

**MEMORANDUM**  
**BUREAU OF RAIL & TRANSIT**  
**BICYCLE & PEDESTRIAN SECTION**

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Date: May 29, 2009

To: Christopher Morgan

From: Larry Keniston, P.E.  
Intermodal Facilities Engineer

Subject: Field Review of Inactive Portions of Hampton Branch Railroad Corridor on May 29, 2009

Attendees:

Scott Bogle	Rockingham Planning Commission
Lelia Mellen	National Park Service VT & NH Rivers and Trails Program
Steve Workman	NH Seacoast Greenway Project Manager
Dave Powelson	NHDOT Chief of Existing Bridges
Larry Keniston	NHDOT Intermodal Facilities Engineer



The above noted participants met at the Hampton Branch RR corridor at the end of Depot Road in Hampton Falls. The field review of facilities included the Hampton Branch RR corridor from Brimmer Road to the NH 101/US 1 traffic Circle. The review also included a half-mile section of RR corridor in Seabrook between Railroad Avenue and Walton Road.

Throughout this segment of the Hampton Branch rail corridor, the rail bed was once double-tracked. Substantial portions of westerly ties and rail still remain in place. Throughout the Hampton marshes, railroad bed subsidence, surface erosion and wave rap are evident.



### **Rail Roadway, Brimmer Lane to the Depot Road landing.**

This quarter-mile portion of the Hampton Branch Railroad Corridor runs north into the Hampton tidal marshes. Brimmer Lane, formerly bridged the railroad. Now, however, the road is constructed on a fill of about 12 feet over the former railroad grade. The Valuation Maps indicate that the railroad was granted in 1841 a right to cross the then-existing Brimmer Road and the RR corridor property owner would be responsible to maintain any grade separation, if desired.

Heading north, for the first 0.1 mile, the RR grade runs through a protected vegetated area before entering the exposed Hampton marshes. The RR grade crosses the Hampton Falls River a short distance further. Although wet with poor drainage, the bed surface of the section of the rail corridor between Brimmer Lane and the Hampton Falls River is in good condition and protected by vegetation growth.

North of the Hampton Falls River, the corridor is fully exposed in the Hampton marshes. There is informal travel and parking space over the corridor at Depot Road, where access to - and frequent use of - the marshes occurs.

### **Rail Roadway Depot Road Landing to Crossing of Unnamed Creek**

The next half-mile portion heading north is fully exposed to the elements of the marsh. Throughout this section, tidal rap is clearly seen along the existing rails. There are several breach points where the tidal flows cross the roadway embankment at will. There is at least one breach where the normal high tide crosses the corridor embankment on a daily basis. On the rising tide during our field visit, the sea water was flowing inland across a 30-foot wide breach, several inches deep. The embankment is vulnerable to major coastal storms where low pressure systems, easterly winds and spring high tides may combine to create abnormally high water and wave action.

### **Rail Roadway Depot Road landing to Taylor River Bridge Crossing**

Between the Un-named Creek Bridge Crossing and the Taylor River Bridge Crossing to the north lay an additional half-mile of vulnerable rail road embankment where tidal rap and tidal breaches are evident. In the vicinity of the Taylor River Bridge, the easterly side of the railroad way has been buffered with an 18-inch high berm. This berm appears to be effective in holding back railroad way tidal breaching from normal cyclical tides. The relatively undamaged railroad bed in the area of the Taylor River Bridge makes noticeable the subsidence of the railroad bed (relative to the comparatively stable abutments) that appears to have occurred over the last 170 years.



Scott Bogle noted that increased arsenic levels are found in areas where the railroad way is eroding.

### **Rail Roadway in Seabrook Between WalMart and Walton Road**

An informal crossing from the Seabrook Town complex to the behind the Wal-Mart shopping plaza is marked with an "Authorized Vehicles Only" sign. The crossing appears to have been purposefully improved relatively recently with a foot of gravel over the westerly ties and track. The gravel road crossing gets heavy and routine use. The crossing appears to be diverting many trips that would otherwise require a torturous and circuitous route along congested Route 1 and several Town roads.



The westerly side of the corridor has tracks that are heavily choked with woods growing up and weaving through the ties and steel rail. On the easterly side of the corridor, the track, ties and ballast were removed probably about 30 years ago. There is clearly evidence of ATV use along this easterly side of the corridor. An undulating pattern of road bed wear damage typical of aggressive four-wheeler and dirt bike use is evident. Adjacent properties access the trail at will, with clear paths connecting to many residences. At least one residence even has constructed a privacy wall with a formal private gate accessing the trail.

Along a 20-foot embankment fill, a finely-crafted drainage structure provides drainage relief for Caine's Mill Pond. The structure is about 10 feet high and 3 feet wide. Damage to the unique stone work is evident where vandals have levered large cut granite stones out of the head wall and wing walls. The cut stones have been levered into the drainage channel and are firmly lodged in the opening to the drainage

structure. Authorities in Seabrook should be made aware of the vandalism and perpetrators should be discouraged from continued destruction of the historical and cultural resource. The head wall, wing walls and channel opening should be restored before additional water and embankment damage result.



## HAMPTON MARSH BRIDGES:

(Structures observed include a structure over unnamed creek, Hampton Falls River Bridge and the Taylor River Bridge. Comments on all three bridges, December 29, 2008 inspection and May 29, 2009 field review by David E. Powelson, P.E. Chief, Existing Bridge Section Bureau of Bridge Design, Room 234 State of New Hampshire Department of Transportation 7 Hazen Drive; P.O. Box 483 Concord, NH 03302-0483 (603) 271-3714 voice (603) 271-2759 fax [dpowelson@dot.state.nh.us](mailto:dpowelson@dot.state.nh.us))

The substructures are made from carefully placed cut stones. Many of the large stones show signs of shifting. A few stones have fallen from the wing walls and/or bank protection has failed, with roadbed fill washing away behind the abutments.



The bridges are not particularly pedestrian friendly. There is no firm walkway. There are no railings. The two southern bridges have deteriorated ties between rails. The northern most bridge has more severely decayed ties, with random deteriorated pieces of plywood and planks spanning the worst of the ties. The bridges appear to get regular use, which indicates a substantial level of agility and competence in the users.

The structural steel has no paint, is close to the salt water and is partly covered in timber and debris. There is significant corrosion through many of the steel members. There are many holes rusted through including a twenty-foot hole in the plate girders of the northern most bridge. The rising tide reaches

close to the two northernmost steel superstructures. The high tide on May 29 was 8.7 feet at 4:21 pm. The tide is likely to get over ten feet several times in each month., which would put the two northern most steel structures in salt water.

The southernmost superstructure was somewhat higher above the water and is in fair condition.



The southern most bridge had a sink hole behind the north abutment, which was four feet in diameter and three feet deep. This is often an indicator that fine grains of the fill are being washed out of the embankment through or under the abutment.

During our field review the tide was near its typical high. Storm tides breach the existing embankment surface elevation occasionally with wave action likely washing over the bridge superstructure.

From: Dave Powelson  
Sent: Friday, March 19, 2010 1:56 PM  
To: Larry Keniston  
Subject: Hampton (Mainline East) Rail Trail

Comments on all three bridges, December 29, 2008 inspection and May 29, 2009 field review.

The bridges are not particularly pedestrian friendly. There is no firm walkway nor railings. The two southern bridges have pedestrian access walking on deteriorated ties between rails, the northern most bridge has more severely decayed ties, with random

deteriorated pieces of plywood and planks spanning the worst of the ties. They do seem to get regular use, which indicates some agility and confidence in the pedestrians.

The structural steel is unpainted, close to salt water, and partly covered in timber and debris. There is significant corrosion through many of the steel members, many holes rusted through including a twenty foot hole in the plate girders of the northern most bridge. The rising tide did get quite close (within a foot) to the two northernmost steel superstructures. The high tide on May 29 was 8.7 feet at 4:21 pm. The tide is likely to get over ten feet several times in each month., which would put the two northern most steel structures in salt water.

The southernmost superstructure was somewhat higher above the water, even with the tide still rising, and is in fair condition.

The substructures are all cut stone blocks carefully placed. Many of them show signs of shifting. A stones few have fallen from the wing walls and/or bank protection has failed, with roadbed fill washing away behind the abutments.

The southern most bridge had a sink hole behind the north abutment, four feet in diameter and three feet deep. This is often an indicator that fine grains of the fill are being removed, possibly through or under the north abutment.

During our field review the tide was near high and rising, so most of the substructures were hidden. I have no plan information on what was built or its embedment below stream bed. There is the potential for additional erosion and water flow related damage to the substructure

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