

June 11, 2014
15.0166235.10



Ms. Lisa Rhodes
Variance Coordinator
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Boston, MA 02148-4746

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Re: Independent Observer's Monthly Report, Time Period: May 1 to May 31,
2014, New Bedford Regional Airport Safety Improvements Project
DEP File No. SE 049-0635

Dear Ms. Rhodes,

This month the Phase 4 work activities have begun in earnest at New Bedford Regional Airport. The principal scope of work for this Phase includes the reconstruction and repaving of Runway 5/23, construction of new Runway Safety Areas at the 5- and 23-Ends, replacement of subsurface drainage, reconstruction/extension of Taxiway A and the removal of off airport obstructions within the Town of Dartmouth.

Introduction

This report is provided to DEP in accordance with Special Conditions #8 of the Variance Order of Conditions issued to the New Bedford Regional Airport Commission (DEP SE 049-0635) on February 26, 2010. The time period of observations discussed herein is **May 1 to May 31, 2014.**

Overview

This month the RW 5/23 has been shut down and the paved surface has been removed including the removal of existing drainage, the installation of new E&S barriers where needed and the repair and replacement of the previously installed E&S barriers.

A portion of the E&S barrier located in the southwestern corner of the haul road near the West Ditch had a breach in the silt fence which caused sediment to be released into the West Ditch. Once the water level receded the accumulated sediment was clearly visible within the wetland. The Contractor successfully removed the sediment and the E&S barriers were improved to prevent similar mishaps in the future. The WS has provided a mitigation plan for this area and much of that plan has been implemented per DEP approval.

The installation of a portion of the silt fence barrier located west of the haul road and east of the West Ditch resulted in damage to a large number of previously planted shrub species within a Restoration Area. The shrubs were replanted after the damage was

discovered and their regrowth is being monitored by the EM and WS. It appears that mortality to date includes two shrubs as a result of the impact.

We have attached weekly Independent Observer Reports which contain photographs of the site and work activities during our observations. During our observations over the past month, we witnessed activities that were not consistent with the Variance Order of Conditions; however, throughout the course of the past month many, if not all of the deficiencies, have been resolved.

Outstanding Issues or Concerns

As of the end of May, the project activities in Phase 4 appear to be consistent with the Variance Order of Conditions or as approved following a change request. The Airport and EM are working with DEP to resolve any remaining concerns or approvals necessary to keep the project in compliance.

Sincerely,

GZA GeoEnvironmental, Inc.



A handwritten signature in black ink that reads "Daniel M. Nitzsche". The signature is written in a cursive style with a large, sweeping initial "D".

Daniel M. Nitzsche, CPESC, CESSWI
Independent Observer

A handwritten signature in black ink that reads "Paul G. Davis". The signature is written in a cursive style with a large, sweeping initial "P".

Paul G. Davis, Ph.D., PWS, CPSSc
Consultant Reviewer

Cc via email: DEP-SERO

New Bedford Conservation Commission
New Bedford Regional Airport Commission
Airport Solutions Group, LLC
Epsilon Associates, Inc.
MassDOT, Aviation
J.M Fiske Environmental

INDEPENDENT OBSERVER REPORT

 GZA GeoEnvironmental Inc.	REPORT NO: 41 DATE: May 1, 2014	Page 1 of 7
	PROJECT No: 15.0166235.30	
	LOCATION: New Bedford Regional Airport New Bedford, MA	
	PHOTOS: 1-10	

**PROJECT: Reconstruct, Mark and Groove Runway 5-23, DEP File #SE-049-0635,
NHESP File No. 96-0737**

Weather: Raining, 60°F

**Observer: Dan Nitzsche, Michele Simoneaux, &
Seth Taylor**

OBSERVATIONS & RECOMMENDATIONS:

Overview: May 1, 2014

The Phase 4 portion of the overall airport improvements began on April 28, 2014. E.T.& L. Corp. ("Contractor") has completed mobilization, surveying and layout of erosion controls and clearing limits, installation of gates and temporary service road at Shawmut Ave. and Old Plainville Rd, installation of erosion controls and turtle barriers. Pavement milling on the RW5-end had commenced with a portion of the millings being used as a dust control cover of haul roads and a portion being removed from the site. The Contractor reported that 100% of the silt fence and hay bale barriers would be installed for Areas I & IV, by the end of that day. At the May 1, 2014 Construction Meeting, it was reported that a failure of the silt fence located adjacent to the West Ditch had occurred and resulted in suspended sediment into the wetland. A restoration plan was developed by the EM & WS. RAMCO, a subcontractor to E.T.&L. mistakenly installed a portion of silt fence too close to planted shrubs where ~50 plants were affected. A restoration plan including future monitoring is to be developed by the EM & WS. During the night and into the morning of April 30 – May 1, 2014, approximately 1.79" of rain fell at the airport (weatherunderground.com).

Phase 4 Observations: May 1, 2014

RW 5 RSA

1. Contractor began scraping loam and stockpiling in 5-end RSA, silt fence installed to the northwest of these piles adjacent to the gravel access road edging the RSA (**Photo 1**). It was reported by EM that these stockpiles were located outside of the 100' Buffer Zone offset from the wetland line at the West Ditch.

Runway 5-23 (5-end)

2. Pavement milling was ongoing (**Photo 2**), the millings are being reused as a top base along the gravel access road located north and west of the RW5-end by Contractor (**Photo 3**) in an effort to control dust along this route.
3. Silt fence installation complete upon site visit on May 1, 2014, yet hay bales had yet to be placed (**Photo 4**).

West Ditch

4. On May 1, 2014 a failure of a portion of the silt fence located along the West Ditch was observed after its subsequent repair, and although the failure point in the silt fence had been repaired, suspended solids and sediment were observed within the water column of the West Ditch (**Photo 5**), the measureable amount was undeterminable at the time, subsequent inspection will occur.
5. It was observed that the erosion controls had not yet been installed to 100% completion, as the plans require that silt fence and hay bales were to be installed together, the latter had not yet been set into place (it was reported by the contractor that hay bales for installation in this location, had been delivered to the site on that day), (**Photo 6**).
6. Two other failures in this silt fence were also observed to have occurred, these were each corrected.



7. Upon the installation of a length of silt fence located in adjacent to the West Ditch, RAMCO (“sub-contractor”) damaged roughly 50 planted shrubs (Phase 3). The Environmental Monitor, in conjunction with the Wetland Scientist, developed a plan to correct the mistake, this involved the resetting of the shrubs, reseeding of the disturbed area, as well as the spreading of loose straw. A portion of this area is now contained within two rows of silt fence, one from phase 4 as well as one from a previous phase (**Photo 7**).
8. Many planted shrubs from previous phase in West Ditch, adjacent to concrete end wall were observed to not be present as of spring 2014 (**Photo 8**).

ILS Road

9. Installation of silt fence with hale bale rows observed upon site visit (**Photo 9**), total length of silt fence had yet to be completed as of site visit.

RW23 RSA

10. Temporary culvert was observed to have been placed in upland area under the temporary access road on the 23-end.

Site 6/Area 3

11. Sediment (sand) was observed beyond the Site 6 limits originating in Area 3. Several rows of silt fence along with straw wattles were observed, although the sediment observed was beyond these barriers (**Photo 10**).

Recommendations

1. **Develop a strategy to reduce the water load in RW5 RSA area. Possible strategies include pumping of water out of the haul road into filter bags in upland areas or raising the grade of the gravel access road.**
2. **Provide a restoration plan that includes a quantification of wetland impact for the E&S failure area at the RW 5 RSA.**
3. **Remove existing sand that has migrated into Site 6 from Area 3. Develop a plan to prevent this movement in the future.**
4. **Determine extent of shrub mortality at concrete end wall along West Ditch.**



RW



Photo 1: Stockpile of loam in RW5 RSA, silt fence barrier observable on left of picture.

View Facing East



Photo 2: Pavement milling ongoing on RW5-end. The silt fence and hay bale barrier is in the foreground.

View Facing Southeast



Photo 3: Millings are being reused as dust control along the gravel access road located north and west of the RW5-end.

View Facing East



Photo 4: Silt fence installation complete upon site visit on May 1, 2014. The addition of hay bales is planned as indicated on the approved site plan.

View Facing West



Photo 5: Suspended sediment was observed within the water column of the West Ditch following the installation of silt fence and hay bales earlier in the day.

View Facing West



Photo 6: Failure point of silt fence on West Ditch, observable lack of hay bales as required per the plan.

View Facing West



Photo 7: Along the West Ditch a silt fence was improperly location and resulted in damage to ~50 shrubs and disturbance to the soil. A restoration plan is reported to be in development.

View Facing North



Photo 8: Shrubs planted during previous phase were not observed along a portion of the West Ditch, adjacent to concrete end wall for cross culvert.

View Facing East



**Photo 9:
Installation of silt
fence with bale rows
observed
upon site visit (May
1, 2014).**

View Facing West



**Photo 10: Sediment
(sand) was
observed beyond
the Site 6 limits
originating in Area
3 despite two rows
of silt fence and
straw wattles.**

View Facing West

INDEPENDENT OBSERVER REPORT

 GZA GeoEnvironmental Inc.	REPORT NO: 42 DATE: May 8, 2014	Page 1 of 6
	PROJECT No: 15.0166235.30	
	LOCATION: New Bedford Regional Airport New Bedford, MA	
	PHOTOS: 1-8	
PROJECT: Reconstruct, Mark and Groove Runway 5-23 (Approximately 5,400 FT. X 150 FT.) DEP File #SE-049-0635, NHESP File No. 96-0737		
Weather: Clear, 70°F	Observer: Michele Simoneaux	
OBSERVATIONS & RECOMMENDATIONS:		
<u>Overview: May 8, 2014</u>		
<p>E.T.& L. Corp. (“Contractor”) is working primarily on the Runway 5-end stripping loam as well as removing concrete from Taxiway A 5-end, stripping loam from the Runway 23 shoulders, and continues to layout erosion controls along the ILS road. According to the Contractor (reported on May 8, 2014), they are preparing to place fill in the end of the safety zone to bring the runway to grade. The IO witnessed watering of the Contractor’s access road near Shawmut Avenue.</p> <p>A significant failure of the silt fence located adjacent to the West Ditch (configuration as of May 1, 2014) occurred during the previous week, resulting in suspended solids in the water column as well as accumulated sediment on the streambed. The water level in the West Ditch was high at the time following a precipitation event but the water level subsided throughout the week allowing the impacts of the discharges to be further assessed. There is one area of accumulated material in the West Ditch below the lowest row of hay bales.</p> <p>The IO reviewed the affected areas described to have taken place on or around May 1, 2014, which included a 600 linear foot section along the south side of the West Ditch. The WS reported that a Restoration Plan has been developed that addresses the aforementioned issues and would be submitted to MassDEP for review by the May 15, 2014 deadline. The WS conveyed that the Restoration Plan includes the following recommendations: to leave the lower row of hay bales in place until the area is stabilized, rake the affected area to bring it to an appropriate grade and remove the chunks of soil and rocks strewn in the area and then apply an Erosion Control Seed Mix.</p>		
<u>Phase 4 Observations: May 8, 2014</u>		
<u>RW 5 RSA</u>		
Contractor continued scraping loam and stockpiling in the 5-end RSA (Photo 1).		
<u>Runway 5-23 (5-end)</u>		
Contractor continued scraping loam and stockpiling in 5-end simultaneously with the RSA work (Photo 2).		
<u>West Ditch</u>		
The stabilized area along the West Ditch that had been damaged due to a silt fence installation appeared to be stable at the time of this observation. We have been made aware that a restoration plan is pending approval by DEP before all measures are implemented. The IO observed the condition of three breach holes that had been identified by the WS along the West Ditch. The water level in the West Ditch was lower than it was during the previous IO inspection and the extent of sedimentation into the wetland could be easily viewed. It was reported to the IO that the most significant deposition of material is targeted for hand removal (Photo 3 and Photo 4). The IO reviewed the other two failures in this silt fence and the repairs that were made appear to have been effective in preventing additional sedimentation into		



the wetland. Evidence of the sedimentation event was observed on the vegetation but there was not enough accumulated sediment in those areas to effectively remove.

A portion of the Restoration Area that was disturbed is now contained within two rows of silt fence, one from Phase 4 as well as one from Phase II and loose straw has been placed in areas where the soil was disturbed (**Photo 5**). Many planted shrubs from a previous work phase along the West Ditch were removed and many were replanted. The EM explained that they and the WS are monitoring the development of the affected shrubs. The EM stated that flags would be placed at the damaged plants for continued monitoring (**Photo 6**).

ILS Road

Silt fence has been partially installed along the ILS road. The Contractor is seeking approval to substitute a filter sock or compost tube for the silt fence required on the approved plans. The Contractor reports that the perimeter road on the north side of the ILS road is “shrinking” in width and they need to widen it for construction access (**Photo 7**).

RW23 RSA

A temporary culvert was observed to have been placed in upland area under the temporary access road on the RW23-end; however, the infiltration basin is adjacent to the wetland and appears to be now connected (**Photo 8**).

Recommendations

- 1. Develop a more long-term strategy to reduce the water load in RW5-end RSA. Strategies may include pumping of water into filter bags in upland areas or raising the grade of the gravel access road;**
- 2. To prioritize removing the solids and sediments that was deposited into the West Ditch as a result of the erosion control failure;**
- 3. Submit a Restoration Plan to repair damage to the Phase II restoration area to MassDEP as soon as possible so that appropriate repairs can be implemented; and**
- 4. Visually monitor water quality and perform necessary corrective maintenance in temporary swale on RW23-end.**



Photo 1: Stripping and loaming operations continue on RW 5-end.

View Facing: Northeast



Photo 2: Stockpiles of loam from stripping operations in RW5-RSA are 100' off of the runway.

View Facing: Northeast



Photo 3: A sedimentation barrier breach occurred along the silt fence line of the West Ditch. Measures have been taken to stop further sedimentation into the West Ditch.

View Facing: Northwest



Photo 4: Sediment and graded materials from the haul road were discharged into the West Ditch due to the failure of the sediment control.

This photo is just beyond the area shown in Photo 3. Accumulated sediment will be removed by hand.

View Facing: Northwest



Photo 5: The Restoration Area that was disturbed was secured by establishing a row of silt fence and hay bales near the top of the slope adjacent to the wetland and placing loose straw on the disturbed soil.

View Facing: Southwest



Photo 6: The Phase II Restoration Area shrubs that were damaged were replanted to the extent possible and will be monitored for survivorship.

View Facing: Southwest



Photo 7: The Contractor proposes to use silt sock/compost tube along the western end of the ILS road instead of a silt fence/hay bale barrier. MassDEP approval will be sought for the change to the E&S barrier before implementation can occur.

View Facing: Southwest



Photo 8: An infiltration swale was established on the on the RW23-end to control water on the haul road.

View Facing: South

INDEPENDENT OBSERVER REPORT

 GZA GeoEnvironmental Inc.	REPORT NO: 43 DATE: May 15, 2014	Page 1 of 6
	PROJECT No: 15.0166235.30	
	LOCATION: New Bedford Regional Airport New Bedford, MA	
	PHOTOS: 1-10	
PROJECT: Reconstruct, Mark and Groove Runway 5-23 (Approximately 5,400 FT. X 150 FT.) DEP File #SE-049-0635, NHESP File No. 96-0737		
Weather: Partly cloudy, 75°F		Observer: Daniel Nitzsche
OBSERVATIONS & RECOMMENDATIONS:		
<u>Overview: May 15, 2014</u>		
<p>E.T.& L. Corp. (“Contractor”) is working on the RW5 and RW23-ends. Activities include stripping loam, removing underdrain pipes, removing subsoil/peat to construct the Taxiway A extension and dewatering. The RW5 Runway Safety Area (RSA) appears to have been graded to meet the subgrade elevation and slope. The perimeter sedimentation barriers have been repaired or replaced based on previous concerns.</p> <p>The IO reviewed the E&S measures around the current work area and in general all were found to be installed adequately except for a short (2 feet) section that was not set into the ground properly. At the time of our inspection we did not observe unauthorized impacts to resources areas.</p>		
<u>Phase 4 Observations: May 15, 2014</u>		
<u>RW 5 RSA and Proximity</u>		
<ul style="list-style-type: none">• Contractor appears to have completed the RSA to the subgrade elevation per information provided by the WS (Photo 1).• Contractor continued stockpiling unsuitable soil southwest of the RW5 RSA. The stockpile did not have a perimeter barrier around it at the time of the inspection. Recent deposition of organic soils from the Taxiway A extension work was evident on the eastern end of the stockpile. The WS stated that the organic soil was too wet to transport so stockpiling will allow the material to dry before removal from the site (Photo 2).		
<u>West Ditch</u>		
<ul style="list-style-type: none">• A small section of the newly installed silt fence barrier along the West Ditch was not set into the ground properly. The section was repaired during the inspection (Photo 3).• The recently repaired area along the West Ditch appeared to be stable. Although, exposed soil outside was observed and should be covered with mulch to prevent sedimentation into the wetland (Photo 4).• The vast majority of the replanted shrubs appear to be healthy and putting out leaves normally. A few shrubs appeared to be stressed as evidenced by weak leaf growth or no obvious leaves (Photo 5).• The older hay bale barrier located at the curve in the haul road near the ILS road intersection and the West Ditch appears to be unnecessary. The removal of the hay bales is likely to allow more vegetation to develop in this area (Photo 6).		
<u>ILS Road</u>		
<ul style="list-style-type: none">• The lower row of planted shrubs along the West Ditch, south of the RW5 RSA are not visible and based on site conditions are assumed to have drowned. The upper row appeared to be healthy (Photo 7).		



RW23 RSA

- Two areas of erosion were evident northeast of the temporary road; although no evidence of sedimentation was observed on the down gradient side of the road (**Photo 8**).
- The Contractor has placed geotextile fabric under a portion of the Taxiway A extension and was placing layers of graded stone on the fabric to achieve the design grade (**Photo 9**).
- The Contractor was continuing to strip topsoil from the RW23-End in preparation of the new RSA grading (**Photo 10**).

Shawmut Road/Construction Entrance

- The Contractor's has a gate guard present and the roadway appeared to be fairly clean despite the off-road truck traffic.

Recommendations

1. Continue to monitor the E&S barriers throughout the site;
2. Cover any exposed soil surfaces with mulch that are located between the E&S barrier and the West Ditch;
3. Continue to monitoring the replanted shrubs for viability issues; and
4. Monitor pending weather conditions and plan work accordingly.



Photo 1: The subgrade of the new RW 5-end is complete per the WS.

View Facing: West



Photo 2: Stockpiled material remains in the RW5 RSA. Additional organic material from the Taxiway A construction is obvious at the northern end of the pile.

No perimeter controls were observed around the stockpile.

View Facing: Southwest



Photo 3: A small section of the newly installed silt fence barrier along the West Ditch was not set into the ground properly. The section was repaired during the inspection.

View Facing: East



Photo 4: The recently repaired area along the West Ditch appeared to be stable. Although, exposed soil outside was observed and should be covered with mulch to prevent sedimentation into the wetland.

View Facing: Southwest



Photo 5: The vast majority of the replanted shrubs appear to be healthy and putting out leaves normally. A few shrubs appeared to be stressed as evidenced by weak leaf growth or no obvious leaves.

View Facing: Northeast



Photo 6: The older hay bale barrier located at the curve in the haul road near the ILS road intersection and the West Ditch appears to be unnecessary. The removal of the hay bales is likely to allow more vegetation to develop in this area.

View Facing: Southwest



Photo 7: The lower row of planted shrubs along the West Ditch, south of the RW5 RSA are not visible and based on site conditions are assumed to have drowned. The upper row appeared to be healthy.

View Facing: West

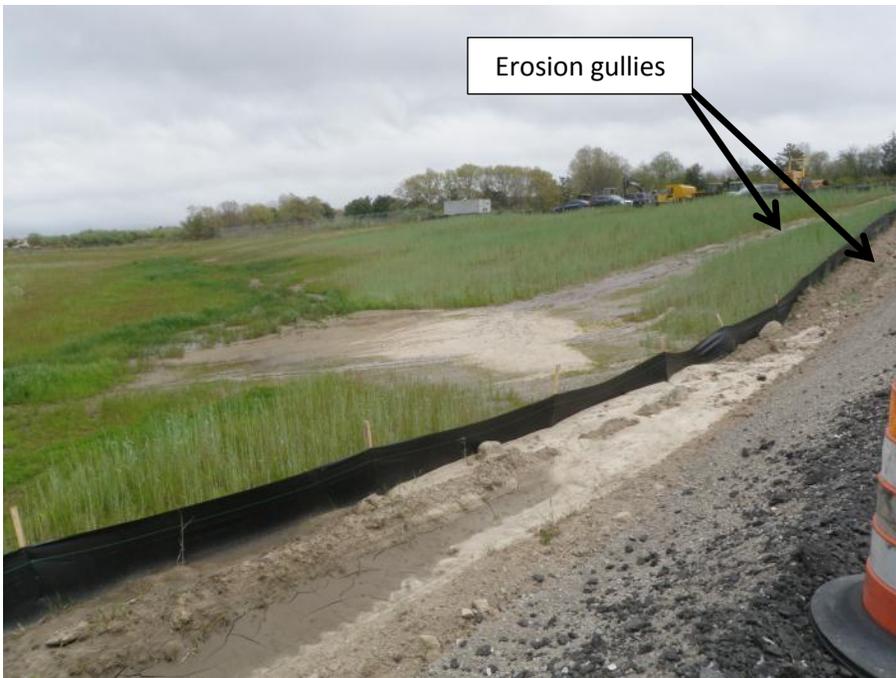


Photo 8: Two erosion gullies were observed near the access road to the RW 23 end. However, no evidence of sedimentation was observed down gradient (wetland side) of this area.

View Facing: Northeast



Photo 9: The Contractor has placed geotextile fabric under a portion of the Taxiway A extension and was placing layers of graded stone on the fabric to achieve the design grade.

View Facing: Northeast



Photo 10: The Contractor was continuing to strip topsoil at the RW23-End in preparation of the new RSA grading.

View Facing: West

INDEPENDENT OBSERVER REPORT

 GZA GeoEnvironmental Inc.	REPORT NO: 44	Page 1 of 6
	DATE: May 22, 2014	
	PROJECT No: 15.0166235.30	
	LOCATION: New Bedford Regional Airport New Bedford, MA	
		PHOTOS: 1-8
PROJECT: Reconstruct, Mark and Groove Runway 5-23 (Approximately 5,400 FT. X 150 FT.) DEP File #SE-049-0635, NHESP File No. 96-0737		
Weather: Clear, 62 °F		Observer: Michele Simoneaux
OBSERVATIONS & RECOMMENDATIONS:		
<u>Overview: May 22, 2014</u>		
<p>E.T&L. Corp. (“Contractor”) is working on the RW5 and RW23-Ends. General activities include stripping loam, removing underdrain pipes, removing subsoil/peat to construct the Taxiway A extension and commencement of additional activities on RW23-End. The Contractor reported that they had completed excavation of unsuitable material and density/compaction testing on Taxiway A and RW5. The Contractor capped two water mains and earlier in the week they had removed most of the drainage and started the subdrain installation. Equipment was being mobilized to the RW23-End to increase work effort and commence the large grade-cut on the north side of RW 23.</p> <p>The project team discussed the restoration action items taken to date, such as raking straw, pruning shrubs, applying seed mix, and repairing silt fence. The EM reported that MassDEP has approved the Restoration Plan and announced the conditions of the approval. MassDEP also approved the use of a different sediment barrier along the access road to the ILS road pending NHESP approval.</p> <p>The IO reviewed the E&S measures around the current work area and was made aware of a 390 LF section of silt fence to the east of the West Ditch, along the RW5-End, that was recommended for repair/replacement. A follow-up observation was conducted at Site 6/Area 3 to check the extent of the sand migration from the Area 3.</p>		
<u>Phase 4 Observations: May 22, 2014</u>		
<u>RW 5 RSA and Proximity</u>		
<ul style="list-style-type: none">• The IO had a field discussion with the WS and EM regarding the use of additional erosion controls that could be configured in a half-moon shape in the vicinity of the existing silt fence in the work area of the RW5-End of the runway. The location would be similar to where the contractor of a previous phase of the project placed additional straw wattles (Photo 1). The grading associated with the infiltration trench appears to have helped alleviate some of the water ponding on the haul road that runs along the West Ditch.• The stockpile of unsuitable material did not have a perimeter barrier around it at the time of the inspection.		
<u>West Ditch</u>		
<ul style="list-style-type: none">• The plants in the restoration area that were impacted by Contractor activities have been flagged with green tape for monitoring purposes. Some plant appeared to be surviving and leafing out, while other individuals appeared to be in distress (Photo 2). The EM is monitoring these individuals.• Contractors are preparing an area east of the West Ditch (Photo 3) for the installation of drainage infrastructure by staging the reinforced concrete culverts and sandbags for during construction water management near the relevant location (Photo 4a and 4b).		



Area 3/Site 6

- Sand materials from the Area 3 was evident in Site 6 and the accumulated sand area is approximately 200 square feet in size (**Photo 5**). Based on the configuration and current condition of the E&S controls in this area, it is assumed that some corrective actions had previously been taken (**Photo 6**). The EM indicated that some mitigation measures, such as additional silt fence and hand-removing accumulated sand from the wetland had previously been completed. The EM further indicated that they were developing a long-term plan to address the sand migration issue. Please note that Area 3 and Site 6 were constructed during a previous Phase of the overall project.

RW23 RSA

- The WS reported that there appears to be groundwater seeping into the site on the RW 23-End and a berm was constructed to keep water from ponding on the access road and outside of the wetland; however, a machine ran over the berm and flattened the grade closest to the inlet side of the cross culverts (**Photo 7**).
- The infiltration trench continues to receive water but no evidence of sedimentation was observed in the wetland on the down-gradient side of the road (**Photo 8**).
- The water control truck applied water to the Runway 23 work area during the sit einpection.

Recommendations

1. Recommend a course of action to alleviate ponding issues on the RW5-End and implement prior to next significant rainfall;
2. Cover any exposed soil surfaces with mulch that are located between the E&S barrier and the West Ditch;
3. Continue to monitoring the replanted shrubs for viability issues;
4. Continue to visually monitor the water quality in the infiltration trench on the RW23-End and check the wetland to insure no sediment is getting into the resource area; and
5. Monitor weather conditions and plan work accordingly due to forecasted precipitation for the next two days.



Photo 1: There were on-site discussions regarding a possible recommendation to place a half-moon shaped silt fence in the approximate location of straw wattles from a previous phase of the project on 5-end.

View Facing: Northeast



Photo 2: The EM placed green flags on restoration plantings that were damaged/removed during contractor activity. The WS and EM are monitoring health and survivorship of the impacted plants.

View Facing: Northeast



Photo 3: The drainage plan for the 5-end requires the installation of a concrete headwall in this location.

View Facing: West



Photo 4a: Concrete headwalls to be installed on the RW5-End.

View Facing: North



Photo 4b: Sandbags will be employed for water management, if necessary, during work associated with installation of the drainage outflow system on the RW5-End.

Facing: Northeast



Photo 5: Some material from Area 3 has migrated into the Site 6 wetland replication area (~ 10' x 20' area impacted). Temporary measures have been taken to arrest the migration of additional sand.

View Facing: Northwest



Photo 6: Multiple layers of silt fence and straw wattles have been installed to help control migration of sand from Area 3 into Site 6.

View Facing: Northwest



Photo 7: A berm has been constructed around the lower portion of the work area on the RW23-End to address groundwater issues in the work area. A piece of heavy machinery appears to have backed over the berm.

View Facing: Southeast



Photo 8: A temporary infiltration trench was constructed on RW23 during a previous phase of the project and is being used for stormwater management during work on the RW23-End.

Facing: Southeast

INDEPENDENT OBSERVER REPORT



GZA
GeoEnvironmental Inc.

REPORT NO: 45
DATE: May 29, 2014

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PROJECT No: 15.0166235.30

**LOCATION: New Bedford Regional Airport
New Bedford, MA**

PHOTOS: 1-12

PROJECT: Reconstruct, Mark and Groove Runway 5-23 (Approximately 5,400 FT. X 150 FT.) DEP File #SE-049-0635, NHESP File No. 96-0737

Weather: Clear, 64 °F

Observer: Seth Taylor, Dan Nitzsche

OBSERVATIONS & RECOMMENDATIONS:

Overview: May 29, 2014

E.T&L. Corp. ("Contractor") is continuing to work on the RW5/23 and RW5- and RW23-Ends. Activities have included stripping loam, removing underdrain pipes, removing subsoil/peat to construct the Taxiway A extension and dewatering. The RW5 Runway Safety Area (RSA) has been graded to meet the subgrade elevation and slope. The perimeter sedimentation barriers were observed to have been repaired or replaced. The E&S subcontractor was observed actively installing silt fence along the ILS road as well as excavating in preparation of the filter sock installation.

Phase 4 Observations: May 29, 2014

RW5 RSA and Proximity

- GZA had in field discussions with EM and WS representatives concerning WS proposal to install an additional 300+ feet of silt fence on the infield side of haul road at the southwest corner of the RW5-End, this area has been laid out with spray paint (**Photo 1**).
- The infiltration trench has begun to be installed along the whole of Runway 5 (**Photo 2**).
- Turtle gate locations have been laid out in various locations along the entire stretch of silt fence at the airport (**Photo 3**).

West Ditch

- The EM/WS indicated that currently 55 shrubs along the West Ditch had been damaged and two are currently dead. The EM stated that a true count will occur in August when enough time has elapsed to fully be able to gauge recovery (**Photo 4**).
- The West Ditch Restoration Area remains stable (**Photo 5**).

ILS Road

- Silt fencing was being installed along the ILS road and a depression was made on the ground surface in preparation for the installation of the filter socks as approved by DEP (**Photos 6 and 7**).
- The bog mat road that was part of the previous Phase of work and located northwest of the ILS road showed signs of vegetative recovery (**Photo 8**).

Site 6, Area 3

- Accumulated sand is evident in Site 6 and originating from Area 3 (**Photo 9**).

RW23 RSA



- The Contractor has excavated down to subgrade (**Photo 10**).
- Spraying of water to control dust was observed to be ongoing (**Photo 11**).
- Temporary culverts along gravel access road on RW23-End observed to be successfully conveying flow and preventing ponding (**Photo 12**).

Recommendations

1. Continue to monitor the E&S barriers throughout the site;
2. Continue to monitoring the replanted shrubs for viability issues; and
3. Monitor pending weather conditions and plan work accordingly.



Photo 1: Area by RW5-End gravel access road where additional silt fence has been proposed to be installed by EM & WS.

View Facing: East



Photo 2: The infiltration trench is being graded along the length RW5.

View Facing: Southwest



Photo 3: Turtle gate locations have been laid out in various locations along the entire stretch of silt fence at the airport.

This picture is an example at the RW5-End.

View Facing: South



Photo 4: View of previously damaged shrub plantings along haul road West Ditch.

View Facing: North



**Photo 5: West Ditch
Restoration Area stable.**

View Facing: Northeast



**Photo 6: Subcontractor
installing silt fence along
ILS road.**

View Facing: Southwest



Photo 7: Subcontractor has cleared vegetation (on left) and installed a depression for the installation of the filter socks along ILS road.

View Facing: Southwest



Photo 8: Bog mat road from previous phase still recovering, vegetation is clearly growing back, area perpendicular to wildlife fence south of the RW5-End.

View Facing: Northeast



Photo 9: Sedimentation was observed in Site 6 originating from Area 3.

View Facing: Northwest



Photo 10: Excavation is complete to subgrade on RW23-End.

View Facing: Southeast



Photo 11: Spraying of water for dust control by contractor is ongoing at the RW23-End.

View Facing: East



Photo 12: Temporary culverts along gravel access road on RW23-End observed to be successfully conveying flow and preventing ponding on upstream side.

View Facing: Southwest