



### **CCR Landfill**

# **2024 Annual CCR Landfill Inspection Report**

Flint Creek Plant, Gentry, Arkansas

#### Submitted to:

American Electric Power Service Corporation 1 Riverside Plaza Columbus, OH 43215

#### Submitted by:

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December 12, 2024 Project 2305686 AEP Document ID: GEVR-24-038



Pedro Amaya, PE Senior Consultant

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### 2024 Annual Inspection Report



CCR Landfill Flint Creek Power Plant AEP Document ID: GEVR-24-038

Signature

Pedro Amaya, PE Senior Consultant GEI Consultants, Inc.

December 12, 2024

Date



I certify, to the best of my knowledge, that the information provided in this report satisfies the requirements of 40 CFR 257.84(b).

### **Table of Contents**

1.	Intro	duction	1
2.	Desc	ription of Landfill	2
3.	Revi	ew of Available Information (257.84(b)(1)(i))	3
4.	Insp	ection (257.84(b)(1)(ii))	4
	4.1	Changes in Geometry Since Last Inspection (257.84(b)(2)(i))	4
	4.2	Volume (257.84(b)(2)(ii))	4
	4.3	Definitions of Visual Observations and Deficiencies	
	4.4	Visual Inspection (257.84(b)(1)(ii))	4 5
	4.5	Change that Effect Stability or Operation (257.84(b)(2)(iv))	6
5.	Sum	mary Findings	7
	5.1	General Observations	7
	5.2	Maintenance Items	7 7 7
	5.3	Items to Monitor	7
6.	Defic	ciencies (257.84(b)(2)(iii))	7

#### **Figures**

Figure 1 – Site Location Map

Figure 2 – Facility Plan

Figure 3 – Site Plan

Figure 4 – Items to be Monitored

Figure 5 – Items to be Addressed

### **Appendices**

Appendix A - Photolog

### JRP

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### 1. Introduction

GEI Consultants, Inc. was retained by AEP to implement the 2024 Annual Inspection and Maintenance Program at AEP facilities. As part of the program, GEI's Pedro Amaya, P.E. performed the 2024 inspection of the CCR Landfill at the Flint Creek Power Plant in general accordance with the requirements of 40 CFR 257.84. Mr. Greg Carter and Scott Carney were the AEP facility contacts, but Scott Carney did not participate in the annual inspection. This report was prepared by Pedro Amaya, PE and Jeff Piaskowski, PE of GEI and serves as a summary of the inspection and an assessment of the general conditions of the CCR Landfill at the Flint Creek Power Plant.

The inspection was performed on November 7, 2024 with clear skies and temperatures that ranged between 48 and 68 degrees Fahrenheit. Approximately 6-inches of precipitation was recorded at the regional airport in Bentonville, Arkansas in the 7 days prior to the inspection.

The Flint Creek Power Plant is located near Gentry, Arkansas as shown on Figure 1 – Site Location Map. The facility arrangement is provided on Figure 2 – Facility Plan. The CCR Landfill and its appurtenances are shown on Figure 3 – Site Plan. The locations of items that should be monitored are provided on Figure 4 – Items to be Monitored. The locations of items that should be addressed are provided on Figure 5 – Items to be Addressed.

### 2. Description of Landfill

The Flint Creek CCR Landfill consists of four areas. Three areas (Areas 2, 3, and 4) are actively receiving CCR. One area (Area 1) is inactive.

The overall features of the CCR Landfill were categorized into the following components:

- Active Landfill Disposal Areas (Area 2, 3, and 4)
- Inactive Landfill Area (Area 1)
- Leachate Collection/Contact Water Pond
- Storm Water Drainage Ditches
- Closed Areas

## 3. Review of Available Information (257.84(b)(1)(i))

A review of available information regarding the status and condition of the landfill which include files available in the operating record, such as design and construction information, previous 7-day inspection reports, and previous annual inspections has been conducted. Based on the review of the data there were no signs of actual or potential structural weakness or adverse conditions.

### 4. Inspection (257.84(b)(1)(ii))

### 4.1 Changes in Geometry Since Last Inspection (257.84(b)(2)(i))

No modifications have been made to the design geometry of the landfill since the last annual inspection. The geometry of the landfill has remained essentially unchanged, except for the change in topography of the active and inactive disposal areas.

### 4.2 Volume (257.84(b)(2)(ii))

The total volume of CCR disposed at the CCR Landfill as of the inspection date of was estimated to be 2,420,986 (2,355,471 last inspection + 65,515 to date) cubic yards.

### 4.3 Definitions of Visual Observations and Deficiencies

This summary of the visual observations uses terms to describe the general appearance or condition of an observed item, activity, or structure. The meaning of these terms is as follows:

**Good:** A condition or activity that is generally better or slightly better than

what is minimally expected or anticipated from a design or

maintenance point of view.

**Fair/Satisfactory:** A condition or activity that generally meets what is minimally

expected or anticipated from a design or maintenance point of view.

**Poor:** A condition or activity that is generally below what is minimally

expected or anticipated from a design or maintenance point of view.

**Minor:** A reference to an observed item (e.g. erosion, seepage, vegetation,

cracks, concrete surface etc.) where the current maintenance condition is below what is normal or desired, but which is not

currently causing concern from a structure safety or stability point of

view.

**Significant:** A reference to an observed item (e.g. erosion, seepage, vegetation,

cracks, concrete surface etc.) where the current maintenance

program has neglected to improve the condition. Usually, conditions that have been identified in previous inspections, but have not been

corrected.

### **Excessive:**

A reference to an observed item (e.g. erosion, seepage, vegetation, cracks, concrete surface etc.) where the current maintenance condition is below or worse than what is normal or desired, and which may have affected the ability of the observer to properly evaluate the structure or area being observed or which may be a concern from a structure safety or stability point of view.

This document also uses the definition of a "deficiency" as referenced in the CCR rule section §257.84(b)(5) Inspection Requirements for CCR Landfills. This definition has been assembled using the CCR rule preamble as well as guidance from MSHA, "Qualifications for Impoundment Inspection" CI-31, 2004. These guidance documents further elaborate on the definition of deficiency. Items not defined by deficiency are considered maintenance or items to be monitored.

A "deficiency" is some evidence that the CCR Unit has developed a problem that could impact its structural integrity. There are four general categories of deficiencies. These four categories are described below:

### 1. Uncontrolled Seepage

Uncontrolled seepage is an uncontrolled release from the unit.

### 2. Displacement of the Embankment

Displacement of the embankment is large scale movement of part of the pond embankment. Common signs of displacement are cracks, scarps, bulges, depressions, sinkholes, and slides.

### 3. Blockage of Control Features

Blockage of Control Features is the restriction of flow at spillways, decant or pipe spillways, or drains.

#### 4. Erosion

Erosion is the gradual movement of surface material by water, wind, or ice. Erosion is considered a deficiency when it is more than a minor routine maintenance item.

### 4.4 Visual Inspection (257.84(b)(1)(ii))

A visual inspection of the landfill was conducted to identify signs of distress or malfunction of the landfill and appurtenant structures. Specific items inspected included structural elements of the landfill perimeter berms, temporary and final covers, side slopes, and drainage features. CCR Landfill 2024 Annual CCR Landfill Inspection Report Flint Creek Plant, Gentry, Arkansas December 12, 2024

Overall, the facility is in good condition. Inspection photos are included in Attachment A - Photolog.

The landfill is functioning as intended. One potential lateral crack was observed on the southern slope and should be monitored for additional movement as shown in Photograph No. 7. No other conditions were observed that may be disrupting to the safe operation of the landfill.

The landfill active area was being operated appropriately. Material is being placed and compacted systematically in lifts to allow contact stormwater to be collected, treated, and discharged as appropriate. Photograph No. 13 shows the CCR Landfill Active Area.

The leachate / contact water pond is generally in good condition as shown in Photograph No. 2 and No. 3. Some minor concrete cracking was observed as shown in Photograph No. 1 and No. 4 and should be sealed/addressed with polyurethane sealant like Sonolastic NP1 or equivalent.

The CCR Landfill downstream slope is generally in good condition. The vegetation is healthy, thick, and maintained to 12-inches or less as shown in Photograph No. 5, No. 6, No. 8, No. 10, No. 14, No. 18, No. 19, and No. 20. Some minor erosion was observed and should be addressed before it becomes significant as shown in Photograph No. 11, No. 21, No. 23, and No. 24.

The CCR Landfill drainage features are in good condition. Fabriform downchutes were intact with no signs of movement on the landfill slopes or erosion at the upstream or downstream transition areas as shown in Photograph No. 16, No. 17, No. 22, and No. 25. No blockages or vegetation was observed in any of the drainage pathways as shown in Photograph No. 16. The stormwater pond was in good condition with plenty of capacity/freeboard as shown in Photograph No. 15.

### 4.5 Change that Effect Stability or Operation (257.84(b)(2)(iv))

Based on interviews with plant personnel and field observations there were no changes to the landfill operation since the last annual inspection that would affect the stability of the landfill.

### 5. Summary Findings

### 5.1 General Observations

The following general observations were identified during the visual inspection:

- 1. In general, the CCR Landfill is functioning as intended design.
- 2. The Plant is performing inspections and maintenance as appropriate.
- 3. One potential longitudinal crack was observed on the southern slope. This area should be monitored for additional cracking / movement.
- 4. Concrete cracks were observed in two areas within the leachate / contact water pond. The cracks should be sealed with polyurethane sealant, such as Sonolastic NP1.
- 5. Minor erosion was observed at four areas on the side slope and should be addressed before it becomes significant.

### 5.2 Maintenance Items

The maintenance items are provided for consideration:

- Continue to maintain minor erosion rills before they become significant.
- Continue to check site culverts, ditches, outfall structures for debris/blockages to allow the site stormwater to flow as it was designed.

### 5.3 Items to be Monitored

The following items should be monitored to allow the CCR Landfill to operate as its design intended.

• Item 7 – Monitor the potential longitudinal crack on the southern slope. For reference, its length was measured to be 25-feet during the annual inspection.

### 5.4 Items to be Addressed

The following items should be addressed to allow the landfill to operate as its design intended.

 Item 1 – Address/seal the concrete cracking with polyurethane sealant, such as Sonolastic NP1.

- Item 4 Address/seal the concrete cracking with polyurethane sealant, such as Sonolastic NP1.
- Item 11 Address the minor erosion rills before they become significant.
- Item 21 Address the minor erosion rills before they become significant.
- Item 23 Address the minor erosion rills before they become significant.
- Item 24 Address the minor erosion rills before they become significant.

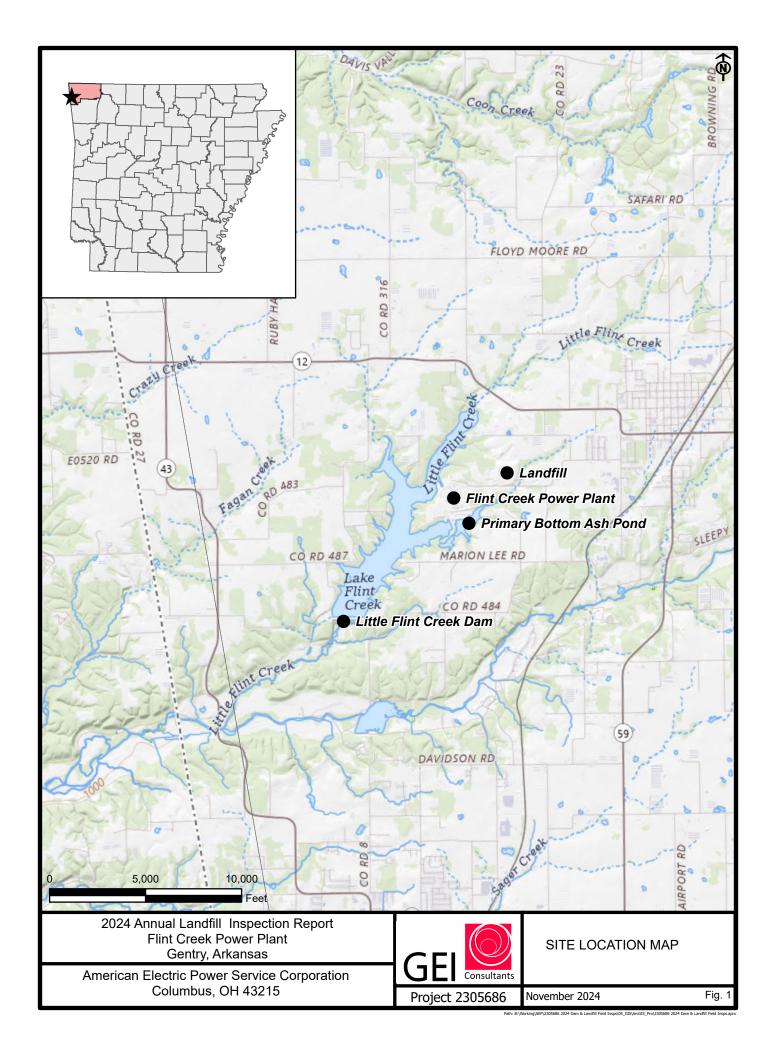
## 6. Deficiencies (257.84(b)(2)(iii))

There were no signs of structural weakness or disruptive conditions that were observed at the time of the inspection that would require additional investigation or remedial action. There were no deficiencies noted during this inspection or during any of the periodic 7-day inspections. A deficiency is defined as either:

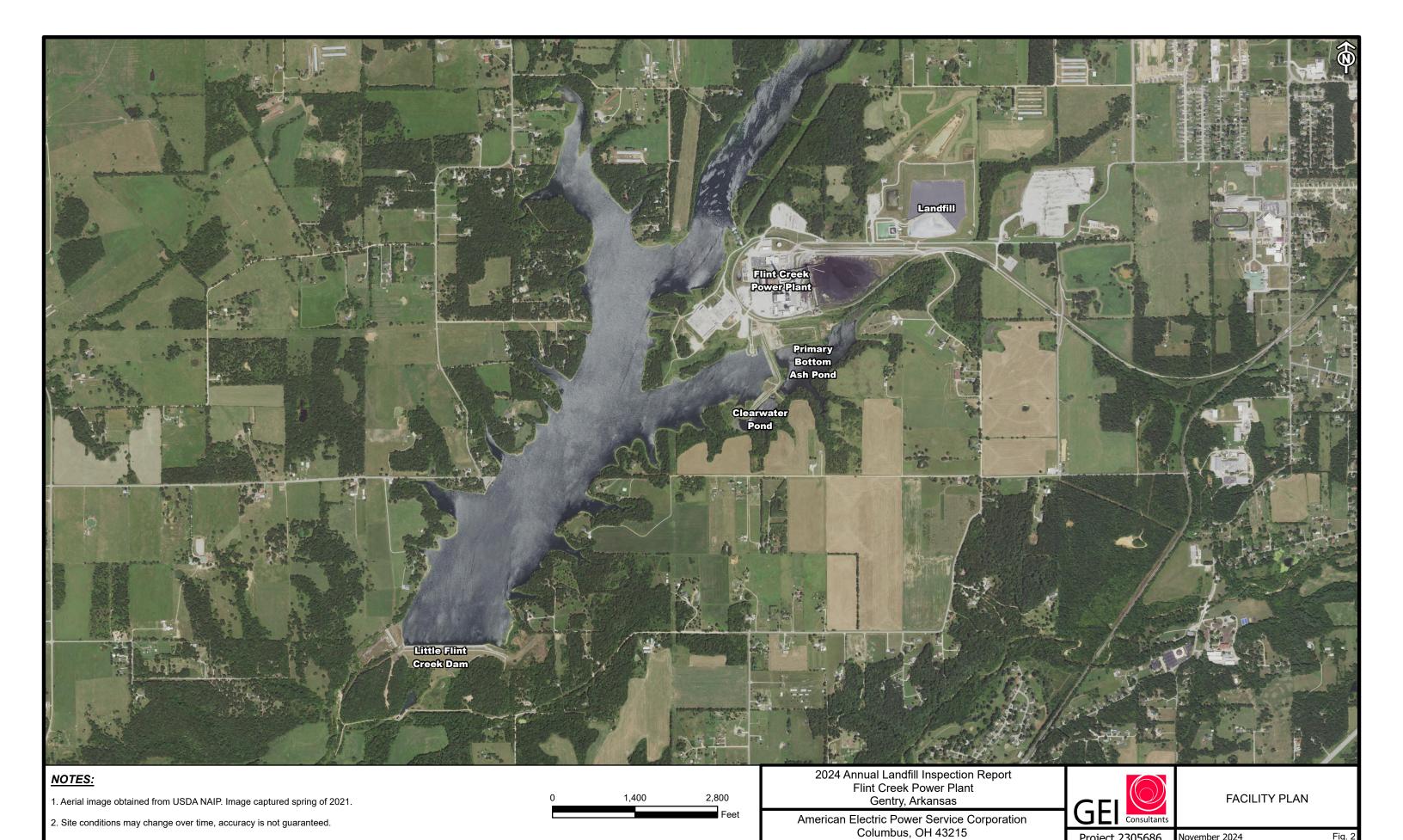
- uncontrolled seepage
- displacement of the embankment
- blockage of control features
- erosion, more than minor maintenance

If any of these conditions occur or if you have any questions with regard to this report, please contact Greg Carter at (903) 927-5896 / wgcarter@aep.com or Bryan Brunton at 614-716-3090 / bwbrunton@aep.com.

## Figure 1 – Site Location Map

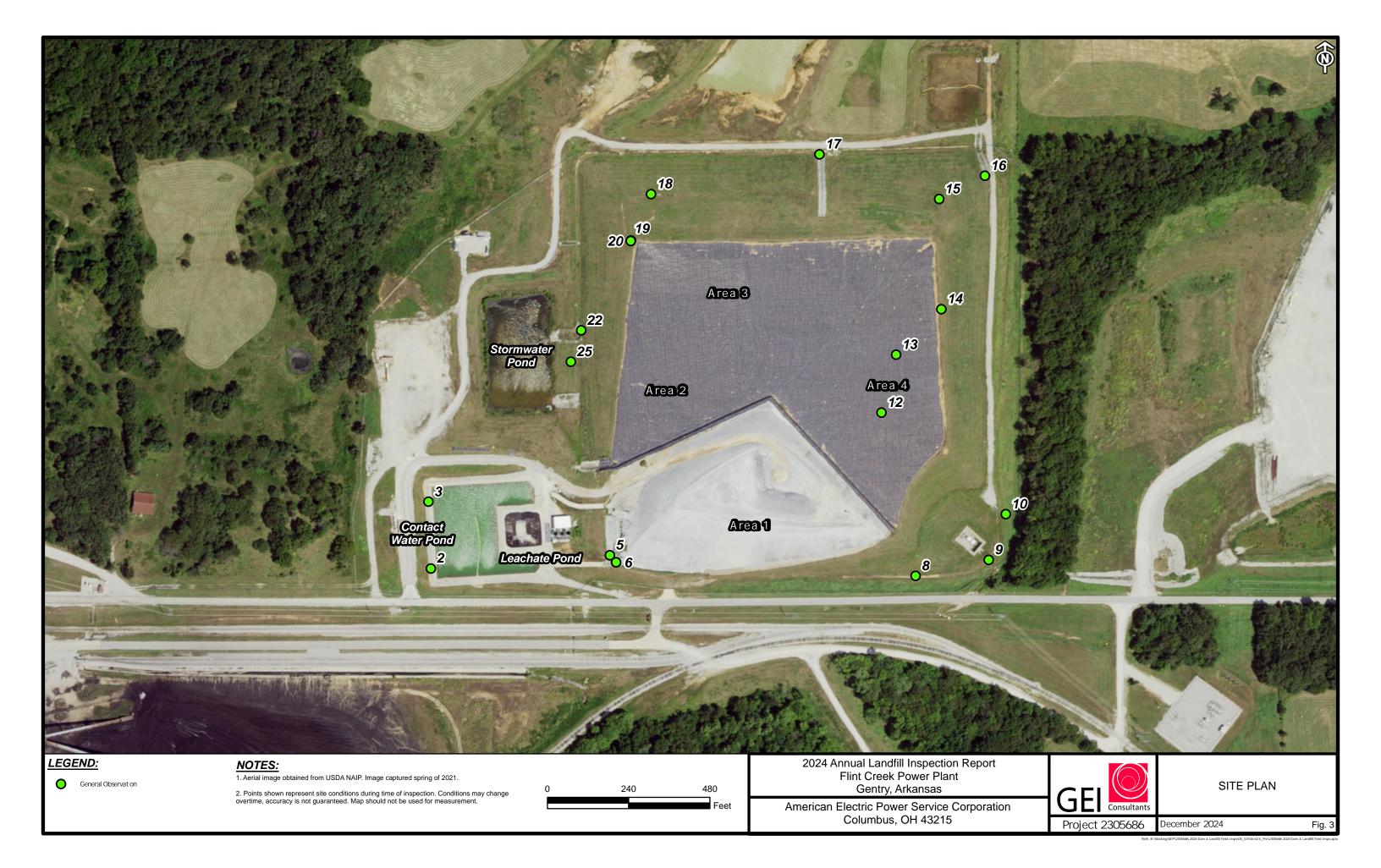


## Figure 2 – Facility Plan



November 2024

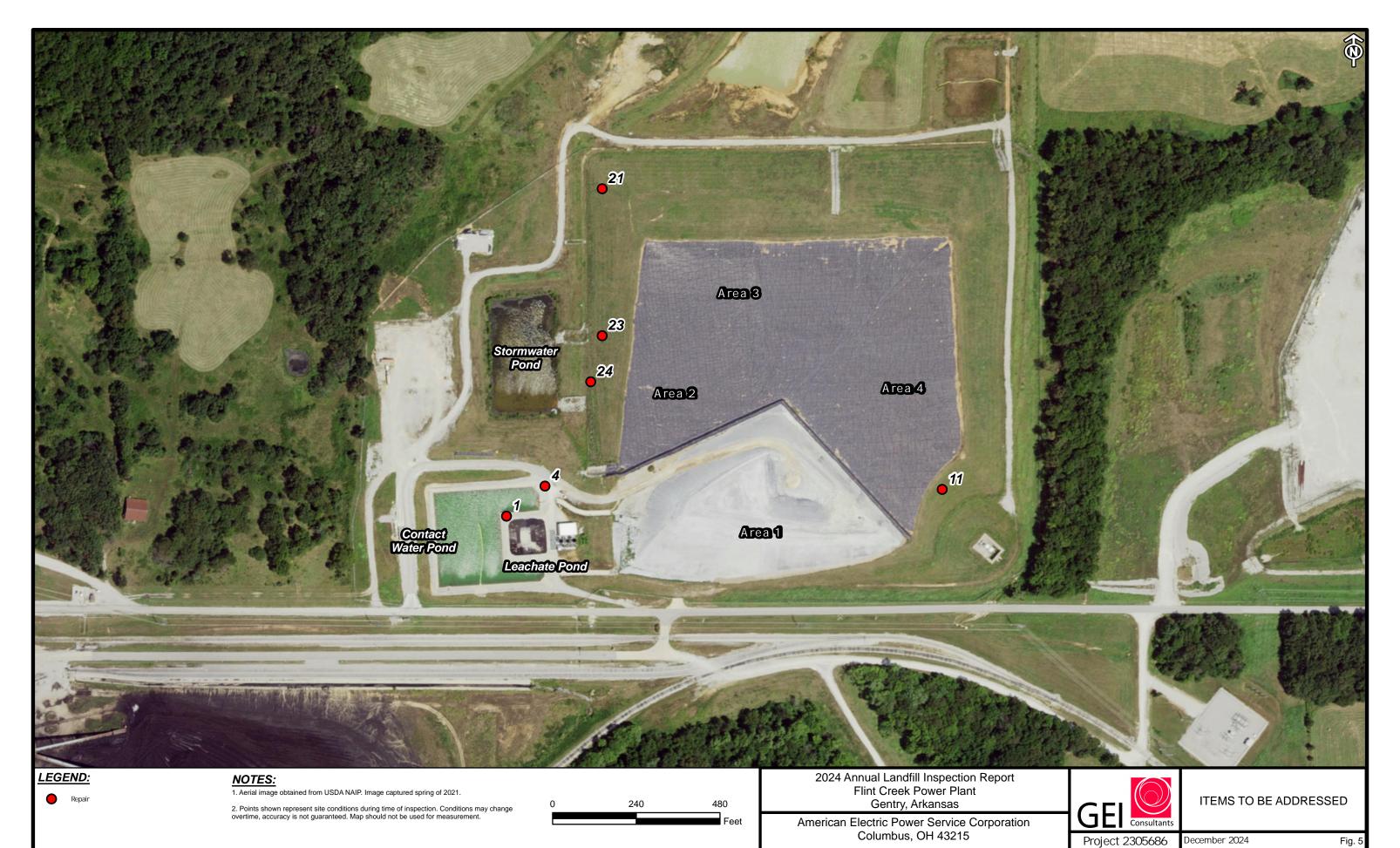
## Figure 3 – Site Plan



## Figure 4 – Items to be Monitored



## Figure 5 – Items to be Addressed



## Appendix A – Photolog



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

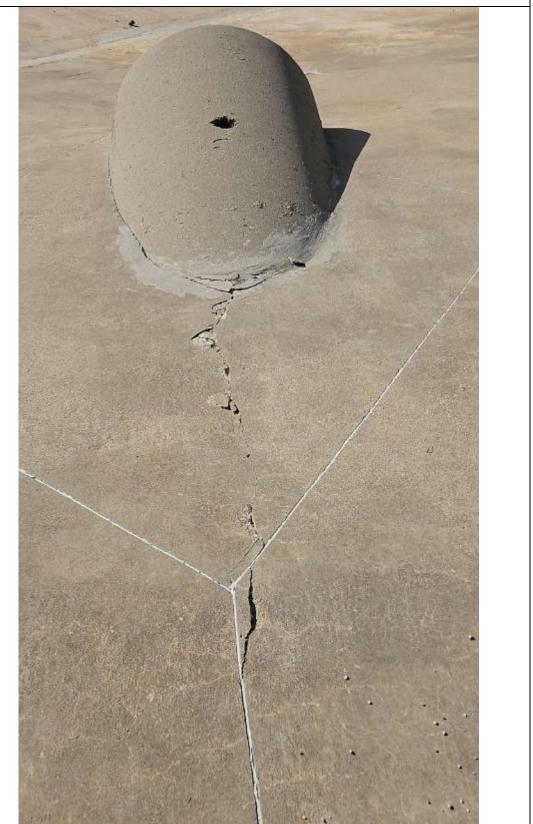
Рнотодгарн No: 1	DATE:	LATITUDE:	LONGITUDE:
	November 7, 2024 1:50 PM	36.25797743	-94.51715092

**DIRECTION:** 273° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Leachate Pond. Inlet Pipe. Address concrete cracks, with polyurethane sealant such Sonolastic NP1.

рното ву:





Project: Flint Creek Landfill Inspection

Client: American Electric Power GEI Project: 2305686

PHOTOGRAPH NO: 2	DATE:	LATITUDE:	LONGITUDE:
PHOTOGRAPH NO: 2	November 7, 2024 1:56 PM	36.25752052	-94.51788854

**DIRECTION:** 356° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Contact Water Pond. General Photo, Typical Conditions.



#### рното ву:

#### **GEI CONSULTANTS, INC.**

PHOTOGRAPH NO: 3	<b>DATE:</b> November 7, 2024 1:59 PM	LATITUDE: 36.25806131	<b>Longitude:</b> -94.5178897
DIRECTION: 349°	SITE LOCATION: GENTRY, ARKANSAS		

### DESCRIPTION:

Contact Water Pond. General Photo, Typical Conditions.



#### рното ву:



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

	LONGITUDE:
Рнотодгарн No: 4         November 7, 2024 2:02 PM         36.25820469	94.51676464

**DIRECTION:** 219° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Contact Water Pond. Address concrete cracks, with polyurethane sealant such Sonolastic NP1.

рното ву:





Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

BUOTOCRADU NO. E	DATE:	LATITUDE:	LONGITUDE:
PHOTOGRAPH NO: 5	November 7, 2024 2:05 PM	36.25757628	-94.51609106

**DIRECTION:** 281° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Landfill Downstream Slope. General Photo, Typical Conditions.



#### рното ву:

### GEI CONSULTANTS, INC.

Рнотодгарн No: 6	<b>DATE:</b> November 7, 2024 2:06 PM	<b>Latitude:</b> 36.25751826	LONGITUDE: -94.51603217
DIRECTION: 6°	SITE LOCATION: GENTRY ARKANSAS		

### **DESCRIPTION:**

Landfill Downstream Slope. General Photo, Typical Conditions.



#### рното ву:



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

Buotospanu No. 7	DATE:	LATITUDE:	LONGITUDE:
PHOTOGRAPH NO: 7	November 7, 2024 2:12 PM	36.25733493	-94.51373109

**DIRECTION:** 273° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Landfill Downstream
Slope. Potential lateral
crack, approx 25 ft long,
along the edge of the
berm, approximately 75 ft
east of B5. Stable at the
time of the inspection.
Monitor Conditions.

### рното ву:





Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

PHOTOGRAPH NO: 8	DATE:	LATITUDE:	LONGITUDE:
	November 7, 2024 2:18 PM	36.2573239	-94.513038

**DIRECTION:** 209° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Landfill Downstream Slope. General Photo, Typical Conditions.



#### рното ву:

GEI CONSULTANTS, INC.

PHOTOGRAPH NO: 9	<b>DATE:</b> November 7, 2024 2:20 PM	LATITUDE: 36.25743271	LONGITUDE: -94.51230031
DIRECTION: 219°	SITE LOCATION: GENTRY, ARKANSAS		

### DESCRIPTION:

Landfill Downstream Slope / Drainage Feature. General Photo, Typical Conditions.



#### РНОТО ВҮ:



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

PHOTOGRAPH NO: 10	<b>DATE:</b> November 7, 2024 2:26 PM	<b>Latitude:</b> 36.25779879	Longitude: -94.51211408
direction: 262°	SITE LOCATION: GENTRY, ARKANSAS		3 113 - 12 133
DESCRIPTION:			
Landfill Interim Cover. General Photo, Typical Conditions.			

рното ву:



Project: Flint Creek Landfill Inspection
Client: American Electric Power

American Electric Power **GEI Project**: 2305686

PHOTOGRAPH NO: 11	<b>DATE:</b> November 7, 2024 2:29 PM	<b>Latitude:</b> 36.25806984	<b>LONGITUDE:</b> -94.5129056
DIRECTION: 313°	SITE LOCATION: GENTRY, ARKANSAS		

#### **DESCRIPTION:**

Landfill Interim Cover. Address Minor Erosion, 90 ft north of Fabiform Letdown chute.

### рното ву:





Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

PHOTOGRAPH NO: 12	DATE:	LATITUDE:	LONGITUDE:
	November 7, 2024 2:37 PM	36.25865816	-94.51332411

**DIRECTION:** 161° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Landfill Crest. Interim Cover. General Photo, Typical Conditions.



#### рното ву:

### **GEI CONSULTANTS, INC.**

Рнотодгарн No: 13	<b>DATE:</b> November 7, 2024 2:40 PM	LATITUDE: 36.25912305	<b>LONGITUDE:</b> -94.51315677
DIRECTION: 200°	SITE LOCATION: GENTRY, ARKANSAS		

### DESCRIPTION:

Landfill Active Area. General Photo, Typical Conditions.



#### рното ву:



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

Duotochanu No. 14	DATE:	LATITUDE:	LONGITUDE:
PHOTOGRAPH NO: 14	November 7, 2024 2:44 PM	36.25948009	-94.51268775

**DIRECTION:** 87° **SITE LOCATION:** GENTRY, ARKANSAS

**DESCRIPTION:** 

Landfill Downstream Slope. General Photo, Typical Conditions.



рното ву:

**GEI CONSULTANTS, INC.** 

PHOTOGRAPH NO: 15	<b>DATE:</b> November 7, 2024 2:47 PM	LATITUDE: 36.26037419	Longitude: -94.5126738
DIRECTION: 284°	SITE LOCATION: GENTRY, ARKANSAS		

**DESCRIPTION:** 

Stormwater Pond. General Photo, Typical Conditions.



РНОТО ВҮ:

GEI CONSULTANTS, INC.



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

PHOTOGRAPH NO: 16	<b>DATE:</b> November 7, 2024 2:49 PM	<b>L</b> ATITUDE: 36.26055028	<b>Longitude:</b> -94.51220734		
direction: 267°	SITE LOCATION: GENTRY, ARKANSAS	SITE LOCATION: GENTRY, ARKANSAS			
DESCRIPTION:					
Stormwater Pond. Inlet Works / Stormwater Features, Letdown Channel. General Photo, Typical Conditions. No debris / blockages observed.					
РНОТО ВҮ:					



Project: Flint Creek Landfill Inspection
Client: American Electric Power

American Electric Power GEI Project: 2305686

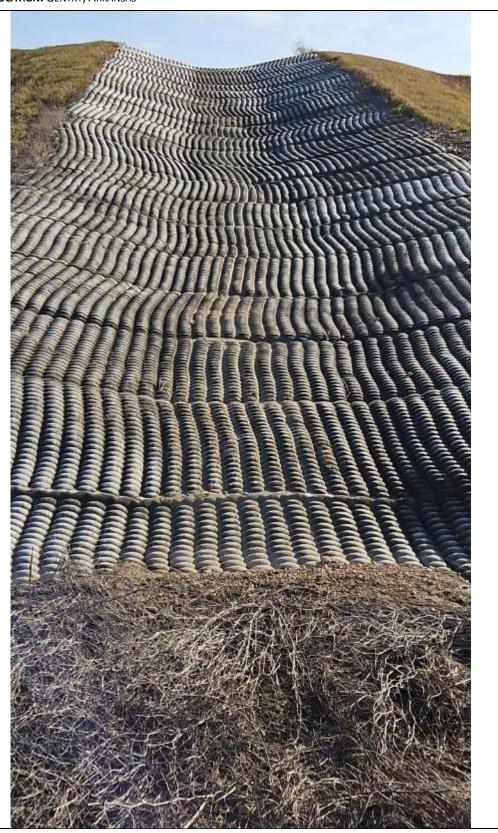
PHOTOGRAPH No: 17	DATE:	LATITUDE:	LONGITUDE:
	November 7, 2024 2:55 PM	36.26076979	-94.51385411

DIRECTION: 179° SITE LOCATION: GENTRY, ARKANSAS

#### **DESCRIPTION:**

Landfill Downstream Slope / Drainage feature. Fabri-form Letdown Channel. General Photo, Typical Conditions.

рното ву:





Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

PHOTOGRAPH NO: 18	DATE:	LATITUDE:	LONGITUDE:
	November 7, 2024 3:04 PM	36.26049399	-94.51555491

**DIRECTION:** 2° **SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

Landfill Downstream Slope. General Photo, Typical Conditions.



#### рното ву:

### GEI CONSULTANTS, INC.

PHOTOGRAPH NO: 19	<b>DATE:</b> November 7, 2024 3:07 PM	<b>LATITUDE:</b> 36.26012417	<b>LONGITUDE:</b> -94.51577145
DIRECTION: 356°	SITE LOCATION: GENTRY ARKANSAS		

### **DESCRIPTION:**

Landfill Downstream Slope. General Photo, Typical Conditions.



### рното ву:



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

PHOTOGRAPH NO: 20	DATE:	LATITUDE:	LONGITUDE:
PHOTOGRAPH NO: 20	November 7, 2024 3:09 PM	36.26011998	-94.51577381

DIRECTION: 131° SITE LOCATION: GENTRY, ARKANSAS

**DESCRIPTION:** 

Stormwater Pond. General Photo, Typical Conditions.



рното ву:

**GEI CONSULTANTS, INC.** 

PHOTOGRAPH NO: 21	<b>DATE:</b>	LATITUDE:	LONGITUDE:
	November 7, 2024	NA	NA
DIRECTION: NA	SITE LOCATION: GENTRY ARKANSAS		

**DESCRIPTION:** 

Landfill Downstream Slope. Address minor erosion.



РНОТО ВҮ:

GEI CONSULTANTS, INC.



Project: Flint Creek Landfill Inspection
Client: American Electric Power

**GEI Project**: 2305686

	•			
PHOTOGRAPH NO: 22	DATE: November 7, 2024	LATITUDE: NA	Longitude: NA	
DIRECTION: NA	SITE LOCATION: GENTRY, ARKANSAS			
DESCRIPTION:				
Landfill Stormwater Feature / Fabriform down chute. General Photo, Typical Conditions.				
РНОТО ВҮ:				

PHOTOGRAPH NO: 23	<b>DATE:</b> November 7, 2024 3:04 PM	LATITUDE: NA	Longitude: NA	
DIRECTION: NA	SITE LOCATION: GENTRY, ARKANSAS	1		
DESCRIPTION:				
Landfill Downstream Slope. Address minor erosion.  PHOTO BY:				
GEI CONSULTANTS, INC.				



Project: Flint Creek Landfill Inspection

Client: American Electric Power GEI Project: 2305686

PHOTOGRAPH NO: 24	DATE: November 7, 2024	LATITUDE: NA	Longitude: NA		
DIRECTION: NA	SITE LOCATION: GENTRY, ARKANSAS				
DESCRIPTION:					
Landfill toe of slope. Address minor erosion.					
рното ву:					

PHOTOGRAPH NO: 25  Date:  November 7, 2024  NA  LATITUDE:  NA  NA  NA	PHOTOGRAPH No: 25			
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**SITE LOCATION:** GENTRY, ARKANSAS

#### **DESCRIPTION:**

DIRECTION: NA

**GEI CONSULTANTS, INC.** 

Landfill Stormwater Feature / Fabriform down chute. General Photo, Typical Conditions.



рното ву: