



Rockland Capital, LLC

2022 Grand Tower Energy Center Annual Inspection Report

26 July 2023

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Signature Page

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2022 Annual Inspection Report



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1. INTRODUCTION

Environmental Resources Management (ERM) Inc. is submitting the 2022 Annual Inspection Report in accordance with 35 Illinois Administrative Code (IAC) §845.550(a)(2) for the Grand Tower Energy Center (GTEC) facility located at 1820 Power Plant Rd, Grand Tower, Illinois (the "Site"). This report summarizes the results and findings of the GTEC quarterly post-closure coal combustion residuals (CCR) Impoundment inspection events during 2022. Copies of each CCR Impoundment inspection event, each of which contains an inspection form, a figure markup, and a photolog, for all four quarters of 2022, are attached as Appendix A.

2. BACKGROUND

GTEC historically operated as a merchant facility which sold energy into the Midcontinent Independent System Operator (MISO) distribution system and has been idled since late 2020. The immediate project site, south of the idled power generation facility, consists of an approximately 21-acre area consisting of an impoundment and associated drainage basin. The GTEC CCR Impoundment was capped and closed in 2020, and is subject to USEPA 40 CFR 257 and IEPA 35 IAC 845, as applicable. Approximately 235,000 cubic yards of CCR materials are present in the closed impoundment. These materials have been excavated, consolidated, and covered by a 40-mil LLDPE liner, cover soil, and geotextile liner which covers a 14-acre footprint within the site.

3. KEY ACTIONS COMPLETED DURING 2022

3.1 First Quarter 2022 Inspection Summary

Ponding was noted along the fence line on the northeast side of the impoundment, as well as within the drainage basin southwest of the impoundment. Minor erosion, under 6-inch deep, was noted across the north, west, and southern CCR impoundment cap faces. Erosion and fence undermining was observed on the east side of the Site along the perimeter fence. A slumped area was discovered on the western face of the United States Army Corps of Engineers (USACE) levee on the eastern side of the Site. No significant degradation or other issues were noted associated with the closed CCR impoundment cover system. The ERM CCR Impoundment Inspector recommended addressing erosion and fence undermining along the perimeter fence and repairing the slumped area of the USACE levee.

3.2 Second Quarter 2022 Inspection Summary

Erosion and fence undermining similar to first quarter 2022 was again noted along the eastern perimeter fence, and the USACE levee was found to be in the same condition as first quarter 2022, with a slumped area on the western face. Minor erosion up to 6-inches deep was again noted across the north, west, and southern CCR impoundment cap faces. Backwater of the Mississippi River was noted to be present within the southwest corner of the drainage basin. The overall condition of the impoundment was generally similar to that observed during the first quarter 2022, within no significant degradation or issues with the closed CCR impoundment cover system noted. As was the case during the first quarter 2022, the ERM CCR Impoundment Inspector recommended addressing erosion and fence undermining along the perimeter fence and repairing the slumped area of the USACE levee.

3.3 Third Quarter 2022 Inspection Summary

Repairs to the USACE levee, as well as the erosion and undermining along the eastern perimeter fence were found to be underway during the third quarter 2022 CCR impoundment inspection. Minor erosion up to 6-inches deep continued to be noted along the north, west, and southern CCR impoundment cap faces. Growth of a limited amount of woody vegetation under 1-inch in diameter was noted to be growing within the riprap that surrounds the CCR impoundment on three sides.

Ponding was noted within the southwest corner of the drainage basin. The impoundment cap was mowed during the third quarter of 2022. No significant degradation or issues with the closed CCR impoundment cover system were otherwise noted. The ERM CCR Impoundment Inspector recommended the removal of the woody vegetation growth.

3.4 Fourth Quarter 2022 Inspection Summary

During the fourth quarter 2022 CCR impoundment inspection, the USACE levee was found to be repaired and in good condition. The erosion and fence undermining along the eastern perimeter fence noted since the first quarter of 2022 was also found to be repaired. Minor erosion up to 9-inches deep was noted on the eastern and northern CCR impoundment cap faces. Growth of a limited but increasing amount of woody vegetation (up to 1-inch in diameter) within the riprap on the north, west, and southern impoundment cap faces was observed. Ponding was noted within the southwest corner of the drainage basin. No significant degradation or issues with the closed CCR impoundment cover system were otherwise noted. As during the fourth quarter of 2022, the ERM CCR Impoundment Inspector recommended the removal of the woody vegetation growth, as well as the repair of erosional channels on the north and western faces of the CCR impoundment cap.

APPENDIX A

**2022 QUARTERLY CCR IMPOUNDMENT INSPECTION
REPORTS**



Grand Tower Energy Center
Closed CCR Landfill
Quarterly Inspection Form

Date 3/22/22
Time 1100
Name Matt Halley
(Inspector)

Weather:

Temperature:

45 deg. F

Sunny

Cloudy

Raining

Other

Conditions Limiting Visibility:

Snow Cover

Vegetation

None

Other

Light Rainfall/Mist

Observations:

Erosion / Gullies

Cracking / Sloughing

Seeps / Damp Areas

No Problems Identified

Woody Vegetation Growth

Other

Undermining of Landfill Fencing

Observations in Detail Below:

- Onsite for the inspection of US Army Corps of Engineers (COE) Levee and quarterly inspection.

Slumping on the COE levee near the SE side of the site was documented (see figure).

- Erosion and fence undermining noted on east side of CCR impoundment cap (see figure). Ponding noted in

NE area along GTEC levee. Limited area of erosion noted on NE side of CCR impoundment cap. No woody

growth noted at this time. Minor erosion noted across north, west, and southern CCR impoundment cap faces

up to 6" deep. Ponding noted in basin at the SW corner of site. CCR impoundment cap liner remains intact.

- Inspector recommends addressing erosion and fence undermining on east side of the site by adding soil

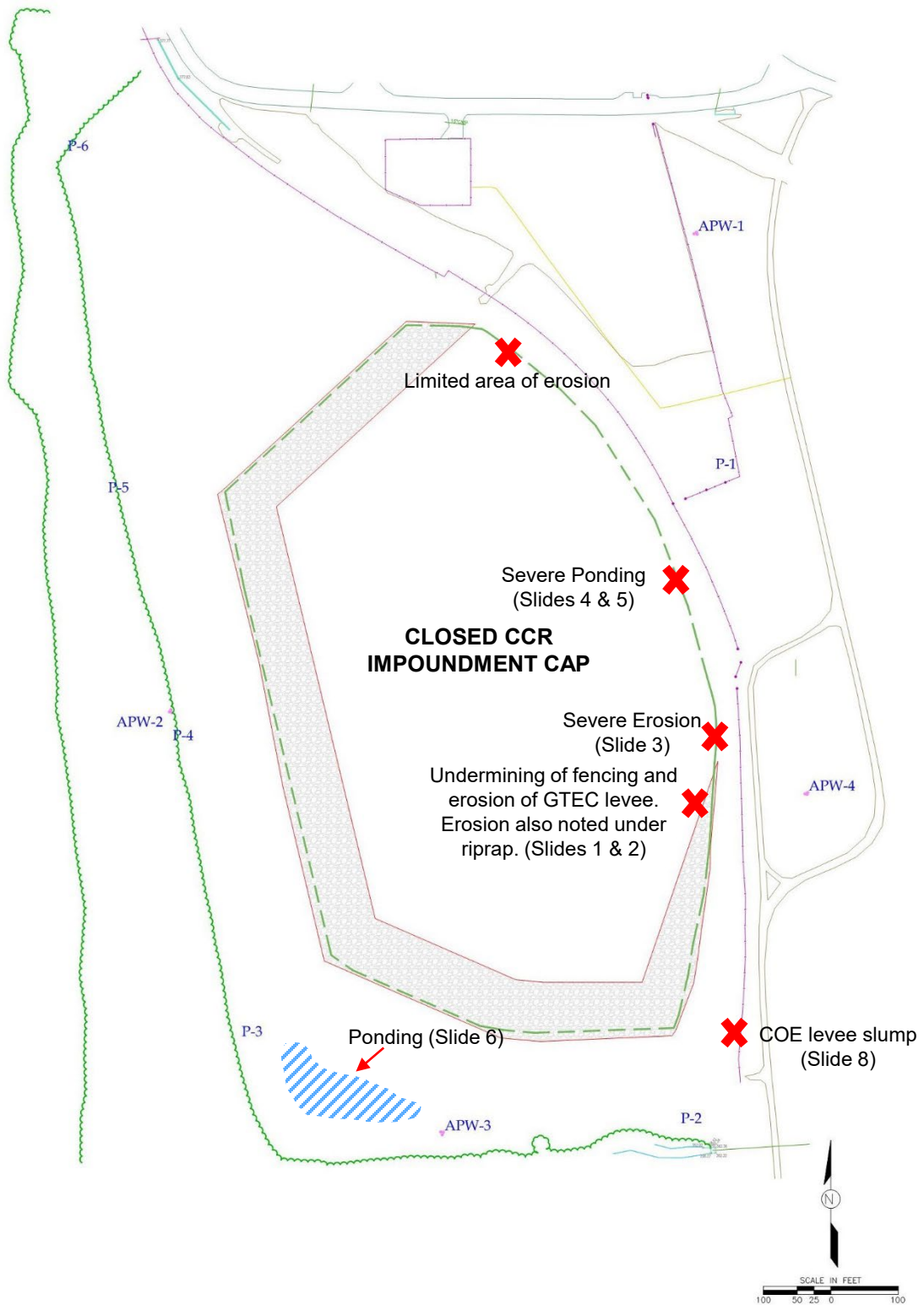
and riprap around undermined fencing and on the eroded face of GTEC levee as determined by qualified

personnel. Inspector also recommends repair of the slumped area of the Army Corps of Engineers levee in

accordance with applicable regulations, and backfill or grading to address ponding on NE side of site.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q1 2022 Closed CCR Impoundment Cap Inspection

Fence undermining and GTEC levee erosion on SE side of closed CCR impoundment cap.



Fence undermining and GTEC levee erosion on SE side of closed CCR impoundment cap.



GTEC levee erosion and riprap undermining on SE side of closed CCR impoundment cap.



Ponding on NE side of closed CCR impoundment cap along GTEC levee (looking north).



Ponding on NE side of closed CCR impoundment cap along GTEC levee (looking south).



Ponding in SW corner of site at drainage.

Mar 22, 2022 at 10:33:46 AM



Closed CCR impoundment cap condition looking north from top center and the western face of cap.

Mar 22, 2022 at 10:32:07 AM



Mar 22, 2022 at 10:29:58 AM

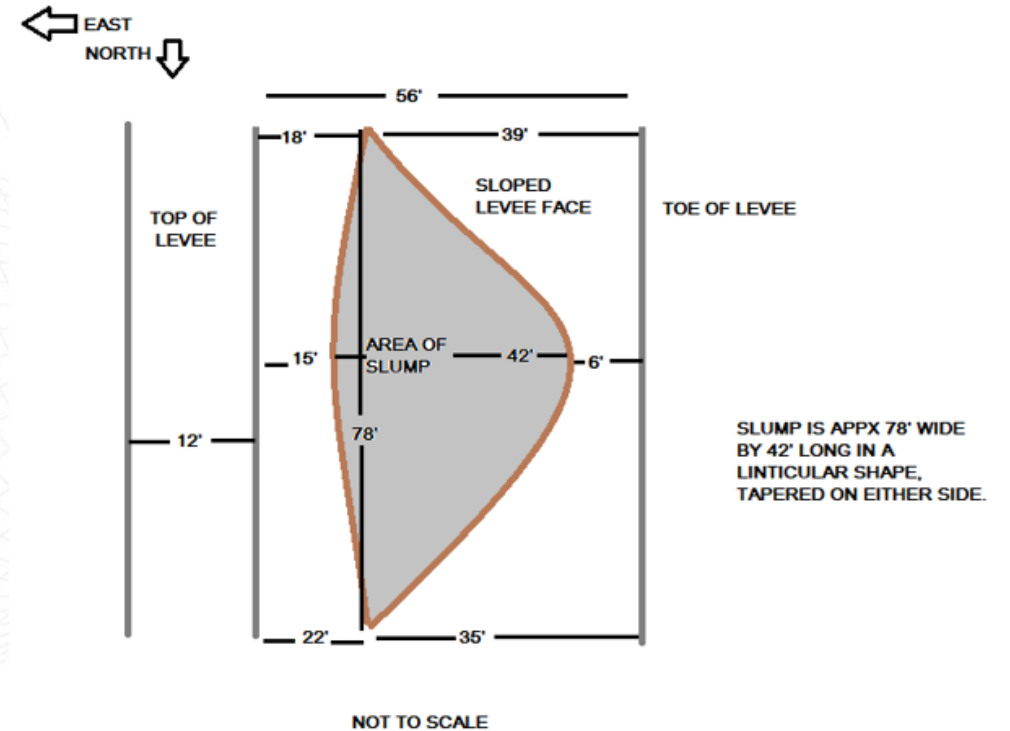


Army Corps of Engineers Levee Slump

Facing east toward COE levee.



General dimensions of slumped area





**Grand Tower Energy Center
Closed CCR Impoundment
Quarterly Inspection Form**

Date 6/14/22
Time 1100-1400
Name Matt Halley
(Inspector)

Weather:

Temperature:

95 deg. F

- Sunny
- Cloudy
- Raining
- Other

Observations:

- Erosion / Gullies
- Cracking / Sloughing
- Seeps / Damp Areas
- No Problems Identified
- Woody Vegetation Growth
- Other

Conditions Limiting Visibility:

- Snow Cover
- Vegetation
- None
- Other

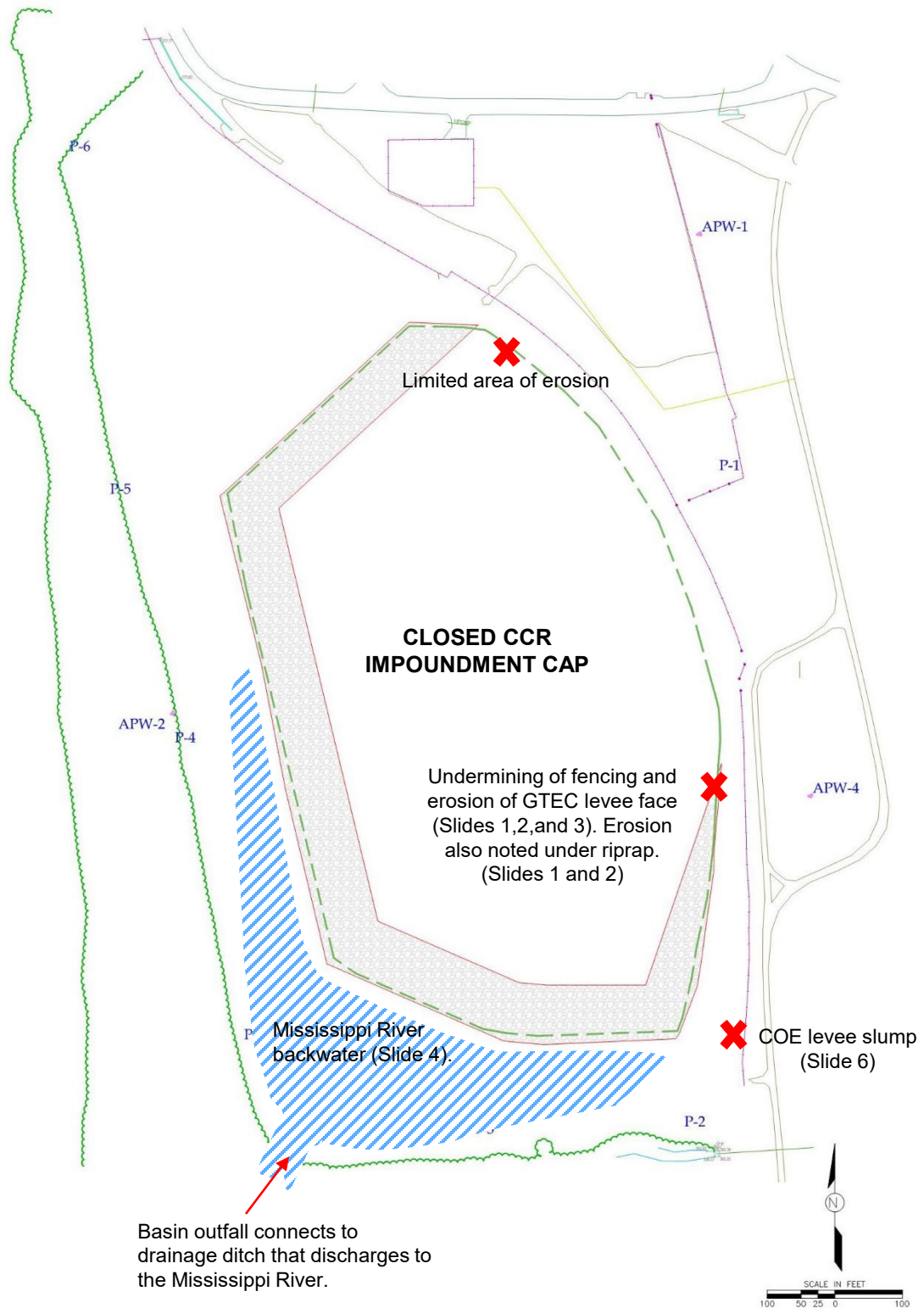
Undermining of Impoundment Perimeter Fencing

Observations in Detail Below:

- ERM onsite for the Q2 impoundment inspection and ground water sampling event.
- The U.S. Army Corps of Engineers (USACE) Levee was found to be in the same condition as Q1 (see Q1 GTEC Impoundment Inspection Report). Slumping on west face of levee noted.
- Erosion and fence undermining continues to be noted on east/SE side of site (see figure). Limited area of erosion noted on NE side of CCR impoundment adjacent to basin access ramp. No woody growth noted at this time. Minor erosion noted across north, west, and southern CCR impoundment cap faces up to 6" deep.
- Backwater of the Mississippi River noted in SW corner of the basin.
- Overall impoundment condition was found to be similar to Q1 2022.
- Inspector recommends addressing erosion and fence undermining on east side of the site by adding soil and riprap around undermined fencing and on the eroded face of GTEC levee. Inspector also recommends repair of the slumped area of the USACE levee in accordance with applicable regulations.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q2 2022 Closed CCR Impoundment Cap Inspection

Fence Undermining, Riprap Undermining, and GTEC Levee Erosion on the SE Side of Closed CCR Impoundment Cap.



Fence Undermining, Riprap Undermining, and GTEC Levee Erosion on the SE Side of Closed CCR Impoundment Cap.



Close-up of exposed GTEC levee material.



Undermined fenceline and riprap.

Fence Undermining on the SE Side of Closed CCR Impoundment Cap.



Facing north along fenceline.



Facing south along fenceline.

Mississippi River Backwater in the SW Corner of Site.



Mississippi River backwater in CCR impoundment drainage basin.



Mississippi River backwater connected to basin through drainage channel.

Note: Mississippi River backwater enters the GTEC CCR Impoundment Basin when the river level gage operated by the U.S. Army Corps of Engineers gage at Grand Tower, IL reaches a stage of approximately 27 ft.

Closed CCR Impoundment Cap.



Looking west from Army Corps of Engineers Levee.



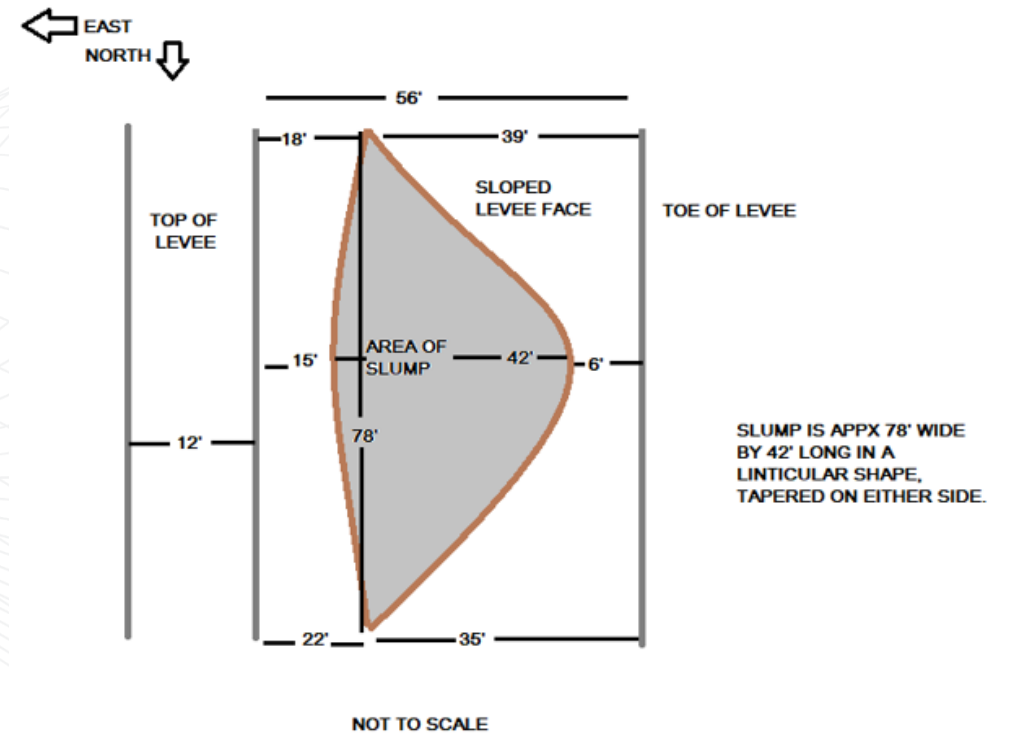
Impoundment cap top surface.

Army Corps of Engineers Levee Slump



Close-up of slumped area.

General dimensions of slumped area





Grand Tower Energy Center Closed CCR Impoundment Quarterly Inspection Form

Date	<u>9/13/22</u>
Time	<u>1100-1400</u>
Name	<u>Matt Halley</u> (Inspector)

Weather:

Temperature:

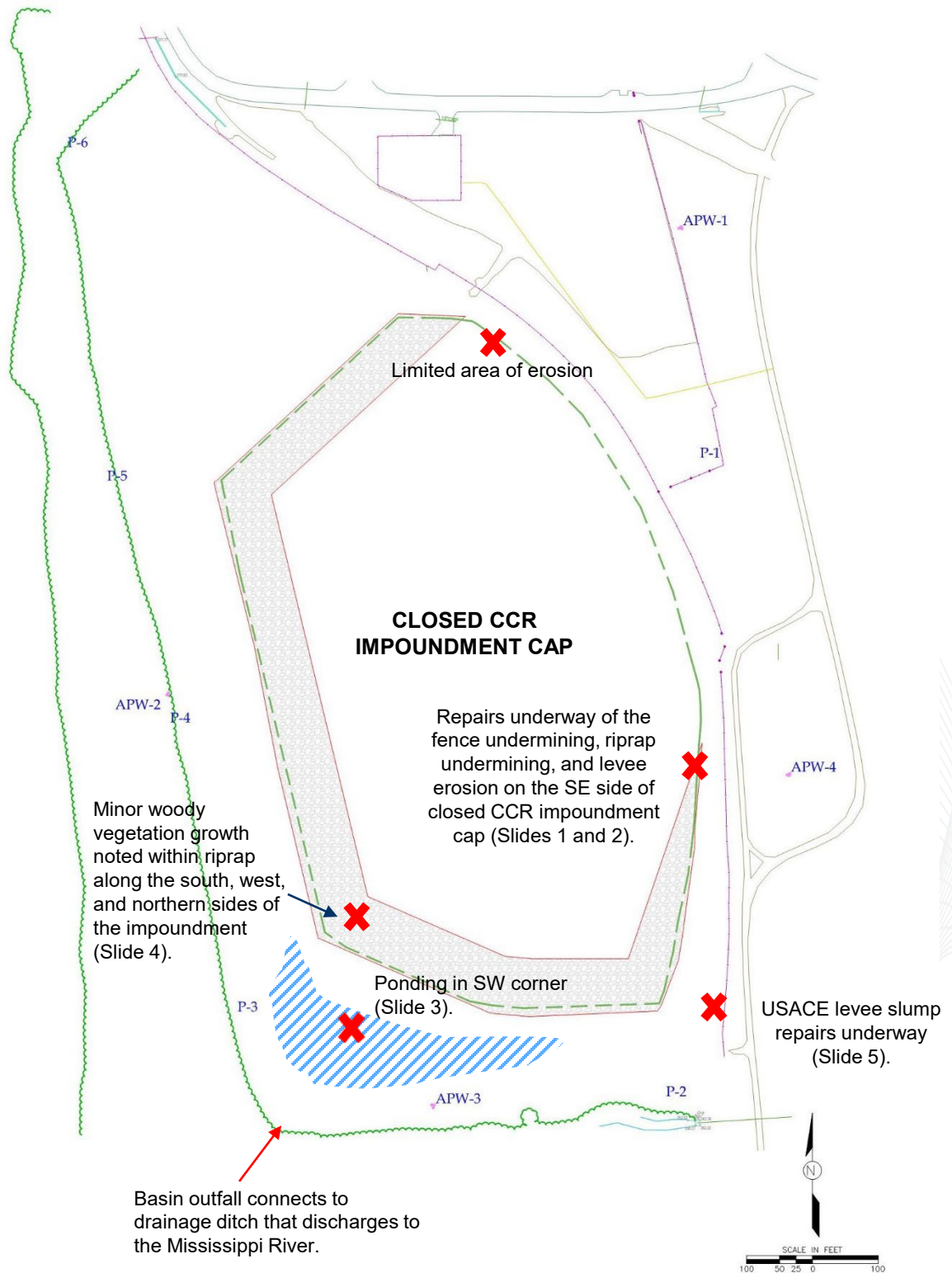
80 deg. F Sunny Cloudy Raining Other
_____**Observations:** Erosion / Gullies Cracking / Sloughing Ponding / Damp Areas No Problems Identified Woody Vegetation Growth Other

_____**Conditions Limiting Visibility:** Snow Cover Vegetation None Other
_____**Observations in Detail Below:**

- ERM onsite for the Q3 impoundment inspection and ground water sampling event.
- Repair of the U.S. Army Corps of Engineers (USACE) Levee to address slumping of the levee face noted in the Q1 and Q2 2022 inspection reports was underway as of 9/13/22 (see figure and photos).
- Repairs of the erosion and fence undermining on the east/SE side of site noted in the Q1 and Q2 2022 inspection reports was underway as of 9/13/22 (see figure and photos).
- Minor erosion noted across north, west, and southern CCR impoundment cap faces up to 6" deep.
- Growth of a limited amount of woody vegetation (under 1" diameter) within the riprap on the north, west, and southern impoundment cap faces was observed.
- Ponding noted in SW corner of the basin. Limited area of erosion at northern end of impoundment.
- Impoundment cap was mowed during Q3 of 2022 and found to be in generally good condition.
- Inspector recommends removal of woody vegetation growth and followup monitoring of repaired areas.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q3 2022 Closed CCR Impoundment Cap Inspection

Repairs underway of the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing south along recently repaired fenceline area.

Repairs underway of the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing north towards impoundment cap – repairs of fence undermining and riprap visible.



Facing southwest towards impoundment cap – repairs of fence undermining, levee, and riprap visible.

Ponding in the SW Corner of Site



Facing east from southwest corner of site across ponded area.

Note: Mississippi River backwater enters the GTEC CCR Impoundment Basin when the river level gage operated by the U.S. Army Corps of Engineers gage at Grand Tower, IL reaches a stage of approximately 27 ft.

Closed CCR Impoundment Cap



Southwest corner of the impoundment cap with limited woody growth (under 1" diameter) within riprap. Minor woody growth found within riprap along south, west, and northern sides of the impoundment.



Recently mowed impoundment cap top surface facing south.

U.S. Army Corps of Engineers (USACE) Levee Slump Repair



Repair of levee (both USACE and GTEC sections) underway as of 9/13/22 (facing east).



Facing north along levee.



Grand Tower Energy Center Closed CCR Impoundment Quarterly Inspection Form

Date	<u>11/28/22</u>
Time	<u>1100-1300</u>
Name	<u>Matt Halley</u> (Inspector)

Weather:

Temperature:

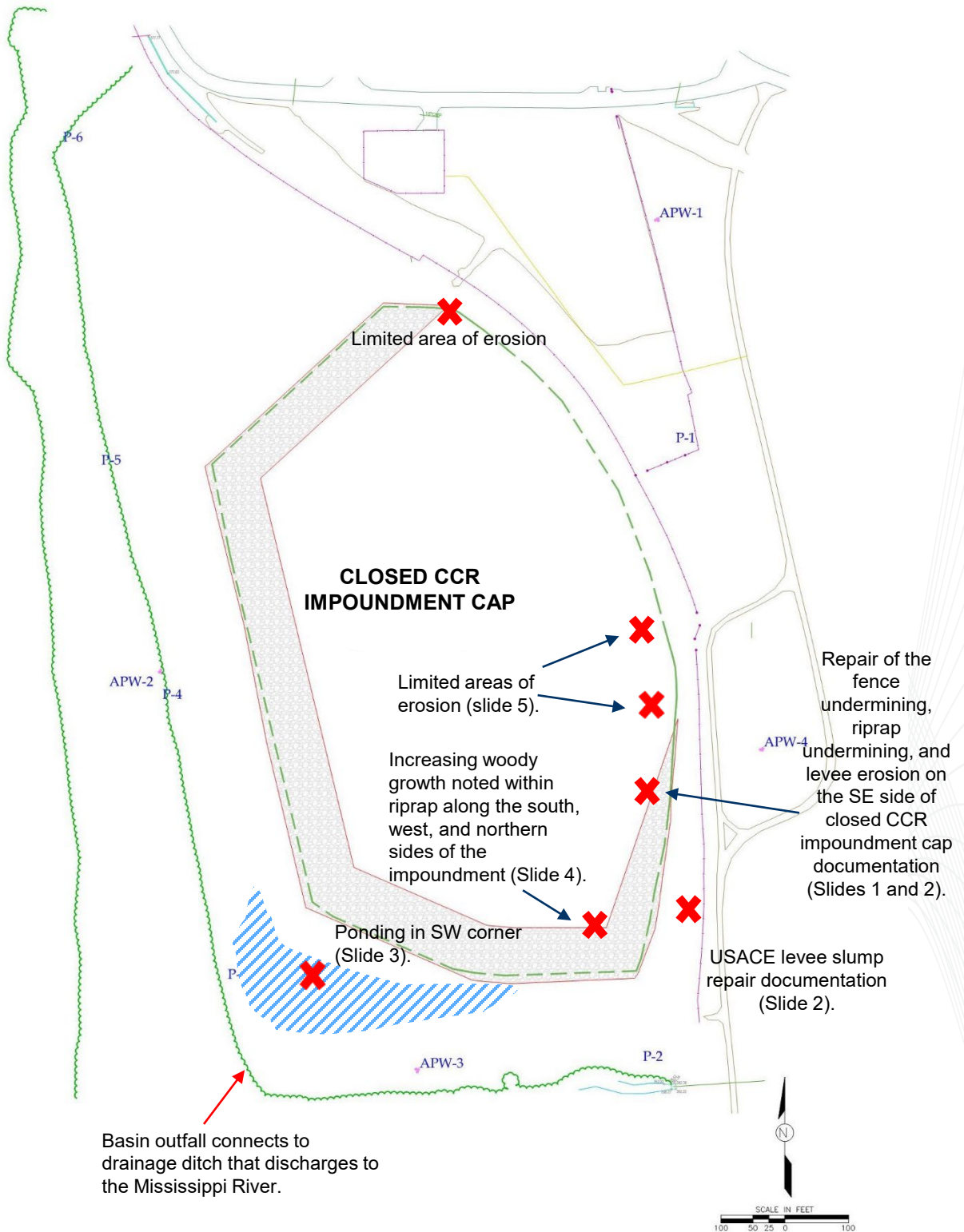
50 deg. F Sunny Cloudy Raining Other
_____**Observations:** Erosion / Gullies Cracking / Sloughing Ponding / Damp Areas No Problems Identified Woody Vegetation Growth Other

_____**Conditions Limiting Visibility:** Snow Cover Vegetation None Other
_____**Observations in Detail Below:**

- ERM onsite for the Q4 impoundment inspection and groundwater sampling event.
- Repair of the U.S. Army Corps of Engineers (USACE) Levee to address slumping of the levee face was documented (see figure and photos).
- Repairs of the erosion and fence undermining on the east/SE side was documented (see figure and photos).
- Post-repair erosion control measures (straw matting) on USACE levee has partially become detached.
- Limited erosion noted on eastern and northern CCR impoundment cap faces up to 9" deep.
- Growth of a limited but increasing amount of woody vegetation (up to 1" diameter) within the riprap on the north, west, and southern impoundment cap faces was observed.
- Ponding noted in SW corner of the basin.
- Impoundment cap was mowed during Q3 of 2022 and found to be in generally good condition.
- Inspector recommends removal of woody growth, repair of erosional channels, and re-installing straw matting.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q4 2022 Closed CCR Impoundment Cap Inspection

Repairs to the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing south along the repaired fenceline and levee area.
Note: straw matting from repaired levee face has become partially detached and deposited at the bottom of the slope.

Repairs to the Fence Undermining, Riprap Undermining, and Levee Erosion on the SE Side of Closed CCR Impoundment Cap



Facing north towards impoundment cap – repairs of fence undermining, riprap undermining, and United States Army Corps of Engineers (USACE) levee section are visible.



Facing northeast towards repaired section of USACE levee.

Ponding in the SW Corner of Site



Ponded area in southwest corner of site as viewed from mowed impoundment cap.

Note: Mississippi River backwater enters the GTEC CCR Impoundment Basin when the river level gage operated by the U.S. Army Corps of Engineers gage at Grand Tower, IL reaches a stage of approximately 27 ft.

Woody Growth Observations

Southern face of impoundment cap with woody growth (up to 1" diameter) within riprap. Increasing woody growth found within riprap along south, west, and northern sides of the impoundment.



Erosional Channel Observations



Erosional channel up to 9" deep. Facing east from center-east side of impoundment cap.



Erosional channel up to 9" deep. Facing east on southeast side of impoundment cap.

**ERM has over 160 offices across more 40
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