



WASHINGTON
CONSERVATION
DISTRICT

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MEMORANDUM

TO: Kristina Handt, Administrator, City of Scandia

FROM: Jed Chesnut, Wetland/Natural Resource Specialist

DATE: December 16, 2014

RE: **Zavoral Mining and Reclamation Project – Monitoring and Inspection Report
2014 Inspection #6 – December 9, 2014**

As per the contract (14-01) between the Washington Conservation District (WCD) and the City of Scandia (City), WCD staff performed site inspection and monitoring tasks pertaining to Technical Services of Exhibit B. This memorandum serves as a summary of applicable activities and reviews. The site inspection took place on December 9, 2014. Christina Morrison of Tiller Corporation (Tiller) was present and provided a descriptive tour of the project area. Each service area is listed below with a summary description of results.

1. Technical Service 3 – Erosion and Sediment Control Inspections
 - a. Task 1 – Site Inspection
 - i. Active mining was occurring during the site visit. Additionally, internal movement of material was occurring.
 - ii. Silt fence that had been installed in 2013 as per the stormwater pollution and prevention plan (SWPPP) was in good shape. The silt fence throughout the project area was still effective for perimeter control.
 - iii. As noted in previous reports, the old access road was mostly removed; however there was still a small area of disturbed land that sloped toward the buffered area. The slope had become vegetated, so erosion was not an issue. Additional excavation in this area has effectively removed the mound of material that sloped to the north. Therefore, the entire northern boundary of the active mine area now slopes and drains internally (see attached photo).
 - iv. There was an area along the southern project limits where a gap in perimeter control was identified in 2013. This silt fence has since been installed and was noted in the June report. Vegetation in this area, upslope from the silt fence, is now well established and is stabilizing the previously disturbed soils. This was noted in the previous 2014 reports and is still valid.
 - v. In the July report, it was noted that Tiller regraded the internal driveway road that runs along the south and east project limits so that it sloped inward to the mine and therefore runoff would be directed internally. The diversion drainage ways appeared to be functioning and were directing stormwater runoff internally to a ponding area. (see attached picture). This was noted in the previous 2014 reports and is still valid.
 - vi. To minimize material being deposited on Highway 97, Tiller had a large street sweeper onsite that is dedicated to the haul operations between the Zavoral Mine and the Scandia Mine (see picture of active street sweeping of HWY 97).
 - vii. All sediment and erosion control requirements are being fulfilled.
2. Technical Service 4 – Threatened and Endangered Species
 - a. Task 1 – Conduct Site Reviews to Document Compliance with Blanding's Turtle SOP
 - i. The site was in compliance with the mitigation measures as listed in Appendix C of the Zavoral Mine FEIS. Tiller Corporation's Standard Operating Procedures (SOP)

for operations near Blanding's Turtles was clearly posted in the work trailer (see attached picture).

- b. Task 2 – Annual Inspection of Site and Monitor T&E Listing Status of Butternut Tree
 - i. The status of the butternut tree (*Juglans cinerea*) had been changed to “endangered” on August 19, 2013. As a result, removal of a butternut tree after August 19, 2013 would require permitting from the Department of Natural Resources. One non-diseased tree has been identified on the property, outside of the mine limits. WCD did not verify its presence during the December site review since it was observed in October.
3. Technical Service 5: Reclamation Plan Review and Inspection
- a. Task 2 – Conduct Site Inspections to Verify Implementation of the Restoration Plan
 - i. A majority of Phase 1 of the reclamation was mostly complete as of the December site visit. Based on the progress in 2014, it appears that the native prairie in Reclamation Phase 1 is establishing well. Confirmation of success will occur at the end of the monitoring period as required by the permit. This was noted in the previous 2014 reports and is still valid.
 - ii. The WCD received Tiller's 3rd Quarter Reclamation report on October 17, 2014. Vegetation management has been ongoing for 2014 and has included spot herbicide treatments and mowing. The monitoring report was consistent with site observations during the 2014 inspections.
 - iii. One of the 25 transplanted white pines appeared dead during the July site inspection suggesting that it was not successfully transplanted. The trees will continue to be monitored. This was noted in the previous 2014 reports and is still valid.
 - iv. The area noted in Tiller's annual reclamation report for 2013 as the proposed wooded transition zone (left uncut and planned to be managed) between the mine and the forest, was reviewed by City Staff, Tiller, and the National Park Service in May. A revised plan for the transition zone was approved by the City on August 19, 2014. Initial implementation had begun including selective removal of non-native herbaceous vegetation. The transition zone will be monitored starting in 2015 as part of WCD's inspection activities.
 - v. A significant amount of the required organic soil had been stockpiled on site. Mixing the organic soil with the sand material was ongoing and a large amount of mixed reclamation topsoil material was onsite and ready for final placement into the reclamation areas (see attached picture).
 - vi. As the mining activity progresses into the southern portion of mining phase I and into mining phase II area, material was being moved into the reclamation phase II area. This movement of material was occurring during the site visit and the overall progress was on track with the reclamation plan.

This ends the reporting of WCD's December 2014 monitoring activities. Please call me with any questions at 651-275-1136 x25.

Additional material was removed.
Northern edge of mining limits now
drains internally.

North 



Silt fence is intact and functional





Graded swale for internal drainage

Silt fence is still intact and functional

Street sweeping on
Highway 97





**Blanding's Turtle Standard
Operating Procedures**

Zavoral Mining and Reclamation Project
Scandia, Minnesota
September 2013



**TILLER
CORPORATION**

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Stockpile of mixed topsoil
(sand and organic) for
reclamation

