



May 30, 2014

Ms. Lisa Rhodes  
MassDEP Wetlands Program  
1 Winter Street  
Boston MA 02108

**RE: New Bedford Regional Airport Runway Safety Improvement Project  
Analysis of Stability of Gravel Service Road/Access Road  
MassDEP File No. SE 049-0635**

Dear Ms. Rhodes:

On May 5, 2014, Epsilon Associates (Environmental Monitor) ("EM") provided the Massachusetts Department of Environmental Protection ("MassDEP") with a copy of a report prepared by JM Fiske (Wetlands Specialist) ("WS") entitled "*Report on RSA 5 – ILS Road / West Ditch Silt Fence Failure*". In that report the WS made the following recommendation (in part):

*"... it is recommended that the design team evaluate the long term stability of the buffer slopes. At the end of the project with the entire silt fence removed, there will be concentration of storm water on the ILS road and because the road will not remain level, there will always be discharge points over the short steep buffer banking. Some type of chute should be used for long term discharge of storm water. If a short rock chute is not permitted, the design team may want to consider shallow vegetated swales reinforced with a turf reinforcement mat that will allow vegetation to grow up through it."*

In an email to the WS and EM dated May 6, 2014, the MassDEP directed the Airport to evaluate the recommendations of the WS and provide the results of the analysis within 30 days (i.e., June 6). The results of the analysis are provided in the balance of this letter.

As a point of clarification, the roadway in question is not the "ILS road" as described in the WS report. It is generally referred to by the Airport as the "gravel service road" or "access road". The ILS road is the paved road that is located west of the gravel service road extending from the recently installed arch culvert to the New Bedford/Dartmouth town line. The gravel service road is a permanent feature that was constructed during Phase 2 of the project around the Runway 5 end and limit of wetlands fill. It has also served as a temporary "haul road" for the site contractor's use during each phase of construction. Refer to the enclosed locus map for the location of these roadways, the study area referenced in the WS report, and other relevant features on the Airport property associated with the overall project.

#### **Preliminary Analysis by ASG**

As described in the WS report a discrete section of the bank adjacent to the relocated West Ditch suffered some erosion during an overnight rain event on May 1<sup>st</sup> 2014. A total of approximately 2.60 inches of rain fell in 18 hours roughly equating to a 2-year storm event. A portion of the contributing drainage area to the West Ditch has been disturbed due to the ongoing reconstruction of Runway 5-23. This temporary disturbance includes the removal of topsoil and grassed areas. These interim site conditions may have contributed to the high peak rate or runoff experienced during the above referenced rain event. Once the area has been re-vegetated post construction, including the re-establishment of the vegetation along the bank of the West Ditch, ASG anticipates that the peak rate of runoff will be substantially reduced and the potential for concentrated flows and erosion will be limited

along the gravel service road. The additional erosion controls that were recently installed by the site contractor (ET&L) should mitigate any short term erosion problems during the active construction period.

## **Next Steps**

### ***Design and Installation of Permanent Stormwater BMP***

As a precaution ASG will advance a design drawing depicting the location, configuration and details of shallow vegetated swales with a reinforced turf mat (or similar BMP) along a yet to be determined length of the gravel service road adjacent to the relocated section of West Ditch. Because there are currently no funds available for this work we propose to complete the design, agency review and construction of the proposed swale(s) during the Taxiway A project that is scheduled to commence during the Summer / Fall 2015. We will work closely with the Department to obtain approval of the design before it is implemented in the field.

### ***Additional Erosion Control Measures to be Deployed During Phase 4 Construction***

As per the Department's May 21<sup>st</sup> email to Erick D'Leon (Airport Manager) we considered the suggestion of the Independent Observer (GZA) ("IO") regarding the use of filter bags during construction as a means of controlling and dissipating ponded water and the resultant runoff. As was discussed between the RE, EM, IO, and WS during a May 22<sup>nd</sup> site visit we collectively are not recommending the use of a mechanical pump and filter bag system as the preferred course of action. This sort of system presents reliability issues and requires more frequent maintenance and oversight, requires a dedicated power supply / generator, and there are limited locations to collect and discharge the water through a hose/filter bag system and into the West Ditch. However, in lieu of this system we are recommending that additional erosion controls be installed. More specifically, two rows of silt fence will be installed in a U-shaped configuration within the RSA 5 area. One of the silt fence barriers was installed during the referenced rain event (on or about May 1<sup>st</sup>). A second barrier should be installed by the close of business on May 30<sup>th</sup>. The EM, IO and WS will conduct a follow up inspection to confirm the controls have been installed correctly. Going forward, the IO/WS/EM/RE monitoring team will inspect the controls to determine their effectiveness during heavy precipitation events.<sup>1</sup> These controls will be removed upon completion of Phase 4 work after the site has stabilized with sufficient vegetation.

### ***Interim Period Between Construction Phases***

In the interim period between the end of Phase IV construction and the beginning of the Taxiway A reconstruction project when the permanent BMP is expected to be installed, we recommend that 12-inch diameter compost filter tubes be installed along a portion of the gravel service road to dissipate flows, as may be necessary. These controls will be sighted in the field by the RE and EM and will replace the silt fence and haybales that are currently installed as part of Phase 4 work.

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<sup>1</sup> It is also worth noting that the site contractor has temporarily stockpiled excavated soil in the RSA5 area beyond the 100-foot buffer zone to wetland resource areas as has been staked out in the field and verified by the WS. These disturbed upland areas will be restored and re-stabilized by the site contractor as part of its Phase 4 work.

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If you have any additional questions or concerns regarding this analysis and the approach outlined herein please do not hesitate to contact me at 781.491.0083 or via email at [mottariano@airportsolutionsgroup.com](mailto:mottariano@airportsolutionsgroup.com).

Thank you.

Sincerely,

**AIRPORT SOLUTIONS GROUP, LLC**

A handwritten signature in black ink, appearing to read 'M. Ottariano', with a stylized flourish at the end.

Mark Ottariano, P.E.  
Airport Engineer

cc: Mike Howard – EM, Epsilon Associates, Inc.  
Robert Mallard – Airport Solutions Group, Inc.  
Erick D’Leon – Airport Manager  
Sarah Porter, New Bedford Conservation Commission  
Dan Nitsche - IO  
Randall Shuey – WS  
File

