | 371.08 | Above | Silty Sand | 10/22/2003 | 5.38 |
| | | 5' - 6' | Cadmium | | 368.88 | 370.08 | Above | Organic Clayey Silt | 10/22/2003 | 14.5 |
| | | 6' - 7' | Cadmium | | 368.88 | 369.08 | At | Organic Clayey Silt | 10/22/2003 | 1.57 [0.823] |
| | | 7' - 8' | Cadmium | | 368.88 | 368.08 | Below | Silty Clay | 10/22/2003 | <0.68 |
| | | 8' - 9' | Cadmium | | 368.88 | 367.08 | Below | Silty Clay | 10/22/2003 | 0.903 |
| | | 9' - 10' | Cadmium | | 368.88 | 366.08 | Below | Organic Clayey Silt | 10/22/2003 | <0.756 |
| | | 10' - 11' | Cadmium | | 368.88 | 365.08 | Below | Organic Clayey Silt | 10/22/2003 | <0.719 |
| | | 11' - 12' | Cadmium | | 368.88 | 364.08 | Below | Silty Clay | 10/22/2003 | <0.62 |
| | | 12' - 13' | Cadmium | | 368.88 | 363.08 | Below | Silty Sand | 10/22/2003 | <0.616 |
| | | 13' - 14' | Cadmium | | 368.88 | 362.08 | Below | Silty Sand | 10/22/2003 | <0.60 |
| SA-SB-216-03 | E19 | 0" - 2" | Cadmium | 376.12 | 368.90 | 375.95 | Above | Topsoil | 10/22/2003 | <0.652 |
| | | 0' - 1' | Cadmium | | 368.90 | 375.12 | Above | Silty Sand | 10/22/2003 | <0.60 |
| | | 1' - 2' | Cadmium | | 368.90 | 374.12 | Above | Silty Sand | 10/22/2003 | <0.598 |
| | | 2' - 3' | Cadmium | | 368.90 | 373.12 | Above | Silty Sand | 10/22/2003 | <0.617 |
| | | 3' - 4' | Cadmium | | 368.90 | 372.12 | Above | Silty Clay | 10/22/2003 | <0.624 |
| | | 4' - 5' | Cadmium | | 368.90 | 371.12 | Above | Silty Clay | 10/22/2003 | 1.54 |
| | | 5' - 6' | Cadmium | | 368.90 | 370.12 | Above | Sandy Silt | 10/22/2003 | <0.632 |
| | | 6' - 7' | Cadmium | | 368.90 | 369.12 | At | Sandy Silt | 10/22/2003 | <0.641 |
| | | 7' - 8' | Cadmium | | 368.90 | 368.12 | Below | Sandy Silt | 10/22/2003 | <0.713 |
| | | 8' - 9' | Cadmium | | 368.90 | 367.12 | Below | Sandy Silt | 10/22/2003 | <0.635 |
| | | 9' - 10' | Cadmium | | 368.90 | 366.12 | Below | Organic Silt/Sand | 10/22/2003 | <0.635 |
| SA-SB-216-04 | E19 | 0' - 1' | Cadmium | 376.23 | 368.88 | 375.23 | Above | Silty Sand | 10/22/2003 | <0.59 |
| | | 1' - 2' | Cadmium | | 368.88 | 374.23 | Above | Silty Sand | 10/22/2003 | <0.57 |
| SB-01 | F18 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 10.5 |
| | | 0' - 1' | Cadmium | | --- | --- | --- | --- | 11/2001 | 1.64 |
| SB-02 | F19 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 203 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 503 |
| SB-03 | F19 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 37 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 30.1 |
| SB-04 | F21 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 30.4 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 34.2 |
| SB-05 | G22 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 41.1 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 98.2 |
| SB-06 | F22 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 11.3 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 8.04 |
| SB-07 | G24 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 42.1 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 34.3 |
| SB-08 | G25 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 5.78 |
| SB-09 | E28 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 81.5 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 191 |
| SB-10 | D29 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 108 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 114 |
| SB-11 | B30 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 9.82 |
| SB-12 | B31 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 2.11 |
| SB-29 | F19 | 0" - 2" | Cadmium | | --- | --- | --- | --- | 06/2002 | 10.5 |
| SB-30 | F19 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 39.3 |
| SB-31 | F19 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 22.9 |
| SB-32 | F21 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 35.2 |
| SB-33 | F21 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 11.3 |
| SB-34 | F21 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 3.79 |
| SB-35 | F21 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 19.0 |
| SB-36 | G22 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 26.6 |
| SB-37 | F22 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 11.3 |
| SB-38 | G23 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 22.4 |
| SB-39 | G24 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 16.8 |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| SB-40 | G24 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 6.52 |
| SB-41 | G24 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 47.3 |
| SB-42 | H25 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 5.65 |
| SB-43 | G25 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 7.77 |
| SB-44 | G27 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 101 |
| SB-45 | G27 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 17.5 |
| SB-46 | E28 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 96.1 |
| SB-47 | D29 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 35.6 |
| SB-48 | C30 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 29.6 |
| SB-49 | B30 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 21.6 |
| SB-50 | B31 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 06/2002 | 1.3 |
| SB-61 | F19 | 0' - 1' | Cadmium | --- | --- | --- | --- | Sandy Silt | 11/2002 | 134 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 22.9 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 26.2 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand/Peat | 11/2002 | 864 |
| SB-62 | F19 | 2' - 3' | Cadmium | --- | --- | --- | --- | Sandy Silt | 11/2002 | 263 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 208 |
| SB-63 | F19 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 22.6 |
| SB-64 | F21 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 1.1 |
| SB-65 | G22 | 2' - 3' | Cadmium | --- | --- | --- | --- | Sandy Silt | 11/2002 | 6.5 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 23.4 |
| SB-66 | G24 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silty Sand | 11/2002 | 29.7 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Clayey Silt | 11/2002 | 24.2 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Clayey Silt | 11/2002 | 1.1 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Clayey Silt | 11/2002 | <0.60 |
| SB-67 | G24 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 20.9 |
| SB-68 | G27 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silty Sand | 11/2002 | 31.4 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 18.0 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 3.6 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 11.6 |
| SB-69 | F27 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 10.3 |
| SB-70 | E28 | 2' - 3' | Cadmium | --- | --- | --- | --- | Silty Sand | 11/2002 | 12.7 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 4.8 |
| SB-71 | E28 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 23.2 |
| | | 0' - 1' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 18.6 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 1.7 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 17.0 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 48.4 |
| SB-72 | D29 | 2' - 3' | Cadmium | --- | --- | --- | --- | Silty Sand | 11/2002 | 1.7 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand/Clay | 11/2002 | 4.3 |
| SB-73 | D29 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 37.6 |
| SB-74 | B30 | 0' - 1' | Cadmium | --- | --- | --- | --- | Silty Sand | 11/2002 | 25.0 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 3.8 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Fill | 11/2002 | 1.4 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Fill/Sandy Silt | 11/2002 | <0.62 |
| SB-208 | F19 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 32.7 |
| | | 0' - 1' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 63.7 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 27.3 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 600 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 41.7 |
| SB-209 | F21 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 14.7 |
| | | 0' - 1' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 11.8 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 14.3 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 10.0 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 10.7 |
| SB-210 | C30 | 0" - 2" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 4.9 |
| | | 0' - 1' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 3.8 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 7.6 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 1.9 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | <0.54 |
| SB-229 | F17 | 0" - 2" | Cadmium | 376.82 | 369.99 | 376.65 | Above | Topsoil | 10/21/2003 | 1.4 |
| | | 0' - 1' | Cadmium | | 369.99 | 375.82 | Above | Silty Sand | 10/21/2003 | 1.9 |
| | | 1' - 2' | Cadmium | | 369.99 | 374.82 | Above | Silty Sand | 10/21/2003 | 0.67 |
| | | 2' - 3' | Cadmium | | 369.99 | 373.82 | Above | Silty Sand | 10/21/2003 | <0.61 [<0.60] |
| | | 3' - 4' | Cadmium | | 369.99 | 372.82 | Above | Silty Sand | 10/21/2003 | <0.61 |
| | | 4' - 5' | Cadmium | | 369.99 | 371.82 | Above | Silty Sand | 10/21/2003 | 103 |
| | | 5' - 6' | Cadmium | | 369.99 | 370.82 | Above | Organic Silt/Sand | 10/21/2003 | 1,390 |
| | | 6' - 7' | Cadmium | | 369.99 | 369.82 | At | Organic Silt/Sand to Clayey Silt | 10/21/2003 | 247 |
| | | 7' - 8' | Cadmium | | 369.99 | 368.82 | Below | Clayey Silt to Silty Clay | 10/21/2003 | 2.7 |

**Table 2A**
**Summary of Soil Classification and Cadmium Analytical Data Through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| SB-230 | F21 | 0" - 2" | Cadmium | 376.54 | 366.99 | 376.37 | Above | Topsoil | 10/23/2003 | 23.5 |
| | | 0' - 1' | Cadmium | | 366.99 | 375.54 | Above | Sandy Silt | 10/23/2003 | 10.1 |
| | | 1' - 2' | Cadmium | | 366.99 | 374.54 | Above | Fill | 10/23/2003 | 5.2 [1.50] |
| | | 2' - 3' | Cadmium | | 366.99 | 373.54 | Above | Fill | 10/23/2003 | <0.57 |
| | | 3' - 4' | Cadmium | | 366.99 | 372.54 | Above | Silty Sand | 10/23/2003 | 0.81 |
| | | 4' - 5' | Cadmium | | 366.99 | 371.54 | Above | Silty Sand | 10/23/2003 | <0.60 |
| | | 5' - 6' | Cadmium | | 366.99 | 370.54 | Above | Silty Sand to Silty Clay | 10/23/2003 | <0.61 |
| | | 6' - 7' | Cadmium | | 366.99 | 369.54 | Above | Organic Silty Clay | 10/23/2003 | 6.0 |
| | | 7' - 8' | Cadmium | | 366.99 | 368.54 | Above | Organic Silty Clay | 10/23/2003 | <0.65 [<0.68] |
| | | 8' - 9' | Cadmium | | 366.99 | 367.54 | Above | Silty Clay | 10/23/2003 | <0.62 |
| | | 9' - 10' | Cadmium | | 366.99 | 366.54 | At | Silty Clay | 10/23/2003 | <0.59 |
| | | 10' - 11' | Cadmium | | 366.99 | 365.54 | Below | Organic Silty Clay | 10/23/2003 | <0.67 |
| | | 11' - 12' | Cadmium | | 366.99 | 364.54 | Below | Silty Clay | 10/23/2003 | <0.62 |
| SB-415 | F24 | 0" - 2" | Cadmium | 373.06 | 365.92 | 372.89 | Above | Topsoil | 10/23/2003 | 1.6 |
| | | 0' - 1' | Cadmium | | 365.92 | 372.06 | Above | Silty Sand | 10/23/2003 | 0.99 |
| | | 1' - 2' | Cadmium | | 365.92 | 371.06 | Above | Silty Sand | 10/23/2003 | 2.3 |
| | | 2' - 3' | Cadmium | | 365.92 | 370.06 | Above | Silty Sand | 10/23/2003 | <0.60 |
| | | 3' - 4' | Cadmium | | 365.92 | 369.06 | Above | Silty Sand to Clayey Silt | 10/23/2003 | <0.59 |
| | | 4' - 5' | Cadmium | | 365.92 | 368.06 | Above | Silty Sand | 10/23/2003 | 2.1 |
| | | 5' - 6' | Cadmium | | 365.92 | 367.06 | Above | Silty Sand | 10/23/2003 | <0.60 |
| | | 6' - 7' | Cadmium | | 365.92 | 366.06 | At | Silty Sand | 10/23/2003 | <0.55 |
| | | 7' - 8' | Cadmium | | 365.92 | 365.06 | Below | Organic Silt/Sand | 10/23/2003 | <0.61 [<0.59] |
| | | 8' - 9' | Cadmium | | 365.92 | 364.06 | Below | Silty Clay | 10/23/2003 | <0.64 |
| | | 9' - 10' | Cadmium | | 365.92 | 363.06 | Below | Silty Clay to Silty Sand | 10/23/2003 | <0.57 |
| SB-416 | G23 | 0" - 2" | Cadmium | 372.03 | 365.87 | 371.86 | Above | Topsoil | 10/23/2003 | 44.4 |
| | | 0' - 1' | Cadmium | | 365.87 | 371.03 | Above | Silty Sand | 10/23/2003 | 20.2 |
| | | 1' - 2' | Cadmium | | 365.87 | 370.03 | Above | Silty Sand | 10/23/2003 | 6.8 |
| | | 2' - 3' | Cadmium | | 365.87 | 369.03 | Above | Silty Sand | 10/23/2003 | 1.1 |
| | | 3' - 4' | Cadmium | | 365.87 | 368.03 | Above | Organic Silt/Sand | 10/23/2003 | 123 |
| | | 4' - 5' | Cadmium | | 365.87 | 367.03 | Above | Organic Silt/Sand | 10/23/2003 | 16.8 |
| | | 5' - 6' | Cadmium | | 365.87 | 366.03 | At | Organic Silt/Sand | 10/23/2003 | 0.79 |
| | | 6' - 7' | Cadmium | | 365.87 | 365.03 | Below | Silty Clay | 10/23/2003 | <0.62 |
| | | 7' - 8' | Cadmium | | 365.87 | 364.03 | Below | Silty Clay | 10/23/2003 | <0.65 |
| SB-417 | G24 | 0" - 2" | Cadmium | 371.96 | 365.42 | 371.79 | Above | Topsoil | 10/24/2003 | 5.9 |
| | | 0' - 1' | Cadmium | | 365.42 | 370.96 | Above | Topsoil | 10/24/2003 | 16.2 |
| | | 1' - 2' | Cadmium | | 365.42 | 369.96 | Above | Clayey Silt | 10/24/2003 | 3.0 |
| | | 2' - 3' | Cadmium | | 365.42 | 368.96 | Above | Clayey Silt | 10/24/2003 | 0.86 |
| | | 3' - 4' | Cadmium | | 365.42 | 367.96 | Above | Organic Clayey Silt | 10/24/2003 | 109.0 |
| | | 4' - 5' | Cadmium | | 365.42 | 366.96 | Above | Organic Clayey Silt | 10/24/2003 | 18.4 |
| | | 5' - 6' | Cadmium | | 365.42 | 365.96 | Above | Organic Clayey Silt | 10/24/2003 | <0.73 |
| | | 6' - 7' | Cadmium | | 365.42 | 364.96 | At | Organic Clayey Silt to Clay | 10/24/2003 | <0.63 |
| | | 7' - 8' | Cadmium | | 365.42 | 363.96 | Below | Silty Sand | 10/24/2003 | <0.73 |
| SB-453 | F17 | 0" - 2" | Cadmium | 376.77 | 370.01 | 376.60 | Above | Topsoil | 4/29/2004 | 2.26 |
| | | 0' - 1' | Cadmium | | 370.01 | 375.77 | Above | Sandy Silt | 4/29/2004 | 4.03 |
| | | 1' - 2' | Cadmium | | 370.01 | 374.77 | Above | Sandy Silt | 4/29/2004 | <0.590 |
| | | 2' - 3' | Cadmium | | 370.01 | 373.77 | Above | Sandy Silt | 4/29/2004 | <0.612 |
| | | 3' - 4' | Cadmium | | 370.01 | 372.77 | Above | Clayey Silt | 4/29/2004 | <0.623 |
| | | 4' - 5' | Cadmium | | 370.01 | 371.77 | Above | Clayey Silt | 4/29/2004 | 3.29 |
| | | 5' - 6' | Cadmium | | 370.01 | 370.77 | Above | Clayey Silt | 4/29/2004 | 91.9 |
| | | 6' - 7' | Cadmium | | 370.01 | 369.77 | At | Clayey Silt | 4/29/2004 | 130 |
| | | 7' - 8' | Cadmium | | 370.01 | 368.77 | Below | Clayey Silt | 4/29/2004 | <0.734 |
| SB-454 | F21 | 0" - 2" | Cadmium | 376.79 | 367.00 | 376.62 | Above | Topsoil | 4/29/2004 | 4.9 |
| | | 0' - 1' | Cadmium | | 367.00 | 375.79 | Above | Silty Sand | 4/29/2004 | 7.5 |
| SB-455 | G23 | 0" - 2" | Cadmium | 372.43 | 365.91 | 372.26 | Above | Topsoil | 4/29/2004 | 3.8 |
| | | 0' - 1' | Cadmium | | 365.91 | 371.43 | Above | Sandy Silt | 4/29/2004 | 2.31 |
| | | 1' - 2' | Cadmium | | 365.91 | 370.43 | Above | Clayey Silt | 4/29/2004 | <0.615 |
| | | 2' - 3' | Cadmium | | 365.91 | 369.43 | Above | Clayey Silt | 4/29/2004 | <0.602 |
| | | 3' - 4' | Cadmium | | 365.91 | 368.43 | Above | Clayey Silt | 4/29/2004 | 7.04 |
| | | 4' - 5' | Cadmium | | 365.91 | 367.43 | Above | Clayey Silt | 4/29/2004 | <0.681 |

**Notes:**

1. Boring locations are shown on the Design Figures.
2. Figure coordinates correspond to coordinate system shown on the Design Figures.
3. The soil classification descriptions identified in the table represent the predominant soil type for the respective intervals.
4. mg/kg = milligrams/kilograms (equivalent to ppm = parts per million).
5. --- indicates that the information is not available.
6. Duplicate results are presented in brackets.
7. B - Compound was found in the blank and sample.
8. J - The detected concentration is an estimated value.
9. U - Result edited to reflect non-detect by data validation company due to presence of cadmium in the associated preparation blank at similar concentrations.
10. < - Analyte not detected at the reporting limit shown.

**Table 2B**
**Summary of Soil Classification and Cadmium Analytical Data through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| B-1 | G44 | 0' - 2.5' | Cadmium | --- | --- | --- | --- | --- | 11/25/2003 | 1.5 |
| | | 2.5' - 12' | Cadmium | | --- | --- | --- | --- | 11/25/2003 | <0.63 |
| B-2 | G44 | 7' -8' | Cadmium | --- | --- | --- | --- | --- | 11/25/2003 | <0.59 |
| B-3 | G44 | 0' - 5' | Cadmium | --- | --- | --- | --- | --- | 11/24/2003 | <0.61 [<0.61] |
| | | 5' - 14' | Cadmium | | --- | --- | --- | --- | 11/24/2003 | <0.64 |
| B-4 | E44 | 0' - 2' | Cadmium | --- | --- | --- | --- | --- | 11/24/2003 | <0.63 |
| | | 2' - 12' | Cadmium | | --- | --- | --- | --- | 11/24/2003 | <0.71 |
| B-5 | D43 | 0' - 1.5' | Cadmium | --- | --- | --- | --- | --- | 11/24/2003 | <0.54 |
| | | 1.5' - 12' | Cadmium | | --- | --- | --- | --- | 11/24/2003 | 7.5 |
| B-11 | C43 | 0' - 4' | Cadmium | --- | --- | --- | --- | --- | 3/5/2004 | 0.74 [0.63] |
| | | 4' - 8' | Cadmium | | --- | --- | --- | -- | 3/5/2004 | 0.87 |
| | | 8' - 12' | Cadmium | | --- | --- | --- | --- | 3/5/2004 | 0.66 |
| B-12 | B43 | 0' - 4' | Cadmium | --- | --- | --- | --- | --- | 3/5/2004 | <0.61 |
| | | 4' - 8' | Cadmium | | --- | --- | --- | -- | 3/5/2004 | 0.69 |
| | | 8' - 12' | Cadmium | | --- | --- | --- | --- | 3/5/2004 | <0.58 |
| DI-16-01 | D35 | 0' - 1' | Cadmium | 371.46 | 363.58 | 370.46 | Above | Gravelly coarse sand with organics | 8/24/2011 | 3.3 |
| | | 1' - 2' | Cadmium | | 363.58 | 369.46 | Above | Gravelly coarse to fine sand with organics | 8/24/2011 | 4.5 |
| | | 2' - 3' | Cadmium | | 363.58 | 368.46 | Above | Gravelly coarse to fine sand with organics | 8/24/2011 | 5.1 |
| | | 3' - 4' | Cadmium | | 363.58 | 367.46 | Above | Coarse to fine sand with trace silt, gravel & organics | 8/24/2011 | 5.7 |
| | | 4' - 5' | Cadmium | | 363.58 | 366.46 | Above | Clayey silt | 8/24/2011 | 0.19 J |
| | | 5' - 6' | Cadmium | | 363.58 | 365.46 | Above | Silty clay to clay at 6' | 8/24/2011 | 0.14 J |
| DI-16-02 | D35 | 0' - 1' | Cadmium | 375.41 | 363.51 | 374.41 | Above | Fine sand, trace gravel | 8/24/2011 | 45.0 |
| | | 1' - 2' | Cadmium | | 363.51 | 373.41 | Above | Fine sand, little silt, some gravel | 8/24/2011 | 59.6 |
| | | 2' - 3' | Cadmium | | 363.51 | 372.41 | Above | Fine sand, trace gravel, organics & silt | 8/24/2011 | 3.2 |
| | | 3' - 4' | Cadmium | | 363.51 | 371.41 | Above | Coarse to fine gravelly sand | 8/24/2011 | 0.81 J |
| | | 4' - 5' | Cadmium | | 363.51 | 370.41 | Above | Silt, little clay, little gravel & pebbles | 8/24/2011 | 0.31 |
| | | 5' - 6' | Cadmium | | 363.51 | 369.41 | Above | Silty clay | 8/24/2011 | 0.17 J |
| DI-16-03 | D36 | 0' - 1' | Cadmium | 369.66 | 363.56 | 368.66 | Above | Organics, silt with pebbles, some sand | 8/24/2011 | 6.2 |
| | | 1' - 2' | Cadmium | | 363.56 | 367.66 | Above | Clayey silt, pebbles, trace fine sand | 8/24/2011 | 0.33 |
| | | 2' - 3' | Cadmium | | 363.56 | 366.66 | Above | Silty clay with organics to 2'-3" then silty sand, little gravel, trace clay | 8/24/2011 | 0.44 [0.17 J] |
| | | 3' - 4' | Cadmium | | 363.56 | 365.66 | Above | Gravelly sand (coarse to fine) | 8/24/2011 | 0.040 J |
| | | 4' - 5' | Cadmium | | 363.56 | 364.66 | Above | Silt | 8/24/2011 | 0.24 |
| | | 5' - 6' | Cadmium | | 363.56 | 363.66 | At | Clayey silt to silty clay with depth | 8/24/2011 | 0.13 J |
| DI-81-01 | D36 | 0' - 1' | Cadmium | 370.79 | 363.46 | 362.66 | At | Silt and Sand, trace gravel, trace clay, rock fragments | 8/13/2013 | 17.9 B [22.6 B] |
| | | 1' - 2' | Cadmium | | 363.46 | 361.66 | At | Silt and Sand, trace gravel, trace clay, rock fragments | 8/13/2013 | 17.1 B |
| | | 2' - 3' | Cadmium | | 363.46 | 360.66 | At | Sandy Silt, trace gravel, rock fragments | 8/13/2013 | 11.4 B |
| DI-81-02 | D36 | 0' - 1' | Cadmium | 371.12 | 363.46 | 358.66 | At | Silt and Sand, little clay, trace gravel, rock fragments | 8/13/2013 | 40.8 B |
| | | 1' - 2' | Cadmium | | 363.46 | 357.66 | At | Silt and Sand, little clay, trace gravel, rock fragments | 8/13/2013 | 7.2 B |
| EPSOIL-4 | F44 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 10/2001 | 4.5 |
| SB-13 | D37 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 14.4 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | <0.666 |
| SB-14 | C37 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 52.2 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 26.2 [9.8] |
| SB-15 | D42 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 30.2 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 44.8 |
| SB-16 | D43 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 28.9 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | --- | 11/2001 | 27.7 |
| SB-17 | G44 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 32.1 |
| SB-18 | G44 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2001 | 6.25 |
| SB-75 | D35 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 1.3 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | Sand & Gravel | 11/2002 | 0.67 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Sand, Silt, Clay | 11/2002 | <0.58 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Sand, Silt, Clay | 11/2002 | <0.57 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Clay | 11/2002 | <0.61 |
| SB-76 | D35 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 0.73 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | Clayey Silt | 11/2002 | <0.58 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Clayey Silt | 11/2002 | <0.61 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Clayey Silt | 11/2002 | 1.2 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | <0.52 |
| SB-77 | E36 | 0" - 6" | Cadmium | --- | --- | --- | --- | Gravelly Sand | 11/2002 | 18.9 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | Gravelly Sand | 11/2002 | 1.1 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Gravelly Sand/Clayey Silt | 11/2002 | <0.55 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Clayey Silt/ Sand | 11/2002 | <0.56 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | <0.57 |

**Table 2B**
**Summary of Soil Classification and Cadmium Analytical Data through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| SB-78 | C37 | 3' - 4' | Cadmium | --- | --- | --- | --- | Clay | 11/2002 | <0.58 |
| SB-79 | C37 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 1.9 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | --- | 11/2002 | 0.96 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | <0.57 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Clay | 11/2002 | 1.2 |
| SB-80 | D40 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 11.7 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | --- | 11/2002 | 7.3 |
| | | 0' - 4' | Cadmium | | --- | --- | --- | Fill | 11/2002 | 18.4 |
| | | 4' - 8' | Cadmium | | --- | --- | --- | Fill/Peat | 11/2002 | 22.6 |
| | | 8' - 12' | Cadmium | | --- | | --- | Peat/Sand and Gravel | 11/2002 | <0.87 |
| SB-81 | D40 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 49.9 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 7.4 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 8.4 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Sand | 11/2002 | 1.6 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Clay | 11/2002 | <0.63 |
| SB-82 | D40 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 1.7 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | --- | 11/2002 | 1.6 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Clayey Silt | 11/2002 | <0.61 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 1.6 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | 1.3 |
| SB-83 | C40 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | <0.52 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | --- | 11/2002 | <0.51 |
| | | 0' - 4' | Cadmium | | --- | --- | --- | Clay/Fill | 11/2002 | <0.55 |
| | | 4' - 8' | Cadmium | | --- | --- | --- | Clay/Wood/Peat | 11/2002 | <0.65 |
| SB-84 | D42 | 2' - 3' | Cadmium | --- | --- | --- | --- | Peat | 11/2002 | 11.4 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sand | 11/2002 | <0.79 |
| SB-85 | G44 | 0' - 1' | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 32.1 |
| SB-211 | D43 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 3.6 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | --- | 11/2002 | 6.8 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Cobbles, Sand | 11/2002 | <0.60 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Cobbles, Sand | 11/2002 | <0.56 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | <0.61 |
| SB-212 | G44 | 0" - 6" | Cadmium | --- | --- | --- | --- | --- | 11/2002 | 8.0 |
| | | 6" - 12" | Cadmium | | --- | --- | --- | Silty Sand | 11/2002 | 2.6 |
| | | 1' - 2' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | <0.59 |
| | | 2' - 3' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | <0.62 |
| | | 3' - 4' | Cadmium | | --- | --- | --- | Sandy Silt | 11/2002 | <0.75 |
| SB-231 | G43 | 0" - 6" | Cadmium | 366.68 | 361.56 | 366.18 | Above | Silty Sand | 11/3/2003 | 1.0 |
| | | 6" - 12" | Cadmium | | 361.56 | 365.68 | Above | Silty Sand | 11/3/2003 | 0.82 |
| | | 1' - 2' | Cadmium | | 361.56 | 364.68 | Above | Silty Sand | 11/3/2003 | 0.72 |
| | | 2' - 3' | Cadmium | | 361.56 | 363.68 | Above | Silty Sand | 11/3/2003 | <0.60 |
| | | 3' - 4' | Cadmium | | 361.56 | 362.68 | Above | Silty Sand | 11/3/2003 | <0.64 |
| | | 4' - 5' | Cadmium | | 361.56 | 361.68 | At | Silty Sand to Organic Clayey Silt | 11/3/2003 | <0.63 |
| | | 5' - 6' | Cadmium | | 361.56 | 360.68 | Below | Organic Clayey Silt | 11/3/2003 | <0.68 |
| | | 6' - 7' | Cadmium | | 361.56 | 359.68 | Below | Organic Clayey Silt | 11/3/2003 | <0.59 |
| | | 7' - 8' | Cadmium | | 361.56 | 358.68 | Below | Sand/Gravel/ Shells | 11/3/2003 | <0.74 |
| SB-232 | G42 | 0" - 6" | Cadmium | 365.99 | 361.32 | 365.49 | Above | Silty Sand | 11/3/2003 | 23.9 |
| | | 6" - 12" | Cadmium | | 361.32 | 364.99 | Above | Silty Sand | 11/3/2003 | 21.6 |
| | | 1' - 2' | Cadmium | | 361.32 | 363.99 | Above | Silty Sand | 11/3/2003 | 40.8 |
| | | 2' - 3' | Cadmium | | 361.32 | 362.99 | Above | Silty Sand | 11/3/2003 | 5.3 |
| | | 3' - 4' | Cadmium | | 361.32 | 361.99 | Above | Silty Sand to Organic Clayey Silt | 11/3/2003 | <0.71 |
| | | 4' - 5' | Cadmium | | 361.32 | 360.99 | At | Organic Clayey Silt | 11/3/2003 | <0.70 |
| SB-418 | E36 | 0" - 6" | Cadmium | 369.94 | 363.62 | 369.44 | Above | Fill | 11/3/2003 | 0.96 |
| | | 6" - 12" | Cadmium | | 363.62 | 368.94 | Above | Fill | 11/3/2003 | 0.70 |
| | | 1' - 2' | Cadmium | | 363.62 | 367.94 | Above | Fill | 11/3/2003 | 0.75 |
| | | 2' - 3' | Cadmium | | 363.62 | 366.94 | Above | Silty Sand/ Gravel | 11/3/2003 | <0.55 |
| | | 3' - 4' | Cadmium | | 363.62 | 365.94 | Above | Silty Sand to Organic Clayey Silt | 11/3/2003 | 25.1 |
| | | 4' - 5' | Cadmium | | 363.62 | 364.94 | Above | Organic Clayey Silt | 11/3/2003 | 0.65 |
| SB-419 | D36 | 0" - 6" | Cadmium | 370.41 | 363.54 | 369.91 | Above | Fill | 11/3/2003 | 1.8 |
| | | 6" - 12" | Cadmium | | 363.54 | 369.41 | Above | Fill | 11/3/2003 | 0.8 |
| | | 1' - 2' | Cadmium | | 363.54 | 368.41 | Above | Fill | 11/3/2003 | 1.7 |
| | | 2' - 3' | Cadmium | | 363.54 | 367.41 | Above | Fill | 11/3/2003 | 0.58 |
| | | 3' - 4' | Cadmium | | 363.54 | 366.41 | Above | Fill | 11/3/2003 | 2.5 |
| | | 4' - 5' | Cadmium | | 363.54 | 365.41 | Above | Organic Clayey Silt | 11/3/2003 | 1.3 |

**Table 2B**
**Summary of Soil Classification and Cadmium Analytical Data through September 2015[1]**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| SB-420 | D35 | 0" - 6" | Cadmium | 370.42 | 363.54 | 369.92 | Above | Fill | 11/3/2003 | 64.0 |
| | | 6" - 12" | Cadmium | | 363.54 | 369.42 | Above | Fill | 11/3/2003 | 87.1 |
| | | 1' - 2' | Cadmium | | 363.54 | 368.42 | Above | Fill | 11/3/2003 | 63.5 |
| | | 2' - 3' | Cadmium | | 363.54 | 367.42 | Above | Fill | 11/3/2003 | 1.9 |
| | | 3' - 4' | Cadmium | | 363.54 | 366.42 | Above | Fill to Organic Clayey Silt | 11/3/2003 | 2.9 |
| | | 4' - 5' | Cadmium | | 363.54 | 365.42 | Above | Organic Clayey Silt | 11/3/2003 | 1.1 |
| SB-421 | D36 | 0" - 6" | Cadmium | 371.01 | 363.46 | 370.51 | Above | Fill | 11/3/2003 | 1.9 |
| | | 6" - 12" | Cadmium | | 363.46 | 370.01 | Above | Fill | 11/3/2003 | 0.60 |
| | | 1' - 2' | Cadmium | | 363.46 | 369.01 | Above | Fill | 11/3/2003 | 1.3 |
| | | 2' - 3' | Cadmium | | 363.46 | 368.01 | Above | Fill | 11/3/2003 | 3.6 [3.1] |
| | | 3' - 4' | Cadmium | | 363.46 | 367.01 | Above | Fill | 11/3/2003 | <0.54 |
| | | 4' - 5' | Cadmium | | 363.46 | 366.01 | Above | Silty Sand | 11/3/2003 | <0.52 |
| SB-422 | D36 | 0" - 6" | Cadmium | 370.64 | 363.46 | 370.14 | Above | Fill | 11/3/2003 | 53.5 |
| | | 6" - 12" | Cadmium | | 363.46 | 369.64 | Above | Fill | 11/3/2003 | 57.7 |
| | | 1' - 2' | Cadmium | | 363.46 | 368.64 | Above | Fill | 11/3/2003 | 2.5 |
| | | 2' - 3' | Cadmium | | 363.46 | 367.64 | Above | Fill | 11/3/2003 | 0.62 |
| | | 3' - 4' | Cadmium | | 363.46 | 366.64 | Above | Fill to Organic Clayey Silt | 11/3/2003 | 1.2 |
| | | 4' - 5' | Cadmium | | 363.46 | 365.64 | Above | Organic Clayey Silt | 11/3/2003 | 0.62 |
| SB-423 | E36 | 0" - 6" | Cadmium | 371.94 | 363.79 | 371.44 | Above | Asphalt | 10/31/2003 | <0.53 |
| | | 6" - 12" | Cadmium | | 363.79 | 370.94 | Above | Sand/Gravel | 10/31/2003 | <0.52 |
| | | 0' - 2' | Cadmium | | 363.79 | 369.94 | Above | Asphalt/ Sand/ Gravel/ Fill | 10/31/2003 | <0.54 |
| | | 2' - 4' | Cadmium | | 363.79 | 367.94 | Above | Fill | 10/31/2003 | <0.56 |
| | | 4' - 6' | Cadmium | | 363.79 | 365.94 | Above | Fill to Sand | 10/31/2003 | <0.56 [<0.28] |
| | | 6' - 8' | Cadmium | | 363.79 | 363.94 | At | Clay | 10/31/2003 | <0.63 |
| SB-424 | F36 | 0" - 6" | Cadmium | 371.98 | 363.83 | 371.48 | Above | Asphalt | 10/31/2003 | <0.53 |
| | | 6" - 12" | Cadmium | | 363.83 | 370.98 | Above | Fill | 10/31/2003 | <0.57 |
| | | 0' - 2' | Cadmium | | 363.83 | 369.98 | Above | Fill | 10/31/2003 | <0.59 |
| | | 2' - 4' | Cadmium | | 363.83 | 367.98 | Above | Fill to Sand/Gravel/Cobbles | 10/31/2003 | <0.57 |
| | | 4' - 6' | Cadmium | | 363.83 | 365.98 | Above | Sand/Gravel/Cobbles to Silty Sand | 10/31/2003 | <0.58 |
| | | 6' - 8' | Cadmium | | 363.83 | 363.98 | At | Silty Sand to Organic Silty Clay to Organic Clay | 10/31/2003 | <0.62 |
| | | 8' - 10' | Cadmium | | 363.83 | 361.98 | Below | Organic Clay | 10/31/2003 | <0.61 |
| | | 10' - 12' | Cadmium | | 363.83 | 359.98 | Below | Sand to Clay | 10/31/2003 | <0.61 |
| SB-425 | F36 | 0" - 6" | Cadmium | 371.79 | 363.85 | 371.29 | Above | Asphalt | 10/31/2003 | <0.53 |
| | | 6" - 12" | Cadmium | | 363.85 | 370.79 | Above | Silty Sand/ Gravel/Cobbles | 10/31/2003 | <0.55 |
| | | 0' - 2' | Cadmium | | 363.85 | 369.79 | Above | Asphalt/ Silty Sand/ Gravel/Cobbles | 10/31/2003 | <0.54 |
| | | 2' - 4' | Cadmium | | 363.85 | 367.79 | Above | Silty Sand/ Gravel/Cobbles to Sand | 10/31/2003 | <0.55 |
| | | 4' - 6' | Cadmium | | 363.85 | 365.79 | Above | Sand to Organic Clayey Silt | 10/31/2003 | 22.0 |
| | | 6' - 8' | Cadmium | | 363.85 | 363.79 | At | Organic Clayey Silt to Clay | 10/31/2003 | <0.63 |
| | | 8' - 10' | Cadmium | | 363.85 | 361.79 | Below | Silty Clay to Clay to Sand/Gravel to Clay to Sand with Shells | 10/31/2003 | 6.8 |
| | | 10' - 12' | Cadmium | | 363.85 | 359.79 | Below | Sand with shells to Clay | 10/31/2003 | <0.59 |
| SB-426 | F38 | 0" - 6" | Cadmium | 371.98 | 362.55 | 371.48 | Above | Fill | 10/31/2003 | <0.58 |
| | | 6" - 12" | Cadmium | | 362.55 | 370.98 | Above | Fill | 10/31/2003 | <0.58 |
| | | 0' - 2' | Cadmium | | 362.55 | 369.98 | Above | Fill | 10/31/2003 | <0.56 |
| | | 2' - 4' | Cadmium | | 362.55 | 367.98 | Above | Silt/Sand/ Gravel/Cobble | 10/31/2003 | <0.55 [<0.56] |
| | | 4' - 6' | Cadmium | | 362.55 | 365.98 | Above | Organic Clayey Silt | 10/31/2003 | 28.9 |
| | | 6' - 8' | Cadmium | | 362.55 | 363.98 | Above | Organic Clayey Silt | 10/31/2003 | 21.1 |
| | | 8' - 10' | Cadmium | | 362.55 | 361.98 | Below | Organic Clayey Silt to Sand with Shells | 10/31/2003 | 11.7 |
| | | 10' - 12' | Cadmium | | 362.55 | 359.98 | Below | Clay to Organic Silty Clay to Silty Sand with Shells | 10/31/2003 | <0.789 |
| SB-427 | F38 | 0" - 6" | Cadmium | 371.91 | 362.57 | 371.41 | Above | Fill | 10/31/2003 | <0.59 |
| | | 6" - 12" | Cadmium | | 362.57 | 370.91 | Above | Fill | 10/31/2003 | <0.59 |
| | | 0' - 2' | Cadmium | | 362.57 | 369.91 | Above | Fill | 10/31/2003 | <0.58 |
| | | 2' - 4' | Cadmium | | 362.57 | 367.91 | Above | Fill | 10/31/2003 | <0.55 |
| | | 4' - 6' | Cadmium | | 362.57 | 365.91 | Above | Fill to Gravel/Sand/ Ceramic | 10/31/2003 | 0.85 |
| | | 6' - 8' | Cadmium | | 362.57 | 363.91 | Above | Organic Silty Clay | 10/31/2003 | 4.8 |
| | | 8' - 10' | Cadmium | | 362.57 | 361.91 | Below | Sand with shells to Clay | 10/31/2003 | <0.750 |
| | | 10' - 12' | Cadmium | | 362.57 | 359.91 | Below | Silty Clay, Wood at 10' | 10/31/2003 | <0.832 |
| SB-428 | F38 | 0" - 6" | Cadmium | 370.79 | 362.60 | 370.29 | Above | Sand/Gravel/Cobbles | 10/31/2003 | <0.57 |
| | | 6" - 12" | Cadmium | | 362.60 | 369.79 | Above | Sand/Gravel/Cobbles | 10/31/2003 | <0.55 |
| | | 0' - 2' | Cadmium | | 362.60 | 368.79 | Above | Sand/Gravel/Cobbles | 10/31/2003 | <0.54 |
| | | 2' - 4' | Cadmium | | 362.60 | 366.79 | Above | Sand/Gravel/Cobbles | 10/31/2003 | <0.55 |
| | | 4' - 6' | Cadmium | | 362.60 | 364.79 | Above | Sand/Gravel/Cobbles | 10/31/2003 | <0.56 |
| | | 6' - 8' | Cadmium | | 362.60 | 362.79 | At | Organic Silty Clay (ceramics at 6'-6") to Clay | 10/31/2003 | 28.7 |
| | | 8' - 10' | Cadmium | | 362.60 | 360.79 | Below | Clay | 10/31/2003 | <0.693 |
| | | 10' - 12' | Cadmium | | 362.60 | 358.79 | Below | Organic Silty Sand to Sand with Shells | 10/31/2003 | 1.02 |

**Table 2B**

**Summary of Soil Classification and Cadmium Analytical Data through September 2015[1]**

**West Branch of Bloody Brook**

**Bloody Brook Voluntary Cleanup Program**

**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sampling Interval | Analyte | Surface Elevation (ft) | Brook Elevation (ft) | Sample Elevation at Bottom of Interval (ft) | Sample Relation to Brook Level | General Soil Classification[3] | Collection Date | Result (mg/kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| SB-429 | F40 | 0" - 6" | Cadmium | 372.73 | 361.16 | 372.23 | Above | Fill | 10/31/2003 | <0.60 |
| | | 6" - 12" | Cadmium | | 361.16 | 371.73 | Above | Fill | 10/31/2003 | 0.58 |
| | | 0' - 2' | Cadmium | | 361.16 | 370.73 | Above | Fill | 10/31/2003 | <0.54 |
| | | 2' - 4' | Cadmium | | 361.16 | 368.73 | Above | Fill | 10/31/2003 | <0.55 |
| | | 4' - 6' | Cadmium | | 361.16 | 366.73 | Above | Clay | 10/31/2003 | 0.67 [0.62] |
| | | 6' - 8' | Cadmium | | 361.16 | 364.73 | Above | Silty Sand/ Gravel, Organic Clay, Ceramics | 10/31/2003 | <0.54 |
| | | 8' - 10' | Cadmium | | 361.16 | 362.73 | Above | Ceramics to Organic Clayey Silt | 10/31/2003 | 5.7 |
| | | 10' - 12' | Cadmium | | 361.16 | 360.73 | At | Organic Clayey Silt | 10/31/2003 | 0.73 |
| | | 12' - 14' | Cadmium | | 361.16 | 358.73 | Below | Organic Clayey Silt | 10/31/2003 | 0.99 |
| | | 14' - 16' | Cadmium | | 361.16 | 356.73 | Below | Clay to Sand/Gravel/ Shells | 10/31/2003 | <0.71 |
| SB-430 | F40 | 0" - 6" | Cadmium | 373.62 | 361.16 | 373.12 | Above | Fill | 10/31/2003 | <0.56 |
| | | 6" - 12" | Cadmium | | 361.16 | 372.62 | Above | Fill | 10/31/2003 | 0.59 |
| | | 0' - 2' | Cadmium | | 361.16 | 371.62 | Above | Fill | 10/31/2003 | <0.57 |
| | | 2' - 4' | Cadmium | | 361.16 | 369.62 | Above | Fill | 10/31/2003 | 0.57 |
| | | 4' - 6' | Cadmium | | 361.16 | 367.62 | Above | Fill | 10/31/2003 | <0.57 |
| | | 6' - 8' | Cadmium | | 361.16 | 365.62 | Above | Concrete to Sand/Gravel to Silty Sand | 10/31/2003 | <0.55 |
| | | 8' - 10' | Cadmium | | 361.16 | 363.62 | Above | Silty Sand | 10/31/2003 | <0.59 |
| | | 10' - 12' | Cadmium | | 361.16 | 361.62 | At | Gravel/Cobbles/Shells to Silty Clay | 10/31/2003 | 2.5 |
| SB-431 | G40 | 0" - 6" | Cadmium | 374.38 | 361.02 | 373.88 | Above | Fill | 10/31/2003 | <0.54 |
| | | 6" - 12" | Cadmium | | 361.02 | 373.38 | Above | Fill | 10/31/2003 | <0.54 |
| | | 0' - 2' | Cadmium | | 361.02 | 372.38 | Above | Fill | 10/31/2003 | <0.54 |
| | | 2' - 4' | Cadmium | | 361.02 | 370.38 | Above | Fill to Sand/Gravel | 10/31/2003 | 3.0 |
| | | 4' - 6' | Cadmium | | 361.02 | 368.38 | Above | Silt/Sand/ Gravel to Fill | 10/31/2003 | 0.78 |
| | | 6' - 8' | Cadmium | | 361.02 | 366.38 | Above | Fill | 10/31/2003 | 0.71 |
| | | 8' - 10' | Cadmium | | 361.02 | 364.38 | Above | Cobbles/Ceramic to Silty Sand to Ceramics | 10/31/2003 | <0.57 |
| | | 10' - 12' | Cadmium | | 361.02 | 362.38 | Above | Organic Silty Clay | 10/31/2003 | 3.3 |
| SB-432 | F42 | 0" - 6" | Cadmium | 364.60 | 361.05 | 364.10 | Above | Organic Silt/Sand | 11/3/2003 | 13.8 |
| | | 6" - 12" | Cadmium | | 361.05 | 363.60 | Above | Organic Silt/Sand | 11/3/2003 | <0.50 |
| | | 1' - 2' | Cadmium | | 361.05 | 362.60 | Above | Silty Sand | 11/3/2003 | 3.0 |
| | | 2' - 3' | Cadmium | | 361.05 | 361.6 | Above | Silty Sand | 11/3/2003 | <0.64 |
| | | 3' - 4' | Cadmium | | 361.05 | 360.6 | At | Silty Sand to Organic Clayey Silt | 11/3/2003 | <0.75 |
| | | 4' - 5' | Cadmium | | 361.05 | 359.6 | Below | Sand/Gravel/ Shells | 11/3/2003 | <0.75 |
| SB-433 | E40 | 0" - 6" | Cadmium | 371.73 | 362.02 | 371.23 | Above | Fill | 10/31/2003 | 0.66 |
| | | 6" - 12" | Cadmium | | 362.02 | 370.73 | Above | Fill | 10/31/2003 | 1.0 |
| | | 0' - 2' | Cadmium | | 362.02 | 369.73 | Above | Fill | 10/31/2003 | 0.99 |
| | | 2' - 4' | Cadmium | | 362.02 | 367.73 | Above | Fill | 10/31/2003 | 0.66 |
| | | 4' - 6' | Cadmium | | 362.02 | 365.73 | Above | Fill | 10/31/2003 | 1.2 |
| | | 6' - 8' | Cadmium | | 362.02 | 363.73 | Above | Fill to Silty Sand/Ceramics | 10/31/2003 | <0.57 |
| | | 8' - 10' | Cadmium | | 362.02 | 361.73 | At | Organic Clayey Silt | 10/31/2003 | 0.8 |
| | | 10' - 12' | Cadmium | | 362.02 | 359.73 | Below | Organic Clayey Silt | 10/31/2003 | <0.70 |
| SB-434 | E41 | 0" - 6" | Cadmium | 371.77 | 361.89 | 371.27 | Above | Fill | 10/31/2003 | 0.61 |
| | | 6" - 12" | Cadmium | | 361.89 | 370.77 | Above | Fill | 10/31/2003 | 0.68 |
| | | 0' - 2' | Cadmium | | 361.89 | 369.77 | Above | Fill | 10/31/2003 | <0.57 |
| | | 2' - 4' | Cadmium | | 361.89 | 367.77 | Above | Fill | 10/31/2003 | 1.9 |
| | | 4' - 6' | Cadmium | | 361.89 | 365.77 | Above | Fill | 10/31/2003 | 1.3 |
| | | 6' - 8' | Cadmium | | 361.89 | 363.77 | Above | Fill to Silty Sand/Ceramics | 10/31/2003 | 1.3 [<0.54] |
| | | 8' - 10' | Cadmium | | 361.89 | 361.77 | At | Organic Clayey Silt/Ceramics to Sand/Gravel/ Shells | 10/31/2003 | <0.78 |
| | | 10' - 12' | Cadmium | | 361.89 | 359.77 | Below | Sand/Gravel/Shells | 10/31/2003 | <0.79 |

**Notes:**

1. Boring locations are shown on the Design Figures.
2. Figure coordinates correspond to coordinate system shown on the Design Figures.
3. The soil classification descriptions identified in the table represent the predominant soil type for the respective intervals.
4. mg/kg = milligrams/kilograms (equivalent to ppm = parts per million).
5. --- indicates that the information is not available.
6. Duplicate results are presented in brackets.
7. B - Compound was found in the blank and sample.
8. J - The detected concentration is an estimated value.
9. < - Analyte not detected at the reporting limit shown.

**Table 3**
**Soil Samples Adjacent to Culverts[1]**
**West Branch of Bloody Brook (WBBB)**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Boring ID | Figure Coordinates[2] | Sample Depth Interval[3] | Analysis[4] | General Soil Classification[5] | Collection Date | Result |
|---|---|---|---|---|---|---|
| | | | | | | |
| DI-88-02 | G26 | 0' - 1' | Cadmium | Brown silt, some F-M angular gravel, little F-sand | 12/5/2014 | 0.53 |
| | | 1' - 2' | Cadmium | Dark brown clay, some silt, trace F-sand | 12/5/2014 | 2.1 |
| | | 2' - 3' | Cadmium | Light brown clay, little salt | 12/5/2014 | 0.33 |
| | | 4' - 5' | Cadmium | Brown clay, little silt; gravel lense at 4.5'-5.0' | 12/5/2014 | 0.039 J |
| | | 5' - 6' | Cadmium | Tan clay, trace silt; large rock at 5.5'-6.0' | 12/5/2014 | 0.074 J |
| | | 6' - 7' | Cadmium | Tan clay, trace silt; large rock at 5.5'-6.0' | 12/5/2014 | 0.079 J |
| | | 7' - 8' | Cadmium | Tan clay, trace silt; large rock at 5.5'-6.0' | 12/5/2014 | 0.064 J |
| | | 8' - 9' | Cadmium | Dark brown clay, trace silt | 12/5/2014 | 1.5 |
| | | 9' - 10' | Cadmium | Dark brown clay, trace silt; gravel lense | 12/5/2014 | 0.07 J |
| | | 10' - 11' | Cadmium | Tan clay, trace silt | 12/5/2014 | 0.067 J |
| | | 11' - 12' | Cadmium | Tan clay, trace silt | 12/5/2014 | 0.053 J |
| DI-88-03 | G26 | 3' - 4' | Cadmium | Dark brown clay, some silt, little F-sand | 12/5/2014 | 0.99 |
| DI-89-01 | G26 | 0' - 1' | Cadmium | Brown fine silty sand, some clay. | 12/2/2014 | 0.63 B [1.5] |
| | | 1' - 2' | Cadmium | Brown silt, some clay, trace rounded gravel | 12/2/2014 | 1.6 B |
| | | 2' - 3' | Cadmium | Brown silt, some clay, little angular gravel (slough) | 12/2/2014 | 0.82 B |
| | | 3' - 4' | Cadmium | Brown clayey silt, trace sub angular gravel | 12/2/2014 | 0.8 B |
| | | 4' - 5' | Cadmium | Brown clayey silt, trace sub angular gravel | 12/2/2014 | 1.2 B |
| | | 5' - 6' | Cadmium | Brown silty clay , little fine sand | 12/2/2014 | 0.77 B [0.043 J] |
| | | 6' - 7' | Cadmium | Brown silty clay, little fine sand | 12/2/2014 | 0.49 B |
| | | 7' - 8' | Cadmium | Brown clayey silt, some fine sand | 12/2/2014 | 0.56 B |
| | | 8' - 9' | Cadmium | Brown clayey silt, increasing clay with depth, trace fine sand. | 12/2/2014 | 0.4 B |
| | | 9' - 10' | Cadmium | Brown silty clay, lenses of fine sand throughout | 12/2/2014 | 0.45 B |
| | | 10' - 11' | Cadmium | Brown silty clay, little angular gravel, wet. | 12/2/2014 | 0.4 B |
| | | 11' - 12' | Cadmium | Brown silty clay, little fine sand | 12/2/2014 | 0.38 B |
| DI-90-01 | C29 | 0' - 1' | Cadmium | Brown silty clay with some rounded gravel | 12/1/2014 | 0.051 J |
| | | 3' - 4' | Cadmium | Brown silty clay with some rounded gravel | 12/1/2014 | 0.087 J |
| | | 4' - 5' | Cadmium | Brown fine to coarse sand little angular gravel | 12/1/2014 | 0.072 J |
| | | 5' - 6' | Cadmium | Brown fine to coarse sand little angular gravel | 12/1/2014 | 0.076 J |
| | | 6' - 7' | Cadmium | Brown fine to coarse sand little angular gravel | 12/1/2014 | 0.083 J |
| | | 7' - 8' | Cadmium | Brown fine silty sand little clay | 12/1/2014 | 0.09 J |
| | | 8' - 9' | Cadmium | Brown fine silty sand little clay | 12/1/2014 | 0.12 J [0.14 J] |
| | | 9' - 10' | Cadmium | Light brown fine silty sand some clay fine sand lense 9'-9.2' | 12/1/2014 | 0.078 J |
| | | 10' - 11' | Cadmium | Gray fine sandy silt, little clay | 12/1/2014 | 0.11 J |
| | | 11' - 12' | Cadmium | Bark brown fine sand little silt, red mottling | 12/1/2014 | 0.14 J |
| DI-90-02 | C29 | 1' - 2' | Cadmium | Angular gravel and coarse sand (slough from pavement) | 12/1/2014 | 0.041 J |
| | | 2' - 3' | Cadmium | Angular gravel and coarse sand (slough from pavement) | 12/1/2014 | 1.3 |
| DI-91-01 | C30 | 0' - 1' | Cadmium | Brown fine-coarse sand, trace clay | 12/1/2014 | 0.86 |
| | | 1' - 2' | Cadmium | Dark brown fine sand, little silt | 12/1/2014 | 8.5 |
| | | 2' - 3' | Cadmium | Dark brown fine sand, little silt | 12/1/2014 | 0.30 |
| | | 3' - 4' | Cadmium | Brown fine sand, little silt, trace sub-angular gravel | 12/1/2014 | 0.11 J |
| | | 4' - 5' | Cadmium | Brown fine sand, some silt | 12/1/2014 | 0.67 |
| | | 5' - 6' | Cadmium | Gray fine sand, some clay | 12/1/2014 | 0.27 |
| | | 6' - 7' | Cadmium | Gray fine sand, some clay | 12/1/2014 | 0.44 |
| | | 7' - 8' | Cadmium | Gray fine sand, some clay | 12/1/2014 | 0.41 |
| | | 8' - 9' | Cadmium | Brown fine sand, little soil, wet | 12/1/2014 | 0.39 |
| | | 9' - 10' | Cadmium | Brown fine silty sand, trace clay | 12/1/2014 | 0.22 J |
| | | 10' - 11' | Cadmium | Brown fine silty sand, trace clay | 12/1/2014 | 0.53 [0.070 J] |
| DI-91-02 | C30 | 1' - 2' | Cadmium | Red-brown fine to coarse sand, little clay | 12/1/2014 | 0.72 |

Notes:

1. Boring locations are shown on the Design Figures.
2. Figure Coordinates correspond to coordinate system shown on the Design Figures.
3. All samples were collected using a direct push drill rig.
4. All samples were analyzed for cadmium using USEPA SW-846 Method 6010C.
5. The soil classification descriptions identified in the table represent the predominant soil type for the respective intervals.
6. Duplicate results are presented in brackets.
7. J - The detected concentration is an estimated value.
8. U - Not detected above minimum detection limit. Values reported are laboratory reporting limits.

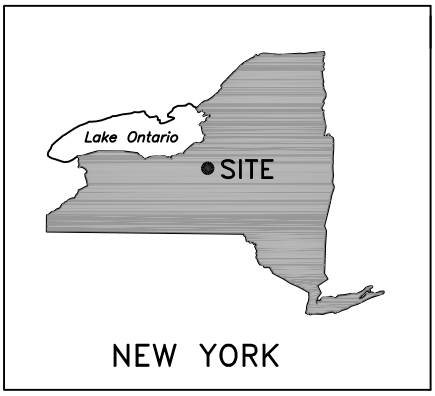
**Table 4**
**Soil Analytical Data for Waste Characterization Samples**
**West Branch of Bloody Brook - Downstream of Floradale Road**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

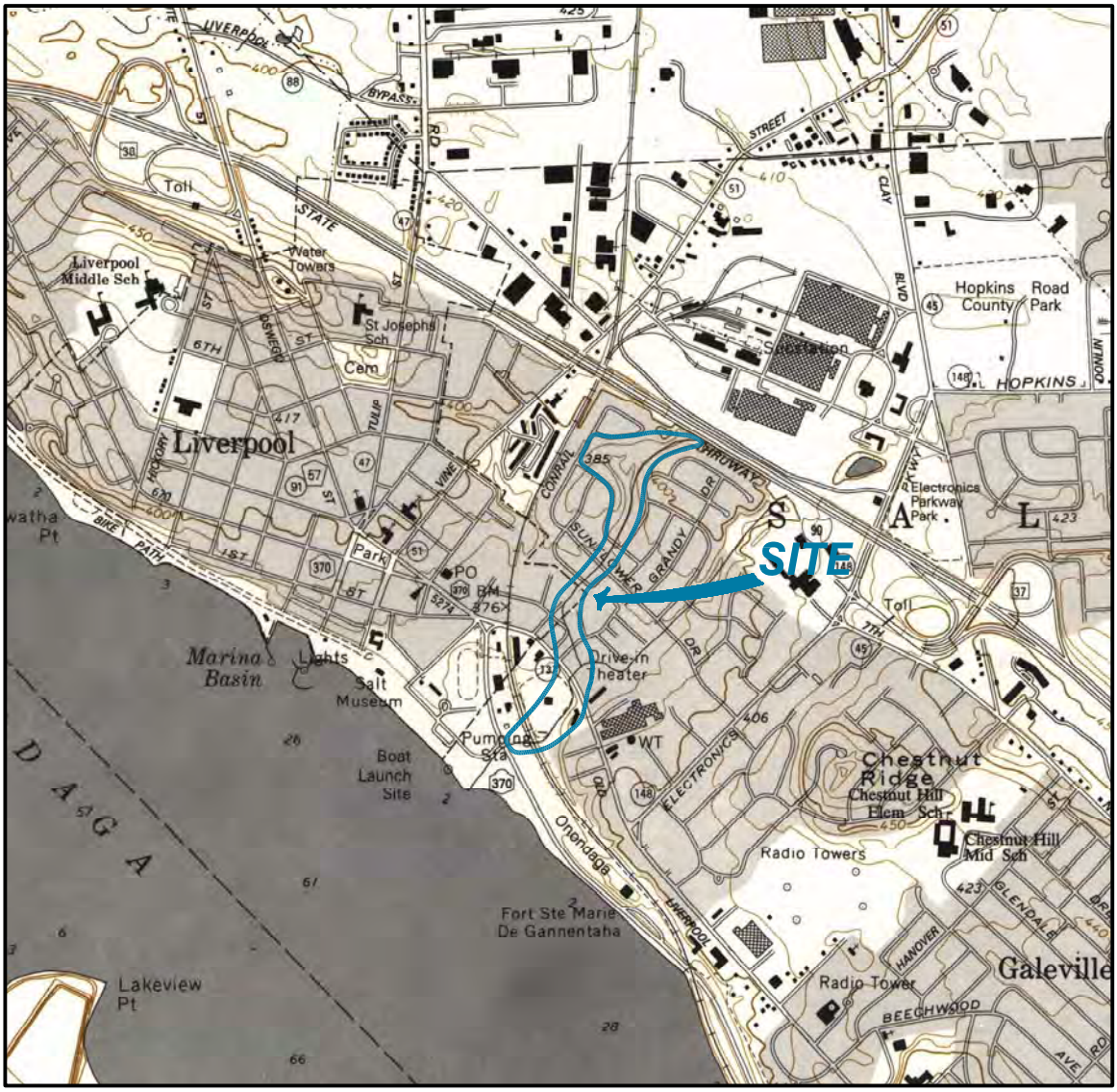
| | TCLP / TSCA Regulatory Levels | LMC-WBBB-WC-29 | LMC-WBBB-WC-30 | LMC-WBBB-WC-31 | LMC-WBBB-WC-32 | LMC-WBBB-WC-33 | LMC-WBBB-WC-34 | LMC-WBBB-WC-35 | LMC-WBBB-WC-36 | LMC-WBBB-WC-37 | LMC-WBBB-WC-38 | LMC-WBBB-WC-39 | LMC-WBBB-WC-40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Date Sample Collected** | | 12/02/2014 | 12/02/2014 | 12/01/2014 | 12/01/2014 | 12/01/2014 | 12/01/2014 | 12/09/2015 | 12/09/2015 | 12/09/2015 | 12/09/2015 | 12/09/2015 | 12/09/2015 |
| **Organochlorine Pesticides TCLP (mg/L)** | | | | | | | | | | | | | |
| Chlordane (technical) | 0.03 | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U |
| Endrin | 0.02 | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.000 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U |
| gamma-BHC (Lindane) | 0.4 | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.000 U | 0.000059 J | 0.0002 U | 0.000054 J | 0.000055 J | 0.0002 U | 0.0002 U |
| Heptachlor | 0.008 | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.000 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U |
| Heptachlor epoxide | 0.008 | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.000 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U |
| Methoxychlor | 10 | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.000 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U |
| Toxaphene | 0.5 | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U |
| **Herbicides TCLP (mg/L)** | | | | | | | | | | | | | |
| Silvex (2,4,5-TP) | 1 | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U |
| 2,4-D | 10 | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U | 0.002 U |
| **Semivolatile Organic Compounds TCLP (m** | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | 7.5 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| 2,4-Dinitrotoluene | 0.13 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| Hexachlorobenzene | 0.13 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| Hexachlorobutadiene | 0.5 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| Hexachloroethane | 3 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| 3-Methylphenol | 200 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| 2-Methylphenol | 200 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| 4-Methylphenol | 200 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Nitrobenzene | 2 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| Pentachlorophenol | 100 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Pyridine | 5 | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.002 BJ | 0.0028 BJ | 0.0037 BJ | 0.0029 BJ | 0.0047 BJ | 0.0025 BJ |
| 2,4,5-Trichlorophenol | 400 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| 2,4,6-Trichlorophenol | 2 | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U | 0.005 U |
| **Volatile Organic Compounds by TCLP (mg/L)** | | | | | | | | | | | | | |
| 1,1-Dichloroethene | 0.7 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| 1,2-Dichloroethane | 0.5 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| 2-Butanone (MEK) | 200 | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.050 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U | 0.05 U |
| Benzene | 0.5 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Carbon tetrachloride | 0.5 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Chlorobenzene | 100 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Chloroform | 6 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Tetrachloroethene | 0.7 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Trichloroethene | 0.5 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| Vinyl chloride | 0.2 | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U | 0.01 U |
| **Metals TCLP (mg/L)** | | | | | | | | | | | | | |
| Arsenic | 5 | 0.012 J | 0.0086 J | 0.015 U | 0.0092 J | 0.0060 J | 0.0062 J | 0.015 U | 0.015 U | 0.015 U | 0.015 U | 0.015 U | 0.0065 J |
| Barium | 100 | 2.6 B | 2.0 B | 1.2 B | 1.3 B | 1.1 B | 1.1 B | 3.2 | 1.5 | 1.9 | 1.1 | 1.2 | 0.77 J |
| Cadmium | 1 | 0.19 | 0.12 | 0.055 | 0.14 | 0.25 | 0.075 | 0.22 B | 0.084 B | 0.19 B | 0.072 B | 0.16 B | 0.026 B |
| Chromium | 5 | 0.043 B | 0.0040 U | 0.0040 U | 0.0040 U | 0.0040 U | 0.0040 U | 0.02 U | 0.02 U | 0.02 U | 0.02 U | 0.02 U | 0.02 U |
| Lead | 5 | 0.062 B | 0.010 U | 0.0031 JB | 0.025 B | 0.0071 JB | 0.0092 JB | 0.02 U | 0.022 | 0.02 U | 0.02 U | 0.004 J | 0.019 J |
| Selenium | 1 | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U | 0.025 U |
| Silver | 5 | 0.0060 U | 0.0060 U | 0.0060 U | 0.0060 U | 0.0060 U | 0.0060 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U | 0.006 U |
| Mercury | 0.2 | 0.00020 U | 0.00020 U | 0.00020 U | 0.00020 U | 0.00020 U | 0.00020 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.0002 U | 0.00076 | 0.00015 J |
| **Other** | | | | | | | | | | | | | |
| Flashpoint (Degrees F) | NA | >176 | >176 | >176 | >176 | >176 | >176 | >176 | >176 | >176 | >176 | >176 | >176 |
| Cyanide, Reactive (mg/kg) | NA | 10 U | 10 U | 10.0 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| Sulfide, Reactive (mg/kg) | NA | 40.1 | 60.1 | 20.0 | 60.1 | 80.2 | 100 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| pH (SU) | NA | 7.94 | 8.32 | 8.37 | 8.22 | 7.89 | 8.71 | 5.09 | 5.95 | 6.13 | 6.08 | 6.12 | 6.23 |
| Percent Moisture (%) | NA | 15 | 18 | 20 | 40 | 28 | 26 | 25 | 28 | 21 | 36 | 22 | 31 |
| Percent Solids (%) | NA | 85 | 82 | 80 | 60 | 72 | 74 | 75 | 72 | 79 | 64 | 78 | 69 |
| **Polychlorinated Biphenyls (PCBs) (mg/kg-dw)** | | | | | | | | | | | | | |
| PCB-1016 | NA | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.31 U | 0.27 U | 0.25 U | 0.24 U | 0.3 U | 0.33 U | 0.24 U | 0.25 U |
| PCB-1221 | NA | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.31 U | 0.27 U | 0.25 U | 0.24 U | 0.3 U | 0.33 U | 0.24 U | 0.25 U |
| PCB-1232 | NA | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.31 U | 0.27 U | 0.25 U | 0.24 U | 0.3 U | 0.33 U | 0.24 U | 0.25 U |
| PCB-1242 | NA | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.31 U | 0.27 U | 0.25 U | 0.24 U | 0.3 U | 0.33 U | 0.24 U | 0.25 U |
| PCB-1248 | NA | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.31 U | 0.27 U | 0.25 U | 0.24 U | 0.3 U | 0.33 U | 0.24 U | 0.11 J |
| PCB-1254 | NA | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.31 U | 0.27 U | 0.2 J | 0.12 J | 1.1 | 0.48 | 0.54 | 0.4 |
| PCB-1260 | NA | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.940 | 0.27 U | 0.24 J | 0.12 J | 0.55 | 0.46 | 0.58 | 0.22 J |
| Total PCBs (sum) | 50 | 0.24 U | 0.23 U | 0.29 U | 0.32 U | 0.940 | 0.27 U | 0.44 | 0.24 | 1.65 | 0.94 | 1.12 | 0.73 |

**Notes:**

1. TCLP - Toxicity Characteristic Leaching Procedure
2. TSCA - Toxic Substances Control Act; included for PCB regulatory level
3. J - Result is less than the reporting limit but greater than or equal to the method detection limit, and the concentration is an approximate value.
4. B - Compound was found in the blank and sample.
5. U - Compound was not detected above the method detection limit.
6. NA - Not Applicable
7. TCLP Regulatory Levels from Code of Federal Regulations, Title 40 - Protection of Environment (http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol27/xml/CFR-2012-title40-vol27-sec261-24.xml)
8. Total PCBs were summed including detections only.

# FIGURES




0' 2000' 4000'

APPROXIMATE SCALE

REFERENCE:

1. NYSDOT 7.5 MIN TOPOGRAPHIC MAP OF SYRACUSE WEST, QUADRANGLE 1990, SCALE: 1" = 2000'.

AECOM

LOCKHEED MARTIN CORPORATION

SITE LOCATION MAP

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
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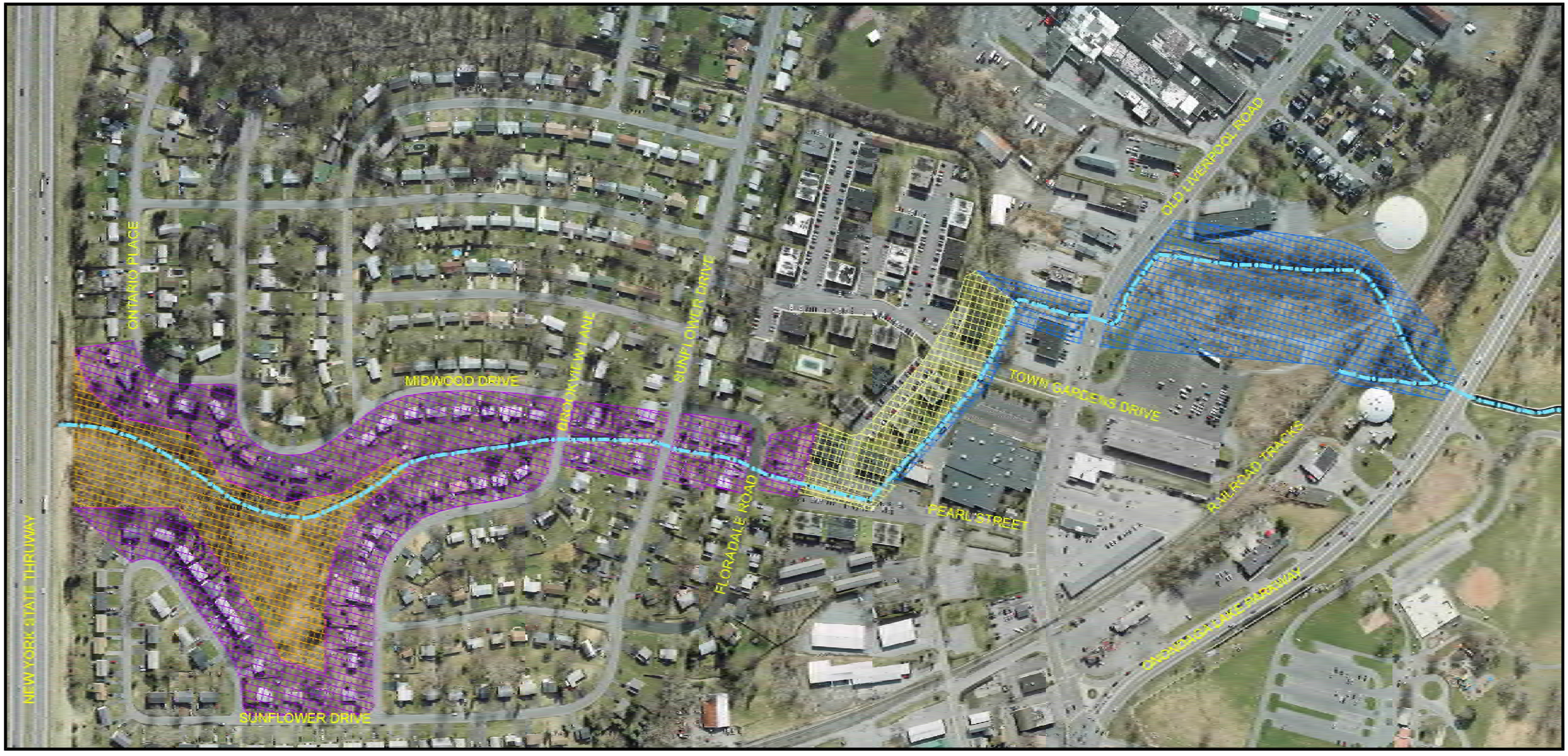


## Legend

- CURRENT BROOK ALIGNMENT
- WOODED AREA
- RESIDENTIAL AREA
- APARTMENT COMPLEX AREA
- COMMERICAL-LIGHT INDUSTRIAL AREA

0' 1,200' 2,400'

APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION

SITE AREA MAP

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
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Layout--Sheet Name: FIGURE
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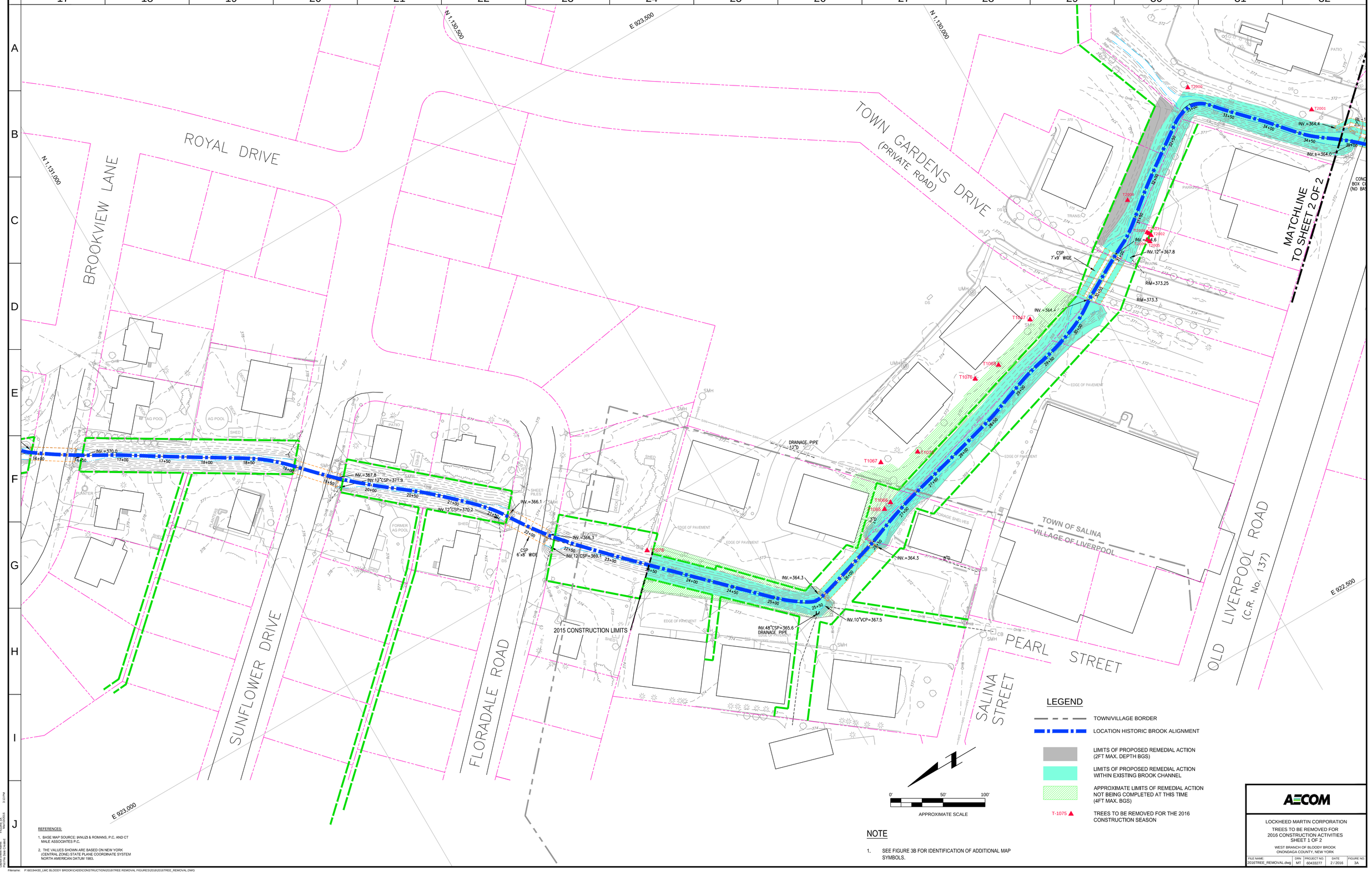


REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

## LEGEND

- TOWN/VILLAGE BORDER
- LOCATION HISTORIC BROOK ALIGNMENT
- LIMITS OF PROPOSED REMEDIAL ACTION (2FT MAX. DEPTH BGS)
- LIMITS OF PROPOSED REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
- APPROXIMATE LIMITS OF REMEDIAL ACTION NOT BEING COMPLETED AT THIS TIME (4FT MAX. BGS)
- T-1075 ▲ TREES TO BE REMOVED FOR THE 2016 CONSTRUCTION SEASON

## NOTE

1. SEE FIGURE 3B FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.

AECOM

LOCKHEED MARTIN CORPORATION

TREES TO BE REMOVED FOR 2016 CONSTRUCTION ACTIVITIES SHEET 1 OF 2

WEST BRANCH OF BLOODY BROOK ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
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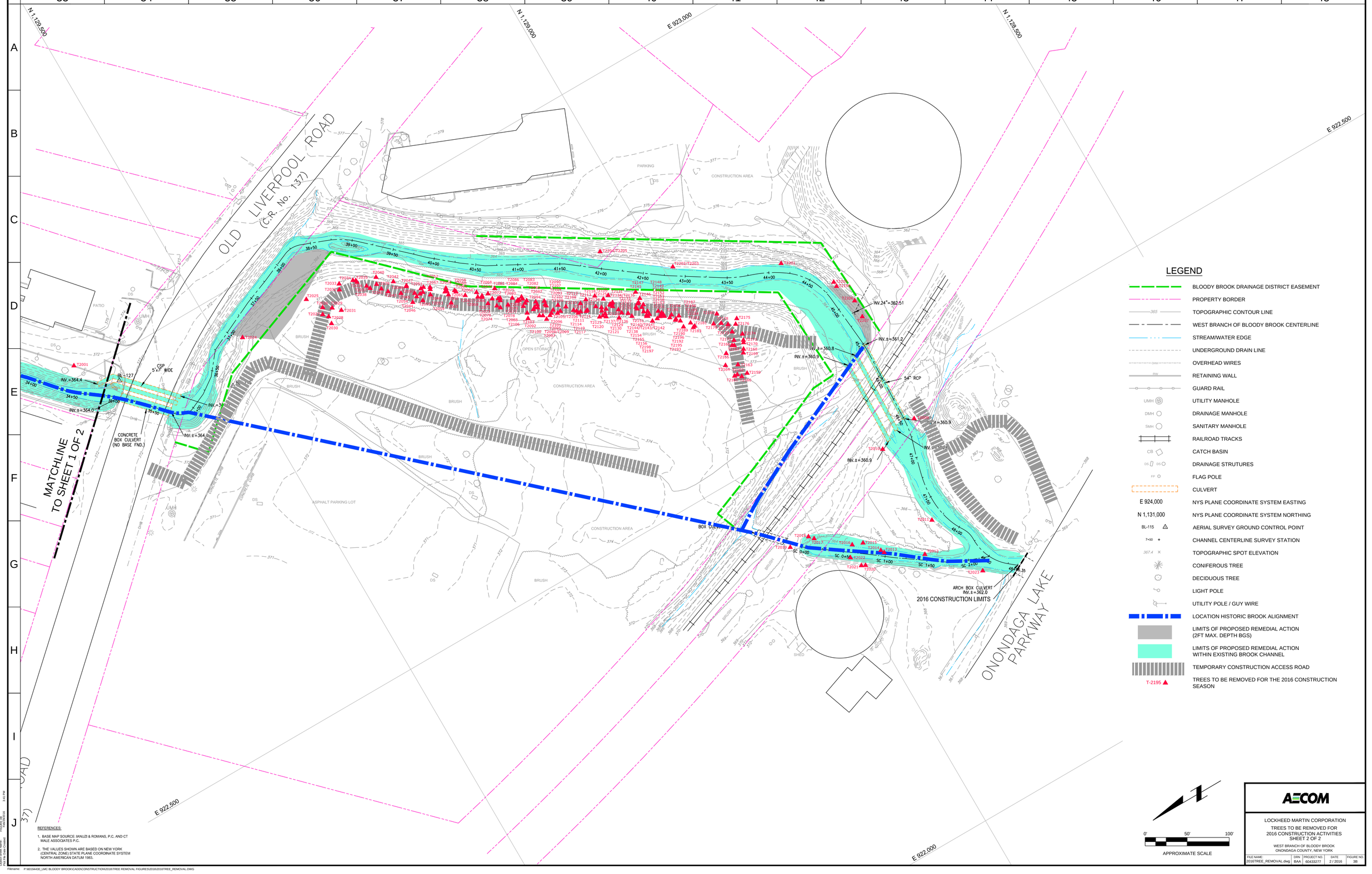
Plotted On: 3:13 PM
Mar 03, 2016
Layout: Fig

Filename: P:\60194430_LMC BLOODY BROOK\CAD\CONSTRUCTION\2016\TREE REMOVAL FIGURES\2016\2016TREE_REMOVAL.DWG




## LEGEND

- BLOODY BROOK DRAINAGE DISTRICT EASEMENT
- PROPERTY BORDER
- 365 TOPOGRAPHIC CONTOUR LINE
- WEST BRANCH OF BLOODY BROOK CENTERLINE
- STREAM/WATER EDGE
- UNDERGROUND DRAIN LINE
- OHW OVERHEAD WIRES
- RW RETAINING WALL
- GUARD RAIL
- UMH UTILITY MANHOLE
- DMH DRAINAGE MANHOLE
- SMH SANITARY MANHOLE
- RAILROAD TRACKS
- CB CATCH BASIN
- DS DRAINAGE STRUTURES
- FP FLAG POLE
- CULVERT
- E 924,000 NYS PLANE COORDINATE SYSTEM EASTING
- N 1,131,000 NYS PLANE COORDINATE SYSTEM NORTHING
- BL-115 AERIAL SURVEY GROUND CONTROL POINT
- 7+50 CHANNEL CENTERLINE SURVEY STATION
- 367.4 TOPOGRAPHIC SPOT ELEVATION
- CONIFEROUS TREE
- DECIDUOUS TREE
- LIGHT POLE
- UTILITY POLE / GUY WIRE
- LOCATION HISTORIC BROOK ALIGNMENT
- LIMITS OF PROPOSED REMEDIAL ACTION (2FT MAX. DEPTH BGS)
- LIMITS OF PROPOSED REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
- TEMPORARY CONSTRUCTION ACCESS ROAD
- T-2195 TREES TO BE REMOVED FOR THE 2016 CONSTRUCTION SEASON

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

0' 50' 100'

APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION

TREES TO BE REMOVED FOR 2016 CONSTRUCTION ACTIVITIES SHEET 2 OF 2

WEST BRANCH OF BLOODY BROOK ONONDAGA COUNTY, NEW YORK

| FILE NAME | DRN | PROJECT NO. | DATE | FIGURE NO. |
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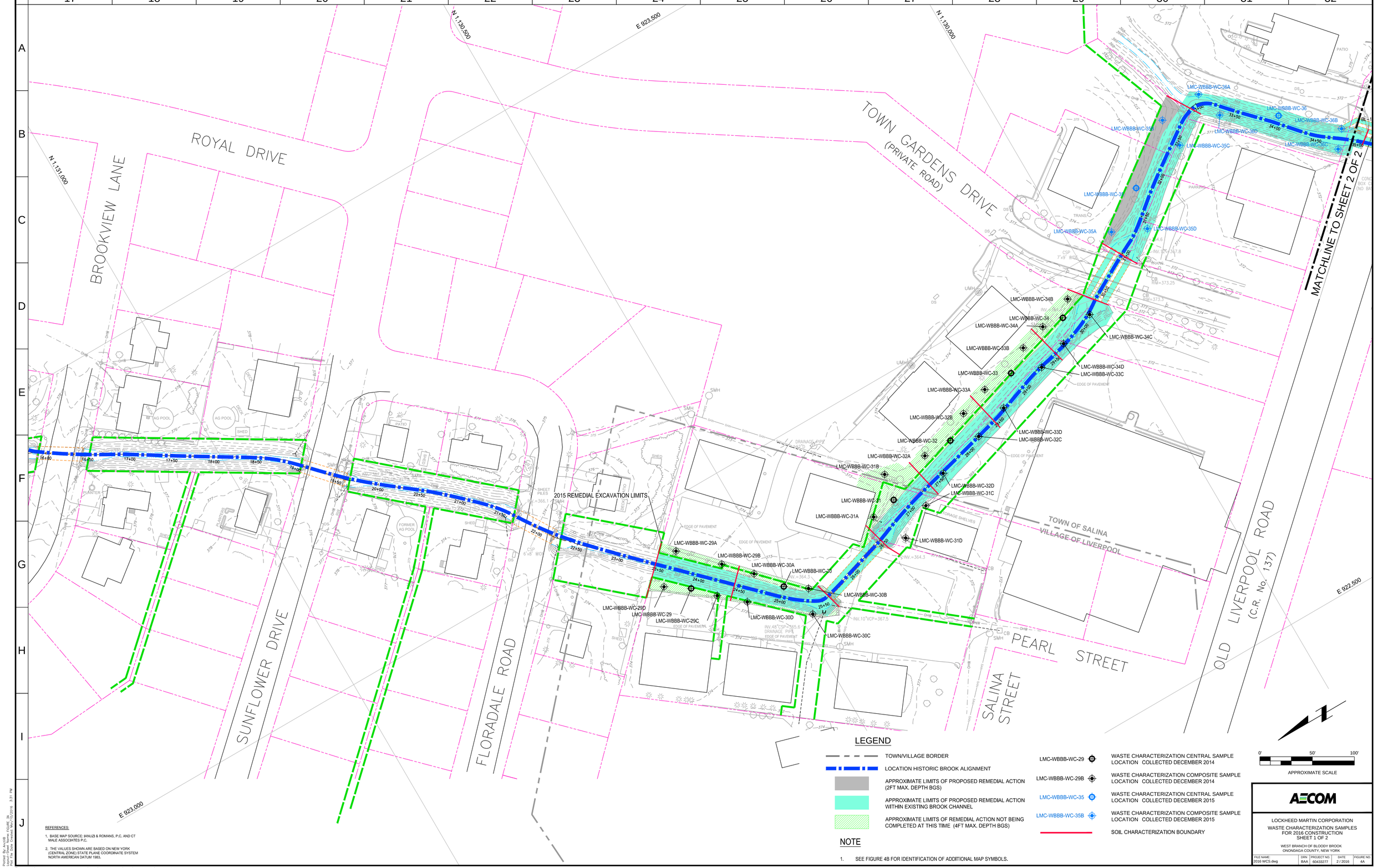


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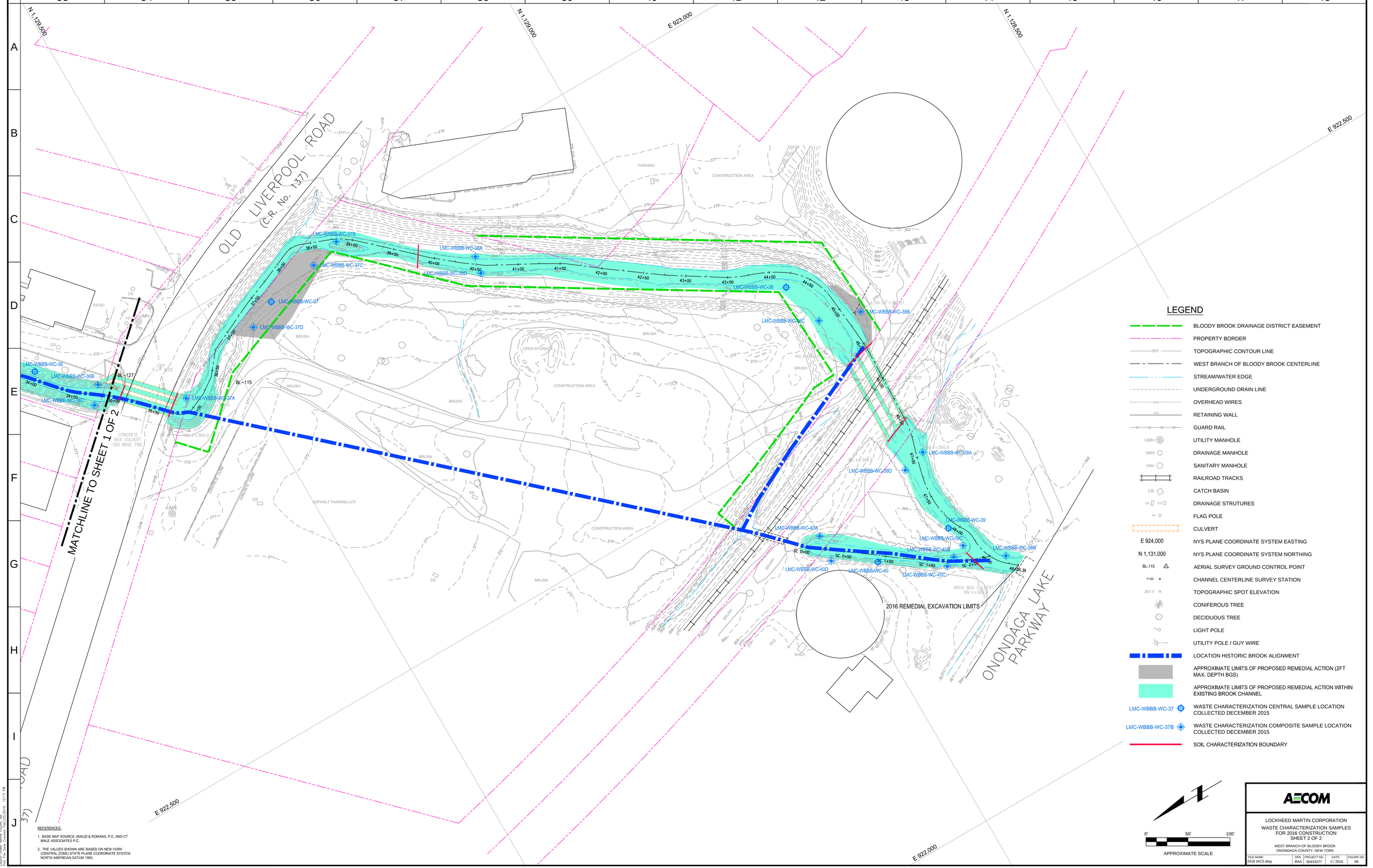



## LEGEND

- BLOODY BROOK DRAINAGE DISTRICT EASEMENT
- PROPERTY BORDER
- TOPOGRAPHIC CONTOUR LINE
- WEST BRANCH OF BLOODY BROOK CENTERLINE
- STREAM/WATER EDGE
- UNDERGROUND DRAIN LINE
- OVERHEAD WIRES
- RETAINING WALL
- GUARD RAIL
- UTILITY MANHOLE
- DRAINAGE MANHOLE
- SANITARY MANHOLE
- RAILROAD TRACKS
- CATCH BASIN
- DRAINAGE STRUTURES
- FLAG POLE
- CULVERT
- E 924,000 — NYS PLANE COORDINATE SYSTEM EASTING
- N 1,131,000 — NYS PLANE COORDINATE SYSTEM NORTHING
- BL-115 — AERIAL SURVEY GROUND CONTROL POINT
- 7+50 — CHANNEL CENTERLINE SURVEY STATION
- 367.4 — TOPOGRAPHIC SPOT ELEVATION
- CONIFEROUS TREE
- DECIDUOUS TREE
- LIGHT POLE
- UTILITY POLE / GUY WIRE
- LOCATION HISTORIC BROOK ALIGNMENT
- APPROXIMATE LIMITS OF PROPOSED REMEDIAL ACTION (2FT MAX. DEPTH BGS)
- APPROXIMATE LIMITS OF PROPOSED REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
- LMC-WBBB-WC-37 — WASTE CHARACTERIZATION CENTRAL SAMPLE LOCATION COLLECTED DECEMBER 2015
- LMC-WBBB-WC-37B — WASTE CHARACTERIZATION COMPOSITE SAMPLE LOCATION COLLECTED DECEMBER 2015
- SOIL CHARACTERIZATION BOUNDARY

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

0' 50' 100'

APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION
WASTE CHARACTERIZATION SAMPLES FOR 2016 CONSTRUCTION
SHEET 2 OF 2
WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| 2016 WCS.dwg | BAA | 60433277 | 2 / 2016 | 4B |

Plotted By: cnicolls
Layout: Sheet Name: FIGURE 4B
Last Saved By: cnicolls 10/4/2016 12:13 PM

Filename: P:\60194430_LMC BLOODY BROOK\CADD\CONSTRUCTION\2016\WC FIGURES\2016 WCS.DWG

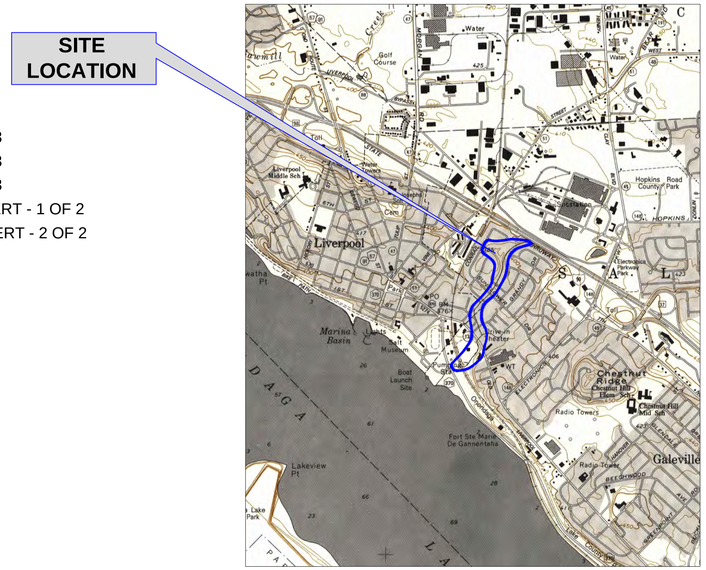
# APPENDICES

# APPENDIX A

# REMEDIAL DESIGN FOR
# LOCKHEED MARTIN CORPORATION
# WEST BRANCH OF BLOODY BROOK
## ONONDAGA COUNTY, NEW YORK
## MARCH 2016

INDEX OF DRAWINGS






REFERENCE:

1. NYSDOT 7.5 MIN. TOPOGRAPHIC MAP OF SYRACUSE WEST, QUADRANGLE 1990, SCALE: 1" = 2000'.

PROJECT LOCATION

0' 2000' 4000'

APPROXIMATE SCALE



Prepared By:

AECOM

AECOM Technical Services
40 British American Blvd.
Latham, New York, 12110
(518) 951-2200


**"2016" PROGRESS PLANS**

# GENERAL NOTES

**GENERAL**

(1) WORK SHALL BE PERFORMED BETWEEN THE HOURS OF 0800 AND 1700 UNLESS SPECIFIC CONDITIONS WARRANT (E.G., WATER BYPASS OPERATION).

(2) STAGING OF MATERIAL OR VEHICLES ON PUBLIC ROADWAYS WILL BE MINIMIZED TO LIMIT IMPACTS TO NEARBY RESIDENTS.

(3) VEHICLE AND EQUIPMENT NOT IN USE FOR FIVE MINUTES OR MORE SHALL BE TURNED OFF.

(4) ROADWAYS SHALL BE KEPT CLEAN AND FREE OF SOIL. ANY SOIL DEPOSITED ON ROADWAYS OR SIMILAR WILL BE IMMEDIATELY REMOVED. COLLECTED SOIL SHALL BE DISPOSED OF AS IMPACTED WASTE.

(5) SAFETY PRECAUTIONS SHALL BE UTILIZED FOR ALL TRAFFIC ENTERING AND EXITING PUBLIC ROADWAYS INCLUDING TRAFFIC SIGNS, BARRIERS, AND SPOTTERS AS WARRANTED.

**SITE SURVEY**

(1) AN EXISTING CONDITIONS SURVEY AND HORIZONTAL EXCAVATION LIMITS STAKEOUT SHALL BE COMPLETED PRIOR TO EXCAVATION ACTIVITIES.

(2) EXCAVATION DEPTHS SHALL BE VERIFIED BY SITE SURVEY PRIOR TO BACKFILL.

(3) A FINAL CONDITIONS SURVEY SHALL BE COMPLETED FOLLOWING SITE RESTORATION.

(4) FINAL EXCAVATION DEPTH AND RESTORATION FEATURES SHALL BE PROVIDED IN THE CONSTRUCTION COMPLETION REPORT.

**BYPASS PUMPING**

(1) BYPASS PUMPING SYSTEM SHALL HAVE SUFFICIENT CAPACITY TO PUMP THE MAXIMUM SYSTEM DESIGN FLOW TO THE DISCHARGE POINT.

(2) A MINIMUM OF ONE BACKUP PUMP MUST BE AVAILABLE FOR OPERATION AT ANY TIME.

(3) A MINIMUM OF ONE STANDBY PUMP MUST BE AVAILABLE FOR DELIVERY TO THE SITE AS SOON AS PRACTICABLE.

(4) A SERVICE TECHNICIAN MUST BE AVAILABLE TO RESPOND TO A PUMP FAILURE WITHIN 1 HOUR.

(5) PRIOR TO OPERATION A VISUAL LEAKAGE TEST SHALL BE PERFORMED WITH A TEST PRESSURE 1.5 TIMES THE EXPECTED OPERATING PRESSURE.

(6) PRIOR TO OPERATION ALL FLOAT SYSTEMS AND ALARMS SHALL BE TESTED AND FUNCTIONAL.

(7) ALL PUMPS, PIPING, ALARMS, COFFERDAMS, AND DISCHARGE AREAS MUST BE INSPECTED, BY A COMPETENT WORKER, DAILY.

(8) APPROPRIATE TURBIDITY CONTROLS MUST BE IN-PLACE PRIOR TO EXCAVATION, BYPASS PUMP OPERATION, AND TEMPORARY COFFERDAM.

(9) ALL EQUIPMENT CONTAINING FUEL AND/OR OIL SHALL BE PLACED IN A CONTAINMENT SYSTEM ABLE TO HOLD 1.5 TIMES THE POTENTIAL RELEASE AMOUNT.

(10) ALL STATIONARY EQUIPMENT SHALL BE PLACED IN SECONDARY CONTAINMENT AS APPROPRIATE.

(11) ALL PUMPS AND PIPING THAT MAY CONTAIN SEDIMENT FOLLOWING USE (E.G., SUMP PUMP USED TO DEWATER EXCAVATION AREAS) SHALL BE FLUSHED WITH CLEAN WATER PRIOR TO DISMANTLE AND REMOVAL.

(12) COFFERDAMS SHALL BE WRAPPED IN 6-MIL POLYETHYLENE SHEETS OR SIMILAR PRIOR TO PLACEMENT IN ANY SEDIMENT OR SOIL.

(13) ACTUAL LOCATIONS OF BYPASS PUMPING EQUIPMENT AND CONTROLS MAY VARY BASED ON FIELD CONDITIONS.

**EXCAVATION**

(1) ALL SOIL SHALL BE STABILIZED ONSITE PRIOR TO OFFSITE DISPOSAL .

(2) EXCAVATION WILL NOT BE ALLOWED WITHOUT PROPER SECURITY FENCING AND EROSION CONTROLS IN PLACE.

(3) EXCAVATED SOIL SHALL BE SAMPLED PRIOR TO OFFSITE DISPOSAL AS REQUIRED BY THE DISPOSAL FACILITY.

(4) EXCAVATED SOIL SHALL BE DIRECT LOADED FOR TRANSPORTATION OFFSITE WHERE PRACTICABLE.

(5) STOCKPILED SOIL SHALL BE PLACED ON 6-MIL POLYETHYLENE SHEETS OR SIMILAR.

(6) STOCKPILED SOILS SHALL BE COVERED WITH 6-MIL POLYETHYLENE SHEETS OR SIMILAR IF LEFT IN PLACE FOR 8 HOURS OR MORE AND AS REQUIRED TO PREVENT THE TRANSFER OF DUST.

**DEWATERING**

(1) DEWATERING ACTIVITIES MAY INCLUDE DIRECT PUMP FROM THE EXCAVATION AREA AND GRAVITY DRAIN WITHIN THE SOIL STOCKPILE AREA .

(2) SOIL STOCKPILE AREAS SHALL BE GRADED TO ALLOW COLLECTION OF ANY DRAINAGE WATER FROM COLLECTED SEDIMENT.

(3) STORMWATER AND SIMILAR SOURCES SHALL BE GRADED AWAY FROM OPEN EXCAVATIONS, AS PRACTICABLE.

(4) COLLECTED WATER SHALL BE TRANSFERRED THROUGH THE SEDIMENT FILTRATION PROCESS PRIOR TO DISCHARGE DOWNSTREAM OF THE EXCAVATION AREA.

(5) TURBIDITY UPSTREAM OF THE HEAD DAM AND DOWNSTREAM OF THE DISCHARGE LOCATION SHALL BE MONITORED FOR VISUAL SIGNS OF TURBIDITY AND USING A NEPHELOMETER.

(6) APPROPRIATE CONTROLS SHALL BE IN-PLACE TO DECREASE ANY VISUAL SIGNS OF TURBIDITY RESULTING FROM EXCAVATION INCLUDING A STOP WORK UNTIL AN APPROPRIATE CONTROL IS SET IN PLACE.

**DISPOSAL**

(1) ALL DISPOSAL VEHICLES SHALL BE APPROPRIATELY LINED AND COVERED PRIOR TO LEAVING THE SITE.

(2) ALL DISPOSAL PERSONNEL AND EQUIPMENT SHALL BE PROPERLY TRAINED AND LICENSED PRIOR TO ENTERING THE SITE.

(3) ALL VEHICLES AND EQUIPMENT SHALL BE INSPECTED FOR SOILS ON THE EXTERIOR OF THE EQUIPMENT PRIOR TO TRANSPORTATION OFFSITE.

(4) ALL VEHICLES AND EQUIPMENT SHALL BE CLEANED PRIOR TO REMOVAL OFFSITE, AS REQUIRED.

**BACKFILL**

(1) IMPORTED BACKFILL SHALL MEET NYSDEC DER-10 UNRESTRICTED SAMPLE REQUIREMENTS.

(2) GENERAL BACKFILL SHALL MEET THE GRADATION REQUIREMENTS TO BE APPROVED BY THE PROJECT ENGINEER.

(3) EXCAVATION AREAS SHALL BE BACKFILLED AND RESTORED AS SOON AS PRACTICABLE.

(4) GENERAL FILL SHALL BE COMPACTED USING A MINIMUM OF THREE PASSES WITH A SITE ROLLER OR SIMILAR.

**DUST AND ODOR CONTROL**

(1) APPROPRIATE DUST AND ODOR CONTROLS MUST BE IN PLACE AT ALL TIMES DURING SITE WORK.

(2) THE SITE COMMUNITY AIR MONITORING PLAN (CAMP) SHALL BE ADHERED TO AT ALL TIMES DURING SITE WORK.

AECOM

LOCKHEED MARTIN CORPORATION
GENERAL NOTES

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| BLOODY BROOK | KAM | 60432377 | 2 / 2016 | A-2 |

ONTARIO PLACE

MIDWOOD DRIVE

CRANBERRY DRIVE

MIDWOOD DRIVE

BROOKVIEW LANE

SUNFLOWER DRIVE

NEW YORK STATE THRUWAY

6'x8' WIDE BOX CULVERT INV.=384.4

INV.12"CSP=397.23 DRAINAGE PIPE

INV.12"CPP=376.79 DRAINAGE PIPE

BL=114

GABION LINED CHANNEL

INV.=370.4

INV.=370.0

2014 CONSTRUCTION LIMITS

2014 CONSTRUCTION LIMITS

2014 CONSTRUCTION LIMITS

CHANNEL

TRIBUTARY

30"CMP INV=377.90 DRAINAGE PIPE

PVC INV=382.95

MATCHLINE TO SHEET 2 OF 3

N 1,132,000

N 1,131,500

N 1,132,500

E 924,000

E 923,500

E 923,000

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

## LEGEND

- WETLANDS
- BLOODY BROOK DRAINAGE DISTRICT EASEMENT
- PROPERTY BORDER
- TOPOGRAPHIC CONTOUR LINE
- WEST BRANCH OF BLOODY BROOK CENTERLINE
- STREAM/WATER EDGE
- RETAINING WALL
- CULVERT
- LOCATION HISTORIC BROOK ALIGNMENT
- LIMITS OF 2014 REMEDIAL ACTION
- LIMITS OF 2014 REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
- LIMITS OF 2015 REMEDIAL ACTION
- LIMITS OF 2015 REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
- 2015 CULVERT REPLACEMENT
- 2015 REMOVAL OF GABIONS

## NOTE

1. SEE FIGURE A-3C FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.

0' 50' 100'

APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION
EXCAVATION LIMITS AND CADMIUM SOIL SAMPLING LOCATION
SHEET 1 OF 3
WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
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Last Saved By: Loyola Dowd
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4:56 PM
2/8/2016

Filename: P:\60194430_LMC BLOODY BROOK\CAD\CONSTRUCTION\2016\2016 APPENDIX A\FIGURE 3A 3B AND 3C\2016FIG3.DWG

ROYAL DRIVE

BROOKVIEW LANE

TOWN GARDENS DRIVE
(PRIVATE ROAD)

SUNFLOWER DRIVE

FLORADALE ROAD

OLD LIVERPOOL ROAD
(C.R. No. 137)

PEARL STREET

SALINA STREET

TOWN OF SALINA
VILLAGE OF LIVERPOOL

MATCHLINE
TO SHEET 1 OF 3

MATCHLINE
TO SHEET 3 OF 3

2015 CONSTRUCTION LIMITS

N 1,131,000

N 1,130,500

N 1,130,000

E 923,000

E 923,500

E 922,500

INV.=370.0
16+50
16+00
17+00
17+50
18+00
18+50
19+00
INV.=367.8
INV.12"CSP=371.9
19+50
20+00
20+50
21+00
INV.12"CSP=370.2
21+50
INV.=366.1
22+00
INV.=366.3
22+50
INV.12"CSP=369.1
23+00
CSP
6'x8' WIDE
SB-41/SB-66
SB-417
SB-67
SB-08/SB-43
DI-57-01
DI-57-02
23+50
24+00
24+50
25+00
25+50
DI-34-01
DI-34-02
DI-59-01
DI-59-02
SB-42
INV.48"CSP=365.6
DRAINAGE PIPE
INV.10"VCP=367.5
DI-88-03
DI-88-02
INV.=364.3
DI-89-01
DI-93-01
DRAINAGE PIPE
12"D
DI-58-05
DI-58-04
DI-58-03
DI-58-02
DI-58-01
SB-44/SB-68
DI-13-03
DI-13-02
DI-13-01
B-9
SB-69
DI-92-01
SB-45
INV.=364.3
26+00
26+50
27+00
27+50
28+00
28+50
29+00
29+50
30+00
30+50
31+00
31+50
32+00
32+50
33+00
33+50
34+00
34+50
35+00
INV.=364.4
INV.=364.0
DI-71-01
DI-70-01
B-7
DI-71-02
SB-73
DI-70-02
DI-69-01
DI-69-02
B-6
SB-10/SB-47/SB-72
DI-14-02
DI-14-01
SA-SB-06-04
DI-68-02
SA-SB-06-03
SA-SB-06-02
B-8
DI-68-01
SA-SB-06-01
SB-71
SB-09/SB-46/SB-70
DI-67-01
DI-67-02
DI-15-02
DI-15-01
INV.=364.6
INV.12"=367.8
CSP
7'x9' WIDE
DI-90-02
DI-90-01
DI-91-01
RIM=373.25
DI-91-02
RIM=373.3
SB-12/SB-50
SA-SB-07-01
SA-SB-07-02
SA-SB-07-03
SA-SB-07-04
EPSOIL-3
SB-74
DI-SB-07-02
DI-SB-07-01
SB-11/SB-49
SB-210
SB-48
SHEET PILES
SHED
AG POOL
PATIO
DECK
GARAGE
PLANTER
ASPHALT
CONCRETE
GRAVEL
SHRUBS
TREES
FENCE
GUIDE RAIL
EDGE OF PAVEMENT
STORAGE SHELVES
PARKING
TRANS
DS
CB
SMH
UMH
OHW
SAN
STM
W
G
T
E
TV
CONC BOX CULVERT (NO BASE)

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.

2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

## LEGEND

- SB-208 — EXISTING SAMPLING LOCATION
- DI-84-02 — SOIL BORING FOR USE IN CULVERT REPLACEMENT
- EPSOIL−2 — APPROXIMATE ONONDAGA COUNTY SIDE BANK SAMPLING LOCATION
- B-7 — OCDWEP LIVERPOOL PUMP STATION UPGRADE SAMPLE LOCATION
- CULVERT
- TOWN/VILLAGE BORDER
- LOCATION HISTORIC BROOK ALIGNMENT
- 2015 CULVERT REPLACEMENT
- LIMITS OF 2015 REMEDIAL ACTION
- LIMITS OF 2015 REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
- LIMITS OF PROPOSED REMEDIAL ACTION (2FT MAX. DEPTH BGS)
- LIMITS OF PROPOSED REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL
- APPROXIMATE LIMITS OF REMEDIAL ACTION NOT BEING COMPLETED AT THIS TIME (4FT MAX. BGS)

0' 50' 100'
APPROXIMATE SCALE

## NOTE

1. SEE FIGURE A-3C FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.

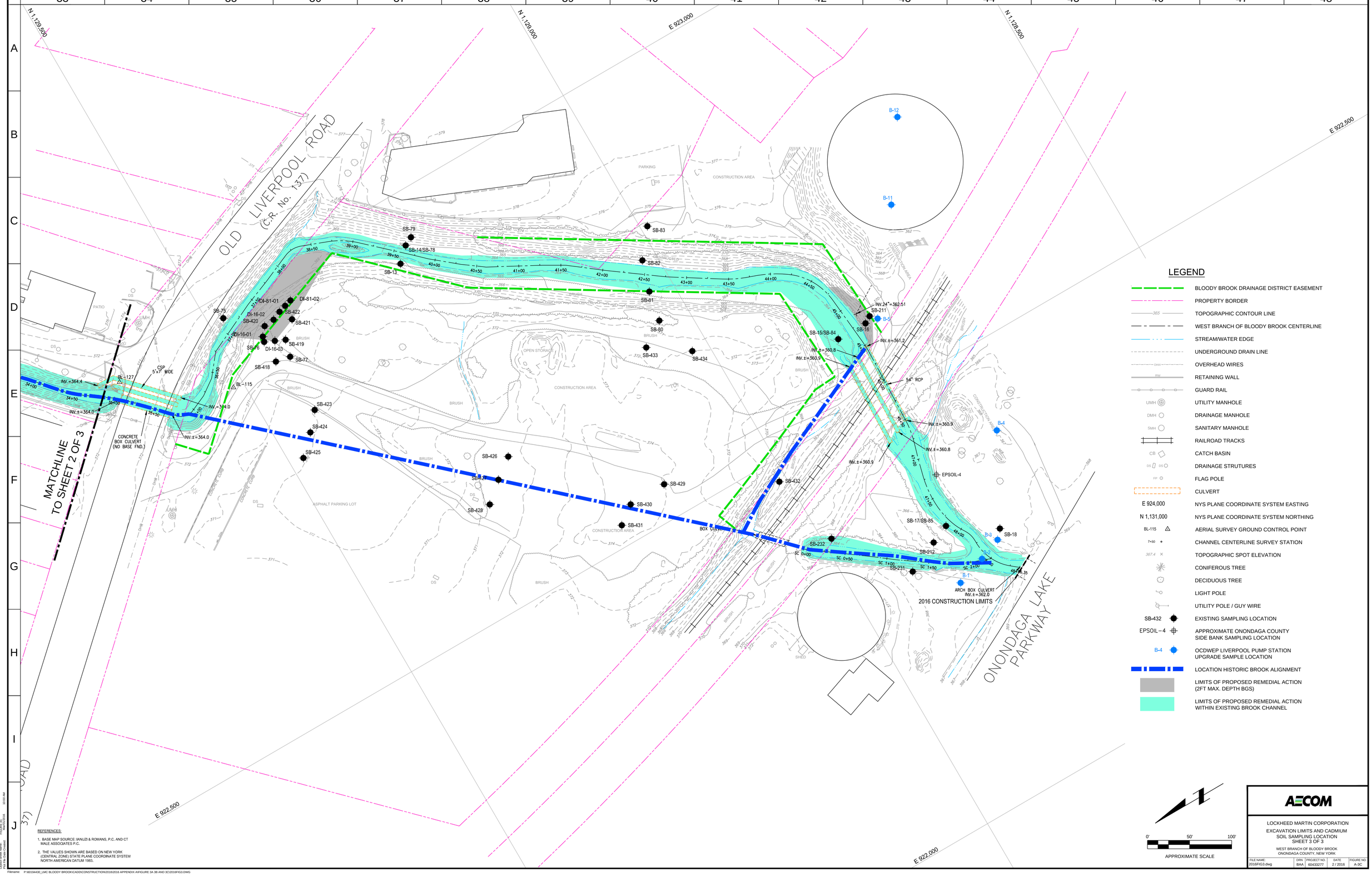
AECOM

LOCKHEED MARTIN CORPORATION
EXCAVATION LIMITS AND CADMIUM SOIL SAMPLING LOCATION
SHEET 2 OF 3
WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| 2016FIG3.dwg | MT | 60433277 | 2 / 2016 | A-3B |

Plotted By: arvilb
Plot Date: 3:44 PM
Plot Scale: Default
Plotted On: 2 MARCH 2016

Filename: P:\60194430_LMC BLOODY BROOK\CAD\CONSTRUCTION\2016\2016 APPENDIX A\FIGURE 3A 3B AND 3C\2016FIG3.DWG




## LEGEND

- BLOODY BROOK DRAINAGE DISTRICT EASEMENT
- PROPERTY BORDER
- TOPOGRAPHIC CONTOUR LINE
- WEST BRANCH OF BLOODY BROOK CENTERLINE
- STREAM/WATER EDGE
- UNDERGROUND DRAIN LINE
- OVERHEAD WIRES
- RETAINING WALL
- GUARD RAIL
- UTILITY MANHOLE
- DRAINAGE MANHOLE
- SANITARY MANHOLE
- RAILROAD TRACKS
- CATCH BASIN
- DRAINAGE STRUTURES
- FLAG POLE
- CULVERT
- E 924,000 — NYS PLANE COORDINATE SYSTEM EASTING
- N 1,131,000 — NYS PLANE COORDINATE SYSTEM NORTHING
- BL-115 — AERIAL SURVEY GROUND CONTROL POINT
- 7+50 — CHANNEL CENTERLINE SURVEY STATION
- 367.4 — TOPOGRAPHIC SPOT ELEVATION
- CONIFEROUS TREE
- DECIDUOUS TREE
- LIGHT POLE
- UTILITY POLE / GUY WIRE
- SB-432 — EXISTING SAMPLING LOCATION
- EPSOIL – 4 — APPROXIMATE ONONDAGA COUNTY SIDE BANK SAMPLING LOCATION
- B-4 — OCDWEP LIVERPOOL PUMP STATION UPGRADE SAMPLE LOCATION
- LOCATION HISTORIC BROOK ALIGNMENT
- LIMITS OF PROPOSED REMEDIAL ACTION (2FT MAX. DEPTH BGS)
- LIMITS OF PROPOSED REMEDIAL ACTION WITHIN EXISTING BROOK CHANNEL

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

0' 50' 100'

APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION

EXCAVATION LIMITS AND CADMIUM SOIL SAMPLING LOCATION SHEET 3 OF 3

WEST BRANCH OF BLOODY BROOK ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| 2016FIG3.dwg | BAA | 60433277 | 2 / 2016 | A-3C |

Plotted By: arcrift
Layout/Sheet Name: FIGURE 3C
Last Modified: 2/2016 10:00 AM

Filename: P:\60194430_LMC BLOODY BROOK\CADD\CONSTRUCTION\20160216 APPENDIX A\FIGURE 3A 3B AND 3C\2016FIG3.DWG

ROYAL DRIVE

BROOKVIEW LANE

TOWN GARDENS DRIVE
(PRIVATE ROAD)

SUNFLOWER DRIVE

FLORADALE ROAD

OLD LIVERPOOL ROAD
(C.R. No. 137)

PEARL STREET

SALINA STREET

N 1,131,000

N 1,130,500

N 1,130,000

E 923,500

E 923,000

E 922,500

MATCHLINE TO SHEET 2 OF 2

APPROXIMATE LOCATION OF PHASE III BYPASS GENERATOR

APPROXIMATE PHASE II PIPE DISCHARGE

APPROXIMATE LOCATION OF PHASE III BYPASS PUMPS (AS CONSTRUCTION ACTIVITIES PROCEED DOWNSTREAM, APPROXIMATE LOCATIONS OF BYPASS PUMPING SYSTEM WILL BE RELOCATED AS SHOWN.)

APPROXIMATE LOCATION OF PHASE II BYPASS PUMPS (AS CONSTRUCTION ACTIVITIES PROCEED DOWNSTREAM, APPROXIMATE LOCATIONS OF BYPASS PUMPING SYSTEM WILL BE RELOCATED AS SHOWN.)

APPROXIMATE PHASE I PIPE DISCHARGE

APPROXIMATE LOCATION OF PHASE II BYPASS GENERATOR

APPROXIMATE LOCATION OF PHASE I BYPASS GENERATOR

APPROXIMATE LOCATION OF PHASE I BYPASS PUMPS (AS CONSTRUCTION ACTIVITIES PROCEED DOWNSTREAM, APPROXIMATE LOCATIONS OF BYPASS PUMPING SYSTEM WILL BE RELOCATED AS SHOWN.)

TOWN OF SALINA
VILLAGE OF LIVERPOOL

INV.=370.0
INV.=367.8
INV.12"CSP=371.9
INV.12"CSP=370.2
INV.=366.1
INV.=366.3
INV.12"CSP=369.1
INV.=364.4
INV.=364.6
INV.12"=367.8
INV.=364.3
INV.48"CSP=365.6
DRAINAGE PIPE
INV.10"VCP=367.5
INV.=354.4
INV.=354.0
CSP 7'x9' WIDE
CSP 6'x8' WIDE
RIM=373.25
RIM=373.3

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

## LEGEND

- BLOODY BROOK DRAINAGE DISTRICT EASEMENT
- PROPERTY BORDER
- TOPOGRAPHIC CONTOUR LINE (365)
- WEST BRANCH OF BLOODY BROOK CENTERLINE
- STREAM/WATER EDGE
- RETAINING WALL (INV.)
- CULVERT
- TEMPORARY SECURITY FENCE
- TEMPORARY SEDIMENT CONTROLS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- LIMITS OF 2015 EXCAVATION
- LIMITS OF PROPOSED 2016 EXCAVATION
- TEMPORARY BYPASS PUMPING ROUTE

## NOTE

1. SEE FIGURE A-4B FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.

0' 50' 100'
APPROXIMATE SCALE

AECOM

LOCKHEED MARTIN CORPORATION
SITE LAYOUT FOR 2016 SEASON
ABOVE OLD LIVERPOOL ROAD CULVERT
SHEET 1 OF 2

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| 2016FIG4.dwg | MT | 60433277 | 2 / 2016 | A-4A |

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Filename: P:\60194430_LMC BLOODY BROOK\CADD\CONSTRUCTION\2016\2016 APPENDIX A\FIGURE 4A AND 4B\2016FIG4.DWG

N 1,129,500

N 1,129,000

E 923,000

N 1,128,500

E 922,500

OLD LIVERPOOL ROAD (C.R. No. 137)

APPROXIMATE LOCATION OF PHASE IV BYPASS PUMPS (AS CONSTRUCTION ACTIVITIES PROCEED DOWNSTREAM, APPROXIMATE LOCATIONS OF BYPASS PUMPING SYSTEM WILL BE RELOCATED AS SHOWN.)

APPROXIMATE PHASE III PIPE DISCHARGE

INV.24"=362.51

INV.±=361.2

INV.±=360.8

INV.±=360.9

54" RCP

GATE

TEMPORARY CULVERT

TEMPORARY ACCESS ROAD

TEMPORARY CONTRACTOR STAGING AREA

CONSTRUCTION AREA

OPEN STORAGE

BRUSH

PATIO

SHED

ASPHALT PARKING LOT

CSP 5'x7' WIDE

INV.=364.4

INV.±=364.0

INV.±=364.0

CONCRETE BOX CULVERT (NO BASE FND.)

APPROXIMATE LOCATION OF PHASE IV BYPASS GENERATOR

BOX CULVERT

INV.±=360.9

INV.±=360.7

ARCH BOX CULVERT INV.±=362.0

2016 CONSTRUCTION LIMITS

APPROXIMATE PHASE IV PIPE DISCHARGE (INSIDE CULVERT)

ONONDAGA LAKE PARKWAY

MATCHLINE TO SHEET 1 OF 2

MATCHLINE TO SHEET 2 OF 2

## LEGEND

- BLOODY BROOK DRAINAGE DISTRICT EASEMENT
- PROPERTY BORDER
- 365 TOPOGRAPHIC CONTOUR LINE
- WEST BRANCH OF BLOODY BROOK CENTERLINE
- STREAM/WATER EDGE
- UNDERGROUND DRAIN LINE
- OHW OVERHEAD WIRES
- RW RETAINING WALL
- GUARD RAIL
- UMH UTILITY MANHOLE
- DMH DRAINAGE MANHOLE
- SMH SANITARY MANHOLE
- RAILROAD TRACKS
- CB CATCH BASIN
- DS DRAINAGE STRUTURES
- FP FLAG POLE
- CULVERT
- E 924,000 NYS PLANE COORDINATE SYSTEM EASTING
- N 1,131,000 NYS PLANE COORDINATE SYSTEM NORTHING
- BL-115 AERIAL SURVEY GROUND CONTROL POINT
- 7+50 CHANNEL CENTERLINE SURVEY STATION
- 387.4 TOPOGRAPHIC SPOT ELEVATION
- CONIFEROUS TREE
- DECIDUOUS TREE
- LIGHT POLE
- UTILITY POLE / GUY WIRE
- TEMPORARY SECURITY FENCE
- TEMPORARY SEDIMENT CONTROLS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- LIMITS OF PROPOSED 2016 EXCAVATION
- TEMPORARY BYPASS PUMPING ROUTE

## NOTE

1. SEE FIGURE A-4A FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.
2. THE VALUES SHOWN ARE BASED ON NEW YORK (CENTRAL ZONE) STATE PLANE COORDINATE SYSTEM NORTH AMERICAN DATUM 1983.

0' 50' 100'

AECOM

LOCKHEED MARTIN CORPORATION
SITE LAYOUT FOR 2016 SEASON
BELOW OLD LIVERPOOL ROAD CULVERT
SHEET 2 OF 2

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| 2016FIG4.dwg | MT | 60433277 | 02 / 2016 | A-4B |

Plotted: By: jacobs
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Xref: Path: C:\Users\matthew.tomo\Desktop\Xrefs\

Filename: P:\60194430_LMC BLOODY BROOK\CADD\CONSTRUCTION\2015\2016 APPENDIX A\FIGURE 4A AND 4B\2016FIG4.DWG

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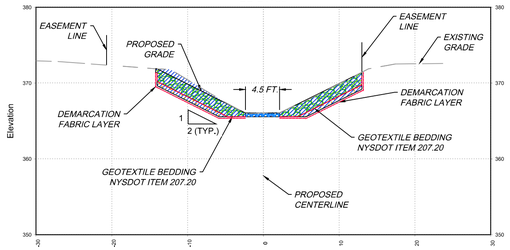


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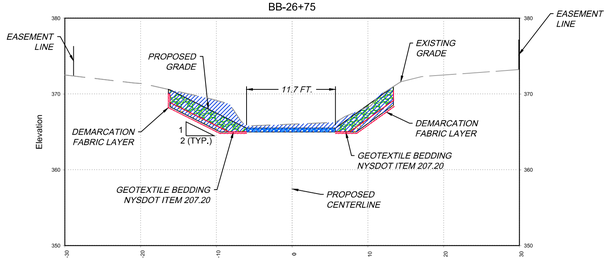


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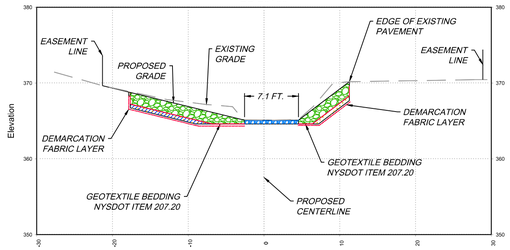


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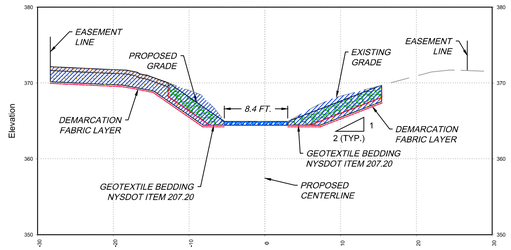


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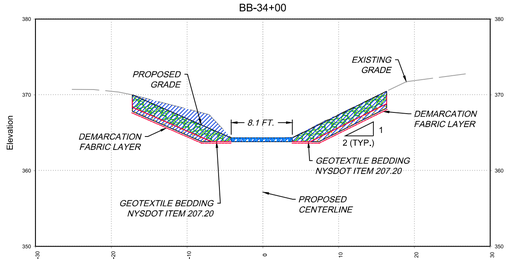


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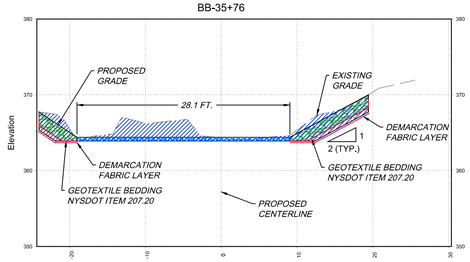


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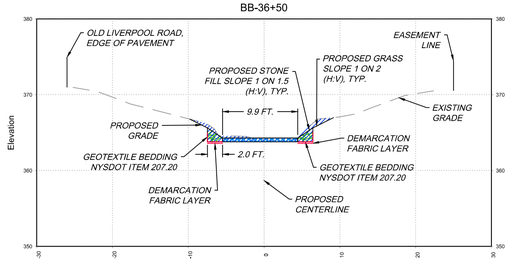


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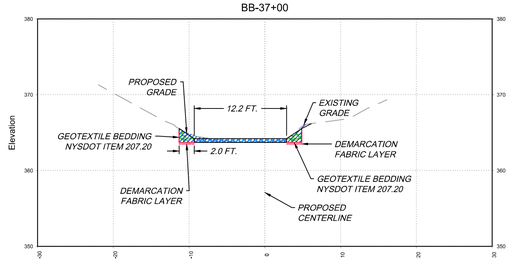


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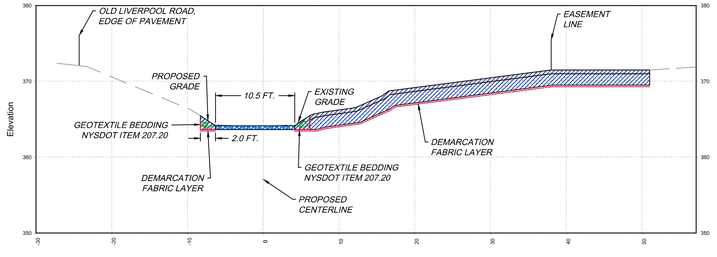


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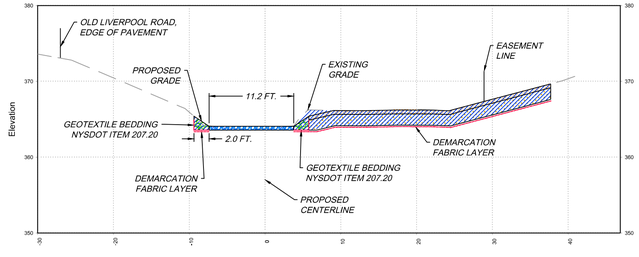


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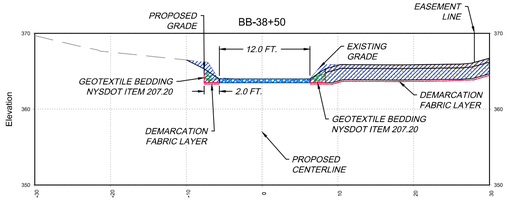


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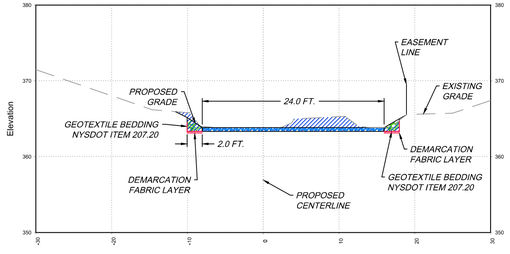


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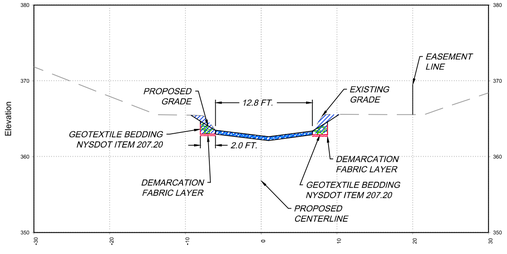


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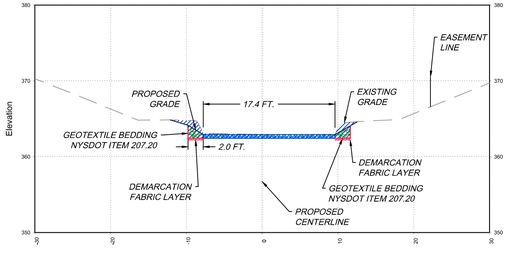


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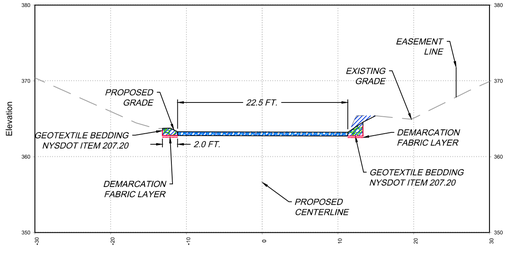


## LEGEND

- REMEDIAL EXCAVATION
- STONE FILL CREEK - 6"
- STONE FILL SLOPE - 1.5'
- GENERAL FILL - 6"
- TOP SOIL - 6"

## CROSS SECTIONS

0 10' 20'

AECOM

LOCKHEED MARTIN CORPORATION

CROSS SECTIONS
SHEET 1 OF 3

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| BLOODY BROOK | KAM | 60433277 | 2 / 2016 | A-5A |

Plotted By: AndiB
Layout: 2-Sheet Name: FIGURE A-5A
Date & Time Plotted: 2/1/2016 1:32 PM

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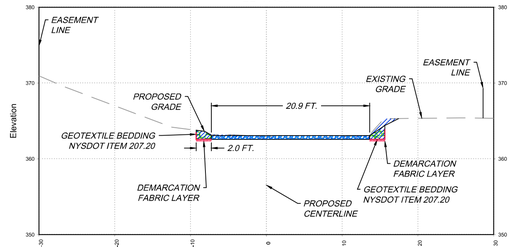


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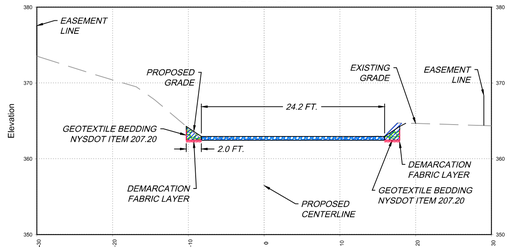


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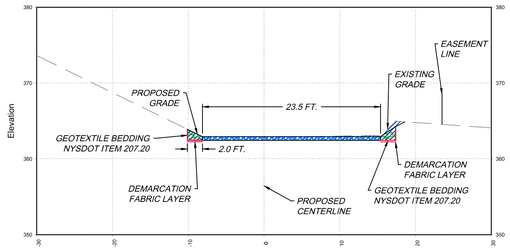


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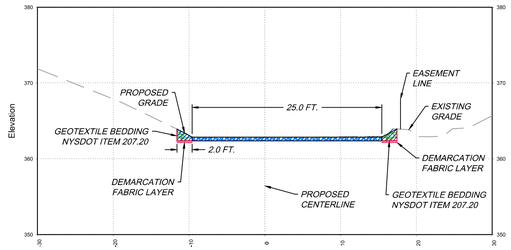


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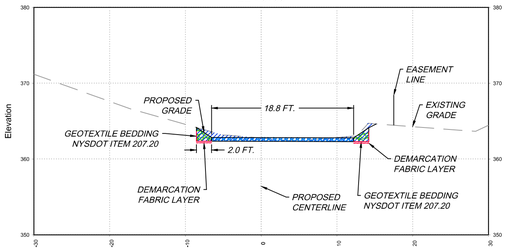


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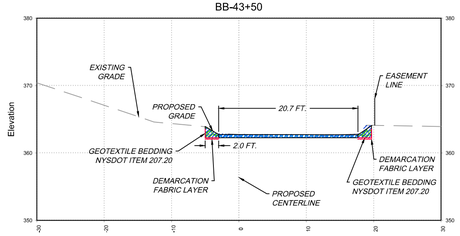


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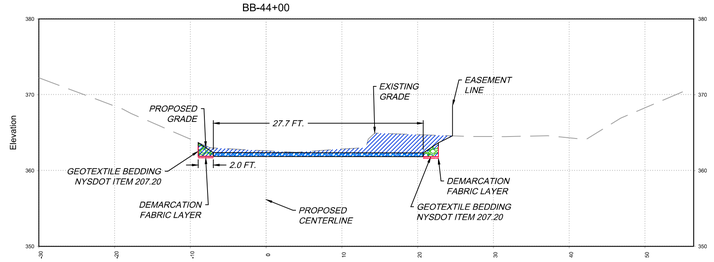


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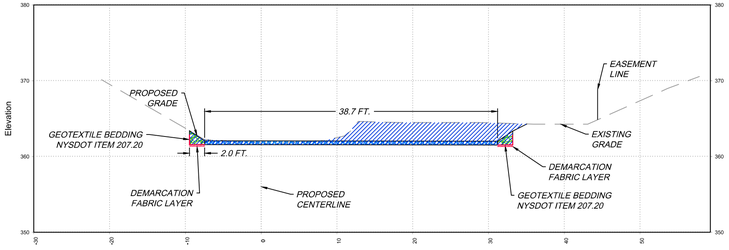


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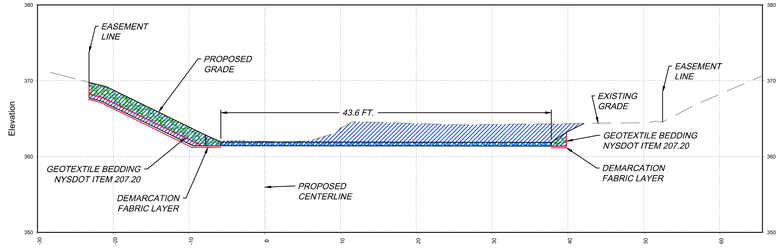


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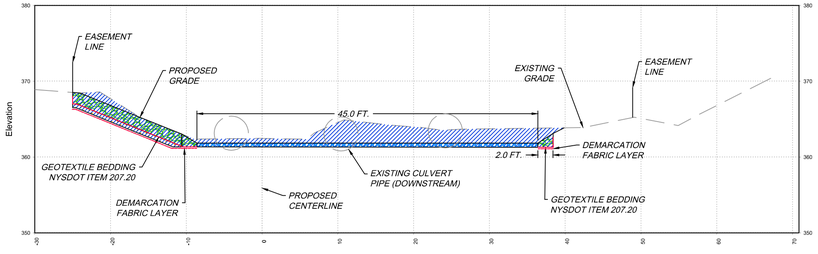


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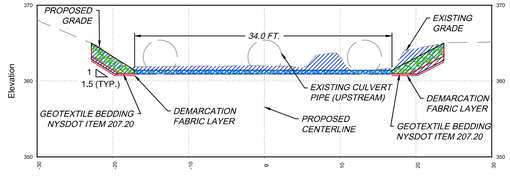


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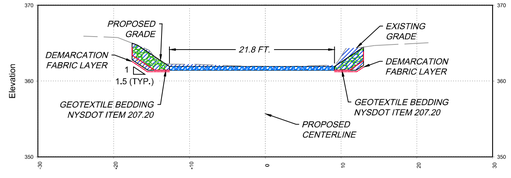


## CROSS SECTIONS

0 10' 20'

## LEGEND

- REMEDIAL EXCAVATION
- STONE FILL CREEK - 6"
- STONE FILL SLOPE - 1.5'
- GENERAL FILL - 6"
- TOP SOIL - 6"

AECOM

LOCKHEED MARTIN CORPORATION

CROSS SECTIONS
SHEET 2 OF 3

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| BLOODY BROOK | MOT | 60433277 | 2 / 2016 | A-5B |

Plotted By: jenstb
Layout: 2 Sheet Name: FIGURE A-5B
File Name: P:\60194430_LMC BLOODY BROOK\CAD\SCI\CONSTRUCTION2016\2016 APPENDIX A\FIGURE 5A 5B AND 5C\BLOODY_BROOK_WORKING_SECTIONS.DWG
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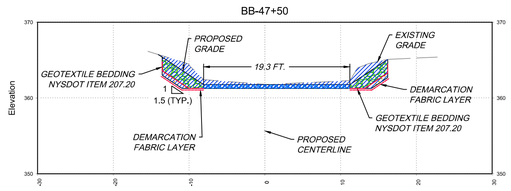


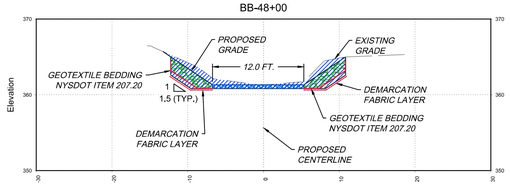


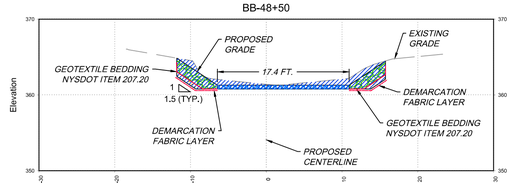


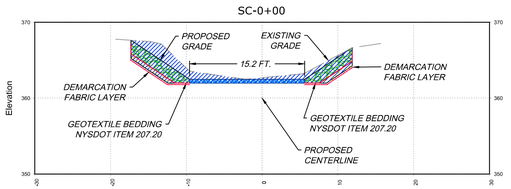


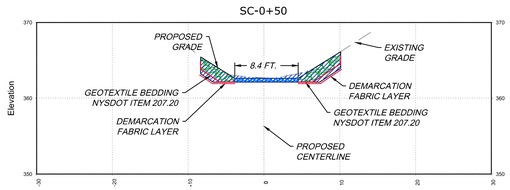


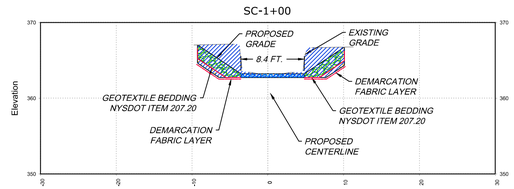


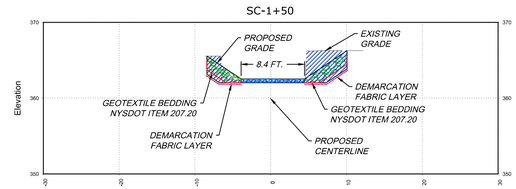


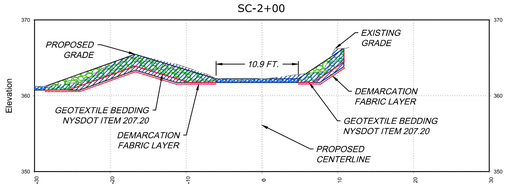


## LEGEND

- REMEDIAL EXCAVATION
- STONE FILL CREEK - 6"
- STONE FILL SLOPE - 1.5'
- GENERAL FILL - 6"
- TOP SOIL - 6"

## CROSS SECTIONS

0 10' 20'

AECOM

LOCKHEED MARTIN CORPORATION

CROSS SECTIONS
SHEET 3 OF 3

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
| BLOODY BROOK | MGT | 60433277 | 2 / 2016 | A-SC |

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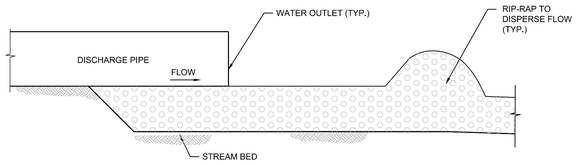


## TEMPORARY PUMP DISCHARGE POINT

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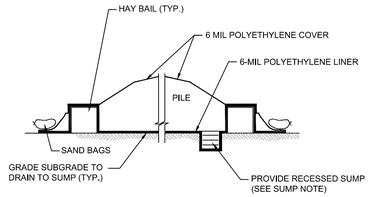
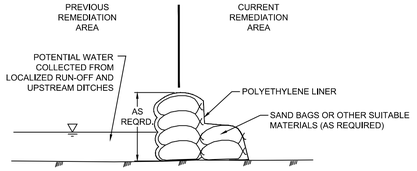


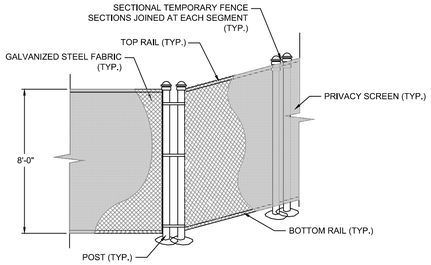

## STOCKPILE MANAGEMENT AREA

NOT TO SCALE




## TEMPORARY COFFERDAM DETAIL

(NOT TO SCALE)




DETAIL

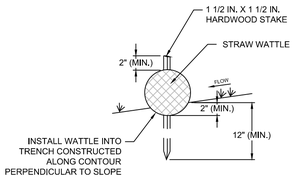
## TEMPORARY SECURITY FENCE

NOT TO SCALE

TEMPORARY SECURITY FENCE NOTES:

1) CONTRACTOR SHALL MAINTAIN INTEGRITY OF SECURITY FENCING AND ENCLOSURE AT ALL TIMES.

2) POST SHALL BE TEMPORARILY SET INTO THE GROUND OR ON BASE PLATES THAT ARE SUFFICIENTLY WEIGHTED TO RESIST OVERTURNING.




## TEMPORARY STRAW WATTLE DETAILS

(NOT TO SCALE)

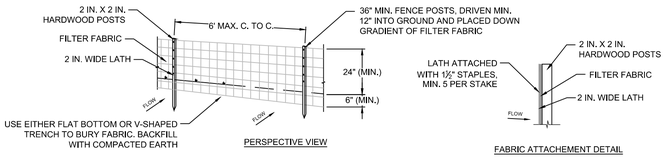
STRAW WATTLE INSTALLATION NOTES:

1) WATTLES SHALL BE SECURELY STAKED.

2) MINIMUM POST SPACING = 5 FT.

3) WATTLES SHALL BE OVERLAPPED 6" (MIN.) WHEN JOINING.

4) WATTLES SHALL BE STAKED 3" (MIN.) FROM EACH END.




## SILT FENCE DETAILS

NOT TO SCALE

CONSTRUCTION NOTES FOR SILT FENCE:

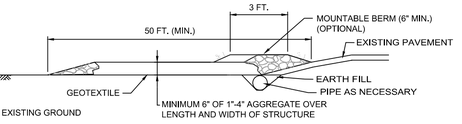
1) WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

2) MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

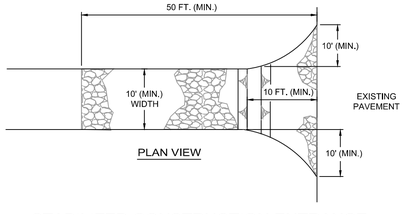
MATERIALS:

POST:
2" HARDWOOD

FILTER FABRIC:
FILTER X, MIRAFI 100X
STABILINKA T140N
OR APPROVED EQUAL.




PROFILE




PLAN VIEW

## STABILIZED CONSTRUCTION ENTRANCE

(NOT TO SCALE)

STABILIZED CONSTRUCTION ENTRANCE NOTES:

1) STONE SIZE - USE 1 - 4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE

2) LENGTH - NOT LESS THAN 50 FT.

3) THICKNESS - NOT LESS THAN 6 INCHES.

4) WIDTH - 12 FT, MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. 24 FOOT MINIMUM IF SINGLE ENTRANCE TO SITE.

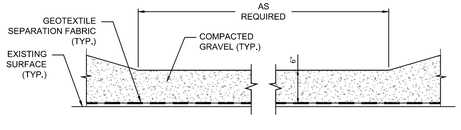
5) GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE.

6) SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE, IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPE WILL BE PERMITTED.

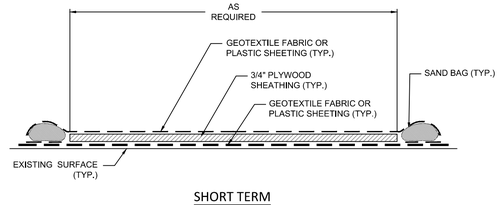
7) MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO THE PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

8) WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

9) PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN EVENT.




LONG TERM




SHORT TERM

## TEMPORARY ACCESS ROAD

NOT TO SCALE

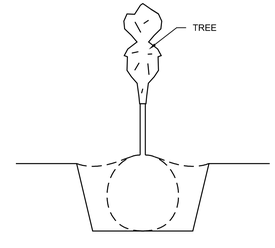
SUGGESTED SEED MIX FOR UPLAND MEADOW AREA
WEST BRANCH OF BLOODY BROOK
BLOODY BROOK VOLUNTARY CLEANUP PROGRAM
ONONDAGA COUNTY, NEW YORK

**Northeastern U.S. Roadside Native Mix**

**ERNMX #** ERNMX-105
**Seeding Rate** Approximately 20 lb per acre, or 1/2 lb per 1,000 sq ft
**Mix Type** Upland & Meadow Sites

- 24% Big Bluestem, 'Prairie View'-IN Ecotype (Andropogon gerardii, 'Prairie View'-IN Ecotype)
- 20% Sideoats Grama, 'Butte' (Bouteloua curtipendula, 'Butte')
- 19% Virginia Wildrye, PA Ecotype (Elymus virginicus, PA Ecotype)
- 5% Broomsedge, MO Ecotype (Andropogon virginicus, MO Ecotype)
- 5% Blackeyed Susan, Coastal Plain NC Ecotype (Rudbeckia hirta, Coastal Plain NC Ecotype)
- 4% Partridge Pea, PA Ecotype (Chamaecrista fasciculata (Cassia f.), PA Ecotype)
- 4% Purple Coneflower (Echinacea purpurea)
- 3% Ohio Spiderwort, PA Ecotype (Tradescantia ohiensis, PA Ecotype)
- 2% Swamp Milkweed, PA Ecotype (Asclepias incarnata, PA Ecotype)
- 2% Wild Senna, VA & WV Ecotype (Senna hebecarpa (Cassia h.), VA & WV Ecotype)
- 2% Oxeye Sunflower, PA Ecotype (Heliopsis helianthoides, PA Ecotype)
- 2% Zigzag Aster, PA Ecotype (Aster prenanthoides (Symphyotrichum p.), PA Ecotype)
- 2% Blue False Indigo, Southern WV Ecotype (Baptisia australis, Southern WV Ecotype)
- 2% Flat Topped White Aster, PA Ecotype (Aster umbellatus (Doellingeria umbellata), PA Ecotype)
- 1% Wild Bergamot, PA Ecotype (Monarda fistulosa, PA Ecotype)
- 1% Early Goldenrod, PA Ecotype (Solidago juncea, PA Ecotype)
- 1% New England Aster, PA Ecotype (Aster novae-angliae (Symphyotrichum n.), PA Ecotype)
- 1% Marsh (Dense) Blazing Star (Spiked Gayfeather), PA Ecotype (Liatris spicata, PA Ecotype)

Total: 100%




## TYPICAL UPLAND INSTALLATION

(NOT TO SCALE)

AECOM

LOCKHEED MARTIN CORPORATION
CONSTRUCTION AND RESTORATION DETAILS

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
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ROYAL DRIVE

BROOKVIEW LANE

TOWN GARDENS DRIVE
(PRIVATE ROAD)

SUNFLOWER DRIVE

FLORADALE ROAD

SALINA STREET

PEARL STREET

OLD LIVERPOOL ROAD
(C.R. No. 137)

TOWN OF SALINA
VILLAGE OF LIVERPOOL

MATCHLINE TO SHEET 2 OF 2

2015 CONSTRUCTION LIMITS

SHEET PILES

CSP 6'x8' WIDE

CSP 7'x9' WIDE

DRAINAGE PIPE

INV.=366.1

INV.=364.6

INV.12"=367.8

INV.=364.4

INV.=364.3

INV.48"CSP=365.6
DRAINAGE PIPE

INV.10"VCP=367.5

RIM=373.25

RIM=373.3

INV.=370.0

INV.=367.8

INV.12"CSP=370.2

INV.12"CSP=369.1

## LEGEND

- 380 — 2016 PROPOSED FINAL GRADING CONTOUR (1 FT.)
- 380 — 2015 PROPOSED FINAL GRADING CONTOUR (1 FT.)
- LIMITS OF REMEDIAL EXCAVATION

## NOTE

1. SEE FIGURE A-7B FOR IDENTIFICATION OF ADDITIONAL MAP SYMBOLS.

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.

0' 50' 100'

AECOM

LOCKHEED MARTIN CORPORATION

PROPOSED FINAL GRADING PLAN
1 OF 2

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
|---|---|---|---|---|
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OLD LIVERPOOL ROAD (C.R. No. 137)

MATCHLINE TO SHEET 1 OF 2

OLD LIVERPOOL ROAD (C.R. No. 137)

ONONDAGA LAKE PARKWAY

PATIO

UMH

DS

BRUSH

OPEN STORAGE

CONSTRUCTION AREA

PARKING

ASPHALT PARKING LOT

SHED

CONCRETE CURB

DRIVE

CSP 5'x7' WIDE

CONCRETE BOX CULVERT (NO BASE FND.)

BOX CULVERT

ARCH BOX CULVERT INV.±=362.0

2016 CONSTRUCTION LIMITS

BL=127

BL=115

INV.±=364.0

INV.±=360.9

INV.±=360.8

INV.±=361.2

INV.24"=362.51

54" RCP

SC 8x00

SC 7x80

35+50

39+00

39+50

40+00

40+50

41+00

41+50

42+00

42+50

43+00

43+50

44+00

44+50

45+00

45+50

46+00

46+50

47+00

47+50

48+00

48+55

REFERENCES:

1. BASE MAP SOURCE: IANUZI & ROMANS, P.C. AND CT MALE ASSOCIATES P.C.

## LEGEND

- BLOODY BROOK DRAINAGE DISTRICT EASEMENT
- PROPERTY BORDER
- 365 TOPOGRAPHIC CONTOUR LINE
- 7+00 PROPOSED BLOODY BROOK CENTERLINE
- STREAM/WATER EDGE
- UNDERGROUND DRAIN LINE
- OHW OVERHEAD WIRES
- RW RETAINING WALL
- GUARD RAIL
- UMH UTILITY MANHOLE
- DMH DRAINAGE MANHOLE
- SMH SANITARY MANHOLE
- RAILROAD TRACKS
- CB CATCH BASIN
- DS DRAINAGE STRUTURES
- FP FLAG POLE
- CULVERT
- E 924,000 NYS PLANE COORDINATE SYSTEM EASTING
- N 1,131,000 NYS PLANE COORDINATE SYSTEM NORTHING
- BL-115 AERIAL SURVEY GROUND CONTROL POINT
- 7+50 CHANNEL CENTERLINE SURVEY STATION
- 367.4 TOPOGRAPHIC SPOT ELEVATION
- CONIFEROUS TREE
- DECIDUOUS TREE
- LIGHT POLE
- UTILITY POLE / GUY WIRE
- 380 2016 PROPOSED FINAL GRADING CONTOUR (1 FT.)
- LIMITS OF REMEDIAL EXCAVATION

0' 50' 100'

AECOM

LOCKHEED MARTIN CORPORATION

PROPOSED FINAL GRADING PLAN
2 OF 2

WEST BRANCH OF BLOODY BROOK
ONONDAGA COUNTY, NEW YORK

| FILE NAME: | DRN | PROJECT NO. | DATE | FIGURE NO. |
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# APPENDIX B

# Community Air Monitoring Plan

# West Branch of Bloody Brook
# Bloody Brook Voluntary Cleanup Program
# Onondaga County, New York

**March 2016**

***Prepared for:***

Lockheed Martin Corporation
Syracuse, New York

***Prepared by:***

AECOM Technical Services Northeast, Inc.
40 British American Boulevard
Latham, New York 12110

# Contents

# 1.0 Introduction

This Community Air Monitoring Plan (CAMP) has been prepared to summarize the air monitoring procedures that will be implemented during field activities associated with the Remedial Action (RA) at a portion of the West Branch of Bloody Brook (WBBB), Bloody Brook, and surrounding area. For the purposes of this CAMP, the Bloody Brook site, as shown on the design drawings included as Attachment A of the *2016 Construction and Restoration Work Plan*, is defined as that portion of the WBBB and Bloody Brook from below the confluence of the WBBB and Middle Branch of Bloody Brook (MBBB) and the surrounding area commencing on the southern boundary of the New York State Thruway (Thruway) and ending at Onondaga Lake Parkway.[1] The RA activities are described in the *2016 Construction and Restoration Work Plan*. The RA activities will be performed pursuant to a Voluntary Cleanup Agreement (VCA) between Lockheed Martin and New York Department of Environmental Conservation (NYSDEC) (Index #: D7-0001-01-09, effective July 20, 2002).

This CAMP has been developed consistent with NYSDEC's May 2010 guidance entitled *DER-10 Technical Guidance for Site Investigation and Remediation* (DER-10) and the *New York State Department of Health Generic Community Air Monitoring Plan* (NYSDOH Generic CAMP) included as Attachment 1A of DER-10. The remedial investigation at the Bloody Brook site has identified cadmium (a heavy metal) as a contaminant of concern. Because a heavy metal was identified as the contaminant of concern, DER-10 requires that the CAMP include real-time monitoring for particulates (i.e., dust) at the downwind perimeter of a work area during ground intrusive activities. The intent of this CAMP is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses) from potential airborne contaminant releases as a direct result of the RA activities. Additionally, the data generated to maintain compliance with the CAMP will confirm that RA activities will not spread contamination off-site through the air. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Instrument readings obtained as part of the CAMP will be recorded and available for NYSDEC and New York State Department of Health (NYSDOH) personnel to review.

Real-time air monitoring for particulates (i.e., dust) will be conducted continuously for all ground intrusive activities (e.g., soil excavation, backfilling, etc.). The remedial investigation at the Bloody Brook site did not identify volatile organic compounds (VOCs) as a contaminant of concern. Therefore, community air monitoring for VOCs is not anticipated at this time.

[1] The term "site" in the VCA is defined as: a portion of the banks, surface waters and sediments of the West and Middle Branches of Bloody Brook located in the Town of Salina with a portion of the site located in the Village of Liverpool and commences downstream of Interstate 90, the New York State Thruway, and extends generally southward past the confluence of the West Branch and the Middle Branch of Bloody Brook creating Bloody Brook, and ends on the upstream side of Onondaga Lake Parkway. After examining data developed during remedial investigation work in the Middle Branch, NYSDEC determined that no further action was required for that branch of Bloody Brook. For this reason, the "Bloody Brook site" in this CAMP relates only to those areas within the VCA site where the remedial program continues to be implemented and remedial action is being performed.

# 2.0 Community Air Monitoring Plan

## 2.1 CAMP Implementation During RA Activities

CAMP monitoring locations will initially be located at the boundary of the work area. The CAMP monitoring will be performed using real-time aerosol monitors such as a Thermo MIE pDR-4000 DataRam (data-RAM) or equivalent equipment capable of monitoring airborne dust consisting of particulate matter measuring less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level listed is Section 2.2. The equipment will be equipped with an audible and visual alarm to indicate when a response level has been exceeded. In addition, an electronic alarm will be sent to the site engineer's and superintendent's designated radios.

The specific location of each of the CAMP monitors will be determined daily as weather conditions and RA work areas and activities change. The CAMP monitor locations will be based on factors such as wind direction and the proximity of potential receptors to each RA work area. A CAMP monitor will be placed at a location upwind and downwind of the RA work area. In addition, a CAMP monitor will be placed near the closest off-site receptor.

## 2.2 CAMP Particulate Action Levels

The following action levels for particulates are in accordance with the NYSDOH Generic CAMP:

| **Action Level** | **Response** |
|---|---|
| >0.1 mg/$m^3$ Above the background for the 15 minute average or if airborne dust is observed leaving the work area | Employ dust suppression techniques |
| 0.1 to 0.15 mg/$m^3$ | Work may continue with dust suppressions techniques provided downwind PM-10 particulate levels do not exceed 0.15 mg/$m^3$ above background for the 15-minute average and airborne dust is not observed leaving the work area |
| >0.15 mg/$m^3$ | Cease operations. Contact PM, Director of Health, and Safety or designee immediately. |

Best Management Practices will be implemented to control dust at the Bloody Brook site. In the event any of the conditions presented above, occur additional measures will be implemented. Work stoppage and restart activities will follow the details provided in the NYSDOH Generic CAMP.

Depending on particulate readings taken at the exclusion zone boundary, CAMP monitoring may be extended beyond the perimeter of the exclusion zone to meet the specifications identified in the NYSDOH Generic CAMP.

## 2.3 Data Recording

Air monitoring readings will be measured and recorded both electronically via the instrument data logger and manually using an excel file, as appropriate. The readings will be exported from the monitoring equipment and placed in the project records. Additionally, instantaneous readings used for decision purposes, if any, will be recorded on the daily notes and/or logs and placed in the project records. Steps taken to control dusts (e.g., watering) and any additional measures taken to address any exceedances will be documented. The air monitoring data and manual recordings will be made available to the NYSDEC and NYSDOH personnel upon request.

## 2.4 Noise

Work activity scheduling will comply with local noise ordinances, which specify permitted noises as including construction work, between the hours of 7:00 am and 9:00 pm. Unavoidable work outside of these permitted hours shall not emit noise levels above 88 decibels when measured 50 feet from the work (e.g., by-pass pumping operation). No unnecessary construction shall be permitted on weekends unless local proper police, fire, and safety groups are notified.

# APPENDIX C

**Appendix C**
**Project 2016 Construction Schedule**
**West Branch of Bloody Brook**
**Bloody Brook Voluntary Cleanup Program**
**Onondaga County, New York**

| Activity/Submittal | Expected Start Date | Expected Finish or Submittal Date |
|---|---|---|
| **Construction Related Milestones** | | |
| Install 2016 Construction Entrance, Staging Area, and Complete Tree Clearing | 2/1/2016 | 4/1/2016 |
| Midwood Staging Area Demobilization | 2/1/2016 | 4/1/2016 |
| Mobilize Construction Material and Equipment to Staging Area | 2/1/2016 | 4/1/2016 |
| 2016 Construction Season Mobilization | 4/4/2016 | 4/29/2016 |
| Remedial Construction from Apartment Complex Property Line through Pearl Street Culvert | 5/2/2016 | 5/31/2016 |
| Remedial Construction from Pearl Street Culvert through Town Gardens Drive Culvert | 6/1/2016 | 6/30/2016 |
| Remedial Construction between Town Gardens Drive Culvert and the confluence of the Middle and West Branches of Bloody Brook | 7/1/2016 | 7/22/2016 |
| Remedial Construction between the confluence of the Middle and West Branches of Bloody Brook and Old Liverpool Road Culvert | 7/25/2016 | 8/12/2016 |
| Old Liverpool Road Culvert Cleanout | 8/15/2016 | 8/19/2016 |
| Remedial Construction between Old Liverpool Road Culvert and CSX Railroad Culvert | 8/22/2016 | 9/30/2016 |
| CSX Railroad Culvert Cleanout | 10/3/2016 | 10/7/2016 |
| Remedial Construction between CSX Railroad Culvert and Onondaga Lake Parkway Culvert | 10/10/2016 | 11/18/2016 |
| Demobilization/Final Restoration | 11/21/2016 | 12/2/2016 |