



environmental management, inc.

From: Deni Chambers, Principal in Charge **Date:** March 19, 2010
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To: Shannon Harbour, P.E.
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RE: Response to NDEP's March 1, 2010 Comments, March 11, 2010 Email
Comments, and Additional Revisions to the *Phase B Soil Remediation Schedule*

**Response to NDEP's March 1, 2010 Comments on
*Phase B Soil Remediation Schedule***

1. *General comment, TRX should schedule tasks for Area RZ-D before Area RZ-E. While TRX has expressed concern to conduct Site soil remediation from south to north (up-gradient to down-gradient) to prevent potential re-contamination of remediated areas, Area RZ-D is more complex and has more additional characterization than Area RZ-E; and therefore, the timing of the actual excavation for Area RZ-E occurs before RZ-D, addressing this concern.*

Response: TRX appreciates the comment. TRX agreed to schedule Area RZ-D plan deliverables before RZ-E with the understanding that there is flexibility on which area is to be excavated first.

2. *Line 154 and related, TRX should add a line to track the Hazardous Waste Landfill waste profiling and disposal.*

Response: TRX has added the Hazardous Waste Landfill Waste Profiling task (Line 164) to schedule.

3. *Line 232 and related, the data validation tasks should be broken into the remediation zones areas similar to other tasks if order to accelerate this timeline and facilitate NDEP review.*

Response: TRX has divided and tracked the data validation and DVSR preparation into their respective remediation zones (lines 239-280).

4. *Lines 247-282, TRX should have these tasks preceded by Lines 220-223 as applicable.*

Response: TRX had already had the EP Preparation task preceded by the completion of the field sampling and analysis (lines 291-325).

5. *Line 366, NDEP has the following comments:*

- a. *Line 303 should be listed as a predecessor to this task. This is a global issue that should be addressed for each of the excavations.*
- b. *TRX should clarify why there is a two week delay from the finish date for Line 303 and the start date for Line 366.*

Response: TRX has added the task from the previous schedule; Review Bids, Contract Negotiation, and Award [Mn Tailing] (line 349) as a predecessor to the task line Excavate, Transport to TSDF [Mn Tailings] (line 413). Also, the task Contractor Mobilization now precedes all of the excavation work for the Site.

6. *Line 248, TRX should make this a decision point and define the tasks and schedule if the pilot test fails to show that soil flushing is a feasible remedy for the perchlorate impacted soils.*

Response:

- i. The line referenced in the letter should have been 428 not 248.
 - ii. TRX has added a decision after the task Pilot Test Implementation (line 487) for the path forward dependent on whether the pilot test demonstrates flushing of perchlorate from soil.
7. *Lines 251, 260, 269, and 278, a predecessor of Line 246 (NDEP approval of the RAW) should be added to these tasks.*

Response: TRX has added NDEP approval of the RAW as a predecessor to each of the Lines for the Submittal of each RZ Excavation Plan.

8. *Line 265 and related, this task should not delay any excavation activities. TRX should evaluate these tasks and reduce task duration appropriately.*

Response: TRX has added validation of the RZ data as a predecessor to its respective Excavation Plan finalization (lines 297, 306, 315, and 324).

9. *Lines 313, 317, 321, and 325, TRX should include NDEP review of the corresponding Area Excavation Plan (Lines 253, 262, 271, and 280) prior to completing internal review of these tasks.*

Response: NDEP does not need to review as the Plans and Specifications tasks are means and methods to complete the NDEP-approved Excavation Plans (lines 357-368).

10. *Lines 314, 318, 322, and 326, TRX should include NDEP approval of the corresponding Area Excavation Plans (Lines 255, 264, 273, and 282) prior to issuing the excavation plans and specifications.*

Response: NDEP does not need to review as the Plans and Specifications tasks are means and methods to complete the NDEP approved Excavation Plans.

11. *Line 403 and related, NDEP has the following comments:*
 - a. *The development of Environmental Covenants needs to commence immediately.*



- b. *TRX has not considered NDEP review and approval of the Environmental Covenant Deliverables in the schedule. This should be added.*
- c. *The duration for development of the Environmental Covenants needs to be reduced significantly to allow time for NDEP review.*

Response:

- i. TRX will start the Environmental Covenants process in March.
 - ii. TRX has added a preliminary and second NDEP review cycle with a duration of at least 20 days for NDEP review (lines 457-458).
 - iii. TRX has added a final approval cycle to this task.
 - iv. TRX has added a predecessor for the final approval (NDEP) of the Environmental Covenants to the capping of berms.
 - v. TRX has removed the predecessor for Environmental Covenants from the Finish Grading tasks (lines 467-470). The finish grade will be preceded by the Post-Closure Risk Assessment for that RZ for final fill depths.
12. *Line 445, TRX needs to accelerate the schedule for the Probabilistic Risk Assessment.*

Response: TRX agreed to use a predecessor of Bioaccessibility Data Evaluation (line 184) rather than NDEP Approval of Bioaccessibility (line 192).

13. *Line 452, the decision units determination task should be grouped into the remediation areas (approximately) for phased development to accelerate the timeline and facilitate NDEP review.*

Response: TRX has segregated the development of the Decision Units into Areas (lines 540-544) that approximate the RZs, which will be scheduled in stages as appropriate.

14. *Line 453, a predecessor of Line 187 should be added to this task.*

Response: TRX has removed this task as the work will be conducted under the Bioaccessibility Study.

15. *Line 470-472, TRX and NDEP need to discuss realistic review times.*

Response: NDEP review times have been extended to 20 working days; however, a preliminary review time of 5 days has been added in order to get approvals, if possible, of critical-path tasks.

16. *Lines 534, 542 and related, these tasks should be tied to the development and approval of Environmental Covenants for future buildings that are not yet constructed.*

Response: TRX has segregated current and future buildings in this task (lines 627-642).



**Response to NDEP's March 11, 2010 Email Comments on
Phase B Soil Remediation Schedule**

1. *General comment: all Deliverables should have a NDEP Review and Approval line.*

Response: TRX has inserted a NDEP Review and approval line for each deliverable

2. *Lines 120 – 137: DVSRs for Area III, Area IV, and Groundwater should have a line for NDEP review and approval.*

Response: This revision has been made.

3. *Lines 278, 287, 296, and 305 : the lines for EP Preparation for RZ Areas B – E should have the following predecessors (an example for RX-B will be given in parentheses: EP Preparation for RZ-B is Line 278)*
 - a. *Corresponding RZ Area Field Analysis (Line 221)*
 - b. *Finish Date should be Corresponding RZ Area Fixed Lab Analysis + 4 days (Line 226FF+4 days)*
 - c. *Finish Date should be NDEP Approval of RAW + 1 day (Line 276FF+1)*

Response: These revisions have been made.

4. *Line 280 RZ-B EP, Revise and Finalize EP: remove Line 207 as a predecessor.*

Response: This revision has been made.

5. *Line 284, 297, 302, and 311 RZ EP, Respond to Comments/EP Finalization: please add 3 days to the Final dates of the predecessors referencing the corresponding RZ Area DV Tables (Lines 233, 236, 239, and 242, respectively). For example, 233FF+3 days.*

Response: This comment has been addressed

6. *Line 289, RZ-C EP, Revise and Finalize EP: remove Line 230 as a predecessor.*

Response: This predecessor has been removed.

7. *Line 298, RZ-D EP, Revise and Finalize EP: remove Line 230 as a predecessor*

Response: This predecessor has been removed.

8. *Line 390 Implementation of SWPPP Measures, Site Wide: please check the predecessor for this Line. Should the predecessor be Line 342 Site Wide, Issue Plans and Specifications?*

Response: No, the predecessor should be Line 356 Review Bids, Contract Negotiation and Award (Site Wide). This revision has been made.



9. *Line 391 Implementation of SWPPP Measures, Beta Ditch: please check the predecessor for this Line. Should the predecessor be Line 361 RZ-E, Issue Plans and Specifications?*

Response: No, the predecessor should be Line 364 Issue Plans and Specs (RZ-D). This revision has been made.

10. *Line 387, Soil Certification (if required): soil sampling and analysis may be able to start before the completion of the "Phase I" Evaluations (Line 386).*

Response: Correct, a negative 10-day lag has been inserted in the predecessor

11. *Lines 411 – 491, RZ-D and RZ-E excavation activities, as discussed at today's WebEx meeting, excavation of RZ-E may proceed excavation of RZ-D so that the excavation activities are conducted from south to north (up-gradient to down-gradient). NDEP's March 5, 2010 comment was directed at the completion of the Deliverables (work plans, sampling, data validation, etc.) for RZ-D before those for RZ-E so that implementation of excavation at RZ-D was not unnecessarily delayed by RZ-E Deliverables.*

Response: TRX appreciates the comment. TRX agreed to schedule Area RZ-D plan deliverables before RZ-E with the understanding that there is flexibility on which area is to be excavated first.

12. *Lines 535, 546, 557, and 568 Data Evaluation: remove Line 509 as a predecessor and replace with Lines 510 – 513, respectively (DU Determination for corresponding RZ Area)*

Response: This revision has been made.

13. *Lines 536, 547, 558, and 569 Data Usability: the predecessor for the finish date from the start date of the following Lines plus 4 days: 245, 251, 257, and 263 RZ Area DVSR Internal Draft (e.g. 245SF+4 days).*

Response: These revisions have been made.

14. *Lines 538, 549, 560, and 571 Prepare HHRA: predecessor for finish date should be finish date of the following Lines: 246, 252, 258, and 264 RZ-Area DVSR Submittals (e.g. 246FF)*

Response: These revisions have been made.

15. *Lines 540, 551, 562, and 573 Revise and Finalize: predecessor for finish date should be finish date of the following Lines plus one day: 249, 255, 261, and 267 NDEP approval of RZ Area DVSR (e.g. 267FF+1 day).*

Response: These revisions have been made.

16. *Line 629 Prepare Closure Report, predecessor should be Line 125 for Area IV DVSR Approval. Also add Line 507 Preliminary DU determination as a predecessor.*



Response: These revisions have been made.

17. *Lines 636, 645, 653, and 661 Prepare Closure Report, predecessor for finish date should be the finish date for the following lines plus 5 days: 458, 459, 460, 461 (e.g. 458FF+5 days).*

Response: These revisions have been made.

18. *Closure Reports: limits of excavation and final grades will need to be included in the Closure Reports. There are no tasks for the collection of this data.*

Response: Limits of excavation and final grades will be collected after completion of soil removal and this data will be included in the closure reports.



Additional Revisions to the Phase B Soil Remediation Schedule

In addition to addressing the above comments, Northgate has made the following revisions to the schedule based on continued scope development of specific tasks.

1. The waste profile acceptance durations (line 161 to line 164) have been lengthened to reflect anticipated landfill acceptance dates.
2. A task for additional step-out sampling (if required, line 232) has been added. This has not been linked to potential successor tasks such as data validation, but could affect those dates if this task is required.
3. The RAW preparation date has been adjusted to reflect when it will be submitted to Tronox.
4. The task "Install Temporary SWPPP Measures" (lines 377, 381, 386, and 391) has been included as a precursor to any building demolition.
5. The task "Perimeter Air Monitoring (if necessary; line 444) has been added.
6. The Perchlorate Soil Flushing pilot test implementation (lines 487 to 515) has been modified based on refinement of the proposed scope of work.
7. The task "Dioxin TEQ Modified BCL" task was removed from the schedule as TRX will provide a recommended dioxin cleanup level as part of the bioaccessibility study.
8. The RZ post closure risk assessment deliverable dates have been adjusted so that they aren't all submitted to NDEP on the same day.
9. The task "RZ-A closure report" has been removed as it is anticipated that all that is required is a screening risk assessment.
10. The task "Evaluate need to IAQ Testing" has been added to the Soil Vapor Mitigation Task.

