SEH

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MEMORANDUM

TO: Dave Kafura

FROM: Brad Woznak

DATE: February 24, 2014

RE: Carlson Road Dam, IP-NO-2013-58-01501
SEH No. SAWLW 119834 14.00

Dale Olson of Sawyer County Land and Water Conservation has received the comment letter from you dated August 23, 2013 regarding the application to remove Carlson Road dam on the Little Round Lake. In response to that comment letter, SEH (as Sawyer County's consultant) has revised the previously submitted construction drawings and has prepared special provisions for construction. The revised construction drawings and special provisions are attached for your review. A detailed description of the changes made in response to the comments is provided below:

Review Comment #1: *"Is Sawyer County also petitioning for the rescission of the 1941 PSC water level order? While the order seems to be a moot subject if the dam abandonment is approved, it would most certainly be a cleaner, less vague issue for the future, if the county also sought rescission of the water level order along with the application for dam abandonment."*

Response: Yes, Sawyer County is petitioning for the rescission of the 1941 PSC water level order.

Review Comment #2: *"All dam abandonment documents and submittals (other than the actual DNR abandonment application form) need to be signed and stamped by a Wisconsin registered professional engineer. Make sure that the documents that are modified or additional submittals comply with this requirement."*

Response: The final plans and special provisions will be signed and stamped by a Wisconsin registered professional engineer. The attached versions have placeholders for this, but will not be signed and stamped until they are finalized for bidding.

Review Comment #3: *"All elevations need to be tied to and referenced to benchmark 1127C, using the historical datum for 1127C benchmark. There have been numerous interpretations of what the benchmark elevation is. For consistency sake everything shall be based on the original NAV88 and local elevation of that benchmark."*

Response: Benchmark 1127C has been added to vertical control table on sheet C1 of the drawings. A note stating "Elevations refer to NAVD88" has also been added to sheet C1.

Review Comment #4: *"A narrative and table shall be included with the plans that specifically state the pre and post-construction elevations (again, based on the historical, original NAV88 and local datum for benchmark 1127C) of the dam, sill, and the proposed culvert floor installation (upgradient and*

downgradient). It should not be left to an interpretation of a graphic design submittal. It needs to be stated specifically in the narrative and in tabular format."

Response: An "Elevation Summary" table has been added to sheet C1 of the plans that lists Pre-(Existing) and post-construction (Proposed) elevations for the dam and proposed culvert floor. Based on our field review of the dam, only temporary boards were in place and were since removed, so we have used the same elevations for the dam and sill and listed the top of sediment elevation through the existing wooden bridge structure as the invert.

Review Comment #5: *"There is no discussion, design, nor identification of the appropriate erosion controls to be deployed for neither the dam removal nor the culvert installation. Will a cofferdam be part of the process, and if so, how will that be designed and deployed? At a minimum, there needs to be turbidity curtain enclosing the project site to prevent suspended solids from leaving the construction site. There is no upland erosion controls identified for the removal process of the bridge and side walls. With the proposed 1:1 excavation out some 10-12 feet on either side, and to a depth of 8-10 feet, some type of erosion controls need to be proposed for temporary and final stabilized project in the application."*

Response: Silt screen is now shown on sheet C1 and erosion control mat is now shown on sheet C2 of the revised drawings. As stated in the special provisions, the Contractor may elect to construct a cofferdam if he/she determines it is necessary to perform the work. If a cofferdam is used, the Contractor's design engineer shall design the cofferdam as stated in the special provisions. We have designed the proposed structure such that it could be placed in the wet without the need for a cofferdam, in an effort to reduce the overall construction timeframe.

Review Comment #6: *"A step-by-step sequence and anticipated timeline for each sequence is in order to evaluate the appropriateness of the controls that will be deployed."*

Response: Anticipated construction sequence and timeline is provided below for your information:

1. Install silt screen immediately downstream of project area.
2. Remove existing bridge and dam.
3. Install cofferdam, as desired by Contractor.
4. Install Base Aggregate ¾ inch and grade to elevation such that invert of structure will match that shown on plans.
5. Install new culvert, end sections, and end walls.
6. Backfill culvert with suitable material and granular backfill over top of culvert and under roadway section.
7. Install medium riprap at upstream and downstream ends of culvert.
8. Grade and restore aggregate roadway and install beam guard.
9. Topsoil, seed, and cover slopes with erosion control mat.
10. Remove cofferdam if one has been utilized for construction.
11. Maintain silt screen until turf has established.
12. Remove silt screen.

We anticipate approximately 1 working day for steps 1 through 6 and 1 to 3 additional working days for the remainder of the steps outlined above (not including the time for turf to be reestablished). We have included within the Special Provisions that temporary access should be provided across the channel at the end of the working day in the event the placement of the box culvert takes longer than anticipated.

Review Comment #7: *"The document would appear to have a box culvert, but no bridge proposed over the culverts. Are the culverts going to be the only means of crossing over the channel?"*

Response: Sheet C2 of the revised drawings shows the road profile over the culvert crossing. As shown on this sheet, the road will be restored with a granular backfill subbase and a 6-inch course of 3/4-inch aggregate base material.

Review Comment #8: *"Have contingencies/logistics been identified for providing residence on the east side of Carlson a means of accessing their property/structures? Will there be a temporary crossing during the removal/construction phase?"*

Response: Sawyer County will contact affected property owners to notify them of the proposed construction and how it impacts access to their property. Because Carlson Road is not a thru street and because construction of this project will require full closure of the road for approximately 1 day, property owners on the north side of the project will not be able to enter or leave their properties during this time. We have included within the Special Provisions that temporary access should be provided across the channel at the end of the working day in the event the placement of the box culvert takes longer than anticipated.

Review Comment #9: *"The C1 plan sheet cross sectional would indicate that the box culvert placement is above the existing channel contours. This needs to be discussed with the DNR as to the reasoning and whether this constitutes a new dam (a structure that is intended to hold back water at a certain elevation)."*

Response: The design intent for the proposed culvert inverts (1344.10 upstream and 1344.00 downstream) is to approximate the elevation of the existing channel thalweg in the vicinity of the existing and proposed crossings. SEH performed a thalweg survey of the channel from approximately 250 feet downstream of the existing structure to approximately 130 feet upstream. Based on our review of the thalweg profile, it appears that the existing structure at Carlson Road is located within a riffle section between two pool sections of the channel. Based on this information, we estimated the channel slope based on the top of riffle elevations and set the proposed box culvert invert based on this profile. In addition, it should be noted that existing crossing has timber wingwalls with a pool formed within the channel inside the wingwalls. We have planned straight precast end sections on the proposed box culvert which extend further upstream and downstream than the existing structure wingwalls which will require some filling of the existing pools. For this reason, we have also included riprap immediately upstream and downstream of the box culvert.

Review Comment #10: *"Finally, is Sawyer County going to request a public information hearing as part of the submittal process? There's a likely chance that such a hearing will be requested, so it probably makes more sense for the applicant to request such a hearing to be scheduled when the application is deemed to be complete."*

Response: Yes, Sawyer County will request a public information hearing when the application is deemed complete.

Please contact Brad Woznak (651.490.2125) if you have any questions or would like to discuss any of the responses provided herein.

BTW
Attachment
c: Dale Olson, Sawyer County Land and Water Conservation
Frank Dallam, WDNR
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