SUBMITTAL FOR:

CSXT GENESEE RIVER SITE

ROCHESTER, NY

CONSTRUCTION WORK PLAN

SUBMITTED TO:

AMEC EARTH & ENVIRONMENTAL, INC.
One Plymouth Meeting, Suite 850
Plymouth Meeting, PA 19462-1308

SUBMITTED BY:

D.A. COLLINS ENVIRONMENTAL SERVICES
101 Route 67, PO Box 191
Mechanicville, New York 12118-0190
Ph. 518-664-9855 / Fax 518-664-9609

A Proud Member of the D.A. Collins Companies

AUGUST 27, 2004

Table of Contents

1.0 Overview

This Work Plan is submitted to provide general information on the means, methods, and sequence of operations to be completed in performance of the CSXT Genesee River project.

The Work Plan is intended to supplement the other plans governing various aspects of the project (see Section 1.1 below). A copy of this Work Plan shall be maintained on-site at all times and updated as necessary.

1.1 Related Documents

The following documents are incorporated by reference and should be reviewed and utilized as part of the Work Plan.

- Health and Safety Plan (HASP)
- Construction Water Management Plan (CWMP)
- Contractor Quality Control Plan (CQCP)
- Work Plan – Project Schedule

1.2 Project Schedule & Major Phases

The Project Schedule (submitted under separate cover) sets forth the general sequence and duration of the various activities. The Project Schedule shall be considered a supporting document to the Work Plan and must be updated with the Work Plan, as appropriate.

This Work Plan provides information on material and equipment staging and general methods of operation for the following major phases of the project:

- Site Setup
- Clearing & Grubbing
- Turbidity Curtain Installation
- Dredging and Sediment Transfer
- Sediment Solidification and Processing
- Sediment Storage
- Backfilling and Subaqueous Cap Installation
- Surveying
- Demobilization
- Project Closeout and Reporting

2.0 Site Setup

2.1 Engineers' and Contractors' Trailers

The Engineer's trailer and the Contractor's trailer will be placed on the Petten St. Property. Temporary utilities including phone and power will be brought in from a nearby utility pole and connected by licensed electricians. Sanitary services will be placed by both field trailers and regularly serviced by a portable sanitary service. Potable water will be supplied by a bottled water service.

Final location and placement will be determined in the field by the Superintendent.

2.2 Site Control Trailer

The Site Control Trailer (SCT) will be a separate trailer located west of the dredging operation on the River Street property. Signage will indicate that visitors must sign in at the Contractor's trailer. The SCT will be used by the CQC Manager and the dredging technicians during performance of the dredging and installation of the subaqueous cap.

Final location and placement of the SCT will be determined in the field and is subject to relocation depending upon site conditions.

2.3 Material Storage Containers

D.A. Collins will maintain two containers (12ft and 8ft), which will be used for storage of small equipment and supplies. The containers will be placed on the Petten St Property and is subjected to relocation depending on site conditions.

2.4 Access Routes

Vehicles and equipment will generally access the Petten Street area from Petten Street. A temporary road will be maintained between Petten Street, the O'Rourke Memorial Bridge, and the River Street work area. Access from River Street will be unaffected by DAC.

2.5 Clearing, Grubbing and Grinding

In general, clearing will be limited to portions of the Petten Street Area. The area will be cleared to allow room for the installation of the sediment stockpile area, equipment decontamination pad, water treatment facility, and field trailers. Trees and brush will be removed along the west side of the site as necessary to make room for the temporary access road. Brush and small trees will be chipped on site. In some cases, whole logs may be separated and recycled.

2.6 Decontamination Areas

Personnel and equipment decontamination (decon) varies depending on the level of PPE required at the site. Personnel and equipment decontamination will be required when personnel or equipment enter and exit an Exclusion Zone or Contaminant Reduction Zone. Decontamination procedures must be followed by all personnel or equipment which may become contaminated while in the work areas.

2.6.1 Personal

A personal decontamination trailer will be placed within the Contamination Reduction Zone (CRZ) at the Petten St. Property. The trailer will include PPE supplies, respirator cleaning area, lockers, chairs and a wash stations consisting of potable water supply, hand soap and clean towels. Prior to entering the trailer from the Exclusion Zone all personnel will remove all contaminated PPE and place the PPE into a 55-gallon drum. Personal decontamination procedures are detailed in the HASP and will be followed by all personnel.

A designated area will setup outside of the decontamination trailer within the Contamination Reduction Zone (CRZ) for decon of small tools. This area will include at a minimum, wash tubs, scrub brushes, detergent/water and rinse water when appropriate for non-disposable equipment. Non-disposable equipment will be cleaned and staged for the next use.

2.6.2 Equipment

A 100'x15' decontamination pad for larger equipment will be installed at the southern end of the Sediment Stockpile Area (SSA) within the CRZ on the Petten St. Property as shown on the drawing DAC-1. Construction of the decontamination pad will include the following:

- Rough grading of the Decon Pad area, with sloping to the north for water collection and removal at the catch basins located inside the SSA.
- Placing of 6" of asphalt in accordance with the specifications.
- Installation of asphalt curbing along the east, west and south sides.

In the event that vehicles or equipment become contaminated by project operations, the vehicle(s) will proceed to the Decon Pad for decontamination prior to departure from the site. Vehicle and equipment decontamination will be performed by 3,000 psi pressure washer and manual cleaning where necessary. Decontamination water collecting in the SSA sumps will be managed in accordance with the CWMP. Solid waste will be co-disposed with outgoing waste materials.

The Decon Pad will also serve the dual purpose as the off-site vehicle loading area. Dump trailers awaiting loading will enter the Decon Pad from the south side. Loading will occur from the north side of the pad as material is brought from the SSA. At the completion of loading, the Decon Pad will be inspected for any spilled waste. If the Pad or the vehicle has been contaminated with waste material, it will be removed and the area decontaminated prior to vehicle departure.

2.7 Sediment Unloading, Dewatering and Stabilization Area (SUDSA)

D.A. Collins intends to consolidate offloading and stabilization activities at the designated area just north of the SSA (See DAC-1). The operations in this area will include a 40'x48' deck barge providing a mooring point and work platform for offloading of sediment and a small offloading area where sediment will be placed prior to removal to the SSA. Due to wetlands impacts, the location of the deck barge has been determined by the NYS DEC.

The SUDSA will be utilized to dewater, offload and stabilize dredge materials prior to transport to the Sediment Stockpile Area (SSA). A long stick excavator will be staged on the deck barge to facilitate this operation. A cement silo will be staged on shore, adjacent to the deck barge to provide storage and access to Portland cement.

2.8 Splash Pad Containment

Spill containment between the hopper scow and the offloading area will be maintained by lined splash pad placed between these two areas. The splash pad is 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 final size and configuration of the pad will be dependent upon site conditions at the time of construction, but will include the following general elements.

- The footprint of the splash pad shall include the entire deck barge, the area between the deck barge and the offloading area, and the open space between the deck barge and the hoppers on the hopper scow.
- The footprint will be lined with a contiguous 40-mil LLDPE liner (or equivalent) with fully welded seams where necessary.
- The perimeter edges of the liner will be elevated with 4"x4" timber to create a berm around the entire perimeter. Timber framing will also be used where necessary to 'bridge' the liner over the gaps between the deck barge and shore and the deck barge and hopper scow.
- The scow side of the splash pad will be assembled with hinges or flaps which can be raised and lowered as the hopper scow moves in and out of the area. Once the hopper scow is secured to the deck barge, the scow side of the pad will deployed by lowering it onto the hopper scow and overlapping the leading edge into the hopper. When not in service, the scow side flap will be raised and folded back onto the deck barge.
- Crane mats shall be placed on top of the splash pad to provide stability for the excavator and protection to for the splash pad liner.

2.9 Sediment Stabilization & Offloading Sequence

General sediment management practices will occur in the following sequence:

1. Evaluate water / sediment content of each hopper and available storage space in the SSA and Water Treatment Facility (WTF).
2. Deploy the splash pads along the interface between the deck barge and the hopper barge. Deploy or maintain the splash pad between the deck barge and the offloading area.

3. Decant standing water within each hopper by pumping from surface pools and / or sump pipes. Remove as much water as practical and transfer to the WTF for storage and treatment in accordance with the CWMP.
4. Add Portland cement to each hopper. In order to minimize dust generation, cement will be delivered from the silo to the hopper via a concrete bucket equipped with feed and discharge snouts. Concrete will be added to the bucket while it is staged on the deck barge. When needed, the excavator will hook on to the bucket and suspend it over the hopper while cement is discharged.
5. Mix and stabilize sediments with the long stick hoe until suitably solid for offloading. Sediments should be allowed to cure and solidify only long enough to ensure effective solidification and to safely handle and offload material. Do not allow solidifying sediments to remain in the hoppers for more than 4 hours if possible.
6. Remove sediments with the long stick hoe and place the material into the offloading area. A front-end loader will be used to collect sediment material at this point and transfer the material to one of the bins at the SSA. NOTE: In order to prevent spillage of sediment into the river, the long stick hoe shall AT ALL TIMES keep the bucket over the footprint of the deck barge when swinging between the hopper barge and offloading area. Any failure to contain sediments on top of the deck barge or splash pads shall result in a shutdown until better engineering controls or work practices are established.

2.10 Sediment Stockpile Area

The SSA will be utilized to stockpile material prior to testing and shipping. The SSA will be constructed on the Petten St. property as shown in DAC-1. The SSA will be graded, paved and built up in accordance with the project specifications for the sediment stockpile and processing area.

Liquid containment along the perimeter of the SSA will be maintained by asphalt curbing and / or splash edge barriers (SEBs). In general curbing will be used at entrances and to facilitate access to the SSA. The splash edge barriers will be used where a higher containment wall is desired due to the proximity of soil handling and staging. In those areas, the SEBs will be used in lieu of asphalt curbing. The design of the SEB includes Jersey barrier overlaid on both sides with 20 mil LLDPE liner. The liner is sealed to the asphalt surface by placing it between the base coarse and top coarse during paving. The finished design creates a watertight containment from the asphalt surface to the top of the Jersey barrier. See the details in DAC-1 for design elements of these border features.

DAC intends to install as many as ten (10) processed sediment stockpile bays to better segregate sediment batches during the 5 day approval / loading cycle. The sediment stockpile bays will be a 20'x 40' area to store approximately 100cy and separated by jersey barriers. Splash edge barrier will not be used for barrier portions located inside the perimeter of the SSA.

Stockpiled material will be tested at the end of each workday, or as appropriate depending upon the condition of the material and curing time. Testing will include field testing for resistance to penetration and laboratory services for paint filter testing. Any stockpile failing either test will be amended with additional Portland cement and re-tested. Additional solidification efforts will be performed on the SSA. Failed material will be removed the bin as needed to allow the loader to place Portland on the

material and adequately mix the Portland for stabilization. The re-treated material will then be placed back into the bin, allowed to cure for approximately 24 hours, and re-tested.

Since re-treatment at the SSA is likely to generate dust, care shall be taken to minimize the amount of Portland mixed at any given time. The loader operator shall perform all mixing with methods that minimize dust generation (i.e. no elevated dumping of Portland, spreading & kneading rather than loading and dropping, minimal agitation, etc.). Water will also be applied, if absolutely necessary, to control dust during mixing.

2.11 Spill Control & Management

The SSA is intended to act as a fully contained storage area for contaminated sediments and water. Consequently, small spills resulting from material handling will be effectively contained. In order to prevent the potential of a larger spill or containment breach (i.e. water overflow during storm events, loss of sediment over SEB walls, etc.), the following work practices shall be followed.

- Regular removal of standing water from the SSA and catch basins in accordance with the CWMP. Transfer pumping should be performed whenever there is standing water on the pad.
- Cleaning and maintenance of the catch basins, transfer lines, and pumps as necessary to maintain effective water management.
- Proper storage and stockpiling of solidified sediments including stockpile cover tarps. Do not overload the storage bins such that stockpiled material could fall off the pile and over the SEB.
- Routine cleanup of the SSA surface if sediment tracking is excessive or likely to clog the catch basins.

2.12 Water Treatment Facility

A water treatment facility will be placed at the Southwest corner of the SSA on the Petten St. Property. The water treatment system components and performance specifications are detailed in the CWMP.

Contaminated water collected from the SSA sumps and sediment dewatering operations will be transferred to the primary settling tank for subsequent treatment in accordance with the CWMP.

2.13 Parking

An area for personnel parking will be designated at both the Petten St. and River St. work areas.

2.14 Sanitary Facilities

The sanitary facilities will be maintained and cleaned on a weekly basis. One sanitary facility will be placed at the Petten Street Support Zone and one at the River Street area.

3.0 Turbidity Controls

A turbidity containment system shall be installed to prevent the migration of suspended solids outside the designated work area. The system shall consist of an outer curtain (permeable), inner curtain (impermeable), and an oil boom designed to contain suspended solids, deflect currents and prevent intrusion of wildlife. Turbidity curtain installation will be completed prior to any dredging or any sediment excavation.

3.1 Curtain Installation

The inner curtain will be a Siltdam Impermeable turbidity curtain as required by the specifications. The outer curtain will be a Siltdam Type II permeable turbidity curtain as required by the specifications. Lengths and depths of curtains and design elements of scow access gates are shown on Drawing DAC-2.

The inner and outer turbidity curtains will be fitted with reefing lines to allow for adjustment and to facilitate movement of the curtain to accommodate ship traffic. In the event that the scow gates need to be opened, work will cease to allow suspended solids to settle out of the water column. The scow gates will be opened to allow the vessel through and immediately closed upon entry of the vessel into the containment. Work activities will not resume until the containment system is reestablished and all gates are closed.

The turbidity curtain lengths will be manufactured and/or modified in the field to that the ballast chain can rest on the bottom of the riverbed without excessive curtain 'bundling' in the shallow areas. Sections of the outer and inner curtains will be connected with a ½" nylon cord at the universal connector.

The inner and outer curtain shall be anchored in place using 2'x2'x6' concrete deadmen. The upstream portion of the outer curtain will be installed on center spacing not to exceed 17 feet at the universal connector or at the vertical seems between floatation elements. Anchors for the curtains in the areas downstream or parallel to the currents flow will be spaced not to exceed 35 feet. The inner and outer turbidity curtains will be spaced at a minimum of 10 feet apart. For locations where the inner and outer curtains are within 10 feet apart, a shared anchor point maybe used. A nylon anchor rope will be used in anchoring the curtains, one end will be attached to the anchor and the other end will be attached to the curtains floatation device. The nylon rope will allow the curtains to move up and down with varying water elevations. The outer turbidity curtain will be fitted with a boom marker light, using USCG recommended spacing and lighting. Oil booms will be installed along the inside of the outer turbidity curtains.

The deadmen anchors, outer curtain, and inner curtain will be installed using a barge-mounted crane and supporting boats. The crane will be equipped with the Clamvision positioning system to accurately place the curtains. The curtains will be installed in a manner that minimizes disturbance of the sediment.

At the completion of the curtain installation, a diver shall perform a complete underwater inspection of the curtain system to verify proper deployment and function of the containment system. The diver will also perform a visual survey of the entire dredge area to identify and locate any underwater debris or obstructions which will require special management.

3.2 Turbidity Monitoring and Contamination Control

The turbidity sensors will be equipped with a real-time data transmission system and on-shore readout device. The instruments will be placed upstream and downstream and will be deployed in the zone where construction-related turbidity is most likely to be found. One background monitor will be located upstream of the site to provide background turbidity levels. A downstream monitor will be located approximately 300 feet down gradient of the turbidity curtain. A third monitor point will be located between the inner and outer turbidly curtains. Turbidity observations shall be made continuously on both the upstream and downstream side of the work area using.

In the event that turbidity reading inside the outer curtain exceeds 50 NTUs or 50 percent more than the upstream turbidity value (which ever is greater), DA Collins will take immediate action to reduce the amount of sediments being suspended. Actions will also be taken if readings outside the outer curtain exceed 40 NTUs or 20 percent more than the upstream turbidity value (which ever is greater). Action will also be taken if a visible turbidity plum attributable to remedial operations is observed more than 100 feet from the active operation and outside the outer turbidity curtain.

If immediate action is not successful in reducing downstream turbidity to below these criteria within 60 minutes, as indicated by the monitoring instruments or by visual means, remedial operations will cease. Water samples will be collected outside the outer curtain at both the upstream and downstream monitoring stations. The samples will be for methylene chloride and acetone. Additional controls will be evaluated by the Engineer and will be the responsibility of DA Collins to Implement. Dredging activities can resume when the source of the problem has been corrected and downstream turbidity has been reduced below criteria.

If damage to the turbidity curtain is observed, the damaged panels shall be repaired as discussed in section 3.4 of this operations plan.

3.3 Apparent Sheen Outside Curtain

6 NYCRR Part 703.2 requires that there be no visible oil or floating substances in surface waters. The presence of sheens outside the work area shall be made by visual inspection on an ongoing basis. If sheen is observed outside the controlled work area, the following contingency steps shall be immediately initiated to contain and remove the sheen:

- All work activities shall be halted.
- Spill response materials, including containment booms, sorbent booms, etc shall be used to contain the sheen.
- A visual inspection of the surface water and curtain shall be performed to identify potential sources of the sheen. If it is found that the turbidity curtain is damaged or malfunctioning, corrective measures shall be taken as soon as possible to remedy the situation.
- An engineering evaluation shall be made of all equipment and activities within the containment to evaluate existing conditions.
- The contained sheen shall be removed from the water surface and the area observed for redevelopment of the sheen.
- If no new sheen is observed, work activities shall resume.

If a new sheen develops, further source evaluation shall be performed in conjunction with the Engineer and DEC representative.

3.4 Turbidity Curtain Inspection and Repair

As indicated in the CQC plan, the turbidity curtain will be inspected daily from the surface and as necessary below the water surface. Repairs will be made in the field as necessary to maintain integrity of the curtain. If necessary, damaged sections will be replaced in their entirety. All curtain inspections and repairs shall be recorded in the daily inspection report.

3.5 Turbidity Curtain Removal

The turbidity curtains shall be partially removed to accommodate the ESROC cement barge and entirely removed at the completion of all work within the Genesee River.

Temporary removal for ESROC shall be performed by reefing the curtains and pulling them towards shore. Curtains will be pulled as close to shore as necessary to provide access for ESROC. Sections which are not in the access route will remain connected to the deadmen during this process. After the ESROC barge leaves the river, the curtains will be reestablished prior to continuance of work.

Permanent curtain removal shall utilize the same equipment and methodology necessary for the installation. Turbidity curtain components intended for salvage shall be inspected and decontaminated as necessary and in accordance with the site specific Health and Safety Plan prior to transport offsite.

4.0 Dredging and Sediment Transfer

4.1 Dredging Methodology

Sediment dredging will be performed utilizing a barge mounted 100 Ton crane and a 2.5 CY Cablearm environmental clamshell. The use of the Cablearm bucket allows for a level cut, and minimized turbidity/water collection. The dredge system will be outfitted with depth sounders, pressure transducers, tensiometers and/or pressure switches to obtain the location of the environmental clamshell in the water column, design depth determination and removal verification. Clamvision™ dredge positioning software (or equivalent) will interface the bucket data with global positioning systems (located on both the crane boom tip and dredge barge), tide gauge, and bathymetric data in order to provide real-time monitoring and electronic data collection.

Excavation utilizing the Cablearm 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. Additional survey will be performed by DAC's field crew to ensure that sediment removal is performed to the limits specified and that over-excavation is limited to the 6" allowance, or less.

A passive venting system and rinse tank are 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 a hopper scow and submerged in a rinse tank to wash off residual sediment.

4.2 Debris Removal Plan

In the event of large debris or obstructions that may interfere with the dredging operations, the 100 Ton crane and Cablearm environmental clamshell will be used to remove the debris prior to dredging. If the clamshell is unable to remove the debris, the long stick hoe located at the SUDSA may be used to assist in the process. Other debris removal methods will depend upon the nature of the debris. No removal of large debris or obstruction will occur outside the established Work Zone. Debris and vegetation will be brought on land, decontaminated (if necessary) and disposed of as non-hazardous waste, unless otherwise directed by the Engineer.

4.3 Specifications & Qualifications

Equipment specifications, dredging sequence, and qualifications of the dredge technicians shall be provided under separate cover.

5.0 Backfilling and Subaqueous Cap Installation

5.1 Backfill Placement

Backfill along the sheetpile wall will be placed using the barge mounted crane and clamshell or an excavator depending on the site conditions and required reach. Stone will placed as soon as the dredge has cleared the first 50' along the wall, and will continue to be placed on pace with dredging to maintain a maximum 50' opening. Placement accuracy will be verified with the Clamvision positioning system.

5.2 Subaqueous Cap

A subaqueous cap may be required in limited areas if post-excavation river sediments samples exceed cleanup goals.

Backfill placement for the subaqueous cap will be performed on the water using the crane and environmental clamshell mounted on a barge. Stone will be loaded onto the hopper scow and ferried to the fill area. The crane will then place stone to the limits specified. The stone will be at least 1 foot thick when completed (+/- 0.25 feet). Placement accuracy will be verified with the Clamvision positioning system.

6.0 Confirmation Sampling

DA Collins will notify the Engineer when post excavation soundings show that the limits of excavation have been completed in the Work Zone. The Engineer will collect river sediment samples 0 to 0.5 feet below the river bottom in the Work Zone to confirm the removal if impacted sediments. In the event that the samples results are above 1,133 ppb methylene chloride or 773 ppb acetone, the Engineer shall decide on the appropriate action, which may include the placement of a subaqueous cap limited to the area(s) of exceedence.

7.0 Surveying

Prior to dredging, DA Collins will survey the Work Zone to confirm sediment bed depth, elevation, and thickness. The Engineer will adjust the grade limits of dredging at that time, if necessary.

Additional survey will be performed by the dredging technicians, and DAC's field crew to ensure that dredging and backfill placement is performed to the limits and depths specified. As-built drawings will include pre-dredging conditions, daily activity / dredging plots, and post dredging excavation limits. If the subaqueous cap is installed, an additional bathymetric survey will be performed to confirm its limits and volumes.

8.0 Site Cleanup & Demobilization

Site cleanup will include the complete removal of the following items:

- Turbidity curtains
- The entire material handling area at Petten Street (SSA / SUDSA) including all asphalt pavement, curbing, barrier, fencing, and liners. Subgrade gravel will remain for future construction.
- Site Control trailers
- Engineers' trailers
- Equipment
- Remaining materials, trash, debris, etc.

DA Collins equipment will be fully decontaminated in accordance with the HASP prior to removal from the site.

Stockpiled topsoil and wood chips will be spread out on site, as requested by the City. Any exposed soils subject to erosion will be protected with hay mulch.

9.0 Project Closeout & Reporting

Project closeout activities will include the following:

- Post construction photography
- Final topographic survey
- Project reporting and confirmation of final quantities
- A final site walk-thru with the Engineer to identify any remaining tasks