



GE  
159 Plastics Avenue  
Pittsfield, MA 01201  
USA

November 16, 2007

Dean Tagliaferro  
On-Scene Coordinator  
U.S. Environmental Protection Agency  
c/o Weston Environmental Engineering  
One Lyman St.  
Pittsfield, MA 01201

**Re: 2007 Bank Erosion Inspection  
GE Pittsfield/Housatonic River Site  
Upper ½-Mile Reach Removal Action (GECD800)**

Dear Mr. Tagliaferro:

Consistent with requirements set forth in the *Removal Action Work Plan – Upper ½ Mile Reach of Housatonic River* (Work Plan) (Blasland, Bouck & Lee, Inc. [BBL], August 1999), General Electric (GE) has recently performed monitoring activities for the banks of the Upper ½-Mile Reach of the Housatonic River (½-Mile) to assess the cleared and restored areas within the ½-Mile for evidence of erosion. This monitoring event was performed on September 13, 2007 by representatives of GE and the U.S. Environmental Protection Agency (EPA). Specifically, the following people performed the inspection:

- Paolo Filippetti, ARCADIS BBL, for GE; and
- Tom Czlusniak, Weston, Inc., for EPA.

This trip report has been prepared to describe the findings of the 2007 bank erosion inspection – i.e., the areas identified with evidence of measurable bank material erosion or armor stone movement – and the proposed response actions to address those areas. In addition, in accordance with the Work Plan, GE has identified, to the extent practicable, the likely cause of the erosion and has made observations related to the dispersal and quantity of eroded soil (if any) in the river. The results of the inspection, as well as measures to restore the identified areas to previous conditions and to protect against further erosion, are described below for each area and are summarized in Table 1. Figure 1 illustrates the location of the areas at which measurable erosion or material movement was observed in 2007. That figure also shows, for reference, the areas of erosion observed during the 2006 erosion inspection (designated Areas 1 through 6), as documented in the April 6, 2006 trip report, which were the subject of response actions being performed at the time of inspection.

On the day of the inspection, flow in the river was approximately 36 cubic feet per second (cfs), as measured at USGS River Gauge Station No. 01197000 on the East Branch of the Housatonic River in Coltsville, MA. It should be noted that there was a high-flow event (i.e., estimated flow greater than 440 cfs) earlier in 2007. Specifically, between April 16 and April 22, 2007, the Coltsville gauge reported maximum daily flows greater than 440 cfs, including flows greater than 1,500 cfs on April 16 and April 17, 2007. With the exception of certain minor areas of erosion that are likely associated with concentrated surface run-off (as further discussed below), the erosion noted during the 2007 inspection appears to be related to these high flows in the ½-Mile and/or extreme flow events observed in 2005.

Three areas were noted with either a visually observable loss of bank materials or movement of bank armoring during the 2007 inspection. Portions of these areas, or in one case the entire area of erosion

discussed herein, are outside of the cleared and restored bank area associated with the Upper ½-Mile Reach Removal Action. As such, under the Work Plan, GE is not responsible for restoration/repair of these areas. Nonetheless, based on discussions with EPA, GE has agreed to address the erosion issues for each of the areas discussed in this report. Descriptions of these areas, along with proposed area-specific response actions, are presented below and summarized in Table 1. Additionally, the approximate locations of these areas (as well as those areas similarly identified in 2006) are illustrated on Figure 1. It should be noted that, with EPA consent, the restoration actions described below for the erosion areas identified in 2007 (except for Area 7, as discussed below) were initiated in October 2007, in conjunction with the ongoing restoration of the erosion areas identified in 2006.

*Area 1A* – This area consists of undercut banks along the northern bank starting downstream of Building 64X (immediately west of 2006 Area 1) and extending approximately 250 ft downstream (Figure 1, Photos 1 and 2). Portions of this area intersect or are adjacent to previously cleared or restored areas. Erosion in this area is generally located in the mid-bank area (i.e., above adjacent riprap and the apparent bank-full elevation). The total volume of eroded material is estimated to be less than approximately 15 cubic yards (cy) of native materials and/or clean backfill; however, there was no evidence of eroded soil in the river. To reduce the potential for further erosion in this area, riprap will be added to the affected areas and keyed into the bank such that, to the extent practicable, areas receiving armor stone will be restored to previous grades. [Note that any armor stone placed as part of the proposed remedial/restoration activities will be similar to that used during the implementation of the Upper ½-Mile Reach Removal Action (i.e., graded riprap,  $D_{100} = 12$ -inch), as fully described in the Work Plan.]

In addition, there are two areas of erosion located near the top-of-bank (Figure 1, Photos 3 and 4) in this area. This erosion was likely caused by concentrated surface run-off. To reduce the potential for future erosion in this area, hay bales will be positioned, as appropriate, to help divert concentrated runoff, and riprap will be placed within the eroded areas.

*Area 2A* – This area consists of approximately 200 ft of undercut banks along the southern bank immediately upstream of 2006 Area 2 directly across the river from Building 64 (Figure 1, Photos 5 and 6). Portions of this area intersect or are adjacent to previously cleared or restored areas. As with Area 1A, erosion in this area is generally located in the low- to mid-bank area. The total volume of eroded material is estimated to be less than approximately 30 cy of native materials and/or clean backfill; however, there was no evidence of eroded soil in the river. Riprap will be added to this area and keyed into the bank such that the undercut area is entirely filled and restored to approximate previous grades.

*Area 7* – This area consists of approximately 30 ft of undercut banks along the southern bank approximately 130 feet downstream from the western edge of Area 2A (Figure 1, Photo 7 through 8). Erosion in this area is generally located at the mid-bank elevation. The total volume of eroded material from this area is estimated to be less than 1 cy of native material from an area that was not previously cleared or restored as part of the Upper ½-Mile Reach Removal Action. There was no evidence of eroded soil in the river. Riprap will be added to this area and keyed into the bank such that the undercut area is entirely filled and restored to approximate previous grades. Note that GE has not yet been able to reach agreement with the property owner adjacent to this area for permission to access Area 7 to perform these restoration activities. GE is continuing to negotiate with the property owner for appropriate access, and to the extent access permission is obtained, will address this area.

As noted above, the restoration of the areas of erosion identified above (except for Area 7) was initiated in October 2007, with EPA consent, in conjunction with the ongoing restoration of the areas of erosion noted in 2006. GE will continue to seek access to perform the restoration in Area 7. Further, GE will summarize the performance of these activities in the 2007 Annual Report. With the performance of the 2007 inspection, GE has completed the restored bank erosion monitoring program as outlined in the Work Plan. In the upcoming 2007 Annual Report, GE will propose a long-term monitoring plan related to erosion in the ½-Mile. The 2007 Annual Report will also include a summary of the performance of recent restoration activities performed in the ½-Mile in the areas of erosion discussed herein.

Please contact me if you have any questions.

Sincerely,

Handwritten signature of Andrew T. Silfer in cursive ink.

Andrew T. Silfer, P.E.  
GE Project Coordinator

ATS/dmn

#### Attachments

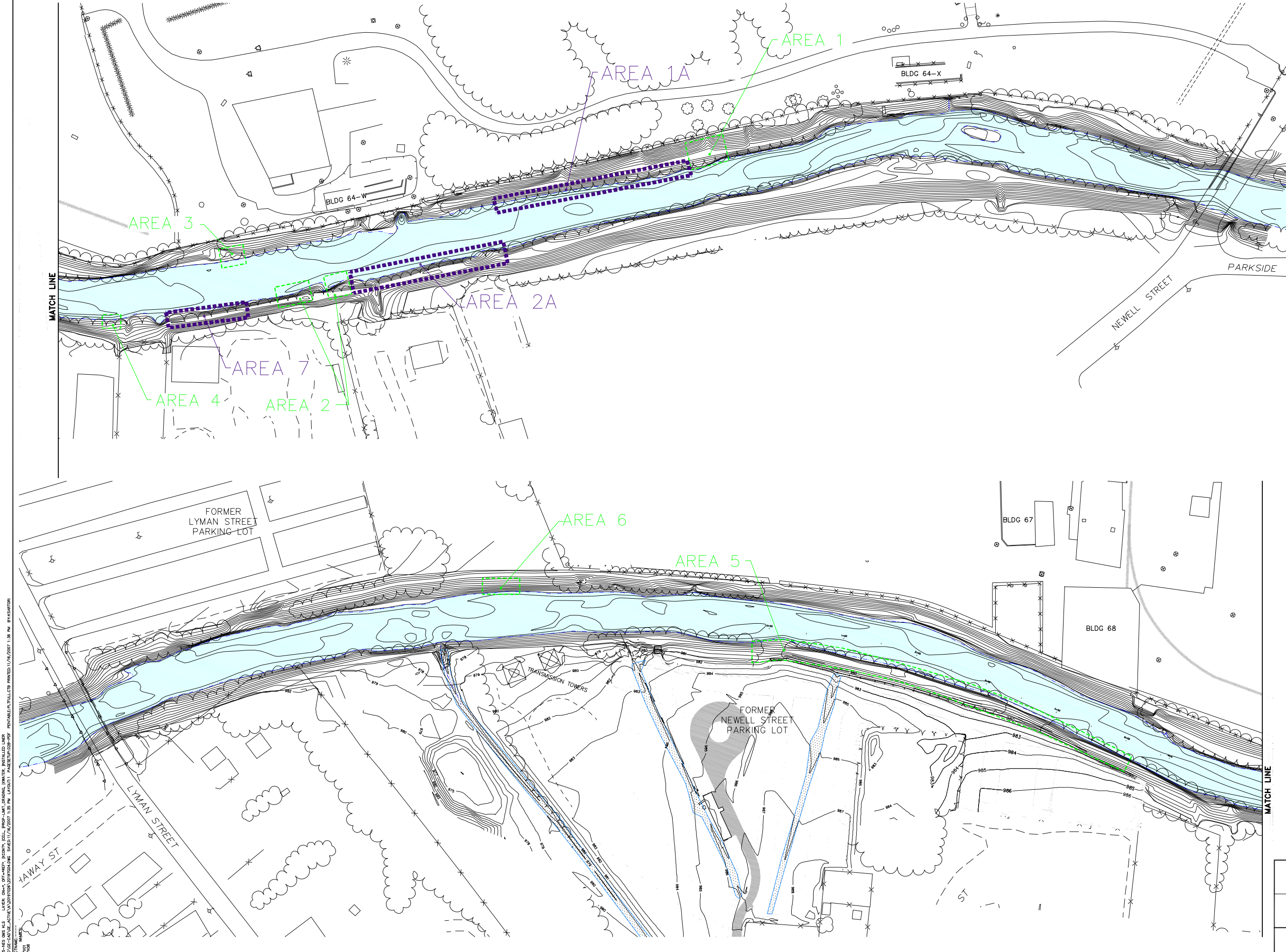
cc: Holly Inglis, USEPA  
Tim Conway, USEPA  
Rose Howell, USEPA (without attachments)  
K.C. Mitkevicius, USACE  
R. Goff, USACE  
Linda Palmieri, Weston  
Dale Young MA EOE  
Susan Steenstrup, MDEP (2 copies)  
Jane Rothchild, MDEP (without attachments)  
Anna Symington, MDEP (without attachments)  
Nancy Harper, MA AG (without attachments)  
Mayor James Ruberto, City of Pittsfield  
Michael Carroll, GE (without attachments)  
Rod McLaren, GE (without attachments)  
James Bieke, Goodwin Procter  
Mark Graveling, ARCADIS BBL  
Todd Cridge, ARCADIS BBL  
Mike Chelminski, Woodlot Alternatives  
Public Information Repositories  
GE Internal Repositories

**Table**

**TABLE 1**  
**2007 RESTORED BANK EROSION INSPECTION SUMMARY**  
**UPPER ½ -MILE REACH OF THE HOUSATONIC RIVER**  
**GENERAL ELECTRIC COMPANY – PITTSFIELD MASSACHUSETTS**

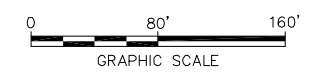
Areas with Measurable Erosion	Description	Approximate Size	Action
1A - North bank of river, just downstream of Bldg 64X, immediately west of 2006 Area 1	Area of undercut banks likely due to high flow. Additional top-of-bank erosion likely due to concentrated runoff. No evidence of eroded soil in river	~250 ft of undercut banks ~Less than 15 cy of material loss	Restoration activities to include the installation of riprap to protect against further high flow erosion and placement of hay bales at top-of-bank to divert concentrated runoff
2A - South bank of river, across from Bldg 64W	Area of undercut banks likely due to high flow. No evidence of eroded soil in river	~200 ft of undercut banks ~Less than 30 cy of material loss	Restoration activities to include the installation of riprap to protect against further erosion
7 - South bank of river, approximately 130 ft downstream from western edge of Area 2A	Area of undercut banks likely due to high flow. No evidence of eroded soil in river	~30 ft of undercut banks ~Less than 1 cy of material loss	Restoration activities to include the installation of riprap to protect against further erosion

**Figure**



- LEGEND:**
- TOP OF BANK
  - - - - - APPROXIMATE LOCATION OF EROSION AREAS NOTED DURING 2006 INSPECTION
  - - - - - APPROXIMATE LOCATION OF EROSION AREAS NOTED DURING 2007 INSPECTION

- NOTE:**
1. ALL FEATURES AND LOCATIONS SHOWN ARE APPROXIMATE.
  2. BASEMAP PREPARED FROM 1990 AERIAL PHOTOGRAPHY MAPPING PROVIDED BY LOCKWOOD MAPPING, INC. COORDINATE GRID BASED ON 1927 STATE PLANE COORDINATES, ELEVATION DATUM BASED ON NGVD 1929. ALL FEATURES AND LOCATIONS SHOWN ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY  
PITTSFIELD, MASSACHUSETTS  
**UPPER 1/2-MILE REACH OF  
THE HOUSATONIC RIVER**

**2007 BANK EROSION INSPECTION**

ARCADIS B&B  
CONSULTING ENGINEERS ARCHITECTS

FIGURE  
**1**

DATE: 08/20/07  
 DRAWN BY: J. B. BROWN  
 CHECKED BY: J. B. BROWN  
 PROJECT: 07-001  
 SHEET: 1 OF 1  
 SCALE: AS SHOWN  
 PROJECT LOCATION: 1000 LYMAN STREET, PITTSFIELD, MA 01201  
 PROJECT NUMBER: 07-001  
 SHEET NUMBER: 1 OF 1  
 DATE: 08/20/07

**Attachment**

Photographic Log





Photo 1 – Area 1A: Undercut bank



Photo 2 – Area 1A: Approximately 250 ft of undercut bank



Photo 3 – Downstream Swale: Top-of- bank erosion in Area 1A



Photo 4 – Upstream Swale: Top-of- bank erosion in Area 1A



Photo 5 – Area 2A: Approximately 200 ft of undercut bank



Photo 6 – Area 2A: Approximately 200 ft of undercut bank



Photo 7 – Area 7: Approximately 30 ft of undercut bank above Riprap



Photo 8 – Area 7: Approximately 30 ft of undercut bank above Riprap