CSXT RIVER STREET DERAILMENT SITE
DREDGING INTERIM REMEDIAL MEASURE SUMMARY REPORT
480 RIVER STREET
ROCHESTER, NEW YORK

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Submitted to:
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I certify that I have personally examined and am familiar with the information submitted in the Dredging Interim Remedial Measure Summary Report, and that the information is true, accurate, and has been prepared in accordance with good engineering practices, including consideration of applicable industry standards.

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LIST OF ACRONYMS AND ABBREVIATIONS

%wt	percent by weight
AMEC	AMEC Earth & Environmental, Inc.
CAMP	Community Air Monitoring Plan
CAS	Columbia Analytical Services
City	City of Rochester
COC	Constituent of Concern
CSXT	CSX Transportation, Inc.
cy	Cubic Yards
Danis	William Danis 504 River St. Property Owner
DustTrak	TSI DustTrak aerosol monitor
eV	electron volt
Galson	Galson Laboratories, Inc. of Syracuse, NY
GC/FID	gas chromatography/flame ionization detection
GC/MS	gas chromatography/mass spectrometer
GPS	Global Positioning System
IGLD85	International Great Lakes Datum of 1985
IRM	Interim Remedial Measure
kg	kilogram
LaBella	LaBella Associates
m	meter
MiniRAE	MiniRAE 2000
NTU	nephelometric turbidity units
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
PID	photo-ionization detector
Pine	Pine Environmental, Inc. of Cranberry, NJ
ppb	Parts Per Billion
ppm	Parts Per Million
RAS/DR	Remedial Action Selection / Design Report
RG&E	Rochester Gas and Electric
RAO	Remedial Action Objective

LIST OF ACRONYMS AND ABBREVIATIONS

Site	Genesee River Dredging Project Site
splash pad	spill containment system
Tapecon	Tapecon, Inc.
TOGS 1.1.1	Division of Water Technical and Operational Guidance Series
ug	microgram
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

1.0 INTRODUCTION

The purpose of this Dredging Interim Remedial Measure (IRM) Summary Report is to present the results of IRM dredging activities that addressed impacted sediments identified within the Genesee River at the CSX Transportation, Inc. (CSXT) River Street Derailment site in Rochester, New York. This IRM report has been prepared by AMEC Earth & Environmental, Inc. (AMEC), on behalf of CSXT.

1.1 Report Organization

This report is divided into eight (8) sections, tables, figures, and appendices as described below. Each section will be used to accurately describe the events as they occurred.

- **Section 1.0: Introduction:** This section summarizes the purpose and scope of the IRM including project objectives, Genesee River Dredging Project Site (Site) location and description, background, and results of previous investigations.
- **Section 2.0: Investigation and Design Activities:** This section includes a more detailed discussion of previous investigations conducted at the Site and associated information related to the project design.
- **Section 3.0: Site Activities:** This section includes a detailed discussion of each phase of the IRM activities conducted at the Site.
- **Section 4.0: Environmental Media Sampling:** This section discusses the sampling and monitoring of the Genesee River during remedial activities and the sampling and characterization of sediment samples collected during and after the IRM.
- **Section 5.0: Community Air Monitoring Plan (CAMP):** This section includes a discussion of perimeter and community air monitoring conducted during the IRM.
- **Section 6.0: Data Usability Report:** This section includes an evaluation of the analytical data collected during river quality monitoring and sediment sampling events.
- **Section 7.0: Conclusions and Recommendations:** This section of the report sets forth the conclusions of the IRM and subsequent recommendations.
- **Section 8.0: References**
- **Figures:** Includes all figures referenced in this report.
- **Tables:** Includes all tables referenced in this report.
- **Appendices:** Includes supporting documentation referenced in this report.

1.2 Site Location

The spill site is located on River Street in the City of Rochester (City), County of Monroe, State of New York. The derailment occurred along the CSXT railroad tracks adjacent to the Monroe County Public Boat Launch where the tracks make a westward change in direction. The Site is located in area that is considered mixed industrial/commercial properties with residences currently present to the west and south. The location of the impacts within the Genesee River are generally located adjacent to the landside spill area extending from the shoreline to the approximate center line of the river channel. **Figure 1** details the location of the Site.

1.3 Project Objectives

The objectives of the IRM dredging activities were as follows:

- To remove as much impacted sediment as technically feasible
- To conduct river water monitoring including turbidity and water quality throughout the dredging activities
- To conduct continuous perimeter and community air monitoring throughout the dredging and stabilization of impacted sediments
- To dewater, characterize, and dispose of the impacted sediments removed from the Site
- To collect closure samples from the Site to determine the condition of the remaining sediments

Further details regarding a description of the project and the project objectives for the site are contained in the Shaw E&I Post-Interim Remedial Measures (Post-IRM) report dated March 10, 2003, and the AMEC Dredging Work Plan, dated June 18, 2003.

1.4 Background

On December 23, 2001 at 3:40 p.m. EST, a CSXT train derailed in Rochester, New York, north of the Latta Road and River Street intersection. The train consisted of 43 cars (including two (2) diesel locomotive engines) traveling north from Kodak Park towards the Rochester Gas and Electric (RG&E) Russell Station when the accident occurred. The two engines and 28 additional cars derailed (most of the cars contained coal). But, three were tank cars containing acetone (2) and methylene chloride (1). The tank cars derailed slightly northeast of the Tapecon, Inc. (Tapecon) manufacturing facility and approximately 100-feet to 150-feet west of the Genesee River. The area in which the acetone and methylene chloride was spilled is approximately one-mile upstream from the mouth of the Genesee River. Approximately 14,000-gallons of acetone and 16,000-gallons of methylene chloride were released into the environment. Immediately following the derailment, emergency response activities commenced including spill delineation, spill containment, community air monitoring, and river water quality monitoring. For a complete description of the emergency response activities refer to the *River Street Derailment Interim Remedial Measure Report*, Shaw, March 10, 2003.

2.0 INVESTIGATION AND DESIGN ACTIVITIES

2.1 Sediment Investigation

Nine sampling events, identified chronologically as Phases, were conducted in the Genesee River to determine the extent of impacts to the sediment. Analytical results from the Phase VII sampling event, conducted May 6 through May 8, 2003, were utilized as the project design basis to determine the vertical and horizontal extent of the impacted sediment plume. Two additional sediment monitoring events were conducted during December 2003 (Phase VIII) and June 2004 (Phase IX) confirming that the plume extent had not changed from the time of the design through the time of implementation.

Samples were collected from 65 locations throughout the course of the nine sampling events conducted prior to the initiation of IRM dredging activities in the Genesee River. In total, 343 samples were collected during these events to fully characterize the sediments adjacent to the landside of the derailment Site. Although sampling locations have varied during each sampling event, a number of the sampling locations remained consistent throughout the events to monitor for possible migration or natural attenuation. The two initial sampling events conducted in Spring 2002, were used to define the most extreme limits of the plume. Subsequent events were conducted to delineate the plume both laterally and vertically.

2.1.1 Sampling Techniques

Sampling events Phases I and II were conducted by a CSXT environmental consultant utilizing a slide hammer core sampler operated from a fiberglass fishing boat. A two-foot nonflexible acetate liner was attached to the sampling instrument and lowered through the water column utilizing aluminum rods. The instrument was inserted into the sediment by the force applied from the samplers and driven to depth by the repeated action of a weight being dropped onto the sampler. Water was displaced through a check valve installed at the top of the instrument. The instrument was removed by the sampling technicians and capped prior to breaking the river's surface ensuring the vacuum was intact and minimal sample material was lost.

These initial events examined only the first 18 to 24-inches of sediment. All subsequent events (Phases III – X) were conducted using a vibracore sampler enabling deeper sediments to be evaluated. Four-inch diameter vibracore samples were collected up to 10-feet below the river bottom and proved to be useful in evaluating sediment concentrations and geology.

The core barrel used for vibracoring is constructed of either steel or aluminum and lined with a non-flexible acetate liner and a flexible plastic liner inside of the acetate liner to ensure discrete sampling and prevent cross contamination with other locations. As the core barrel enters the sediment, a column of sediment is forced into the barrel, displacing the water column in the barrel through the top. Sample return will vary depending upon the sediment type and grain size. Sediment sampling locations were recorded using a global positioning navigational system, which increases the accuracy for re-sampling those locations during following events.

After the core is brought onto the boat deck, the plastic liner is removed from the barrel and placed into a holding tray. A geologist was onsite throughout each of the river sediment sampling events to document sediment types. The purpose of the sediment logs is to define sediment stratigraphy, according to the Unified Soil Classification System, noting such features as color, soil texture, particle shape, mottles, structure, consistency, and soil horizon thickness. The core is then divided into 1-foot sections, and a sample for chemical analysis is collected from the top, middle, and bottom sections and labeled according to its depth within the core.

2.1.2 Analytical Results/Plume Delineation

Several sediment sampling events were conducted to determine the final plume delineation. Phase VII data, in conjunction with the previous six events, was used to determine the final plume extents and was used as the basis for establishing dredging limits. Sample data indicated that the plume began at the approximate shoreline of City property and extended into the navigational channel of the river. Drawing C-1 of the AMEC *Remedial Action Selection / Design Report* (RAS/DR) (October, 2003) depicts the established plume limits, it is also identified on **Figure 2** included in this report**.**

2.2 Remedial Goals and Remediation Objectives

Remedial goals and Remedial Action Objectives (RAOs) were developed to assist in the screening process. The media of concern were surface water and river sediments. The remedial goal was to protect human health and the environment by preventing or minimizing exposure to constituents of concern (COCs) (methylene chloride and acetone) to the extent possible. RAO media specific goals were developed to achieve the long-term goals of protecting human health and the environment, and complying with applicable local, state, and federal laws. They included:

- Remove sediments exceeding levels of 1,133 parts per billion (ppb) for methylene chloride and 773 ppb for acetone.
- Minimize COC migration caused by resuspension of impacted sediments.
- Maintain navigation of this navigable waterway and perform remediation without impacting commercial transportation on the river, to the extent possible.

- Remediate to allow for open water or lake bottom disposal of maintenance dredging spoils from United States Army Corps of Engineers, Buffalo District (USACE) maintenance dredging operations following the remedial activities.

The limits of impacted sediments based on delineation sampling activity were depicted in the design drawings. Based on the area of impacted sediments and excavation depths, the volume of impacted sediments was conservatively estimated to be 3,000 cubic yards (cy).

2.2.1 Technology Selection

In developing the sediment IRM, CSXT considered all technologies thought to be capable of achieving remediation for the media of concern (surface water and river sediment). The following remedial alternatives were identified by AMEC for consideration:

1. No Action;
2. Monitored Natural Attenuation;
3. Enhanced Natural Attenuation;
4. In-situ Stabilization;
5. In-situ Remediation;
6. Installation of a subaqueous cap to isolate the sediments (at existing elevations); and
7. Dredging removal of impacted sediments;

Each technology was evaluated according to three United States Environmental Protection Agency (USEPA) screening criteria: Effectiveness, implementability, and relative cost.

Remedial action alternatives 1 (No action), 2 (Monitored Natural Attenuation), 3 (Enhanced Natural Attenuation), and 6 (Subaqueous Cap) were screened out because of implementability issues. Additionally, these three alternatives fail to allow the USACE to use lake bottom disposal of dredging spoils.

Remedial action alternative 4 (In-situ Stabilization) was screened out because of effectiveness issues. It is not a well-proven technology (and is potentially reversible) and could potentially release substantial amounts COCs from sediments during the insitu mixing process. This alternative may also not allow for lake bottom disposal of USACE maintenance dredging sediments.

Remedial action alternative 5 (In-situ Remediation) was screened out because of implementability issues. This alternative could not be implemented in sufficient time to allow the USACE to proceed with the summer of 2004 dredging of the river channel.

Alternative 7 (Dredging) was the only one of the seven remedial action alternatives that satisfied each of the RAOs and was recommended as the most appropriate alternative to address the COCs present. It was understood that dredging could potentially cause the short-term release of COCs from sediments during the remediation work, so the use of engineering controls (turbidity barrier, closed bucket, etc.) were employed in the design.

Three general dredging technologies are available to implement dredging: hydraulic, mechanical, and excavation in a dry area after dewatering. Hydraulic dredging disturbs sediments, creates a turbid environment, and produces significant quantities of waste water and was therefore ruled out from further consideration. Dredging with dewatering was screened out because it would unacceptably block navigation of the river and also require significantly more time to complete than other dredging technologies. Mechanical dredging with an environmental bucket was determined to be the best practicable dredging technology.

The final part of the selection process applied the New York State Department of Environmental Conservation's (NYSDEC) seven criteria for the selection of a remedial strategy to the selected remedy found in 6 NYCRR §375-1.10(c). The seven criteria consist of: Compliance with Standards, Criteria and, Guidance; Overall Protection of Public Health and the Environment; Short-Term Effectiveness; Long-term Effectiveness and Permanence; Reduction of Toxicity, Mobility, and Volume with Treatment; Implementability and Cost; and Community Acceptance. The selected remedy proved adequate for the seven criteria.

AMEC completed work to support the selection of dredging as the most appropriate alternative to address impacted river sediments and aid in the design. A pilot test of the river sediments was conducted to determine the most feasible means of processing dredged river sediments for transportation. In addition, AMEC completed modeling work to quantify the impacts of dredging activities on air and river water quality. The worst-case scenario for water modeling predicted methylene chloride concentration at all locations below the 100 parts per million (ppm) USEPA acute toxicity to aquatic organisms by several orders of magnitude. The results of air modeling predicted that methylene chloride concentrations in air would be below the NYSDEC Short-Term Concentration Guideline of 14,000 micrograms per cubic meter (ug/m^3).

2.3 Design Elements

2.3.1 Sediment Processing/Stockpile Area Construction

The design was developed to incorporate a post dewatering sediment stockpile area. This area of the site was utilized for staging dewatered sediments in segregated bins while they were analyzed for concentration of the COC. The stockpile area also included the construction of a temporary, bermed, impervious laydown area that captured all construction water. Water that collected in the two sumps within the pad was handled as construction water for disposal purposes. The dredging contractor, D.A. Collins, was responsible for decontaminating vehicles and equipment with the potential to transfer impacted sediments offsite (with the exception of the inside bed of loaded trucks) prior to leaving the site. Additionally the dredging contractor was required to contain, collect, store, treat, and sample all construction water to confirm that it is below the NYSDEC Generic Effluent Criteria (included in **Appendix A**) prior to discharging to the river.

D.A. Collins was required to return the stockpile area to former conditions or conditions acceptable to the property owner at the completion of the work. This included decontamination and removal or disposal of the connecting portions of the haul road, laydown area, and decontamination pad, and temporary fence and gates. Samples were to be collected from underneath the paved sediment processing/offloading pad to document the impermeability of the pad and containment of COCs.

2.3.2 Sediment Processing and Disposal

Incorporated into the design were the results of a pilot test that was conducted to evaluate various dewatering approaches and their effectiveness. Based on the results of the pilot test, the work plan required the addition of 5 to 10 percent by weight (%wt) Portland cement to stabilize sediments for transportation. After the addition of Portland cement, the sediment was to be stockpiled in approximately 100-cy piles in segregated bins. The stockpiled sediment was sampled as follows: one composite sample from each pile smaller than 100-cy, or one sample per 100-cy was collected. The samples were analyzed for methylene chloride, acetone, paint-filter test, and/or resistance to penetration test analysis at a NYSDEC-approved laboratory.

2.3.3 Sediment Dredging

Excavation depths for the impacted sediments were proposed to meet the USACE's target dredge depth of 221.3' International Great Lakes Datum of 1985 (IGLD85) for the river bottom. Dredge depths for sediments located on the slope of the river bank were established to achieve the minimum slope permissible (4 horizontal to 1 vertical) to maintain integrity of the previously installed sheetpile wall. The design also included over-excavation of several areas with elevated COC concentrations in addition to expanding the aerial limits of dredging to accommodate for slope stability and minimize sloughing. Ultimately the design exceeded the delineated limits of impacts to accommodate reasonable standards of dredging control and to ensure the vast majority of impacted sediments were removed.

A flexible (moveable) method for turbidity control (e.g., turbidity curtains) was required by the design, as structural solutions (sheetpile wall or cofferdam) would unacceptably block river traffic. Specifically required as part of the AMEC design was a dual system of inner and outer turbidity curtains to fully enclose the dredging area, extending from the water surface to the river bottom. The design recognized that the effectiveness of turbidity curtains decreases with high water currents and consequently called for caution during flood periods or extreme weather. The design proposed turbidity monitoring to ensure effective turbidity curtain operation during sediment excavation.

The design required sediment excavation activities to proceed from upstream to downstream and then, either from the shore out to the river center or from the river center inward to the shore. Dredging was to be conducted by equipment staged on the shore or from a barge within the turbidity curtain. A dredging rate of 200-cy per work day was anticipated, using a closed bucket with low-impact techniques (e.g., closed clam shell bucket, environmental bucket) to minimize the amount of sediment suspension and COC dissolution during operations. The dredging contractor was responsible for using spill-proof methods for the transport of dredged material from the dredging location to the processing area.

Collection of post-excavation river sediment samples on a 50-foot grid or at a rate of nine samples per acre was proposed with analysis of samples for methylene chloride and acetone by USEPA method 8260.

2.3.4 Design Documents

The RAS/DR included construction drawings and specifications, including descriptions of how the design was developed and the process for the design. The drawings presented the layout of the project facilities showing location, dimensions, and alignment of components, storage facilities, remediation activities, and remedial limits and details necessary to define and demonstrate the intended construction approach. The specifications were based on the Construction Specification Institute format, and included the applicable divisions from divisions 01000 and 02000. The specifications included all activities and components of the proposed work.

2.3.5 Contractor Submittals

The dredging contractor, D.A. Collins, as the selected dredging contractor, was required to provide the submittals and work plans required by the specifications and also to obtain any required local permits prior to the start of construction.

2.3.6 Permitting

A Joint Permit Application was submitted to obtain regulatory approval from NYSDEC Region 8 and the USACE for the proposed dredging activity. Federal approval by the USACE was applicable to this project in addition to State approval by NYSDEC because the proposed activity occurred within Navigable Waters of the United States. Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act apply federal-level jurisdiction for all regulated work within such Waters of the United States and Navigable Waters of the United States, respectively. This permitting approach was determined based on pre-application meetings or discussions among representatives of AMEC; Ms. Kimberly Merchant and Mr. David Pratt (NYSDEC Region 8); and Mr. Steve Metivier and Mr. Mike Asquith (USACE). Because CSXT conducted the proposed activities under NYSDEC's Voluntary Cleanup Program, an Environmental Assessment under the NYSDEC State Environmental Quality Review per 6NYCRR Part 617, was not required for this submission.

The Joint Permit Application included the following major components: Joint Application for Permit Form; Environmental Questionnaire; Federal Consistency Assessment Form; and Site Plans.

The Joint Permit Application was submitted to the following people: USACE Buffalo District (2 copies); NYSDEC Region 8 (2 copies); New York Department of State, Division of Coastal Resources (1 copy); City of Rochester Local Waterfront Revitalization Program (1 copy).

3.0 SITE ACTIVITIES

Site activities consisted of the multiple tasks necessary to address the impacts identified in the river. The implementation of the IRM began with mobilization of equipment and personnel in August 2004 and concluded with the demobilization and final restoration in December 2004. It took approximately four months. The actual sediment dredging activities were conducted from September 28, 2004 through October 29, 2004, a period of approximately one month. Site restoration activities included the placement of a sub aqueous stone riprap cap on City property, removal of the sediment processing/offloading pad, seeding of the shoreline with a wetland plant mixture, cutting off the sheetpile wall well below the surface, final grading of surface soils and seeding of the shoreline.

3.1 Mobilization and Site Setup

Equipment mobilization began on August 9, 2004 and site preparation activities began on August 16, 2004. A majority of the site preparation activities were conducted at the proposed sediment processing and staging area located at the base of Petten Street. Activities there included the grading and paving of the sediment processing/offloading pad area, relocation of a temporary haul road, shoreline preparation, setup of site facilities, installation of fencing and setup of sediment staging bins. The Petten Street staging area site facilities included a construction trailer, power, telephone, decontamination stations and water treatment system.

The sediment processing/offloading pad was constructed at the base of Petten Street and was approximately 33,000 square feet. The existing ground surface was cleared of vegetation and graded to direct surface water flow towards two collection sumps. The area was then covered with 6-inches of New York State Department of Transportation (NYSDOT) 304-2.02a Type 2 stone to provide support for the overlying NYSDOT 401-2.03 Type 1 (4-inch) and Type 6 (2-inch) asphalt. A 6-inch by 8-inch cross section, perimeter curb was then installed to prevent construction water from escaping the pad. The sediment processing/offloading area is detailed on **Figure 3**.

Within the sediment processing/offloading area was a construction water treatment system designed to treat waters that came in contact with impacted sediments. The system consisted of:

- Two influent Frac storage tanks – 40,000 gallons (total storage);
- Bag filters – suspended particulate collection;
- Air stripper – removal of chemical impurities;
- Activated carbon – removal of chemical impurities; and

- Two effluent Frac storage tanks – 40,000 gallons (total storage).

In conjunction with site preparation activities, equipment setup was also occurring on the landside of the Site in the vicinity of the proposed dredging. It was necessary to construct two work scows (flexi-float system), one for the dredging equipment and one for the processing/offloading equipment. The use of two scows enabled the dredging equipment to be mobile on the river which increased the effectiveness and precision of the process.

The smaller scow was transported upstream and positioned at the proposed sediment offloading area. The scow was 40-feet by 48-feet and equipped with an extended reach excavator used for sediment processing/offloading. The larger work scow was 60-feet by 100-feet with a 40-foot by 40-foot dredge cell. This scow would remain at the dredging location. It was equipped with a crane and Global Positioning System (GPS) command center.

The original area designated for the small work scow was found to be within the limits of an area identified as Palystrine wetlands. The representatives of the NYSDEC and USACE, however, determined that this area was not the most acceptable for use. AMEC worked with the agencies in an attempt to minimize the affect on the shoreline wetlands by the small work scow. An alternative location was identified, farther north in an area where two defined sections of wetland were separated by approximately 50-feet of open space. The scow was placed in this area resulting in minimal affect to the surrounding wetlands.

In addition to the work scows two hopper scows were mobilized to the site along with two tug boats. The hopper scows were approximately 25-feet by 110-feet, and consisted of five individual bays. Each bay could hold up to 25-cy of dredged material. In addition to holding the dredged sediment they also served as stabilization bins where Portland cement was added as part of the dewatering process.

The tug boats were used to place the work scows and transport the hopper scows.

The original design called for the use of a dual silt curtain system for mitigating sediment resuspension and to prevent increasing the turbidity of existing river water. On September 14, 2004 an attempt was made to deploy the silt curtain system as designed and a 100-foot section of curtain was deployed and secured to the river bottom utilizing cement anchors. As the curtain was deployed strong currents due to an increased river volume and flow rate caused the curtain to tear and lay horizontal in the water column (as opposed to standing vertically). The adverse river conditions were a result of remnant storms from a series of hurricanes that occurred during late August and early September. An assessment of the situation determined that revised approach was required and a silt curtain system modification would be necessary.

Upon consultation with D.A. Collins (contractor), Cable Arm (dredging equipment manufacture) and Elastec (silt curtain manufacture), a “dredge cell approach” was deemed most appropriate. The intent of the dredge cell is to minimize the amount of curtain being used, minimize obstruction of the river, increase maneuverability and provide a defined work area where turbidity can be controlled locally. The dredge cell was a 40-foot by 40-foot area constructed of Flexi Floats with a silt curtain perimeter extending 10-feet below the water’s surface (**Figure 4**). Managing turbidity through the use of curtains was only a portion of the control techniques. The use of an environmental bucket along with specific software and GPS interface enabled the dredging activities to keep turbidity at a minimum. Project specifications required the use of low turbidity dredging techniques and equipment. The use of the dredge cell techniques was not observed to adversely affect the turbidity downstream of the dredging activities (**Table 1**).

Mobilization, site setup and dredge cell construction activities were completed on September 27, 2004. Dredging activities began on September 28, 2004.

3.2 Dredging Activities

3.2.1 Dredging Techniques

Sediment dredging was performed utilizing a barge mounted 100-ton crane and a 2.5-cy Cable Arm environmental clamshell bucket. The use of the Cable Arm bucket allowed for a level cut, and minimized turbidity/water collection. The dredge system was outfitted with pressure transducers, tensiometers and/or pressure switches which were used to monitor the location of the environmental clamshell in the water column, confirm design depth was achieved and provide removal verification. ClamVision™ dredge positioning software interfaced the bucket data with the GPS (located on both the crane boom tip and dredge barge), tide gauge, and bathymetric data to provide real-time monitoring and electronic data collection. Utilization of the GPS system and ClamVision™ software ensured accuracy of the sediment removal to within several inches horizontally and vertically.

Excavation utilizing the Cable Arm environmental clamshell is accurate and precise using patented Level-cut technology. As the clamshell closes, the sides pull together and the pivot point rises to produce a rectangular footprint very close to level. Successive bites are overlapped to ensure complete removal and overlapping side plates and seals prevent sediment from escaping from the clamshell during up-cycles.

A passive venting system and rinse tank were used to minimize the resuspension of sediment during down-cycles. During down-cycles, the passive vent system opens to allow water to flow through the clamshell to reduce downward water pressure and minimize the sediment resuspension. The vents will close during up-cycles to contain the sediment within the clamshell. When the clamshell breaks the water surface the vents open to decant excess water above the bulk sediment level of the clamshell. The clamshell is emptied of sediment into the hopper scow and submerged in a rinse tank to wash off residual sediment.

A bathometric pre-dredging survey was conducted to document sediment conditions prior to work commencing. It also provided the ClamVision™ software with a base map of sediment elevations ensuring dredging accuracy. Following the completion of dredging, a final bathometric survey was conducted to document sediment elevations to ensure that sediment removal was performed to the design limits or to the extent technically feasible. The post capping survey documents the limits of the subaqueous cap placed on City property. Copies of the post-dredging and post-cap surveys have been included as **Figures 5 and 6** respectively. In addition, **Figure 7** has been provided to detail the cross sectional view of the surveys as compared to the design limits of dredging.

3.2.2 Sediment Stabilization and Offloading

Once the hopper scow had been filled, the dredged sediments were transported upstream to the sediment processing/offloading pad at Petten Street. The offloading area consisted of the smaller work scow (40'x48') which acted as a mooring point and was equipped with a long reach excavator. This area was also surrounded by a silt curtain. As turbidity was not expected the curtain was installed as a precautionary measure. The work scow was equipped with a spill containment system (splash pad) between it, the hopper scow and the processing pad. The system was intended to contain any sediment or water which may drip off the excavator bucket during the transition between the hopper scow and the offloading area. The splash pad was a contiguous 40-millimeter Low Density Polyethylene liner with fully welded seams that had the perimeter edges elevated by a 4-inch by 4-inch timber berm. Timber framing was also used where necessary to 'bridge' the liner over the gaps between the deck of the work scow and shore, and the deck of the work scow and hopper scow.

After securing the hopper scow to the work scow, extending the splash pad and closing the silt curtain, the standing water from within the hopper scow was pumped to the construction water treatment system. After the standing water had been removed to the extent practicable, the sediments were combined with Portland cement to further facilitate the dewatering process and stabilize them for disposal. Excess water within the sediments was absorbed by the Portland increasing their physical stability. Portland cement was staged on site in an adjacent storage silo and transferred to the sediments through the used of a concrete bucket. Dry Portland was added to each individual hopper at a rate of 5 to 10 %wt as specified. The application rate was dependant upon the entrained moisture of the sediments. Final disposal volumes indicated that the average project Portland add mixture was 5.95 %wt. The Portland was mixed thoroughly utilizing the bucket of the excavator. Following the addition of the Portland, sediments were transferred landside by the excavator where a front-end loader would place them into segregated storage bins. In order to prevent spillage into the river the excavator operator kept the bucket over the splash pad throughout the entire offloading process.

Dewatered sediments were staged in one of eight 20-foot by 40-foot staging bins constructed of Jersey barriers that were capable of holding approximately 100-cy each. The bins allowed for disposal sampling (chemical analysis) to be conducted for each pile to determine the applicability of a contained out exception to the hazardous waste disposal regulations. In addition to the chemical analysis, each pile of the sediment was evaluated for moisture content in order to ensure it met disposal standards for all three potential disposal facilities. Moisture content was evaluated through conducting a paint filter test or resistance to penetration test.

Upon review of analytical results by the NYSDEC and, where applicable, its issuing of a “Contained Out” certification with respect to the piles which had only residual concentrations of methylene chloride and acetone, the appropriate disposal facility was notified of the impending sediment shipment. Transportation of the sediments to the landfills was conducted through the use of multiple trucking companies utilizing a variety of dump style trucks.

Trucks awaiting loading were positioned in a loading area that was within the staging area. However, every truck was segregated from the staging area geographically by being placed up-gradient of the staged sediments. They were also separated physically though the use of Jersey barriers. Trucks were loaded through the use of a front-end loader. After the trucks had been loaded, they were inspected for signs of spillage and if necessary cleaned accordingly. The truck loading area was frequently inspected to ensure that spilled material making it to the ground was removed so that there was no possibility that the trucks would carry loose material offsite in the tread of their tires.

3.2.3 Sediment Disposal

Disposal of the impacted sediment was based on the “contained-in/contained-out” classification for hazardous waste as defined in the NYSDEC Technical and Administrative Guidance Memorandum 3028. Dewatered sediments were staged in 100-cy piles and samples were collected for laboratory analysis by Columbia Analytical Services (CAS). Samples were analyzed for methylene chloride and acetone utilizing USEPA method 8260. At a minimum one sample per pile was collected. If the pile exceeded 100-cy then one additional sample was collected per 100-cy. Analytical results for each pile were forwarded to the NYSDEC for approval and ultimate determination of disposal classification.

Impacted sediments were divided into three different tiers for disposal based on the contaminant levels. The analytical requirements and disposal facility for each tier were as follows:

Contained In Disposal Criteria

Tier	Analytical Requirements	Disposal Facility
1	Methylene Chloride >300 ppm Acetone >7,800 ppm	Clean Harbors, Sarnia, Quebec, Canada
2	Methylene Chloride 85 – 300 ppm Acetone <7,800 ppm	Waste Management, Model City, New York
3	Methylene Chloride <85 ppm Acetone <7,800 ppm	Waste Management, Bergen, New York
Water	Methylene Chloride < 5 ppb Acetone < 100 ppb	Genesee River

As depicted in the table below a total of approximately 3,713-tons of impacted sediment was removed from the river bed during the sediment dredging IRM. After the addition of Portland cement, a total of 3,934.47-tons was disposed of which 1,686.11-tons were disposed as hazardous waste and 2,248.36-tons were disposed of as solid waste. In addition, a total of approximately 22,500 gallons of construction water was treated and discharged to the river.

Disposal and Excavation Weights

Disposal Tier	Sediment Disposed	Sediment Excavated
1	826.97	780.49
2	859.14	810.86
3	2,248.36	2,122.00
Total Tons	**3,934.47**	**3,713.35**
Total CY*	**3,026.52**	**2,856.43**

*Conversion from tons to cubic yards is based off a conversion factor of 1.3 tons/cy established during the pilot test.

Figure 8 has been included to illustrate the disposal facility locations.

3.3 Sheetpile Wall Resolution

The alignment of the sheetpile wall along the landside of the Site was addressed re-grading soils behind the wall (4 horizontal to 1 vertical) down into the river from a proposed new shoreline selected by the NSYDEC and consistent with the City's development plans, and then cutting the wall to an agreed upon elevation below the mean low water level of 245.17' IGLD85. In addition, an 18-inch thick NYSDOT Light Stone cap was mechanically placed within the limits of the City property. The cap also provides some support to the shortened sheetpile wall, a cap for the below water portion of the City property, and habitat for the aquatic life.

The sheeting was cut below the water surface at an approximate elevation of 240' IGLD85. The resolution was modeled and based on the conditions shown on the attached **Figure 9**. Based on those calculations and stability models, AMEC believes that the wall and riverbank slopes, in front of and behind the wall, are stable. The final slope conditions provided factors of safety equivalent to or greater than the pre-existing conditions. The remaining sheetpile wall, nevertheless, cannot be relied upon for any lateral support for any proposed or future structures which might otherwise impact river conditions on the bank.

3.4 Site Restoration

Restoration activities were conducted in the river, along the shoreline and on land. Restoration was done based on intended Site use and not previous Site conditions because of the pending City redevelopment project.

Upon completion of dredging activities and closure sampling, an 18-inch NYSDOT 620-2.02 Light Stone Fill sub aqueous cap was placed on the submerged river bank along the sheetpile wall on City property. The stone functions as a cap. The thickness of the cap tapers as it approaches the navigational channel to prevent sloughing of stone into the channel. The cap was surveyed and has been illustrated on **Figure 7**.

The sediment processing/offloading pad was cleaned by pressure washing, the water was treated as construction water and run through the treatment system. Collected sediment was staged for testing and disposal. Approximately two thirds of the asphalt pad was milled for recycling. Samples were taken to confirm that inadvertent contamination of the Petten Street area had not occurred. The remaining one third of the sediment processing/offloading pad was left in place as requested by the City's redevelopment contractor for its use as a sediment staging and dewatering area. Included with the remaining portion of the pad was one of the construction water sumps. Minimal restoration was necessary at Petten Street because of the City's impending project.

The temporary haul road that provided access to the O'Rourke Bridge remained intact, but all other temporary facilities and equipment were removed. Sediments excavated during the positioning of the small scow were used to restore the river bank and minimal grading was necessary to address the shoreline between the pad and small scow. In addition to the shoreline grading a seed mixture designed for near shore fresh water wetlands was applied and protected with hay mulch. A copy of the seed mixture has been provided as **Appendix B**.

The final area requiring restoration was associated with the sheetpile wall which had run along the land side of the site adjacent to the sediment dredging area. As detailed in **Section 3.3**, the wall was cut off approximately 5-feet below the surface of the river to an elevation of 240' IGLD85. The landward soils were then graded at a slope of 4H:1V to maintain slope stability of the new shoreline established by the NYSDEC and USACE. The wall resolution also included the portion of sheetpile wall existing on the property of Mr. William Danis. The regraded soil was secured with Curlex 1 erosion control mats to prevent winter and spring moisture from silting the river and weakening the slope. The approximate 10-foot section of wall which extended onto the Danis property was secured with the same stone fill utilized for the City's subaqueous cap. The stone was placed upon request of Mr. Danis in lieu of the erosion control mats.

Closure samples from the soils located beneath the sediment processing/offloading pad were collected by AMEC on December 15, 2004 and split with City representatives, LaBella Associates (LaBella) to ensure remedial operations did not impact the local soils. The post remedial samples were collected using a hand auger from location Petten 3 and Petten 4. Sample locations Petten 1 and Petten 2 were unreachable due to the location of equipment staged onsite by the City's contractor and the presence of asphalt pavement. Samples were collected from approximately six to 12-inches below the surface. Sample locations are illustrated on **Figure 11**.

Due to inconsistent results between AMEC and LaBella, additional post remedial samples were collected on January 19, 2005. AMEC and its drilling subcontractor, SLC Environmental, utilized a track mounted Geoprobe® rig to sample Petten 1, Petten 2 and Petten 3. Petten 4 was not resampled, since laboratory results from Petten 4 were not considered to be in question. The analytical results are included as **Table 2**.

4.0 ENVIRONMENTAL MEDIA SAMPLING

4.1 River Water Quality Monitoring

A turbidity monitoring program was designed as part of the dredging IRM in order to provide a means to measure of the effectiveness of the engineering controls at preventing sediment resuspension. Turbidity measurements were conducted in the zone where construction-related turbidity was most likely to be found, with one background turbidity monitoring station located upstream of the dredging activities to provide background turbidity levels. The downstream monitoring location was proposed approximately 300-feet down gradient of the turbidity curtain. A third monitoring point had been located between the proposed inner and outer turbidity curtains. However, it was eliminated as a result of the modified approach utilizing the dredge cell. Turbidity readings were collected approximately every two hours during dredging activities.

In addition, river water samples for site COCs were collected during dredging activities at a rate of one sample per day at the upstream and downstream monitoring locations. Water quality samples were collected approximately 20-feet below the surface of the water and analyzed for methylene chloride and acetone by USEPA method 8260. The upstream data was proposed to establish background, and the downstream data to assess compliance. Methylene chloride concentrations were compared to the 100 ppm USEPA acute toxicity value. AMEC established the toxicity values published by Suter and Tsao (1996) as an even more conservative benchmark of protectiveness. Those lower Suter and Tsao values were 26 ppm for methylene chloride and 28 ppm for acetone. Sample results were also compared to the lower toxicity values to provide a better level of protection to the environment. Additional contingency sample collection was required during certain turbidity exceedances as discussed below.

In the event that turbidity readings at the downstream monitoring location exceeded 40 nephelometric turbidity units (NTUs) or 20% more than the upstream turbidity value (whichever was greater), the design required the implementation of more protective measures. Action was also required if a visible turbidity plume attributable to remedial operations was observed more than 100-feet from the active dredging operation outside the dredge cell.

If immediate actions were not successful in reducing downstream turbidity to below the greater of the 40 NTUs or 20% more than the upstream turbidity values within 60 minutes, as indicated by the monitoring instruments or by visual means, the Contractor was to cease remedial operations and collect water samples for methylene chloride and acetone analysis for comparison to the Suter and Tsao (1996) acute toxicity values. Dredging activities would resume when the cause of the turbidity exceedance had been corrected and downstream turbidity has been reduced below criteria.

4.1.1 Sampling Program

Turbidity samples were collected and analyzed in the field utilizing a Lamotte 2020 turbidity meter. Turbidity samples were collected from the top one foot of the water column and analyzed immediately by the sampling technician on the boat. The meter was calibrated before each use with standards provided by Lamotte.

Water quality samples for COC analysis were collected using a horizontal water sampler. A horizontal sampler allows for accurate sample collection at depths of 20-feet below the surface (approximately 2 to 3-feet above the river bottom). Water was placed directly into pre-cleaned jars preserved with hydrochloric acid. The jars were filled to zero headspace, sealed, labeled and delivered to the CAS daily for analysis by USEPA method 8260B.

4.1.2 Analytical Summary

A summary of turbidity results has been provided as **Table 1**. Turbidity was sampled 67 times throughout the course of dredging activities. Although two samples exceeded 20% of the upstream sample, they did not exceed 40 NTUs, which was the greater value at that time. Therefore, no exceedances of the design criteria occurred which would have required the implementation of more protective measures. Nevertheless, an evaluation of dredging activities was conducted at that time and the contractor was instructed to mend the silt curtains being used to control turbidity for sediment removal along the sheetpile wall.

Summary of Elevated Turbidity Readings

Date	Upstream	Downstream	Comments
Sept-24-04	202	381	Background testing before dredging activities began. Used a Horiba U10 and experienced varied results such as this one. Unit was exchanged for a Lamotte 2020.
Oct-18-04	14.7	19	Downstream was greater than 20% above background but not 40 NTUs. Contractor was advised to amend curtains
Oct-18-04	13.2	17.3	Downstream was grater than 20% above background but not 40 NTUs. Contractor was advised to amend curtains.

All units are in NTUs

Turbidity monitoring began before dredging operations were started to document background river conditions. During that time and into the first days of dredging a Horiba U10 was utilized to analyze the samples. Trouble calibrating and maintaining accurate readings was experienced on a regular basis. Upon consultation with Pine Environmental, Inc. of Cranberry, NJ (Pine), the monitoring equipment vendor, it was determined that the instrument was not operating correctly and a new monitor, the Lamotte 2020, would suit the project better. The exchange was made and turbidity readings thereafter were more consistent and accurate.

COC monitoring was conducted at a minimum of once per day during dredging activities. Low levels of methylene chloride were detected in 14 of the 30 samples collected. The 14 detections were compared to the surface water monitoring standard set forth by AMEC of 26 ppm and were found to be orders of magnitude below the standard. A complete summary of the river quality monitoring samples is provided as **Table 3**. The 14 detections can be attributed to the dredging of hot spots or heavily impacted sediments. Analytical results from the stabilized piles of sediment awaiting disposal were compared to water quality samples during the project and a direct correlation between the dredging of heavily impacted sediments and water quality sample results was identified.

4.2 Sediment Closure Sampling

RAOs for sediment quality were set forth in the Department-approved *Evaluation of Methylene Chloride and Acetone in Genesee River Sediments Associated with CSXT Derailment and Chemical Spill at Charlotte, New York*, May 9, 2002 by Shaw Environmental, Inc. In the document, Shaw identifies that NYSDEC does not provide equilibrium partitioning based sediment criteria for polar organic chemicals such as acetone and methylene chloride. They recommend comparing sediment pore water concentrations to surface water quality criteria (NYSDEC 1993). Because the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS 1.1.1) memorandum does not have values for exposure to pore water and USEPA does not have National Ambient Water Quality Criteria for acetone or methylene chloride and alternative resource was necessary. Tier II benchmarks published by Suter and Tsao (1996) were deemed appropriate for estimating the likelihood of toxicity to aquatic invertebrates. Utilizing the equation:

SGV=(WQGV*M)/S where:

- SGV = Site specific sediment guidance value
- WQGV = Tier II water quality guidance value
- M = Moisture proportion of sediment
- S = Solids proportion of sediment

This equation yielded RAOs of 773 ppb for acetone and 1,133 ppb for methylene chloride.

To evaluate the effectiveness of the dredging activities, closure samples were collected on a 50-foot grid or at a rate of nine per acre. Although the defined plume was less than an acre a total of nine sample locations were identified as part of the final design package. Moreover, although nine samples were identified, 10 locations were sampled as part of the IRM sampling process. Sampling locations were reviewed in the field and approved by the representatives of NYSDEC, USACE and City.

4.2.1 Sampling Program

Sample locations were identified as DC-1 through DC-9 (DC stands for dredging closure). See **Figure 2 and Table 4**. Sample collection was conducted through the use of the on site dredging equipment. This method was selected due the precise nature of the GPS system in locating the sample locations. Use of this equipment allowed for sampling locations to remain consistent and accurate to within several inches to a foot of the sampling point in the event several samples were required. Collection utilizing the dredging equipment also expedited the collection process.

Sampling locations were identified on the GPS system and the clam shell bucket was lowered to obtain the sample. The samples were then placed into jars by an AMEC sampling technician. Sample jars were sealed with a Teflon lined lid and labeled. The label identified the sampling location, collection date & time and sampler's initials. A proper chain of custody was completed and the samples were stored on site in a dedicated refrigerator until the currier picked them up for delivery to CAS. Samples were analyzed on a 24 hour turnaround basis. Sample results were then faxed and e-mailed to the site for review. The City was also included in the review of results for the three samples collected on their property.

After review and determining if dredging goals had been obtained, results were then forwarded onto the NYSDEC for final review. If an area did not meet cleanup criteria additional dredging was required. Additional dredging occurred at several locations and is illustrated by their being more than one closure sample collected for that location. During the collection of closure samples the locations remained consistent along with their sampling ID. Sample dates were used to distinguish between the different samples as illustrated on **Table 4**.

To evaluate the dredging effectiveness and to also evaluate denser sediments a vibracore sampling event was conducted on October 14, 2004. It was during this event that a sample collected on the edge of the plume (SS-88) was identified as having elevated levels of methylene chloride. The project dredging limits were extended slightly to the south so that those impacts identified at SS-88 could be captured. SS-88 was also added to the list of dredging closure samples and re-sampled accordingly.

4.2.2 Analytical Summary

A complete summary of final analytical results have been provided as **Table 4**. An effort was made to remove all impacted material within the dredging limits. However, the dense nature of some of the underlying silts and clays made it difficult for the bucket to remove all material to project depth. Identified below are those final results that did not meet the RAO criteria after the completion of the additional dredging.

Sediment Analytical Exceeding Cleanup Criteria

Sample ID	Methylene Chloride ug/kg
DC-4	24,000
DC-8	1,900
Cleanup Criteria	1,133

Although DC-4 and DC-8 still exhibit elevated levels of methylene chloride, the NYSDEC representative understood that, given the depth of the material and difficulty in removing additional sediment from this area due to its dense nature and concerns with the stability of the slope, that additional dredging was not feasible.

At the request of the NYSDEC, CSXT sampled sediment downstream of the dredging operations to verify that COCs were not mobilized during the IRM. On November 3, 2004, two AMEC sampling technicians collected sediment samples downstream of the dredging operations. Two samples were collected utilizing a petite Ponar dredge. The Ponar is a hand operated sampling dredge. Analytical results were submitted to the NYSDEC in a February 18, 2005 letter which has been included as **Appendix C** demonstrates that COCs were not mobilized during the IRM.

4.3 Post Dredging Sampling Event

Dredging of the river was completed by November 5, 2004. Because two of the dredging closure sample locations had been identified as having residual methylene chloride above the RAO criteria, the NYSDEC had commented that additional monitoring of the sediments would be necessary. Based on this, a vibracore sampling event was scheduled for April 12, 2005. During this event sediment samples were collected from a total of six locations. Three of these locations, (SS-19A, SS-15 and SS-24) had been sampled during previous monitoring events (December 2003 and June 2004). Another three, DC-4, DC-8 and SS-88, had been sampled during the dredging closure sampling. Two of the three (DC-4 and DC-8) additional samples collected from the dredging closure sample locations utilized during the IRM were given new sample location ID numbers. The table below illustrates the original closure sample identifications and their newly assigned sediment monitoring locations.

New Sediment Sample Identifications

Original Sample ID	New Sample ID
DC-8	SS-89
DC-4	SS-90

Analytical results for this event have been included as **Table 5**. After reviewing the sample results from the April 2005 event it is evident that impacts remain in the river at selective previously sampled locations. Three of the sampling locations (SS-19A, SS-88 and SS-90) exhibited methylene chloride concentrations above 1,133 ppb RAO. The table below compares results from the previous sampling events with results from April 2005. Sampling locations have been identified on **Figure 6**.

Sediment Analytical Comparisons

Sample ID	June '04 Pre-Dredging IRM	October '04 Dredging IRM Closure	April '05 Post-Dredging IRM
SS-19A	10,000,000 E	NA*	1,200,000/12,000**
SS-88	NA	8 U	34 / 52,000***
DC-8/SS-89	NA	1,900	NA
DC-4/SS-90	NA	24,000	2,400

E – Identifies the compound exceeded the instrument's calibration range
U – Compound was analyzed for but not detected
NA – Not Applicable
All units are in ug/kg (ppb)
All concentrations are from the top 1' of sediment.
*Nearby dredging closure sample DC-5 had <140 ppb
**1,200,000 ppb was collected at 0.5'; 12,000 ppb was collected at 2'
*** 34ppb was collected at 0.5', 52,000ppb was collected at 2'

Analytical results at each sampling location have exhibited variability from one sampling event to another over the course of the ten sampling events that have occurred. Although DC-4/SS-90 remains above the RAO criteria as of April 2005, it is an order of magnitude below the dredging closure sample collected in October 2004. While dredging closure Sample SS-88 exhibited a minor concentration at 34 ppb for the 0.5-foot interval in April 2005 which is consistent with the non-detect result obtained in October 2004, this location does have a much higher concentration at the 2-foot sample. However, this is two feet below the sediment surface. Sample SS-19A now exhibits a concentration similar to that obtained in June 2004. This area was identified for overdredging with a final elevation of 222' IGLD85. The final bathometric survey indicates that new contours for SS-19A are at 221' IGLD 85 (one foot within the target depth). The contours around DC-4/SS90 indicate the target depth of 227' IGLD 85 was obtained while the final elevation for SS-88 was 217' IGLD85 (two feet below target).

Water samples were also collected from the Genesee River as part of this sampling event. Analytical results from these samples were non-detect for the COCs at sampling locations WS-1, WS-2 and WS-3. The analytical results have been included on **Table 5**.

5.0 COMMUNITY AIR MONITORING PLAN

CAMP was based on a New York State Department of Health (NYSDOH) guideline intended to protect the surrounding community from particulate matter (dust), vapor and odors entrained in the ambient air during site activities in the work zone. Real time monitoring of particulates and Volatile Organic Compounds (VOCs) is performed continuously throughout the work day to ensure the protection of the surrounding community. In addition to the real time monitoring, time-integrated monitoring was also conducted to provide laboratory documentation of chemical concentrations. Action limits are set in the CAMP along with required provisions to mitigate exceedance situations should they occur during site activities. If an exceedance occurs, mitigation techniques of dust suppression and potentially work stoppage could be implemented to ensure compliance of the CAMP. The CAMP document was approved by the NYSDEC and the NYSDOH prior to work commencing.

5.1 Time-Integrated Monitoring

The CAMP monitoring program implemented during the dredging IRM incorporated five sensitive receptor locations where AMEC personnel collected samples to be analyzed for methylene chloride and acetone. Collection of the samples was performed initially with 10 low flow SKC Model 222 air sampling pumps with a flow rate of 0.05 L/Min and carbon sampling tubes provided by Galson Laboratories, Inc. of Syracuse, NY (Galson). The carbon sampling tubes were ORBO 91 for acetone and CMS for methylene chloride. Upon consultation with Galson, it was determined that sample collection for both parameters only required one tube in lieu of two. Following the recommendation of Galson the time-integrated sampling program was modified to address this change and one sampling pump with a single sampling media was utilized per location. The sampling pumps were setup and functioning prior to the time at which site activities beginning each day and remained functioning until after site activities had ceased. The sampling tubes were collected daily and once per week the samples deemed most likely to be impacted by VOCs were sent for analysis. The determination of which samples were to be analyzed was based upon wind direction and real time monitoring readings throughout the week.

5.1.1 Sampling Locations

Sampling locations were chosen based upon the proximity of sensitive receptors to the Site and general wind direction. The five sampling locations are as noted below in and are visually depicted on **Figure 10**:

Time-Integrated Sampling Locations

Sampling Location ID	Latitude	Longitude
River View Marina	77.61356	43.24599
Petten Street	77.61343	43.24705
Voyager Marina	77.60850	43.25167
Holy Cross School	77.61051	43.25143
Tapecon	77.61068	43.25216

5.1.2 Analytical Summary

The analytical results for the five time-integrated monitoring locations are predominantly non-detect with four low level readings detected for methylene chloride as noted on **Table 6**. However, the levels detected are far below the action level of 5 ppm. All detectable levels occurred at the Petten Street monitoring location, to the west of the processing area. A data validation discussion is provided in **Section 6.0**.

5.2 Real Time Monitoring

In addition to the time-integrated monitoring AMEC was responsible for providing real time monitoring of both particulates and VOCs during dredging activities. Due to the two separate work zones (dredging zone and processing zone) it was necessary to conduct simultaneous monitoring at both locations incorporating multiple pieces of equipment. AMEC utilized particulate monitors and photo-ionization detectors (PIDs) with data logging capabilities to collect the necessary data. All perimeter monitoring equipment was provided by Pine.

Particulates were monitored with a TSI DustTrak aerosol monitor (DustTrak) and VOCs were monitored with a MiniRAE 2000 (MiniRAE) with an 11.7 electron volt (eV). Typically a 10.6 eV lamp is used in the MiniRAE. However due to the ionization energy of methylene chloride, an 11.7 eV lamp was required to detect this compound of concern. Due to work being performed at both work zones simultaneously, two separate perimeter monitoring setups were onsite. Each setup contained two DustTrak's and three MiniRAE's. One DustTrak was staged upwind to provide a background particulate concentration while the other DustTrak was staged downwind. The delta between the two monitors was used to document particulate concentrations and compared to the action level set forth in the CAMP. The three MiniRAE's were all staged downwind creating an arc of coverage since the upwind VOC reading is presumed to be zero. The perimeter monitoring equipment was contained in an environmental enclosure and was linked to a visual alarm system. The alarm system consisted of a strobe light attached to the environmental enclosure. Alarm limits were set to the limits noted in the CAMP. The downwind limit for particulates was 100 ug/m^3 greater than the upwind particulate while the limit for VOCs was 5 ppm. The equipment was also set to data log so the data collected could be saved and then analyzed. The DustTrak's were set to data log every fifteen minutes, while the MiniRAE's were set to data log every minute. Logged data was downloaded daily and stored on-site for review and future reference. Typically the wind direction would shift during the day so the environmental enclosures along with the monitoring equipment would be moved accordingly. In addition to relocating equipment due to wind direction change, recalibration of the MiniRAE was performed several times a day to limit inaccurate readings resulting from changes in conditions such as humidity.

5.2.1 Sampling Locations

As noted prior, sampling locations for the perimeter monitoring equipment was dependant upon the wind direction. For example, if the wind direction was to the north (coming from the south) AMEC personnel would stage three MiniRAE's and one DustTrak to the north, while staging one DustTrak to the south of the work site. Due to the variability of the wind if it were to change direction to the south (coming from the north), the location of staged equipment would change as well. A total of seven MiniRAE's and four DustTrak's were onsite. The MiniRAE's were numbered one through seven and the DustTrak's were labeled eight through 11. The additional MiniRAE provided personal real time monitoring while verifying accurate readings of the perimeter MiniRAE's.

5.2.2 Analytical Summary

Analytical results for both particulates and VOCs were logged by the monitoring instruments and then converted into daily Excel spreadsheets. See **Table 7** and **Table 8** respectively. Occurrences of elevated VOC readings were predominantly associated with the lamp sensitivities. Due to the sensitivity inherent to the 11.7 eV lamp, drift in the readings occurred, especially on days of high humidity. As stated during technical discussions with the supplier Pine, the accuracy of the 11.7 eV lamp diminishes more rapidly and has greater sensitivity to moisture than the 10.6 eV lamp. To address this issue an aggressive instrument calibration program was implemented. The explanations for the aforementioned readings are documented along the right hand column of the daily spreadsheets. Determination of meteorological conditions, including humidity, was provided through the use of a Davis Instruments Vantage Pro Weather Station (weather station). High humidity was determined when the relative humidity recorded on the weather station was greater than 80% between the period of 07:00 and 17:00 for the day. The time-integrated analytical results further support determination that lamp sensitivity resulted in false positive VOC readings. Instances of VOC readings occurring when high humidity was not a factor are due to the inherent lamp sensitivities noted previously. Upon recalibration the MiniRAE's typically begin to function properly for a period of time afterwards. In addition, some MiniRAE's were more susceptible to deviation than others, and would experience diminished accuracy without respect to their proximity of the dredging or processing area. Overall the PIDs tend to maintain low readings, (well under five ppm), throughout the time period being monitored.

6.0 DATA VALIDATION

This Data Usability Summary Report has been prepared to document the quality and usability of data for samples collected to characterize concentrations of COCs in ambient air, sediments and river water during dredging activities and in closure samples. These samples were collected during the period of September 2004 through November 2004 in conjunction with remedial activities for the CSXT River Street Derailment, Rochester, NY. All samples were analyzed for methylene chloride and acetone. Three river bottom samples were also analyzed for volatile organics, semivolatile organics and metals.

Results for quality assurance/quality control measures were reviewed and used to evaluate data quality in general accordance with USEPA National Functional Guidelines for Organic Data Review (EPA540/R-99/008). Laboratory performance-based control limits as required by SW-846 were applied for assessment purposes. Raw data have been reviewed and calculations and identifications verified for a subset of the final closure samples. Results of this review were used to evaluate data usability for project purposes.

6.1 Data Usability Summary

Data are of appropriate quality to meet project objectives. Analyses were conducted in compliance with method requirements for quality assurance. Holding times were met for all samples. All surrogate and laboratory control recoveries were acceptable. No matrix interferences were noted. Field duplicates demonstrated acceptable agreement.

Reported data are consistent with the raw data for the closure samples fully validated. Chromatograms, instrument integrations and subsequent calculations support the results.

Data as validated are appropriate for program usage. Reported results provide defensible information to characterize the levels of the COCs in the ambient air, river water and sediments during dredging activities and at closure.

6.2 Samples

Samples included in this review are summarized below.

6.2.1 Community Air Monitoring Program

A total of 75 time-integrated samples of ambient air were collected on Orbo 91 charcoal tubes for analysis for acetone and methylene chloride. Samples were collected over the period of September 23, 2005 through November 4, 2005. Analyses were conducted by Galson in accordance with Occupational Safety and Health Administration Methods 69 and 80.

6.2.2 River Monitoring

A total of 63 surface water samples, including three field duplicates, were collected from locations upstream and downstream of the dredging activities during the period September 16, 2004 through November 4, 2004. These samples were submitted to CAS for analyses for methylene chloride and acetone. Analyses were conducted by Method 8021 (gas chromatography/flame ionization detection, GC/FID) or Method 8260B (gas chromatography/mass spectrometer, GC/MS).

6.2.3 Sediment and Pile Samples

A total of 66 river sediment and dredge pile samples were collected over the period of September 28, 2004 through November 5, 2004. These samples were submitted to CAS for analyses for methylene chloride and acetone, with 3 samples also analyzed for the full suite of volatile and semivolatile organics and RCRA metals. Analyses for acetone and methylene chloride were conducted by Method 8021 (GC/FID) or Method 8260B (GC/MS). Analyses for VOCs were by Method 8260B, for SVOCs by 8270C, and for metals by 6010B and 7470A (mercury).

6.3 Review Elements

Data validation for the community air monitoring program included review and validation of the following elements:

1. Chain of custody records
2. Holding times
3. Desorption efficiencies
4. Laboratory blanks
5. Breakthrough
6. Calculations

Data validation for all sediment and water samples included review and evaluation of the following elements:

1. Sampling records/preservation
2. Chain of Custody documentation
3. Holding times
4. Method blanks
5. Laboratory spike samples
6. Surrogate recoveries
7. Field duplicates

In addition, raw data for representative final closure samples, including DC-4, DC-8 and SS-88 were fully reviewed and validated.

Validation results are summarized below. Only those areas where method modifications, quality assurance discrepancies or anomalous results were noted are discussed in detail below.

6.3.1 Community Air Monitoring Program

Analyses of charcoal tubes collected to characterize ambient air in the community during the program were conducted by GC/FID. In accordance with method requirements, desorption efficiencies were determined and were reported to be 100% for both acetone and methylene chloride.

All analyses were completed within holding times. The front and back half portions of the sample tubes were analyzed separately. No breakthrough was noted. The tube for one sample was received with the back half damaged in shipment, but since the front half was free of both analytes, no data were qualified.

All laboratory blanks were free of background levels of acetone and methylene chloride.

Calculations were verified for reported air concentrations based on the mass of analyte detected and the air volume reported on the COC.

6.3.2 River Water Samples

All surface water samples were hand-delivered to CAS, generally within hours of collection. Preservation of all samples with acid was confirmed by the laboratory upon receipt. Although ice was present, the cooler temperatures were below ambient but frequently above the method requirement of 4^{o}C. Since samples had been collected within a few hours of delivery, the cooler temperature likely had not had time to equilibrate. Results have not been qualified for these excursions.

All samples were analyzed within holding times. All surrogate recoveries and laboratory spike recoveries were acceptable, and all method blanks were reported with acetone and methylene chloride non-detected at their method reporting limits.

Three sets of field duplicates were submitted. Results demonstrate acceptable precision.

Surface Water Field Duplicates

Location	Date	Acetone, ug/l	Methylene chloride, ug/l	RPD
Downstream	5-Oct-04	20U	5U	NA
Downstream2	5-Oct-04	20U	5U	
Downstream	15-Oct-04	20U	5.6	0%
Downstream A	15-Oct-04	20U	5.6	
Downstream	26-Oct-04	5U	32	3%
Downstream A	26-Oct-04	5U	31	

U = Non-detected at the stated limit

6.3.3 River Sediment and Sediment Pile Samples

All river bottom sediment and sediment pile samples were hand-delivered to the laboratory, generally within a few hours of collection. Cooler temperatures were frequently above the method requirement of 4^{o}C, but since samples had been collected and placed in the cooler within a few hours of delivery, it was assumed that this indicated that the cooler temperature had not had time to equilibrate. Results have not been qualified for these instances.

All samples were analyzed within method holding times.

Levels of methylene chloride in several pile and sediment samples exceeded the calibration range of the instrument. Samples were reanalyzed at dilution to provide results within range. Data reported for samples in some cases reflect reporting limits for acetone from the original analysis with methylene chloride results from the dilution analysis.

In other instances, the laboratory diluted the sample prior to analysis to a greater degree than necessary. These samples were also reanalyzed in order to provide optimal detection limits for acetone with the methylene chloride in the calibration range.

All surrogate recoveries were within control limits and all laboratory control sample recoveries were within control limits.

Two field duplicate samples were taken from dredge piles and two large piles were sampled twice, at different areas of the pile. Results indicate acceptable agreement for the field duplicates.

Sediment Pile Field Duplicates

Location	Date	Acetone, ug/kg	Methylene Chloride, ug/kg	RPD
Pile 7	10/08/04	3800U	17, 000	0%
Pile 7D	10/08/04	3800U	17,000	
Pile 27	11/05/04	7300U	140,000	24%
Pile 27D	11/05/04	3700U	110,000	

Results for samples collected from two areas of a single, large pile demonstrate somewhat greater variability but concentrations of the same order of magnitude within the pile.

Sediment Piles with Two Samples

Location	Date	Acetone, ug/kg	Methylene Chloride, ug/kg	RPD
Pile 6	10/07/04	7500U	3,800,000	117%
Pile 6 A	10/07/04	7700U	1, 000,000	
Pile 23	10/26/04	350U	6,200	53%
Pile 23 A	10/26/04	350U	3,600	

7.0 PROJECT CONCLUSIONS

This IRM has been successful in removing a vast majority of impacted sediments from the bed and bank of the Genesee River. A design quantity of 3,000-cy of sediment was to be removed. Based on disposal certificates, project records indicate that 2,856-cy was actually removed. This is 95% of the project goal. Several factors such as the +/- 0.5-foot construction tolerance placed on the contractor; possible erosion of sediments during the time between the initial survey (used for the design) and dredging activities; compacted sediments; and debris preventing the clam shell bucket from achieving target elevation explain the 5% variance between the target and actual dredged quantities.

River water quality monitoring conducted during the IRM indicated that no exceedances occurred for methylene chloride, acetone or turbidity. Two turbidity samples on October 18, 2004 were identified as being 20% above the upstream value. However, they were not above 40 NTUs. Although the turbidity values were in compliance the contractor was notified of the situation, looked for a cause and took prompt action to check and amend the silt curtain.

Monitoring of ambient air samples at both the project perimeters and throughout the community did not indicate that sediment dredging, processing or loading operations had any adverse affects on the surrounding community. Review of the particulate data identifies that no exceedances occurred during dredging operations. VOC monitoring results experienced variability due to the sensitivity of the 11.7ev lamps utilized for monitoring methylene chloride and changes in humidity. Nevertheless, at no time was the 5 ppm limit set forth in the CAMP exceeded due to VOCs. Elevated PID readings occurred in times of wet weather such as early morning fog, rain and high humidity. These moist conditions contributed to the variability experienced throughout the project. As stated previously a rigorous calibration plan was implemented in an attempt to maintain the units and minimize elevated readings.

Time integrated sampling conducted at the five community monitoring locations yielded no significant results. However, methylene chloride was detected on four occasions. These detections occurred at station number two which was situated adjacent to the sediment processing/offloading pad at the base of the hill, approximately 50-feet below the residences on River Street. The monitoring station was situated approximately half way between the site operations and the residences of River Street. Although the detections ranged from 190-320 ug/m^3 they did not exceed the NYSDEC short term exposure value of 14,000 ug/m^3 identified in NYSDEC DAR-1 GC/SGC Tables (2000). In fact these samples were typically collected over an 8 hour period reducing their one hour concentrations to a range of 23.75-40 ug/m^3 which is even further below the above stated criteria. In addition to the short term value, the NYSDEC also has established an annual concentration of 2.1 ug/m^3. Exceedance of this value is not a concern because of the project's short duration.

The RAO cleanup criteria set forth by Shaw Environmental, Inc. under a previous cover (Shaw 2002) and approved by the NYSDEC and USACE were 773 ppb for acetone and 1,133 ppb for methylene chloride. Although limited amounts of methylene chloride remains in some of the river sediments at concentrations above the RAO, dredging activities can be considered a success. As identified in the Shaw report *Estimated Methylene Chloride Cleanup Level Achievable with Environmental Dredging, (*2003), achieving cleanup criteria can prove to be difficult. All the sediment that could be removed was. Concerns with the stability of the sheetpile wall and shoreline prevented deeper excavations along the river bank. The density of the deeper sediments within the river bed made further removal at depth with the environmental clam shell dredge infeasible. Furthermore, typical dredging projects do not include VOCs such as methylene chloride as their primary COC, COCs tend to be compounds that bind to sediment particles such as polychlorinated biphenyls, polyaromatic hydrocarbons, etc. As discussed, approximately 95% of the estimated 3,000-cy of impacted sediment was removed. Of the 32 disposal samples collected not one had a concentration lower than 3,200 micrograms per kilogram (ug/kg) of methylene chloride. This demonstrates that a significant amount of impacted material was removed from the river bed.

Closure samples DC-4 and DC-8 were identified as being above the cleanup criteria at 24,000 and 1,900 ug/kg methylene chloride respectively. Although these concentrations were still present, DC-4 is located outside the navigational limits and will not be disturbed by current USACE maintenance dredging protocol. Also, DC-4 is at an elevation of 218.3' IGLD85 which was only 0.4-feet above the 217.9' IGLD85 target and within the specified +/- 0.5-foot construction tolerance. Additionally, the USACE has specified that their maintenance dredge depth for the Genesee River is 22-feet below mean low water which is equivalent to 221.3' IGLD85. Although, Sample DC-8 is within the channel limits it is three feet below the USACE dredge elevation and therefore should not be disturbed by current USACE maintenance dredging protocol either. Also, DC-8 exhibited a methylene chloride concentration that is close to the 1,133 ug/kg RAO. Further, during the April 2005 sampling event, this location DC-8/SS-89, had only 15 ug/kg methylene chloride.

During the April 2005 event, samples DC-4/SS-90, SS-19A and SS-88 were identified as having elevated concentrations of methylene chloride. As stated above DC-4/SS-90 is outside of the navigational channel limits. Its concentration was also significantly lower than that of the October 2004 sample. Although sample SS-19A is within the navigational limits, it too is below the USACE limit at an elevation of 220.7' IGLD85 and is within 0.7-feet of its target dredge depth of 220' IGLD85. The area of SS-19A must maintain the 4H:1V slope to ensure upland stability of the riverbank.

The sample collected at SS-88 0.5' met the cleanup goal. However the sample collected at the two foot depth interval did not. The bathometric survey shows that sampling location SS-88 is at an elevation of 217' IGLD85 which is 4.3-feet below the USACE maintenance dredge depth. The sample that had the elevated concentration of methylene chloride is two feet below that or 215' IGLD85, placing it well below the USACE limit. Target elevations established in the RAS/DR were developed with this in mind.

River water quality monitoring has been conducted on a regular basis since the incident and a significant decrease in COC concentrations was evident during the first year. Since then COC detections have been either non-detect or extremely minimal. Including the April 2005 event analytical results for the past five events have been below the sample quantitation limit. This indicates that COCs in the sediment are not adversely affecting the water column above them.

The dredging IRM removed the impacted sediments to the extent feasible, and in so doing removed the vast majority of the impacted sediments. The residuals are limited in nature. Moreover, the IRM was completed in such a manner that future activities conducted in the river should not be adversely affected by the residuals from the 2001 CSXT derailment. The remaining methylene chloride is, therefore, not expected to be resuspended during USACE maintenance dredging activities (because the sediments are below the specified dredge depth of 221.3' IGLD85) and is not of sufficient quantity to be detectable in the Genesee River water column as proven by the latest analytical results. Considering the data presented in the report, AMEC concludes that no further actions are necessary to address river sediments impacted by the December 23, 2001 CSXT train derailment.

8.0 References

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NYSDEC. 1998. Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June.

NYSDEC. 1994. Division of Technical and Administrative Guidance Memorandum #4046, Determination of Soil Cleanup Objectives and Cleanup Levels. January 24.

Shaw Environmental, Inc. 2003. River St. Derailment Interim Remedial Measure Report, March 10.

Shaw Environmental, Inc. 2003. Estimated Methylene Chloride Cleanup Level Achievable with Environmental Dredging and Phase VI Sampling Results. January 15.

Shaw Environmental, Inc. 2002. Evaluation of Methylene Chloride and Acetone in Genesee River Sediments Associated with the CSXT Derailment and Chemical Spill at Charlotte, New York, May 9.

Suter, II, G.W., and C.L. Tsao. 1996. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision. Lockheed Martin Energy Systems. ES/ER/TM-96R2.

USEPA. 2002. Region IX, Preliminary Remediation Goals.

USEPA. National Functional Guidelines for Organic Data Review (EPA540/R-99/008).

FIGURES

CSX TRANSPORTATION

Public Safety & Environment

Site Location Map

CSXT River Street Derailment Site
Rochester, NY

Figure #1

Monroe County New York

LOCATOR

LEGEND

CSXT Rail

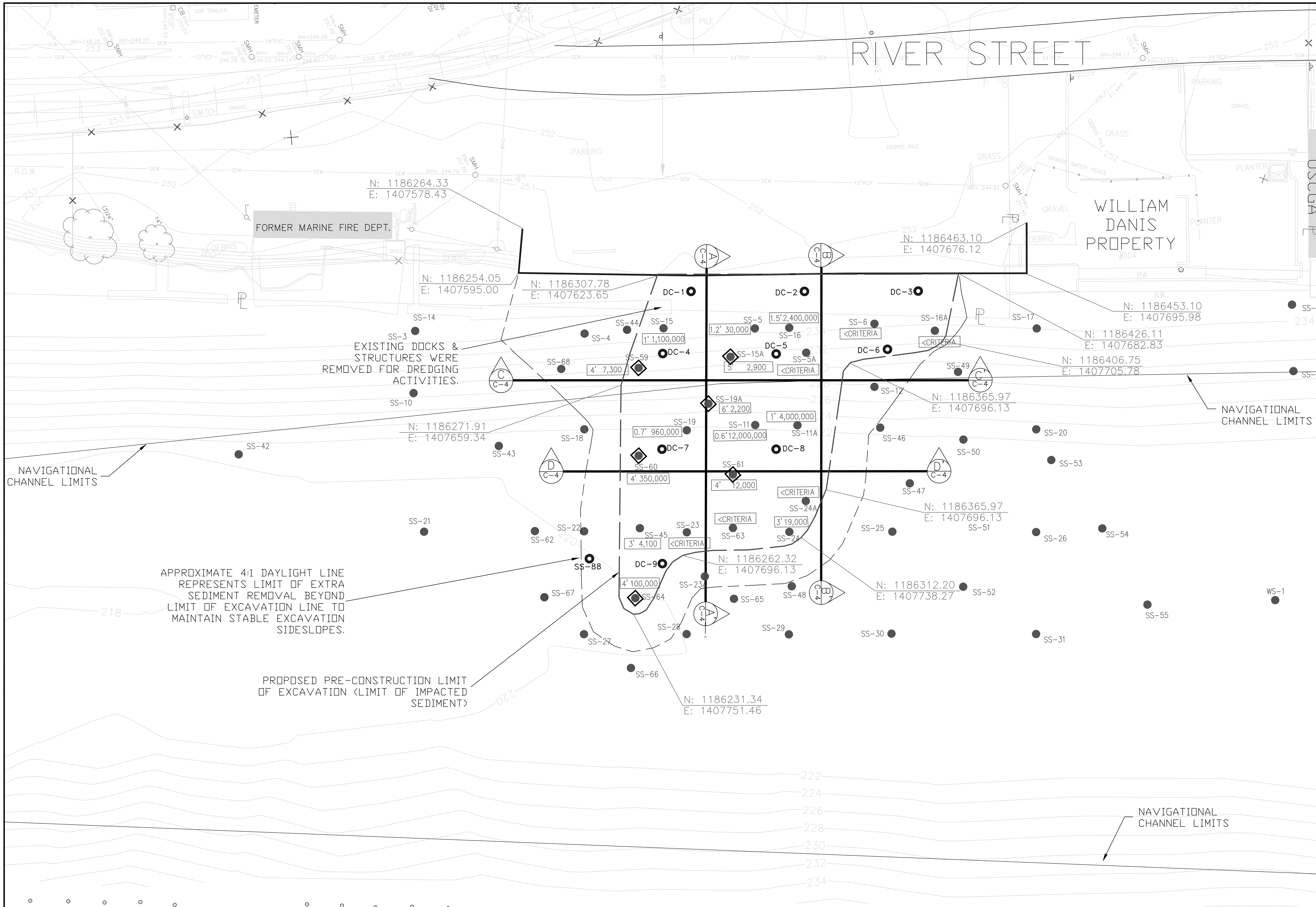
NOTES & SOURCES

Aerial Imagery Source: USGS
Projection: NAD 83 UTM Zone 18N
Map Created: 4 May 2005

0 200
Feet

N
W E
S

AMEC Earth & Environmental, Inc.
Westford, Massachusetts



LEGEND:

(heavy dashed line)	LIMIT OF EXCAVATION (LIMIT OF IMPACTED SEDIMENTS)
(light dashed line)	APPROXIMATE 4:1 DAYLIGHT LINE
SS-11	SAMPLE LOCATION (WITH SAMPLE NUMBER)
4' 7,300	DEEPEST METHYLENE CHLORIDE SAMPLE CONCENTRATION (IN PPB) EXCEEDING THE CLEANUP CRITERIA. CORRESPONDING SAMPLE DEPTH IS PROVIDED (FEET BELOW RIVER BOTTOM)
<CRITERIA	METHYLENE CHLORIDE CONCENTRATIONS ARE BELOW CLEANUP CRITERIA (1100 PPB) AT ALL DEPTHS.
SS-61	SAMPLE LOCATION WHERE EXCAVATION IS TO EXCEED 4 FEET
DC-1	DREDGING CLOSURE SAMPLE LOCATION
N: 1186453.10 E: 1407695.98	NORTHING AND EASTING COORDINATES

NOTES:

1. LATERAL DELINEATION OF SEDIMENT IMPACTS WERE BASED ON METHYLENE CHLORIDE AND/OR ACETONE EXCEEDANCES OF THE CLEANUP CRITERIA. SAMPLE LOCATIONS WITH RESULTS EXCEEDING THE CLEANUP CRITERIA WERE INCLUDED WITHIN THE LIMIT OF EXCAVATION LINE (WITH THE EXCEPTION OF SS-26 AND SS-62). VERTICAL DELINEATION OF SEDIMENT IMPACTS WAS BASED ON THE PHASE VII SAMPLING RESULTS, TAKING INTO ACCOUNT OLDER SAMPLE RESULTS, SAMPLE VARIABILITY, AND DRAG-DOWN. THE DEEPEST METHYLENE CHLORIDE SAMPLE CONCENTRATION EXCEEDING THE CLEANUP CRITERIA FROM THE MOST RECENT SAMPLE RESULTS AVAILABLE AT THE TIME OF THE DESIGN ARE INCLUDED FOR EACH SAMPLE LOCATION WITHIN THE LIMIT OF EXCAVATION AREA ON THIS DRAWING (WITH THE CORRESPONDING SAMPLE DEPTH).

2. THE INTENT OF THE DESIGN WAS TO ACHIEVE THE ELEVATIONS SHOWN ON DRAWING C-5 OF THE REMEDIAL ACTION SELECTION / DESIGN REPORT, (WITH A MAXIMUM OVERDREDGE TOLERANCE OF -0.5 FEET) WITHIN THE LIMITS OF EXCAVATION LINE. COORDINATES OF THE PROPOSED LIMITS OF EXCAVATION LINE ARE SHOWN ON THE DRAWING. THE LIMITS OF EXCAVATION LINE AND THE DAYLIGHT LINE EXCEED THE LIMIT OF IMPACTS FOR CONSTRUCTABILITY, TO ACCOMMODATE REASONABLE STANDARDS OF EXCAVATION CONTROL, AND TO ENSURE THE MAJORITY OF IMPACTED SEDIMENTS ARE REMOVED. AREAS WHERE THE EXCAVATION IS MORE SHALLOW WERE DESIGNED TO ACCOMODATE SLOPE STABILITY AND SHEETPILE WALL SUPPORT. THE SIDE SLOPES OF THE EXCAVATION AREAS (THE AREA BETWEEN THE LIMITS OF EXCAVATION AND DAYLIGHT LINE) AND FACE OF THE RIVER BANK WERE TO BE CUT AT AN APPROXIMATE 4:1 SLOPE TO MINIMIZE SIDEWALL COLLAPSE. IF FIELD CONDITIONS PERMITED, SLOPES MAY HAVE BEEN MODIFIED WITH THE ENGINEER'S PERMISSION.

3. THE ENGINEER COLLECTED POST-EXCAVATION RIVER SEDIMENT SAMPLES AT THE LOCATIONS SHOWN ON THIS DRAWING. IF SEDIMENT CONCENTRATIONS EXCEEDED 1133 PPB FOR METHYLENE CHLORIDE OR 773 PPB FOR ACETONE, THE ENGINEER, NYSDEC, AND THE USACE WORKED TOGETHER TO DETERMINE THE APPROPRIATE ACTION. THIS TYPCIALLY CONSISTED OF ADDITIONAL DREDGING.

4. BASE MAP PROVIDED BY LABELLA ASSOCIATES, PC, ROCHESTER, NY

5. THIS DRAWING WAS DERIVED FROM DRAWING C-3 OF THE AMEC OCTOBER, 2003 REMEDIAL ACTION SELECITON / DESIGN REPORT.

NORTH

GRAPHIC SCALE

20 0 10 20 40

(IN FEET)
1 inch = 20 ft.

NO.	DATE	REVISION	BY	CHK'D	APPR.
1	10/2/03	SUBMITTED TO NYSDEC AND USACE	KC	TPA	MTD
2	3/16/04	MODIFIED NOTES, ADDED COORDINATES FOR EXCAVATION LIMIT	KC	TPA	MTD
3	5/18/05	MODIFIED NOTES, CHANGED DRAWING NUMBER FOR REPORT	TPA	MTD	
4					
5					

CSX TRANSPORTATION

PROFESSIONAL ENGINEER

amec EARTH & ENVIRONMENTAL, INC.
ONE PLYMOUTH MEETING, SUITE 850
PLYMOUTH MEETING, PA 19462-1308

DREDGING SUMMARY REPORT

PREPARED FOR: CSX TRANSPORTATION, INC.
SUBMITTED TO: MANAGER OF ENVIRONMENTAL REMEDIATION
500 WATER STREET, J-275
JACKSONVILLE, FL 32202
CONTACT: PAUL KURZANSKI

DREDGING SUMMARY REPORT
CSXT GENESEE RIVER SITE
ROCHESTER, NEW YORK

TITLE: PLUME DELINEATION

DRAWN BY NKC	CHECKED BY MTD	DATE 08/21/03
SCALE AS SHOWN	DRG. NO. Figure 2	SHEET NA

LEGEND

FEDERAL WETLAND LIMIT	SECURITY FENCE
EXISTING MEAN HIGH WATER LEVEL EL. 249.15 (CITY), 247.30 (IGLD 1985)	LIMITS OF ASHPHALT PAVEMENT
PALYSTRINE WETLANDS – PER DRAFT WETLAND DELINEATION REPORT BY FISHER ASSOCIATES	LIMITS OF ASPHALT CURBING
	JERSEY BARRIER & SPLASH LINER
	SURFACE WATER FLOW DIRECTION

NOTES:

1. DRAWING NOT TO SCALE
2. BASE MAP PROVIDED BY FRA ENGINEERING, PC, HENRIETTA, NY
3. SITE LAYOUT DRAWING PROVIDED BY DA COLLINS, MECHANICVILLE, NY

NO.	DATE	COMMENTS	BY	CHK'D	APPR.
1	5/18/05	PLACED INTO AMEC BORDER, LEGEND AND NOTES ADDED	NKC	TPA	MTD
2					
3					
4					
5					

CSX TRANSPORTATION

PROFESSIONAL ENGINEER

amec EARTH & ENVIRONMENTAL, INC.
ONE PLYMOUTH MEETING, SUITE 850
PLYMOUTH MEETING, PA 19462–1308

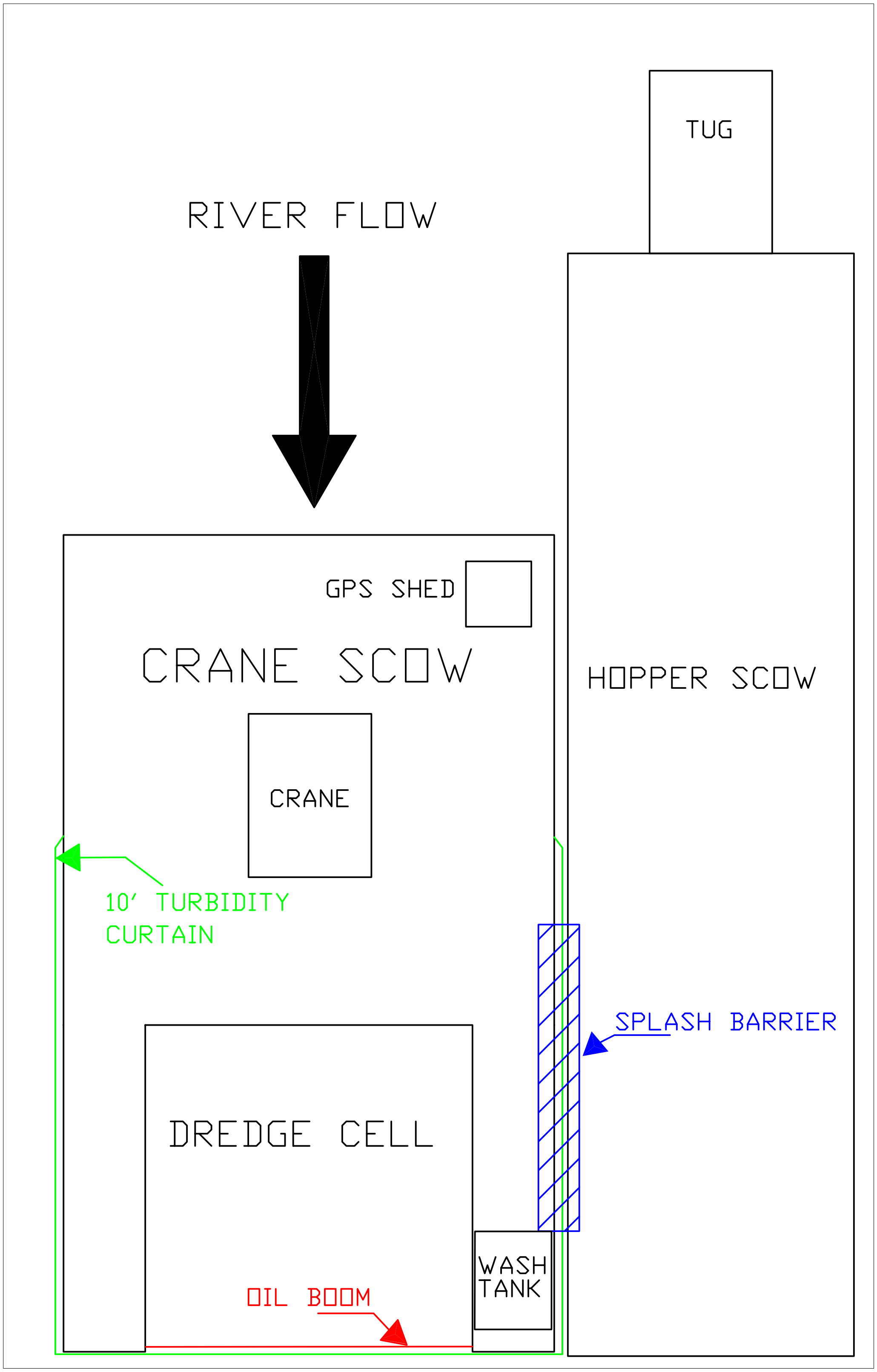
DREDGING SUMMARY REPORT

PREPARED FOR: CSX TRANSPORTATION, INC.
SUBMITTED TO: MANAGER ENVIRONMENTAL REMEDIATION
500 WATER STREET, J–275
JACKSONVILLE, FL 32202
CONTACT: PAUL KURZANSKI

REMEDIAL DESIGN
CSXT GENESEE RIVER SITE
ROCHESTER, NEW YORK

TITLE
PETTEN ST. SEDIMENT PROCESSING AND OFFLOADING PAD

DRAWN BY KC | CHECKED BY TPA | DATE 05/18/05
SCALE NTS | DRG. NO. FIGURE 3 | SHEET



NOTES:

1: THIS DRAWING REPRESENTS THE TYPICAL DREDGE CELL SETUP UTILIZED. ACTUAL CONFIGURATION VARRIED SLIGHTLY THROUGHOUT THE PROJECT. HOWEVER, THE CONCEPT AND ENVIRONMENTAL PROTECTION MEASURES REMAINED IN TACT.

REV	D/M/Y	REVISION	DRN	CHK	APP	APP	APP	APP
B	05/18/05	AS-BUILT, EDITED TITLE BLOCK	TPA	KC				
A	09/15/04	ORIGINAL	TPA	KC				

ISS	D/M/Y	APP	ISSUED FOR
02	05/18/05	TPA	DREDGING SUMMARY REPORT
01	09/14/04	TPA	CSXT, NYSDEC, USACE

	BY	D/M/Y
DSN.	TPA	09/15/04
DRN.	TPA	09/15/04

PROJECT NO. 6-4300-8526

PROJECT PHASE 0000

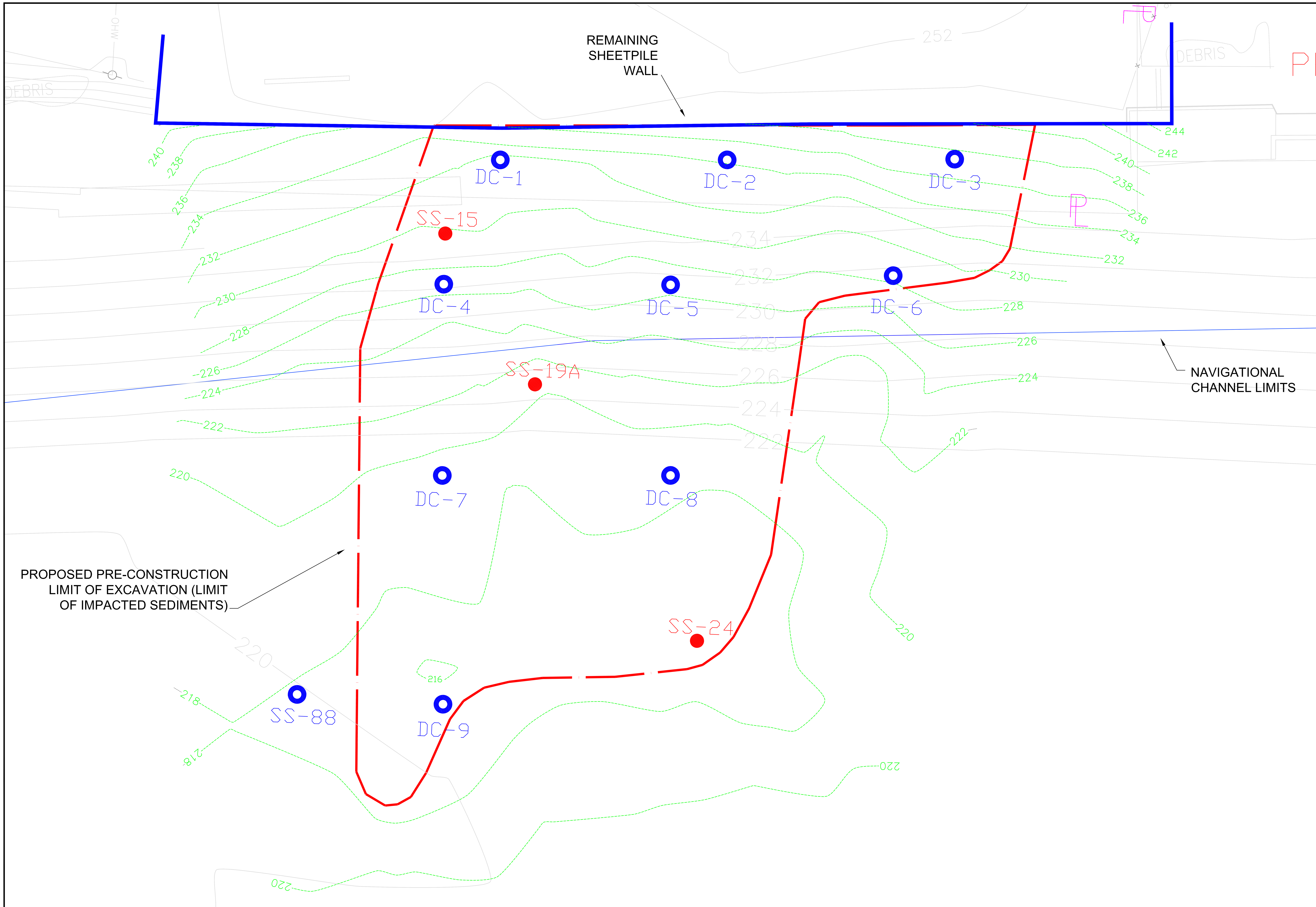
SCALE 1=20

amec

SUBJECT
CSX_TRANSPORTATION,_INC.
DREDGING_SUMMARY_REPORT
DREDGE_CELL_LAYOUT

DRAWING NO. FIGURE-4

REV. B



LEGEND:

- PRE-EXISTING RIVER BOTTOM CONTOUR
- POST-DREDGING RIVER BOTTOM CONTOUR
- DREDGING CLOSURE SAMPLE LOCATION
- SEDIMENT MONITORING SAMPLE LOCATION
- PROPOSED LIMIT OF EXCAVATION (LIMIT OF IMPACTED SEDIMENTS)

NOTES:

1. BATHYMETRIC SURVEY SERVICES WERE PROVIDED BY THEW ASSOCIATES, CANTON, NY TO DOCUMENT AS-BUILT CONDITIONS.
2. AMEC COLLECTED POST-DREDGING RIVER SEDIMENT SAMPLES AT A DEPTH OF 0 TO 0.5 FEET BELOW THE EXCAVATION BOTTOM AT THE LOCATIONS IDENTIFIED ON THIS DRAWING AS DC-#.
3. THE EXISTING SHEET PILE WALL WAS LEFT IN PLACE AND CUT FLUSH WITH THE RIVER BED.
4. ORIGINAL BASE MAP PROVIDED BY LABELLA ASSOCIATES, PC, ROCHESTER, NY

NORTH

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

NO.	DATE	SUBJECT	BY	CHK'D	APPR.
1	05/18/05	ADDED POST DREDGING CONTOURS, ADJUSTED TITLE BLOCK	KC	TPA	MTD
2					
3					
4					
5					

CSX TRANSPORTATION

amec EARTH & ENVIRONMENTAL, INC.
ONE PLYMOUTH MEETING, SUITE 850
PLYMOUTH MEETING, PA 19462-1308

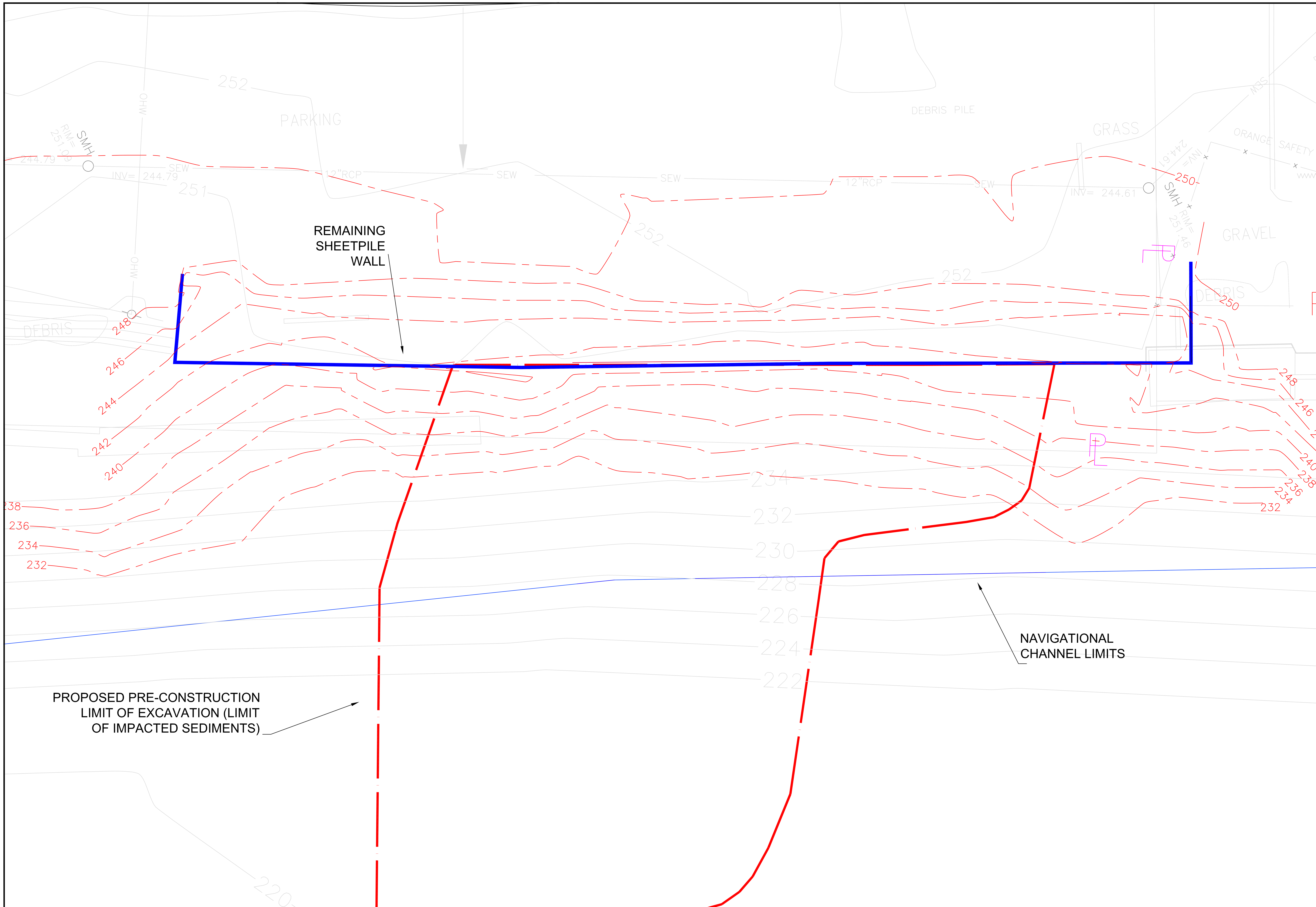
DREDGING SUMMARY REPORT

PREPARED FOR: CSX TRANSPORTATION, INC.
SUBMITTED TO: MANAGER ENVIRONMENTAL REMEDIATION
500 WATER STREET, J-275
JACKSONVILLE, FL 32202
CONTACT: PAUL KURZANSKI

DREDGING SUMMARY REPORT
CSXT GENESEE RIVER SITE
ROCHESTER, NEW YORK

TITLE
POST DREDGING SURVEY

DRAWN BY	KC	CHECKED BY	MTD	DATE	02/21/05
SCALE	AS SHOWN	DRG. NO.	FIG. 5	SHEET	



LEGEND:

PRE-EXISTING RIVER BOTTOM CONTOUR

POST-CAP RIVER BOTTOM CONTOUR

PROPOSED LIMIT OF EXCAVATION

NOTES:

1. BATHYMETRIC SURVEY SERVIES WERE PROVIDED BY THEW ASSOCIATES, CANTON, NY TO DOCUMENT AS-BUILT CONDITIONS.

2. THE EXISTING SHEET PILE WALL WAS LEFT IN PLACE AND CUT AT ELEVATION 240.65 IGLD85.

3. AN 18" CAP OF NYSDOT LIGHT STONE FILL WAS PLACED ALONG THE SHEETPILE WALL WITHIN THE CITY'S PROPERTY LINE. THE CONTOURS OF THE CAP ARE SHOWN ON THIS DRAWING.

4. BASE MAP WAS PROVIDED BY LABELLA ASSOCIATES, PC, ROCHESTER, NY

NORTH

GRAPHIC SCALE

10 0 5 10 20

(IN FEET)
1 inch = 10 ft.

NO.	DATE	REVISION	BY	CHK'D	APPR.
1	05/18/05	ADDED POST CAP CONTOURS, EDITED TITLE BLOCK	KC	TPA	MTD
2					
3					
4					
5					

CSX TRANSPORTATION

amec EARTH & ENVIRONMENTAL, INC.
ONE PLYMOUTH MEETING, SUITE 850
PLYMOUTH MEETING, PA 19462-1308

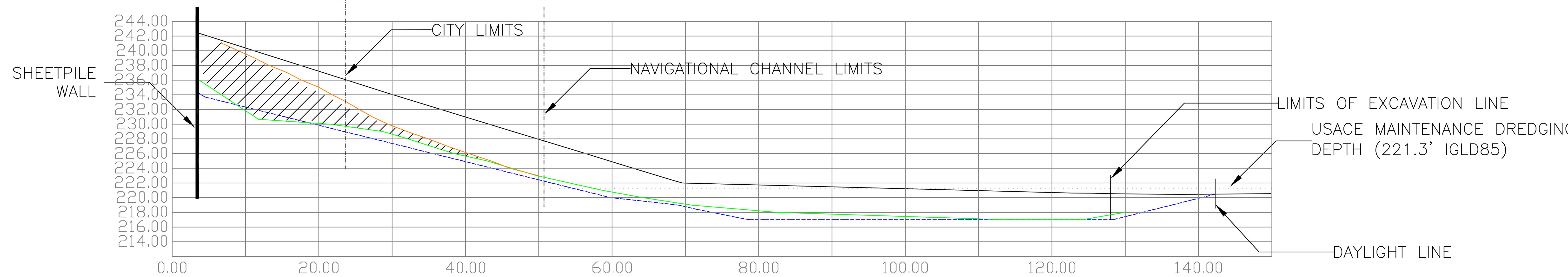
DREDGING SUMMARY REPORT

PREPARED FOR: CSX TRANSPORTATION, INC.
SUBMITTED TO: MANAGER ENVIRONMENTAL REMEDIATION
500 WATER STREET, J-275
JACKSONVILLE, FL 32202
CONTACT: PAUL KURZANSKI

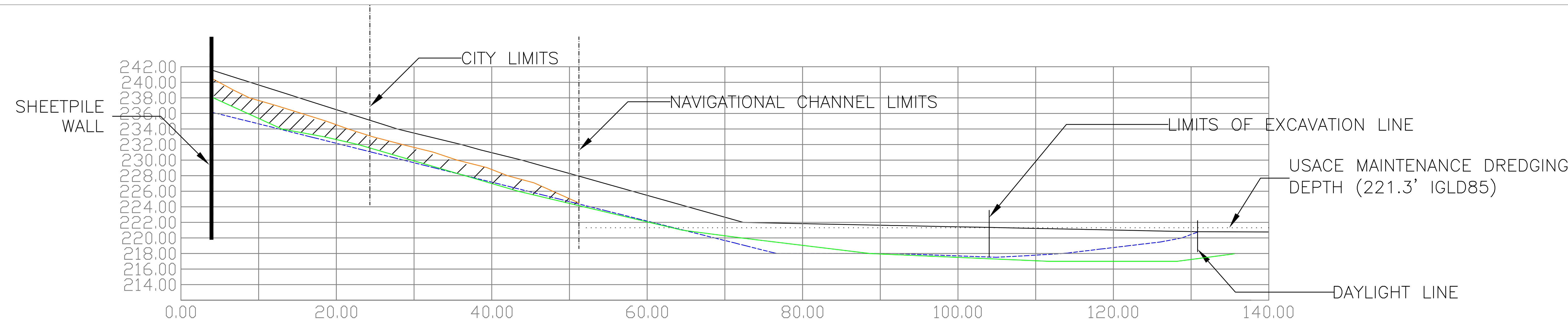
DREDGING SUMMARY REPORT
CSXT GENESEE RIVER SITE
ROCHESTER, NEW YORK

TITLE: POST CAP SURVEY

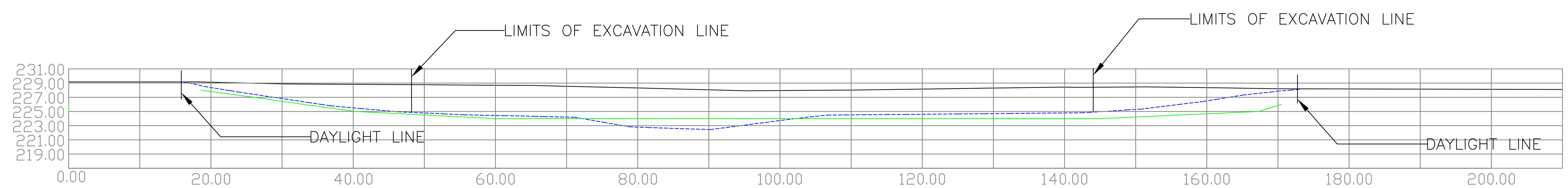
DRAWN BY KC	CHECKED BY TPA	DATE 02/21/05
SCALE AS SHOWN	DRG. NO. FIG. 6	SHEET



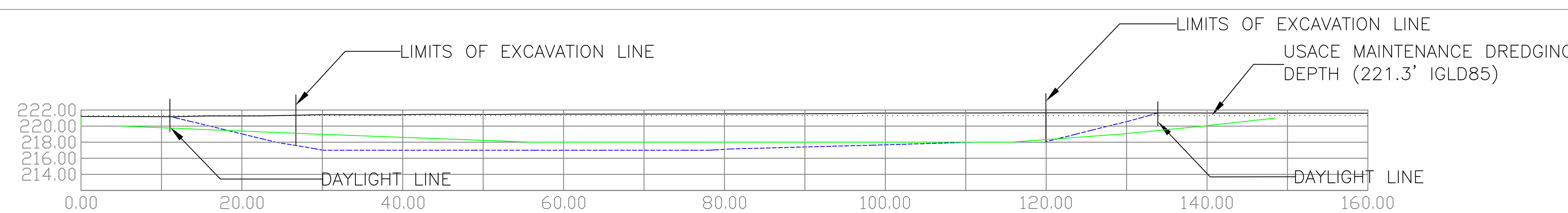
CROSS-SECTION A-A'



CROSS-SECTION B-B'



CROSS-SECTION C-C'



CROSS-SECTION D-D'

LEGEND:

- PRE-EXISTING CHANNEL BOTTOM
- POST-DREDGING SURVEY
- POST-DREDGING STONE CAP SURVEY
- PROPOSED EXCAVATION CHANNEL BOTTOM
- USACE MAINTENANCE DREDGING DEPTH (221.3' IGLD85)
- STONE BACKFILL

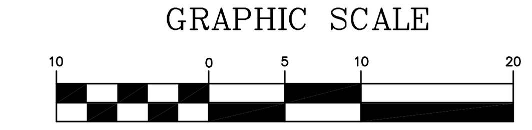
NOTES:

1. THE CONTRACTOR SHALL EXCAVATE WITHIN THE LIMITS OF EXCAVATION LINE TO THE DEPTHS SHOWN TO AN OVERDREDGE TOLERANCE OF −0.5 FEET. THE MAXIMUM TOLERANCE LINE (MAXIMUM ALLOWABLE EXCAVATION DEPTH) IS SHOWN ON EACH CROSS-SECTION ON THIS DRAWING. THE SIDE SLOPES OF THE DREDGING AREAS (THE AREA BETWEEN THE LIMITS OF EXCAVATION AND DAYLIGHT LINE) ARE ASSUMED TO BE CUT AT AN APPROXIMATE 4:1 SLOPE TO MINIMIZE SIDEWALL COLLAPSE.

2. THE USACE MAINTENANCE DREDGING DEPTH IS NOT SHOWN ON SECTION C-C' BECAUSE THE CROSS-SECTION IS LOCATED OUTSIDE OF THE LIMITS OF THE NAVIGATIONAL CHANNEL.

TOP OF SHEET PILE WALL ELEVATION = 249.3' IGLD85 (APPROX.)
BOTTOM ELEVATION OF SHEETPILE WALL = 219.8' IGLD85 (APPROX.)
MEAN HIGH WATER LEVEL = 247.3 FT IGLD85 VERTICAL DATUM
MEAN LOW WATER LEVEL = 243.3 FT IGLD85 VERTICAL DATUM

GRAPHIC SCALE



(IN FEET)
1 inch = 10 ft.

NO.	DATE		BY	CHK'D	APPR.
1	10/2/03	SUBMITTED TO NYSDEC AND USACE	KC	TPA	MTD
2	3/16/04	MODIFIED NOTES, ADDED BACKFILL ON CROSS-SECTIONS A-A' AND B-B'	KC	TPA	MTD
3	5/18/04	ADDED PRE AND POST DREDGING SURVEYS, EDITED TITLE BLOCK	KC	TPA	MTD
4					
5					

CSX TRANSPORTATION

PROFESSIONAL ENGINEER

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ONE PLYMOUTH MEETING, SUITE 850
PLYMOUTH MEETING, PA 19462-1308

DREDGING SUMMARY REPORT

PREPARED FOR: CSX TRANSPORTATION, INC.
SUBMITTED TO: MANAGER ENVIRONMENTAL REMEDIATION
500 WATER STREET, J-275
JACKSONVILLE, FL 32202
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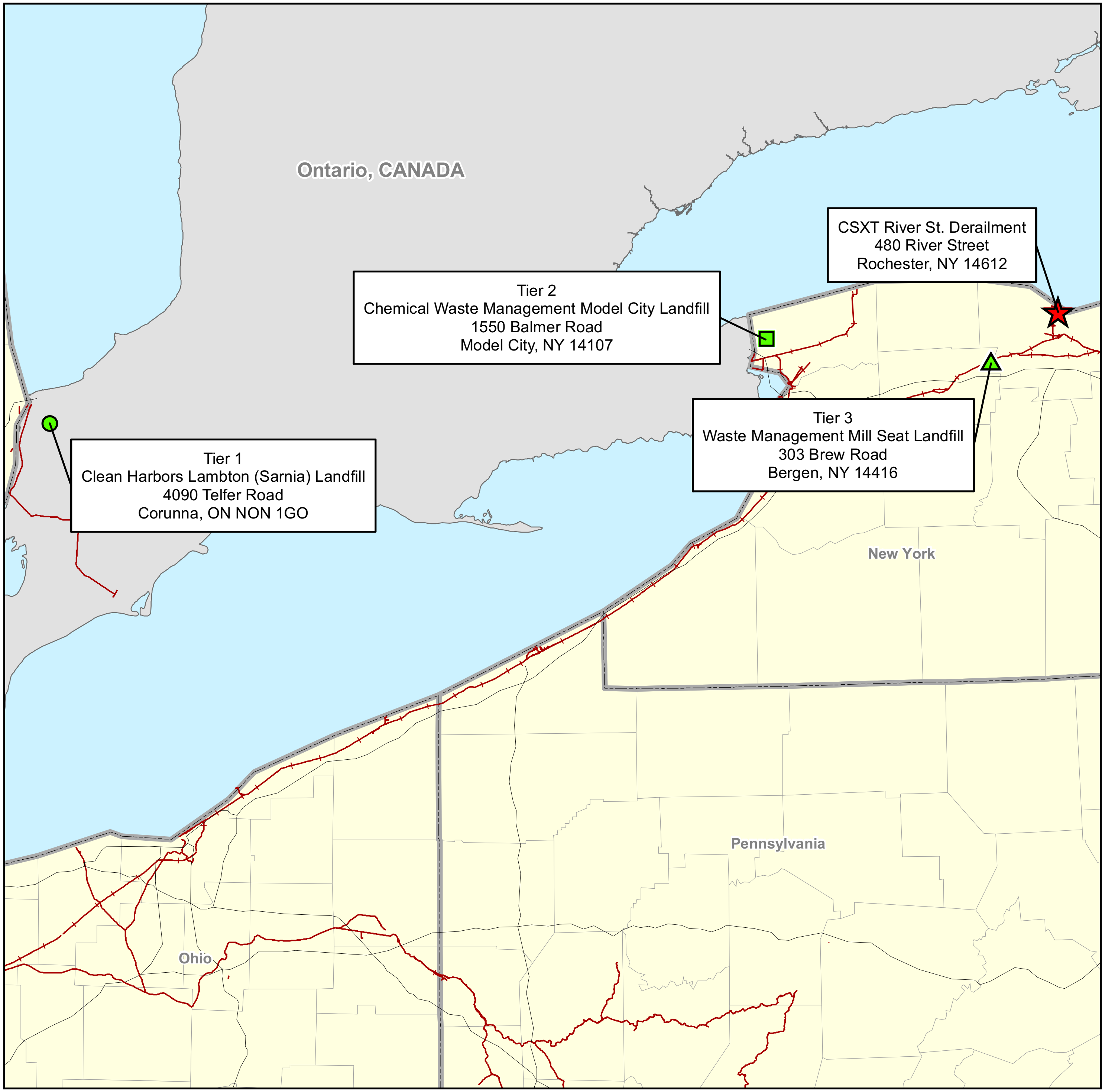
DREDGING SUMMARY REPORT
CSXT GENESEE RIVER SITE
ROCHESTER, NEW YORK

TITLE: DREDGING CROSS-SECTIONS

DRAWN BY KC	CHECKED BY MTD	DATE 05/18/03
SCALE AS SHOWN	DRG. NO. FIGURE 7	SHEET



CSX TRANSPORTATION

Public Safety & Environment

Disposal Facilities Location Map

CSXT River St. Derailment
480 River Street
Rochester, NY 14612

Figure 8

Monroe County New York

LOCATOR

LEGEND

- Tier 1
- Tier 2
- Tier 3
- CSX Rail
- Roads
- State Boundary

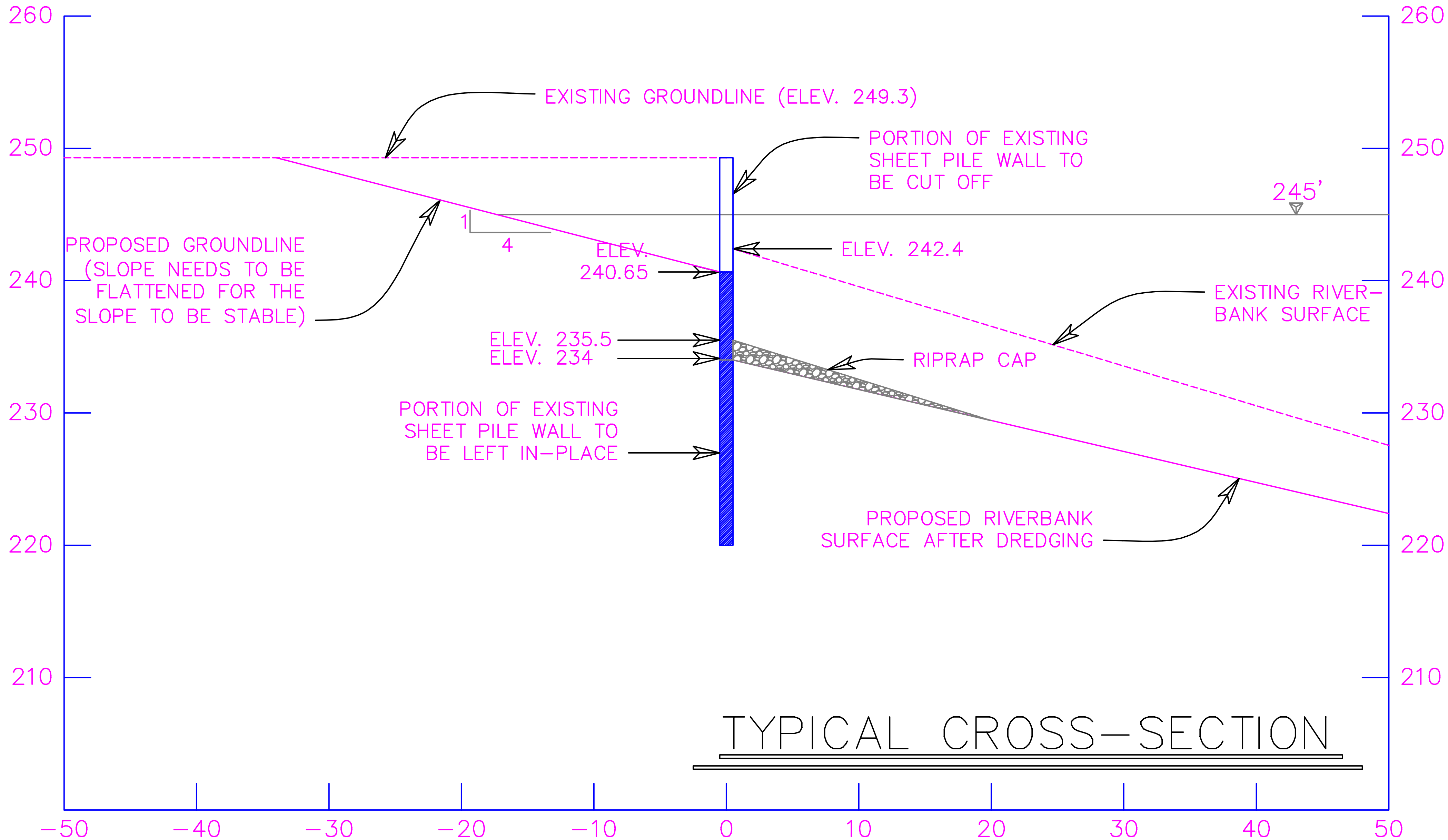
NOTES & SOURCES

Aerial Imagery Source: USGS
Projection: NAD 83 UTM Zone 17N
Map Created: 16 May 2005

0 25
Miles

N
W E
S

AMEC Earth & Environmental, Inc.
Westford, Massachusetts



TYPICAL CROSS–SECTION

NOTE: 1. THE CITY OF ROCHESTER OR OTHER DESIGNERS CAN NOT COUNT ON ANY LATERAL SUPPORT FROM THE SHEET PILE WALL IN THE DESIGN OF FUTURE STRUCTURES.
2. ALL ELEVATION ARE BASED ON IGLD85 DATUM.
3. THE WESTERN LIMITS OF THE USACE NAVIGABLE CHANNEL IS LOCATED APPROXIMATELY 43' FROM THE EXISTING SHEET PILE WALL.

NO.	REVISIONS:	BY	DATE
1	TITLE BLOCK CHANGES FOR SUMMARY REPORT	TPA	05/18/05

DREDGING SUMMARY REPORT
IMPLEMENTED RESOLUTION FOR SHEETPILE WALL
CSXT RIVER ST. DERAILMENT
ROCHESTER, NEW YORK

PREPARED FOR: CSX TRANSPORTATION

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amec

SCALE: GRAPHIC

FIGURE 9

FILE: 6–4300–8526

DR: MLK | CHK: MLK | REV: JHE

DATE: 5/17/04

SHEET 1 OF 1

Public Safety & Environment

Community Air Monitoring Plan Integrated Sampling Locations

CSXT River Street Project Dredging Phase

Figure 10

Monroe County New York

LOCATOR

LEGEND

- ○ Sampling Location
- ● Areas of Interest

NOTES & SOURCES

0 300 Feet

The above samples were collected at the Sediment Processing Area, 110 Petten St. Rochester, NY 14612
Aerial Imagery Source: USGS
Projection: NAD 83 UTM Zone 18N
Map Created: 16 May 2005

Public Safety & Environment

Petten Street Background Sampling Locations

CSXT River Street Project Dredging Phase

Figure 11

Monroe County New York

LOCATOR

LEGEND

○ Sampling Location

NOTES & SOURCES

0 120 Feet

N W E S

The above samples were collected at the Sediment Processing Area, 110 Petten St. Rochester, NY 14612
Aerial Imagery Source: USGS
Projection: NAD 83 UTM Zone 18N
Map Created: 19 May 2005

TABLES

Table 1
River Quality Turbidity Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Location	Date	Time	Turbidity (NTU)
Upstream	09/16/2004	15:25	250
Downstream	09/16/2004	15:15	249
Upstream	09/17/2004	12:48	187
Downstream	09/17/2004	12:35	162
Upstream	09/20/2004	10:22	104
Downstream	09/20/2004	10:11	103
Upstream	09/20/2004	16:12	96
Downstream	09/20/2004	16:05	87
Upstream	09/21/2004	14:20	318
Downstream	09/21/2004	14:20	335
Upstream	09/22/2004	15:21	268
Downstream	09/22/2004	15:35	266
Upstream	09/23/2004	9:50	257
Downstream	09/23/2004	10:00	248
Upstream	09/23/2004	14:49	248
Downstream	09/23/2004	14:55	237
Upstream	09/24/2004	9:50	202
Downstream	09/24/2004	10:00	**381**
Upstream	09/27/2004	15:05	198
Downstream	09/27/2004	14:58	206
Upstream	09/28/2004	10:40	240
Downstream	09/28/2004	10:30	275
Upstream	09/28/2004	12:10	80.9
Downstream	09/28/2004	12:20	78.2
Upstream	09/28/2004	13:45	75.6
Downstream	09/28/2004	13:50	74.2
Upstream	09/28/2004	15:30	77
Downstream	09/28/2004	15:35	72.5
Upstream	09/29/2004	8:30	55.9
Downstream	09/29/2004	8:40	60.2
Upstream	09/29/2004	11:10	45.5
Downstream	09/29/2004	11:20	**60.6**
Upstream	09/29/2004	16:20	83.5
Downstream	09/29/2004	16:25	81.6
Upstream	09/30/2004	9:15	28.4
Downstream	09/30/2004	9:20	27.7
Upstream	09/30/2004	13:45	36.1
Downstream	09/30/2004	13:40	34.9
Upstream	09/30/2004	15:20	39.7
Downstream	09/30/2004	15:25	32.7
Upstream	09/30/2004	16:30	36.1
Downstream	09/30/2004	16:35	36.2
Upstream	10/01/2004	9:10	25.4
Downstream	10/01/2004	8:50	25.8
Upstream	10/01/2004	13:40	32.2
Downstream	10/01/2004	13:45	32.6
Upstream	10/05/2004	8:30	21.5
Downstream	10/05/2004	8:32	21.6
Upstream	10/05/2004	11:10	20.5
Downstream	10/05/2004	11:15	20.2
Upstream	10/06/2004	8:23	19.8
Downstream	10/06/2004	8:27	20.3
Upstream	10/06/2004	11:26	17.8
Downstream	10/06/2004	11:21	17.9
Upstream	10/07/2004	9:41	24.9
Downstream	10/07/2004	9:29	29.4
Upstream	10/07/2004	13:32	16.3
Downstream	10/07/2004	13:30	16.7
Upstream	10/07/2004	15:05	18.7
Downstream	10/07/2004	15:10	15.8

Table 1
River Quality Turbidity Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Location	Date	Time	Turbidity (NTU)
Upstream	10/08/2004	8:50	12.8
Downstream	10/08/2004	8:55	13.8
Upstream	10/08/2004	9:40	14.5
Downstream	10/08/2004	9:45	15.2
Upstream	10/11/2004	9:40	12.6
Downstream	10/11/2004	9:50	12
Upstream	10/11/2004	13:42	14.7
Downstream	10/11/2004	13:40	15.5
Upstream	10/12/2004	9:28	14.8
Downstream	10/12/2004	9:15	17.4
Upstream	10/13/2004	9:00	14.4
Downstream	10/13/2004	9:15	16.2
Upstream	10/13/2004	11:31	14.4
Downstream	10/13/2004	11:38	15
Upstream	10/13/2004	14:55	13.4
Downstream	10/13/2004	15:00	15.4
Upstream	10/13/2004	16:45	13.4
Downstream	10/13/2004	16:50	13.6
Upstream	10/14/2004	9:00	14.7
Downstream	10/14/2004	8:50	12.5
Upstream	10/14/2004	12:10	14.9
Downstream	10/14/2004	12:00	15.9
Upstream	10/15/2004	7:45	13.9
Downstream	10/15/2004	7:50	13.7
Upstream	10/15/2004	9:45	14.9
Downstream	10/15/2004	10:05	15.2
Upstream	10/15/2004	11:35	14.8
Downstream	10/15/2004	11:30	15.4
Upstream	10/18/2004	8:00	17
Downstream	10/18/2004	8:05	17.3
Upstream	10/18/2004	10:00	17.5
Downstream	10/18/2004	10:03	16.1
Upstream	10/18/2004	11:20	15.6
Downstream	10/18/2004	11:17	16.8
Upstream	10/18/2004	14:00	14.7
Downstream	10/18/2004	14:05	**19**
Upstream	10/18/2004	15:30	13.2
Downstream	10/18/2004	15:33	**17.3**
Upstream	10/19/2004	9:35	24
Downstream	10/19/2004	9:30	25.4
Upstream	10/19/2004	10:37	22.4
Downstream	10/19/2004	10:33	23.3
Upstream	10/19/2004	13:50	27.2
Downstream	10/19/2004	14:00	26.4
Upstream	10/19/2004	16:05	27.7
Downstream	10/19/2004	16:10	27.8
Upstream	10/20/2004	9:43	22.5
Downstream	10/20/2004	9:54	20.4
Upstream	10/20/2004	11:34	21.2
Downstream	10/20/2004	11:42	24
Upstream	10/20/2004	13:55	20.3
Downstream	10/20/2004	14:03	22
Upstream	10/20/2004	15:40	18.6
Downstream	10/20/2004	15:43	22.2
Upstream	10/21/2004	9:30	18.7
Downstream	10/21/2004	9:33	14.2
Upstream	10/21/2004	11:40	15.7
Downstream	10/21/2004	11:43	18.6
Upstream	10/21/2004	13:45	16.3
Downstream	10/21/2004	13:55	19.6

Table 1
River Quality Turbidity Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Location	Date	Time	Turbidity (NTU)
Upstream	10/21/2004	15:40	17.4
Downstream	10/21/2004	15:50	20.1
Upstream	10/22/2004	7:45	21.6
Downstream	10/22/2004	7:50	17.4
Upstream	10/22/2004	10:25	17.3
Downstream	10/22/2004	10:40	18.1
Upstream	10/22/2004	12:25	19.1
Downstream	10/22/2004	12:30	20.8
Upstream	10/25/2004	9:30	15.8
Downstream	10/25/2004	9:40	16.1
Upstream	10/25/2004	11:40	16.1
Downstream	10/25/2004	11:50	16.8
Upstream	10/25/2004	15:35	21.9
Downstream	10/25/2004	15:40	20.3
Upstream	10/26/2004	9:50	18.4
Downstream	10/26/2004	10:00	19.6
Upstream	10/26/2004	12:00	19.7
Downstream	10/26/2004	12:05	19.9
Upstream	10/26/2004	15:40	19.9
Downstream	10/26/2004	15:45	18.5
Upstream	10/27/2004	8:40	28.8
Downstream	10/27/2004	8:50	31.5
Upstream	10/27/2004	10:47	39.3
Downstream	10/27/2004	10:50	38.6
Upstream	10/28/2004	13:20	37.3
Downstream	10/28/2004	13:35	37.6
Upstream	10/29/2004	12:05	49.9
Downstream	10/29/2004	12:10	39
Upstream	11/03/2004	10:10	38.7
Downstream	11/03/2004	10:22	29.7
Upstream	11/04/2004	11:15	31.6
Downstream	11/04/2004	11:25	25.3
Upstream	11/04/2004	13:05	30.2
Downstream	11/04/2004	13:08	28.7

Notes:
Bold Face numbers indicate downstream values which exceeded the upstream values by greater then 20%.

Table 2
Petten Street Sub-Pad Analytical
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Sample Depth	Sample Date	Acetone		Methylene Chloride		Sampler	Pre/Post Dredging
Petten 1	0-2	24-Aug-04	*170*		*5*		AMEC	Pre
	0-2	24-Aug-04	47	U	23.5	U	LaBella	Pre
	2-4	24-Aug-04	28	U	6	U	AMEC	Pre
	0-2	19-Jan-05	25	U	5	U	AMEC	Post
	0-2	19-Jan-05	49.9	U	24.9	U	LaBella	Post
Petten 2	0-2	24-Aug-04	30	U	6	U	AMEC	Pre
	0-2	24-Aug-04	40.6	U	20.3	U	LaBella	Pre
	2-4	24-Aug-04	28	U	*6*		AMEC	Pre
	0-2	19-Jan-05	30	U	6	U	AMEC	Post
	0-2	19-Jan-05	51.1	U	*73.4*		LaBella	Post
Petten 3	0-2	24-Aug-04	30	U	6	U	AMEC	Pre
	0-2	24-Aug-04	*1,870*		28.4	U	LaBella	Pre
	2-4	24-Aug-04	*78*		*5*	J	AMEC	Pre
	0-2	15-Dec-04	27	U	*45*		AMEC	Post
	0-2	15-Dec-04	518	U	*1,240*		LaBella	Post
	0-2	19-Jan-05	28	U	6	U	AMEC	Post
	0-2	19-Jan-05	52.7	U	26.4	U	LaBella	Post
Petten 4	0-2	24-Aug-04	35		6	U	AMEC	Pre
	0-2	24-Aug-04	46.1	U	23.1	U	LaBella	Pre
	2-4	24-Aug-04	50		*7*		AMEC	Pre
	0-2	15-Dec-04	27	U	*56*		AMEC	Post
	0-2	15-Dec-04	47.3	U	*85.2*		LaBella	Post

Notes:
U = indicates compound was not detected at the stated limit

J = indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectra data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
Italics face values indicated compound was detected.
All units are in ug/kg

Table 3
River Quality COC Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Sample Date	Acetone ppb		Methylene Chloride ppb		Comments
Upstream	16-Sep-04	20	U	5	U	
Downstream	16-Sep-04	20	U	5	U	
Upstream	21-Sep-04	20	U	5	U	
Downstream	21-Sep-04	20	U	5	U	
Upstream	23-Sep-04	20	U	5	U	
Downstream	23-Sep-04	20	U	5	U	
Upstream	28-Sep-04	20	U	5	U	12:10
Downstream	28-Sep-04	20	U	5	U	12:20
Upstream	28-Sep-04	20	U	5	U	15:10
Downstream	28-Sep-04	20	U	5	U	14:00
Upstream	29-Sep-04	20	U	5	U	
Downstream	29-Sep-04	20	U	5	U	
Upstream	30-Sep-04	20	U	5	U	
Downstream	30-Sep-04	20	U	5	U	
Upstream	1-Oct-04	20	U	5	U	
Downstream	1-Oct-04	20	U	5	U	
Upstream	5-Oct-04	20	U	5	U	
Downstream	5-Oct-04	20	U	5	U	
Downstream2	5-Oct-04	20	U	5	U	Duplicate
Upstream	6-Oct-04	20	U	5	U	
Downstream	6-Oct-04	20	U	36		
Upstream	7-Oct-04	20	U	5	U	
Downstream	7-Oct-04	20	U	**110**		
Upstream	7-Oct-04	20	U	5	U	
Downstream	7-Oct-04	20	U	**7.7**		
Upstream	8-Oct-04	20	U	5	U	
Downstream	8-Oct-04	20	U	5	U	
Upstream	11-Oct-04	20	U	5	U	
Downstream	11-Oct-04	20	U	**5.6**		
Upstream	12-Oct-04	20	U	5	U	
Downstream	12-Oct-04	20	U	**49**		
Upstream	13-Oct-04	20	U	5	U	
Downstream	13-Oct-04	20	U	5.2		
Upstream	14-Oct-04	5	U	2	U	
Downstream	14-Oct-04	5	U	**5.6**		
Upstream	15-Oct-04	20	U	5	U	
Downstream	15-Oct-04	20	U	**5.6**		
Downstream A	15-Oct-04	20	U	**5.6**		Duplicate
Upstream	18-Oct-04	5	U	2	U	
Downstream	18-Oct-04	5	U	2	U	
Upstream	19-Oct-04	5	U	2	U	
Downstream	19-Oct-04	5	U	**19**		
Upstream	20-Oct-04	5	U	2	U	
Downstream	20-Oct-04	5	U	**26**		
Upstream	21-Oct-04	5	U	2	U	
Downstream	21-Oct-04	5	U	**17**		
Upstream	22-Oct-04	5	U	2	U	
Downstream	22-Oct-04	5	U	**9.8**		
Upstream	25-Oct-04	5	U	2	U	
Downstream	25-Oct-04	5	U	2.8		
Upstream	26-Oct-04	5	U	2	U	
Downstream	26-Oct-04	5	U	**32**		
Downstream A	26-Oct-04	5	U	**31**		Duplicate
Upstream	27-Oct-04	5	U	2	U	
Downstream	27-Oct-04	5	U	**55**		
Upstream	28-Oct-04	5	U	5	U	
Downstream	28-Oct-04	5	U	**9.6**		
Upstream	29-Oct-04	20	U	5	U	
Downstream	29-Oct-04	20	U	5	U	
Upstream	3-Nov-04	20	U	5	U	
Downstream	3-Nov-04	20	U	5	U	
Upstream	4-Nov-04	20	U	5	U	
Downstream	4-Nov-04	20	U	**12**		

Notes:
U= indicates compound was not detected at the stated limit
Bold face values indicated compound was detected.
All units are in ug/kg

Table 4
Dredging Sediment Closure Samples
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Sample Date	Acetone		Methylene Chloride	
		ppb		ppb	
DC-1	10/22/2004	720	U	10,000	
	10/27/2004	**390**	**U**	**150**	**U**
DC-2	10/22/2004	**340**	**U**	**450**	
DC-3	10/22/2004	**330**	**U**	**130**	**U**
DC-4	10/21/2004	68,000	U	1,400,000	
	10/27/2004	350	U	24,000	
DC-5	10/22/2004	87,000	U	1,100,000	
	10/25/2004	3,700	U	100,000	
	10/27/2004	**340**	**U**	**140**	**U**
DC-6	10/25/2004	**360**	**U**	**140**	**U**
DC-7	10/26/2004	37,000	U	330,000	
	10/29/2004	270,000	U	1,800,000	
	11/04/2004	**350**	**U**	**140**	**U**
DC-8	10/26/2004	7,000	U	200,000	
	10/28/2004	1,400	U	1,900	
DC-9	10/25/2004	**380**	**U**	**850**	
SS-88	10/14/2004	33,000	U	290,000	
	10/26/2004	36,000	U	620,000	
	10/28/2004	140,000	U	940,000	
	11/04/2004	**110**		**8**	**U**
Dredging Sediment Closure Goals		**773**		**1,133**	

Notes:
U= indicates compound was not detected at the stated limit
Bold face values indicate those samples that meet RAO objectives of 773 ug/kg and 1,133 ug/kg for acetone and methylene chloride respectively.
All units are in ug/kg

Table 5
Post Dredging Monitoring Samples (Phase X)
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Sample Date	Acetone		Methylene Chloride		Comments
Sediment						
SS-15 1'	12-Apr-05	*65*		7	U	
SS-15 3'	12-Apr-05	*96*		7	U	
SS-15 7'	12-Apr-05	*62*		6	U	
SS-19A 0.5'	12-Apr-05	200,000	U	**1,200,000**		
SS-19A 2'	12-Apr-05	4,000	U	**12,000**		
SS-19A 4'	12-Apr-05	3,300	U	**1,300**		
SS-24 0.5'	12-Apr-05	*46*		6	U	
SS-24 2.5'	12-Apr-05	28	U	*11*		
SS-24 5'	12-Apr-05	26	U	*6*		
SS-24 10'	12-Apr-05	*52*		*6*		Duplicate of SS-24 0.5'
SS-88 0.5'	12-Apr-05	39	U	*34*		
SS-88 2'	12-Apr-05	7,400	U	**52,000**		
SS-88 4.5'	12-Apr-05	29	U	*180*		
SS-89 1'	12-Apr-05	*35*		7	U	
SS-89 3.5'	12-Apr-05	26	U	*15*		
SS-89 7'	12-Apr-05	*90*		6	U	
SS-90 0.5'	12-Apr-05	3,800	U	**2,400**		
SS-90 3'	12-Apr-05	*73*		*85*		
SS-90 6.5'	12-Apr-05	*76*		*17*		
SS-90 12'	12-Apr-05	4,100	U	**1,300**		Duplicate of SS-90 0.5'
Surface Water						
WS-1	18-Apr-05	25	U	5	U	
WS-2	18-Apr-05	25	U	5	U	
WS-3	18-Apr-05	25	U	5	U	

Notes:
U= indicates compound was not detected at the stated limit
Bold face values indicate compound was detected above the cleanup criteria.
Italic face values indicate compound was detected but is not above the cleanup criteria.
All units are in ug/kg

Table 6
Community COC Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Community Number	Date Sampled	Air Volume (L)	Location	Acetone (ppm)	Methylene Chloride (ppm)	Wind Direction	Weather
1A	09/23/2004	8.92	Riverview	<.1	<0.2	ENE	
1B	09/23/2004	10.22	Riverview	<.1	<0.1	ENE	
2A	09/23/2004	23.5	Residential	<0.05	<0.06	ENE	
2B	09/23/2004	11.07	Residential	<0.1	<0.1	ENE	
3A	09/23/2004	9.33	Marina	<0.1	<0.2	ENE	
3B	09/23/2004	9.4	Marina	<0.1	<0.2	ENE	
4A	09/23/2004	11.14	School	<0.1	<0.1	ENE	
4B	09/23/2004	9.81	School	<0.1	<0.1	ENE	
5A	09/23/2004	13.82	Tapecon	<0.09	<0.1	ENE	
5B	09/23/2004	10.75	Tapecon	<0.1	<0.1	ENE	
1A	09/24/2004	3.9	Riverview	<0.3	<0.4	ENE	
1B	09/24/2004	5.17	Riverview	<0.2	<0.3	ENE	
2A	09/24/2004	5.89	Residential	<0.2	<0.2	ENE	
2B	09/24/2004	5.21	Residential	<0.2	<0.3	ENE	
3A*	09/24/2004	5.57	Marina	<0.2	<0.2	ENE	
3B	09/24/2004	5.49	Marina	<0.2	<0.3	ENE	
4A	09/24/2004	7.01	School	<0.2	<0.2	ENE	
4B	09/24/2004	6.19	School	<0.2	<0.2	ENE	
5A	09/24/2004	6.29	Tapecon	<0.2	<0.2	ENE	
5B	09/24/2004	5.44	Tapecon	<0.2	<0.3	ENE	
1A	09/27/2004	6.08	Riverview	<0.2	<0.2	E	H. H.
1B	09/27/2004	6.07	Riverview	<0.2	<0.2	E	H. H.
2A	09/27/2004	6.34	Residential	<0.2	<0.2	E	H. H.
2B	09/27/2004	6.38	Residential	<0.2	<0.2	E	H. H.
3A	09/27/2004	7.05	Marina	<0.2	<0.2	E	H. H.
3B	09/27/2004	5.32	Marina	<0.2	<0.3	E	H. H.
4A	09/27/2004	5.84	School	<0.2	<0.2	E	H. H.
4B	09/27/2004	6.44	School	<0.2	<0.2	E	H. H.
5A	09/27/2004	6.19	Tapecon	<0.2	<0.2	E	H. H.
5B	09/27/2004	5.29	Tapecon	<0.2	<0.3	E	H. H.
1A	09/28/2004	17.27	Riverview	<0.07	<0.08	ENE	H. H.
1B	09/28/2004	15.66	Riverview	<0.08	<0.09	ENE	H. H.
2A	09/28/2004	14.4	Residential	<0.09	<0.1	ENE	H. H.
2B	09/28/2004	13.3	Residential	<0.1	<0.1	ENE	H. H.
3A	09/28/2004	10.94	Marina	<0.1	<0.1	ENE	H. H.
3B	09/28/2004	11	Marina	<0.1	<0.1	ENE	H. H.
4A	09/28/2004	14.75	School	<0.08	<0.1	ENE	H. H.
4B	09/28/2004	13.75	School	<0.09	<0.1	ENE	H. H.
5A	09/28/2004	15.17	Tapecon	<0.08	<0.09	ENE	H. H.
5B	09/28/2004	15.08	Tapecon	<0.08	<0.1	ENE	H. H.
1A	09/29/2004	16.148	Riverview	<0.08	<0.09	ENE	H. H.
1B	09/29/2004	14.654	Riverview	<0.09	<0.1	ENE	H. H.
2A	09/29/2004	13.803	Residential	<0.09	<0.1	ENE	H. H.
2B	09/29/2004	13.655	Residential	<0.09	<0.1	ENE	H. H.
3A	09/29/2004	13.691	Marina	<0.09	<0.1	ENE	H. H.
3B	09/29/2004	13.666	Marina	<0.09	<0.1	ENE	H. H.
4A	09/29/2004	14.624	School	<0.09	<0.1	ENE	H. H.
4B	09/29/2004	13.708	School	<0.09	<0.1	ENE	H. H.
5A	09/29/2004	14.92	Tapecon	<0.08	<0.1	ENE	H. H.
5B	09/29/2004	14.802	Tapecon	<0.08	<0.1	ENE	H. H.

Table 6
Community COC Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Community Number	***Date Sampled***	***Air Volume (L)***	***Location***	***Acetone (ppm)***	***Methylene Chloride (ppm)***	***Wind Direction***	***Weather***
1A	10/01/2004	13.484	Riverview	<0.09	<0.1	ENE	H. H.
1B	10/01/2004	12.236	Riverview	<0.1	<0.1	ENE	H. H.
2A	10/01/2004	11.687	Residential	<0.1	<0.1	ENE	H. H.
2B	10/01/2004	9.803	Residential	<0.1	<0.1	ENE	H. H.
3A	10/01/2004	10.603	Marina	<0.1	<0.1	ENE	H. H.
3B	10/01/2004	10.453	Marina	<0.1	<0.1	ENE	H. H.
4A	10/01/2004	11.796	School	<0.1	<0.1	ENE	H. H.
4B	10/01/2004	11.021	School	<0.1	<0.1	ENE	H. H.
5A	10/01/2004	12.01	Tapecon	<0.1	<0.1	ENE	H. H.
5B	10/01/2004	12.047	Tapecon	<0.1	<0.1	ENE	H. H.
2A	10/07/2004	15.103	Residential	<0.08	NA	WNW	
2B	10/07/2004	13.491	Residential	NA	*0.32*	WNW	
2A	10/08/2004	11.393	Residential	<0.1	NA	W	
2B	10/08/2004	2.477	Residential	NA	<0.6	W	
2A	10/14/2004	14.846	Residential	<0.08	*0.23*	SSE	H. H.
2B	10/14/2004	13.723	Residential	<0.09	*0.31*	SSE	H. H.
5A	10/14/2004	17.424	Tapecon	<0.07	<0.08	SSE	H. H.
5B	10/14/2004	13.515	Tapecon	<0.09	<0.1	SSE	H. H.
Gastec Tube	10/19/2004	NA	Dredging Area, Downwind	ND	ND	E	
2A	10/20/2004	13.56	Residential	<0.08	*0.19*	ESE	H. H.
2A	10/21/2004	14.817	Residential	<0.08	<0.1	WNW	Rain
Gastec Tube	10/21/2004	NA	40' West of Dredging Area	ND	ND	WNW	Rain
2	10/25/2004	11.19	Residential	<0.1	<0.1	WNW	H. H.
2	10/26/2004	12.68	Residential	<0.1	<0.1	ENE	D. F.
Gastec Tube	10/26/2004	NA	Southwest of Staging Area	ND	ND	ENE	D. F.
Gastec Tube	10/26/2004	NA	Dredging Area	ND	ND	ENE	D. F.
5	11/04/2004	8.85	Tapecon	<0.1	<0.2	SSE	Rain
6	11/04/2004	8.62	Field Blank	<0.1	<0.2	SSE	Rain
2	11/05/2004	8.36	Residential	<0.2	<0.2	WNW	

Notes:
Locations:
Riverview - is to the south of the staging area at the Riverview Marina Sign.
Residential - is to the west of the staging area across the tracks.
Marina - is across the river from the dredging area at the Voyager Marina dock.
School - is west of the dredging location between the Tapecon parking lot and Holy Cross School.
Tapecon - is west of the dredging area along the eastern side of the Tapecon building.
Italic face print identifies a sample that was detected however is not above monitoring criteria
* Tube damaged, unable to analyze back section
H. H. = High Humidity. (High humidity is determined as any reading >80% humidity between the period of 07:00 and 17:00.)
D.F.. = Dense Fog
S.A.. = Staging Area
D.A. = Dredging Area.
ND = Non-detect

Table 7
Perimeter Particulate Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

	Date	Start Time	End Time	Up Wind / Down Wind	Location	TWA mg/m^3	Wind Direction	Weather	DustTrak Number
Week of 9/20 to 9/26	09/20/2004	14:21	16:21	NA	SA	0.009	NA		11
	09/20/2004	14:22	16:30	NA	SA	0.014	NA		8
	09/21/2004	10:33	17:12	NA	DA	0.02	NA		10
	09/21/2004	9:24	16:38	NA	SA	0.021	NA		8
	09/21/2004	11:28	17:13	NA	SA	0.025	NA		11
	09/22/2004	8:47	11:02	NA	DA	0.133	NA		10
	09/22/2004	9:01	16:01	NA	SA	0.158	NA		11
	09/22/2004	9:24	16:13	NA	SA	0.041	NA		8
	09/23/2004	8:13	15:46	NA	DA	0.128	ENE		10
	09/23/2004	7:59	13:50	NA	SA	0.061	NA		8
	09/23/2004	13:57	15:49	NA	SA	0.079	ENE		8
	09/23/2004	14:11	15:56	NA	SA	0.134	ENE		11
	09/24/2004	8:17	12:25	NA	DA	0.118	W		9
	09/24/2004	8:19	12:04	NA	SA	0.13	W		11
Week of 9/27 to 10/03	09/28/2004	9:10	9:34	Up	DA	0.428	W	H. H.	10
	09/28/2004	9:34	10:49	Up	DA	0.112	W	H. H.	10
	09/28/2004	11:02	16:32	Up	DA	0.035	ENE	H. H.	10
	09/28/2004	11:10	16:42	Down	DA	0.057	ENE	H. H.	9
	09/29/2004	10:58	14:43	Up	DA	0.01	ENE	H. H.	11
	09/29/2004	15:10	17:25	Up	SA	0.062	E	H. H.	11
	09/29/2004	15:26	17:26	Down	SA	0.024	E	H. H.	8
	09/30/2004	14:33	17:03	Down	DA	0.02	NE	H. H.	11
	09/30/2004	8:11	11:41	Down	SA	0.041	W	H. H.	11
	09/30/2004	14:57	16:57	Up	SA	0.012	NE	H. H.	8
	10/01/2004	8:09	9:54	Up	SA	0.037	WSW	H. H.	8
	10/01/2004	8:21	9:51	Down	SA	0.063	WSW	H. H.	11
	10/01/2004	10:01	13:16	Down	SA	0.079	ENE	H. H.	11
	10/01/2004	10:10	13:10	Up	SA	0.017	ENE	H. H.	8
	10/01/2004	13:19	16:04	Down	SA	0.098	ENE	H. H.	11
	10/01/2004	13:21	15:51	Up	SA	0.025	ENE	H. H.	8
Week of 10/04 to 10/10	10/04/2004	8:12	15:12	Down	DA	0.013	WNW		9
	10/04/2004	9:35	15:05	Up	DA	0.013	WNW		10
	10/04/2004	9:35	17:05	Down	SA	0.018	WNW		11
	10/05/2004	7:51	12:51	Up	DA	0.009	WNW		10
	10/05/2004	13:01	17:16	Up	SA	0.031	ENE		10
	10/05/2004	13:28	17:58	Down	SA	0.008	ENE		9
	10/06/2004	7:28	9:29	Up	DA	0.029	W		10
	10/06/2004	7:48	13:48	Down	DA	0.031	W		9
	10/06/2004	13:44	14:44	Up	SA	0.016	WNW		10
	10/07/2004	9:16	11:01	Down	DA	0.022	WNW		9
	10/07/2004	15:37	17:52	Down	DA	0.051	ENE		9
	10/07/2004	11:46	15:16	Down	SA	0.051	ENE		9
	10/08/2004	7:28	10:28	Up	DA	0.055	W		10
	10/08/2004	7:49	9:19	Down	DA	0.058	W		9
	10/08/2004	9:36	10:51	Down	DA	0.047	W		9
	10/08/2004	11:07	15:07	Up	SA	0.023	W		10
	10/08/2004	11:12	12:12	Down	SA	0.078	W		9
	10/08/2004	12:16	13:31	Down	SA	0.044	W		9
	10/08/2004	13:43	15:13	Down	SA	0.036	W		9

Table 7
Perimeter Particulate Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

	Date	Start Time	End Time	Up Wind / Down Wind	Location	TWA mg/m^3	Wind Direction	Weather	DustTrak Number
Week of 10/11 to 10/17	10/11/2004	7:50	17:35	Up	DA	0.002	ENE		8
	10/11/2004	7:59	13:59	Down	DA	0.015	ENE		11
	10/11/2004	16:35	17:35	Down	DA	0.013	WNW		11
	10/11/2004	10:22	16:52	Up	SA	0.044	WNW		10
	10/11/2004	13:15	17:00	Down	SA	0.015	WNW		9
	10/12/2004	7:43	14:43	Down	DA	0.022	WNW		10
	10/12/2004	8:00	15:00	Up	DA	0.015	WNW		9
	10/12/2004	14:51	17:21	Down	DA	0.009	NE		10
	10/12/2004	15:06	17:36	Up	DA	0.01	NE		9
	10/12/2004	7:34	14:49	Up	SA	0.014	WNW		8
	10/12/2004	14:57	17:42	Up	SA	0.015	NE		8
	10/12/2004	15:15	17:30	Down	SA	0.015	NE		11
	10/13/2004	7:44	11:44	Up	DA	0.071	SSE	H. H.	10
	10/13/2004	8:11	9:26	Down	DA	0.07	SSE	H. H.	9
	10/13/2004	10:50	12:05	Down	DA	0.045	NE	H. H.	9
	10/13/2004	12:16	17:31	Down	DA	0.026	NE	H. H.	9
	10/13/2004	7:41	11:56	Up	SA	0.041	SSE	H. H.	8
	10/13/2004	7:46	11:46	Down	SA	0.101	SSE	H. H.	11
	10/13/2004	12:06	17:36	Up	SA	0.028	E	H. H.	8
	10/13/2004	12:18	17:48	Down	SA	0.031	E	H. H.	11
	10/14/2004	7:53	14:38	Up	DA	0.04	SSE	H. H.	10
	10/14/2004	8:17	11:47	Down	DA	0.03	SSE	H. H.	9
	10/14/2004	15:16	17:31	Down	DA	0.04	SSE	H. H.	9
	10/14/2004	7:41	15:11	Up	SA	0.022	SSE	H. H.	8
	10/14/2004	7:47	10:47	Down	SA	0.053	SSE		11
	10/14/2004	15:13	17:28	Down	SA	0.048	SSE	H. H.	11
Week of 10/18 to 10/24	10/18/2004	8:20	16:35	Up	DA	0.013	W	H. H.	10
	10/18/2004	8:35	13:35	Down	DA	0.016	W	H. H.	9
	10/18/2004	8:01	17:46	Up	SA	0.006	W	H. H.	8
	10/18/2004	8:09	16:39	Down	SA	0.012	W	H. H.	11
	10/19/2004	8:00	17:00	Up	DA	0.017	E	H. H.	10
	10/19/2004	8:07	8:52	Down	DA	0.021	E	H. H.	9
	10/19/2004	8:20	17:35	Up	SA	0.005	E	H. H.	8
	10/19/2004	8:21	17:36	Down	SA	0.02	E	H. H.	11
	10/20/2004	7:53	16:38	Up	DA	0.022	ESE	H. H.	10
	10/20/2004	8:18	17:03	Down	DA	0.018	ESE	H. H.	9
	10/20/2004	7:51	17:06	Down	SA	0.022	ESE	H. H.	11
	10/20/2004	8:36	17:06	Up	SA	0.007	ESE	H. H.	8
	10/21/2004	8:03	14:18	Up	DA	0.024	WNW	Rain	10
	10/21/2004	8:28	11:28	Down	DA	0.032	WNW	H. H.	9
	10/21/2004	11:33	15:18	Down	DA	0.013	ENE	H. H.	9
	10/21/2004	8:41	15:11	Up	SA	0.02	WNW	H. H.	8
	10/21/2004	8:43	17:58	Down	SA	0.02	WNW	H. H.	11
	10/22/2004	8:26	11:11	Up	SA	0.031	ESE	H. H.	8
	10/22/2004	8:29	11:14	Down	SA	0.048	ESE	H. H.	11
	10/22/2004	11:27	15:27	Up	SA	0.03	ESE	H. H.	8

Table 7
Perimeter Particulate Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

	Date	Start Time	End Time	Up Wind / Down Wind	Location	TWA mg/m^3	Wind Direction	Weather	DustTrak Number
Week of 10/25 to 10/31	10/25/2004	9:51	11:51	Down	DA	0.061	WNW	H. H.	9
	10/25/2004	9:53	17:08	Up	DA	0.063	WNW	H. H.	10
	10/25/2004	12:04	17:04	Down	DA	0.049	ENE	H. H.	9
	10/25/2004	8:39	17:24	Up	SA	0.05	WNW	H. H.	8
	10/25/2004	11:57	15:42	Down	SA	0.071	ENE	H. H.	11
	10/26/2004	8:03	14:03	Up	DA	0.061	ENE	H. H.	10
	10/26/2004	8:09	14:09	Down	DA	0.045	ENE	H. H.	9
	10/26/2004	14:18	16:03	Down	DA	0.04	ENE	H. H.	9
	10/26/2004	14:18	16:03	Up	DA	0.039	ENE	H. H.	10
	10/26/2004	7:52	15:22	Up	SA	0.059	ENE	D. F.	8
	10/26/2004	8:05	10:35	Down	SA	0.105	E	H. H.	11
	10/26/2004	10:37	15:22	Down	SA	0.057	ENE	H. H.	11
	10/26/2004	15:29	16:14	Down	SA	0.056	ENE	H. H.	11
	10/26/2004	15:30	16:15	Up	SA	0.038	ENE	D. F.	8
	10/27/2004	7:59	13:44	Down	DA	0.062	ENE	H. H.	9
	10/27/2004	8:06	13:36	Up	DA	0.084	ENE	H. H.	10
	10/27/2004	13:49	14:49	Up	DA	0.056	E	H. H.	10
	10/27/2004	13:54	14:54	Down	DA	0.024	E	H. H.	9
	10/27/2004	8:25	10:10	Down	SA	0.101	ENE	H. H.	11
	10/27/2004	8:35	13:50	Up	SA	0.052	E	H. H.	8
	10/27/2004	10:27	13:42	Down	SA	0.075	E	H. H.	11
	10/27/2004	13:56	15:26	Up	SA	0.016	E	H. H.	8
	10/27/2004	14:03	15:33	Down	SA	0.03	E	H. H.	11
	10/28/2004	13:04	16:49	Down	DA	0.041	E	H. H.	9
	10/28/2004	13:04	16:34	Up	DA	0.043	E	H. H.	10
	10/28/2004	8:07	11:07	Up	SA	0.022	ENE	H. H.	8
	10/28/2004	8:41	11:11	Down	SA	0.052	ENE	H. H.	11
	10/28/2004	11:15	17:00	Down	SA	0.052	E	H. H.	11
	10/28/2004	11:21	16:51	Up	SA	0.035	E	H. H.	8
	10/29/2004	8:00	14:30	Down	DA	0.04	ENE	H. H.	9
	10/29/2004	8:00	14:30	Up	DA	0.048	ENE	H. H.	10
11/01 to 11/07	11/03/2004	8:59	14:14	Up	DA	0.006	ENE	H. H.	10
	11/03/2004	9:12	14:12	Down	DA	0.004	ENE	H. H.	9
	11/04/2004	10:32	16:02	Down	DA	0.02	SSE	Rain	9
	11/04/2004	10:32	16:02	Up	DA	0.02	SW	Rain	10
	11/04/2004	10:40	16:40	Down	DA	0.022	SW	Rain	9
	11/05/2004	9:01	14:31	Up	SA	0.01	WNW		10
	11/05/2004	9:12	14:27	Down	SA	0.01	WNW		9

Notes:
H. H. - High Humidity. (High Humidity is determined as any reading >80% humidity between the period of 07:00 and 17:00.)
D. F. - Dense Fog.
SA - Staging Area
DA - Dredging Area

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

	Date	Start Time	End Time	Location	Dredging or Staging	Average daily STEL ppm	Wind Direction	Weather	PID Number
Week of 9/20 to 9/26	09/20/2004	14:16	16:21	Dredging Area	DA	0.00	N/A		4
	09/21/2004	9:07	16:26	Dredging Area	DA	0.00	N/A		3
	09/21/2004	9:45	17:13	Dredging Area	DA	0.00	N/A		6
	09/21/2004	9:56	17:20	Dredging Area	DA	0.00	N/A		4
	09/21/2004	9:07	16:26	Staging Area	SA	0.00	N/A		2
	09/21/2004	11:16	17:19	Staging Area	SA	0.00	N/A		7
	09/22/2004	8:03	13:12	Dredging Area	DA	0.00	N/A		3
	09/22/2004	8:54	13:54	Dredging Area	DA	0.00	N/A		6
	09/22/2004	9:22	13:57	Dredging Area	DA	0.04	N/A		4
	09/22/2004	13:16	15:17	Dredging Area	DA	0.18	N/A		3
	09/22/2004	13:57	14:36	Dredging Area	DA	0.00	N/A		6
	09/22/2004	15:00	15:53	Dredging Area	DA	0.00	N/A		6
	09/22/2004	8:33	14:12	Staging Area	SA	0.00	N/A		1
	09/22/2004	8:45	14:14	Staging Area	SA	0.00	N/A		2
	09/22/2004	8:46	14:20	Staging Area	SA	0.00	N/A		7
	09/22/2004	14:17	16:04	Staging Area	SA	0.05	N/A		2
	09/22/2004	14:18	14:49	Staging Area	SA	0.06	N/A		1
	09/23/2004	8:12	14:49	Dredging Area	DA	0.06	ENE		3
	09/23/2004	8:30	13:56	Dredging Area	DA	0.00	ENE		4
	09/23/2004	8:34	15:41	Dredging Area	DA	0.03	ENE		6
	09/23/2004	14:10	15:50	Dredging Area	DA	0.00	ENE		4
	09/23/2004	7:58	15:33	Staging Area	SA	0.30	ENE		2
	09/23/2004	8:13	13:49	Staging Area	SA	0.17	ENE		7
	09/23/2004	8:19	8:23	Staging Area	SA	0.08	ENE		1
	09/23/2004	8:43	15:47	Staging Area	SA	0.00	ENE		1
	09/23/2004	13:54	15:58	Staging Area	SA	0.00	ENE		7
	09/24/2004	7:16	11:21	Dredging Area	DA	1.65	W		3
	09/24/2004	8:34	12:28	Dredging Area	DA	1.69	W		6
	09/24/2004	8:04	12:48	Staging Area	SA	0.00	W		7
	09/24/2004	8:26	10:40	Staging Area	SA	0.78	W		2
Week of 9/27 to 10/03	09/28/2004	8:10	15:58	Dredging Area	DA	2.41	ENE	H. H.	3
	09/28/2004	8:23	9:28	Dredging Area	DA	2.29	W	H. H.	6
	09/28/2004	8:26	10:16	Downwind D.A.	DA	0.18	W	H. H.	4
	09/28/2004	9:36	16:24	Dredging Area	DA	0.21	ENE	H. H.	6
	09/28/2004	10:19	10:52	Downwind D.A.	DA	0.00	ENE	H. H.	4
	09/28/2004	10:57	16:28	Downwind D.A.	DA	0.00	ENE	H. H.	4
	09/28/2004	11:07	11:21	Staging Area	SA	0.00	ENE	H. H.	1
	09/28/2004	11:27	11:40	Staging Area	SA	0.00	ENE	H. H.	1
	09/28/2004	13:30	16:16	Staging Area	SA	0.02	ENE	H. H.	1
	09/29/2004	7:04	13:48	Dredging Area	DA	1.53	ENE	H. H.	3
	09/29/2004	7:45	14:38	Downwind D.A.	DA	0.64	ENE	H. H.	4
	09/29/2004	8:06	17:45	Dredging Area	DA	0.58	ENE	H. H.	6
	09/29/2004	14:00	16:34	Dredging Area	DA	0.78	ENE	H. H.	3
	09/29/2004	14:53	17:23	Downwind D.A.	DA	0.00	ENE	H. H.	4
	09/29/2004	15:13	17:20	Staging Area	SA	0.00	ENE	H. H.	1
	09/30/2004	11:52	16:58	Tapecon D.A.	DA	0.00	NE	H. H.	2
	09/30/2004	12:04	14:24	Downwind D.A.	DA	0.11	NE	H. H.	7
	09/30/2004	12:08	17:09	Marina D.A.	DA	0.14	NE	H. H.	1
	09/30/2004	14:29	17:03	Downwind D.A.	DA	0.00	NE	H. H.	7
	09/30/2004	7:52	11:36	Water Tank S.A...	SA	1.66	W	H. H.	1
	09/30/2004	8:09	11:48	Downwind S.A...	SA	3.07	W	H. H.	7
	09/30/2004	8:11	11:36	Residential S.A...	SA	0.61	W	H. H.	2

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

	Date	Start Time	End Time	Location	Dredging or Staging	Average daily STEL ppm	Wind Direction	Weather	PID Number
	10/01/2004	8:08	9:41	Dredging Area	DA	1.80	WSW	H. H.	1
	10/01/2004	8:19	9:46	Downwind D.A.	DA	0.40	WSW	H. H.	2
	10/01/2004	8:50	10:14	Marina D.A.	DA	0.00	WSW	H. H.	4
	10/01/2004	10:02	11:04	NA	NA	0.00	ENE	H. H.	3
	10/01/2004	9:51	15:42	Staging Area	SA	0.12	ENE	H. H.	1
	10/01/2004	9:54	13:07	Downwind S.A...	SA	0.00	ENE	H. H.	2
	10/01/2004	10:22	13:20	Across River S.A...	SA	0.00	ENE	H. H.	4
	10/01/2004	13:12	15:58	Downwind S.A...	SA	0.00	ENE	H. H.	2
	10/01/2004	13:30	15:58	Across Tracks S.A...	SA	0.00	ENE	H. H.	4
Week of 10/04 to 10/10	10/04/2004	7:59	14:59	Downwind D.A.	DA	0.00	WNW		4
	10/04/2004	8:10	14:15	Marina D.A.	DA	0.19	WNW		3
	10/04/2004	8:07	14:38	Across River S.A...	SA	0.91	WNW		6
	10/04/2004	9:31	16:33	Across Tracks S.A...	SA	1.90	WNW		2
	10/04/2004	9:52	16:35	Across River S.A...	SA	0.51	WNW		1
	10/04/2004	11:05	17:00	Dock north of S.A...	SA	0.00	WNW		5
	10/04/2004	14:42	14:56	Across River S.A...	SA	0.40	WNW		6
	10/05/2004	8:30	10:23	Across River D.A.	DA	0.00	WNW		6
	10/05/2004	10:57	13:29	Across River D.A.	DA	1.07	WNW		6
	10/05/2004	13:38	13:58	Barge Monitoring	DA	0.06	ENE		7
	10/05/2004	7:12	7:55	Staging Area	SA	0.11	WNW		1
	10/05/2004	8:02	10:07	Downwind S.A...	SA	0.14	WNW		4
	10/05/2004	10:17	12:51	Downwind S.A...	SA	0.00	WNW		4
	10/05/2004	13:16	14:32	Downwind S.A...	SA	0.00	ENE		4
	10/05/2004	13:48	17:48	Across River S.A...	SA	0.00	ENE		6
	10/05/2004	14:42	17:47	Downwind S.A...	SA	0.00	ENE		4
	10/06/2004	7:32	8:24	Marina D.A.	DA	0.53	W		3
	10/06/2004	8:29	10:32	Marina D.A.	DA	0.00	W		3
	10/06/2004	8:57	9:31	Barge Monitoring	DA	0.53	W		6
	10/06/2004	9:03	12:13	Barge Monitoring	DA	0.13	W		7
	10/06/2004	9:30	11:30	Pelican Parking D.A.	DA	0.07	W		5
	10/06/2004	9:39	9:49	Barge Monitoring	DA	0.16	W		6
	10/06/2004	9:46	11:42	Downwind D.A.	DA	0.00	W		4
	10/06/2004	10:12	10:24	Barge Monitoring	DA	0.10	W		6
	10/06/2004	10:30	10:43	Barge Monitoring	DA	0.00	W		6
	10/06/2004	10:39	13:00	Marina D.A.	DA	0.00	W		3
	10/06/2004	11:40	13:25	Pelican Parking D.A.	DA	0.00	W		5
	10/06/2004	11:47	13:37	Downwind D.A.	DA	0.00	W		4
	10/06/2004	13:30	16:10	Pelican Parking D.A.	DA	0.00	WNW		5
	10/06/2004	13:38	14:12	Barge Monitoring	DA	0.13	WNW		7
	10/06/2004	13:46	15:14	Downwind D.A.	DA	0.00	WNW		4
	10/06/2004	15:24	16:33	Downwind D.A.	DA	1.00	WNW		4
	10/06/2004	16:20	17:30	Pelican Parking D.A.	DA	0.00	WNW		5
	10/06/2004	13:09	14:05	Across River S.A...	SA	0.00	WNW		3
	10/06/2004	14:10	16:24	Across River S.A...	SA	0.00	WNW		3
	10/07/2004	8:00	10:54	Downwind D.A.	DA	0.68	WNW		4
	10/07/2004	8:12	10:04	Across River D.A.	DA	0.35	WNW		6
	10/07/2004	9:52	9:59	Pelican Parking D.A.	DA	0.13	WNW		3
	10/07/2004	14:17	15:09	Downwind D.A.	DA	0.00	ENE		4
	10/07/2004	15:23	17:49	Downwind D.A.	DA	0.13	ENE		4
	10/07/2004	7:04	8:19	Pelican Parking S.A...	SA	0.00	WNW		3
	10/07/2004	10:15	11:34	Across River S.A...	SA	0.00	WNW		6
	10/07/2004	11:33	14:10	Downwind S.A...	SA	0.06	WNW		4
	10/07/2004	11:44	13:39	Across River S.A...	SA	0.00	WNW		6
	10/07/2004	13:50	15:23	Across River S.A...	SA	2.10	ENE		6
	10/07/2004	15:32	17:43	Across River S.A...	SA	2.25	ENE		6

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

Date	Start Time	End Time	Location	Dredging or Staging	Average daily STEL ppm	Wind Direction	Weather	PID Number
10/08/2004	7:05	8:18	Pelican Parking D.A.	DA	0.00	W		3
10/08/2004	7:35	7:52	Downwind D.A.	DA	0.00	W		4
10/08/2004	7:58	9:12	Downwind D.A.	DA	0.53	W		4
10/08/2004	8:17	9:37	Across River D.A.	DA	0.00	W		6
10/08/2004	8:23	9:46	Pelican Parking D.A.	DA	0.00	W		3
10/08/2004	9:19	10:17	Same as DT 11	DA	0.00	W		7
10/08/2004	9:22	10:38	Downwind D.A.	DA	0.00	W		4
10/08/2004	9:40	10:43	Across River S.A...	SA	0.00	W		6
10/08/2004	9:52	12:21	Across Tracks S.A...	SA	0.00	W		3
10/08/2004	10:44	11:59	Downwind S.A...	SA	0.00	W		4
10/08/2004	10:57	13:42	Across River S.A...	SA	0.00	W		6
10/08/2004	11:46	12:14	Same as DT 11	SA	1.26	W		7
10/08/2004	12:02	13:18	Downwind S.A...	SA	0.00	W		4
10/08/2004	12:28	14:15	Across Tracks S.A...	SA	0.88	W		3
10/08/2004	13:31	15:04	Downwind S.A...	SA	0.15	W		4
10/08/2004	13:50	15:20	Across River S.A...	SA	0.00	W		6
10/11/2004	7:42	8:59	Tapecon D.A.	DA	0.62	ENE		1
10/11/2004	7:56	9:05	Downwind D.A.	DA	0.06	ENE		7
10/11/2004	8:02	9:33	Shumway D.A.	DA	1.43	ENE		2
10/11/2004	9:05	13:04	Tapecon D.A.	DA	0.17	ENE		1
10/11/2004	9:08	13:17	Downwind D.A.	DA	1.29	ENE		7
10/11/2004	9:39	13:44	Shumway D.A.	DA	0.09	ENE		2
10/11/2004	13:08	16:03	Tapecon D.A.	DA	0.00	WNW		1
10/11/2004	13:24	16:10	Downwind D.A.	DA	0.27	WNW		7
10/11/2004	13:52	14:41	Shumway D.A.	DA	0.42	WNW		2
10/11/2004	16:13	17:32	Downwind D.A.	DA	0.46	WNW		7
10/11/2004	10:06	12:46	Across River S.A...	SA	0.00	ENE		3
10/11/2004	10:40	12:57	Across Tracks S.A...	SA	0.68	ENE		6
10/11/2004	10:50	12:53	Downwind S.A...	SA	0.83	ENE		4
10/11/2004	12:51	15:49	Across River S.A...	SA	0.13	NWN		3
10/11/2004	13:03	15:58	Across Tracks S.A...	SA	0.00	WNW		6
10/11/2004	13:04	16:00	Downwind S.A...	SA	0.00	WNW		4
10/11/2004	16:01	16:52	Across Tracks S.A...	SA	0.00	WNW		6
10/11/2004	16:04	16:55	Downwind S.A...	SA	0.13	WNW		4
10/12/2004	7:46	13:19	Upwind D.A.	DA	0.00	WNW		4
10/12/2004	8:05	12:55	Across River D.A.	DA	0.25	WNW		6
10/12/2004	13:03	17:16	Across River D.A.	DA	0.21	NE		6
10/12/2004	13:25	14:47	Upwind D.A.	DA	0.00	NE		4
10/12/2004	14:52	17:30	Upwind D.A.	DA	0.00	NE		4
10/12/2004	7:22	12:44	Across Tracks S.A...	SA	0.00	WNW		1
10/12/2004	7:35	13:09	Downwind S.A...	SA	0.15	WNW		7
10/12/2004	8:18	13:11	Across River S.A...	SA	0.68	WNW		2
10/12/2004	12:55	16:00	Across Tracks S.A...	SA	0.43	NE		1
10/12/2004	13:15	14:46	Downwind S.A...	SA	0.18	NE		7
10/12/2004	13:19	15:47	Across River S.A...	SA	0.60	NE		2
10/12/2004	15:00	17:32	Downwind S.A...	SA	0.69	NE		7

l1 to 10/17

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

Week of 10/1

Date	Start Time	End Time	Location	Dredging or Staging	Average daily STEL ppm	Wind Direction	Weather	PID Number
10/13/2004	7:57	10:29	Downwind D.A.	DA	1.85	SSE	H. H.	4
10/13/2004	8:09	10:07	Across River D.A.	DA	1.15	SSE	H. H.	6
10/13/2004	10:15	14:16	Across River D.A.	DA	0.69	NE	H. H.	6
10/13/2004	10:36	11:57	Downwind D.A.	DA	0.00	SSE	H. H.	4
10/13/2004	12:02	15:15	Downwind D.A.	DA	0.00	E	H. H.	4
10/13/2004	14:52	17:24	Across River D.A.	DA	0.05	E	H. H.	5
10/13/2004	15:22	17:25	Downwind D.A.	DA	0.00	E	H. H.	4
10/13/2004	7:27	10:00	Across Tracks S.A...	SA	0.43	SSE	H. H.	1
10/13/2004	7:42	10:14	Downwind S.A...	SA	1.24	SSE	H. H.	7
10/13/2004	8:24	10:24	Across River S.A...	SA	0.00	SSE	H. H.	2
10/13/2004	10:18	15:18	Across Tracks S.A...	SA	0.00	ENE	H. H.	1
10/13/2004	10:23	11:54	Downwind S.A...	SA	0.65	SSE	H. H.	7
10/13/2004	10:32	14:34	Across River S.A...	SA	0.00	ENE	H. H.	2
10/13/2004	12:13	15:36	Downwind S.A...	SA	0.00	E	H. H.	7
10/13/2004	14:40	15:02	Across River S.A...	SA	0.13	ENE	H. H.	2
10/13/2004	15:24	15:42	Across Tracks S.A...	SA	0.00	ENE	H. H.	1
10/13/2004	15:42	17:44	Downwind S.A...	SA	0.00	E	H. H.	7
10/14/2004	7:05	9:16	Tapecon D.A.	DA	1.99	SSE	Rain	3
10/14/2004	8:04	10:10	Downwind D.A.	DA	**5.55**	SSE	Rain	4
10/14/2004	8:23	10:14	Across River D.A.	DA	0.00	SSE	Rain	5
10/14/2004	10:18	11:11	Downwind D.A.	DA	**13.41**	SSE	Rain	4
10/14/2004	10:21	13:57	Across River D.A.	DA	0.00	SSE	Rain	5
10/14/2004	10:25	13:15	Tapecon D.A.	DA	0.94	SSE	Rain	3
10/14/2004	13:21	14:07	Tapecon D.A.	DA	4.76	SSE	Rain	3
10/14/2004	14:03	17:32	Across River D.A.	DA	0.00	SSE	Rain	5
10/14/2004	14:11	16:28	Tapecon D.A.	DA	2.15	SSE	Rain	3
10/14/2004	7:35	9:35	Across Tracks S.A...	SA	4.51	SSE	Rain	2
10/14/2004	8:11	9:59	Across River S.A...	SA	0.34	SSE	Rain	1
10/14/2004	9:41	13:24	Across Tracks S.A...	SA	**11.42**	SSE	Rain	2
10/14/2004	10:06	13:42	Across River S.A...	SA	0.24	SSE	Rain	1
10/14/2004	13:49	15:54	Across River S.A...	SA	0.73	SSE	Rain	1
10/18/2004	7:51	10:35	Across River D.A.	DA	0.00	W	H. H.	3
10/18/2004	8:20	10:51	Downwind D.A.	DA	0.00	W	H. H.	4
10/18/2004	10:42	13:01	Across River D.A.	DA	0.55	W	H. H.	3
10/18/2004	10:58	13:20	Downwind D.A.	DA	0.02	W	H. H.	4
10/18/2004	13:15	16:29	Pelican Lot D.A.	DA	0.00	ENE	H. H.	6
10/18/2004	13:23	16:33	Downwind D.A.	DA	0.04	ENE	H. H.	4
10/18/2004	7:40	10:28	Across Tracks S.A...	SA	0.00	WNW	H. H.	1
10/18/2004	8:31	11:49	Across River S.A...	SA	0.38	W	H. H.	2
10/18/2004	10:35	13:01	Across Tracks S.A...	SA	0.00	WNW	H. H.	1
10/18/2004	11:42	13:39	Across River S.A...	SA	0.41	ENE	H. H.	2
10/18/2004	13:05	15:53	Across Tracks S.A...	SA	0.00	ENE	H. H.	1
10/18/2004	13:45	15:22	Across River S.A...	SA	0.66	ENE	H. H.	2

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

	Date	Start Time	End Time	Location	Dredging or Staging	Average daily STEL ppm	Wind Direction	Weather	PID Number
Week of 10/18 to 10/24	10/19/2004	7:33	10:07	South of D.A.	DA	1.62	E	H. H.	3
	10/19/2004	7:33	10:07	Tapecon D.A.	DA	1.62	E	H. H.	6
	10/19/2004	7:52	11:14	Downwind D.A.	DA	0.04	E	H. H.	4
	10/19/2004	10:13	14:45	South of D.A.	DA	1.54	E	H. H.	3
	10/19/2004	10:13	14:45	Tapecon D.A.	DA	1.54	E	H. H.	6
	10/19/2004	11:19	15:39	Downwind D.A.	DA	0.05	E	H. H.	4
	10/19/2004	13:06	16:15	South of D.A.	DA	0.29	E	H. H.	3
	10/19/2004	14:48	16:54	South of D.A.	DA	1.72	E	H. H.	3
	10/19/2004	14:48	16:54	Tapecon D.A.	DA	1.72	E	H. H.	6
	10/19/2004	15:42	17:22	Downwind D.A.	DA	0.00	E	H. H.	4
	10/19/2004	8:04	10:42	Across Tracks S.A...	SA	0.43	E	H. H.	1
	10/19/2004	8:17	10:37	Air Pump 1 Site	SA	0.92	E	H. H.	2
	10/19/2004	10:46	13:57	Air Pump 1 Site	SA	0.95	E	H. H.	2
	10/19/2004	15:06	15:32	Across Tracks S.A...	SA	0.32	E	H. H.	1
	10/20/2004	7:08	9:51	Tapecon D.A.	DA	2.02	ESE	Rain	3
	10/20/2004	8:03	10:48	Downwind D.A.	DA	0.10	ESE	Rain	4
	10/20/2004	8:04	10:28	South of D.A.	DA	0.99	ESE	Rain	6
	10/20/2004	9:57	14:16	Tapecon D.A.	DA	3.73	ESE	Rain	3
	10/20/2004	10:35	15:13	South of D.A.	DA	3.24	ESE	Rain	6
	10/20/2004	10:57	14:56	Downwind D.A.	DA	0.05	ESE	Rain	4
	10/20/2004	14:21	15:58	Tapecon D.A.	DA	0.86	ESE	Rain	3
	10/20/2004	15:06	16:51	Downwind D.A.	DA	1.99	ESE	Rain	4
	10/20/2004	15:19	16:40	South of D.A.	DA	1.89	ESE	Rain	6
	10/20/2004	10:45	11:03	Replaced with #5	NA	0.24	ESE	Rain	1
	10/20/2004	8:19	10:24	Across Tracks S.A...	SA	1.47	ESE	Rain	2
	10/20/2004	10:30	13:47	Across Tracks S.A...	SA	2.53	ESE	Rain	2
	10/21/2004	7:17	9:38	Tapecon D.A.	DA	**12.03**	WNW	Rain	3
	10/21/2004	8:16	10:34	Downwind D.A.	DA	**64.15**	WNW	Rain	4
	10/21/2004	9:05	10:00	Across River D.A.	DA	1.88	WNW	Rain	6
	10/21/2004	9:44	13:34	Tapecon D.A.	DA	**12.94**	WNW	Rain	3
	10/21/2004	10:08	14:03	Across River D.A.	DA	**9.84**	ENE	Rain	6
	10/21/2004	10:40	11:14	Downwind D.A.	DA	**40.55**	WNW	Rain	4
	10/21/2004	11:19	14:31	Downwind D.A.	DA	**383.13**	ENE	Rain	4
	10/21/2004	13:39	16:53	Tapecon D.A.	DA	**15.70**	ENE	Rain	3
	10/21/2004	14:09	17:20	Across River D.A.	DA	**10.13**	ENE	Rain	6
	10/21/2004	14:34	17:42	Downwind D.A.	DA	**113.67**	ENE	Rain	4
	10/21/2004	8:32	10:42	Riverview S.A..	SA	0.36	WNW	Rain	1
	10/21/2004	10:22	11:03	Across River S.A...	SA	**15.35**	WNW	H. H.	2
	10/21/2004	10:45	14:33	Riverview S.A..	SA	0.22	ENE	Rain	1
	10/21/2004	11:06	13:50	Across River S.A...	SA	1.04	WNW	H. H.	2
	10/21/2004	13:53	15:31	Across River S.A...	SA	0.11	ENE	H. H.	2

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

Date	Start Time	End Time	Location	Dredging or Staging	Average daily STEL ppm	Wind Direction	Weather	PID Number
10/22/2004	7:08	13:50	Tapecon D.A.	DA	0.00	ESE		3
10/22/2004	7:25	10:15	Coast Guard D.A.	DA	0.66	ESE	H. H.	5
10/22/2004	8:03	10:56	Downwind D.A.	DA	0.00	ESE	H. H.	4
10/22/2004	10:19	14:23	Coast Guard D.A.	DA	1.28	ESE	H. H.	5
10/22/2004	11:02	14:23	Downwind D.A.	DA	0.00	ESE	H. H.	4
10/22/2004	14:25	14:44	Downwind D.A.	DA	0.00	ESE	H. H.	4
10/22/2004	14:26	16:55	Coast Guard D.A.	DA	0.68	ESE	H. H.	5
10/22/2004	8:16	10:45	Across Tracks S.A...	SA	0.00	ESE	H. H.	2
10/22/2004	8:17	14:13	Docks S.A...	SA	0.14	ESE	H. H.	1
10/22/2004	10:47	14:00	Across Tracks S.A...	SA	0.00	ESE	H. H.	2
10/22/2004	14:12	15:18	Across Tracks S.A...	SA	0.22	ESE	H. H.	2
10/22/2004	14:16	15:12	Docks S.A...	SA	0.00	ESE	H. H.	1
10/25/2004	8:58	11:08	Pelican Lot D.A.	DA	0.00	WNW	H. H.	3
10/25/2004	9:46	11:52	Downwind D.A.	DA	0.00	WNW	H. H.	4
10/25/2004	10:02	12:05	Across River D.A.	DA	0.00	WNW	H. H.	6
10/25/2004	11:11	13:59	Pelican Lot D.A.	DA	0.00	ENE	H. H.	3
10/25/2004	11:59	14:48	Downwind D.A.	DA	1.41	ENE	H. H.	4
10/25/2004	12:07	15:00	Across River D.A.	DA	0.00	ENE	H. H.	6
10/25/2004	14:01	16:19	Pelican Lot D.A.	DA	0.00	ENE	H. H.	3
10/25/2004	14:50	17:09	Downwind D.A.	DA	0.00	ENE	H. H.	4
10/25/2004	15:03	17:31	Across River D.A.	DA	0.00	ENE	H. H.	6
10/25/2004	8:27	11:24	Across Tracks S.A...	SA	0.00	WNW	H. H.	1
10/25/2004	10:14	12:15	Petten St S.A...	SA	3.34	WNW	H. H.	2
10/25/2004	11:34	14:32	Across Tracks S.A...	SA	1.38	ENE	H. H.	1
10/25/2004	12:25	14:59	Petten St S.A...	SA	0.64	ENE	H. H.	2
10/25/2004	14:37	17:13	Across Tracks S.A...	SA	0.59	ENE	H. H.	1
10/25/2004	15:02	17:31	Petten St S.A...	SA	0.34	ENE	H. H.	2
10/26/2004	8:01	10:25	Pelican Lot D.A.	DA	0.00	E	D. F.	6
10/26/2004	8:04	10:38	Downwind D.A.	DA	0.00	E	D. F.	4
10/26/2004	8:06	10:18	Across River D.A.	DA	0.00	E	D. F.	3
10/26/2004	10:24	13:59	Across River D.A.	DA	1.70	ENE	D. F.	3
10/26/2004	10:33	14:09	Pelican Lot D.A.	DA	0.07	ENE	D. F.	6
10/26/2004	10:44	14:06	Downwind D.A.	DA	0.00	ENE	D. F.	4
10/26/2004	14:04	15:34	Across River D.A.	DA	0.91	ENE	D. F.	3
10/26/2004	14:11	15:55	Pelican Lot D.A.	DA	0.03	ENE	D. F.	6
10/26/2004	14:22	16:07	Downwind D.A.	DA	0.09	ENE	D. F.	4
10/26/2004	7:45	10:18	Across Tracks S.A...	SA	3.25	E	D. F.	2
10/26/2004	8:32	10:46	Across River S.A...	SA	0.00	E	H. H.	1
10/26/2004	10:24	14:29	Across Tracks S.A...	SA	0.46	ENE	D. F.	2
10/26/2004	11:00	14:33	Across River S.A...	SA	0.04	ENE	D. F.	1
10/26/2004	14:35	16:12	Across Tracks S.A...	SA	3.42	ENE	D. F.	2
10/26/2004	14:39	16:13	Across River S.A...	SA	0.50	ENE	D. F.	1

f 10/25 to 10/31

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

	Date	***Start Time***	***End Time***	***Location***	***Dredging or Staging***	***Average daily STEL ppm***	***Wind Direction***	***Weather***	***PID Number***
Week o	10/27/2004	7:11	10:13	Pelican Lot D.A.	DA	0.65	ENE	H. H.	3
	10/27/2004	8:09	11:01	Downwind D.A.	DA	4.63	ENE	H. H.	4
	10/27/2004	8:57	10:42	Across River D.A.	DA	1.39	ENE	H. H.	6
	10/27/2004	10:19	13:10	Pelican Lot D.A.	DA	1.89	E	H. H.	3
	10/27/2004	10:49	14:18	Across River D.A.	DA	0.34	E	H. H.	6
	10/27/2004	12:12	13:44	Downwind D.A.	DA	0.10	E	H. H.	4
	10/27/2004	13:16	13:59	Pelican Lot D.A.	DA	0.00	E	H. H.	3
	10/27/2004	13:51	14:06	Downwind D.A.	DA	0.00	E	H. H.	4
	10/27/2004	14:08	14:51	Downwind D.A.	DA	0.45	E	H. H.	4
	10/27/2004	8:18	10:17	Across Tracks S.A...	SA	4.70	ENE	H. H.	2
	10/27/2004	8:39	10:33	Across River S.A...	SA	0.00	ENE	H. H.	1
	10/27/2004	10:30	14:08	Across Tracks S.A...	SA	2.12	E	H. H.	2
	10/27/2004	10:36	14:27	Across River S.A...	SA	0.00	E	H. H.	1
	10/27/2004	14:14	15:24	Across Tracks S.A...	SA	0.88	E	H. H.	2
	10/27/2004	14:30	15:28	Across River S.A...	SA	0.00	E	H. H.	1
	10/28/2004	12:58	16:46	Downwind D.A.	DA	0.00	E	H. H.	4
	10/28/2004	12:58	16:32	NA	NA	1.73	E	H. H.	6
	10/28/2004	13:19	16:11	NA	NA	0.00	E	H. H.	3
	10/28/2004	7:51	10:50	Across Tracks S.A...	SA	0.07	ENE	H. H.	1
	10/28/2004	8:20	10:05	Across River S.A...	SA	0.32	ENE	H. H.	2
	10/28/2004	10:10	16:56	Across River S.A...	SA	0.03	E	H. H.	2
	10/28/2004	10:53	16:41	Across Tracks S.A...	SA	0.00	E	H. H.	1
	10/29/2004	7:43	11:21	Across River D.A.	DA	0.00	ENE	H. H.	3
	10/29/2004	7:54	10:42	Downwind D.A.	DA	0.00	ENE	H. H.	4
	10/29/2004	7:54	10:38	Tapecon D.A.	DA	1.34	ENE	H. H.	6
	10/29/2004	10:45	14:28	Downwind D.A.	DA	0.00	E	H. H.	4
	10/29/2004	10:48	14:22	Tapecon D.A.	DA	0.55	E	H. H.	6
	10/29/2004	11:24	13:50	Across River D.A.	DA	0.00	E	H. H.	3
11/01 to 11/07	11/03/2004	8:19	13:32	Dredging Area	DA	0.00	ENE	H. H.	3
	11/03/2004	8:53	14:15	Dredging Area	DA	0.63	ENE	H. H.	6
	11/03/2004	9:06	14:18	Downwind D.A.	DA	0.00	ENE	H. H.	4
	11/04/2004	9:41	11:22	Tapecon D.A.	DA	0.00	SSE	Rain	3
	11/04/2004	10:31	12:14	Coast Guard D.A.	DA	1.00	SSE	Rain	6
	11/04/2004	10:34	12:18	Downwind D.A.	DA	0.02	SSE	Rain	4
	11/04/2004	11:28	13:53	Tapecon D.A.	DA	1.98	SW	Rain	3
	11/04/2004	12:20	14:40	Downwind D.A.	DA	**395.90**	SW	Rain	4
	11/04/2004	12:20	14:32	Coast Guard D.A.	DA	**5.14**	SW	Rain	6
	11/04/2004	13:58	15:51	Tapecon D.A.	DA	3.28	SW	Rain	3
	11/04/2004	14:36	16:33	Coast Guard D.A.	DA	2.74	SW	Rain	6
	11/04/2004	14:44	1640	Downwind D.A.	DA	**6,086.67**	SW	Rain	4

Table 8
Perimeter COC Monitoring
Genesee River Dredging Project
Rochester, NY

	Date	Start Time	End Time	Location	Dredging or Staging	Average daily STEL ppm	Wind Direction	Weather	PID Number
Week of	11/05/2004	8:11	13:39	Across Tracks S.A...	SA	0.00	WNW		3
	11/05/2004	9:02	14:21	Docks S.A...	SA	0.00	W		6
	11/05/2004	9:05	14:27	Downwind S.A...	SA	0.00	W		4
	11/05/2004	7:08	9:02	Pelican Parking D.A.	DA	0.00	WNW		3
	11/05/2004	9:16	12:02	Pelican Parking D.A.	DA	0.00	WNW		3
	11/05/2004	12:16	13:28	Across Tracks S.A...	SA	0.00	ENE		3
	11/05/2004	13:38	16:53	Across Tracks S.A...	SA	0.31	ENE		3

Notes:
H. H. - High Humidity. (High Humidity is determined as any reading >80% humidity between the period of 07:00 and 17:00.)
D. F. - Dense Fog.
S.A... - Staging Area
D.A. - Dredging Area
Bold face type indicates that STEL was above the CAMP limit of 5 ppm

Table 9
Project Summary of Sediment Investigation Sample Results
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Lab Sample ID	Lab	Sample Date	Acetone (ppb)		Methylene Chloride (ppb)		Core Length (ft)	Notes
SS-1 Top	A2257801	STL	03/19/2002	38	B	10	B	0.8	TOC 100%
SS-1 Bottom	A2257802	STL	03/19/2002	28	B	9	B		TOC 74%
SS-2 Top	A2257803	STL	03/19/2002	48	B	13	B	0.75	TOC 90%
SS-2 Bottom	A2257804	STL	03/19/2002	20	BJ	8	B		TOC 110%
SS-3 Top	A2257805	STL	03/19/2002	59	B	49	B	1.8	
SS-3 Bottom	A2257806	STL	03/19/2002	37	B	8	B		
SS-4 Top	A2257807	STL	03/19/2002	23	BJ	11	B	1.05	
SS-4 Bottom	A2257808	STL	03/19/2002	17	BJ	15	B		
SS-4A Bottom	A2323347	STL	04/04/2002	48		35	B	0.75	
SS-5 Top	A2257809	STL	03/19/2002	ND		**7,800**		1.15	
SS-5 Bottom DL	A2257810	STL	03/19/2002	49	B	**30,000**			
SS-5A Top	A2323306	STL	04/04/2002	**300,000**		**5,400,000**	B	1.67	
SS-5A Middle	A2323307	STL	04/04/2002	ND		**330,000**	B		
SS-5A BottomDL	A2323308DL	STL	04/04/2002	36,000	U	**440,000**	BD		
SS-5A 1'	SS-5 A1' 100Kx	STL	05/29/2002	1,515,152	U	**770,000**		5'	
SS-5A 2'	SS-5A 2' 100Kx	STL	05/29/2002	1,244,338	U	**2,500,000**			
SS-5A 3'	A2548104	STL	05/29/2002	360,000	U	**8,800,000**	BD		
SS-5A 4' DL	A2548105DL	STL	05/29/2002	**91,000**	D	**1,400,000**	BD		
SS-5A 5'	A2548106	STL	05/29/2002	**1,600**	J	**15,000**	B		
SS-5A 1'	SS-5A 1' 2g	STL	09/18/2002	62		18	U	6'	
SS-5A 3'	SS-5A 3' 2g	STL	09/18/2002	226		45			
SS-5A 6'	SS-5A 6' 2g	STL	09/18/2002	225		17.2	U		
SS-5A 1'	A2A63801	STL	10/24/2002	91		**3,800**		6'	
SS-5A 3'	A2A62701	STL	10/24/2002	35		1,100			
SS-5A 6'	A2A62702	STL	10/24/2002	29		590			
SS-5A 1'	A3438451	STL	05/07/2003	94		7		8	
SS-5A 3'	A3438452	STL	05/07/2003	86	B	64			
SS-5A 7.5'	A3438453	STL	05/07/2003	76		26			
SS-6 Top	A2257811	STL	03/19/2002	35		22	B	0.92	
SS-6 Bottom	A2257812	STL	03/19/2002	49		20	B		
SS-6A Bottom	A2323359	STL	04/04/2002	60		240	B	0.75	
SS-7 Top	A2257813	STL	03/19/2002	35		22	B	0.95	
SS-7 Bottom	A2257814	STL	03/19/2002	56		18	B		
SS-8 Top	A2257815	STL	03/19/2002	19	J	11	B	0.8	
SS-8 Bottom	A2257816	STL	03/19/2002	34		15	B		
SS-9 Top	A2257817	STL	03/19/2002	15	J	82	B	0.55	
SS-9 Bottom	A2257818	STL	03/19/2002	81	J	10	B		
SS-10 Top	A2257819	STL	03/19/2002	22	J	18	B	0.75	
SS-10 Bottom	A2257820	STL	03/19/2002	21	J	11	B		
SS-11 Top DL	A2257821	STL	03/19/2002	0		**12,000,000**		0.57	
SS-11 Bottom	A2257822	STL	03/19/2002	ND		**11,000,000**			
SS-11A Top	A2323333	STL	04/04/2002	**26,000**		**800,000**	BE	1.08	
SS-11A Bottom	A2323334	STL	04/04/2002	**25,000**		**1,100,000**	BE		
SS-11 A 1'	SS-11A1' 50Kx	STL	05/29/2002	772,034	U	**920,000**		7'	
SS-11 A 2'	SS-11 A2' 100Kx	STL	05/29/2002	1,444,586	U	**1,400,000**			
SS-Dup 2	SS-Dup 2 50Kx	STL	05/29/2002	746,826	U	**1,100,000**			SS-11A 2'
SS-11 A 3'	A2548114	STL	05/29/2002	3,125	U	**22,000**	B		
SS-11 A 4'	A2548115	STL	05/29/2002	3,125	U	**4,000**	B		
SS-11 A 5'	A2548116	STL	05/29/2002	520	J	**5,600**	B		
SS-11 A 6'	SS-11 A 6' 100x	STL	05/29/2002	1,354	U	**1,400**			
SS-11 A 7'	SS-11A7' 500x	STL	05/29/2002	6,329	U	**3,400**			
SS-11A 1'	SS-11A 1' 2g	STL	09/18/2002	64		18.5	U	10'	
SS-11A 3'	SS-11A 3' 2g	STL	09/18/2002	47		16.8	U		
SS-11A 4'	SS-11A 4' 2g	STL	09/18/2002	36.9	U	18.5	U		
SS-11A 5'	SS-11A 5' 2g	STL	09/18/2002	34		16.9	U		
SS-11A 7'	SS-11A 7' 2g	STL	09/18/2002	28.6	U	14.3	U		
SS-11A 10'	SS-11A 10' 2g	STL	09/18/2002	35		17.5	U		
SS-11A 1'	A2A62802	STL	10/24/2002	65		**1,800**		5.5'	
SS-11A 3'	A2A62703	STL	10/24/2002	30,000	U	**2,400,000**			
SS-11A 4'	A2A62704	STL	10/24/2002	14,000	U	**1,700,000**			

Table 9
Project Summary of Sediment Investigation Sample Results
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Lab Sample ID	Lab	Sample Date	Acetone (ppb)		Methylene Chloride (ppb)		Core Length (ft)	Notes
SS-11A 1'	A2C44701	STL	12/11/2002	30,000	U	**2,100,000**		4'	
SS-11A 2.5'	A2C44702	STL	12/11/2002	28,000	U	**1,400,000**			
SS-11A 4'	A2C44703	STL	12/11/2002	340	U	**32,000**			
SS-11A 1'	A3438438	STL	05/07/2003	460,000	U	**4,000,000**		9.5	
SS-11A 4'	A3438439	STL	05/07/2003	170		900			
SS-11A 9'	A3438440	STL	05/07/2003	55	B	51			
SS-12 Top	A2257823	STL	03/19/2002	ND		180	B	1.05	
SS-12 Bottom	A2257824	STL	03/19/2002	35	B	31	B		
SS-12A Top	A2323340	STL	04/04/2002	26		10	B	1.08	
SS-12A Bottom	A2323341	STL	04/04/2002	41		33	B		
SS-13 Top	A2257825	STL	03/19/2002	ND		30	B	1.2	
SS-13 Bottom	A2257826	STL	03/19/2002	150	B	52	B		
SS-14 Top	A2257827	STL	03/19/2002	ND		58	B		(Dup from SS-3 Top)
SS-14 Bottom	A2257828	STL	03/19/2002	170	B	64	B		(Dup from SS-3 Bot.)
SS-15 Bottom	A2323344	STL	04/04/2002	ND		**750,000**	B	0.8	
SS-15 1'	A2A62803	STL	10/24/2002	32		170		5	
SS-15 3'	A2A62705	STL	10/24/2002	33		**3,300**			
SS-15 5'	A2A62706	STL	10/24/2002	27		**2,000**			
SS-15 1'	A3448808	STL	05/07/2003	42,000	U	**1,100,000**	E	10	
SS-15 1' DL	A3448808DL	STL	05/07/2003	110,000	U	**560,000**			
SS-15 5'	A3448809	STL	05/07/2003	160		230			
SS-15 9.5'	A3448810	STL	05/07/2003	98		36			
SS-15 1'		STL	12/22/2003	110		9		7	
SS-15 4'		STL	12/22/2003	57		970	BE		
SS-15 4' DL		STL	12/22/2003	<150	U	**1,200**	BD		
SS-15 7'		STL	12/22/2003	31		53			
SS-15 1'	A04571501	STL	06/16/2004	46		<6	U	5	
SS-15 3'	A04571502	STL	06/16/2004	37		<6	U		
SS-15 5'	A04571503	STL	06/16/2004	74		<6	U		
SS-15 1'	A5361118	STL	04/12/2005	65		7	U	7'	
SS-15-3'	A5361119	STL	04/12/2005	96		7	U		
SS-15 7'	A5361120	STL	04/12/2005	62		6	U		
SS-15A 1'	SS 15 a1' 10000X	STL	05/29/2002	141,808	U	**330,000**		7'	
SS-15A 2'	SS 15 A2' 50000X	STL	05/29/2002	736,941	U	**770,000**			
SS-15A 3' DL	A2548107DL	STL	05/29/2002	6,900	U	**100,000**	BE		
SS-Dup 1	A2548110	STL	05/29/2002	**7,900**	D	**86,000**	BD		SS-15A 3'
SS-15A 4'	A2548108	STL	05/29/2002	3,125	U	**5,900**	B		
SS-15A 5'	A2548109	STL	05/29/2002	3,125	U	**2,900**	B		
SS-15A 6'	SS 15 a 6' 50x	STL	05/29/2002	750		326	U		
SS-15A 7'	SS 15 A 7' 50x	STL	05/29/2002	696	U	400			
SS-16 Top	A2323350	STL	04/04/2002	ND		**30,000**	B	1.5	
SS-16 Middle	A2323351	STL	04/04/2002	ND		**56,000**	BE		
SS-16 Bottom	A2323352	STL	04/04/2002	ND		**2,400,000**	BE		
SS-16 A 1'	SS 16 A 1' 0.5g	STL	05/29/2002	270		250		7'	
SS-16A 2'	SS 16 A 2' 5000x	STL	05/29/2002	70,490	U	**130,000**			
SS-16A 3'	A2548101	STL	05/29/2002	3,125	U	**3,900**	B		
SS-16 A 4'	A2548102	STL	05/29/2002	3,125	U	**2,000**	B		
SS-16 A 5'	A2548103	STL	05/29/2002	31	B	44	B		
SS-16 A 6'	SS-16 A 6' 0.5g	STL	05/29/2002	150		290			
SS-16 A 7'	SS-16 A 7' 0.5g	STL	05/29/2002	120		59	U		
SS-16A 1'	A3438454	STL	05/07/2003	63	B	29		9	
SS-16A 4'	A3438455	STL	05/07/2003	30	B	14	B		
SS-16A 8.5'	A3438456	STL	05/07/2003	83	B	47			
SS-17 Top	A2323312	STL	04/04/2002	120		38	B	1.42	
SS-17 Bottom	A2323314	STL	04/04/2002	54	B	50	B		
SS-18 Top	A2323338	STL	04/04/2002	57		49	B	1.12	
SS-18 Bottom	A2323339	STL	04/04/2002	39	B	32	B		
SS-19 Bottom	A2323335	STL	04/04/2002	ND		**960,000**	B	0.71	
SS-19 A 1'	SS-19 A 1' 500Kx	STL	05/29/2002	7,545,575	U	**10,000,000**		5'	
SS-19 A 2'	SS-19 A 2' 50Kx	STL	05/29/2002	680,846	U	**640,000**			

Table 9
Project Summary of Sediment Investigation Sample Results
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Lab Sample ID	Lab	Sample Date	Acetone (ppb)		Methylene Chloride (ppb)		Core Length (ft)	Notes
SS-19A 3' DL	A2548111	STL	05/29/2002	**6,600**	D	**53,000**	BD		
SS-19A 4' DL	A2548112	STL	05/29/2002	**15,000**	D	**100,000**	BD		
SS-19A 5'	A2548113	STL	05/29/2002	3,125	U	**3,700**	B		
SS-19A 1'	A2A62804	STL	10/24/2002	3,300	U	**1,100,000**		5	
SS-19A 2.5'	A2A62707	STL	10/24/2002	33,000	U	**5,000,000**			
SS-19A 5'	A2A62805	STL	10/24/2002	2,700	U	**2,900,000**			
SS-19A 1'	A2C44704	STL	12/11/2002	28,000	U	**2,200,000**		4.5'	
SS-19A 2.5'	A2C44705	STL	12/11/2002	330	U	**45,000**			
SS-19A 4.5'	A2C44706	STL	12/11/2002	76		**10,000**			
SS-19A 1'	A3438435	STL	05/07/2003	1,100,000	U	**15,000,000**		6.5	
SS-19A 3'	A3438436	STL	05/07/2003	20,000	U	**190,000**			
SS-19A 6''	A3438437	STL	05/07/2003	67	U	**1,600**	E		
SS-19A 6'DL	A3438437DL	STL	05/07/2003	3,125	U	**2,200**	D		
SS-19A 1'		STL	12/22/2003	<870,000	U	**11,000,000**	E	10	
SS-19A 1' DL		STL	12/22/2003	<1,700,000	U	**13,000,000**	D		
SS-19A 5'		STL	12/22/2003	<25	U	13	B		
SS-19A 10'		STL	12/22/2003	29		120	B		
SS-19A 1'	A4569801	STL	06/15/2004	<850,000	U	**10,000,000**	E	6	
SS-19A 1' DL	A4569801DL	STL	06/15/2004	<1,700,000	U	**11,000,000**	D		
SS-19A 3'	A4569802	STL	06/15/2004	<40,000	U	**210,000**			
SS-19A 6'	A4569803	STL	06/15/2004	<4,200	U	**25,000**			
SS-19A 0.5'	A5361115	STL	04/12/2005	200,000	U	**1,200,000**		4'	
SS-19A 2'	A5361116	STL	04/12/2005	4,000	U	**12,000**			
SS-19A 4'	A5361117	STL	04/12/2005	3,300	U	**1,300**			
SS-20 Top	A2323336	STL	04/04/2002	25		14	B	1.25	
SS-21 Top	A2323362	STL	04/04/2002	67		35	B		
SS-22 Top	A2323366	STL	04/04/2002	33		19		1.16	
SS-23 Top	A2323317	STL	04/04/2002	ND		**14,000,000**	B	1.04	
SS-23 BottomDL	A2323318DL	STL	04/04/2002	**370,000**	D	**7,000,000**	BD		
SS-23 A 1'	SS-23 A 1' 0.5g	STL	05/29/2002	163	U	82	U	6'	
SS-23 A 2'	SS-23 A 2' 0.5g	STL	05/29/2002	127	U	63	U		
SS-23 A 3'	A2548120	STL	05/29/2002	38	B	47	B		
SS-23A 4'	A2548121	STL	05/29/2002	28	B	91	B		
SS-23A 5'	A2548122	STL	05/29/2002	41	B	44	B		
SS-23 A 6'	SS-23 A 6' 1g	STL	05/29/2002	77		34	U		
SS-24 Top	A2323331	STL	04/04/2002	ND		**58,000**	B	1	
SS-24 BottomRE	A2323332	STL	04/04/2002	ND		**770,000**	BD		
SS-24 1'	A3438417	STL	05/07/2003	400,000	U	**3,800,000**		7	
SS-24 3'	A3438411	STL	05/07/2003	3,125	U	**19,000**			
SS-24 6.5'	A3438414	STL	05/07/2003	17	BJ	21			
SS-24 1'		STL	12/22/2003	76		290	E	5	
SS-24 1' DL		STL	12/22/2003	160	D	340	BD		
SS-24 2.5'		STL	12/22/2003	54		18			
SS-24 4.5'		STL	12/22/2003	67		18			
SS-24 1'	A4571504	STL	06/16/2004	77,000	U	**540,000**		6	
SS-24 3'	A4571505	STL	06/16/2004	46		1,100	E		
SS-24 3' DL	A4571505DL	STL	06/16/2004	3,600	U	**1,800**	D		
SS-24 6'	A4571506	STL	06/16/2004	27	U	260	E		
SS-24 6' DL	A4571506DL	STL	06/16/2004	130	U	190	D		
SS-24 0.5'	A5361111	STL	04/12/2005	46		6	U	5'	
SS-24 2.5'	A5361112	STL	04/12/2005	28	U	11			
SS-24 5'	A5361113	STL	04/12/2005	26	U	6			
SS-24 10'	A5361114	STL	04/12/2005	52		6			Duplicate of SS-24 0.5'
SS-24 A 1'	SS-24 A1' 50Kx	STL	05/29/2002	781,152	U	**690,000**		7'	
SS-24 A 2'	SS-24 A 2' 100x	STL	05/29/2002	1,275	U	**2,200**			
SS-24 A 3'	A2548117	STL	05/29/2002	3,125	U	**4,200**	B		
SS-24 A 4'	A2548118	STL	05/29/2002	3,125	U	1,100	B		
SS-24 A 5'	A2548119	STL	05/29/2002	3,125	U	**1,600**	B		
SS-24 A 6'	SS-24 A 6' 100x	STL	05/29/2002	1,130	U	760			
SS-24 A 7'	SS-24 A 7' 0.5g	STL	05/29/2002	108	U	110			

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Sample ID	Lab Sample ID	Lab	Sample Date	Acetone (ppb)		Methylene Chloride (ppb)		Core Length (ft)	Notes
SS-24 A 1'	A2A62807	STL	10/25/2002	67		320		4.5	
SS-24 A 2.5'	A2A62717	STL	10/25/2002	32		76	J		
SS-24 A 4.5'	A2A62718	STL	10/25/2002	39		700			
SS-24 A 1'	A3438432	STL	05/07/2003	93	B	14	B	6.5	
SS-24 A 3'	A3438433	STL	05/07/2003	28		6			
SS-24 A 6'	A3438434	STL	05/07/2003	17	BJ	38			
SS-25 Top	A2323315	STL	04/04/2002	60		23	B	1.08	
SS-25 Bottom	A2323316	STL	04/04/2002	35		32	B		
SS-26 Top	A2323360DI	STL	04/04/2002	8,600	U	**9,500**	BD	1	
SS-26 Bottom	A2323361	STL	04/04/2002	51	B	97	B		
SS-26 1'	A3438409	STL	05/07/2003	42		19		6.5	
SS-26 3'	A3438410	STL	05/07/2003	35	B	25	B		
SS-26 6'	A3438448	STL	05/07/2003	28	B	30			
SS-27 Top	A2323364	STL	04/04/2002	50		64	B	1.25	
SS-27 Bottom	A2323365	STL	04/04/2002	30	B	70	B		
SS-27 1'	A3438404	STL	05/07/2003	21	BJ	10	B	8.5	
SS-27 4'	A3438402	STL	05/07/2003	14	BJ	7	B		
SS-27 8'	A3438446	STL	05/07/2003	25	B	27			
SS-28 Top	A2323348	STL	04/04/2002	17	J	14	B	1.04	
SS-29 Top	A2323353	STL	04/05/2002	51		250	B	1.13	
SS-29 Bottom	A2323354	STL	04/04/2002	89	B	64	B		
SS-29 1'	A3438445	STL	05/07/2003	74	B	23		9	
SS-29 1' RI	A3438445RI	STL	05/07/2003	42		11			
SS-29 4'	A3438403	STL	05/07/2003	69	B	16	B		
SS-29 8.5'	A3438407	STL	05/07/2003	22	BJ	50			
SS-30 Top	A2323321	STL	04/05/2002	45		22	B	1.16	
SS-31 Bottom	A2323368	STL	04/05/2002	55		82	B	0.75	
SS-40 1'	SS-40 1' 0.5g	STL	05/29/2002	145	U	73	U	5'	
SS-40 2'	SS-40 2' 0.5g	STL	05/29/2002	121	U	60	U		
SS-40 3'	A2548123	STL	05/29/2002	54	B	16	B		
SS-40 4'	A2548124	STL	05/29/2002	46	B	13	B		
SS-40 5'	A2548125	STL	05/29/2002	14	BJ	24	B		
SS-41	No Sample		No Samples					0.5'	Bedrock
SS-42 1'	SS-42 1' 2g	STL	09/18/2002	105		18.2	U	4'	
SS-42 2.5'	SS-42 2.5' 2g	STL	09/18/2002	39.1	U	19.5	U		
SS-42 4'	SS-42 4' 2g	STL	09/18/2002	27.4	U	13.7	U		
SS-43 1'	SS-43 1' 2g	STL	09/18/2002	200		19.9	U	9'	
SS-43 4'	SS-43 4' 2g	STL	09/18/2002	40		17.6	U		
SS-43 6'	SS-43 6' 2g	STL	09/18/2002	65		17.9	U		
SS-43 9'	SS-43 9' 2g	STL	09/18/2002	32.2	U	16.1	U		
SS-43 1'	A2C44707	STL	12/11/2002	93		17	J	10'	
SS-43 4'	A2C44708	STL	12/11/2002	57		16	J		
SS-43 7'	A2C44709	STL	12/11/2002	86		17	J		
SS-43 10'	A2C44710	STL	12/11/2002	97		19	J		
SS-43 1'	A3448816	STL	05/07/2003	19	J	13		6.25	
SS-43 3'	A3448817	STL	05/07/2003	40		12			
SS-43 6'	A3448801	STL	05/07/2003	22	BJ	9	B		
SS-43 6' DUP	A3448801FD	STL	05/07/2003	17	J	12			Duplicate
SS-44 1'	SS-44 1' 2g	STL	09/18/2002	43		16.8	U	9'	
SS-44 4'	SS-44 4' 2g	STL	09/18/2002	34.9	U	17.4	U		
SS-44 7'	SS-44 7' 2g	STL	09/18/2002	35		17.2	U		
SS-44 9'	SS-44 9' 2g	STL	09/18/2002	61		19.3	U		
SS-45 1'	SS-45 1' 50000X	STL	09/18/2002	747,116	U	**750,000**		6'	
SS-45 4'	SS-45 4' 100X	STL	09/18/2002	1,333	U	**3,400**			
SS-45 6'	SS-45 6' 0.5g	STL	09/18/2002	106.3	U	81			
SS-45 1'	A2A62708	STL	10/24/2002	30		220		5	
SS-45 3'	A2A62709	STL	10/24/2002	58		56	J		
SS-45 5'	A2A62710	STL	10/24/2002	50		46	J		
SS-45 1'	A3438416	STL	05/07/2003	20,000	U	**300,000**		6.5	
SS-45 3'	A3438420	STL	05/07/2003	3,125	U	**4,100**			

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Sample ID	Lab Sample ID	Lab	Sample Date	Acetone (ppb)		Methylene Chloride (ppb)		Core Length (ft)	Notes
SS-45 6'	A3438419	STL	05/07/2003	53	B	43			
SS-46 1'	SS-46 1' 2g	STL	09/18/2002	115		19.9	U	10'	
SS-46 3'	SS-46 3' 2g	STL	09/18/2002	37.6	U	18.8	U		
SS-46 5'	SS-46 5' 2g	STL	09/18/2002	32.6	U	16.3	U		
SS-46 7'	SS-46 7' 2g	STL	09/18/2002	69		14.6	U		
SS-46 9.5'	SS-46 9.5' 2g	STL	09/18/2002	320		20.6	U		
SS-46 1'	A2C44711	STL	12/11/2002	80		20	J	7'	
SS-46 3.5'	A2C44712	STL	12/11/2002	90		18	J		
SS-46 7'	A2C44713	STL	12/11/2002	13		240			
SS-47 1'	SS-47 1' 2g	STL	09/18/2002	36		16.2	U	7'	
SS-47 2'	SS-47 2' 2g	STL	09/18/2002	45		18	U		
SS-47 5'	SS-47 5' 2g	STL	09/18/2002	32.9	U	16.4	U		
SS-47 7'	SS-47 7' 2g	STL	09/18/2002	28.8	U	14.4	U		
SS-48 1'	SS-48 1' 2g	STL	09/18/2002	157		19.5	U	9'	
SS-48 2'	SS-48 2' 2g	STL	09/18/2002	32		16.1	U		
SS-48 4'	SS-48 4' 2g	STL	09/18/2002	32	U	15.4	U		
SS-48 6'	SS-48 6' 2g	STL	09/18/2002	33.8	U	16.9	U		
SS-48 9'	SS-48 9' 2g	STL	09/18/2002	28.8	U	14.4	U		
SS-49 1'	SS-49 1' 2g	STL	09/18/2002	35.3	U	17.7	U	6'	
SS-49 3'	SS-49 3' 2g	STL	09/18/2002	36.5	U	18.2	U		
SS-49 6'	SS-49 6' 2g	STL	09/18/2002	41		18.9	U		
SS-50 1'	SS-50 1' 2g	STL	09/18/2002	131		18.1	U	4'	
SS-50 2'	SS-50 2' 2g	STL	09/18/2002	41		18.4	U		
SS-50 4'	SS-50 4' 2g	STL	09/18/2002	65		18.6	U		
SS-51 1'	SS-51 1' 2g	STL	09/18/2002	34.7	U	17.4	U	7'	
SS-51 3'	SS-51 3' 2g	STL	09/18/2002	38		16.5	U		
SS-51 5'	SS-51 5' 2g	STL	09/18/2002	29.7	U	14.9	U		
SS-51 6.5'	SS-51 6.5' 2g	STL	09/18/2002	30.7	U	15.4	U		
SS-52 1'	SS-52 1' 2g	STL	09/18/2002	78		18.3	U	7'	
SS-52 2'	SS-52 2' 2g	STL	09/18/2002	35.7	U	17.9	U		
SS-52 5'	SS-52 5' 2g	STL	09/18/2002	31.2	U	15.6	U		
SS-52 7'	SS-52 7' 2g	STL	09/18/2002	30.4	U	15.2	U		
SS-52 1'	A3438447	STL	05/07/2003	57	B	8	B	8.5	
SS-52 4'	A3438450	STL	05/07/2003	28	B	6	U		
SS-52 8'	A3438401	STL	05/07/2003	16	BJ	16			
SS-53 1'	SS-53 1' 2g	STL	09/18/2002	60		17.8	U	7.5'	
SS-53 3'	SS-53 3' 2g	STL	09/18/2002	169		18.3	U		
SS-53 5'	SS-53 5' 2g	STL	09/18/2002	30.4	U	15.2	U		
SS-53 7.5'	SS-53 7.5' 2g	STL	09/18/2002	29	U	14.5	U		
SS-54 1'	SS-541' 2g	STL	09/17/2002	182		20	U	5'	
SS-54 3'	SS-54 3' 2g	STL	09/17/2002	39		16.7	U		
SS-54 5'	SS-54 5' 2g	STL	09/17/2002	33		14.8	U		
SS-54 1'	A3438444	STL	05/07/2003	46	B	8		7.5	
SS-54 3'	A3438449	STL	05/07/2003	51	B	9	B		
SS-54 7'	A3438443	STL	05/07/2003	16	J	22			
SS-54 8'	A3438408	STL	05/07/2003	15	BJ	50	B		
SS-55 1'	SS-55 1' 2g	STL	09/17/2002	46		17.6	U	8'	
SS-55 3'	SS-55 3' 2g	STL	09/17/2002	67		17.7	U		
SS-55 5'	SS-55 5' 2g	STL	09/17/2002	32		15.6	U		
SS-55 8'	SS-55 8' 2g	STL	09/17/2002	30.3	U	15.2	U		
SS-56 1'	SS-56 1'2g	STL	09/17/2002	96		19.8	U	7'	
SS-56 3'	SS-56 3' 2g	STL	09/17/2002	38		17.1	U		
SS-56 5'	SS-56 5' 2g	STL	09/17/2002	40		16.7	U		
SS-56 7'	SS-56 7' 2g	STL	09/17/2002	28.6	U	14.3	U		
SS-57 1'	SS-57 1' 2g	STL	09/17/2002	226		19.7	U	4'	
SS-57 3'	SS-57 3' 2g	STL	09/17/2002	37.9	U	18.9	U		
SS-57 4'	SS-57 4' 2g	STL	09/17/2002	28.7	U	14.3	U		
SS-58 1'	SS-58 1' 2g	STL	09/17/2002	34		16.3	U	7'	
SS-58 2'	SS-58 2' 2g	STL	09/17/2002	84		19	U		
SS-58 4'	SS-58 4' 2g	STL	09/17/2002	94		19.2	U		

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Sample ID	Lab Sample ID	Lab	Sample Date	Acetone (ppb)		Methylene Chloride (ppb)		Core Length (ft)	Notes
SS-58 7'	SS-58 7' 2g	STL	09/17/2002	48		17	U		
SS-59 1'	A2A62806	STL	10/25/2002	76		420		7	
SS-59 4'	A2A62715	STL	10/25/2002	100		**7,300**			
SS-59 7'	A2A62716	STL	10/25/2002	56		290			
SS-60 1'	A2A62808	STL	10/25/2002	100		620		4	
SS-60 2.5'	A2A62719	STL	10/25/2002	2,500	U	**1,000,000**			
SS-60 4'	A2A62720	STL	10/25/2002	2,900	U	**350,000**			
SS-61 1'	A2A62809	STL	10/25/2002	3,200	U	**390,000**		4	
SS-61 2.5'	A2A62721	STL	10/25/2002	2,900	U	**2,000,000**			
SS-61 4'	A2A62722	STL	10/25/2002	32		**12,000**			
SS-62 1'	A2A62810	STL	10/25/2002	130		950		5	
SS-62 3'	A2A62723	STL	10/25/2002	96		**1,400**			
SS-62 5'	A2A62724	STL	10/25/2002	41		730			
SS-62 1'	A3438406	STL	05/07/2003	64	B	7	U	8.5	
SS-62 3'	A3438405	STL	05/07/2003	40	B	10			
SS-62 8'	A3438413	STL	05/07/2003	20	J	38			
SS-63 1'	A2A62811	STL	10/25/2002	3,200	U	**280,000**		4	
SS-63 2.5'	A2A62725	STL	10/25/2002	2,800	U	**6,600,000**			
SS-63 4'	A2A62726	STL	10/25/2002	2,800	U	**2,700,000**			
SS-63 1'	A2C44714	STL	12/11/2002	66		19	J	7.5'	
SS-63 3.5'	A2C44715	STL	12/11/2002	14	U	20	J		
SS-63 7'	A2C44716	STL	12/11/2002	11	U	44	J		
SS-63 1'	A3438418	STL	05/07/2003	39	B	**10**		6.5	
SS-63 3'	A3438412	STL	05/07/2003	49	B	20			
SS-63 6'	A3438415	STL	05/07/2003	16	J	47			
SS-64 1'	A2A62812	STL	10/25/2002	3,200	U	**370,000**		4	
SS-64 2.5'	A2A62727	STL	10/25/2002	3,000	U	**2,300,000**			
SS-64 4'	A2A62728	STL	10/25/2002	170		**100,000**			
SS-65 1'	A2C44717	STL	12/11/2002	100		21	J	6'	
SS-65 3'	A2C44718	STL	12/11/2002	14	U	23	J		
SS-65 6'	A2C44719	STL	12/11/2002	29		67			
SS-66 1'	A2C44720	STL	12/11/2002	68		19	J	6'	
SS-66 3'	A2C44721	STL	12/11/2002	42		85			
SS-66 6'	A2C44722	STL	12/11/2002	310		83			
SS-67 1'	A2C44726	STL	12/11/2002	18		14	J	8'	
SS-Dup	A2C44729	STL	12/11/2002	92		17	J		From SS-67 1'
SS-67 4'	A2C44727	STL	12/11/2002	79		18	J		
SS-67 8'	A2C44728	STL	12/11/2002	12		46			
SS-68 1'	A2C44723	STL	12/11/2002	53		18	J	3.5'	
SS-68 2'	A2C44725	STL	12/11/2002	100		20	J		
SS-68 3.5'	A2C44724	STL	12/11/2002	61		19	J		
SS-69 1'	A3448811	STL	05/07/2003	32	B	27	B	5.75	
SS-69 3'	A3448812	STL	05/07/2003	26		30			
SS-69 5'	A3448813	STL	05/07/2003	25	B	24	B		
SS-70 1'	A3448814	STL	05/07/2003	49		15		3	
SS-70 3'	A3448815	STL	05/07/2003	42	B	14	B		
SS-70 3' RI	A3448815RI	STL	05/07/2003	33		13			
SS-71 1'	A3448804	STL	05/07/2003	51		12		10	
SS-71 5'	A3448805	STL	05/07/2003	32	B	15	B		
SS-71 9.5'	A3448806	STL	05/07/2003	13	J	9			
SS-72 1.5'	A3448802	STL	05/07/2003	56		12			
SS-72 3'	A3448803	STL	05/07/2003	34	B	9	B		
SS-88 0.5'	A5361108	STL	04/12/2005	39	U	34		4.5'	
SS-88 2'	A5361109	STL	04/12/2005	7,400	U	**52,000**			
SS-88 4.5'	A5361110	STL	04/12/2005	29	U	180			
SS-89 1'	A5361105	STL	04/12/2005	35		7	U	7'	
SS-89 3.5'	A5361106	STL	04/12/2005	26	U	15			
SS-89 7'	A5361107	STL	04/12/2005	90		6	U		
SS-90 0.5'	A5361101	STL	04/12/2005	3,800	U	**2,400**		6.5'	
SS-90 3'	A5361102	STL	04/12/2005	73		85			

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SS-90 6.5'	A5361103	STL	04/12/2005	76		17			
SS-90 12'	A5361104	STL	04/12/2005	4,100	U	**1,300**			Duplicate of SS-90 0.5'
SS-NB1	SS-NB1 1g	STL	09/12/2002	85	U	43	U		Background
SS-TA	SS-TA 1 g	STL	09/12/2002	212		45	U		Background
WS-1 1'	A3438428	STL	05/06/2003	74	B	11	B	6.5	
WS-1 3'	A3438429	STL	05/06/2003	60	B	12			
WS-1 6'	A3438430	STL	05/06/2003	18	BJ	48			
WS-2 1'	A3438431	STL	05/06/2003	54	B	14		7.5	
WS-2 3'	A3438441	STL	05/06/2003	49	B	11	B		
WS-2 7'	A3438442	STL	05/06/2003	96	B	64			

Notes:

U = indicates compound was not detected at the stated limit.

J = indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectra data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

B = indicates that the analyte was found in the associated blank as well as the sample.

E = identifies compounds whose concentrations exceeded the calibration range of the GC/MS instrument for that specific analysis.

D = indicates that the compound identified is at a secondary dilution factor.

All units are in ug/kg (ppb)

Bold face lettering indicates compounds detected at concentrations above the RAOs of 773 ug/kg for acetone and 1,133 ug/kg for methylene chloride.

Table 10
Project Summary of River Water Quality Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Derailment

Sample ID	Sample Date	Sample Time	Acetone (ppb)		Methylene Chloride (ppb)		Notes
Surface Charlotte Upstream (Surface)	12/26/2001	20:00	99.0		6.4		Shore at RR Depot/Latta Ave.
Surface Charlotte Upstream (Surface)	12/27/2001	12:15	20.0	U	5.0	U	CL of Gen River @ RR Depot/Latta Ave.
Surface Upstream (Surface)	12/24/2001		10.0		5.0		Paradigm Lab- EPS sample
Surface Upstream (Surface)	12/26/2001		20.0	U	5.0	U	Shore at RR Depot/Latta Ave.
Surface Upstream (Surface)	12/27/2001	10:32	20.0	U	5.0	U	CL of Gen River @ RR Depot/Latta Ave.
Upstream +20	12/28/2001	14:57	50.0	U	1.0	U	CL of Gen River @ RR Depot/Latta Ave.
Boomed area (Surface)	12/24/2001		1,080.0		13,800.0		Paradigm Lab- EPS sample
Surface Charlotte Middle (Surface)	12/26/2001	20:00	75,000.0	E	700.0		Shore of spill area
Surface Middle (Surface)	12/26/2001		64,000.0		750.0	E	Shore of spill area
Charlotte Midstream	12/27/2001	10:26	20.0	U	5.0	U	Shore of spill area
Charlotte Midstream	12/27/2001	12:18	20.0	U	5.0	U	Shore of spill area
Middle +20	12/27/2001	15:20	12.0		104.0		25' East of Shore at Spill Area
Middle +20	12/28/2001	9:20	5.9	J	2.9		25' East of Shore at Spill Area
Middle +20	12/28/2001	12:15	50.0	U	1.0	U	25' East of Shore at Spill Area
Middle +20	12/28/2001	14:51	50.0	U	19.8		25' East of Shore at Spill Area
Middle +20	12/29/2001	9:55	33.4	J	21.8		25' East of Shore at Spill Area
Middle +20	12/29/2001	12:13	14.4	J	4.5		25' East of Shore at Spill Area
Middle +20	12/29/2001	14:04	20.0	J	75.0		25' East of Shore at Spill Area
Middle Surface	12/30/2001	8:11	51.0		29.0		25' East of Shore at Spill Area
Middle +20	12/30/2001	10:35	80.0		230.0		25' East of Shore at Spill Area
Middle +20	12/30/2001	13:13	64.0		16.0		25' East of Shore at Spill Area
Middle Surface	01/02/2002	12:40	50.0	U	50.0		25' East of Shore at Spill Area
Middle +20	01/02/2002	12:40	50.0	U	21.0		25' East of Shore at Spill Area
Middle Surface	01/02/2002	14:30	50.0	U	7.7		25' East of Shore at Spill Area
Middle +20	01/02/2002	14:30	50.0	U	4.7	B	25' East of Shore at Spill Area
Middle Surface	01/02/2002	16:00	50.0	U	2.7		25' East of Shore at Spill Area
Middle +20	01/02/2002	16:00	50.0	U	19.0		25' East of Shore at Spill Area
Middle Surface	01/03/2002	9:25	20.0	U	5.0	U	25' East of Shore at Spill Area
Middle +20	01/03/2002	9:25	20.0	U	5.0	U	25' East of Shore at Spill Area
Middle Surface	01/03/2002	11:45	20.0	U	5.0	U	25' East of Shore at Spill Area
Middle +20	01/03/2002	11:45	20.0	U	5.0	U	25' East of Shore at Spill Area
Middle Surface	01/03/2002	15:00	23.0		31.0		25' East of Shore at Spill Area
Middle +20	01/03/2002	15:00	20.0	U	14.0		25' East of Shore at Spill Area
Middle Surface	01/04/2002	7:30	20.0	U	5.0	U	25' East of Shore at Spill Area
Middle +20	01/04/2002	7:30	20.0	U	320.0	E	25' East of Shore at Spill Area
Middle Surface	01/04/2002	9:25	20.0	U	5.0	U	25' East of Shore at Spill Area
Middle +20	01/04/2002	9:25	20.0	U	18.0		25' East of Shore at Spill Area
Middle Surface	01/04/2002	10:20	20.0	U	17.0		25' East of Shore at Spill Area
Middle +20	01/04/2002	10:20	20.0	U	76.0		25' East of Shore at Spill Area
Middle +20	04/05/2002		25.0	U	10.0	B	25' East of Shore at Spill Area
Middle 20'	09/12/2002	9:10	10.0	U	17.0		
Grab at Boat Launch	12/24/2001	10:15	990.0		410.0		Monroe County Sample
Surface Downstream (Surface)	12/24/2001		165.0		431.0	E	Paradigm Lab- EPS sample
Charlotte Downstream (Surface)	12/26/2001	20:00	80.0		78.0		Shore at Boat Launch
Surface Downstream (Surface)	12/27/2001	10:15	20.0	U	37.0		CL of Gen River @ Boat Launch
Charlotte Downstream (Surface)	12/27/2001	12:25	20.0	U	5.0	U	CL of Gen River @ Boat Launch
Downstream +20	12/27/2001	15:06	20.0	U	8.5		CL of Gen River @ USCG
Downstream +20	12/28/2001	9:13	12.9	J	10.5		CL of Gen River @ USCG
Downstream +20	12/28/2001	12:08	50.0	U	7.2		CL of Gen River @ USCG
Downstream +20	12/28/2001	14:46	50.0	U	8.0		CL of Gen River @ USCG
Downstream +20	12/28/2001	14:46	50.0	U	8.1		CL of Gen River @ USCG
Downstream +20	12/29/2001	9:10	16.2	J	18.2		CL of Gen River @ USCG
Downstream +20	12/29/2001	12:07	50.0	U	10.0		CL of Gen River @ USCG
Downstream +20	12/29/2001	13:56	14.0	J	12.1		CL of Gen River @ USCG
Downstream Surface	12/30/2001	8:05	60.0	J	6.0		CL of Gen River @ USCG
Downstream +20	12/30/2001	10:30	45.0		20.0		CL of Gen River @ USCG
Downstream +20	12/30/2001	13:07	80.0		7.0		CL of Gen River @ USCG
Downstream Surface	01/02/2002	12:30	50.0	U	10.0		CL of Gen River @ USCG
Downstream +20	01/02/2002	12:30	50.0	U	9.0		CL of Gen River @ USCG
Downstream Surface	01/02/2002	14:40	50.0	U	9.8		CL of Gen River @ USCG

Table 10
Project Summary of River Water Quality Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Sample Date	Sample Time	Acetone (ppb)		Methylene Chloride (ppb)		Notes
Downstream +20	01/02/2002	14:40	50.0	U	11.0		CL of Gen River @ USCG
Downstream Surface	01/02/2002	16:10	50.0	U	13.0		CL of Gen River @ USCG
Downstream +20	01/02/2002	16:10	50.0	U	7.4		CL of Gen River @ USCG
Downstream Surface	01/03/2002	9:20	20.0	U	14.0		CL of Gen River @ USCG
Downstream +20	01/03/2002	9:20	20.0	U	11.0		CL of Gen River @ USCG
Downstream Surface	01/03/2002	11:35	20.0	U	12.0		CL of Gen River @ USCG
Downstream +20	01/03/2002	11:35	20.0	U	12.0		CL of Gen River @ USCG
Downstream Surface	01/03/2002	14:55	20.0	U	14.0		CL of Gen River @ USCG
Downstream +20	01/03/2002	14:55	20.0	U	14.0		CL of Gen River @ USCG
Downstream Surface	01/04/2002	7:35	20.0	U	13.0		CL of Gen River @ USCG
Downstream +20	01/04/2002	7:35	20.0	U	13.0		CL of Gen River @ USCG
Downstream Surface	01/04/2002	9:30	20.0	U	14.0		CL of Gen River @ USCG
Downstream +20	01/04/2002	9:30	20.0	U	17.0		CL of Gen River @ USCG
Downstream Surface	01/04/2002	10:25	20.0	U	14.0		CL of Gen River @ USCG
Downstream +20	01/04/2002	10:25	20.0	U	14.0		CL of Gen River @ USCG
Downstream +20	04/05/2002		6.0	J	3.0	BJ	CL of Gen River @ USCG
Downstream 20'	09/12/2002	9:20	10.0	U	5.0	U	
Channel/Lake +20	12/27/2001	14:57	20.0	U	41.0		Mouth of Genesee
Channel/Lake +20	12/28/2001	9:04	11.8	J	14.2		Mouth of Genesee
Channel/Lake +20	12/28/2001	11:57	9.2	U	11.3		Mouth of Genesee
Channel/Lake +20	12/28/2001	14:37	11.4	J	12.0		Mouth of Genesee
Channel/Lake +20	12/29/2001	9:01	11.9	J	21.5		Mouth of Genesee
Channel/Lake +20	12/29/2001	12:00	11.2	J	16.8		Mouth of Genesee
Channel/Lake +20	12/29/2001	13:47	12.0	J	17.9		Mouth of Genesee
Channel/Lake Surface	12/30/2001	8:00	36	J	16		Mouth of Genesee
Channel/Lake +20	12/30/2001	10:25	42	J	18		Mouth of Genesee
Channel/Lake +20	12/30/2001	13:01	52.0		25.0		Mouth of Genesee
Channel/Lake Surface	01/02/2002	12:10	50.0	U	3.2	B	Mouth of Genesee
Channel/Lake +20	01/02/2002	12:10	50.0	U	9.3		Mouth of Genesee
Channel/Lake Surface	01/02/2002	14:50	50.0	U	12.0		Mouth of Genesee
Channel/Lake +20	01/02/2002	14:50	50.0	U	12.0		Mouth of Genesee
Channel/Lake Surface	01/02/2002	16:15	50.0	U	8.7		Mouth of Genesee
Channel/Lake +20	01/02/2002	16:15	50.0	U	11.0		Mouth of Genesee
Channel/Lake Surface	01/03/2002	9:10	20.0	U	10.0		Mouth of Genesee
Channel/Lake +20	01/03/2002	9:10	20.0	U	11.0		Mouth of Genesee
Channel/Lake Surface	01/03/2002	11:25	20.0	U	10.0		Mouth of Genesee
Channel/Lake +20	01/03/2002	11:25	20.0	U	10.0		Mouth of Genesee
Channel/Lake Surface	01/03/2002	14:45	20.0	U	9.7		Mouth of Genesee
Channel/Lake +20	01/03/2002	14:45	20.0	U	9.7		Mouth of Genesee
Channel/Lake Surface	01/04/2002	7:40	20.0	U	10.0		Mouth of Genesee
Channel/Lake +20	01/04/2002	7:40	20.0	U	11.0		Mouth of Genesee
Channel/Lake Surface	01/04/2002	9:35	20.0	U	10.0		Mouth of Genesee
Channel/Lake +20	01/04/2002	9:35	20.0	U	11.0		Mouth of Genesee
Channel/Lake Surface	01/04/2002	10:30	20.0	U	12.0		Mouth of Genesee
Channel/Lake +20	01/04/2002	10:30	20.0	U	12.0		Mouth of Genesee
Channel/Lake +20	04/05/2002		6.0	J	4.0	BJ	Mouth of Genesee
Mouth 20'	09/12/2002	9:30	10.0	U	5.0	U	Mouth of Genesee
Lake 500' east +20	12/27/2001	14:50	16.0	J	22.0		500' east of Channel Mouth
Lake 500' east +20	12/28/2001	8:59	11.2	J	8.4		500' east of Channel Mouth
Lake 500' east +20	12/28/2001	11:52	8.6	J	5.1		500' east of Channel Mouth
Lake 500' east +20	12/28/2001	14:30	10.6	J	8.7		500' east of Channel Mouth
Lake 500' east +20	12/29/2001	8:25	10.0	J	8.0	U	500' east of Channel Mouth
Lake 500' east +20	12/29/2001	11:54	10.7	J	9.8		500' east of Channel Mouth
Lake 500' east +20	12/29/2001	13:42	12	J	2.9		500' east of Channel Mouth
Lake 500' east Surface	01/02/2002	12:00	50	U	12		500' east of Channel Mouth
Lake 500' east +20	01/02/2002	12:00	50	U	6.5		500' east of Channel Mouth
Lake 500' east Surface	01/02/2002	15:00	50	U	3.1	B	500' east of Channel Mouth
Lake 500' east +20	01/02/2002	15:00	50	U	8		500' east of Channel Mouth
Lake 500' east Surface	01/02/2002	16:20	50	U	5.5		500' east of Channel Mouth
Lake 500' east +20	01/02/2002	16:20	50	U	6		500' east of Channel Mouth
Lake 500' east Surface	01/03/2002	9:00	20	U	5	U	500' east of Channel Mouth

Table 10
Project Summary of River Water Quality Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Sample Date	Sample Time	Acetone (ppb)		Methylene Chloride (ppb)		Notes
Lake 500' east +20	01/03/2002	9:00	20	U	5	U	500' east of Channel Mouth
Lake 500' east Surface	01/03/2002	11:15	20	U	5	U	500' east of Channel Mouth
Lake 500' east +20	01/03/2002	11:15	20	U	5.3		500' east of Channel Mouth
Lake 500' east Surface	01/03/2002	14:40	20	U	5	U	500' east of Channel Mouth
Lake 500' east +20	01/03/2002	14:40	20	U	6.7		500' east of Channel Mouth
Lake 500' east Surface	01/04/2002	7:45	20	U	5	U	500' east of Channel Mouth
Lake 500' east +20	01/04/2002	7:45	20	U	5	U	500' east of Channel Mouth
Lake 500' east Surface	01/04/2002	9:40	20	U	5	U	500' east of Channel Mouth
Lake 500' east +20	01/04/2002	9:40	20	U	5	U	500' east of Channel Mouth
Lake 500' east Surface	01/04/2002	10:40	20	U	5	U	500' east of Channel Mouth
Lake 500' east +20	01/04/2002	10:40	50	U	5		500' east of Channel Mouth

Phase III Water

Middle +20	04/05/2002		25.0	U	10.0	B	
Downstream +20	04/05/2002		6.0	J	3.0	BJ	
Channel/Lake +20	04/05/2002		6.0	J	4.0	BJ	
Lake 500' east +20	04/05/2002		7	J	3	BJ	

Phase IV Water

Middle 20'	09/12/2002	9:10	10.0	U	17.0		
Downstream 20'	09/12/2002	9:20	10.0	U	5.0	U	
Mouth 20'	09/12/2002	9:30	10.0	U	5.0	U	
Lake East 20'	09/12/2002	9:40	10	U	5	U	

Phase V Water

SS-5Aw	10/24/2002		3.7		5.4		
SS-11Aw	10/24/2002		2.4		2.5		
SS-19Aw	10/24/2002		2.3		0.67	J	
SS-24Aw	10/25/2002		1.8		1.1		
SS-45w	10/24/2002		3.8		2.5		
SS-61w	10/25/2002		2.7		0.6	J	
WS-1	10/25/2002		1.6		1.6		
WS-2	10/25/2002		1.8		0.65	J	
WS-3	10/25/2002		1.9		0.88	J	

Phase VI Water

CGW-1	12/11/2002		0.22		0.27	J	
SS-11Aw	12/11/2002		27		0.45	J	
SS-19Aw	12/11/2002		29		0.29	J	
SS-63w	12/11/2002		32		0.22	J	
WS-1	12/11/2002		29		4.3		
WS-2	12/11/2002		27		0.3	J	
WS-3	12/11/2002		6		0.74	J	

Phase VII Water

SS-11A	05/06/2003		25	U	4	J	
SS-19A	05/06/2003		25	U	5	U	
SS-63	05/06/2003		25	U	7		
WS-1	05/06/2003		25	U	5		
WS-2	05/06/2003		25	U	5	U	
WS-3	05/06/2003		25	U	5	U	

Phase VIII Water

SS-15W	12/22/2003		25	U	5	U	
SS-19AW	12/22/2003		25	U	5	U	
SS-64W	12/22/2003		25	U	5	U	
WS-1	12/22/2003		25	U	5	U	
WS-2	12/22/2003		25	U	5	U	
WS-3	12/22/2003		25	U	5	U	

Table 10
Project Summary of River Water Quality Monitoring
CSXT Genesee River Dredging Project
Rochester, NY

Sample ID	Sample Date	Sample Time	Acetone (ppb)		Methylene Chloride (ppb)		Notes
Phase IX Water							
WS-1	06/03/2004		25	U	5	U	
WS-2	06/03/2004		25	U	5	U	
WS-3	06/03/2004		25	U	5	U	
Phase X Water							
WS-1	04/18/2005		25	U	5	U	
WS-2	04/18/2005		25	U	5	U	
WS-3	04/18/2005		25	U	5	U	

Notes:
Water quality monitoring samples were not collected during Phase I and II.
U = indicates compound was not detected at the stated limit.
J = indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectra data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
B = indicates that the analyte was found in the associated blank as well as the sample.
E = identifies compounds whose concentrations exceeded the calibration range of the GC/MS instrument for that specific analysis.
D = indicates that the compound identified is at a secondary dilution factor.
All units are in ug/kg (ppb)

APPENDICIES

APPENDIX A

MEMORANDUM

TO: Michael O'Toole, Director, Division of Hazardous Waste Remediation
FROM: N.G. Kaul, Director, Division of Water
SUBJECT: Generic Effluent Criteria for Surface Water Discharges

DATE: **September 28, 1995**

This memo is to transmit a general authorization for short term, batch surface water discharges of pump test and containerized well development waters. Remedial investigations and designs have often required DOW to provide rapid turnaround times to develop short term surface water pump test and containerized well development water discharge criteria. The attached generic surface water effluent criteria and general conditions were developed by DOW staff to reduce delays in implementing these short term surface water discharges and to save staff time for both Divisions. Please have your staff pay particular attention to the footnotes listed at the end of the document.

The attached criteria are subject to the following conditions:

1. Discharges to surface waters within the New York City watershed are not authorized by the attached criteria. A full DOW review is required by these discharges.

2. The criteria do not contain discharge limitations for radioactive discharges. Limitations on discharges of radiation or radioactive isotopes are addressed under Part 380 Radiation Control Permits.

3. Alternate monitoring frequencies, discharge limitations (where appropriate) or inclusion of parameters not identified in the attachment will be considered; however, a complete review by DOW staff will be required.
4. The attached parameter list is extensive and DOW's intent is for monitoring to be conducted only for those parameters which are known or suspected to be present at the site. Monitoring of parameters not present is not required by these criteria.

The DOW does not have any regulatory authority over a discharge from State, PRP, Federal Superfund Sites without SPDES permits. DHWR will be responsible for ensuring compliance with the attached effluent criteria and approval of all engineering submissions. Footnote (11) requires identification of the DHWR contact person who will receive all effluent results, engineering submissions and modification requests. The Regional Water Engineer should be kept appraised of the status of each discharge and sent a copy of the effluent results for informational purposes.

Long term groundwater and surface water discharges are not addressed in the attached criteria or in the short term groundwater criteria sent in a previous memo. A complete review of these proposed discharge scenarios will still require full DOW review. The attached criteria may be used as a planning tool by your staff, consultants and PRPs determining the most feasible discharge option. All long term groundwater and surface water discharge requests and modifications of the short term discharge criteria should be directed to Mr. Angus Eaton, Chief, Chemical Systems Section, Bureau of Wastewater Facilities Design.

If you have any questions, please call Mr. Angus Eaton at 457-0625.

Attachment

cc: Regional Water Engineers
A. Eaton, DOW

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Outfall 001 - Containerized Well Development Water and/or Pump Test Water:					
Flow	NA	Monitor	gpd	Continuous	Meter
pH(Range)	NA	6.5 to 8.5	SU	(1)	Grab
Oil and Grease	NA	15	mg/l	(1)	Grab
BOD, 5-day	NA	5	mg/l	(1)	Grab
Solids, Total Suspended	NA	10	mg/l	(1)	Grab
Solids, Total Dissolved	NA	200	mg/l	(1)	Grab
Turbidity	NA	5	NTUs	(1)	Grab
Acenaphthene	83-32-9	10	µg/l	(1)	Grab
Acenaphthylene	208-96-8	10	µg/l	(1)	Grab
Acetone	67-64-1	100.0[2]	µg/l	(1)	Grab
Acrylic acid	79-10-7	50	µg/l	(1)	Grab
Acrylonitrile	107-13-1	0.07	µg/l	(1)	Grab
Alachlor	15972-60-8	0.3	µg/l	(1)	Grab
Aldicarb	116-06-3	8.0[2]	µg/l	(1)	Grab
Methomyl	16752-77-5	40.0[2]	µg/l	(1)	Grab
Aldicarb sulfone	1646-88-4	2	µg/l	(1)	Grab
Aldicarb sulfoxide	1646-87-3	4	µg/l	(1)	Grab
Aldrin	309-00-2	0.020[2]	µg/l	(1)	Grab
Alkyl dimethyl benzyl ammonium chloride	68391-01-5	50	µg/l	(1)	Grab
Alkyl diphenyl oxide sulfonates[3]	NA	50	µg/l	(1)	Grab
Aluminum, Total	NA	100	µg/l	(1)	Grab
Ametryn	834-12-8	50	µg/l	(1)	Grab
Aminomethylene phosphonic acid salts[4]	NA	50	µg/l	(1)	Grab
Sum of Aminopyridines	NA	1.0	µg/l	(1)	Grab
Ammonia, Total (as NH_3)	7664-41-7	660	µg/l	(1)	Grab
Aniline	62-53-3	10.0[2]	µg/l	(1)	Grab
Anthracene	120-12-7	10	µg/l	(1)	Grab
Antimony, Total	NA	10.0[2]	µg/l	(1)	Grab
Arsenic, Total	NA	36	µg/l	(1)	Grab
Aryltriazoles[3]	NA	50	µg/l	(1)	Grab
Atrazine	1912-24-9	8.0[2]	µg/l	(1)	Grab
Azinphosmethyl	86-50-0	0.60[2]	µg/l	(1)	Grab
Azobenzene	103-33-3	0.5	µg/l	(1)	Grab
Barium, Total	NA	1,000	µg/l	(1)	Grab
Benz(a)anthracene	56-55-3	0.050[2]	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Benzene	71-43-2	0.80[2]	µg/l	(1)	Grab
Benzidine	92-87-5	0.30[2]	µg/l	(1)	Grab
Benzisothiazole	271-61-4	50	µg/l	(1)	Grab
Benzo(a)anthracene	56-55-3	10	µg/l	(1)	Grab
Benzo(b)fluoranthene	205-99-2	0.070[2]	µg/l	(1)	Grab
Benzo(k)fluoranthene	207-08-9	0.020[2]	µg/l	(1)	Grab
Benzo(ghi)Perylene	191-24-2	10	µg/l	(1)	Grab
Benzo(a)pyrene	50-32-8	0.090[2]	µg/l	(1)	Grab
Beryllium, Total	NA	3	µg/l	(1)	Grab
Bis(2-chloroethyl)ether	111-44-4	1.0[2]	µg/l	(1)	Grab
Bis(2-ethylhexyl)phthalate	117-81-7	8.0[2]	µg/l	(1)	Grab
Boric acid, Borates & Metaborates[5]	NA	125	µg/l	(1)	Grab
Boron, Total	NA	1,000	µg/l	(1)	Grab
Bromide, Total	NA	2,000	µg/l	(1)	Grab
Bromobenzene	108-86-1	5	µg/l	(1)	Grab
Bromochloromethane	74-97-5	5	µg/l	(1)	Grab
Bromodichloromethane	75-27-4	10	µg/l	(1)	Grab
Bromoform	75-25-2	10	µg/l	(1)	Grab
Bromomethane	74-83-9	5	µg/l	(1)	Grab
Butoxyethoxyethanol	112-34-5	50	µg/l	(1)	Grab
Butoxypropanol	5131-66-8	50	µg/l	(1)	Grab
Butylate	2008-41-5	50	µg/l	(1)	Grab
n-Butylbenzene	104-51-8	5	µg/l	(1)	Grab
sec-Butylbenzene	135-98-8	5	µg/l	(1)	Grab
tert-Butylbenzene	98-06-6	5	µg/l	(1)	Grab
Butyl benzyl phthalate	85-68-7	50	µg/l	(1)	Grab
Butyl isopropyl phthalate	NA	50	µg/l	(1)	Grab
Cadmium, Total	NA	1.2	µg/l	(1)	Grab
Carbofuran	1563-66-2	10.0[2]	µg/l	(1)	Grab
Carbon tetrachloride	56-23-5	0.50[2]	µg/l	(1)	Grab
Carboxin	5234-68-4	50	µg/l	(1)	Grab
Chloramben[6]	NA	50	µg/l	(1)	Grab
Chlordane	57-74-9	0.060[2]	µg/l	(1)	Grab
Chloride	NA	250,000	µg/l	(1)	Grab
2,3,7,8-Tetrachlorodibenzo-p-dioxin	NA	0.0080[2]	µg/l	(1)	Grab
Chlorinated dibenzo-p-dioxins and Chlorinated dibenzofurans	NA	0.0080[2]	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements: Measurement Frequency	Minimum Monitoring Requirements: Sample Type
Chlorine, Total Residual	NA	100.0[2]	µg/l	(1)	Grab
Chlorobenzene	108-90-7	5	µg/l	(1)	Grab
4-Chlorobenzotrifluoride	98-56-6	5	µg/l	(1)	Grab
Chloroethane	75-00-3	5	µg/l	(1)	Grab
Chloroform	67-66-3	7	µg/l	(1)	Grab
2-Chloronaphthalene	91-58-7	10	µg/l	(1)	Grab
2-Chlorotoluene	95-49-8	5	µg/l	(1)	Grab
4-Chlorotoluene	106-43-4	5	µg/l	(1)	Grab
5-Chloro-o-toluidine	95-79-4	0.7	µg/l	(1)	Grab
Chromium, Total	NA	207	µg/l	(1)	Grab
Chromium, Hexavalent	NA	11	µg/l	(1)	Grab
Chrysene	218-01-0	0.60[2]	µg/l	(1)	Grab
Cobalt, Total	NA	5	µg/l	(1)	Grab
Copper, Dissolved	NA	Monitor	µg/l	(1)	Grab
Copper, Total	NA	24	µg/l	(1)	Grab
Cyanide, Amenable to Chlorination	NA	60.0[2]	µg/l	(1)	Grab
Dalapon[6]	NA	50	µg/l	(1)	Grab
4,4'-DDT	50-29-3	0.050[2]	µg/l	(1)	Grab
4,4'-DDD	72-54-8	0.040[2]	µg/l	(1)	Grab
4,4'-DDE	72-55-9	0.020[2]	µg/l	(1)	Grab
Sum of Demeton	NA	0.1	µg/l	(1)	Grab
Dechlorane Plus	13560-89-9	5	µg/l	(1)	Grab
Diazinon	333-41-5	0.7	µg/l	(1)	Grab
Dibenzo(a,h)Anthracene	53-70-3	10	µg/l	(1)	Grab
Dibromochloromethane	124-48-1	10	µg/l	(1)	Grab
1,2-Dibromo-3-chloropropane	96-12-8	0.2	µg/l	(1)	Grab
Dibromodichloromethane	594-18-3	5	µg/l	(1)	Grab
Dibromomethane	74-95-3	5	µg/l	(1)	Grab
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	20	µg/l	(1)	Grab
Di-n-butyl phthalate	84-74-2	50	µg/l	(1)	Grab
1,2-Dichlorobenzene	95-50-1	see sum of Dichlorobenzenes			
1,4-Dichlorobenzene	106-46-7	see sum of Dichlorobenzenes			
1,3-Dichlorobenzene	541-73-1	see sum of Dichlorobenzenes			
Sum of Dichlorobenzenes	NA	5	µg/l	(1)	Grab
3,4-Dichlorobenzotrifluoride	328-84-7	5	µg/l	(1)	Grab
Dichlorodifluoromethane	75-71-8	5	µg/l	(1)	Grab
1,1-Dichloroethane	75-34-3	5	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements: Measurement Frequency	Minimum Monitoring Requirements: Sample Type
1,2-Dichloroethane	107-06-2	0.8	µg/l	(1)	Grab
cis-1,2-Dichloroethylene	156-59-2	5	µg/l	(1)	Grab
trans-1,2-Dichloroethylene	156-60-5	5	µg/l	(1)	Grab
1,1-Dichloroethylene	75-35-4	0.50[2]	µg/l	(1)	Grab
Dichlorofluoromethane	75-43-4	5	µg/l	(1)	Grab
2,4-Dichlorophenol	120-83-2	2.0[2]	µg/l	(1)	Grab
2,4-Dichlorophenoxyacetic acid	94-75-7	10	µg/l	(1)	Grab
1,2-Dichloropropane	78-87-5	0.5	µg/l	(1)	Grab
1,1-Dichloropropane	78-99-9	5	µg/l	(1)	Grab
1,3-Dichloropropane	142-28-9	5	µg/l	(1)	Grab
2,2-Dichloropropane	594-20-7	5	µg/l	(1)	Grab
1,1-Dichloropropene	563-58-6	5	µg/l	(1)	Grab
cis-1,3-Dichloropropene	10061-01-5	5	µg/l	(1)	Grab
trans-1,3-Dichloropropene	10061-02-6	5	µg/l	(1)	Grab
2,3-Dichlorotoluene	32768-54-0	5	µg/l	(1)	Grab
2,4-Dichlorotoluene	95-73-8	5	µg/l	(1)	Grab
2,5-Dichlorotoluene	19398-61-9	5	µg/l	(1)	Grab
2,6-Dichlorotoluene	118-69-4	5	µg/l	(1)	Grab
3,4-Dichlorotoluene	95-75-0	5	µg/l	(1)	Grab
3,5-Dichlorotoluene	25186-47-4	5	µg/l	(1)	Grab
Dieldrin	60-57-1	0.0080[2]	µg/l	(1)	Grab
Di(2-ethylhexyl)adipate	103-23-1	50	µg/l	(1)	Grab
Diethyl phthalate	84-66-2	50	µg/l	(1)	Grab
N,N-Dimethyl aniline	121-69-7	1.0	µg/l	(1)	Grab
Dimethylformamide	68-12-2	50	µg/l	(1)	Grab
Dimethyl phthalate	131-11-3	50	µg/l	(1)	Grab
Dimethyl tetrachloroterephthalate	1861-32-1	50	µg/l	(1)	Grab
2,6-Dinitrotoluene	606-20-2	0.080[2]	µg/l	(1)	Grab
Di-n-octyl phthalate	117-84-0	50	µg/l	(1)	Grab
Dioxin	see "Chlorinated dibenzo-p-dioxins and Chlorinated dibenzofurans"				
Diphenamid	957-51-7	50	µg/l	(1)	Grab
1,2-Diphenylhydrazine	122-66-7	0.05	µg/l	(1)	Grab
Diquat dibromide	85-00-7	20	µg/l	(1)	Grab
Dodecylguanidine acetate	2439-10-3	see sum of Dodecylguanidine acetate and			
Dodecylguanidine hydrochloride	13590-97-1	Dodecylguanidine hydrochloride			
Sum of Dodecylguanidine acetate and dodecylguanidine hydrochloride	NA	50	µg/l	(1)	Grab
Dyphylline	479-18-5	50	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Endosulfan	115-73-3	0.020[2]	µg/l	(1)	Grab
Endothall	145-73-3	50	µg/l	(1)	Grab
Endrin	72-20-8	0.020[2]	µg/l	(1)	Grab
Ethylbenzene	100-41-4	5	µg/l	(1)	Grab
Ethylene chlorohydrin	107-07-3	50	µg/l	(1)	Grab
Ethylene dibromide	106-93-4	0.05	µg/l	(1)	Grab
Ethylene glycol	107-21-1	50	µg/l	(1)	Grab
Ethylene oxide	75-21-8	0.05	µg/l	(1)	Grab
Fluometuron	2164-17-2	50	µg/l	(1)	Grab
Fluoranthene	206-44-0	10	µg/l	(1)	Grab
Fluorene	86-73-7	10	µg/l	(1)	Grab
Fluoride	NA	2000	µg/l	(1)	Grab
Glyphosate	1071-83-6	50	µg/l	(1)	Grab
Guaifenesin	93-14-1	50	µg/l	(1)	Grab
Heptachlor	76-44-8	0.010[2]	µg/l	(1)	Grab
Heptachlor epoxide	1024-74-3	0.30[2]	µg/l	(1)	Grab
Hexachlorobenzene	118-74-1	0.20[2]	µg/l	(1)	Grab
Hexachlorobutadiene	87-68-3	1.0[2]	µg/l	(1)	Grab
"-Hexachlorocyclohexane("-BHC)	319-84-6	0.010[2]	µg/l	(1)	Grab
$-Hexachlorocyclohexane($-BHC)	319-85-7	0.020[2]	µg/l	(1)	Grab
-Hexachlorocyclohexane(-BHC)	319-86-8	0.040[2]	µg/l	(1)	Grab
'-Hexachlorocyclohexane(Lindane)	58-89-9	0.020[2]	µg/l	(1)	Grab
Hexachlorocyclopentadiene	77-47-4	2.0[2]	µg/l	(1)	Grab
2-Hexanone	591-78-6	50	µg/l	(1)	Grab
Hexazinone	51235-04-2	50	µg/l	(1)	Grab
Hydrazine	302-01-2	5	µg/l	(1)	Grab
Hydrogen sulfide	7783-06-4	2.0	µg/l	(1)	Grab
Hydroquinone	123-31-9	2.2	µg/l	(1)	Grab
1-Hydroxyethylidene-1,1-diphosphonic acid	2809-21-4	50	µg/l	(1)	Grab
2-(2-Hydroxy-3,5-di-tert-pentylphenyl)benzotriazole	25973-55-1	50	µg/l	(1)	Grab
Indeno(1,2,3-cd)pyrene	193-39-5	0.20[2]	µg/l	(1)	Grab
Iron, Total	NA	300	µg/l	(1)	Grab
Isodecyl diphenyl phosphate	29761-21-5	1.7	µg/l	(1)	Grab
Isophorone	78-59-1	10	µg/l	(1)	Grab
Isopropylbenzene	98-82-8	5	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
4-Isopropyltoluene	99-87-6	5	µg/l	(1)	Grab
Total Isothiazolones	NA	1	µg/l	(1)	Grab
Lead, Total	NA	4.0[2]	µg/l	(1)	Grab
Magnesium, Total	NA	35,000	µg/l	(1)	Grab
Malathion	121-75-5	0.6[2]	µg/l	(1)	Grab
Manganese, Total	NA	300	µg/l	(1)	Grab
Mercaptobenzothiazole	149-30-4	50	µg/l	(1)	Grab
Mercury, Total	NA	0.8[2]	µg/l	(1)	Grab
Methacrylic acid	79-41-4	50	µg/l	(1)	Grab
Methoxychlor	72-43-5	0.4[2]	µg/l	(1)	Grab
(2-Methoxyethyl)benzene	4013-34-7	50	µg/l	(1)	Grab
(1-Methoxyethyl)benzene	3558-60-9	50	µg/l	(1)	Grab
Sum of Methybenz(a)anthracenes	NA	0.002	µg/l	(1)	Grab
Methyl chloride	74-87-3	5	µg/l	(1)	Grab
Methylene bisthiocyanate	6317-18-6	1.0	µg/l	(1)	Grab
Methylene chloride	75-09-2	5	µg/l	(1)	Grab
4-(1-Methylethoxy)-1-butanol	31600-69-8	50	µg/l	(1)	Grab
2-Methylethyl-1,3-dioxolane	126-39-6	50	µg/l	(1)	Grab
Methyl ethyl ketone	78-93-3	50	µg/l	(1)	Grab
2-Methylstyrene	611-15-4	5	µg/l	(1)	Grab
3-Methylstyrene	100-80-1	5	µg/l	(1)	Grab
Metribuzin	21087-64-9	50	µg/l	(1)	Grab
Mirex	2385-85-5	0.4[2]	µg/l	(1)	Grab
Naphthalene	91-20-3	10	µg/l	(1)	Grab
Niacinamide	98-92-0	500	µg/l	(1)	Grab
Nickel, Total	NA	96	µg/l	(1)	Grab
Nitrate (as N)	NA	10,000	µg/l	(1)	Grab
Nitrilotriacetic acid[7]	NA	3	µg/l	(1)	Grab
Nitrite	NA	20	µg/l	(1)	Grab
Nitrobenzene	98-95-3	5	µg/l	(1)	Grab
N-Nitrosodiphenylamine	86-30-6	10	µg/l	(1)	Grab
Oxamyl(Vydate)	23135-22-0	10	µg/l	(1)	Grab
Parathion	56-38-2	0.6[2]	µg/l	(1)	Grab
Methyl parathion	298-00-0	0.6[2]	µg/l	(1)	Grab
Pentachlorophenol	87-86-5	2[2]	µg/l	(1)	Grab
Phenanthrene	85-01-8	10	µg/l	(1)	Grab
Phenolic compounds (total phenols)[11]	NA	8.0[2]	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements Measurement Frequency	Sample Type
Phenyl ether	101-84-8	10	µg/l	(1)	Grab
Phenylpropanolamine	14838-15-4	50	µg/l	(1)	Grab
cis-1-Phenyl-1-propene	766-90-5	5	µg/l	(1)	Grab
trans-1-Phenyl-1-propene	873-66-5	5	µg/l	(1)	Grab
3-Phenyl-1-propene	637-50-3	5	µg/l	(1)	Grab
Phosphorus	NA	20	µg/l	(1)	Grab
Picloram[6]	1918-02-1	50	µg/l	(1)	Grab
PCB-1016	12674-11-2	0.30[2,8]	µg/l	(1)	Grab
PCB-1221	11104-28-2	0.30[2,8]	µg/l	(1)	Grab
PCB-1232	11141-16-5	0.30[2,8]	µg/l	(1)	Grab
PCB-1242	53469-21-9	0.30[2,8]	µg/l	(1)	Grab
PCB-1248	12672-29-6	0.30[2,8]	µg/l	(1)	Grab
PCB-1254	11097-69-1	0.30[2,8]	µg/l	(1)	Grab
PCB-1260	11096-82-5	0.30[2,8]	µg/l	(1)	Grab
Prometon	1610-18-0	50	µg/l	(1)	Grab
Propham	122-42-9	50	µg/l	(1)	Grab
n-Propylbenzene	103-65-1	5	µg/l	(1)	Grab
Pyrene	129-00-0	10	µg/l	(1)	Grab
Pyridine	110-86-1	50	µg/l	(1)	Grab
Sum of Quaternary ammonium compounds	NA	10	µg/l	(1)	Grab
Selenium, Total	NA	4[2]	µg/l	(1)	Grab
Silver, Total	NA	200	µg/l	(1)	Grab
Simazine	122-34-9	8[2]	µg/l	(1)	Grab
Styrene	100-42-5	50	µg/l	(1)	Grab
Sulfate	NA	250,000	µg/l	(1)	Grab
Sulfides, Total	NA	50	µg/l	(1)	Grab
Sulfite	NA	200	µg/l	(1)	Grab
Tebuthiuron	34014-18-1	50	µg/l	(1)	Grab
Terbufos	13071-79-9	100.0[2]	µg/l	(1)	Grab
Sum of Tetrachlorobenzenes	12408-10-5	10	µg/l	(1)	Grab
1,1,1,2-Tetrachloroethane	630-20-6	5	µg/l	(1)	Grab
1,1,2,2-Tetrachloroethane	79-34-5	0.2	µg/l	(1)	Grab
Tetrachloroethylene	127-18-4	0.7	µg/l	(1)	Grab
Tetrahydrofuran	109-99-9	50	µg/l	(1)	Grab
Thallium, Total	NA	4	µg/l	(1)	Grab
Theophylline	58-55-9	40	µg/l	(1)	Grab
Terbufos	13071-79-9	100.0[2]	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements: Measurement Frequency	Sample Type
Sum of Tetrachlorobenzenes	12408-10-5	10	µg/l	(1)	Grab
1,1,1,2-Tetrachloroethane	630-20-6	5	µg/l	(1)	Grab
1,1,2,2-Tetrachloroethane	79-34-5	0.2	µg/l	(1)	Grab
Tetrachloroethylene	127-18-4	0.7	µg/l	(1)	Grab
Toluene	108-88-3	5	µg/l	(1)	Grab
o-Toluidine	95-53-4	10[2]	µg/l	(1)	Grab
Tolytriazole	29385-43-1	50	µg/l	(1)	Grab
Toxaphene	8001-35-2	1.0[2]	µg/l	(1)	Grab
1,2,4-Tribromobenzene	615-54-3	5	µg/l	(1)	Grab
Tributyltin oxide	56-35-9	50	µg/l	(1)	Grab
Sum of Trichlorobenzenes	12002-48-1	10	µg/l	(1)	Grab
1,1,1-Trichloroethane	71-55-6	5	µg/l	(1)	Grab
1,1,2-Trichloroethane	79-00-5	0.6	µg/l	(1)	Grab
Trichloroethylene	79-01-6	3	µg/l	(1)	Grab
Trichlorofluoromethane	75-69-4	5	µg/l	(1)	Grab
2,4,5-Trichloro-phenoxypropionic acid	93-72-1	10	µg/l	(1)	Grab
1,1,2-Trichloropropane	598-77-6	5	µg/l	(1)	Grab
1,2,3-Trichloropropane	96-18-4	5	µg/l	(1)	Grab
cis-1,2,3-Trichloropropene	13116-57-9	5	µg/l	(1)	Grab
trans-1,2,3-Trichloropropene	13116-58-0	5	µg/l	(1)	Grab
alpha,2,4-Trichlorotoluene	94-99-5	5	µg/l	(1)	Grab
alpha,2,6-Trichlorotoluene	2014-83-7	5	µg/l	(1)	Grab
alpha,3,4-Trichlorotoluene	102-47-6	5	µg/l	(1)	Grab
alpha,alpha,2-Trichlorotoluene	88-66-4	5	µg/l	(1)	Grab
alpha,alpha,4-Trichlorotoluene	13940-94-8	5	µg/l	(1)	Grab
2,3,4-Trichlorotoluene	7359-72-0	0.34	µg/l	(1)	Grab
2,3,5-Trichlorotoluene	56961-86-5	0.34	µg/l	(1)	Grab
2,3,6-Trichlorotoluene	2077-46-5	0.34	µg/l	(1)	Grab
2,4,5-Trichlorotoluene	6639-30-1	0.34	µg/l	(1)	Grab
2,4,6-Trichlorotoluene	23749-65-7	0.34	µg/l	(1)	Grab
1,1,1-Trichloro-2,2,2-trifluoroethane	354-58-5	5	µg/l	(1)	Grab
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	5	µg/l	(1)	Grab
1,2,3-Trimethylbenzene	526-73-8	5	µg/l	(1)	Grab
1,2,4-Trimethylbenzene	95-63-6	5	µg/l	(1)	Grab
1,3,5-Trimethylbenzene	108-67-8	5	µg/l	(1)	Grab
2,3,6-Trimethylpyridine	1462-84-6	50	µg/l	(1)	Grab

SEE PAGES 9 OF 10 AND 10 OF 10 FOR FOOTNOTES.

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning with the start of each discharge event

and lasting until 7 days from start of discharge.

the discharges from the treatment facility to surface water shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	CAS No.	Discharge Limitations Daily Max.	Units	Minimum Monitoring Requirements: Measurement Frequency	Sample Type
2,4,6-Trimethylpyridine	108-75-8	50	µg/l	(1)	Grab
Triphenyl phosphate	115-86-6	4	µg/l	(1)	Grab
Vanadium, Total	NA	14	µg/l	(1)	Grab
Vinyl chloride	75-01-4	0.70[2]	µg/l	(1)	Grab
1,2-Xylene	95-47-6	5	µg/l	(1)	Grab
1,3-Xylene	108-38-2	5	µg/l	(1)	Grab
1,4-Xylene	106-42-3	5	µg/l	(1)	Grab
Zinc, Total	NA	166	µg/l	(1)	Grab

Footnotes:

(1) Samples must be collected prior to each discharge event. Discharge may not commence until the sample results show compliance with the above discharge limitations.

(2) Discharge limit is set at the Practical Quantitation Limit (PQL). Actual surface water effluent standard/limitation is below this limit.

(3) Limit applies to each isomer individually.

(4) Limit applies to each salt individually.

(5) Limit applies as boron equivalents to the sum of these substances.

(6) Limit includes forms that convert to the organic acid upon acidification to a pH of 2 or less; and esters of the organic acid.

(7) Includes related forms that convert to nitrilotriacetic acid upon acidification to a pH of 2.3 or less.

SEE PAGE 10 OF 10 FOR ADDITIONAL FOOTNOTES.

Footnotes (continued):

(8) a. The treatment plant operator must monitor this discharge for PCBs using USEPA laboratory method 608. The laboratory must make all reasonable attempts to achieve a Minimum Detection Level (MDL) of 0.065 µg/l.

b. 0.065 µg/l is the discharge goal. The treatment plant operator shall report all values above the MDL (0.065 µg/l per Aroclor). If the level of any Aroclor is above 0.065 µg/l, the treatment plant operator must evaluate the treatment system and identify the cause of the detectable level of PCBs in the discharge.

c. If the Department determines that effluent monitoring results above 0.065 µg/l can be prevented by implementation of additional measures as proposed by the treatment plant operator in footnote 10.b above, and approved by the Department, the treatment plant operator shall implement such additional measures.

(8) Only site generated pump test and containerized well development water are authorized for treatment and discharge.

(9) Samples and measurements, to comply with the monitoring requirements specified above, must be taken from the holding tank prior to discharge to ______________________.

(10) Discharge is not authorized until such time as an engineering submission showing the method of treatment and discharge is approved by the Department. The discharge rate may not exceed the effective treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to the following DHWR contact person: ______________________________________.

(11) Total phenolics must be analyzed using EPA Methods 420.1 or 420.2.

(12) Discharge to a surface water body within the New York City Watershed is not authorized by these effluent criteria. Seperate review of any proposed discharge to a surface water within the New York City Watershed is required.

APPENDIX B

SOUTHERN TIER CONSULTING, INC.

RESTORATION SEED MIX

by:

Southern Tier Consulting & Nursery
The Wetland Plant & Seed Source

2701-A Route 305
P.O. Box 30
West Clarksville, NY 14786
(585)968-3120 Fax: (585) 968-3122
Email: <froghome@eznet.net>
Website: <www.southerntierconsulting.com>

FILE
Project Name: Genesee River Dedo
Project No.: 64300-8523
File No.: 3C

5 lbs Northeast Upland Wildflower/
Restoration Erosion Mix

Northeast Upland Wildflower/Restoration Erosion Mix

	Lot Number	Col/Test Date	Origin
Achillea millefolium	21-05-02	Jul-02	OR
Agrostis alba/gigantea	03-05-02	Jul-02	OR
Aster novae-angliae	15-01-03	2003	AC/NY
Chrysanthemum leucanthemum	45-01-03	2003	NY
Daucus carota	53-01-03	Sep-03	NY
Festuca rubra	68B-04-04	Mar-04	CN
Lolium multiflorum	93-05-04	Feb-04	OR
Onethera bennis	100-05-02	Jan-02	IA
Polygonum pennsylvanicum	113-05-04	Jul-04	NE
Rudbeckia hirta	117-05-03	Jun-03	NY
Trifolium hybridum	14-01-03	May-03	NY

APPENDIX C

February 18, 2005

Mr. David Pratt, P.E.
NYSDEC Region 8
6274 East Avon – Lima Road
Avon, New York 14414

Re: CSXT River St. Derailment
Rochester, New York
Post-Dredging Downstream Samples

Dear Mr. Pratt:

In accordance with your September 20, 2004 e-mail request, AMEC Earth and Environmental, Inc. (AMEC) collected on-behalf of CSX Transportation, Inc. (CSX) two downstream sediment samples following the conclusion of dredging activities. These samples were collected in the vicinity of the west Hojack bridge abutment and Pelicans Restaurant (Pelicans) on November 3, 2004.

The samples were collected utilizing a manual dredge style sampling device know as a Ponar. AMEC personnel selected the two sampling locations because of their proximity to Pelicans and the Monroe County Public Boat Launch. Sampling locations are illustrated on the attached map. Samples were sent to Columbia Analytical Services (Columbia) of Rochester, NY for analysis by USEPA method 8260B. Analytical results are summarized below in **Table 1** and are available upon request.

TABLE 1			
Sample ID	**Sample Date**	**Acetone**	**Methylene Chloride**
PDDS – 1	11/03/04	33	ND
PDDS – 2	11/03/04	ND	ND

Results are in ug/kg

Review of the analytical data indicates that location PDDS – 1 (Post Dredge Down Stream) exhibited acetone at a concentration of 33 ug/kg. Although the chemical was detected, it by no mean indicates that the sediments were impacted by the derailment or dredging activities. Included as a part of the sediment investigations conducted prior to dredging, samples were collected upstream to identify background concentrations. Summarized in **Table 2** are four of the upstream samples collected since the incident.

Table 2			
Sample ID	**Sample Date**	**Acetone**	**Location Description**
SS-TA	09/12/2002	212	Cement freighter turn around
SS-70 1'	05/07/2003	49	Below Stutson St. Bridge
SS-71 1'	05/07/2003	51	Cement Freighter turn around
SS-72 1.5'	05/07/2003	56	Upstream of turn around, just below Kodak

Results are in ug/kg

As identified in **Table 2** upstream analytical results indicate that acetone was present within the river sediment prior to the derailment and subsequent remediation events. Acetone occurs naturally and it would not be uncommon (as seen above) to find concentrations throughout the Genesee River especially given its history. Also acetone is created during the oxidation of humic plant materials in an aerobic environment and a river bottom is a very common place for this.

Further more, although CSX dredging activities removed both methylene chloride and acetone, methylene chloride was found to be at higher concentrations and over a larger area making it the primary chemical of concern. The absence of methylene chloride in post dredging downstream samples is a further indication that the acetone detected is that which is normally present in the riverbed. It is our conclusion that dredging activities conducted during the fall of 2004 in response to the December 23, 2001 derailment did not contribute to the minor downstream sediment concentrations of acetone.

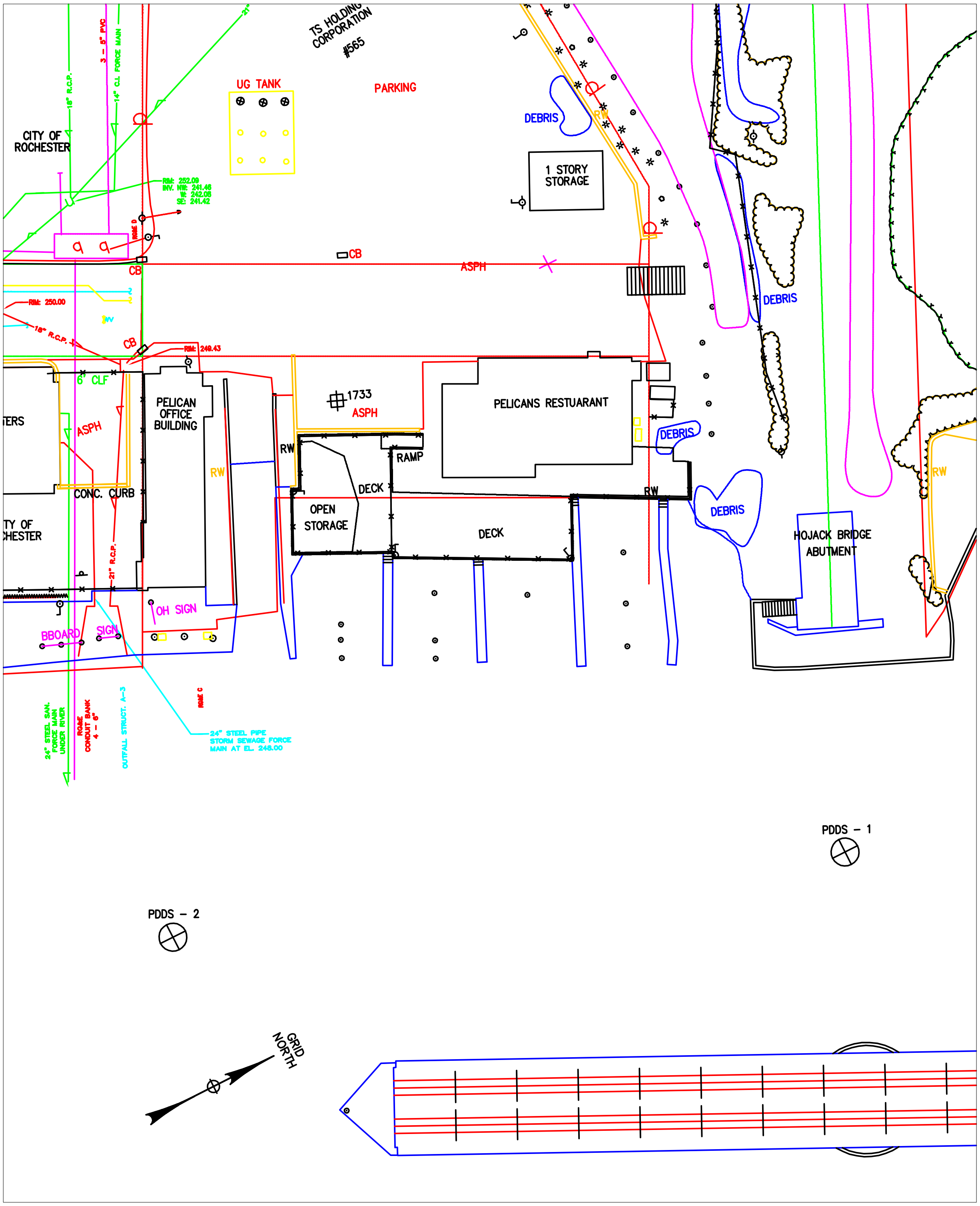
If you have any questions or would like to discuss this further please do not hesitate to contact me at 518.372.0905.

Sincerely,

Timothy P. Ahrens, CHMM
Project Manager

Cc:	Paul Kurzanski	CSX Transportation, Inc.
	Tom Walsh	Hiscock Barclay
	Jerry Mackey	Hiscock Barclay
	Amy Kendall	Hiscock Barclay

Attachments:
Sample Location Map



	BY	D/M/Y
DSN.	JWL	11/03/04
DRN.	TPA	02/18/05

amec

PROJECT NO. 64300-8523

PROJECT PHASE POST DREDGING

SCALE 1 = 50

SUBJECT
CSX TRANSPORTATION, INC.
RIVER ST., ROCHESTER, NY
DOWNSTREAM SEDIMENT SAMPLES

REV	D/M/Y	REVISION	DRN	CHK	APP	APP	APP	APP
A	02/18/05	POST DREDGE SEDIMENT SAMPLES	FEB	JWL	TPA			

ISS	D/M/Y	APP	ISSUED FOR
1	02/18/05	TPA	NYSDEC

DRAWING NO. 643008523-100

REV. A