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# JMM WETLAND CONSULTING SERVICES, LLC

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January 7, 2010

Town of Newtown Conservation Commission  
Inland Wetlands and Watercourse Agency  
3 Primrose Street  
Newtown, CT 06470

RE: *Application Review – Supplemental*  
Housatonic Railroad Company, Inc., Shepaug Terminal  
30 Hawleyville Road (Rt. 25), Newtown, Connecticut

*JMM Job # 09-1193-NWT-4*

Dear Commissioners:

JMM Wetland Consulting Services, LLC (JMM) soil and wetland scientists, have continued our review of an application to conduct regulated activities at the above-referenced property.

Since our last review, dated November 18<sup>th</sup>, 2009, the applicant has submitted revised site plans (dated December 9<sup>th</sup>, 2009) and supporting documentation. Specifically we reviewed the following letters and reports:

1. A written statement by F. Colin Peace, dated December 9<sup>th</sup>, 2009.
2. A letter by Joseph Magdol, P.E., LEP, of HRP Associates, Inc., dated December 4<sup>th</sup>, 2009.
3. A letter by Kenneth C. Stevens, Jr., of Soil Science and Environmental Services, Inc. (SSES), dated November 9<sup>th</sup>, 2009 (likely a wrong date, submitted with #4, below).
4. An Environmental Assessment Report by SSES, dated December 9<sup>th</sup>, 2009.

## 1.0 RESPONSES AND FINDINGS

### 1.1 Potential Vernal Pool Habitat

Both JMM and SSES agree that the north central wetland (i.e. Wetland Area 1) is a potential vernal pool habitat. We also both agree *“a review of the wetland area in the spring breeding period would confirm if the wetland is a productive vernal pool.”* However, we do not agree with SSES that the presence of tadpoles in the wetland after the recent clearing and placement of fill necessarily means that no significant impact upon the amphibian breeding population has occurred. In all likelihood the population has suffered and, therefore, restorative mitigation should be proposed.

Figure 1a, attached, shows the condition in the vicinity of Wetland Area 1 prior to any of the recent disturbance within the 100 foot Upland Review Area (URA). Figure 1b shows what, in our opinion, should be the minimum restorative mitigation to reclaim the function of this wetland as a productive amphibian breeding area. Should the wetland pool prove to also support obligate vernal pool species, such as wood frog, then the proposed mitigation might have to be expanded to 100 feet, which is the minimum protection envisioned by experts in the field of vernal pool ecology and protection (e.g. Calhoun and Klemens 2002)<sup>1</sup>.

We are of the opinion that it is critical to assess the ecology of Wetland Area 1, particularly for amphibians in the Spring of 2010, before any final plans can be proposed and the application can be further considered by the Commission. As of this date critical data characterizing Wetland Area 1 is lacking from the application. The applicant should propose a detailed protocol for the inventory of the pool of Wetland Area 1 to be reviewed and approved by the Commission and/or Town staff.

Moreover, it is our opinion that the applicant should conduct as soon as possible water quality sampling at Wetland Area 1 to establish a baseline. At a minimum the water quality sampling should include tests for nutrients, dissolved oxygen, pH, conductivity, and redox potential, to name a few. The final list of parameters should be reviewed and accepted by the Commission and/or Town staff.

<sup>1</sup> Calhoun A.J.K. and M.W. Klemens. 2002. Best Development Practices: Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States. MCA Technical Paper No. 5, Metropolitan Conservation Alliance, Wildlife Conservation Society, Bronx, New York.

6. The current discharge pipe location for the infiltration basin unnecessarily impacts existing trees and shrubs and comes too close to Wetland Area 1. JMM proposes an alternative location that would follow along an existing pathway (see Figure 1c).

## 1.2 Stormwater Management

JMM has reviewed the revised plans submitted by the applicant in regards to renovation of storm runoff. In general, the application has moved in the right direction with the new proposal, as far as stormwater renovation is concerned, but we still have a number of concerns.

Overall, the plans and other supporting documentation do not explain the design parameters or show in sufficient detail the implementation process for the proposed infiltration basin in accordance to the 2004 CT DEP Stormwater Quality Manual (SWQM), referred to by the applicant on Sheet D-2 of the plans. For instance:

1. We could not find any calculations on the reviewed set of plans (EC-1, D-1, and D-2) for the sizing of the infiltration basin and its sediment forebay.
2. We found no information from soil test pits and permeability testing that would verify that this design meets the minimum criteria of the SWQM. For instance, the SWQM recommends a certain number of test pits and permeability tests depending on basin size and configuration. Without this information we cannot be sure that infiltration at this basin will be such that the vegetative community will not be unduly stressed by excessive and prolonged inundation.
3. It is unclear from the submitted information if the SWQM's minimum distance to groundwater (i.e. 3 feet) from the basin bottom will be in fact met.
4. The configuration of the basin and the expected runoff characteristics from the gravel surfaces could allow for direct runoff into the basin, bypassing the grassed swale and the sediment forebay, short-circuiting the most efficient treatment pathways. The applicant should explain how this would not happen.
5. The notes on Sheet D-2 should be corrected to eliminate references to inappropriate plants such as coontail and duckweed, since it is stated in the plans that this basin will drain within 24 to 48 hours.
6. The current discharge pipe location for the infiltration basin unnecessarily impacts existing trees and shrubs and comes too close to Wetland Area 1. JMM proposes an alternative location that would follow along an existing pathway (see Figure 1c).

### **1.3 Proposed Mitigation**

The SSES December 9<sup>th</sup>, 2009 Environmental Assessment Report proposes that a detailed Planting Plan would be drawn after approval of the application is obtained. We are of the opinion that such a plan belongs with the current application to be reviewed by the Commission and staff, since it is, according to the applicant, mitigation for proposed impacts.

### **2.0 CONCLUSION**

In conclusion, while the plans are improved over those reviewed by JMM for our November 18<sup>th</sup>, 2009 letter, it is our opinion that outstanding issues still remain. Particularly, the characterization of Wetland Area 1 for amphibian breeding is still lacking from the application, reasonable mitigation for unpermitted and proposed activities adjacent to on-site Wetland Areas 1 through 3, and adjacent off-site wetlands (i.e. Wetland Area 4), have not been proposed in detail on the plans. Moreover, the proposed stormwater management system for runoff renovation is still lacking detail and supporting documentation. Therefore, we are still of the opinion that this application as currently proposed would likely cause adverse short-term and long-term impacts upon regulated wetlands and watercourses.

Please call us if you have any questions on the above or need further assistance.

Respectfully submitted,

JMM WETLAND CONSULTING SERVICES, LLC



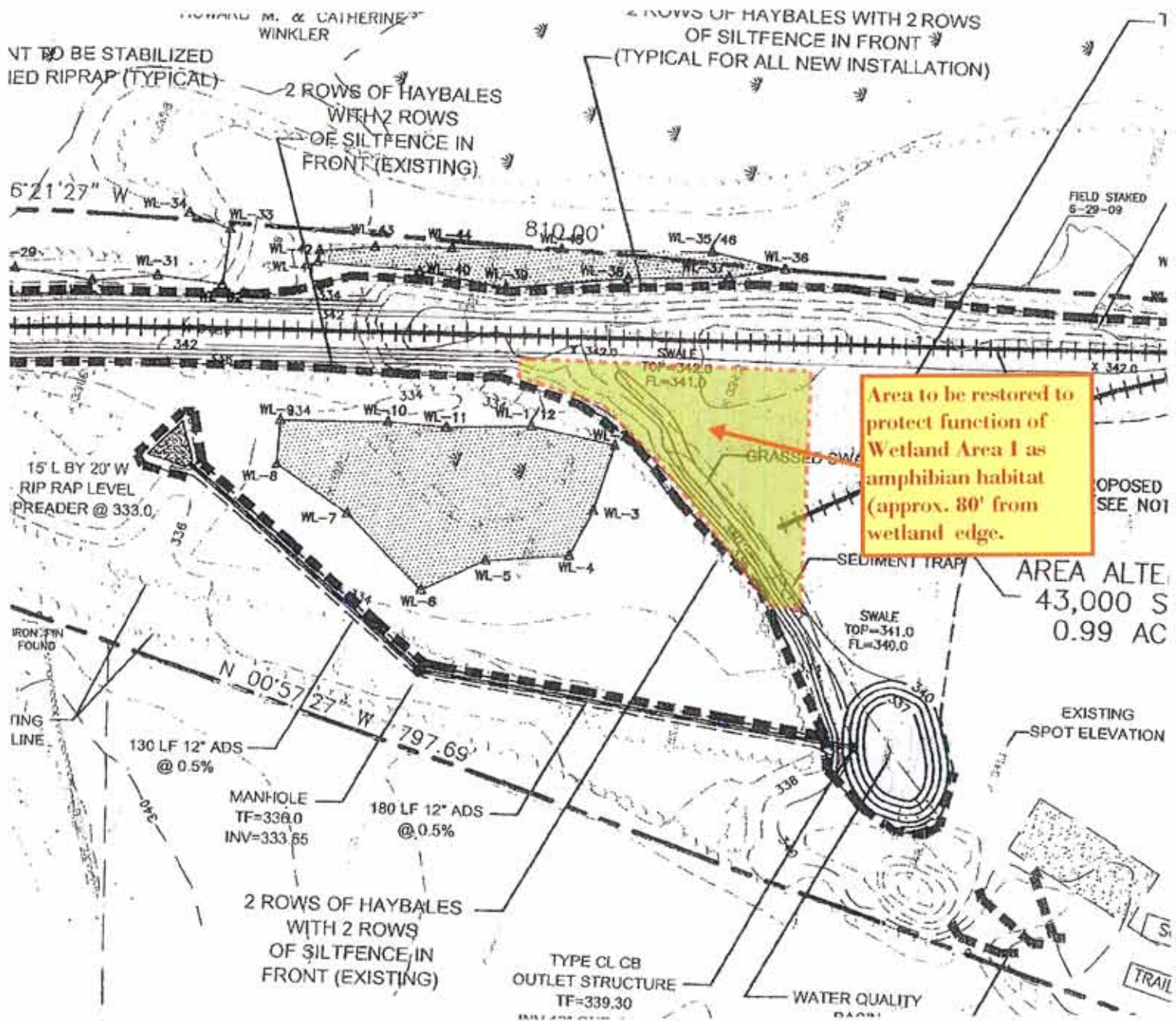
James M. McManus, MS, CPSS  
Certified Professional Soil Scientist (No. 15226)

Attachments: Figures 1a, 1b, and 1c

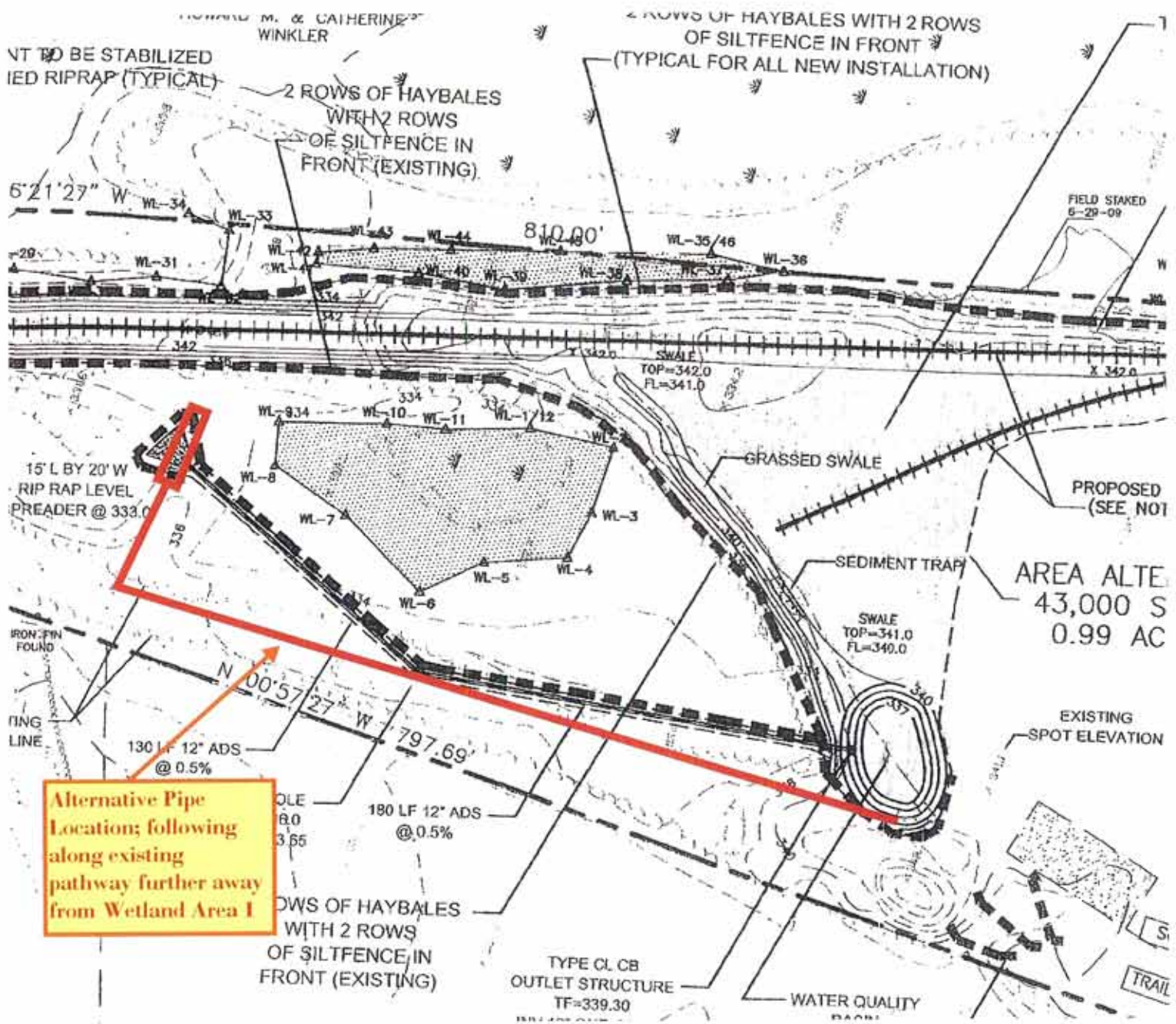


Wetland Area 1

**FIGURE 1a:** Site prior to tree clearing and filling showing Wetland Area 1



**FIGURE 1b: Area to be restored to forest adjacent to Wetland Area 1**



**FIGURE 1c: Alternative Pipe Location**