



TO: Milton Dohoney, City Administrator
Marti Praschan, CFO

FROM: Glen Wiczorek, PE – Senior Utilities Engineer WTP
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SUBJECT: Barton Dam Right Embankment Remediation Project Summary

DATE: June 17, 2024

Embankment Condition Description & Background

- Seepage is occurring at the base of the Barton Dam embankment.
 - There are various spots where sand is being lost beneath the embankment and carried by the seepage paths. Multiple drains (“toe drains”) designed to relieve water pressure within the embankment have failed.
- This seepage has been documented by FERC during their annual safety inspections as “changing conditions”, indicative of a “developing failure mode”.
- The situation constitutes an elevated risk for the City. Close monitoring of the embankment continues.
- Corrective efforts to mitigate the seepage and granular material loss have been performed multiple times over the last several years but failed to resolve the problem.
- In 2016, the City began a multi-year, multi-consultant investigation into the source of the issues and recommended a repair that has been successful in mitigating this issue at other dams.
- Design was completed and an invitation to bid was issued in January 2024.

FERC Regulations

- The Edenville Dam failure in Midland, MI in 2020 created a new regulatory environment for the City and all dams nationwide.
- FERC has noted that the conditions that led to the dam failures in Midland are the same conditions that persist at Barton.
- FERC has recently downgraded the condition of the Right Embankment to “Poor” in the National Dam Inventory.
- Since 2020, additional monitoring and inspection have been performed at the direction of FERC to look for accelerating changes in conditions. This is above and beyond the City’s regular inspection efforts.

- It was FERC's expectation that the Barton Embankment Project was slated to start construction this July/Aug 2024. FERC has requested an updated schedule.

Funding

- Barton dam, and this project is funded from the Water Supply Fund (50%) and General Fund (50%).
- The Project is included in the approved 2024-2029 CIP
- CIP identified funding needs at \$7.47M with an implemented funding plan
- Updated total estimated project costs are \$12.4M.
- The Federally mandated project has a General Fund funding gap of approximately \$3M.
- In March 2024, the City received four bids for the construction of this project.
 - Construction Bids ranged from approximately \$5.2M to \$10.4M. Through extensive evaluation efforts, the low bidder was deemed to be a non-responsible bid. They lacked dam experience; they lacked an understanding of the dam failure mechanisms; they did not include on-site project supervision.
 - The City selected Michels Construction for the tentative award with a bid of \$9.4M.
- The contractor selected for tentative award is willing to hold their pricing to the end of September.
- The City is in position to start construction very quickly upon solving the funding gap and receiving contract authorization.