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March 10, 2021

Colin O'Sullivan, EIT, Project Manager
Department of Public Works – Engineering
1200 Madison Avenue, Suite 200
Indianapolis, IN 46225

RE: ENG-19-022 Holly Creek Detention Basin Improvements
Project Scope and Schedule

Dear Colin:

Based on our discussions with you and the designers of the new Washington Township Schools Northview Middle School, we have prepared a Modified Scope of Work and Schedule for the Holly Creek Detention Basin Improvements Project (Project) that will be constructed by the City of Indianapolis Department of Public Works.

Scope

The original project scope was prepared based on a dam inspection Commonwealth Engineers, Inc. (CEI) made on July 3, 2019. The following is a brief summary of the findings.

- Overall Embankment: 600 ft. long and overgrown with large trees.
    - Record plans show 3:1 side slope on both faces
- Maximum Height: ~12 ft
- Emergency Spillway: No apparent emergency spillway.
    - Original design showed a channel on the right (west) abutment west of Central Ave., but this was not found. The area was heavily overgrown.
    - Another natural spillway includes the opening at Central Ave.
- Primary Spillway: Original design had a 3 ft. x 3 ft. brick outlet riser with an 18-inch corrugated metal pipe (CMP) inlet and a 30-inch CMP outlet pipe. The structure had been breached exposing the CMP pipe.
- Crest Width: ~10 ft

The original project scope was to reconstruct/repair the outlet structure and breached embankment. That is still the current scope of the project. It included the following expectations:

1. CEI would evaluate the hydrology of the watershed and determine the design storm for the 1% chance (100-yr) storm event. The existing dam and adjacent detention basin will be surveyed and supplemented with LiDAR digital elevation information.

2. Next, a hydraulic model would be prepared to evaluate the size of replacement structure needed. It would be determined if a larger drop intake box and a larger outlet pipe would be needed to pass the design storm. New City design standards (that were not applicable

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when the original structure was designed) now requires that an outlet like this one must also be able to pass a larger storm event up to 125% of the 100-year design storm. It must also be at or higher than the elevation the detention basin will reach in that 100-year storm event.

3. The breached area would have to be repaired.

4. The trees on dams present a stability problem, and considerations to remove them would be needed.

After CEI completed their 30% level plans in the fall of 2020, we began sharing the above design information for the Washington Township Schools Northview Middle School Project. We have continued to do so to this date.

As noted above, the scope remains one that will reconstruct/repair the outlet structure and breached embankment, although the project will now also include replacement of a culvert just downstream of the dam that failed after the breach occurred.

We had originally not planned for the removal of trees other than those trees found on the dam, especially where the breach occurred. The term "removal" may only mean cutting the trees down to the surface so they do not create a stability problem for the dam. Those trees above the dam in the bottom of the basin do not have to be removed for the effectiveness of the detention basin. The same can be said for any trees along the perimeter of the detention basin as well.

Trees are currently being removed as of this date, but the stumps will remain. The dam improvements may consider grinding those up or totally removed, root ball and all (depending on their size) as part of the dam improvements project. That work will also include bringing in good clay material and topsoil to fill in and compact the voids that will be created once tree root-balls are removed.

Adding the removal of trees above the dam in the detention basin or around its perimeter will be an additional scope item. Again, the main focus of this project was to repair the breached dam and related outlet structure.

We will be able to provide comments on the impact of land use changes made in the upstream watershed and will be able to re-run our hydrologic-hydraulic (HH) models to see what the impact may be in the detention basin. The designers for the noted School Project will need to provide enough information for us to re-run HH models, but any changes made beyond the existing detention basin will not be reflected in the final construction plans for the dam. We do not plan to make any assessments on potential flood elevations in the watershed beyond the detention basin boundaries.

Schedule

Our goal will be to complete our 90% plans within the next 30 days. Following a typical DPW schedule from that date will allow for a bid opening date of June 17, 2021. This will result in the following milestone dates:

- Preconstruction Meeting: July 23, 2021
- NTP: August 9, 2021
- Construction Start Date: August 24, 2021 or sooner (120 days)
- Substantial Completion Date: December 22, 2021

Please review this and let me know if you need for us to make any modifications. If you have any questions, please do not hesitate to call me.

Sincerely,

COMMONWEALTH ENGINEERS, INC.

Roger M. Kottlowski, P.E.

RMK/nmp

Enclosure(s)