DTE ENERGY

Bottom Ash Impoundment Annual Inspection Report - 2025

DTE Monroe Power Plant

Project No. 187964
Revision 0
August 29, 2025

Contents

1. Introduction

1.1. Introduction

Burns & McDonnell of Michigan, Inc. (Burns & McDonnell) prepared this Annual Inspection Report (AIR) for the DTE Electric Company (DTE) following the 2025 inspection of the Monroe Power Plant Bottom Ash Impoundment (BAI). Conducted on August 21, 2025, the inspection and this subsequent report fulfill federal requirements. This document outlines the inspection's results, observations, and any recommended remedial actions.

This annual inspection is required by the U.S. Environmental Protection Agency's (EPA) Coal Combustion Residuals (CCR) Rule (40 CFR § 257.83), which was established on April 17, 2015. This federal regulation requires an annual inspection of the impoundment by a Professional Engineer to ensure structural integrity and operational safety. The following sections provide our findings, observations, and recommendations.

The primary objective of the 2025 annual inspection was to assess the structural and operational integrity of the Bottom Ash Impoundment (BAI) and ensure the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. The evaluation included a comprehensive review of existing documentation, including previous inspection reports, as well as a thorough visual inspection. The on-site examination focused on identifying any signs of distress or malfunction across the impoundment's key features, such as its toe, crest, slopes, and hydraulic structures. The findings from both the document review and the visual inspection are presented in the following sections.

2. Results of Inspection

2.1. Description of Impoundment

Originally constructed in the late 1960s, the Bottom Ash Impoundment (BAI) was created by building a perimeter dike in a low-lying area near Lake Erie. The land used for the BAI was removed from the Waters of the United States by an Act of Congress before the plant was built. For years, it received Coal Combustion Residuals (CCR) that formed a delta across its northern third. The placement of CCR ceased prior to October 2015, making the BAI an Inactive CCR Surface Impoundment.

Today, the impoundment is undergoing closure. The facility permanently stopped receiving non-CCR wastewater on October 21, 2020, and the majority of the historic CCR material has been excavated at the time of the inspection.

2.2. Description of Existing Information

To comply with Section 257.83(b)(1)(i), which mandates a review of previous inspection records, Burns & McDonnell examined the weekly inspections performed by plant personnel during 2024 and 2025.

2.3. 2025 Visual Inspection

As required in Section 257.83(b)(1)(ii) and (iii), Burns & McDonnell personnel performed a visual inspection on August 21, 2025. The visual inspection involved walking the perimeter of the impoundment, including the embankment crests, exterior slopes of the embankment, discharge structures, and discrete observations of the interior of the basins based on accessibility. Hydraulic structures underlying the base of the CCR unit do not exist at the BAI.

Conditions Assessed

The annual inspection investigates a range of specific conditions to identify potential issues. These included:

- Surface cracking, misalignment, and various forms of displacement (slides, slumps, slips, and sloughs)
- Animal burrows and slope erosion
- Seepage and inadequate slope protection
- Vegetation health (e.g., patchy, inadequate, or excessive/woody growth)
- Accumulation of debris and signs of settlement or depressions
- Condition of outlet/overflow structures and signs of vandalism
- Change in geometry from the last AIR; or volume/capacity

Findings

Based on observations at the time of the visual inspection, the BAI appeared to be well maintained and in good working order. Except as noted below, no signs of vegetative distress or structural issues were observed on the embankment crest, exterior slopes, or discharge structure during this annual inspection or the activities reflected over the past year as evidenced by the weekly reports.

1) The following conditions were observed and should be addressed. The northern/upstream face side of the separation berm continues to show signs of erosion and sloughing, as noted in previous reports; this is especially visible on the western portion for a length of approximately 100-150' where plastic bollards have been impacted – impacts are now visible along with surficial cracking for a length of 700'. This sloughing has occurred likely due to wave action and previous undercutting from dredging in these areas associated with closure.

2.4. Approximate Volumes in the Surface Impoundment

As required by Section 257.83(b)(2)(v), the approximate volumes of CCR and water within the impoundment were assessed. The current elevation of the water surface of the BAI was 574.3 MSL at the time of inspection, per Section 257(b)(2)(iii). Water depth ranges from zero along the northern shore to 3 feet along the eastern and southern perimeter and up to about 20 feet in depth near the weir.

- **CCR Volume (per Section 257(b)(2)(v)):** Closure construction of the BA is ongoing. No new CCR materials have been added since 2015. DTE advises that approximately 600 CY of CCR remain in the CCR as of the inspection date.
- **Total Impoundment Capacity (per Section 257(b)(2)(iv)):** The total storage capacity of the impoundment is estimated to be 37.2 million cubic feet (Source: "CCR Impoundment Inflow Design Flood Control System Plan," AECOM, revised August 30, 2024).

2.5. Instrumentation

Section 257.83(b)(2)(ii) requires the reporting of existing instrumentation and results of the readings; however, instrumentation related to geotechnical monitoring of the impoundment slopes is not present at the impoundment.

2.6. Changes in the Surface Impoundment

Section 257.83(b)(2)(i) of the CCR rule requires that any changes in geometry be noted since the previous annual inspection and Section 257.863(b)(2)(vii) of the CCR Rule requires discussion of any changes affecting the stability or operation of the impounding structure since the previous inspection. There has been no change to the geometry or perimeter extents of the impoundment since the previous annual inspection.

3. Recommendations

Based on our inspection of the Bottom Ash Impoundment (BAI), we recommend repairing the northern face of the southern separation berm. While the observed sloughing is not an immediate structural threat (approximately 20 feet of crest width remains), the repairs should be scheduled to coincide with or immediately follow the completion of the closure project. Furthermore, DTE should close the separation berm to vehicle traffic as a precautionary measure.

4. Statement by a Qualified Engineer

4.1 Statement by a Qualified Engineer

I hereby verify, as a Professional Engineer in the State of Michigan, that the information in this document was assembled under my direct personal charge. This report is not intended or represented to be suitable for reuse by the Detroit Electric Company, Monroe Power Plant, or others without specific verification or adaptation by the Engineer.

I hereby verify, as a Professional Engineer in the State of Michigan, that I have performed the annual inspection for the impoundment in accordance with 40 C.F.R. 257.83(b) of the CCR Rule as a qualified engineer. The design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards.

Scott G. Hutsell, P.E.

Date: 08/29/25

Appendix A – Impoundment Inspection Checklist

EPA - Disposal of Coal Combustion Residuals (CCR) from Electric Utilities Final Rule
Regulatory Compliance Inspection - 40 CFR § 257.83
CCR Surface Impoundments

Facility Name:	DTE Electric Monroe Power Plant
CCR Impoundment Name / Designation #:	Bottom Ash Impoundment (BAI)
Date of Inspection: *	21-Aug-25
Name of Qualified Inspection (performing inspection):	Scott Hutsell
Weather Conditions:	Partly Cloudy, 70 degrees F

Impoundment Area	Condition Items	Inspector Observations (Identify location of observation on attached site plan and approximate dimensions of any issues noted. Additional comments should be included at bottom of inspection, as needed.)	Were Any Issues Observed in Current Inspection?			Status as Compared to Last Inspection			
			Yes	No	To Be Monitored	Similar	Improved	Deteriorated	Unknown
Crest	Surface Cracking		☐	☑	☐	☐	☐	☐	☐
	Animal Burrows		☐	☑	☐	☐	☐	☐	☐
	Crest Sinks/Depressions		☐	☑	☐	☐	☐	☐	☐
	Uneven Horizontal Alignment		☐	☑	☐	☐	☐	☐	☐
	Ruts/Puddles		☐	☑	☐	☐	☐	☐	☐
Embankment Slope (Interior)	Erosion	sloughing along north face of Separation Berm	☑	☐	☐	☐	☐	☐	☐
	Trees/Vegetation	along western perimeter	☑	☐	☐	☐	☐	☐	☐
	Berm Slide/Slough		☐	☑	☐	☐	☐	☐	☐
	Bulges/Boils		☐	☑	☐	☐	☐	☐	☐
	Inadequate Slope Protection		☐	☑	☐	☐	☐	☐	☐
	Animal Burrows		☐	☑	☐	☐	☐	☐	☐
	Cracks		☐	☑	☐	☐	☐	☐	☐
Embankment Slope (Exterior)	Erosion		☐	☑	☐	☐	☐	☐	☐
	Vegetation Taller than 6"	along western perimeter	☑	☐	☐	☐	☐	☐	☐
	Trees/Stumps	along western perimeter	☑	☐	☐	☐	☐	☐	☐
	Berm Slide/Slough		☐	☑	☐	☐	☐	☐	☐

EPA - Disposal of Coal Combustion Residuals (CCR) from Electric Utilities Final Rule
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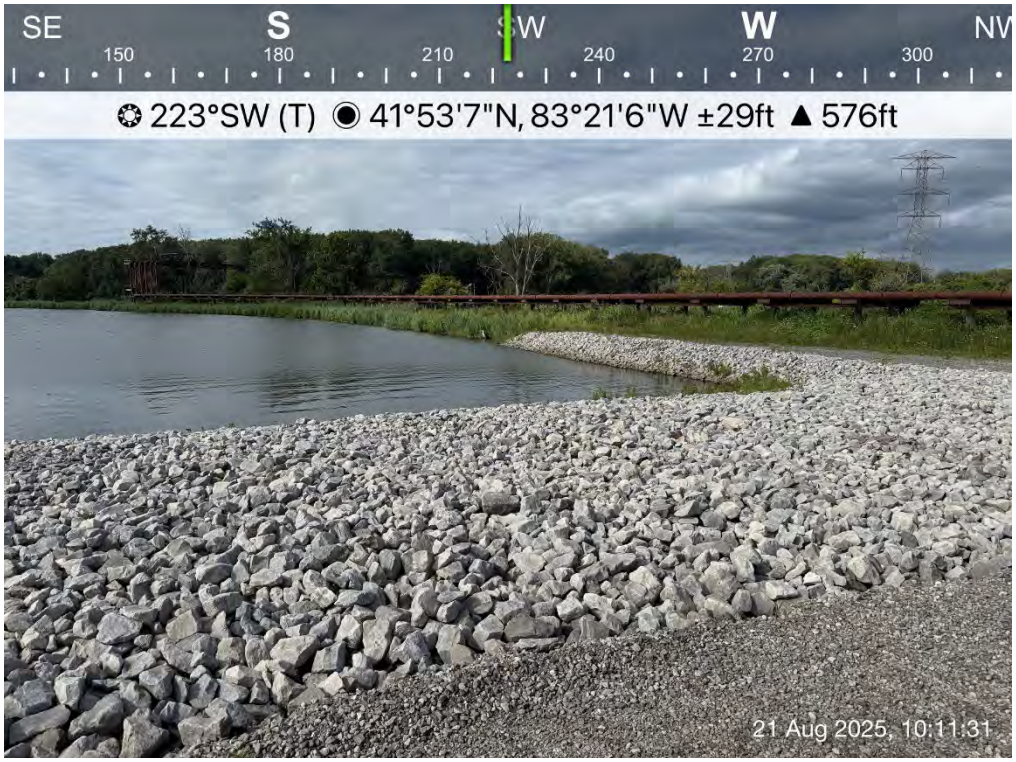
Impoundment Area	Condition Items	Inspector Observations (Identify location of observation on attached site plan and approximate dimensions of any issues noted. Additional comments should be included at bottom of inspection, as needed.)	Were Any Issues Observed in Current Inspection?			Status as Compared to Last Inspection			
			Yes	No	To Be Monitored	Similar	Improved	Deteriorated	Unknown
Embankment Slope (Exterior) - Continued	Bulges/Boils		☐	☑	☐	☐	☐	☐	☐
	Animal Burrows		☐	☑	☐	☐	☐	☐	☐
	Cracks		☐	☑	☐	☐	☐	☐	☐
	Movement At/Beyond Toe		☐	☐	☐	☐	☐	☐	☐
	Soft Spots/Seepage		☐	☑	☐	☐	☐	☐	☐
Embankment Slope (Interior)	Abnormal Discharge Discoloration		☐	☑	☐	☐	☐	☐	☐
	Abnormal Discharge Velocity		☐	☑	☐	☐	☐	☐	☐
	Discharge of Sediment or Debris		☐	☑	☐	☐	☐	☐	☐
	Debris/Sediment in Trash Rack		☐	☑	☐	☐	☐	☐	☐
Water Surface	Inadequate Slope Protection		☐	☑	☐	☐	☐	☐	☐
	Freeboard Less Than 2' from Top of Dike		☐	☑	☐	☐	☐	☐	☐

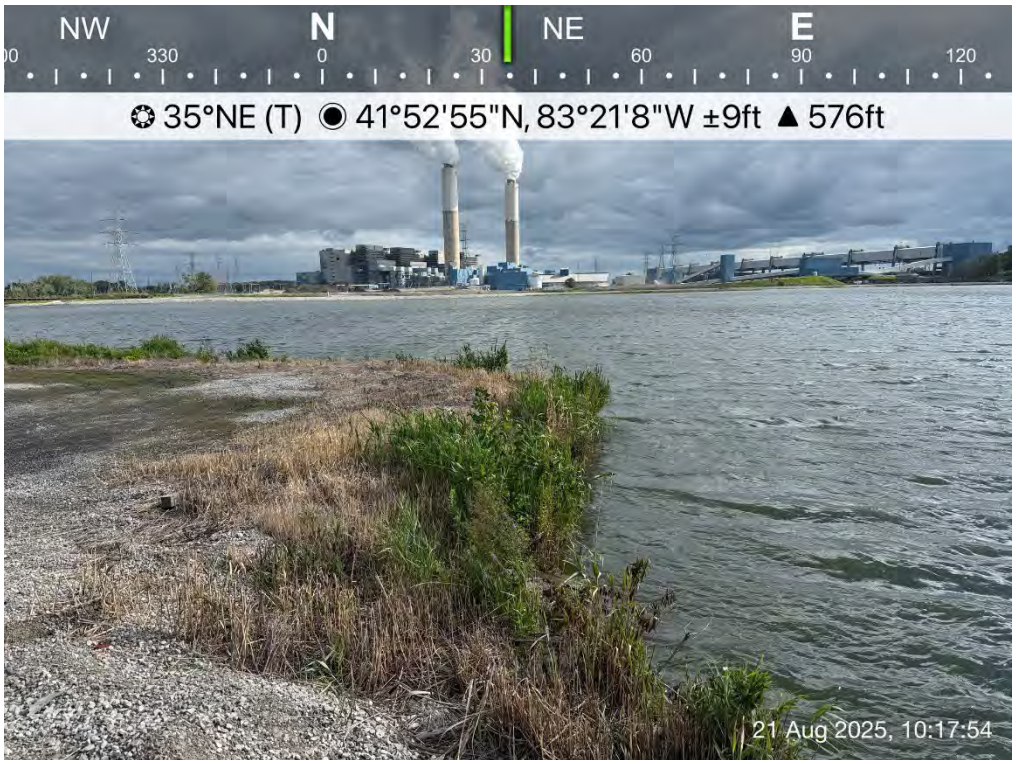
☑ Place a checkmark here if photographic log and photos are attached to this inspection form.

Comments:
Vegetation along western perimeter consists of brush and trees that contribute to stability - no action recommended.

Appendix B – Photos From Inspection



Northwest corner of impoundment with finished closure surface



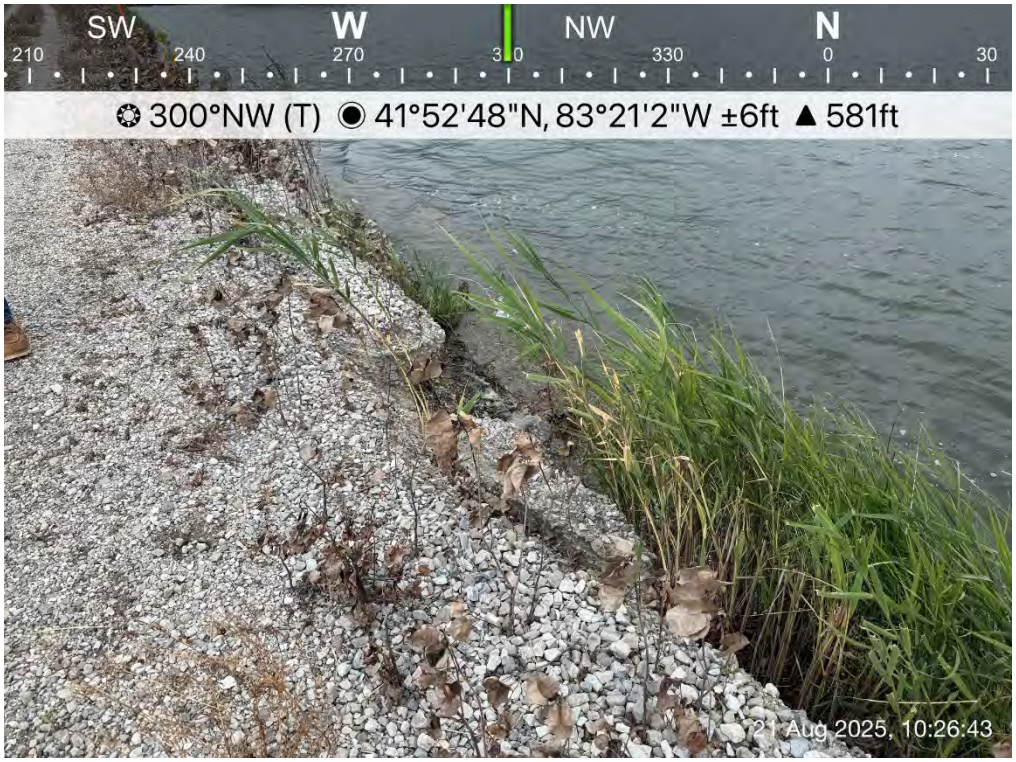
Interior slope of impoundment north of weir

Exterior slope of impoundment south of weir

Rip-rap armoring along western exterior embankment

Vegetation along separation berm – western edge

Sloughing along separation berm



Surficial cracks and sloughing along separation berm

Surficial cracks and sloughing along separation berm

Surficial cracks and sloughing along separation berm

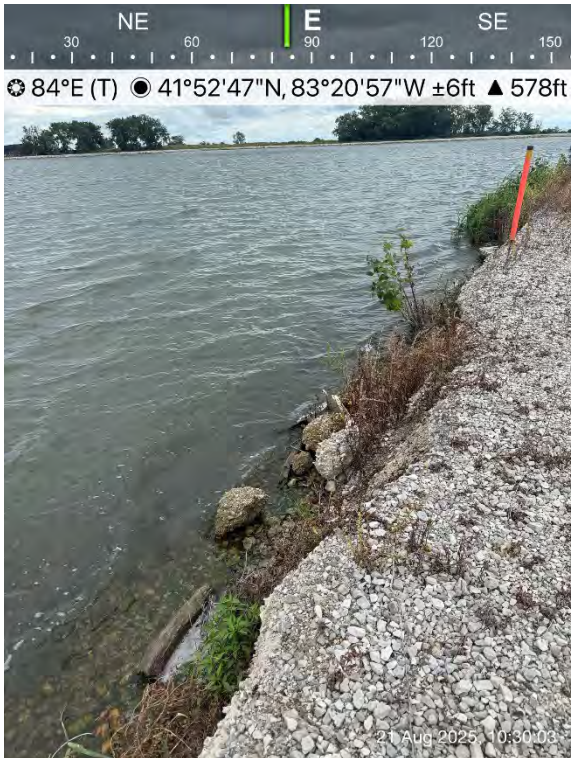
Surficial cracks and sloughing along separation berm

Surficial cracks and sloughing along separation berm

Surficial cracks and sloughing along separation berm

Sloughing along separation berm

Surficial cracks and sloughing along separation berm



Sloughing along separation berm

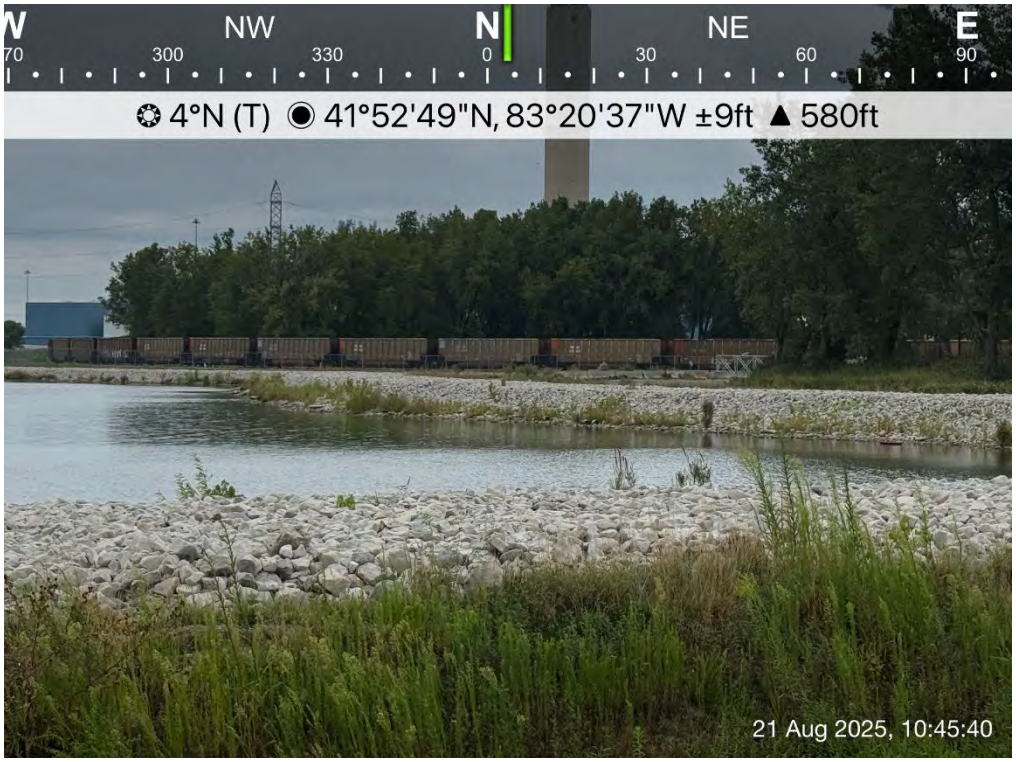
Sloughing along separation berm

Southeast corner of impoundment with finished closure armoring and vegetation

Perimeter dike along Lake Erie

Perimeter dike along Lake Erie

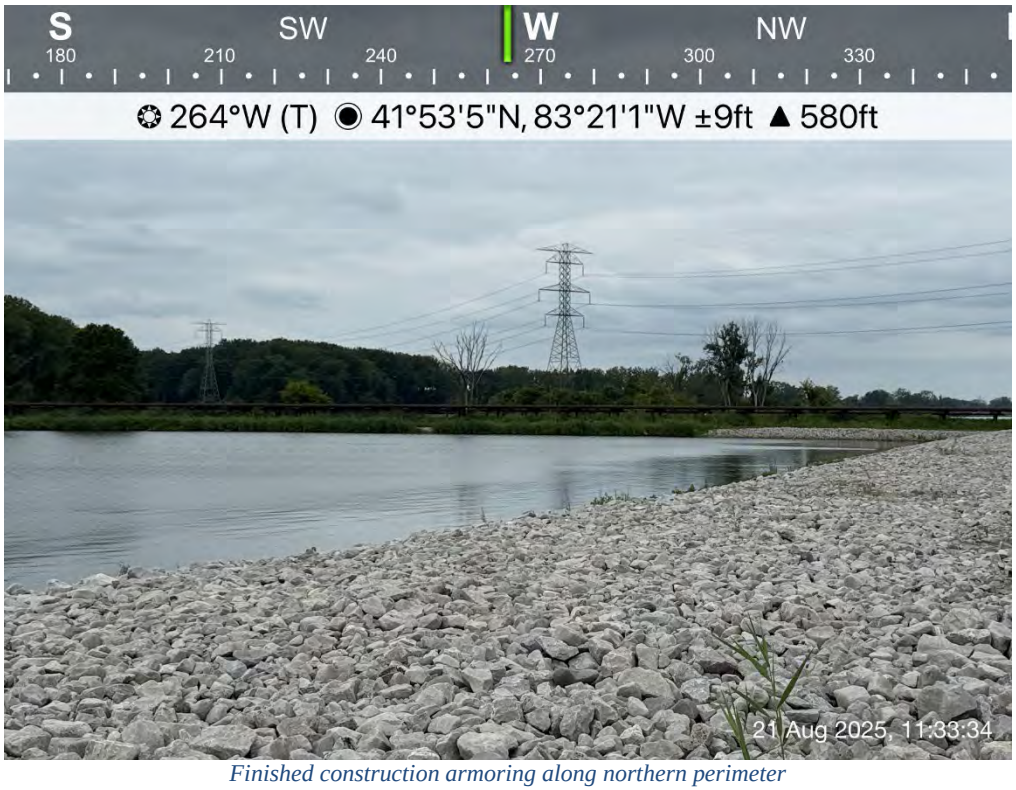
Perimeter dike along Lake Erie



Eastern perimeter of impoundment with finished closure armoring and vegetation

Finished north and eastern closure armoring with vegetation

Finished construction armor along northern perimeter



Finished construction armoring along northern perimeter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