

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER
INDIANAPOLIS, INDIANA

TURKEY CREEK DAM AND DIKE CONSERVANCY DISTRICT
APPROVAL OF THE PROPOSED DISTRICT PLAN
August 5, 2021

Background

The Turkey Creek Dam and Dike Conservancy District (District) is in Kosciusko County, Indiana. The Wawasee Area Watershed comprises approximately 24 navigable lakes, with two primary lakes: Syracuse (414 acres in size) and Wawasee (3,410 acres in size). The drainage area is approximately 24,498 acres in size and comprises mostly agricultural land and large areas of wetlands and connecting lakes including the DNR Tri-County Fish and Wildlife Area. Turkey Creek is the largest tributary carrying water from 10,122 acres of the watershed into Lake Wawasee. Two chains of lakes (Knapp Lake Chain and Indian Village Lake Chain) extending into Noble County occur along the length of Turkey Creek commonly referred to as the Ten Lakes Chain.

Water flows out of the lake at the Syracuse Dam into Turkey Creek which flows into the Elkhart River south of Goshen. The Elkhart River combines with the St. Joseph River within the City of Elkhart. Water from the St. Joseph River flows into Lake Michigan. The lakes and its watershed are located within the Great Lakes Basin.

The dam and outlet works at Syracuse Dam maintain the legal lake level of 858.87' (NGVD 1929) for both Syracuse Lake and Lake Wawasee as established by the Kosciusko County Circuit Court on September 20, 1948.

A visual inspection of the dam (State ID 43-29) by DNR on April 30, 2021, rated the overall condition of the Syracuse Lake Dam as "FAIR". This is a substantial upgrade in condition compared to the 2017 inspection due to the 2020 repair project conducted by the City of Syracuse.

The Turkey Creek Dam and Dike Conservancy District was ordered established by the Kosciusko Circuit Court (Cause No. 43C01-1912-MI-000249) on December 15, 2020. The District was established for the purposes of: 1) maintenance and potential improvements to the lake outlet structure and spillway located on Syracuse Lake; and 2) maintenance and improvement of the Dike located on the western edge of Lake Wawasee, Kosciusko County, IN.

Accomplishment of activities under these purposes is anticipated to ensure integrity and function of the Syracuse Lake Dam to maintain the court established lake level, and that the Dike adequately protects property and businesses during high water or flood events. The submitted District Plan (Plan) proposes to conduct specific activities in support of these purposes that include periodic inspection and make improvements to the dam and spillway to preserve long term safety and stability; and improve the integrity of the Dike to mitigate flood impacts.

There are 2,718 freeholders in the district. The Kosciusko County Commissioners appointed 5 freeholders to the Board of Directors on December 22, 2020. Pursuant to IC 14-33-5.

The Board of Directors for the Turkey Creek Dam and Dike Conservancy District requested and received a 60-day time extension for the submittal of the proposed Plan. The proposed Plan, as approved by the Board on May 28, 2021, and was submitted on June 9, 2021, for approval by the DNR, Division of Water.

Authority

According to the Indiana Conservancy Act (IC 14-33-6-2): A district plan consists of an engineering report that sets forth the general, comprehensive plan for the accomplishment of each purpose for which the district was established.

A proposed Plan must contain the following:

1. Descriptions of the following:
 - A. The physical nature of the district.
 - B. The problems confronting the district.
 - C. The works of improvement needed.
 - D. The location of the works of improvement.
 - E. The benefits to be derived from the improvements.
2. Maps, preliminary drawings, and estimates of costs based upon preliminary engineering surveys and studies.
3. Copies of agreements or other arrangements with other persons or governmental agencies with respect to the financing, construction, maintenance, and operation of any of the works of improvement proposed in the plan.

According to Chapter 6, Section 4 of the Indiana Conservancy District Act (IC 14-33-6), the Commission is directed to review the proposed Plan. The Commission shall approve the plan provided that any other State agency having authority regarding the purposes of the district has approved such part or parts of the plan, and that the Commission finds the plan will accomplish in an economical manner the purpose or purposes for which the district is established.

The nonrule policy document developed by the Natural Resources Commission [Information Bulletin #36, (10th Amendment) posted to the Indiana Register as 20181128-IR-312180514NRA (November 29, 2018)], delegates authority to approve or disapprove a proposed Plan from the Natural Resources Commission to the Director of the Division of Water.

Pursuant to the nonrule policy document, the following guidelines are established for the Division of Water review:

1. The Division will assist the board in identifying licenses likely to be required to implement the proposed Plan.
2. The Division will review and give due consideration to comments and alternative proposals, which may be submitted by other interested parties.

Under the Indiana Conservancy Act (IC 14-33-6-4), the Division shall approve a plan if the following conditions are met:

1. Any other state agency having administrative jurisdiction over certain purposes of the district has approved that part of the plan.
2. The Division finds the plan will accomplish in an economical manner the purpose or purposes for which the district is established.

Findings

The lake outlet structure at Syracuse Lake was originally built in the 1880's and was purchased by the Syracuse Water Company afterward. The Town of Syracuse purchased the dam and structure in the 1920's. The outlet structure was re-built in 1964 and comprised of two outlet sections. A concrete weir

is aligned with outlet works consisting of two metal gates. Sheet pile walls extend along the approach and downstream of the outlet. DNR does not have previous plans or as-built drawings for this structure on file. The proposed Plan indicates that ownership of the Syracuse Lake Dam and outlet works will be transferred to the District.

The proposed Plan includes probable cost estimates and concept plan sheets for improvements to the Dike. Actual costs for both projects will be determined by a professional engineer for each of the future units of work. Specific construction drawings, specifications, and refined cost estimates will be submitted with the request for a unit of work once this general plan is approved. The Division of Water determined the estimated costs included in Appendix C to be reasonable based on current material, consulting, and construction costs.

The proposed Plan describes a site access and land acquisition plan to facilitate long-term maintenance and repair of the dam and dike. The City of Syracuse, the Elliott's (owners around the dike) and the Conservancy District will complete the process of signing and dating the documents #1-4 included in Appendix A upon proposed Plan approval by the Kosciusko Circuit Court.

The costs related to the activities proposed will be paid directly by the District. Therefore, freeholds benefited by improvements to the dam and dike will finance the projects. The District intends to utilize revenue according to the statute requirements that were proposed at establishment and to establish a Cumulative Maintenance Fund. In addition, the District has access to local funds raised through the efforts of the Wawasee Area Property Owners Association.

Implementation of the proposed Plan is projected to cost \$37,167/yr. in operational expenses, and project expenses of \$804,000 over ten-year period for dike and dam improvements.

The estimated annual operational and maintenance costs (\$37,167/yr.) are consistent with other newly established districts. It is anticipated that the operating budget submitted to the Division of Local Government Finance will include Board remuneration and support, staff, office facilities, and legal expenses. In Section 10.20, the Plan includes regular inspection of the outlet structure and dike at a cost of \$6,500 every three years (\$2,167/yr.). The proposed funding level for the annual operational budget and infrastructure inspection appears to be adequate to accomplish the proposed level of effort.

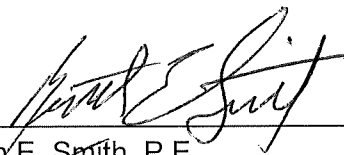
As stated in Section 5.33, the first Unit of Work, to be initiated in 2021, will be to rehabilitate the Dike at Lake Wawasee (\$520,000). In section 7.10, the second Unit of Work, to be initiated within 10-years, is identified as replacement of the existing gates at the outlet structure (\$284,000). The District currently contracts with Lawson-Fisher Associates, PC, South Bend, IN, to conduct inspections of the dam and provide engineering services for both the dam and dike improvements, as needed.

Based on the information submitted in the proposed Plan, the benefit/cost analysis was computed by using the loss of assessed property valuation if the lake level were to drop 3 to 5 feet. This decrease in lake level would result in a property value loss of at least 50%. Based on the property valuation submitted, the drop in lake level due to dam failure would result in a \$646,389,700 loss (not including tax revenue). To properly maintain the dam and dike would cost \$804,000. The benefit/cost ratio ($\$646,389,700/\$804,000 = \sim 804:1$) substantially exceeds the loss in property value and revenue.

The environmental, dam safety, and flood mitigation benefits realized by implementing the proposed Plan are likely to substantially exceed the costs associated with maintenance of the dam and outlet works and reconstructing the Dike. The plan as written appears to adequately describe activities to maintain the dam and improve the stability of the dike.

Approval of the Proposed Plan for the Turkey Creek Dam and Dike Conservancy District is granted on August 5, 2021, with the following findings and recommendations:

1. The Proposed Plan meets the requirements of IC 14-33-6-2 of the Indiana Conservancy Act.
2. The Department of Natural Resources, Division of Water with guidance by the Division of Engineering and DNR Legal has reviewed the proposed Plan.
3. The benefits to the freeholders of completing the planned improvements to achieve the purposes are likely to substantially exceed the long-term costs associated with making the improvements – especially to the dam and dike - compared with doing nothing.
4. The activities proposed under the proposed Plan appear to be beneficial for the lake providing they are reviewed under various state and local jurisdictions to ensure any detrimental impacts to recreation, natural resources and downstream infrastructure are mitigated.
5. The proposed Plan appears to adequately describe probable costs and improvements to accomplish the purposes for which the District was established. DNR fully encourages the District to follow-through and establish a Cumulative Maintenance Fund as set forth in IC 14-33-14-4.
6. Signed and dated documents produced through the site access and acquisition process, along with digital map coverages of the District should be submitted to DNR Division of Water for reference and record.
7. Detailed construction drawings, specifications and refined cost estimates must accompany future requests for unit of work relating to dam and dike repair – prior to initiating work - once the proposed Plan is approved.
8. This approval is only granted under IC 14-33, the Indiana Conservancy Act, and as such does not relieve the Conservancy District of the responsibility of obtaining additional permits, approvals, easements, etc. as required by other federal, state, or local regulatory agencies in advance of initiating any unit of work.
9. Special Conditions associated with all DNR Permits must be followed. Specifically, sufficient erosion control practices should be in place during dike and dam improvements as to not allow any sediment movement into the lake and wetlands.



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KES/RM/JE/DPN/DJS