



2023 Grand Tower Energy Center Annual Inspection Report

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Rockland Capital, LLC

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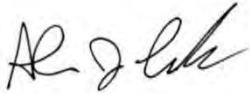
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2023 Grand Tower Energy Center Annual Inspection Report

0599247



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1. INTRODUCTION

Environmental Resources Management (ERM) Inc. is submitting the 2023 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 2023. 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 2023, 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 2023

3.1 FIRST QUARTER 2023 INSPECTION SUMMARY

Ponding was noted in the drainage basin southwest of the impoundment. Erosion up to 9 inches deep was noted across the north, west, and southern CCR impoundment cap faces. Fence undermining repairs on were completed on the east-southeast side of the Site along the perimeter fence. Post-repair erosion control straw matting on the United States Army Corps of Engineers (USACE) levee has partially become detached. Growth of a limited but increased amount of woody vegetation (up to 1 inch in diameter) within the riprap on the north, west, and southern impoundment cap faces was observed. No significant degradation or other issues were noted associated with the closed CCR impoundment cover system. The ERM CCR Impoundment Inspector recommended removal of woody growth, repair of erosion channels, and re-installing straw matting on the USACE levee repair area.

3.2 SECOND QUARTER 2023 INSPECTION SUMMARY

Repairs to the USACE and GTEC levees continue to hold, and successful revegetation of levee face was reportedly progressing. Erosion was noted across north, west, and southern CCR impoundment cap faces up to 9 inches deep. The woody vegetation (up to 1 inch in diameter) noted to be within the riprap on the north, west, and southern impoundment cap faces during 2022 was treated with herbicide during Q1 2023. However, some live woody vegetation growth remained within the riprap. Ponding was noted in the southwest corner of the basin near the outfall. The impoundment cap was mowed during Q2 of 2023 and was found to be in generally



good condition. The Inspector recommended continued treatment of woody growth within the riprap with herbicide, and the filling of the erosional channels noted.

3.3 THIRD QUARTER 2023 INSPECTION SUMMARY

Repairs to the USACE and GTEC levees continued to hold, and successful re-vegetation of levee face reportedly continued to progress. Erosion was noted across north, west, and southern CCR impoundment cap faces up to 9 inches deep. Ponding was noted in the southwest corner of basin around the toe of the slope of the impoundment cap near the outfall. The impoundment cap was found to be in generally good condition. The Inspector recommended continued treatment of woody growth within the riprap on the impoundment cap with appropriate management methods such as brush hogging, mowing, cutting, herbicide applications, and the filling of the erosional channels noted.

3.4 FOURTH QUARTER 2023 INSPECTION SUMMARY

Repairs to the USACE and GTEC levees continued to hold, and successful revegetation of levee face continued to progress. Erosion was noted across north, west, and southern CCR impoundment cap faces up to 10 inches deep, an increase from the 9 inches deep reported during the first, second and third quarter inspections. Ponding continued to be noted in the SW corner of the basin near the outfall, although the amount of water was considerably reduced when compared to Q3 2023 observations. The impoundment cap was mowed during Q3 2023 and found to be in generally good condition. The Inspector recommended continued treatment of woody growth within the riprap on the impoundment cap with appropriate management methods such as brush hogging, mowing, cutting, herbicide applications, and the filling of the erosional channels noted.



APPENDIX A

2023 QUARTERLY CCR IMPOUNDMENT
INSPECTION REPORTS



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

Date 03/03/2023
Time 1000-1200
Name Matt Halley
(Inspector)

Weather:

Temperature:

45 F

- Sunny
- Cloudy
- Raining
- Other

Observations:

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

Conditions Limiting Visibility:

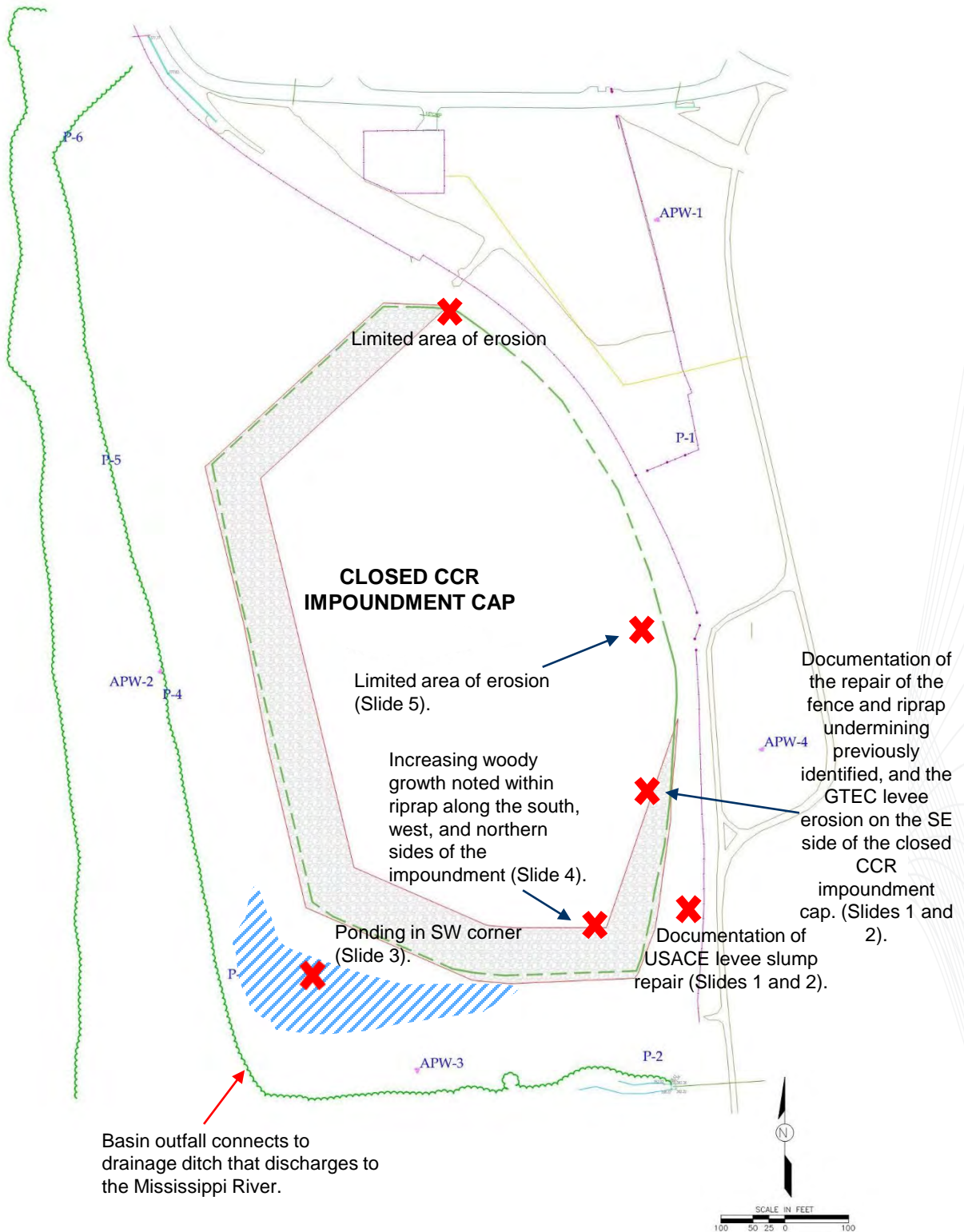
- Snow Cover
- Vegetation
- None
- Other

Observations in Detail Below:

- ERM onsite for the Q1 inspection of the closed CCR impoundment and groundwater sampling event.
- Completed repairs to the U.S. Army Corps of Engineers (USACE) Levee by Grand Tower Energy Center (GTEC) continues to be documented by ERM (see figure and photos).
- Completed repairs to the fence undermining on the east/SE side documented (see figure and photos).
- Post-repair erosion control measures (straw matting) on USACE levee has partially become detached.
- Erosion noted across north, west, and southern CCR impoundment cap faces up to 9" deep.
- Growth of a limited but increased 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 near the outfall.
- Inspector recommends removal of woody growth, repair of erosional channels, and re-installing straw matting on the USACE levee repair area.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q1 2023 Closed CCR Impoundment Cap Inspection - 3 March 2023

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



Facing east towards the repaired Grand Tower Energy Center (GTEC) and United States Army Corps of Engineers (USACE) 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 and Riprap Undermining, and Levee erosion on the SE Side of Closed CCR Impoundment Cap



Facing north towards impoundment cap – repairs of fence and riprap undermining, and USACE levee section are visible.



Facing northeast towards repaired section of USACE levee.

Ponding in the SW Corner of Site Basin Near the Outfall



Ponded area in southwest corner of site as viewed from 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. Increased woody growth since the third quarter 2022 found within riprap along south, west, and northern sides of the impoundment.

Erosional Channel Observations



Facing south on east side of impoundment cap.



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

Date: 6/26/2023
Time: 9:45-11:00
Name: Marshall Arendell
(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:

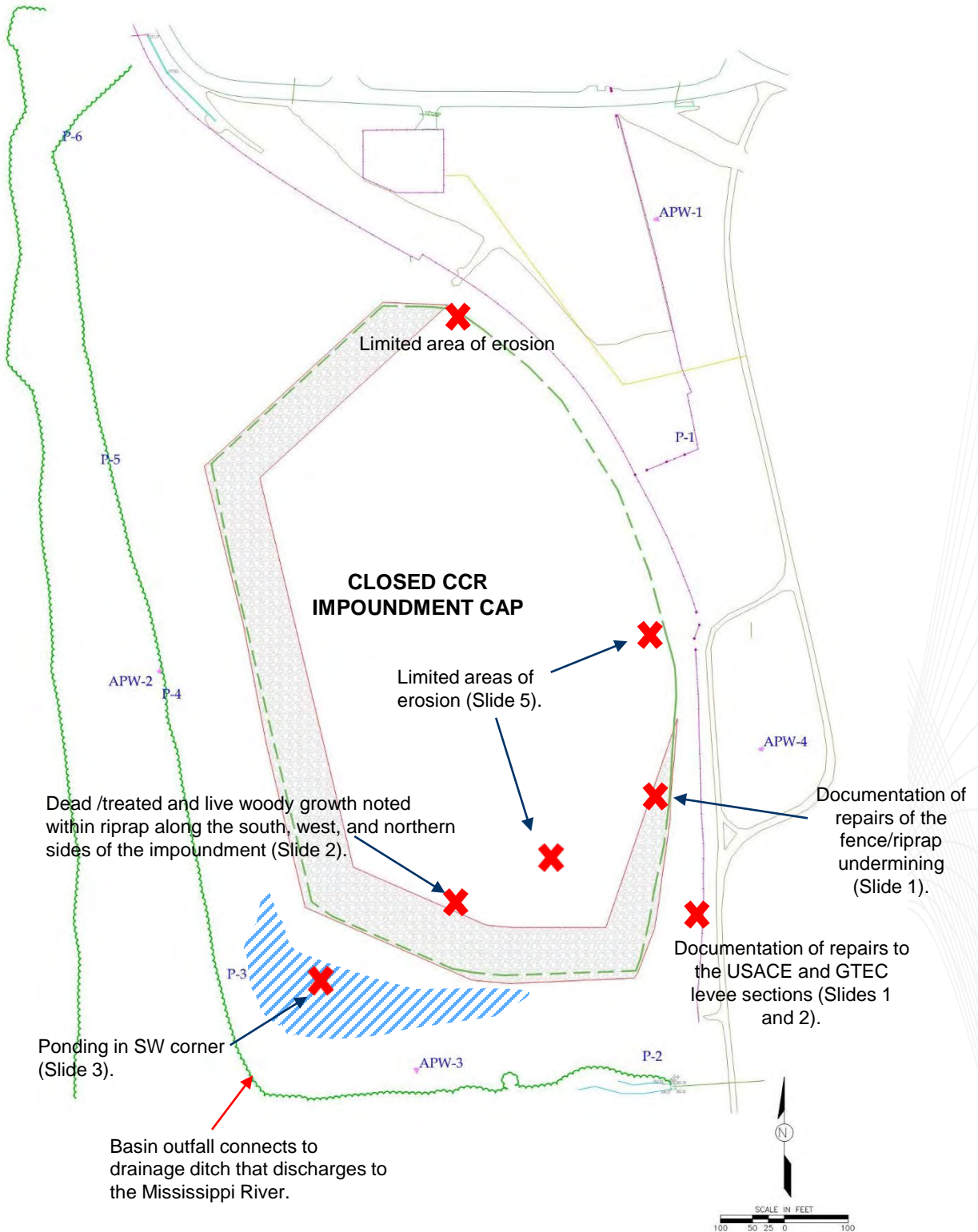
- Snow Cover
- Vegetation
- None
- Other

Observations in Detail Below:

- ERM onsite for the Q2 2023 inspection of the CCR impoundment and groundwater sampling event.
- Repairs to the United States Army Corps of Engineers (USACE) and GTEC levees continue to hold, and successful revegetation of levee face continues to progress.
- Erosion noted across north, west, and southern CCR impoundment cap faces up to 9" deep.
- The woody vegetation (up to 1" diameter) noted to be within the riprap on the north, west, and southern impoundment cap faces during 2022 was treated with herbicide during Q1 2023. However, some live woody vegetation growth remains within the riprap.
- Ponding continues to be noted in the SW corner of the basin near the outfall.
- The impoundment cap was mowed during Q2 of 2023 and found to be in generally good condition.
- The Inspector recommends continued treatment of woody growth within the riprap with herbicide, and the filling of the erosional channels noted above.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q2 2023 Closed CCR Impoundment Cap Inspection

Repairs to the Fenceline and Levee area on the SE Side of Closed CCR Impoundment Cap



Facing south along the repaired fenceline, riprap, and levee area. Levee has successfully revegetated since repairs were initiated during 2022.

Repairs to the Levee erosion on the SE Side of Closed CCR Impoundment Cap and Woody Growth Observations

June 26th, 2023, at 09:12:43 AM



Facing east towards impoundment cap – dead/herbicide treated woody vegetation noted within riprap up to 1” diameter. Limited amount of live woody growth remains.

June 26th, 2023, at 10:05:40 AM



Facing northeast towards repaired section of USACE and GTEC levee sections.

Ponding in the SW Corner of Site Basin Near the Outfall



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 at Grand Tower, IL reaches a stage of approximately 27 ft.

Erosional Channel Observations



Erosion up to 9" deep - facing east from center-east side of impoundment cap.



Erosion up to 9" deep - facing south from center-south side of impoundment cap.



Erosion up to 9" deep - facing southwest from southern side of impoundment cap.



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

Date: 9/19/2023
Time: 9:00-10:30
Name: Marshall Arendell
(Inspector)

Weather:

Temperature:

70 deg. F

- Sunny
- Cloudy
- Raining
- Other

Observations:

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

Conditions Limiting Visibility:

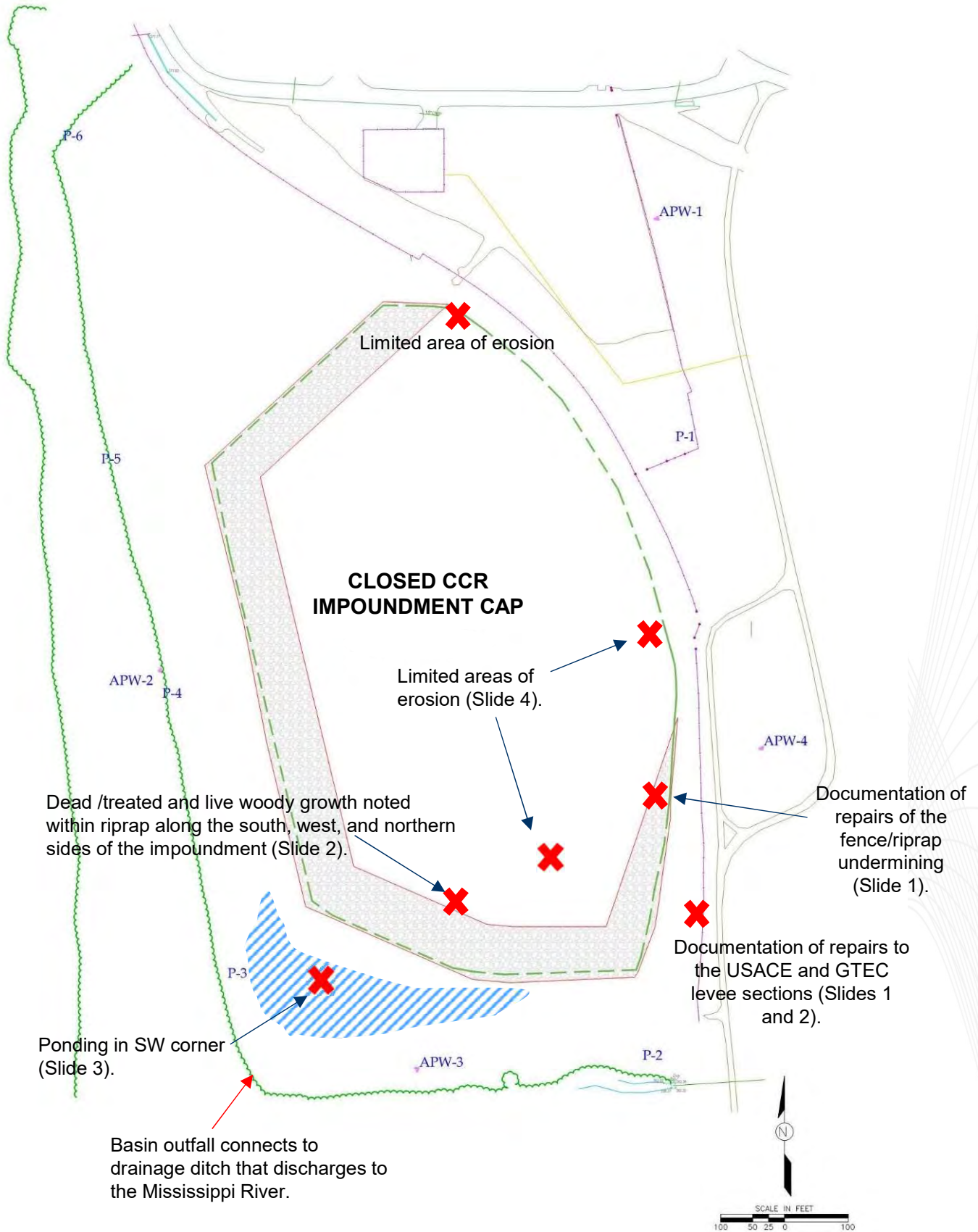
- Snow Cover
- Vegetation
- None
- Other

Observations in Detail Below:

- ERM onsite for the Q3 2023 inspection of the CCR impoundment and groundwater sampling event.
- Repairs to the United States Army Corps of Engineers (USACE) and GTEC levees continue to hold, and successful re-vegetation of levee face continues to progress.
- Erosion noted across north, west, and southern CCR impoundment cap faces up to 9" deep.
- Ponding continues to be noted in the SW corner of basin around the toe of the slope of the impoundment cap near the outfall.
- The impoundment cap was mowed during Q2 2023 and found to be in generally good condition.
- The inspector recommends continued treatment of woody growth within the riprap on the impoundment cap with appropriate management methods such as brushhogging, mowing, cutting, herbicide applications, and the filling of the erosional channels noted above.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q3 2023 Closed CCR Impoundment Cap Inspection

Repairs to the Fenceline and Levee area on the SE Side of Closed CCR Impoundment Cap



Facing north along the repaired fence-line, riprap, and levee area. Levee has successfully revegetated since repairs were initiated during 2022.

Woody Growth Observations



September 19th, 2023, at 09:45:41 AM

Facing west towards impoundment cap.

Dead/herbicide treated woody vegetation noted within riprap up to 1" diameter. Limited amount of live woody growth remains.

Facing north towards impoundment cap.



September 19th, 2023, at 08:34:14 AM



September 19th, 2023, at 10:02:40 AM

Southern portion of the impoundment cap in foreground facing the southern berm and pond.

Ponding in the SW Corner of Site Basin Near the Outfall



Ponded area in southwest corner of basin near the outfall, 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 at Grand Tower, IL reaches a stage of approximately 27 ft.

Erosional Channel Observations



Erosion facing southwest from southern side of impoundment cap.



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

Date: 11/29/2023
Time: 11:45-12:05
Name: Marshall Arendell
(Inspector)

Weather:

Temperature:

45 deg. F

- Sunny
- Cloudy
- Raining
- Other

Observations:

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

Conditions Limiting Visibility:

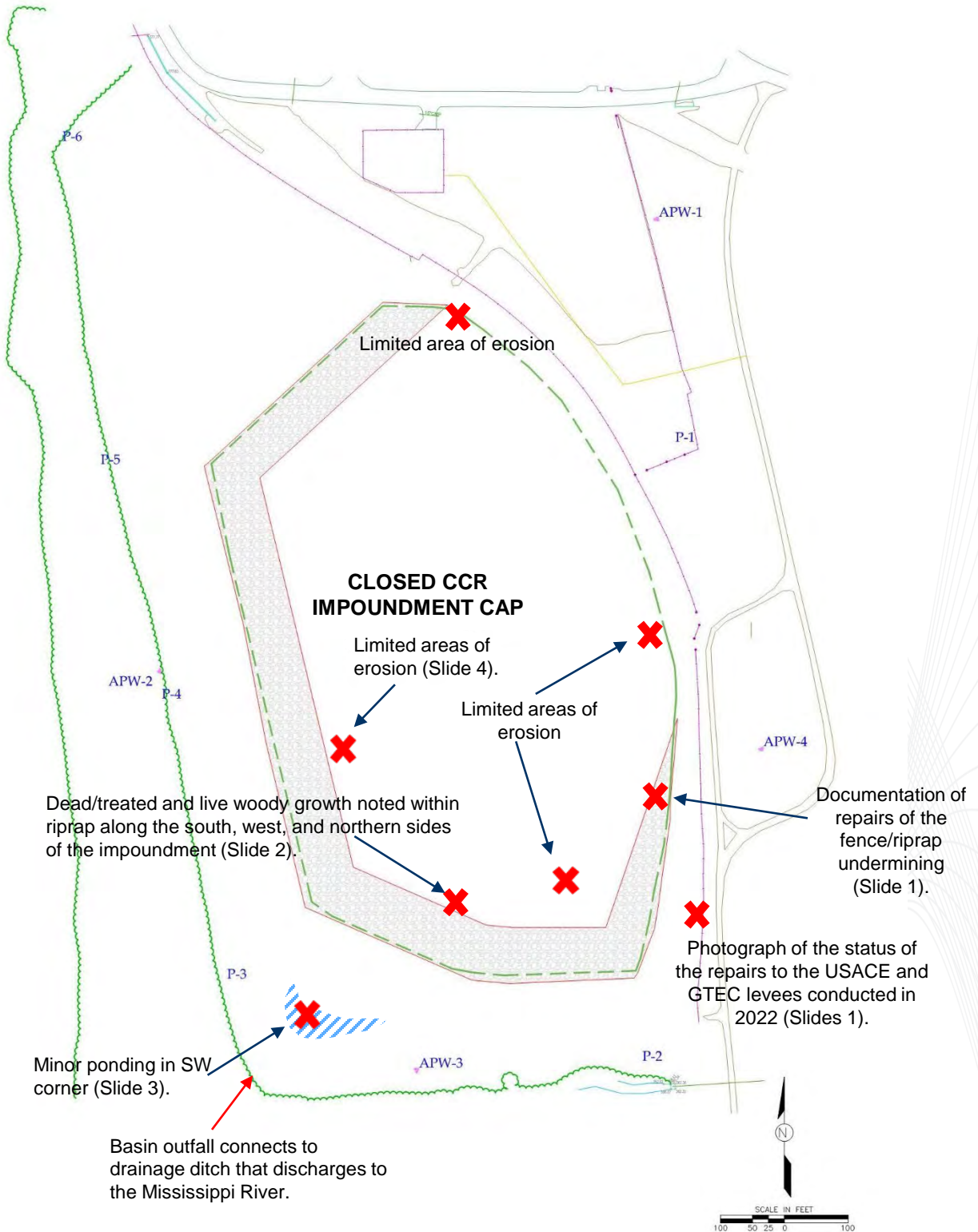
- Snow Cover
- Vegetation
- None
- Other

Observations in Detail Below:

- ERM onsite for the Q4 2023 inspection of the CCR impoundment and groundwater sampling event.
- Repairs to the United States Army Corps of Engineers (USACE) and GTEC levees continue to hold, and successful revegetation of levee face continues to progress.
- Erosion noted across north, west, and southern CCR impoundment cap faces up to 10" deep. This is an increase from 9" deep noted in previous inspection events.
- Ponding continues to be noted in the SW corner of the basin near the outfall albeit considerably reduced compared to Q3 2023 observations.
- The impoundment cap was mowed during Q3 2023 and found to be in generally good condition.
- The inspector recommends continued treatment of woody growth within the riprap on the impoundment cap with appropriate management methods such as brushhogging, mowing, cutting, herbicide applications, and the filling of the erosional channels noted above.

Please see observation locations on figure on the following page.

Observation Locations Map



Grand Tower Energy Center Q4 2023 Closed CCR Impoundment Cap Inspection

Repairs to the Fenceline and Levee area on the SE Side of Closed CCR Impoundment Cap



Facing south along the repaired fence-line, riprap, and levee area.



Facing northeast along the repaired fence-line, riprap, and levee area.

Levee has successfully revegetated since repairs were initiated during 2022.

Woody Growth Observations



November 27th, 2023, at 12:29:10 PM

Facing southwest towards impoundment cap.

Dead/herbicide treated woody vegetation noted within riprap up to 1" diameter. Limited amount of live woody growth remains.

Facing northeast towards impoundment cap.



November 27th, 2023, at 11:33:21 AM



November 29th, 2023, at 12:05:50 PM

Facing east away from impoundment cap.

Minor Ponding in the SW Corner of Site Basin Near the Outfall

November 29th, 2023, at 11:58:51 AM



Minor ponded area in southwest corner of basin near the outfall, as viewed from mowed impoundment cap. Note that ponding is much less than that noted in Q3 2023.

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

Erosional Channel Observations



Erosion from western side of impoundment cap.



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