



**2024 VISUAL SITE INSPECTION
AES INDIANA PETERSBURG RESTRICTED WASTE TYPE III LANDFILL
SOLID WASTE FACILITY PERMIT NO. FP63-02**

AES INDIANA PETERSBURG GENERATING STATION
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA 47567

ATLAS PROJECT NO. 170AES0005

DECEMBER 2024

PREPARED FOR:

AES INDIANA
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA 47567

ATTENTION: MR. BRADEN HENSON



Atlas Technical Consultants

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December 9, 2024

Mr. Braden Henson
Team Leader
AES Indiana
6925 North State Road 57
Petersburg, Indiana 47567-0436

**Re: 2024 Visual Site Inspection
Petersburg Restricted Waste Type III Landfill
Solid Waste Facility Permit No. FP 63-02
AES Indiana
Petersburg Generating Station
Petersburg, Indiana
ATLAS Project No. 170AES0005**

Dear Mr. Henson:

Atlas Technical Consultants (Atlas) gladly presents the findings of the October 1, 2024 Visual Site Inspection of the AES Indiana (AES) Petersburg Generating Station Type III Restricted Waste Landfill. This visual inspection and report were done in accordance with guidelines established by the Coal Combustion Residuals (CCR) Rule published by the Environmental Protection Agency (EPA) on April 17, 2015.

The scope of this inspection included an examination of readily observable surficial features of the landfill and its appurtenant structures, and a review of information provided by AES. Please note that the inspection did not include any test drilling, testing of materials, precise physical measurements of landfill features, detailed calculations to verify slope stability, or other engineering analyses. Although the inspection was conducted by competent personnel in accordance with generally accepted methods for inspecting landfills, it should not be considered as a warranty or guaranty of the future performance/safety of the landfill.

The Petersburg Generating Station Type III Restricted Waste (RWS III) Landfill is located about four (4) miles north of the City of Petersburg in Pike County, Indiana west of State Road 57 (Figure 1). The landfill encompasses an area of approximately 122.1 acres inside the Solid Waste Boundary (Figure 2). The Petersburg RWS III Landfill operates under Indiana Department of Environmental Management (IDEM) Permit Number 63-2.

Juan Carrizo and Asma Rony of Atlas completed the landfill inspection on September 26, 2024. The weather conditions during the inspection were between 57°F and 70°F and sunny.

This report summarizes the engineering observations of the landfill including the condition of the cover soils, grading and erosion, vegetation, haul roads, perimeter ditches, downdrain channels, riprap areas, culverts, and other adjacent structures. The attached Site Plan shown in Figure 3 of this report highlights the landfill system features.

Atlas performed the 2024 annual inspection to address the standards and guidelines required by the CCR Rule instituted by the Environmental Protection Agency on April 17, 2015. As a result, CCR Landfills are now required to meet the requirements of 40 C.F.R. §257 to conduct annual inspections of the landfill in accordance with 40 C.F.R. §257.84(b). The requirements specified within the CCR Rule include:

- i. Any changes in geometry of the structure since the previous annual inspection.
- ii. The approximate volume of CCR contained in the unit at the time of inspection.
- iii. Any appearances of an actual or potential structural weakness of the CCR unit.
- iv. Any other change (s) which may have affected the stability or operation of the CCR Unit since the last annual inspection.

The following sections address these requirements and Atlas' observations made during the annual inspection.

Changes in Structural Geometry

There were no observed geometry changes during the 2024 Petersburg visual landfill inspection. Waste placement has paused at the landfill and all areas are under final or intermediate cover. Engineering observations were grouped into two inspection zones shown in Figure 3, 2024 Visual Site Inspection Grid Map.

The zone descriptions, observations, and recommendations are as follows:

Zone A Partial Closure Area – North and West Side-slopes

A 33.8-acre area on the northern and western slopes of the landfill have received partial closure certification from the Indiana Department of Environmental Management (IDEM). In general, this area has a good soil cover and is well-vegetated. Since the time of the 2021 inspection, additional improvements have been made to fill in ruts and over-seed sparsely vegetated areas.

1. Good vegetation exists overall in most of the north and west side partial closure areas other than some bare spots observed. (e.g., Location ID 8, 10, and 11).
 - o Recommendation: Repair the soil cover and overseed these areas to establish a protective grass cover.
2. Erosion of side slope observed on the north side of the landfill (Location ID 11).
 - o Recommendation: Repair eroded soil cover and overseed the area to establish a protective grass cover.

3. Animal burrow observed on the north side slope of the landfill (Location ID 12).
 - Recommendation: Fill in and repair the soil cover and overseed the area to establish a protective grass cover.
4. Overgrown vegetation observed on riprap channel section located on the northeast side of the landfill (Location ID 8, 24, and 25).
 - Recommendation: Trim and remove the overgrown vegetation to maintain channel flow capacity.
5. Down drainpipes on the northwest slope of the landfill are covered with debris and vegetation.
 - Recommendation: Trim and remove the overgrown vegetation and debris to maintain channel flow capacity.

Zone B Intermediate Cover Area – Top East and South Side slopes

In 2017, a soil cover was applied to the top, east, and south side slopes of the landfill, and new vegetation was established. Terrace and riprap down chute channels were added or improved to accommodate the addition of the new soil and vegetative cover.

1. Good vegetation exists along much of the south end of the landfill, the top of landfill, and the east slope other than a few bare spots. (Location ID 2 and 7).
 - Recommendation: Repair the soil cover and overseed these areas to establish a protective grass cover.
2. Overgrown vegetation observed on riprap channel section located on the northeast side of the landfill (Location ID 3, 5, 14, 17, 18, 20, 21, 22, and 25).
 - Recommendation: Trim and remove the overgrown vegetation to maintain channel flow capacity.
3. Down drainpipes on the east slope of the landfill are covered with debris and vegetation (Location ID 4).
 - Recommendation: Trim and remove the overgrown vegetation to maintain channel flow capacity.
4. Animal borrows were observed on the north side of the landfill (Photo ID 14).
 - Recommendation: Repair the soil cover and overseed the area to establish a protective grass cover.

CCR Volume

There is a 43-acre expansion area east of the existing landfill which has been approved as a Type I landfill, this area has not been developed at this time. Currently, landfill operations have been confined to the original landfill footprint and waste placement has been paused.

Based on AES surveying information, there is approximately 7,043,808 cubic yards of CCR material placed in the landfill unit.

Structural Integrity

All landfill slopes appear to be stable with no visual indications or signs of sloughing or subsidence detected during the 2024 visual inspection.

Stability and Operation

The landfill is generally in good condition and well vegetated in most places. Minor cover and waste erosion were noted and should be repaired at the earliest opportunity. Operation of the landfill unit is not expected to be adversely affected by any items detected during the 2024 inspection.

We appreciate the opportunity to assist you with this project. If you have any questions concerning any information contained in this report, please do not hesitate to call the undersigned at 317.849.4990.

Sincerely,

Atlas Technical Consultants L.L.C.



Juan Carrizo, P.E.
Senior Project Engineer



Asma Rony, Ph.D.
Staff Scientist

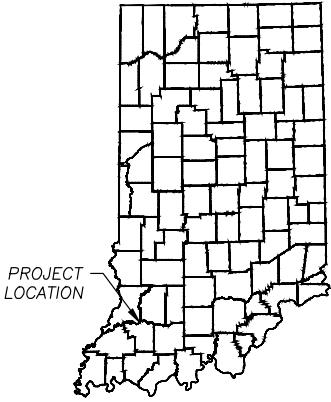
Copies: Jeff Harter (1)

Attachments:

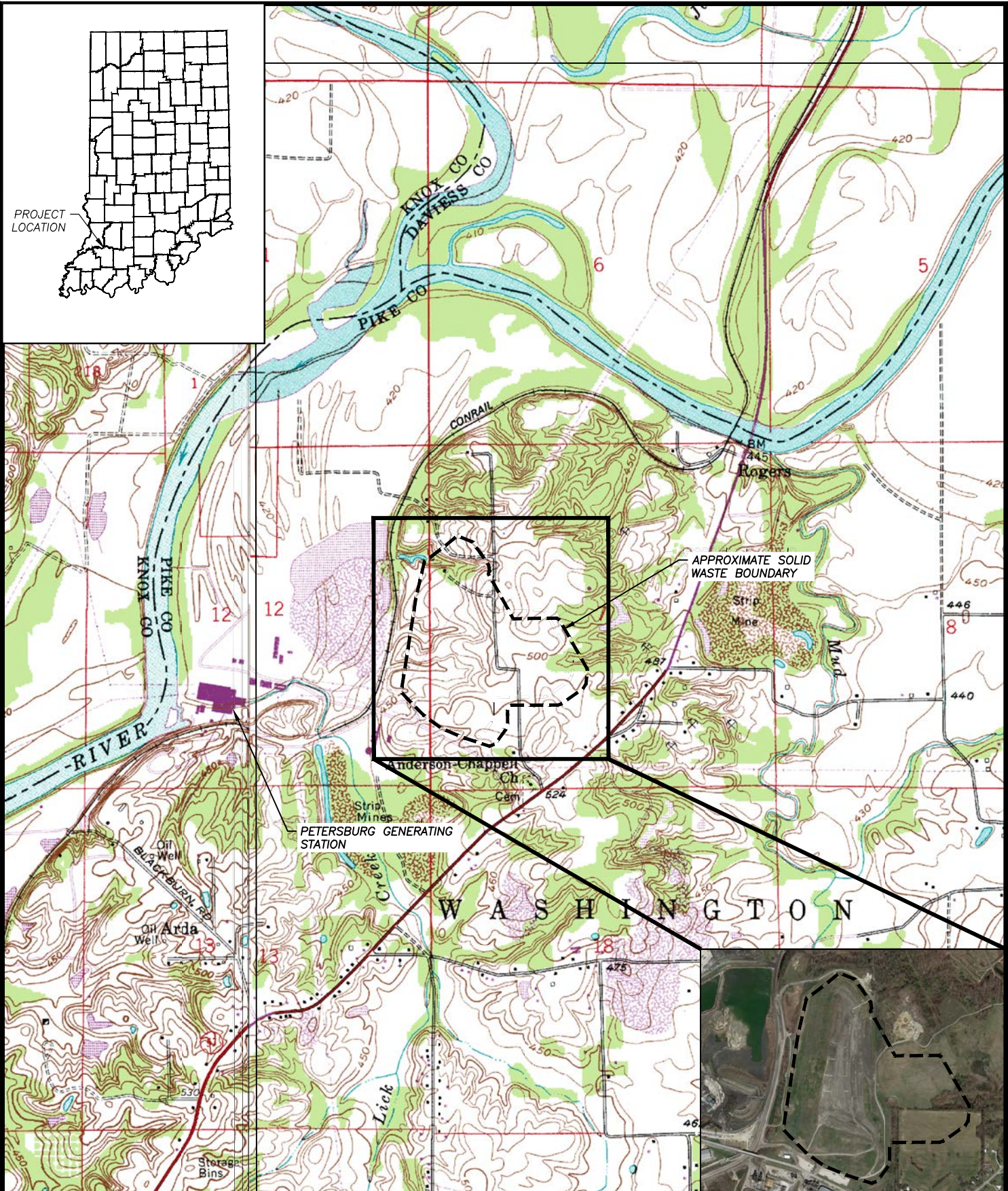
- Figure 1 Vicinity Map
- Figure 2 CCR Disposal Facilities
- Figure 3 Visual Site Inspection Grid
- Inspection Photo Log



12/09/2024



PROJECT LOCATION



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VICINITY MAP


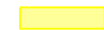

AES PETERSBURG RESTRICTED WASTE TYPE III LANDFILL
 AES INDIANA
 6925 NORTH STATE ROAD 57
 PETERSBURG, INDIANA

Project Number: 170AES0005		Drn. By: BH
Date: 12/06/2024	Scale: AS SHOWN	Ckd. By: JC

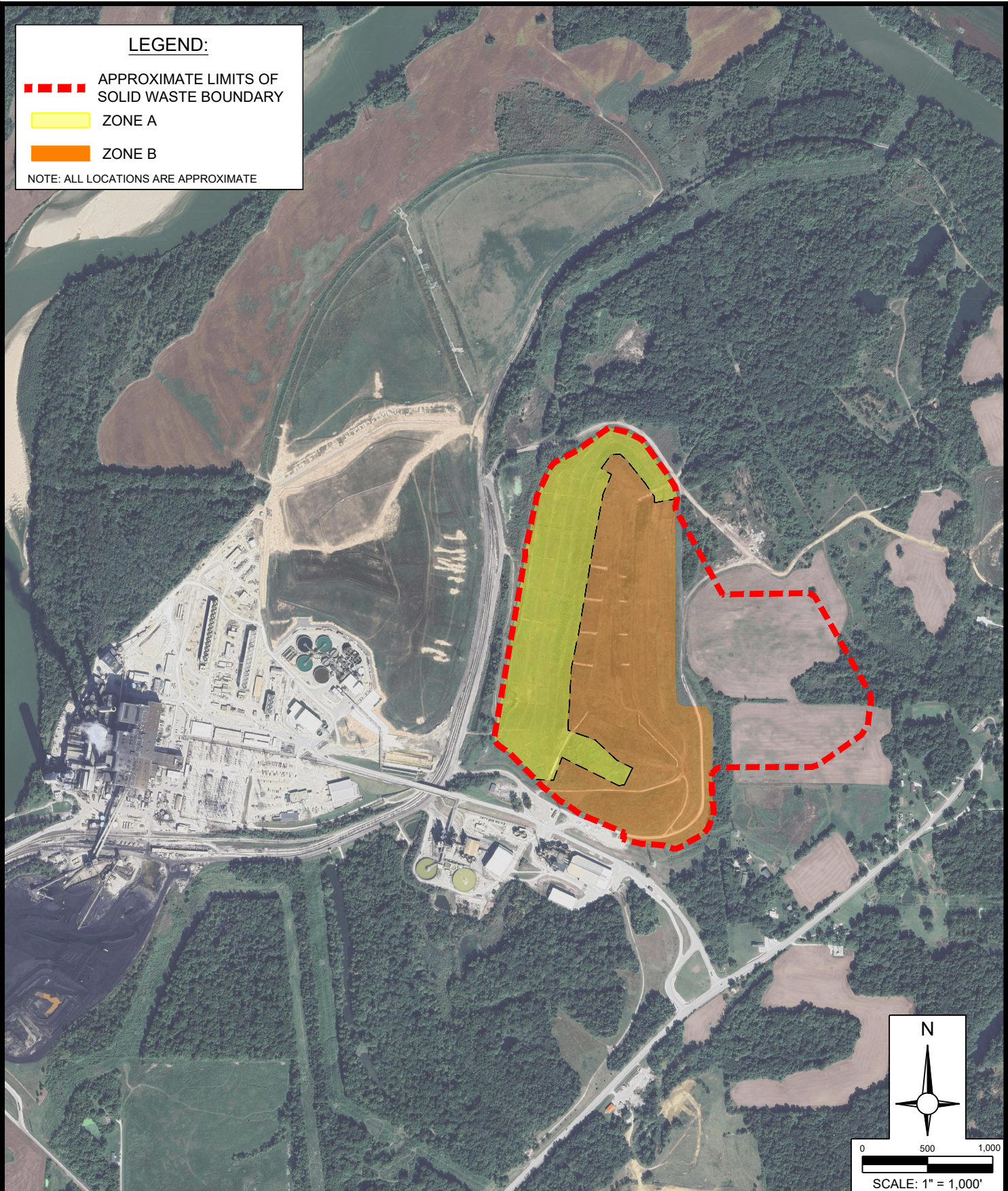


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LEGEND:

-  APPROXIMATE LIMITS OF SOLID WASTE BOUNDARY
-  ZONE A
-  ZONE B

NOTE: ALL LOCATIONS ARE APPROXIMATE



0 500 1,000

SCALE: 1" = 1,000'

CCR DISPOSAL FACILITIES CCR LANDFILL ANNUAL INSPECTION REPORT

AES PETERSBURG RESTRICTED WASTE TYPE III LANDFILL
AES INDIANA
6925 NORTH STATE ROAD 57
PETERSBURG, INDIANA

Project Number:
170AES0005

Date:
12/06/2024

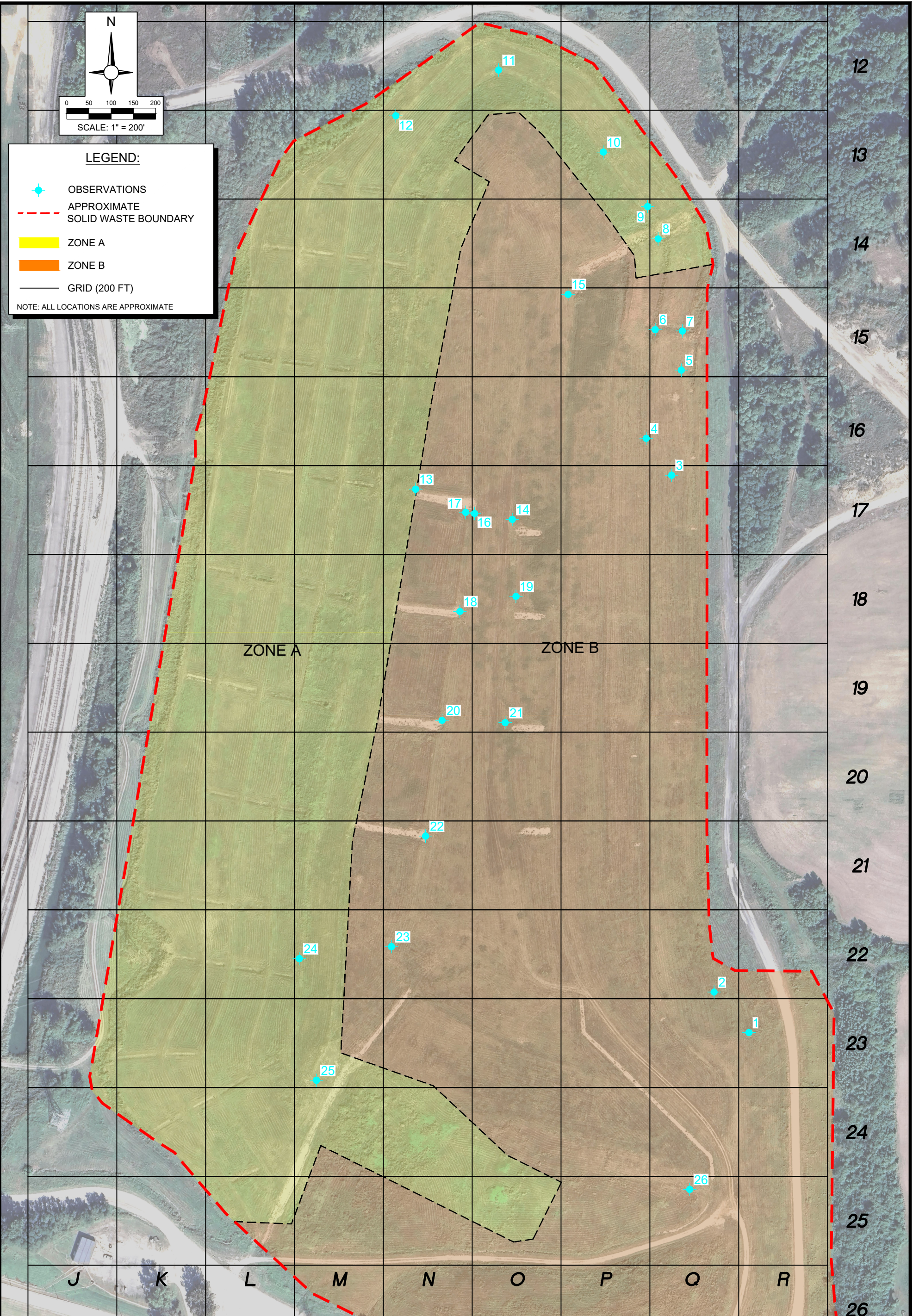
Scale:
AS SHOWN

Drn. By:
BH

Ckd. By:
JC



2



LEGEND:



- ◆ OBSERVATIONS
- - - APPROXIMATE SOLID WASTE BOUNDARY
- ZONE A
- ZONE B
- GRID (200 FT)



NOTE: ALL LOCATIONS ARE APPROXIMATE


3	Figure:	AS SHOWN
	Scale:	AS SHOWN
	Dwn. By:	BH
	Chk. By:	JC
Date:	12/06/2024	
Project Number:	170AES0005	



2024 VISUAL SITE INSPECTION GRID MAP
AES PETERSBURG RESTRICTED WASTE TYPE III LANDFILL
 AES PETERSBURG ASH POND SYSTEM
 AES INDIANA
 6925 STATE ROAD 57
 PETERSBURG, INDIANA







Grid ID R-23	Location ID 1	
Date October 1, 2024		
Description: Vegetation well established on the east side of the landfill. Photo looking north. No issues observed.		
Grid ID Q-22	Location ID 2	
Date October 1, 2024		
Description: Sparse vegetation and bare spots on the east slope of the landfill. Photo looking northeast. Recommend reseeding bare areas to prevent erosion.		



Grid ID Q-17	Location ID 3	
Date October 1, 2024		
Description: Overgrown vegetation within interceptor channel on northeast slope of the landfill. Photo looking east. Removal of vegetation within riprap channel is recommended.		
Grid ID P-16	Location ID 4	
Date October 1, 2024		
Description: Down drainpipes on the east slope of the landfill are covered with debris and vegetation. Recommend removal of vegetation from pipe entrance.		



Grid ID Q-15	Location ID 5	
Date October 1, 2024		
Description: Overgrown vegetation at down drain channel on the northeast slope of landfill. Photo looking south. Recommend removal of vegetation.		
Grid ID Q-15	Location ID 6	
Date October 1, 2024		
Description: Down drainpipes on the northeast slope of the landfill are covered with vegetation. Recommend removal of vegetation from pipe entrance.		



Grid ID Q-15	Location ID 7	
Date October 1, 2024		
Description: Sparse vegetation and bare spots on the east slope of the landfill. Photo looking northeast. Recommend reseeding bare areas to prevent erosion.		
Grid ID Q-14	Location ID 8	
Date October 1, 2024		
Description: Sparse vegetation, overgrown vegetation and bare spots on the northeast slope of the landfill. Photo looking northeast. Recommend reseeding bare areas to prevent erosion and removal of overgrown vegetation.		



Grid ID P-14	Location ID 9	
Date October 1, 2024		
Description: Overgrown vegetation within downdrain channel on northeast slope of the landfill. Photo looking northeast. Recommend removal of vegetation within riprap channel.		
Grid ID P-13	Location ID 10	
Date October 1, 2024		
Description: Bare spots on the northwest slope of the landfill. Photo looking south. Recommend reseeding bare areas to prevent erosion.		



Grid ID O-12	Location ID 11	
Date October 1, 2024		
Description: Erosion occurring along north slope. Photo looking south. Recommend re-seed bare spots to prevent erosion and maintain proper grass cover.		
Grid ID N-13	Location ID 12	
Date October 1, 2024		
Description: Animal burrow on the northwest side slope of the landfill. Photo looking east. Recommend repair and reseeding bare areas to prevent erosion.		



Grid ID N-13	Location ID 13	
Date October 1, 2024		
Description: Vegetation well established on top west slope of the landfill. No issues observed. Photo looking southeast.		
Grid ID O-17	Location ID 14	
Date October 1, 2024		
Description: Animal burrow on the top cover of the landfill. Photo looking south. Recommend repair and reseeded bare areas to prevent erosion.		



Grid ID M-17	Location ID 15	
Date October 1, 2024		
Description: Overgrown vegetation within interceptor channel on top slope of the landfill. Photo looking northeast. Removal of vegetation within riprap channel is recommended.		
Grid ID O-17	Location ID 16	
Date October 1, 2024		
Description: Overgrown vegetation within interceptor channel on top slope of the landfill. Photo looking west. Removal of vegetation within riprap channel is recommended.		

Grid ID N-17	Location ID 17	
Date October 1, 2024		
Description: Vegetation well established on top slope of the landfill. Photo looking south. No issues observed.		
Grid ID N-18	Location ID 18	
Date October 1, 2024		
Description: Overgrown vegetation within down drain channel on west top slope of the landfill. Photo looking west. Recommend removal of vegetation within riprap channel.		

Grid ID O-18	Location ID 19	
Date October 1, 2024		
Description: Overgrown vegetation within downrain channel on east top slope of the landfill. Photo looking east. Recommend removal of vegetation within riprap channel.		
Grid ID N-19	Location ID 20	
Date October 1, 2024		
Description: Overgrown vegetation within downrain channel on west top slope of the landfill. Photo looking west. Recommend removal of vegetation within riprap channel.		

Grid ID O-19	Location ID 21	
Date October 1, 2024		
Description: Sparse vegetation, overgrown vegetation and bare spots on the top of the landfill. Photo looking east. Recommend reseeding bare areas to prevent erosion and remove overgrown vegetation.		
Grid ID N-21	Location ID 22	
Date October 1, 2024		
Description: Overgrown vegetation within down drain channel on west top slope of the landfill. Photo looking west. Recommend removal of vegetation within riprap channel.		

Grid ID N-22	Location ID 23	
Date October 1, 2024		
Description: Overgrown vegetation on the west top slope of the landfill. Photo looking west. Recommend removal of vegetation within riprap channel.		
Grid ID M-22	Location ID 24	
Date October 1, 2024		
Description: Overgrown vegetation within downdrain channel on southwest top slope of the landfill. Photo looking west. Recommend removal of vegetation within riprap channel.		

Grid ID M-23	Location ID 25	
Date October 1, 2024		
Description: Overgrown vegetation within downdrain channel on southwest slope of the landfill. Photo looking west. Recommend removal of vegetation within riprap channel.		
Grid ID O-18	Location ID 26	
Date October 1, 2024		
Description: Vegetation well established on south slope of the landfill. Photo looking southwest. No issues observed.		