



Weston Solutions, Inc.
10 Lyman Street, Suite 2
Pittsfield, Massachusetts 01201
413-442-4224 • Fax 413-442-4447

November 1, 2007

U.S. Department of the Army
New England District, Corps of Engineers
10 Lyman Street
Pittsfield, MA 01201
Attn: Darrell Moore, Resident Engineer

Re: GE/Housatonic River Site
1.5 Mile Reach Removal Action
Monitoring of Aquatic Structures, Riprap, and Riverbank Soil
DCN: GE-110107-ADRK

Dear Mr. Moore:

Weston Solutions, Inc. (WESTON[®]) is enclosing the final report entitled "*Monitoring of Aquatic Structures, Riprap, and Riverbank Soil, August 15, 2007 Site Visit, 1.5 Mile Remedial Action of the GE-Pittsfield/Housatonic River Site in Pittsfield, MA*". This report presents and summarizes results for the 2007 Summer aquatic structures, riprap and riverbank soil monitoring conducted in the 1.5 Mile Reach of the Housatonic River in Pittsfield, MA.

This submittal has undergone WESTON's technical and quality control review and coordination procedures to ensure: (1) completeness for each discipline commensurate with the level of effort required for the submittal; (2) elimination of conflicts, errors, and omissions; (3) compliance with project criteria; and (4) overall professional and technical accuracy of the submittal.

Please feel free to call me at (978) 779-8904 with any questions.

Very truly yours,

Weston Solutions, Inc.

A handwritten signature in blue ink, appearing to read "J. Lindsay".

Joel Lindsay, PE
Task Manager

Enclosures

cc: D. Tagliaferro, EPA
DCN Files



Memorandum

To: Izabela Zapisek, Weston Solutions, Inc.
Joel Lindsay, Weston Solutions, Inc.

From: Michael Chelminski, Woodlot Alternatives, Inc.

Date: October 31, 2007

Re: Monitoring of Aquatic Structures, Riprap, and Riverbank Soil, August 15, 2007 Site Visit,
1½-Mile Remedial Action of the General Electric-Pittsfield/Housatonic River Site in Pittsfield,
Massachusetts

This memo presents observations made by Woodlot Alternatives, Inc. (Woodlot) following monitoring of aquatic habitat structures and riverbank riprap and soil within the 1½-Mile Remedial Action of the General Electric-Pittsfield/Housatonic River Site in Pittsfield, Massachusetts (1½-Mile Reach) on August 15, 2007. The scope of this work included monitoring in Monitoring Areas 1 through 4 between the Lyman Street Bridge and the confluence of the East and West Branches of the Housatonic River, adjacent to Fred Garner Park, at the upstream and downstream limits of the project reach of the East Branch of the river, respectively. The individual monitoring areas are delimited by the four bridges crossing the 1½-Mile Reach (Lyman Street, Elm Street, Dawes Avenue, and Pomeroy Avenue, respectively, from upstream to downstream) and the confluence of the East and West Branches of the Housatonic River. The four monitoring areas represented by these five delimiters are numbered 1-4, respectively, moving downstream from the Lyman Street Bridge.

The work described here was performed by canoe, starting at the Lyman Street Bridge and finishing at the confluence of the East and West Branches of the Housatonic River. Tom Czelusniak of Weston Solutions, Inc. accompanied Woodlot during this field work. The daily averaged flow during this monitoring work was approximately 20 cubic-feet-per-second, as recorded at the US Geological Survey stream gaging station on the East Branch of the Housatonic River in Coltsville, Massachusetts (Station No. 01197000).

Monitoring Area 1 (Lyman Street Bridge to Elm Street Bridge)

Aquatic Habitat Enhancement Structures – The aquatic habitat enhancement structures appear to be stable, as-built condition and performing as designed, as indicated by variations in current speed, turbulence, and sediment deposition adjacent to the structures (Photo 1). Scour of riverbed or riverbank riprap was not observed adjacent to any of the observed structures. Sediment deposition was observed adjacent to some of the aquatic habitat structures, further indicating that the presence of the structures is providing diversity of aquatic habitat.

Riverbank Riprap – No deficiencies in the riverbank riprap were observed. The riverbank riprap was not observed in areas where sedimented material has accreted (Photo 2). Some exposure of the sheet pile retaining wall was observed along the left (facing downstream) streambank behind the carwash (Photo 3). The observed sheet pile exposure was less than six inches.

Riverbed Riprap – No indications of displacement or failure of the riverbed riprap were observed.

Riverbank Soil – Observations indicate that the riverbank soils are generally stable.

Monitoring Area 2 (Elm Street Bridge to Dawes Avenue Bridge)

Aquatic Habitat Enhancement Structures – The aquatic habitat enhancement structures appear to be stable, as-built condition and performing as designed, as indicated by variations in current speed, turbulence, and sediment deposition adjacent to the structures (Photos 4 and 5). Scour of riverbed or riverbank riprap was not observed adjacent to any of the observed structures. Sediment deposition was observed adjacent to some of the aquatic habitat structures, further indicating that the presence of the structures is providing diversity of aquatic habitat.

Riverbank Riprap – No substantial deficiencies in the riverbank riprap were observed. A small area of exposed geotextile fabric was observed at the base of a riprap swale adjacent to the former access road along the right streambank in the approximate middle of this monitoring area. Some exposure of Geoweb material was observed along the right streambank between the former dam foundation and the adjacent building (Photo 6).

Riverbed Riprap – No indications of displacement or failure of the riverbed riprap were observed. The apparent depth of water is approximately 4 feet immediately downstream of the terminus of the articulated concrete block (ACB), and therefore approximately 3.5 feet below the level of the adjacent ACB. Woodlot recommends that the variation in the elevations of the ACB and the riverbed immediately downstream be checked against the proposed design elevations and as-built drawings to determine whether scour is occurring in this area.

Riverbank Soil – Observations indicate that the riverbank soils are generally stable.

Monitoring Area 3 (Dawes Avenue Bridge to Pomeroy Avenue Bridge)

Aquatic Habitat Enhancement Structures – The aquatic habitat enhancement structures appear to be stable, as-built condition and performing as designed, as indicated by variations in current speed, turbulence, and sediment deposition adjacent to the structures. Scour of riverbed or riverbank riprap was not observed adjacent to any of the observed structures. Sediment deposition was observed adjacent to some of the aquatic habitat structures, further indicating that the presence of the structures is providing diversity of aquatic habitat.

Riverbank Riprap – No deficiencies in the riverbank riprap were observed. The riverbank riprap was not observed in areas where sedimented material has accreted (Photos 7 and 8).

Riverbed Riprap – No indications of displacement or failure of the riverbed riprap were observed between the bridges delimiting this monitoring area. Some erosion of riprap was observed under the left abutment of the Pomeroy Avenue Bridge immediately adjacent to a culvert that discharges through the bridge abutment wall (Photo 9).

Riverbank Soil – Observations indicate that the riverbank soils are generally stable.

Monitoring Area 4 (Pomeroy Avenue Bridge to Confluence)

Aquatic Habitat Enhancement Structures – The aquatic habitat enhancement structures appear to be stable, as-built condition and performing as designed, as indicated by variations in current speed, turbulence, and sediment deposition adjacent to the structures. Scour of riverbed or riverbank riprap was not observed adjacent to any of the observed structures. Sediment deposition was observed adjacent to some of the aquatic habitat structures, further indicating that the presence of the structures is providing diversity of aquatic habitat.

Riverbank Riprap – No deficiencies in the riverbank riprap were observed. The riverbank riprap was not observed where sedimented material has accreted (Photo 10).

Riverbed Riprap – No indications of displacement or failure of the riverbed riprap were observed.

Riverbank Soil – Observations indicate that the riverbank soils are generally stable.

A substantial area of algae was observed immediately adjacent to the inverted sewer siphon along the right bank. Woodlot recommends that the cause of the algae growth be evaluated.

Photographs

Photo 1: Aquatic Habitat Structures, Monitoring Area 1



**Photo 2: Sediment Material, Monitoring Area 1
Right Bank Looking Upstream at Lyman Street Bridge**



Photo 3: Area of Sheet Pile Exposure, Monitoring Area 1, Left Streambank



**Photo 4: Aquatic Habitat Structures, Monitoring Area 2
Looking Upstream at Elm Street Bridge**



Photo 5: Riffle/Run Development, Monitoring Area 2



**Photo 6: Area of GeoWeb Exposure, Monitoring Area 2
Right Streambank**



**Photo 7: Sediment Material, Monitoring Area 3
Right Bank Looking Upstream at Dawes Avenue Bridge**



Photo 8: Aquatic Habitat Structures and Vegetated Streambanks, Monitoring Area 3



**Photo 9: Scour Adjacent to Culvert Discharge
Left Abutment of Pomeroy Avenue Bridge**



Photo 10: Riverbanks and Aquatic Habitat Structures, Monitoring Area 4

