

Annual Inspection Report - 2024

For Compliance with the EPA Coal
Combustion Residuals (CCR) Rule
40 CFR §257.83(b)

Erickson Power Station –
Forebay, Retention Basin, and
Clear Water Pond

February 21, 2024

Prepared for:
Lansing Board of Water and Light
Erickson Power Station
3725 South Canal Road
Lansing, Michigan 48917

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1 Introduction and Purpose

HDR MICHIGAN, Inc. (HDR) has prepared this 2024 Annual Inspection Report for the Forebay, Retention Basin, and Clear Water Pond at Erickson Power Station following the requirements of the Federal Coal Combustion Residuals (CCR) Rule to demonstrate compliance of the existing Erickson Power Station in Lansing, Michigan.

On April 17, 2015, the United States Environmental Protection Agency (EPA) issued the final rule (Ref. [1]) for disposal of Coal Combustion Residuals (CCR) under Subtitle D of the Resource Conservation and Recovery Act (RCRA). CCR Rule 40 CFR §257.73(b) requires that owners or operators of an existing CCR surface impoundment that either 1) has a height of five feet or more and a storage volume of 20 acre-feet or more; or 2) has a height of 20 feet or more perform periodic structural stability assessments (40 CFR §257.73(d)) and periodic safety factor assessments (40 CFR §257.73(e)). It was determined that the Forebay, Retention Basin, and Clear Water Pond at the Erickson Power Station meets the first criteria with a height of five feet or more and a storage volume greater than 20 acre-feet.

Additionally, CCR Rule 40 CFR §257.83(b)(1) states that if the existing CCR surface impoundment is subject to the periodic structural stability assessment requirements under 40 CFR §257.73(d), then the impoundment must additionally be inspected on a periodic basis by a qualified professional engineer to ensure that the design, construction, operation, and maintenance of the CCR unit is consistent with recognized and generally accepted good engineering standards. This report presents the 2024 annual inspections for the Forebay, Retention Basin, and Clear Water Pond.

The Annual Inspection Report presented herein addresses the specific requirements of 40 CFR §257.83(b). The visual inspection site visit was conducted on February 2, 2024, by Bryce Burkett, P.E. of HDR and this Annual Inspection Report was prepared by Mr. Burkett. Mr. Burkett is a registered Professional Engineer in the State of Michigan.

1.1 Site Location

Erickson Power Station is an electrical power generation facility located at 3725 South Canal Road, Lansing, Michigan which is owned and operated by Lansing Board of Water & Light (BWL). The latitude and longitude of the Erickson Power Station are approximately 42.692422 N and 84.657764 W. The site is located southwest of Lansing Michigan, near the intersection of Interstates 69 and 96, as shown in the vicinity map, Figure 1.

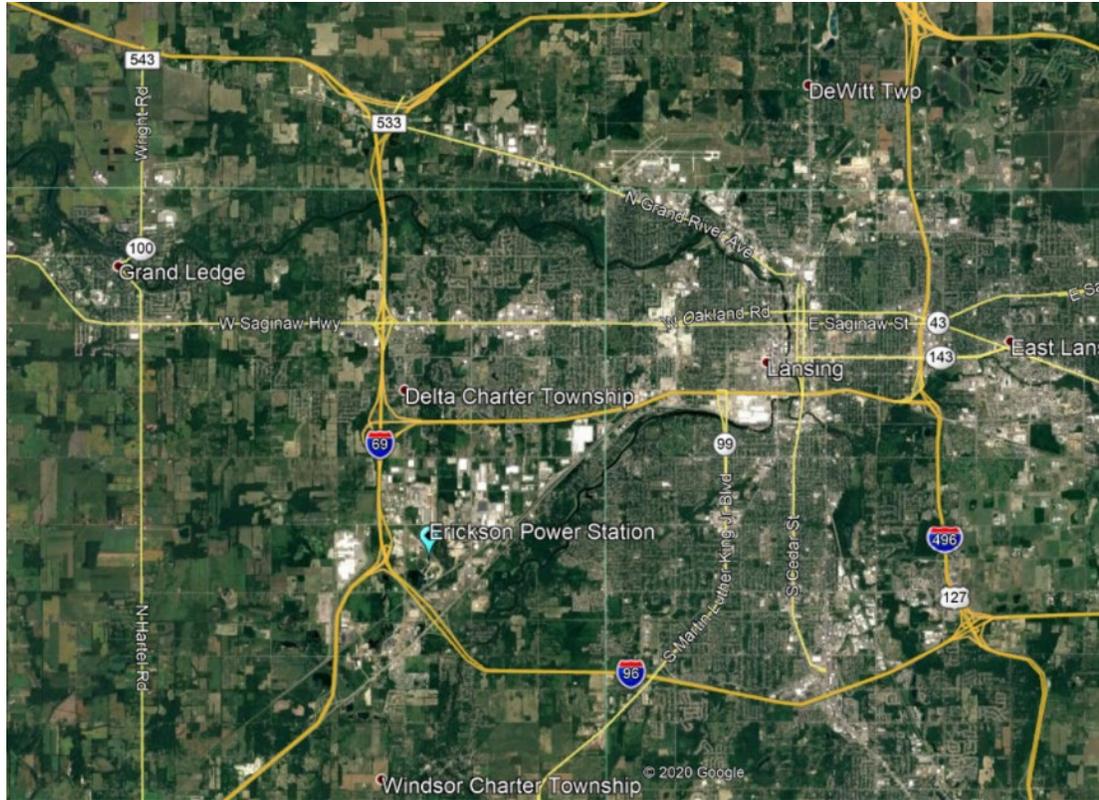


Figure 1. Site Vicinity Map

1.2 Site Description

Erickson Power Station was constructed starting in 1970, was completed in 1973, and was closed in 2022 as part of the BWL's move to cleaner energy sources. Erickson Power Station contained a single coal-fired steam turbine/generator capable of producing 165 megawatts of electricity. During active operations, CCR was stored in dewatering tanks (hydro-bins). After the majority of the CCR was removed from the waste stream at the hydro-bins, flow was discharged into the 33-acre impoundment system (physically closed in 2014). From the impoundment, the water then flowed hydraulically to the Clear Water Pond. Water from the Clear Water Pond was recycled back to the plant via the Pump House for reuse.

From 2009 through 2014, the ash was removed from the 33-acre impoundment, and a new system (including the construction of the Forebay and Retention Basin) (Ref. [9]) was installed. The Forebay and Retention Basin were installed within the footprint of the excavated 33-acre Former Impoundment and cover approximately 5-acres, leaving the Former Impoundment with a surface area of 28-acres.

Bottom ash from the coal-fired boiler was sluiced from the plant to dewatering tanks (hydro-bins). The dewatered bottom ash is trucked to a sanitary landfill and the decant water is hydraulically fed through the current impoundment system, which consists of a series of three impoundments: the Forebay, Retention Basin, and Clear Water Pond.

In November 2022, the coal fired portion of the plant went officially offline in preparation for the decommissioning of the plant and the impoundments. With the plant going offline,

inflow has been ceased into the impoundments and the impoundments are currently undergoing closure at the time of this report.

Figure 2 presents a Google Earth view (taken June 2023) looking north, identifying the Forebay, Retention Basin, and Clear Water Pond in relation to the impoundment system. Also viewable in Figure 2 is the Lake Delta, Former Impoundment, Former Coal Pile Area, and Former Erickson Power Station.



Figure 2. Google Earth Image of Impoundment System

1.3 Previous Assessments and Inspections

A dam assessment was performed previously for the Erickson Power Station Ash Pond, as summarized in the Round 10 Dam Assessment in GZA 2012 (Ref. [2]). GZA 2012 addressed the Ash Pond, which was undergoing construction at the time of the assessment. The Ash Pond has since been closed and is referred to herein as the Former Impoundment. GZA 2012 was conducted prior to the construction of the Forebay and Retention Basin.

HDR performed the Initial Inspections in accordance with CCR Rule 40 CFR §257.83(b) for the Forebay and Retention Basin (Ref. [4]), and Clear Water Pond (Ref. [3]) in 2020. Additionally, HDR performed the 2021 Annual Inspection (Ref. [5]), the 2022 Annual Inspection (Ref. [6]), and the 2023 Annual Inspection (Ref. [7]).

As decommissioning of the impoundments are currently underway, weekly inspections are performed for the CCR impoundment system by qualified individuals to check for potentially hazardous conditions or structural weakness.

There have been no reports of structural instability at the Forebay, Retention Basin, or Clear Water Pond during previous inspections.

2 Visual Inspection - 40 CFR §257.83(b)

The requirements to be documented in the Inspection Report for existing CCR surface impoundments are detailed in 40 CFR §257.83(b): *Annual inspections by a qualified professional engineer.* CCR Rule 40 CFR §257.83(b)(2) states that the inspection report must address the following items:

§257.83 (b)(2)(i): Any changes in geometry of the impounding structure since the previous annual inspection.

§257.83 (b)(2)(ii): The location and type of existing instrumentation and the maximum recorded readings of each instrument since the previous annual inspection.

§257.83 (b)(2)(iii): The approximate minimum, maximum, and present depth and elevation of the impounded water and CCR since the previous annual inspection.

§257.83 (b)(2)(iv): The storage capacity of the impounding structure at the time of the inspection.

§257.83 (b)(2)(v): The approximate volume of the impounded water and CCR at the time of the inspection.

§257.83 (b)(2)(vi): Any appearances of an actual or potential structural weakness of the CCR unit, in addition to any existing conditions that are disrupting or have the potential to disrupt the operation and safety of the CCR unit and appurtenant structures.

§257.83 (b)(2)(vii): Any other change(s) which may have affected the stability or operation of the impounding structure since the previous annual inspection.

The visual inspection site visit was conducted on February 2, 2024, by Bryce Burkett, P.E. of HDR. The weather on February 2 was clear with temperatures between 30 and 35 degrees. Rainfall had not occurred within the 24 hours prior to the inspection.

2.1 Forebay and Retention Basin

The water in the Forebay and Retention Basin had been removed by pumping at the time of inspection due to the ongoing decommissioning of the impoundments. The storage capacity of the Forebay is 933,000 cubic feet at approximate top of dike El. 884 NAVD 88

and the storage capacity of the Retention Basin is 1,298,000 cubic feet at approximate top of dike El. 885 NAVD 88.

The visual inspection was conducted in accordance with the CCR Final Rule to identify signs of distress or malfunction of the CCR unit and appurtenant structures and consisted of observations of features and conditions readily discernible by external visual inspection through reasonable efforts. Inspection Checklist Forms are provided in Appendix A. A discussion of the embankment conditions is presented in the following subsections and the terminology describing the embankment sections is shown in Figure 3.



Figure 3. Forebay and Retention Basin Embankment Terminology

2.1.1 Southeast Embankment

The Southeast Embankment separates the Forebay and Retention Basin to the northwest and the Former Impoundment, which is closed, to the southeast. The Southeast Embankment appeared to be in good condition and no evidence of movement, settlement, cracking, distress, seepage, animal burrows or other adverse conditions was observed in the crest and upstream and downstream slopes.

Notes:

- The crest of the embankment consisted of a gravelly/soil surface which was in good condition.
- The rip-rap protecting the interior slope has been removed. The rip-rap on the exterior slope appears to be in good condition.
- No vegetation is currently present.
- Erosion is present on the interior embankment where construction has occurred and no vegetation is present. This condition is temporary and this embankment will be removed after CCR removal verification of the impoundment is complete.

2.1.2 Northeast Embankment

The Northeast Embankment separates the Forebay to the southwest and the Hydro-Bins and grassy areas to the north. The Northeast Embankment appeared to be in good condition, and no evidence of movement, settlement, cracking, distress, seepage, animal burrows or other adverse conditions was observed.

Notes:

- The crest of the embankment consisted of a gravelly/soil surface which was in good condition.
- The rip-rap protecting the interior slope has been removed.
- No vegetation is currently present.
- Erosion is present on the interior embankment where construction has occurred and no vegetation is present. This condition is temporary and this embankment will be repaired and reseeded after CCR removal verification of the impoundment is complete.

2.1.3 Northwest Embankment

The Northwest Embankment separates the Forebay and Retention Basin to the southeast and wooded areas to the northwest. The Northwest Embankment appeared to be in good condition, and no evidence of movement, settlement, cracking, distress, seepage, animal burrows or other adverse conditions was observed in the crest and upstream and downstream slopes.

Notes:

- The crest of the embankment consisted of a gravelly/soil surface which was in good condition.
- The rip-rap protecting the interior slope has been removed.
- No vegetation is currently present.
- Erosion is present on the interior embankment where construction has occurred and no vegetation is present. This condition is temporary and this embankment will be repaired and reseeded after CCR removal verification of the impoundment is complete.

2.1.4 Southwest Embankment

The Southwest Embankment separates the Retention Basin to the northeast and Lake Delta to the southwest. The Southwest Embankment appeared to be in good condition, and no evidence of movement, settlement, cracking, distress, seepage, animal burrows or other adverse conditions was observed in the crest and upstream and downstream slopes.

Notes:

- The rip-rap protecting the interior slope has been removed and vegetation covers the exterior slope (adjacent to Lake Delta). The crest of the embankment consisted of a gravelly/soil surface. The crest and slopes appeared to be in good condition.
- No vegetation is currently present.
- Erosion is present on the interior embankment where construction has occurred and no vegetation is present. This condition is temporary and this embankment will be repaired and reseeded after CCR removal verification of the impoundment is complete.

2.1.5 Intake/Outlet Structures

Forebay Influent Pipes

The Forebay Influent Pipes, located at the northeast corner of the Forebay, have been decommissioned and capped in place. There was no evidence of settlement, sinkholes, or cracking in the area above the pipes extending through the Northeast Embankment.

Forebay Overflow

The Forebay Overflow pipes are still in place, however, no longer in use. There was no evidence of settlement, sinkholes, or cracking in the area above the pipes extending through the Central Embankment.

Former Impoundment Overflow

The Former Impoundment Overflow is still in place, however, no longer in use. The pipe consists of 24-inch CPP. There was no evidence of settlement, sinkholes, or cracking in the area above the Former Impoundment Overflow extending through the Southeast Embankment.

Retention Basin Overflow Structure

The Retention Basin Overflow Structure is still in place, however, the structure is now inactive and has been cleaned internally as part of the impoundment decommissioning activities. The structure appears to be in good condition. There was no evidence of settlement, sinkholes, or cracking in the area above the pipe extending through the Southeast embankment.

By-Pass Pipe

The by-pass pipe has been decommissioned and capped in place. There was no evidence of settlement, sinkholes, or cracking in the area of the embankment above the pipe extending through the Southwest Embankment.

Inspection of Submerged Structures

The CCR Final Rule requires that the annual inspection include a visual inspection of hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation. The structures are currently being decommissioned and the impoundments are being removed of CCR and water. The list of hydraulic structures scheduled to be removed, or decommissioned, due to the closure activities of the Forebay and Retention Basin include the following:

- Forebay Influent Pipes
- Forebay Overflow Pipes
- Former Impoundment Overflow Pipe
- Retention Basin Overflow Structure
- By-Pass Pipe

2.1.6 Instrumentation

As part of the hydrogeologic characterization study for Erickson Power Station, HDR installed several monitoring wells across the site to develop a groundwater monitoring network in 2019 through 2023 (Ref. [8]). Two of these monitoring wells (MW-3 and MW-4) were installed in the vicinity of the Forebay and Retention Basin as shown in Figure 4. Additionally, two monitoring wells were installed adjacent to the Retention Basin as part of the ongoing dewatering and construction efforts to monitor the piezometric conditions of the Southwest Embankment. These monitoring wells will be abandoned upon completion of the construction activities. The monitoring wells consist of 2-inch, Sch. 40 PVC risers. The monitoring well screen consists of 0.010-inch slots and is surrounded by a silica sand filter pack. Table 2-1 provides details for the four monitoring wells installed in the vicinity of the Forebay and Retention Basin.



Figure 4. Monitoring Well Locations - Forebay and Retention Basin

Table 2-1. Monitoring Well Details – Forebay and Retention Basin

| Well | Elevation (TOC) (feet NAVD 88) | Well Stickup (feet) | Total Depth (feet) | Depth of Screen (feet) | Max. Static Water Elevation ¹ (feet NAVD 88) |
|------|--------------------------------|---------------------|--------------------|------------------------|---|
| MW-3 | 884.81 | -0.31 | 34 | 24-34 | 872.70 |
| MW-4 | 889.15 | 3.92 | 28 | 18-28 | 873.85 |
| RB-1 | 886.69 | 0.48 | 20 | 12-17 | 876.71 |
| RB-2 | 889.85 | 3.47 | 17 | 10-20 | 876.09 |

1. Maximum level since previous inspection.

No other instrumentation is present at the Forebay and Retention Basin.

2.2 Clear Water Pond

The water in the Clear Water Pond had been completely removed at the time of inspection due to the ongoing decommissioning of the impoundments. The approximate storage capacity of the Clear Water Pond is 1,843,000 cubic feet.

The visual inspection was conducted in accordance with the CCR Final Rule to identify signs of distress or malfunction of the CCR unit and appurtenant structures and consisted of observations of features and conditions readily discernible by external visual inspection

through reasonable efforts. The Inspection Checklist Form is provided in Appendix A. A discussion of the embankment conditions is presented in the following subsections and the terminology describing the embankment sections is shown in Figure 5.



Figure 5. Clear Water Pond Embankment Terminology

2.2.1 Southeast Embankment

The Southeast Embankment separates the Clear Water Pond to the northwest and the swale and railroad to the southeast. The Southeast Embankment appeared to be in good condition and no evidence of movement, settlement, cracking, distress, seepage, animal burrows or other adverse conditions was observed in the crest and upstream and downstream slopes.

Notes:

- This embankment has been temporarily restricted of vehicle traffic due to the ongoing construction efforts as a portion of the interior crest has been removed.
- The crest of the embankment consisted of a gravelly/soil surface. Minor rutting of the crest was observed.
- Riprap protecting the interior slope has been removed.
- Vegetation has been removed from the interior slope and the vegetation appears to have been maintained properly on the exterior slope of the embankment and at the exterior toe in the swale.
- Erosion is present on the interior embankment where construction has occurred and no vegetation is present. This condition is temporary and this embankment

will be repaired and reseeded after CCR removal verification of the impoundment is complete.

2.2.2 North Embankment

The North Embankment separates the Clear Water Pond to the south and the Former Impoundment, which is closed, to the north. The North Embankment appeared to be in good condition and no evidence of movement, settlement, cracking, distress, seepage, animal burrows or other adverse conditions was observed in the crest and upstream and downstream slopes.

Notes:

- Vegetation has been removed from the interior slope and the vegetation appears to have been maintained properly on the exterior slope.
- The sloughing on the interior slope of the North Embankment, which was observed in previous inspections, is no longer present due to construction.
- Riprap protects the exterior slope (adjacent to the Former Impoundment) in several areas. The rip-rap extends to the crest of the exterior slope on the eastern portion of the North Embankment, whereas the rip-rap extends to a vegetated bench on the western portion of the North Embankment.
- The crest of the embankment consisted of a gravelly/soil surface. No evidence of movement, settlement, cracking, or other distress was observed in the crest other than minor rutting.
- Erosion is present on the interior embankment where construction has occurred and no vegetation is present. This condition is temporary and this embankment will be removed after CCR removal verification of the impoundment is complete.

2.2.3 West Embankment

The West Embankment separates the Clear Water Pond to the east and Lake Delta to the west. The West Embankment appeared to be in good condition and no evidence of movement, settlement, cracking, distress, seepage, animal burrows or other adverse conditions was observed in the crest and upstream and downstream slopes.

Notes:

- Vegetation has been removed from the interior slope and the vegetation appears to have been maintained properly on the exterior slope.
- The crest of the embankment consisted of a gravelly/soil. No evidence of movement, settlement, cracking, or other distress was observed in the crest.
- Erosion is present on the interior embankment where construction has occurred and no vegetation is present. This condition is temporary and this embankment will be repaired and reseeded after CCR removal verification of the impoundment is complete.

2.2.4 Intake/Outlet Structures

Lake Delta Drainage Structure

The Lake Delta Drainage Structure, located between the Clear Water Pond and Lake Delta, appeared to be in good condition. The concrete and walkway appeared to be in good condition. The pipe of the Lake Delta Drainage Structure is underground and could not be observed during the visual inspection. There was no evidence of settlement, sinkholes, or cracking in the area of the embankment above the pipe extending through the Clear Water Pond embankment.

Lake Delta Transfer Structure

The Lake Delta Transfer Structure, located between the Clear Water Pond and Lake Delta, appeared to be in good condition. The pipe of the Lake Delta Transfer Structure is visible due to dewatering the Clear Water Pond and appears to be in good condition. There was no evidence of settlement, sinkholes, or cracking in the area of the embankment above the pipe extending through the Clear Water Pond embankment. Due to the decommissioning of the Clear Water Pond, the Lake Delta Transfer Structure will no longer be used.

Old Ash Impoundment Transfer Structure

The Old Ash Impoundment Transfer Structure, located between the Clear Water Pond and the Former Impoundment, appeared to be in good condition. The concrete of the structures appeared to be in good condition. The pipe of the Old Ash Impoundment Transfer Structure is visible due to dewatering the Clear Water Pond and appears to be in good condition. There was no evidence of settlement, sinkholes, or cracking in the area of the embankment above the pipe extending through the Clear Water Pond embankment. Due to the decommissioning of the Clear Water Pond, the Old Ash Impoundment Transfer Structure will no longer be used.

Old Ash Impoundment Drainage Structure

The Old Ash Impoundment Drainage Structure, located between the Clear Water Pond and the Former Impoundment, is inactive and not in use. According to BWL, the pipe valve is currently closed. The concrete of the structure appeared to be in good condition. The pipe of the Old Ash Impoundment Drainage Structure is underground and could not be observed during the visual inspection. There was no evidence of settlement, sinkholes, or cracking in the area of the embankment above the pipe extending through the Clear Water Pond embankment.

Emergency Overflow Structure

The Emergency Overflow Structure, located between the Clear Water Pond and the swale and railroad ROW, appeared to be in good condition. The outlet pipe appeared in good condition and no leaking, sediment, or flow of water was observed. There was no evidence of settlement, sinkholes, or cracking in the area of the embankment above the pipe extending through the Clear Water Pond embankment.

The outlet pipe is equipped with fencing to prevent animals from entering and vegetation was maintained around the outlet.

Grand River Discharge Pipe to Lake Delta

According to BWL, a pipe is present near the northern edge of the West Embankment of the Clear Water Pond discharging water directly from the Grand River into Lake Delta. BWL states that this pipe is active however does not extend through the Clear Water Pond embankment as it is located underground northwest of the Pump House. The pipe is currently closed at the time of this report due to the ongoing construction. HDR is unaware of the size, material, and alignment of this pipe.

Inspection of Submerged Structures

The CCR Final Rule requires that the annual inspection include a visual inspection of hydraulic structures underlying the base of the CCR unit or passing through the dike of the CCR unit for structural integrity and continued safe and reliable operation. The structures are currently being decommissioned and the impoundments are being removed of CCR and water. The list of hydraulic structures scheduled to be removed, or decommissioned, due to the closure activities of the Clear Water Pond include the following:

- Lake Delta Transfer Structure
- Old Ash Impoundment Transfer Structure
- Old Ash Impoundment Drainage Structure

ROV inspections will not be performed for the hydraulic structures remaining at the site as the impoundment will no longer contain CCR and will be decommissioned. The following hydraulic structures will remain in place, but are no longer in use as the impoundment has ceased operation:

- Lake Delta Drainage Structure
- Clear Water Pond Emergency Overflow Structure

2.2.5 Instrumentation

As part of the hydrogeologic characterization study for Erickson Power Station, HDR installed several monitoring wells across the site to develop a groundwater monitoring network in 2019 through 2023 (Ref. [8]). Two of these monitoring wells (MW-1 and MW-14) were installed in the vicinity of the Clear Water Pond as shown in Figure 6. The monitoring wells consist of 2-inch, Sch. 40 PVC risers. The monitoring well screen consists of 0.010-inch slots and is surrounded by a silica sand filter pack. Table 2-2 provides details for the two monitoring wells installed in the vicinity of the Clear Water Pond.



Figure 6. Monitoring Well Locations – Clear Water Pond

Table 2-2. Monitoring Well Details – Clear Water Pond

| Well | Elevation (TOC) (feet NAVD 88) | Well Stickup (feet) | Total Depth (feet) | Depth of Screen (feet) | Max. Static Water Elevation ¹ (feet NAVD 88) |
|-------|-----------------------------------|------------------------|-----------------------|---------------------------|--|
| MW-1 | 888.74 | 2.79 | 30 | 20-30 | 874.62 |
| MW-14 | 884.59 | -0.43 | 28 | 18-28 | 870.55 |

1. Maximum level since previous inspection.

Other instrumentation consists of gauge boards at the Pump House and the Lake Delta Drainage Structure. The pond levels were monitored daily by the BWL operators through November 2022 until Erickson Power Station went offline. The gauge attached to the Pump House at the Clear Water Pond is no longer in use.

3 Closure

Based on the information provided to HDR by BWL, information available on BWL’s CCR website, and HDR’s visual observations and analyses, this 2024 Annual Inspection was conducted in accordance with the requirements of the USEPA 40 CFR Parts 257 and 261 Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, April 17, 2015 (CCR Final Rule). Based on the information currently available, I certify to the best of my knowledge, information and belief that this Annual Inspection of the Forebay, Retention Basin, and Clear Water Pond meets the requirements of CCR Rule §257.83(b) in accordance with professional standards of care for similar work. HDR appreciates the opportunity to assist BWL with this project. Please contact us if you have any questions or comments.



Bryce Burkett, P.E.
Senior Geotechnical Project Manager



21 Feb 2024

4 References

- Ref. [1]* Environmental Protection Agency, 40 CFR Parts 257 and 261; Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule, Washington D.C., April 2015.
- Ref. [2]* GZA GeoEnvironmental, Inc. Draft Round 10 Dam Assessment Report, Lansing Board of Water & Light, Erickson Power Station, Ash Pond. April 30, 2012.
- Ref. [3]* HDR Engineering, Inc. Initial Inspection Report – Clear Water Pond, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, June 12, 2020.
- Ref. [4]* HDR Engineering, Inc. Initial Inspection Report – Forebay and Retention Basin, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, August 10, 2020.
- Ref. [5]* HDR Engineering, Inc. Annual Inspection Report - 2021 – Forebay, Retention Basin, and Clear Water Pond, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, April 27, 2022.
- Ref. [6]* HDR Engineering, Inc. Annual Inspection Report - 2022 – Forebay, Retention Basin, and Clear Water Pond, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, May 2, 2022.
- Ref. [7]* HDR Engineering, Inc. Annual Inspection Report - 2023 – Forebay, Retention Basin, and Clear Water Pond, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, February 24, 2022.
- Ref. [8]* HDR Engineering, Inc. Monitoring Well Installation Report, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, March 25, 2020, Updated October 24, 2023.
- Ref. [9]* Mayotte Design & Engineering, P.C. Construction Documentation Report Ash Impoundment System Reconfiguration, Lansing Board of Water & Light Erickson Power Station, Lansing, Michigan, May 2015.

5 Appendices

Appendix A Inspection Checklists

APPENDIX A
INSPECTION CHECKLISTS



Coal Combustion Waste (CCW) Impoundment Inspection

Impoundment NPDES Permit# N/A
Date February 2, 2024

INSPECTOR Bryce Burkett, P.E.

Impoundment Name: Erickson Power Station - Forebay
Impoundment Company Lansing Board of Water and Light
EPA Region N/A
State Agency (Field Office) Address N/A

Name of Impoundment Erickson Power Station - Forebay
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New Update X

Is impoundment currently under construction? Yes X No
Is water or ccw currently being pumped into the impoundment? No X

IMPOUNDMENT FUNCTION: Undergoing closure

Nearest Downstream Town: Name: Dimondale

Distance from the impoundment: 1.05 miles

Impoundment

Location: Longitude 84 Degrees 39 Minutes 19 Seconds
Latitude 42 Degrees 41 Minutes 20 Seconds
State MI County Eaton

Does a state agency regulate this impoundment? YES NO x

If So, Which State Agency? N/A

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

 LESS THAN LOW HAZARD POTENTIAL: Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

 ^x **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

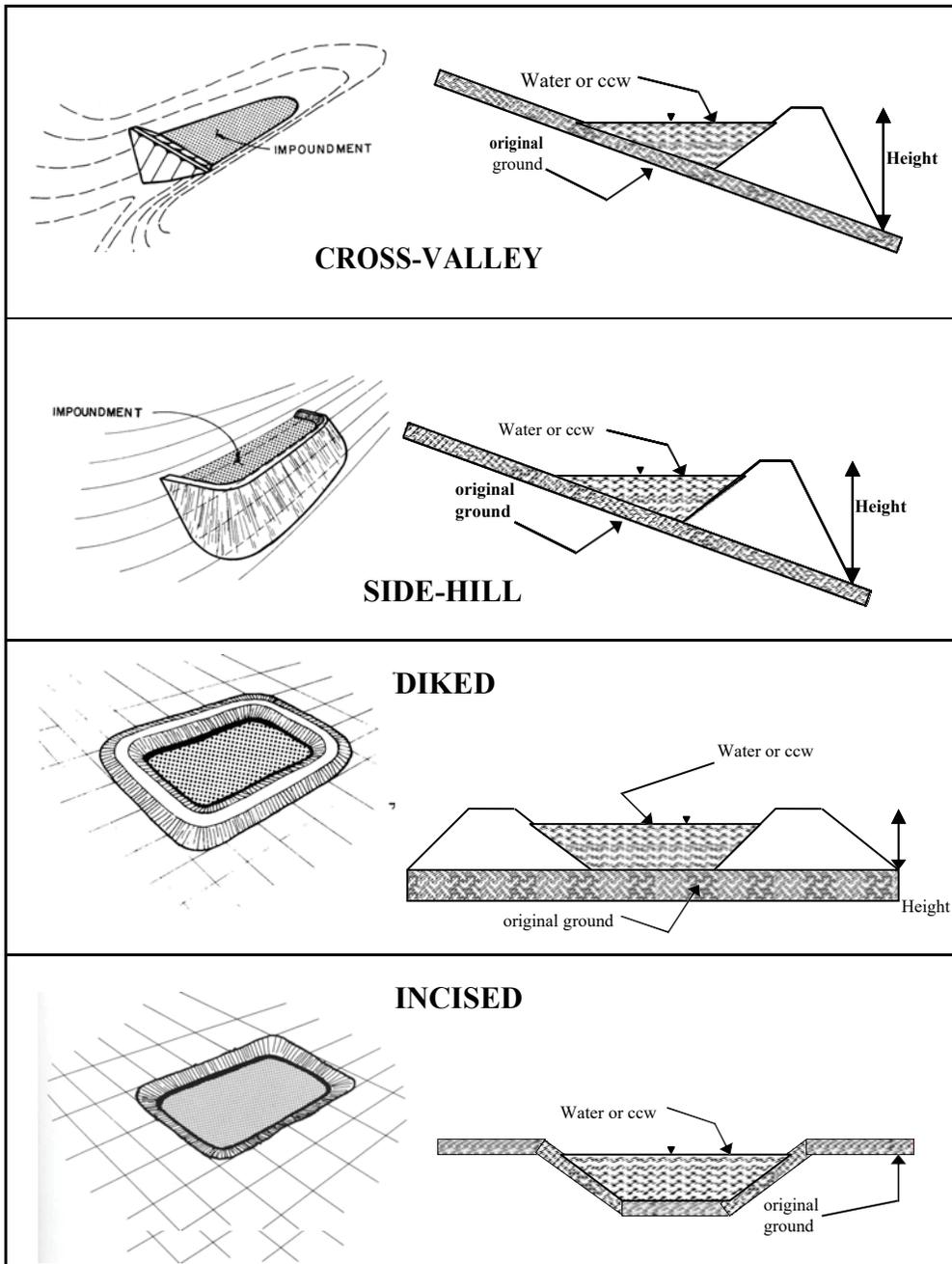
 SIGNIFICANT HAZARD POTENTIAL: Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

 HIGH HAZARD POTENTIAL: Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

Embankment failure would be limited primarily to owner's property with no probable loss of human life and low economic/environmental losses.

CONFIGURATION:



- Cross-Valley
- Side-Hill
- Diked
- Incised (form completion optional)
- Combination Incised/Diked

Embankment Height 13 feet
 Pool Area -- acres
 Current Freeboard -- feet

Embankment Material Compacted Clay
 Liner geosynthetic clay (GCL) and 40 millimeter-thick FML
 Liner Permeability unknown

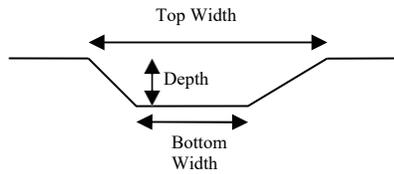
TYPE OF OUTLET (Mark all that apply)

 N/A **Open Channel Spillway**

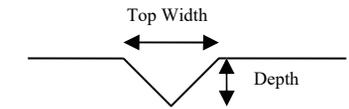
- Trapezoidal
- Triangular
- Rectangular
- Irregular

- depth
- bottom (or average) width
- top width
-

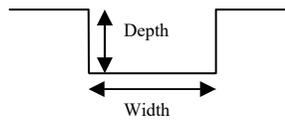
TRAPEZOIDAL



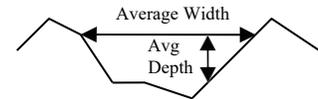
TRIANGULAR



RECTANGULAR



IRREGULAR

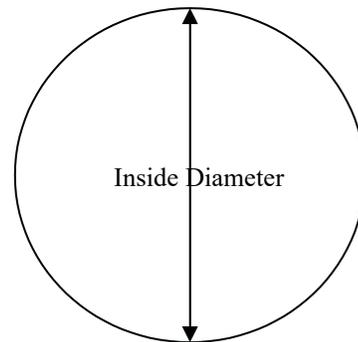


3 Outlets

 2 ft inside diameter

Material

- corrugated metal
- welded steel
- concrete
- x plastic (hdpe, pvc, etc.)
- other (specify) _____



Is water flowing through the outlet? YES _____ NO x

 No Outlet

 Other Type of Outlet (specify) _____

The Impoundment was Designed By: Mayotte Design & Engineering, P.C.



Coal Combustion Waste (CCW) Impoundment Inspection

Impoundment NPDES Permit# N/A

INSPECTOR Bryce Burkett, P.E.

Date February 2, 2024

Impoundment Name: Erickson Power Station – Retention Basin

Impoundment Company Lansing Board of Water and Light

EPA Region N/A

State Agency (Field Office) Address N/A

Name of Impoundment Erickson Power Station – Retention Basin

(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New Update X

Is impoundment currently under construction? Yes X No
Is water or ccw currently being pumped into the impoundment? No X

IMPOUNDMENT FUNCTION: Undergoing closure

Nearest Downstream Town: Name: Dimondale

Distance from the impoundment: 1.05 miles

Impoundment

Location: Longitude 84 Degrees 39 Minutes 16 Seconds
Latitude 42 Degrees 41 Minutes 21 Seconds

State MI County Eaton

Does a state agency regulate this impoundment? YES NO x

If So, Which State Agency? N/A

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

 LESS THAN LOW HAZARD POTENTIAL: Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

 ^x **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

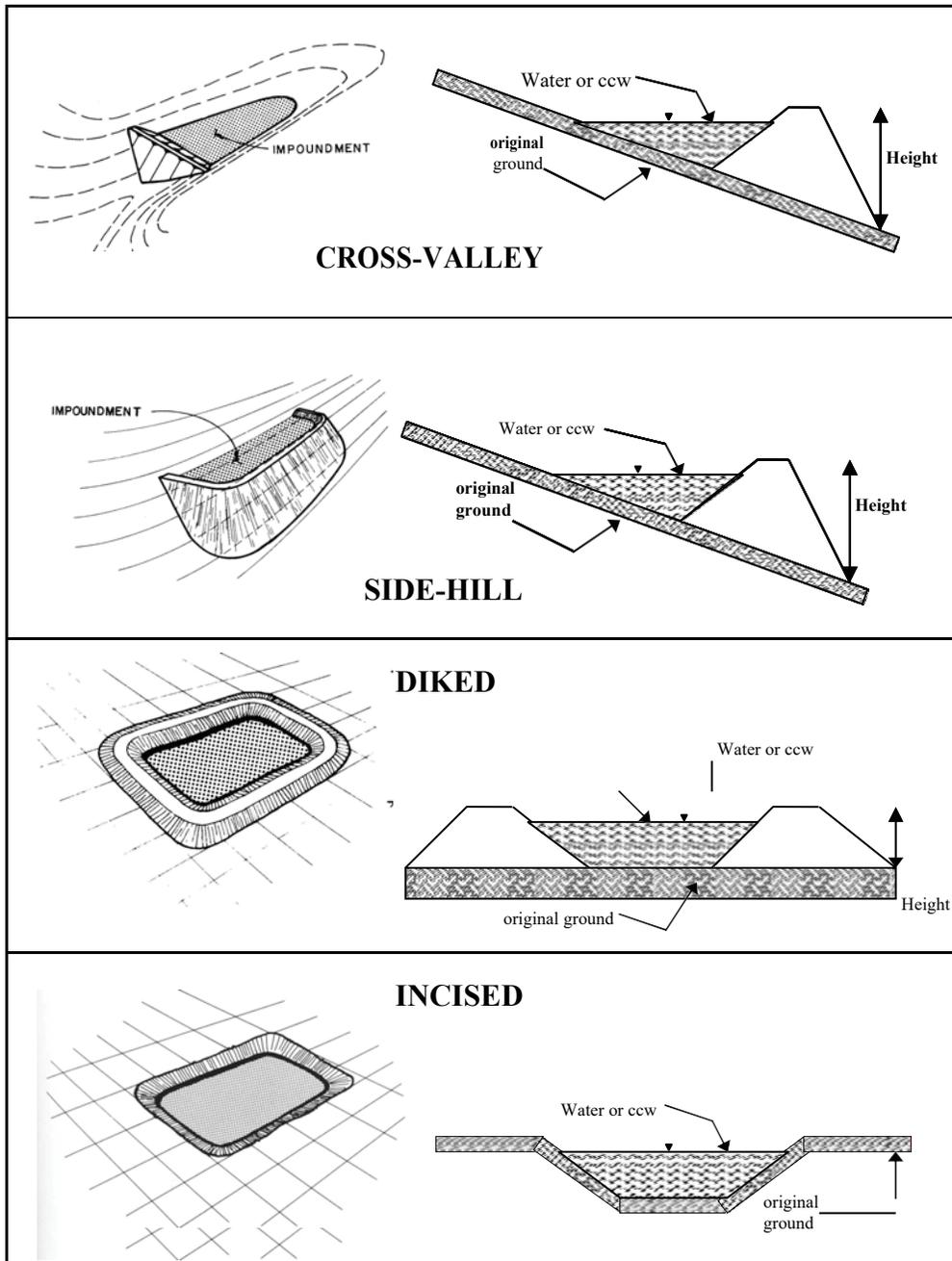
 SIGNIFICANT HAZARD POTENTIAL: Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

 HIGH HAZARD POTENTIAL: Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

Embankment failure would be limited primarily to owner's property with no probable loss of human life and low economic/environmental losses.

CONFIGURATION:



- Cross-Valley
- Side-Hill
- Diked
- Incised (form completion optional)
- Combination Incised/Diked

Embankment Height 14 feet
 Pool Area = acres

Embankment Material Compacted Clay
 Liner geosynthetic clay (GCL) and 40 millimeter-thick FML

Current Freeboard -- feet

Liner Permeability unknown

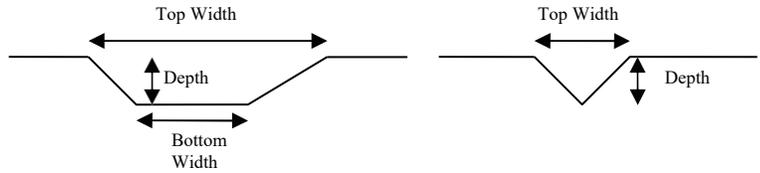
TYPE OF OUTLET (Mark all that apply)

 N/A **Open Channel Spillway**

 TRAPEZOIDAL

 TRIANGULAR

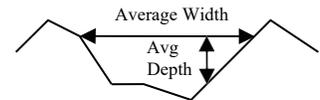
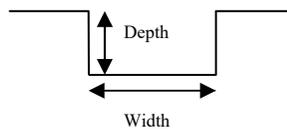
- Trapezoidal
- Triangular
- Rectangular
- Irregular



- depth
- bottom (or average) width
- top width

 RECTANGULAR

 IRREGULAR



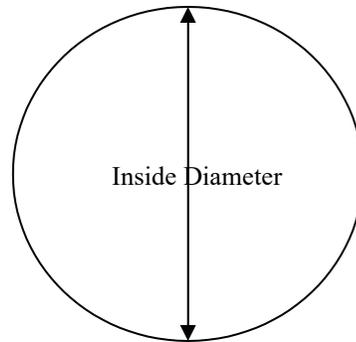
2 Outlets

 6 ft inside diameter

 2 ft inside diameter

Material

- corrugated metal
- welded steel
- x concrete
- x plastic (hdpe, pvc, etc.)
- other (specify) _____



Is water flowing through the outlet? YES x NO _____

 No Outlet

 Other Type of Outlet (specify) _____

The Impoundment was Designed By: Mayotte Design & Engineering, P.C.



Coal Combustion Waste (CCW) Impoundment Inspection

Impoundment NPDES Permit# N/A
Date February 2, 2024

INSPECTOR Bryce Burkett, P.E.

Impoundment Name: Erickson Power Station - Clear Water Pond
Impoundment Company Lansing Board of Water and Light
EPA Region N/A
State Agency (Field Office) Address N/A

Name of Impoundment Erickson Power Station - Clear Water Pond
(Report each impoundment on a separate form under the same Impoundment NPDES Permit number)

New Update X

Is impoundment currently under construction? Yes X No
Is water or ccw currently being pumped into the impoundment? No X

IMPOUNDMENT FUNCTION: Undergoing closure

Nearest Downstream Town: Name: Dimondale
Distance from the impoundment: 1.05 miles
Impoundment Location: Longitude 84 Degrees 39 Minutes 17 Seconds
Latitude 42 Degrees 41 Minutes 8 Seconds
State MI County Eaton

Does a state agency regulate this impoundment? YES NO x

If So, Which State Agency? N/A

HAZARD POTENTIAL (In the event the impoundment should fail, the following would occur):

 LESS THAN LOW HAZARD POTENTIAL: Failure or misoperation of the dam results in no probable loss of human life or economic or environmental losses.

 ^x **LOW HAZARD POTENTIAL:** Dams assigned the low hazard potential classification are those where failure or misoperation results in no probable loss of human life and low economic and/or environmental losses. Losses are principally limited to the owner's property.

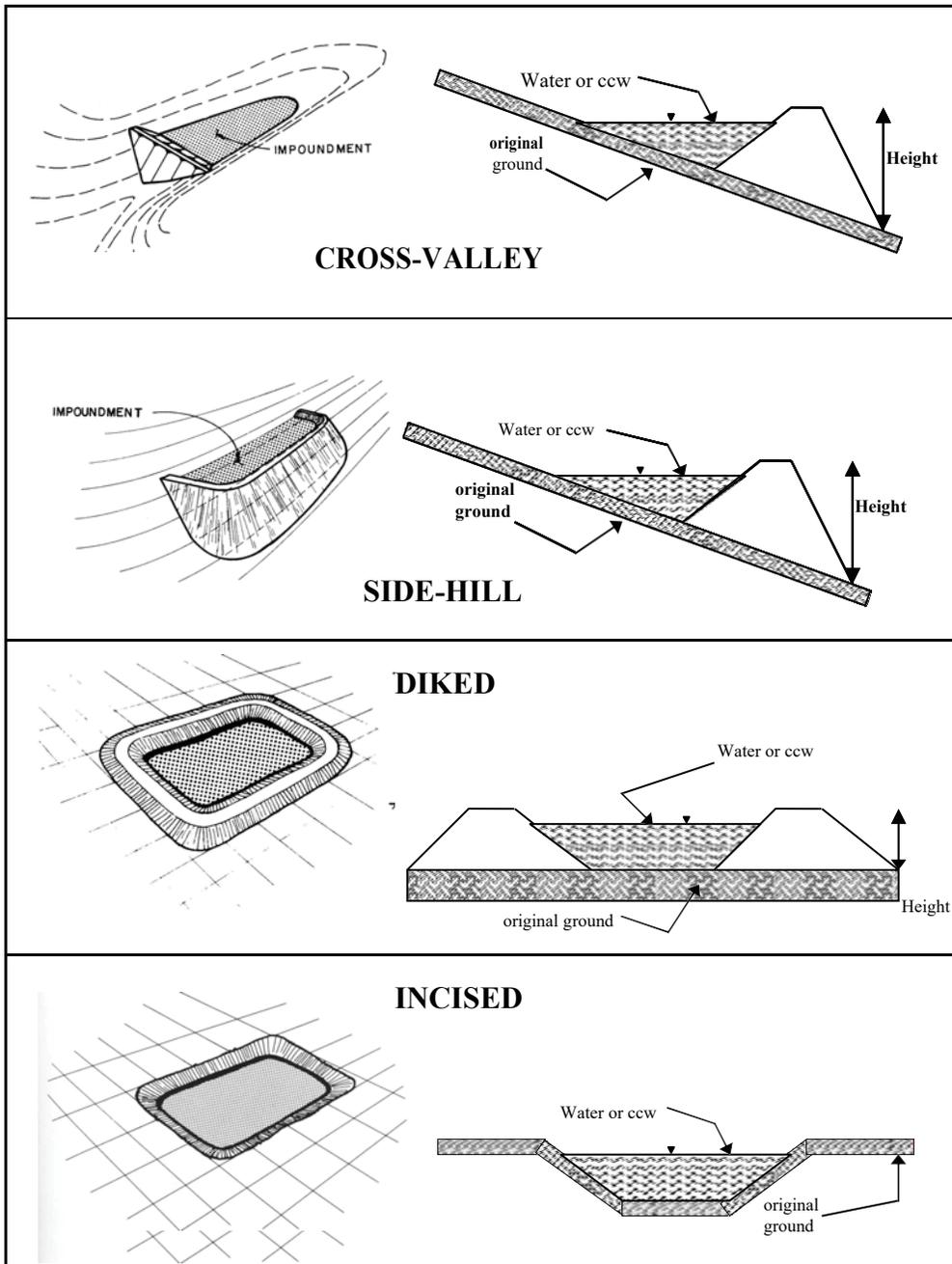
 SIGNIFICANT HAZARD POTENTIAL: Dams assigned the significant hazard potential classification are those dams where failure or misoperation results in no probable loss of human life but can cause economic loss, environmental damage, disruption of lifeline facilities, or can impact other concerns. Significant hazard potential classification dams are often located in predominantly rural or agricultural areas but could be located in areas with population and significant infrastructure.

 HIGH HAZARD POTENTIAL: Dams assigned the high hazard potential classification are those where failure or misoperation will probably cause loss of human life.

DESCRIBE REASONING FOR HAZARD RATING CHOSEN:

Embankment failure would be limited primarily to owner's property with no probable loss of human life and low economic/environmental losses.

CONFIGURATION:



Cross-Valley
 Side-Hill
 Diked
 Incised (form completion optional)
 Combination Incised/Diked
 Embankment Height 12-14 feet Embankment Material Compacted Clay
 Pool Area -- acres Liner Compacted Clay
 Current Freeboard -- feet Liner Permeability unknown

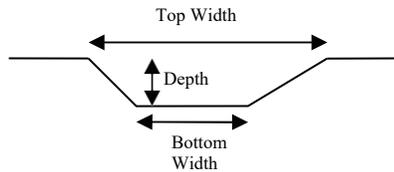
TYPE OF OUTLET (Mark all that apply)

N/A **Open Channel Spillway**

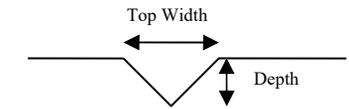
- Trapezoidal
- Triangular
- Rectangular
- Irregular

- depth
- bottom (or average) width
- top width
-

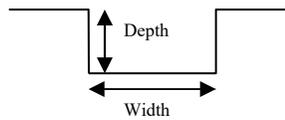
TRAPEZOIDAL



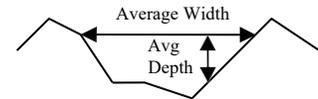
TRIANGULAR



RECTANGULAR



IRREGULAR

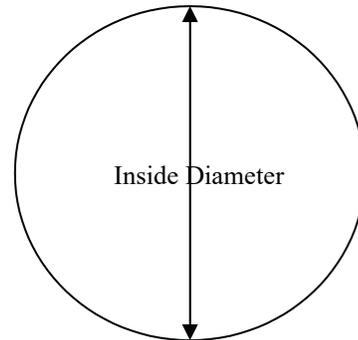


x **Outlet**

3 ft inside diameter

Material

- corrugated metal
- welded steel
- concrete
- plastic (hdpe, pvc, etc.)
- other (specify) Ductile iron



Is water flowing through the outlet? YES _____ NO x

No Outlet

Other Type of Outlet (specify) _____

The Impoundment was Designed By: Stanley Consultants

