

# PIPELINE

MICHIGAN ASSOCIATION OF COUNTY DRAIN COMMISSIONERS

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**LITTLE BLACK LAKE INTERCOUNTY DRAIN PROJECT**

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# LITTLE BLACK LAKE INTERCOUNTY DRAIN

A photograph of a stream flowing through a dense forest. The water is brownish and reflects the surrounding green trees. The banks are covered in fallen leaves and branches.

## PROJECT OVERVIEW

The Little Black Lake Intercounty Drain (LBLID) discharges directly to Lake Michigan, making it a significant coastal resource. The LBLID watershed consists of approximately 9,150 acres in Muskegon and Ottawa counties, including the City of Norton Shores and Hoffmaster State Park. The goals of the LBLID project were stream and culvert improvements to restore the natural stream channel, improve water quality, and provide habitat restoration and safe public access to view the beauty of this natural resource. In conjunction, the Michigan Department of Natural Resources (DNR) was able to improve public access to both the LBLID and Lake Michigan with a paved trail and signage.

## PROJECT TEAM

The LBLID Board included the Michigan Department of Agriculture & Rural Development Intercounty Drain Program Manager Michael R. Gregg, Muskegon County Water Resources Commissioner Brenda M. Moore, and Ottawa County Water Resources Commissioner Joe Bush. The LBLID Board originally met to authorize a lake level dam inspection, update the Drainage District boundary in accordance with Section 197 of the Drain Code, and perform

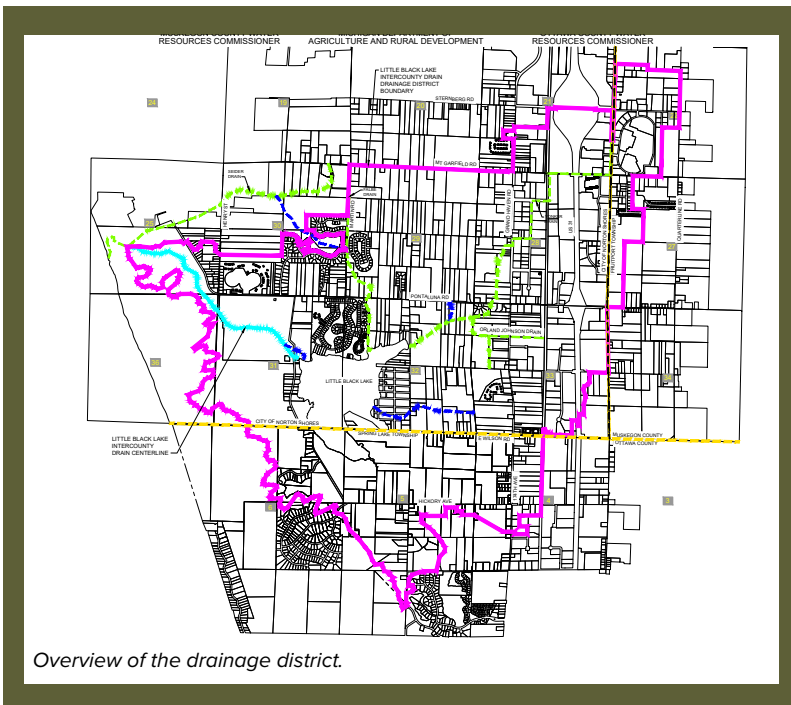
an analysis of the existing drain function and condition. At that time, the LBLID was anticipating a multi-faceted project that would utilize a natural channel design approach to restore approximately 9,800 lineal feet of stream channel with identified areas of deficiency.

In 2017, the Drainage Board selected Eng., Inc. to conduct the Section 197 review and evaluate the condition of the drain. The LBLID Board and Eng., Inc. inspected the stream system and identified several areas of deficiency including stream bank erosion, sedimentation, improperly sized and located culverts, loss of tree canopy, and deteriorating infrastructure.

In 2018, the LBLID Board applied for a Coastal Zone Management grant for funding available by the National Oceanic and Atmospheric Administration (NOAA), which aligned with the goals of the LBLID project. Though not selected for the grant, the project team continued to evaluate potential opportunities for improvements outside the realm of a petition drain project. The next opportunity came in late 2022, when Hoffmaster State Park stated their intentions to construct significant improvements to the roadways and utilities within the park, allowing for coordination among the projects.

## STATE PARK IMPROVEMENTS AND PARTNERSHIP

P.J. Hoffmaster State Park was among the first of Michigan's state parks to receive federal relief funds as part of the American Rescue Plan Act (ARPA). The first phase of Hoffmaster State Park's project provided for newly paved roads and parking lots within the Day Use Area, including an improved beach road shoulder for pedestrian and bike traffic and a bike path near the park entrance. Following completion of the first phase in June 2023, the park's adjacent modern campground was closed after July 4th through the end of the 2023 camping season, allowing



## LITTLE BLACK LAKE CONT.

for completion of phase two: upgraded water and sewer lines, reconstructed campground roads, and completion of the bike path. \$6.4 million in ARPA funding was utilized for these projects.

The paved pedestrian trail adjacent to the LBLID connects its natural resources and the state park and campground while providing educational and interpretive efforts. The opportunity for a partnership immediately became the focus of the LBLID Board. Anticipating all of the upcoming investment in the park, the drain board coordinated with the DNR and their consultants to ensure the culverts within the drain were sized and placed properly.

Originally, the DNR project had no plans to replace the two culverts in the campground as part of their project. However, the culverts were undersized and near the end of their life cycle. Eng., Inc. offered three different options to replace the culverts: replace at current sizing, replace with cement box culverts, and replace with Type II CSP arched culverts. Ultimately, all agreed that the CSP arch culverts were the best option, estimated at \$235,000 including the culverts and installation.

With the opportunity and desire to work cooperatively with the DNR to accomplish both the channel maintenance on the park property and the crossing replacements, several meetings took place to work out specific details and phasing. The LBLID Board and DNR local staff coordinated a discussion at the state level for a funding agreement between the state and the drainage board to accomplish the work without the need for additional closures to the park.



*The existing 54-inch by 72-inch CSP arch culverts at the park roadways were severely deteriorated and undersized, causing fish passage issues, erosion, and increased velocities in the stream.*



*Representative photo of the severe bank erosion that existed due to the flashy nature of the stream and highly erodible sandy soil types*

The DNR team consisted of Unit Manager Melissa VanderVelde and Pat Whalen at the local level, Regional Field Planner Justin Gerould, and Regulatory Field Managers Nicole Hunt and Kristen Bennett at the state level. All were instrumental in drafting and executing a DNR agreement to purchase the culverts (\$53,265) at both crossing locations. Included was a supplemental assessment for the maintenance costs equivalent to the DNR land area in the drainage district (\$20,313), paid through annual special assessment payments and payment in lieu of taxes.



*Repairs to the long crumbling roadways within the park were the focus of the DNR's multi-phased ARPA-funded project that took place concurrently with the drain project.*

## DRAINAGE PROJECT

Three of the main goals of the project were to:

- ➔ Identify the locations of significant land loss and erosion occurring from fallen trees and logjams.
- ➔ Design a solution that would work in harmony with the natural landscape of the drain.
- ➔ Provide culvert improvements that would result in improved fish passage, and stabilization and sustainability for the long-term health of the drain and its ecosystem.

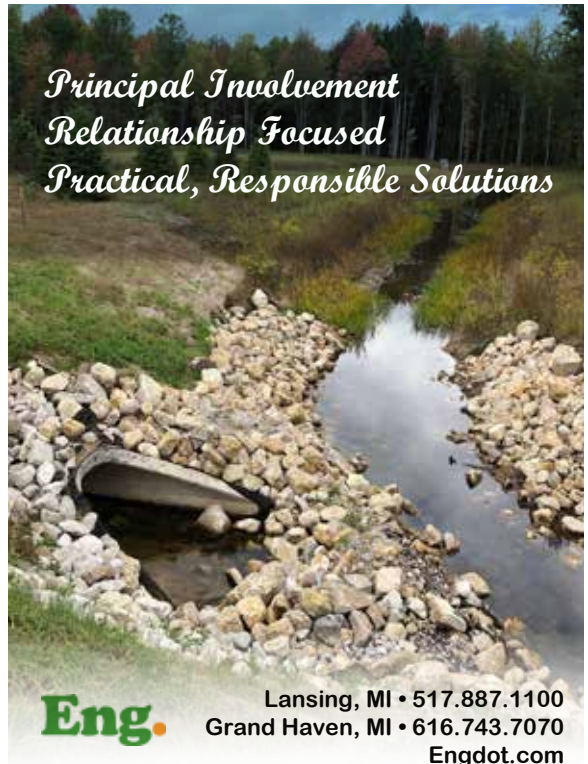
Additionally, the Muskegon County Water Resources Commissioner approached the City of Norton Shores to seek the city's authorization to exceed its drain maintenance cost cap of \$5,000/mile per year. As the drain is almost two miles long, approximately \$10,000 in maintenance costs would be added in one year toward an estimated total LBLID project cost of \$289,930. The City Council ultimately approved the request and passed a resolution of support to exceed the maintenance spending limit for 2023.

Permitting through EGLE was very time sensitive and was critical for replacement of the culverts. To expedite the permit process, LBLID board members contacted the state to convey its urgency, given the current construction schedule. Ultimately, the permit was issued shortly after a public notice period.

Based on field verification of current site conditions, various in-stream structures, such as toe wood and other woody debris, were utilized to support aquatic habitat. Timber and woody debris from the site was also utilized for toe protection and log revetment to keep materials on-site and to alleviate the impacts of further sedimentation and stream degradation.

The total cost of the project to improve the Drain was \$315,000. The project was divided into two separate construction contracts:

**Contract 1** consisted of woody debris management. The contract was awarded to Kanouse Outdoor Restoration. Kanouse's proposed cost was much lower than the other bidders due to their unique approach of utilizing an excavator (powered and lubricated by vegetable-based product) in the drain channel and removing a significant number of downed



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## LITTLE BLACK LAKE CONT.



*Project team at new culvert installation*

trees with heavy equipment, rather than using hand tools as is often the case in woody debris management. Additionally, they utilized brush bundles and log revetment to stabilize the eroding banks with on-site materials.

**Contract 2** consisted of the replacement of two roadway crossings, each with a 117-inch by 79-inch corrugated steel arch culvert (one at the day use entrance and the other at the campground in the park respectively). The contract was awarded to Wadel Stabilization, Inc., also the primary contractor on the DNR project, avoiding mobilization costs from an additional contractor. Wadel Stabilization was on the pre-approved list of contractors with Muskegon County, which aided in expediting the bidding and construction of the project as well.

### TIMING SEQUENCE

DNR State Park Work Begins: April 2023  
LBLID Design Completed: May 2023  
EGLE Permit Submitted: May 2023  
Woody Debris Work Completed: June 2023  
EGLE Permit Public Notice: June 2023  
EGLE Permit Issued: July 2023  
Culvert Work Begins: August 2023  
Culvert Work Completed: September 2023  
DNR State Park Work Completed: December 2023

“LBLID is an exciting project because so many different facets fell into place in a short time frame. It consisted of many design elements, partnerships, and permitting agencies collaborating to produce a final product that will make a considerable difference to the environment and long-term health of the watershed. The board, park staff, Eng., Inc., and state partners MDARD and DNR kept pressing ahead, discussing options, strategies and funding, and coordinated at high levels to make this project work. Together we reached the monumental goals of stream health, Lake Michigan water quality, and long-term stability.”

– *Brenda M. Moore, Muskegon County Water Resources Commissioner*

“We want to acknowledge the teamwork that successfully led to achieving these improvements to LBLID and PJ Hoffmaster State Park. The Board worked with DNR at multiple levels, the City of Norton Shores, and EGLE (facilitated by Eng.’s project management experience) to accomplish infrastructure improvements for future generations to enjoy. Special thanks go to FSBR for their legal counsel in navigating our drain code responsibilities, and Dickinson Wright for structuring the financing, allowing... replacement of these major structures in 6 months instead of the typical few years. From an unprecedented agreement for cost participation with DNR, to authorization to exceed maintenance limitations by the city, to expedited permitting by EGLE, to Eng.’s construction management, the \$320,000 project was completed in time for the October reopening of the park.”

– *Michael Gregg, Joseph Brezvai, Dallas Goldberg & Shaun McLarty*