



# Mill River Cleanup Fairfield, Connecticut

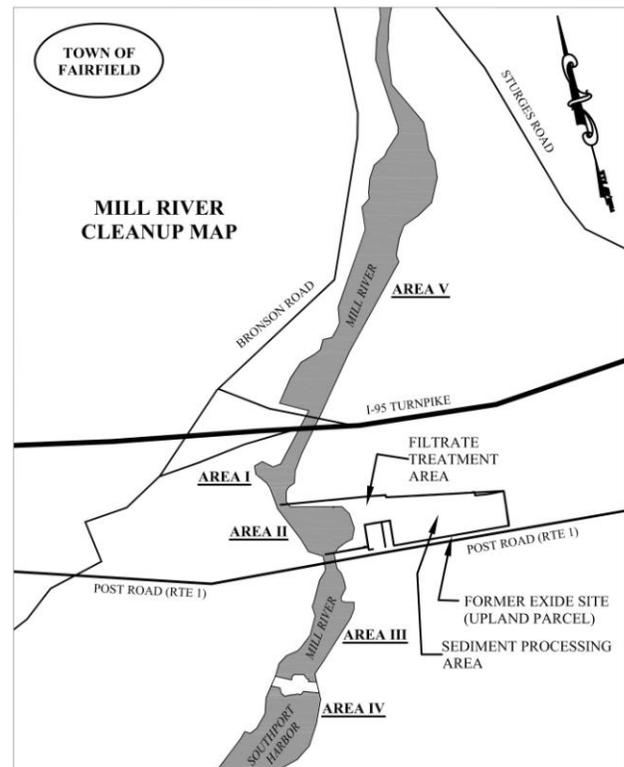
## DEEP Fact Sheet - August 2014

### Mill River Water Quality Impairments

Water quality data for the Mill River indicate that a portion of the Mill River has been identified as impaired for aquatic life uses, recreation, and shellfish. The causes of the impairments are bacteria, lead, and chromium. The Exide Group Inc. (Exide) is responsible for the cleanup of the lead contamination and is the subject of this Fact Sheet. Other parties (some unknown) are responsible for the bacterial and chromium contamination.

There is an approved Total Maximum Daily Load (TMDL) for fecal coliform bacteria concentrations affecting shellfish consumption in Southport Harbor. To assist with this project, Connecticut Department of Energy and Environmental Protection (DEEP) will sample for bacteria prior to and during, as necessary, the project to ensure that dredging does not threaten shellfish beds in Southport Harbor. There are many causes of bacterial contamination, some include, storm water, marinas, nuisance wildlife/pets, or failing septic systems.

Following the completion of the river cleanup, DEEP will sample Blue Crabs to evaluate the possibility of removing the fish consumption advisory for Blue Crabs (which is due to lead contamination).



### Cleanup Project Overview

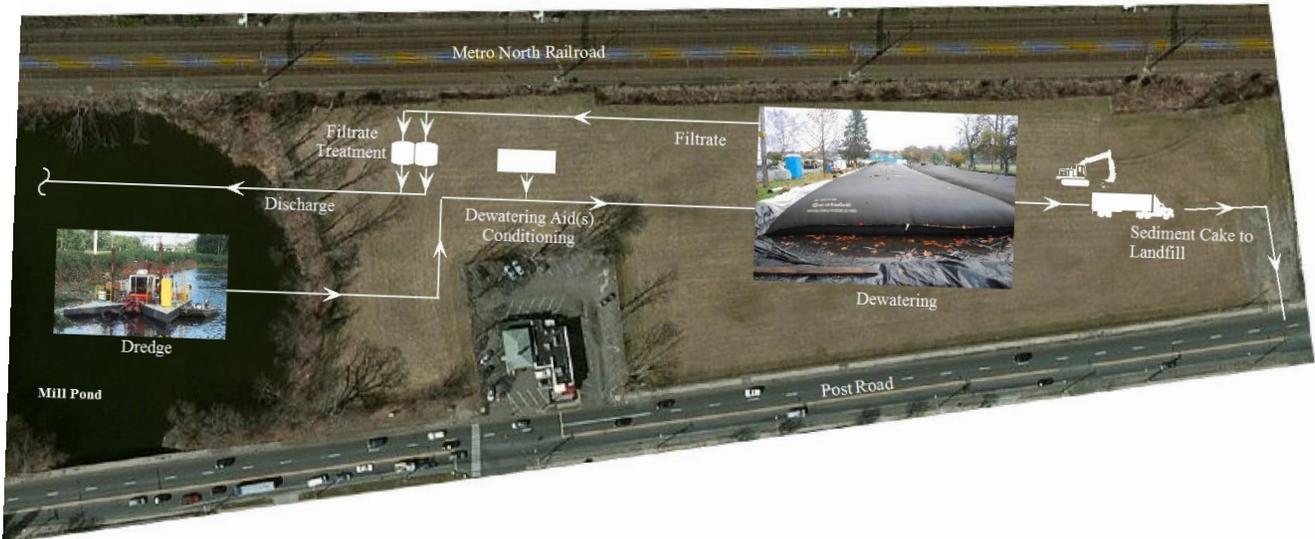
Exide prepared a Sediment Remedial Action Plan (SedRAP) in compliance with DEEP Consent Order SRD-193. The requirements of this order included the mapping and remediation of lead impacted sediments in Mill River Study Areas I-V. The cleanup will involve the following.

- Hydraulic dredging of approximately 27,000 cubic yards of lead impacted sediments to achieve established cleanup goals.
- Use of geotextile tubes for the dredge slurry dewatering system.
- Dewatering filtrate treatment system with discharge of treated water to Mill River in accordance with National Pollutant Discharge Elimination System (NPDES) permit.
- Dewatered sediment transported off-site for final disposal at approved landfills.

## Description of Remedial Approach

### Hydraulic Dredging

A hydraulic dredge specifically designed for environmental work will be used to remove lead impacted sediment from the river. Dredge operations will be limited to a 12 hour period during daylight hours up to six days per week (Monday through Saturday). The dredging activities are planned to begin in Fall 2014 and will continue, after a winter season shut down, until completion of sediment removal in 2015. Contractors will schedule the work to comply with dredging restrictions designed to be protective of migratory fish and shellfish.



### Sediment Processing Area

The aerial photo above illustrates general locations where the sediment processing components will be located on Exide's property. Once the river cleanup is complete, the on-site sediment processing area will be dismantled and the site will be restored.

A dual wall floating pipeline will carry dredged sediment from the river to the sediment processing area located on Exide's property. The on-site sediment processing area will include:

- a trailer containing dewatering aid conditioning;
- dewatering area containing geotextile tubes (like the ones shown in the photo to the right) overlying a gravel dewatering pad lined with 2 layers of high-density polyethylene to drain the water from the sediment and contain the water and sediment within the area;
- filtrate treatment tanks; and
- a pipe through which the clean, treated water will be sent back to the river



### Final Disposal of the Sediment

Once the contaminated sediment has been removed from the river and dried, it will be transported by truck to approved off-site disposal areas. The trucks will be lined with plastic and covered to prevent sediment from escaping. The trucks will travel on the Post Road to I-95 to the disposal areas.

### ***Control of Sediment During Dredging***

Resuspension of sediment is defined by the USEPA as “the remixing of sediment particles and pollutants back into the water by storms, currents, organisms, and human activities, such as dredging”. Resuspension of sediments must be kept to a minimum during dredging as the suspended sediments could potentially migrate and settle in other areas of the river. Resuspension of sediment during the Mill River cleanup project will be controlled by the following measures:

- Use of state of the art environmental hydraulic dredging technology including GPS and on board meters and controls to gauge dredge speed and flowrate; and
- Installation of turbidity curtains around the dredge cell specifically designed for the Mill River, anchored to the bottom, and containing the maximum number of panels to allow the free exchange of water while trapping any resuspended sediment.

To ensure the effectiveness of the sediment controls, a comprehensive turbidity monitoring program will be implemented. Turbidity is a measure of water clarity, in other words, how much the particles suspended in water decreases the passage of light through the water. As such, any resuspension of pollutants would be observed by an increase in turbidity measurements. The turbidity monitoring program will include the following:

- Real-time electronic monitoring at 4 stations (2 upstream and 2 downstream) 24 hours per day/7 days per week;
- Real-time monitoring recorded every 5 minutes and available to site personnel through a wireless local area network;
- Visual monitoring every 2 hours during dredging by site personnel and observations recorded in log book; and
- Implementation of corrective measures if exceedances of turbidity limits are measured.

### ***Measures to Protect Fish and Shellfish***

DEEP worked with the Town, Exide, and the Shellfish Division of the Department of Agriculture to develop measures to protect migratory fish and shellfish. These measures include:

- Control of resuspended sediments;

- Restriction of dredging activities in certain areas of the river and time periods to protect river herring spawning migrations and shellfish spawning;
- Provisions to ensure that a channel will be maintained for river herring to migrate through;
- Monitoring of bacteria to protect the shellfish beds; and
- Monitoring of temperature of the sediment dewatering discharge.

### **Performance Standards**

Performance standards were established for the Mill River cleanup to ensure that short-term impacts of the project are minimized and the cleanup is successful. Some of the key performance standards include:

- Best Management Practices for operations, maintenance, and quality assurance of the cleanup project;
- State of the art hydraulic dredging technology and a sophisticated sediment dewatering treatment system;
- Work restriction periods to protect migratory fish and shellfish;
- Adequate fish migration corridor as determined by DEEP Fisheries Division;
- Site-tailored turbidity curtains anchored to the bottom of the River;
- Comprehensive turbidity monitoring program;
- Prescriptive corrective measures if a turbidity exceedance is observed;
- Dredge cell confirmation sampling program to demonstrate that sediment cleanup criteria are achieved;
- Final verification sampling program to confirm overall success of removing lead impacted sediment above the established sediment cleanup criteria.

## DEEP Oversight

During cleanup activities, DEEP will conduct periodic inspections of the project. Inspections may include observations of active dredge cells, waste handling areas, turbidity curtains, turbidity monitoring, fish migration corridors, confirmation sampling, and water discharge monitoring and sampling and collection of samples. Inspections will occur at project start up, when a new study area is started, after significant storm events, and as needed.

## DEEP Approvals and Permits

Exide obtained the following permits and approvals from DEEP to conduct the work:

- Approval of the SedRAP;
- NPDES Discharge Permit; and
- Approval of registration for Office of Long Island Sound Program (OLISP) General Permit.

The NPDES Permit is required for the discharge of water from the sediment dewatering system into the

Mill River. The water discharge will be monitored to ensure that there will be no toxic impact on the river.

The OLISP General Permit is required for remediation activities waterward of the Coastal Jurisdiction Line. The OLISP permit includes conditions restricting dredging activities during specific timeframes and within specific portions of the river to protect migratory fish and shellfish.

DEEP evaluated and responded to a complex collection of public comments received during the public comment period prior to making a final decision on the SedRAP and the OLISP and NPDES permits. DEEP's evaluation included facilitated meetings with representatives from the Town, Exide, and FairPLAN (a local advocacy group) over a two month period.

Following the completion of the cleanup of lead-impacted sediment in the Mill River, Exide will prepare and submit a Final Report to document the results of the cleanup, including all monitoring and confirmation sampling results, to DEEP for review and approval.

## Project Contacts

### ***Regulatory Agency- DEEP***

#### Sediment Remediation Activities

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#### NPDES Permit

Don Gonyea  
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#### OLISP General Permit

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Emergency situations should be directed to DEEP Oil and Chemical Spills 24-hr hotline: (860) 424-3338.

### ***Responsible Party***

#### Exide

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#### Engineer's Representative

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#### Contractor's On-Site

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#### Engineer's On-Site Contact

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## **Project Website**

Project documents and progress reports are available at:  
[http://www.ct.gov/deep/cwp/view.asp?a=2719&q=517076&deepNav\\_GID=1654](http://www.ct.gov/deep/cwp/view.asp?a=2719&q=517076&deepNav_GID=1654)