



**OHIO VALLEY ELECTRIC CORPORATION**

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WRITER'S DIRECT DIAL NO:  
740-897-7768

January 18, 2021

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Ms. Laurie Stevenson  
Director  
Ohio Environmental Protection Agency  
50 West Town Street, Suite 700  
P.O. Box 1049  
Columbus, OH 43216-1049

**Re: Ohio Valley Electric Corporation  
Kyger Creek Station  
Notification of CCR Rule Information Posting  
Annual Certified CCR Surface Impoundment Inspection Report**

Dear Ms. Stevenson:

As required by 40 CFR 257.106(g), the Ohio Valley Electric Corporation (OVEC) is providing notification to the State Director of the Ohio Environmental Protection Agency that a qualified professional engineer has completed the Annual CCR Surface Impoundment Inspection in accordance with 40 CFR 257.83(b) for OVEC's Kyger Creek Station. The inspection report has been placed in the facility's Operating Record as well as on the company's publically accessible internet site.

This information can be viewed on OVEC's publicly accessible internet site at:  
<http://www.ovec.com/CCRCompliance.php>

If you have any questions, or require any additional information, please call me at (740) 897-7768.

Sincerely,

A handwritten signature in black ink that reads "Tim Fulk". The signature is written in a cursive, slightly slanted style.

Tim Fulk  
Engineer II

TLF:klr

# **2020 Annual Dam and Dike Inspection Report**

**Bottom Ash Pond Complex  
South Fly Ash Pond**

**Kyger Creek Plant  
Ohio Valley Electric Corporation (OVEC)  
Gallia County, Ohio**

**October 2020**

Prepared for: Ohio Valley Electric Corporation (OVEC)  
3932 U.S. Route 23  
P.O. Box 468  
Piketon, Ohio 45661

Prepared by: American Electric Power Service Corporation  
One Riverside Plaza  
Columbus, OH 43215



**GERS -20- 030**


# 2020 Annual Dam and Dike Inspection Report

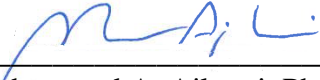
## Kyger Creek Plant

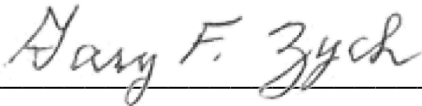
## Bottom Ash Pond Complex & South Fly Ash Pond

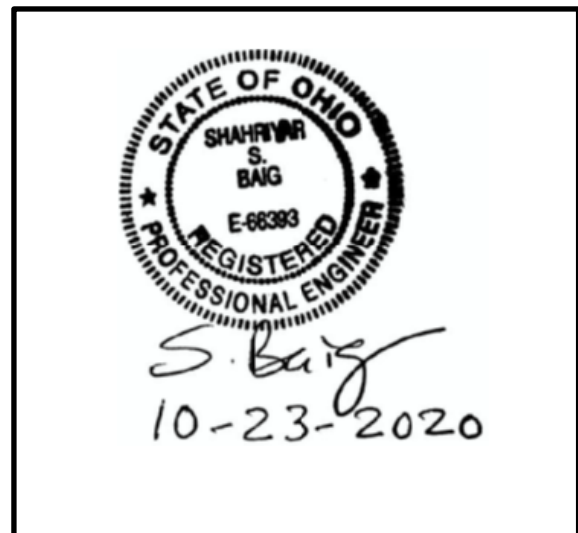
Date of Inspection: September 29, 2020

Document Number: GERS-20-030

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Manager – AEP Geotechnical Engineering



I certify to the best of my knowledge, information and belief the information contained in this report meets the requirements of 40 CFR § 257.83(b).

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***Kyger Creek Plant***

**Attachment A (Bottom Ash Complex)**

- Inspection Photographs

**Attachment B (Flyash Pond)**

- Inspection Photographs

## **1.0 INTRODUCTION**

This report was prepared by AEP- Geotechnical Engineering Services (GES) section, in part, to fulfill requirements of 40 CFR 257.83 and the Ohio Department of Natural Resource (ODNR), Division of Water Resources Dam Safety Program and to provide Ohio Valley Electric Corporation (OVEC) and Kyger Creek Station with an evaluation of the facility.

Mr. Paul Hutchins, of the Kyger Creek Station provided onsite coordination for inspection activities. The inspection was performed on September 29, 2020 by Mr. Shah Baig of AEPSC Geotechnical Engineering with Mr. Paul Hutchins of OVEC. Weather conditions was cloudy, visibility was good, light breeze, with temperatures in upper 50s F to low 70s F.

## **2.0 DESCRIPTIONS OF IMPOUNDMENTS**

Figure 1 depicts the location of the Kyger Creek plant and its ash ponds.

### **2.1 BOTTOM ASH POND COMPLEX**

Bottom Ash Complex consists of a Boiler Slag Pond (BAP) and a Clearwater Pond (CWP) separated by a Splitter Dike shown in Figure 1. The Ohio River runs parallel to the east dike and OH State Route 7 runs parallel to the west dike. The Bottom Ash Complex is located between SR 7 and Kyger Creek to the west and Ohio River to the east. Kyger Creek also runs parallel to the west section of the dike. The ODNR Inventory Number is 8712-014.

### **2.2 SOUTH FLY ASH POND**

The South Fly Ash Pond is one of two ash ponds that make up the Fly Ash Complex and which are separated by a splitter dike as shown in Figure 1. The second pond is the North Pond which has been capped and closed as part of the North Ash Pond Closure Project. The South Fly Ash Pond remains open and active as a part of the plant's fly ash sluicing operations. The South Fly Ash Pond is located along SR 7 just north of the Kyger Creek. The ODNR inventory number is 8712-013.

## **3.0 REVIEW OF AVAILABLE INFORMATION (257.83(b)(1)(i))**

A review of available information regarding the status and condition of the Bottom Ash Pond Complex and the South Fly Ash Pond, including files available in the operating record, such as design and construction information, previous periodic structural stability assessments, 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.

### **3.1 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, etc.) where the current maintenance condition is below what is normal or desired, but which is not currently causing concern from a structure's safety or stability point of view.
- Significant:** A reference to an observed item (e.g. erosion, seepage, vegetation, etc.) where the current maintenance program has neglected to improve the condition. Usually conditions that have been identified in the previous inspections, but have not been corrected.
- Excessive:** A reference to an observed item (e.g., erosion, seepage, vegetation, etc.) where the current maintenance condition is above or worse than what is normal or desired, and which may have affected the ability of the observer to properly evaluate the structure or particular area being observed or which may be a concern from a structure's safety or stability point of view.

This document also uses the definition of a "deficiency" as referenced in the CCR rule section §257.83(b)(5) Inspection Requirements for CCR Surface Impoundments. 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 as a deficiency are considered maintenance or items to be monitored.

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

#### **1. Uncontrolled Seepage**

Uncontrolled seepage is seepage that is not behaving as the design engineer has intended. An example of uncontrolled seepage is seepage that comes through or around the embankment and is not collected and safely carried off by a drain. Seepage that is collected by a drain can still be uncontrolled, if it is not safely transported, such as seepage that is not clear. Seepage that is unable to be measured and/or observed is considered uncontrolled seepage. [Wet or soft areas are not considered uncontrolled seepage, but they can lead to this type of deficiency. These areas should be monitored frequently.]

2. Displacement of the Embankment  
 Displacement of an embankment is a large scale movement of part of the dam. Common signs of displacement are cracks, scarps, settlement, bulges, depressions, sinkholes and slides.
3. Blockage of Water Control Features  
 Blockage of Water 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.

#### **4.0 INSPECTION (257.83(b)(1)(ii))**

##### **4.1 BOTTOM ASH POND COMPLEX**

##### **4.1.1 CHANGES IN GEOMETRY SINCE LAST INSPECTION (257.83(b)(2)(i))**

No modifications have been made to the geometry of the Bottom Ash Pond Complex since the 2019 annual inspection. The geometry of the impoundment has remained essentially unchanged.

##### **4.1.2 INSTRUMENTATION (257.83(b)(2)(ii))**

The location and type of instrumentation is shown on Figure 2. The maximum recorded readings of each instrument since the previous annual inspection is shown in Table 1 as follows.

Table 1 - Maximum recorded instruments reading since the previous annual inspection (BAP)

<b>INSTRUMENTATION DATA</b>			
<b>Bottom Ash Pond Complex</b>			
<b>Instrument</b>	<b>Type</b>	<b>Maximum Reading since last annual inspection</b>	<b>Date of reading</b>
KC-1015	Piezometer	549.07	4/14/2020
KC-1016	Piezometer	541.60	12/16/2019
KC-1017	Piezometer	547.19	10/18/2019
KC-1018	Piezometer	542.20	4/14/2020
KC-1021	Piezometer	543.62	5/14/2020
KC-1022	Piezometer	543.84	4/14/2020

##### **4.1.3 IMPOUNDMENT CHARACTERISTICS (257.83(b)(2)(iii, iv, v))**

Table 2 is a summary of the minimum, maximum, and present depth and elevation of the impounded water & CCR since the previous annual inspection; the storage capacity of the impounding structure at the time of the inspection; and the approximate volume of the impounded water and CCR at the time of the inspection.



Table 2 Summary of Relevant Storage Information (BAP)

<b>IMPOUNDMENT CHARACTERISTICS- Bottom Ash Pond Complex</b>		
	<b>Boiler Slag Pond</b>	<b>Clearwater Pond</b>
Approximate <b>Minimum</b> depth (elevation) of impounded water since last annual inspection	18 ft. (559)	8 ft. (549)
Approximate <b>Maximum</b> depth (elevation) of impounded water since last annual inspection	18.7ft. (559.7)	14.3 ft. (555.3)
Approximate <b>Present</b> depth of impounded water at the time of inspection	18.1ft. (559.2)	8.6 ft. (549.6)
Approximate <b>Minimum</b> depth (elevation) of CCR since last annual inspection	41ft. (582.0)*	N/A.
Approximate <b>Maximum</b> depth (elevation) of CCR since last annual inspection	41ft. (582.0)*	N/A
Approximate <b>Present</b> depth (elevation) of CCR at the time of inspection	41ft. (582.0)*	N/A
Storage Capacity of impounding structure at the time of inspection	610 ac-ft.	310 ac-ft.
Approximate volume of impounded water at the time of inspection	181 ac-ft.	53 ac-ft.
Approximate volume of CCR at the time of the inspection	300 ac-ft	N/A

\*Boiler slag is currently saved and stockpiled within the impoundment in preparation for the closing and capping of the pond in order to meet the USEPA CCR compliance rule.

**4.1.4 VISUAL INSPECTION (257.83(b)(2)(i))**

A visual inspection of the Bottom Ash Pond Complex was conducted to identify any signs of distress or malfunction of the impoundment and appurtenant structures. The inspection also included the hydraulic structures underlying the base of the dike. Specific items inspected included all structural elements of the dam such as inboard and outboard slopes, crest, and toe; as well as appurtenances such as the outlet structure at the Bottom Ash Pond and Clear Pond, and pipe discharge structure.

Overall the facility is in good condition and is being well maintained. The impoundment is functioning as intended with no signs of potential structural weakness or conditions which are disrupting to the safe operation of the impoundment. Inspection photograph locations are shown on Figure 3. Inspection photos are included in Attachment A. Additional pictures taken during the inspection can be made available upon request.

- (i) A typical view of the north dike upstream slope is illustrated in Photographs No. 1-3. These photographs depicts the east section of the dike. Overall, the upstream slope is in good condition. Minor vegetation growth (Photograph No. 2) was present along an area of the dike. A significant area to the east and south of the bottom ash pond consists of stockpiles of bottom ash in the anticipation of the pond closure project.
- (ii) Photograph No. 4 illustrates the condition of the discharge pipe in the northeast corner of the pond. The pipes appeared to be in fair, stable, and functional condition.
- (iii) A typical view of the downstream slope (east dike section) is illustrated in Photograph No. 5. The slope appeared in good and stable condition with controlled vegetation. The toe ditch indicated positive flow and no standing water. The downstream slope and the crest

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is illustrated in Photograph No. 6. The crest appeared in good and stable condition, minor erosion gullies were noticed at the upstream slope. The downstream slope of the west dike section is illustrated in Photograph No. 7. Matured trees and significant vegetation were present at the slope and toe ditch.

- (iv) Photographs No. 8 and 9 illustrates the upstream, downstream slopes, and crest of the east dike. The slope appeared in good and stable conditions with good vegetation cover. Minor rutting of the crest was observed.
- (v) The Outfall located adjacent to the clear water pond (CWP) and discharge water to the Ohio River appeared well protected from erosion and in satisfactory condition with proper outflow (Photograph No. 10). Access to the outfall was difficult due to steep slope and difficult terrain.
- (vi) The east dike upstream and downstream slopes at the CWP were in good and stable condition. Most of the areas on the upstream and downstream slope are good with controlled vegetation. The lower section of the upstream slope indicated minor sloughing (Photographs No. 11-14), possibly due to wave action. The overflow decant structure concrete, access deck, and walkway stairs appeared good, stable, and functioning as designed.
- (vii) An overall view of the south and west dikes crest and downstream slope is shown in the Photographs No. 15-17. The slope appeared in good, stable condition with controlled vegetation. Some of the full-grown, matured trees previously observed along the toe of the dike were removed.
- (viii) Photographs No. 18 and 19 illustrates the upstream slope of the west dike. The upstream slope indicated minor erosion and some vegetation growth at the toe. This area of the pond is occupied by substantial stockpiles of bottom ash.
- (ix) A typical condition of the splitter dike crest is illustrated in Photograph No. 20. The crest of the dike appears to be in good and stable condition with no significant settlement, or misalignment.
- (x) The decant structure at the splitter dike is illustrated in Photographs No. 21 and 22. The walkway, hand rail, metal walkway, visible concrete, floating deck, and stop logs appeared in fair and functioning conditions. The interior of the discharge structure is illustrated in Photograph No. 22 appeared to be functioning as designed

#### **4.1.5 EVALUATION OF INSTRUMENTATION**

The pond stages have remained fairly constant since the last annual inspection. A review of the piezometer readings indicates that no adverse trends were observed and the water level fluctuation is also responsive to changing Ohio River levels (Figure 4).

**4.1.6 CHANGES THAT EFFECT STABILITY OR OPERATION (257.83(b)(2)(vii))**

Based on interviews with plant personnel and field observations there were no changes to the Bottom Ash Pond Complex since the last annual inspection that would affect the stability or operation of the impounding structure.

**4.2 SOUTH FLY ASH POND**

**4.2.1 CHANGES IN GEOMETRY SINCE LAST INSPECTION (257.83(b)(2)(i))**

No modifications have been made to the geometry of the South Fly Ash Pond since the 2019 annual inspection. The geometry of the impoundment has remained essentially unchanged.

**4.2.2 INSTRUMENTATION (257.83(b)(2)(ii))**

The location and type of instrumentation is shown on Figure 5 at Attachment C. The maximum recorded readings of each instrument since the previous annual inspection is shown in Table 3.

Table 3 Maximum recorded instruments reading since the previous annual inspection (FAP)

<b>INSTRUMENTATION DATA</b>			
<b>South Fly Ash Pond</b>			
<b>Instrument</b>	<b>Type</b>	<b>Maximum Reading since last annual inspection</b>	<b>Date of reading</b>
KC-1003	Piezometer	575.69	12/16/2019
KC-1004	Piezometer	550.79	3/13/2020
KC-1007	Piezometer	582.03	4/14/2020
KC-1008	Piezometer	557.01	12/16/2019
KC-1011	Piezometer	567.19	4/14/2020
KC-1012	Piezometer	561.17	5/14/2020

**4.2.3 IMPOUNDMENT CHARACTERISTICS (257.83(b)(2)(iii, iv, v))**

Table 4 is a summary of the minimum, maximum, and present depth and elevation of the impounded water & CCR since the previous annual inspection; the storage capacity of the impounding structure at the time of the inspection; and the approximate volume of the impounded water and CCR at the time of the inspection.

Table 4 Summary of Relevant Storage Information (FAP)

<b>IMPOUNDMENT CHARACTERISTICS</b>	
<b>South Fly Ash Pond</b>	
Approximate <b>Minimum</b> depth (elevation) of impounded water since last annual inspection	19.5 ft. (583.4)
Approximate <b>Maximum</b> depth (elevation) of impounded water since last annual inspection	19.7 ft. (583.6)
Approximate <b>Present</b> depth (elevation) of impounded water since last annual inspection	19.5 ft. (583.4)
Approximate <b>Minimum</b> depth (elevation) of CCR since last annual inspection	15.0 ft. (565.0)
Approximate <b>Maximum</b> depth (elevation) of CCR since last annual inspection (ft.)	36 ft. (586.0)
Approximate <b>Present</b> depth (elevation) of CCR since last annual inspection	36 ft. (586.0)
Storage Capacity of impounding structure at the time of the inspection	2,500 ac-ft
Approximate volume of impounded water at the time of the inspection	460 ac-ft
Approximate volume of CCR at the time of the inspection	1,800 c.y.

Currently the plant is planning to close and cap the pond in order to meet the USEPA CCR compliance rule.

**4.2.4 VISUAL INSPECTION (257.83(b)(2)(i))**

A visual inspection of the South Fly Ash Pond was conducted to identify any signs of distress or malfunction of the impoundment and appurtenant structures. The inspection also included hydraulic structures underlying the base of the dike. Specific items inspected included all elements of the dam such as inboard and outboard slopes, crest, and toe; as well as appurtenances such as the outlet structure and pipe discharge structure.

Overall, the facility is in good condition. The impoundment is functioning as intended with no signs of potential structural weakness or conditions which are disrupting to the safe operation of the impoundment. Inspection photograph locations are shown on Figure 6. Inspection photos are included in Attachment B. Additional pictures taken during the inspection can be made available upon request.

- (i) The downstream slope, crest, and upstream slope of the north dike between the north and south ponds are illustrated in Photographs No. 23-25. No signs of any significant settlement, deformation, or cracks were observed. The slopes were generally in satisfactory condition. The upstream slope consists of riprap protection (Photograph No. 25) and appeared in good and stable condition.
- (ii) The upstream slope of the west dike is illustrated in Photograph No. 26. The slope with riprap protection appeared in good condition with controlled vegetation in the upper section. The crest (Photograph No. 27) had no signs of distress and the access ramp (Photograph No. 28) to the perimeter road appeared good.
- (iii) The overall condition of the west dike downstream slope consists of several sections with riprap protection along the slope. The slope appeared in good and stable condition (Photograph No. 28). The drainage channel located at the toe of the slope indicated positive drainage but consists of thick brush and vegetation growth (Photographs No. 29

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and 30). Construction debris was stockpiled temporarily along the edge of the perimeter road, next to the drainage channel (Photograph No. 31).

- (iv) The access structure platform, deck, and handrail to the drainage channel inlet of the outfall pipe (Photograph No. 32) appeared in fair and stable condition. The overflow decant structure is shown in Photographs No. 33. The visible concrete, security fence, railings, metal deck, stop logs, and accessories appeared in functional condition.
- (v) The condition of the south dike crest and downstream slope are illustrated in Photographs No. 34-36. The dike appeared in good and stable condition. A small area at the toe of the dike indicated minor water ponding (Photograph No. 35). The upstream slope of the south dike was covered due to ash fill (Photograph No. 34).
- (vi) The discharge pipe and its supported structure located at the southeast corner (Photograph No. 37) appeared in good and stable condition.
- (vii) Photographs No. 38 and 39 illustrates access structure and the outfall from the fly ash pond. The access structure was in fair and stable condition. The outfall from the pond to the Kyger Creek appeared well protected from erosion and was in satisfactory condition with proper outflow. Riprap around the exposed pipe and immediate channel area appeared in good condition with positive flow.
- (viii) The upstream slope and crest of the dike is illustrated in Photograph No. 40. The upstream slope of this dike was covered due to ash fill. The ash sluice pipe shown in Photograph No. 41 indicated unobstructed flow condition, but excessive vegetation was present in this area.
- (ix) The downstream slope is illustrated in Photograph No. 42. Overall, the slope appeared in good and stable condition with good vegetation control. Typical condition of the previously seepage section is shown in Photograph No. 43. These repaired areas along the slope were found to be stable and properly maintained. The toe ditch appeared to have unobstructed flow condition but stagnant water condition was noticed at the pipe culvert (Photograph No. 44).

#### **4.2.5 EVALUATION OF INSTRUMENTATION**

The pond stages have remained fairly constant since the last annual inspection. A review of the piezometer hydrographs for each piezometer indicates that no adverse trends are present (Figure 7).

#### **4.2.6 CHANGES THAT AFFECT STABILITY OR OPERATION (257.83(b)(2)(i))**

Based on interviews with plant personnel and field observations there were no changes to the South Fly Ash Pond since the last annual inspection that would affect the stability or operation of the impounding structure.

## **5.0 SUMMARY OF FINDINGS**

### **5.1 GENERAL OBSERVATIONS**

The following general observations were identified during the visual inspection:

#### **Bottom Ash Pond Complex**

- 1) The upstream and downstream slopes and crest of the dikes were generally in good and stable condition. The dikes did not show any signs of significant structural weakness or instability. The vegetation along the downstream slopes of the dikes were recently mowed in most locations. The crest did not contain any significant ruts or other signs of instability. Specific maintenance and items to monitor are described in the subsequent sections of this report.
- 2) The hydraulic structures of the Bottom Ash Pond and the Clear Water Pond were generally in good condition. There were no signs of deterioration of the concrete or steel structures. Stop logs were available for use. Flow within the pipes appeared unobstructed.
- 3) The access to the outfall pipe to the Ohio River at the east dike had no walkway or stairs. The outfall appeared to be functioning without obstruction.
- 4) Stockpiles of bottom ash was found in the Bottom Ash Pond in an anticipation of closing the pond in place.

#### **South Fly Ash Pond**

- 1) The upstream and downstream slopes and crest of the dikes were generally in good and stable condition. The dikes did not show any significant signs of structural weakness, distress or instability. The vegetation along the downstream slopes were recently mowed in most locations. The crest did not contain any ruts or other signs of instability. Specific maintenance and items to monitor are described in the subsequent sections of this report. Overgrown vegetation was present along lower section of the west downstream slope and drainage channel.
- 2) The hydraulic structures of the South Fly Ash Pond were in generally in good condition. There were no signs of deterioration of the concrete or steel structures. Flow within the pipes appeared unobstructed.
- 3) The toe ditch at the east dike downstream slope is functioning with positive flow. The drainage pipe culvert which drains the water to the other side of the SR 7 was half full and appeared to have some drainage issue.

### **5.2 MAINTENANCE ITEMS**

The following maintenance items were identified during the visual inspection.

#### **Bottom Ash Pond Complex**

- (i) The plant is actively performing maintenance in controlling vegetation along the crest and the exterior embankment slopes. Minor vegetation was observed within the interior embankment slopes. Minor rutting was noted on the crest that can be repaired with the regular maintenance.
- (ii) An access walkway shall be installed from the dike to the outfall at the east dike for inspection and maintenance activities.

**South Fly Ash Pond**

- (i) The plant is actively performing maintenance in controlling vegetation along the crest and the interior/exterior embankment slopes. A few small locations in close proximity to the lower section close to the drainage channel along the west embankment slope exhibited excessive vegetation. The vegetation should be periodically mowed to prevent woody vegetation or controlled growth through the application of herbicide to facilitate inspection of these areas.
- (ii) The root cause of poor drainage at the pipe culvert located at the east dike adjacent to the SR 7 shall be properly investigated. Based on the findings repair shall be performed so that the water is free flowing through the culvert.

**5.3 ITEMS TO MONITOR**

The following items were identified during the visual inspection as items to be monitored, see inspection map for locations:

**Bottom Ash Pond Complex**

- 1) None

**South Fly Ash Pond**

- 1) Continue to monitor wet areas observed previously and continue to be monitored for flow rate and seepage coloration (e.g. clear, muddy). The plant is actively mitigating such areas and repairing them using the same ODNR approved detail for controlling previous seepage areas along embankment slope. If the flow rate increases or the seep water is not clear it should be brought to the immediate attention of AEP-Geotechnical Engineering.
- 2) The seepage located beyond the south toe was observed to have a similar flow rate to previous inspections. Weekly inspections have noted that the flow rate is steady at 24 gpm. The flow was clear and there was no accumulation of solids around the seepage areas. The flow rate and clarity of this seep should continue to be monitored during the 7-day inspections.
- 3) Continue to monitor the condition of the pipe culvert at the toe drain of the east dike and make a note in the inspection report if the condition of drainage deteriorates further.

**5.4 DEFICIENCIES (257.83(b)(2)(vi))**

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 this inspection or during any of the periodic 7-day inspections. A deficiency is defined as either 1) uncontrolled seepage, 2) displacement of the embankment, 3) blockage of control features, or 4) erosion, more than minor maintenance. If any of these conditions occur before the next annual inspection contact AEP Geotechnical Engineering immediately.

## Figures

Figure 1 - Site Location Map

Figure 2 – Piezometer Location Map

Figure 3 - Inspection Photograph Location Map

Figure 4 – Piezometer Data

Figure 5 - Piezometer Location Map

Figure 6 - Inspection Photograph Location Map

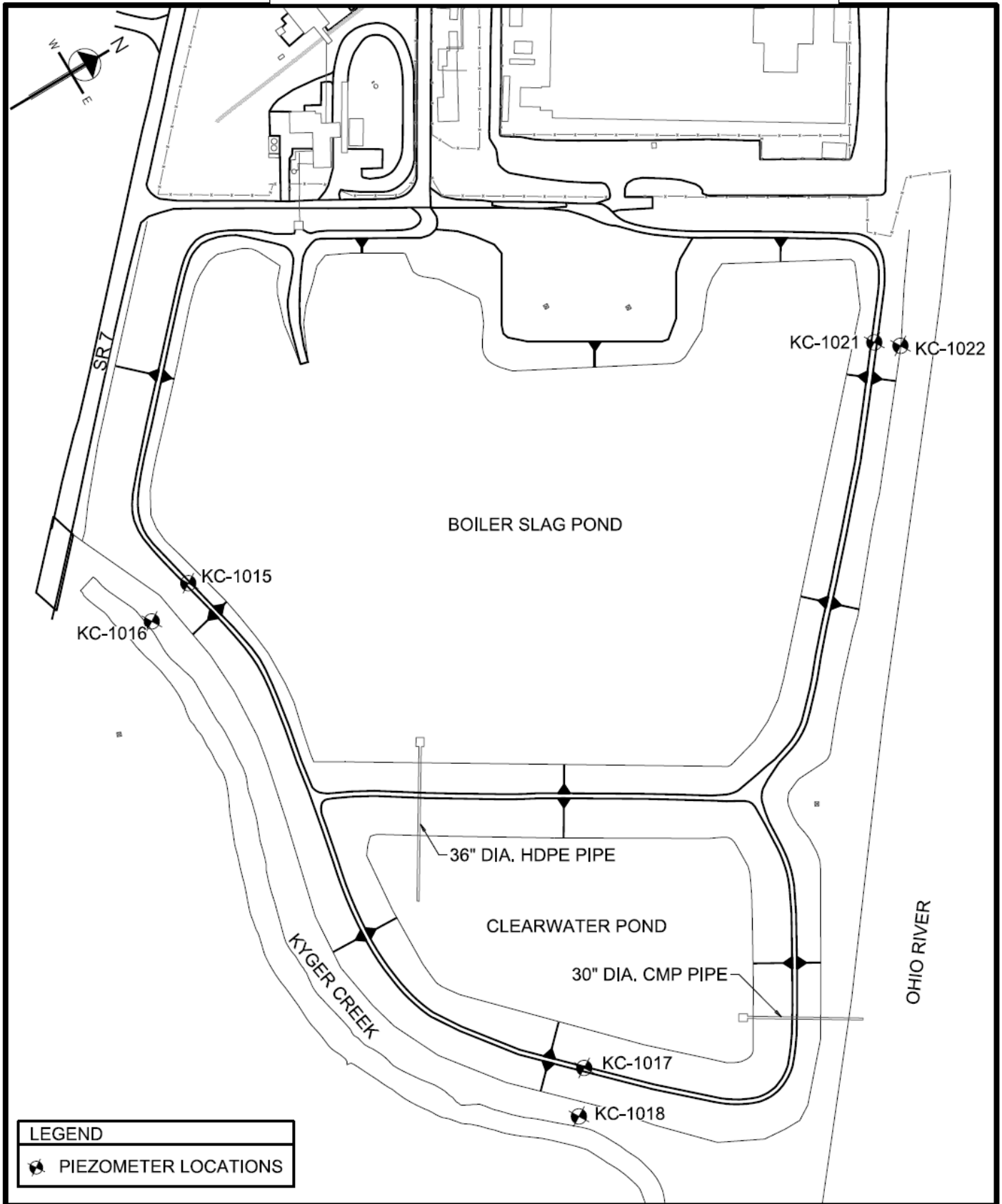
Figure 7 – Piezometer Data





**Figure 1 – Site Location Map**  
**Kyger Creek Plant, Cheshire, OH**



**Figure 2 – Piezometer Location Map**



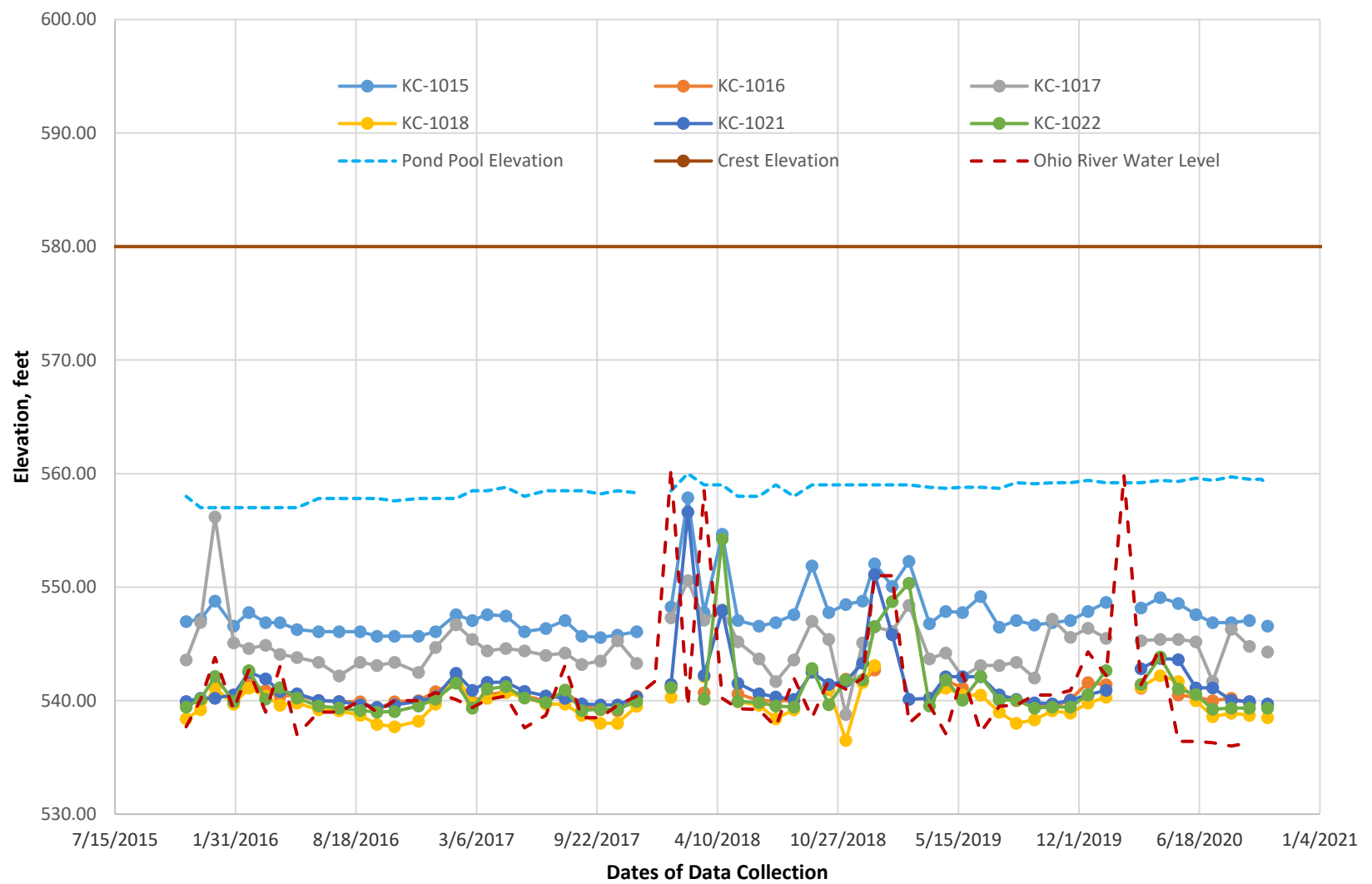
<b>LEGEND</b>
 <b>PIEZOMETER LOCATIONS</b>

DRN BY:	KYGER CREEK POWER STATION	DWG NO:
DATE:	<b>SHEET 1 OF 1</b>	 <b>AEP SERVICE CORP.</b> 1 RIVERSIDE PLAZA COLUMBUS, OH 43215
SCALE: 1"=250'	<b>BOTTOM ASH POND COMPLEX</b>	

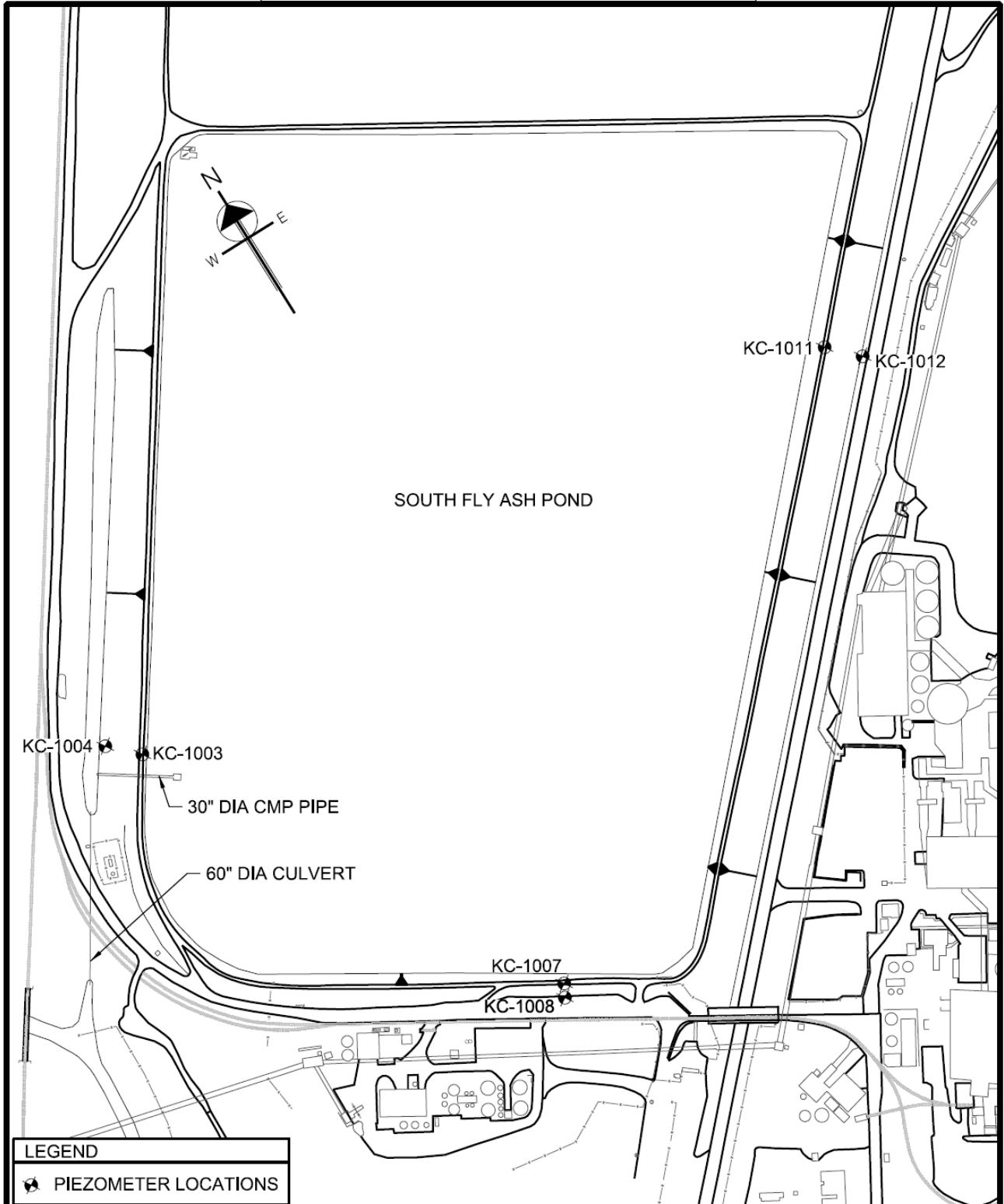
**Figure 3 – Inspection Photograph Map**  
**Bottom Ash Pond Complex**  
**Kyger Creek Plant, Cheshire, OH**



**Figure 4 - Bottom Ash Pond Piezometer Data.**



**Figure 5 – Piezometer Location Map**



<b>LEGEND</b>
<b>PIEZOMETER LOCATIONS</b>

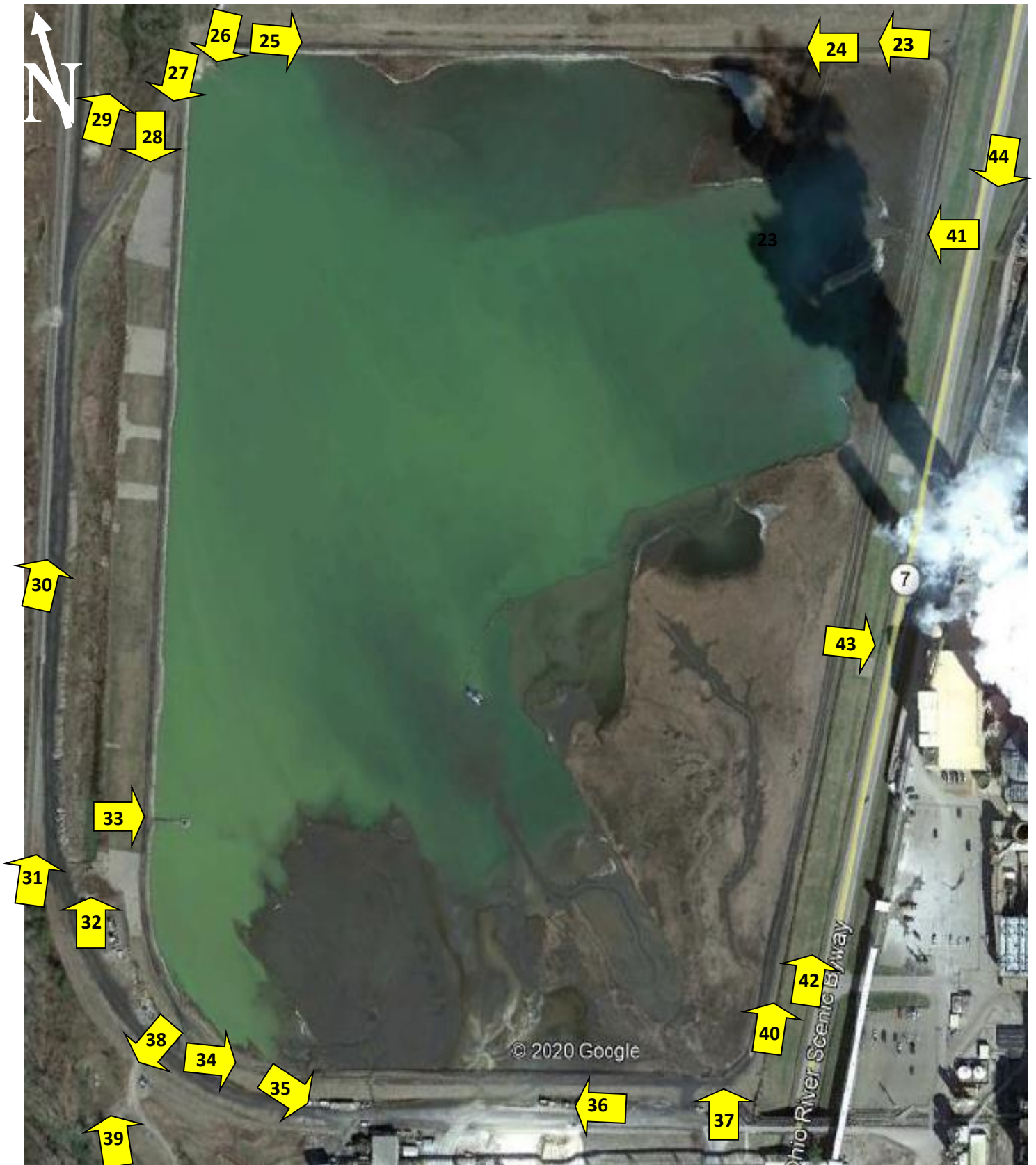
DRN BY:
DATE:
SCALE: 1"=300'

KYGER CREEK POWER STATION
<b>SHEET 1 OF 1</b>
<b>SOUTH FLY ASH POND</b>

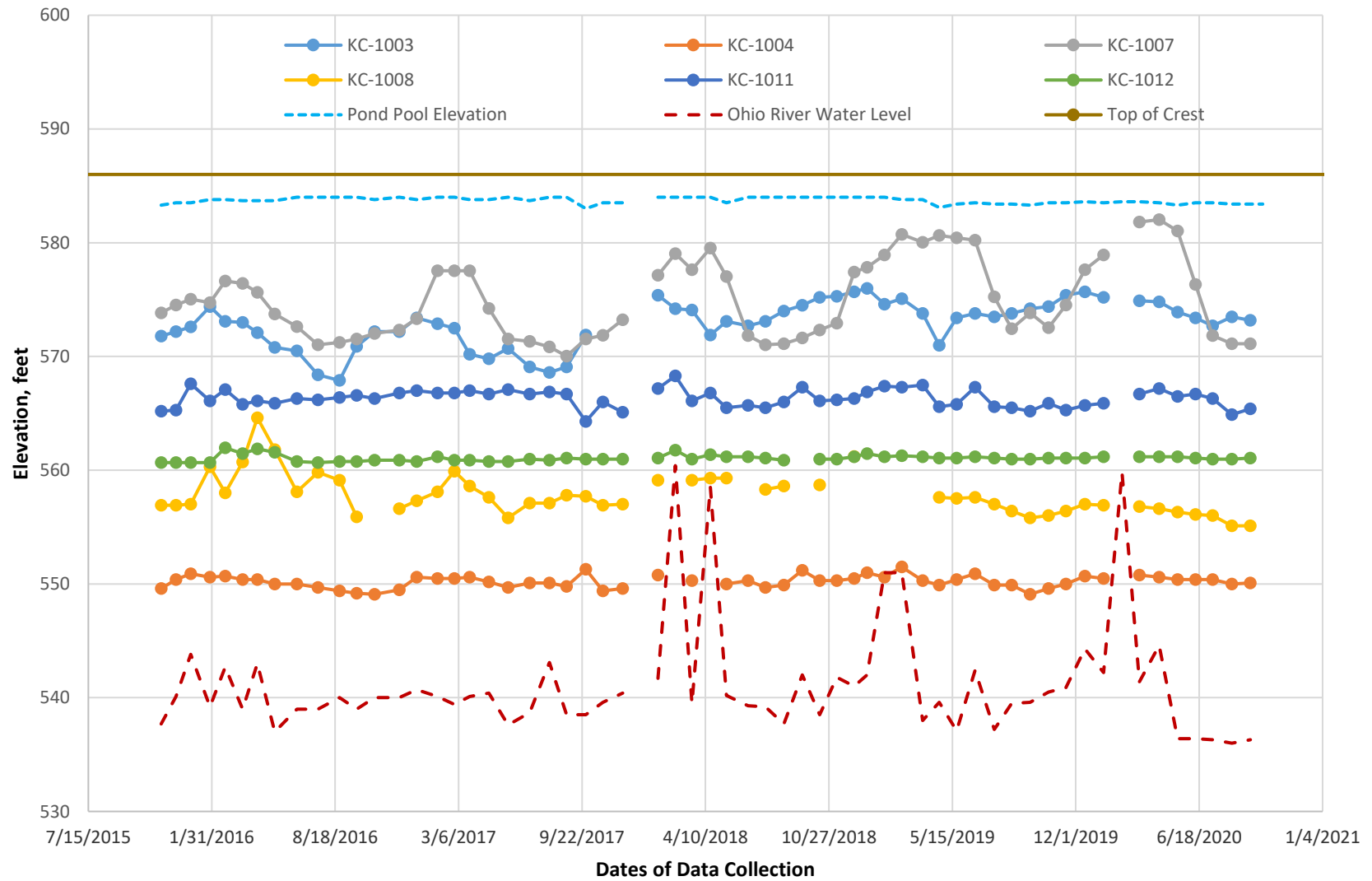
DWG NO:		<b>AEP SERVICE CORP.</b> 1 RIVERSIDE PLAZA COLUMBUS, OH 43215

# Figure 6 – Inspection Photograph Map

South Flyash Pond  
Kyger Creek Plant, Cheshire, OH



**Figure 7 - South Flyash Pond Piezometer Data.**



# Attachment A

Inspection Photographs (Bottom Ash Pond Complex)



**2020 Annual Dam and Dike Inspection Report**  
**Kyger Creek Station –Bottom Ash Complex**

Photograph No. 1

This photograph shows the upstream slope north dike, east section. The dike appeared in good condition with some erosion.



Photograph No. 2

Minor vegetation growth appeared along the upstream slope.



Photograph No. 3

Overall view of the upstream slope (looking south).



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**Kyger Creek Station –Bottom Ash Complex**

Photograph No. 4

This photograph illustrates ash sluice pipes in the northeast corner.



Photograph No. 5

This photograph illustrate the downstream slope (east section) of the north dike. The slope appeared stable and in good condition.



Photograph No. 6

This photograph shows the upstream slope east dike. The dike appeared in good condition with minor erosion.



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**Kyger Creek Station –Bottom Ash Complex**

Photograph No. 7

This photograph illustrate the downstream slope (west section) of the north dike.



Photograph No. 8

This photograph illustrates typical condition of the east dike crest.






Photograph No. 9




The east dike downstream slope appeared in good condition with controlled vegetation.






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<p><u>Photograph No. 10</u> Outfall to the Ohio River.</p>	
<p><u>Photograph No. 11</u> The east dike downstream slope appeared in fair condition with excessive vegetation.</p>	
<p><u>Photograph No. 12</u> This photograph illustrates the upstream slope of the Clearwater pond. The slope appeared stable and in good condition.</p>	

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**Kyger Creek Station –Bottom Ash Complex**

<p><u>Photograph No. 13</u></p> <p>Minor sloughing in the lower section of the upstream slope noticed.</p>	
<p><u>Photograph No. 14</u></p> <p>The steps, railings, walkways, and visible concrete appears to be in good condition at the discharge structure.</p>	
<p><u>Photograph No. 15</u></p> <p>Typical view of the downstream slope of the south dike.</p>	

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<p><u>Photograph No. 16</u></p> <p>A typical view of the crest and upstream slope of the west dike in good condition.</p>	 A photograph showing a grassy dike crest and upstream slope. The dike is covered in green grass with some gravel patches. In the background, there are trees, utility poles, and a body of water under a cloudy sky.
<p><u>Photograph No. 17</u></p> <p>This photograph illustrates downstream slope parallel to State Route 7 (looking north). The slope appeared stable and generally in good condition.</p>	 A photograph showing a grassy downstream slope of a dike. The slope is covered in green grass. In the background, there is a road (State Route 7), trees, and industrial buildings with smokestacks under a cloudy sky.
<p><u>Photograph No. 18</u></p> <p>This photograph illustrates bottom ash built-up in the southwest area at the upstream of the west dike.</p>	 A photograph showing a large pile of dark, black bottom ash built-up in the southwest area at the upstream of the west dike. The ash is piled up on a grassy slope. In the background, there is a body of water, trees, and utility poles under a cloudy sky.

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**Kyger Creek Station –Bottom Ash Complex**

Photograph No. 19  
The upstream slope of the west dike illustrated in this photograph.



Photograph No. 20  
This photo shows crest of the splitter dike (looking east).



Photograph No. 21  
The access stairs and walkway to the decant structure appeared good.



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**Kyger Creek Station –Bottom Ash Complex**

Photograph No. 22

Decant structure is shown in this photograph. Visible concrete, deck, and general water flow was in satisfactory condition.











## Attachment B

Inspection Photographs (Flyash Pond)



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**Kyger Creek Station – South Flyash Pond**

<p><u>Photograph No. 23</u></p> <p>This photograph shows a typical view of the north dike downstream slope (looking west).</p>	
<p><u>Photograph No. 24</u></p> <p>This photograph illustrate the north dike crest. Also to the right is the partial view of the closed North Fly Ash Pond.</p>	
<p><u>Photograph No. 25</u></p> <p>View of the upstream slope of the north dike (looking east).</p>	




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**Kyger Creek Station – South Flyash Pond**

<p><u>Photograph No. 26</u></p> <p>The upstream slope of the west dike illustrated in this photograph. The slope appeared in good condition with riprap protection.</p>	 A wide-angle photograph showing the upstream slope of a dike. The dike is covered in a layer of grey riprap. To the left is a large body of water, and to the right is a gravelly area with some sparse vegetation. The sky is overcast with grey clouds.
<p><u>Photograph No. 27</u></p> <p>This photograph illustrate the crest of the west dike and access ramp to the perimeter road.</p>	 A photograph showing the crest of the dike, which is a gravelly path. To the left is the water, and to the right is a gravelly area that appears to be an access ramp or road. The background shows a line of trees and a cloudy sky.
<p><u>Photograph No. 28</u></p> <p>This photograph illustrate the downstream slope and the discharge drainage ditch of the west dike.</p>	 A photograph showing the downstream slope of the dike, which is covered in riprap. A drainage ditch runs along the base of the dike. The foreground is filled with green grass and weeds. The background shows a line of trees and a cloudy sky.




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**Kyger Creek Station – South Flyash Pond**

<p><u>Photograph No. 29</u></p> <p>The drainage ditch to the north illustrated in this photograph.</p>	
<p><u>Photograph No. 30</u></p> <p>Another view of the downstream slope and drainage ditch (looking north).</p>	
<p><u>Photograph No. 31</u></p> <p>Debris stockpile at the perimeter road at the west dike.</p>	




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**Kyger Creek Station – South Flyash Pond**

<p><u>Photograph No. 32</u></p> <p>This photograph illustrate the access way to the drainage ditch at the toe of the west dike. The access way deck, stair, handrail appeared in fair and functioning condition.</p>	
<p><u>Photograph No. 33</u></p> <p>This photograph illustrates overall view of the decant structure. The deck, handrail, walkway, and visible concrete appeared in good functional condition.</p>	
<p><u>Photograph No. 34</u></p> <p>This photograph illustrate the condition of the crest and upstream slope of the south dike.</p>	

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<p><u>Photograph No. 35</u></p> <p>The toe of the downstream slope indicated a small area with standing water.</p>	
<p><u>Photograph No. 36</u></p> <p>This photograph illustrate downstream slope (looking west), appeared in good and stable condition.</p>	
<p><u>Photograph No. 37</u></p> <p>The discharge pipes at the southeast corner appeared in functional condition.</p>	

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<p><u>Photograph No. 38</u></p> <p>This photograph illustrate the access way to the drainage ditch to the outfall pipe. The access way deck, stair, handrail appeared in fair and functioning condition.</p>	
<p><u>Photograph No. 39</u></p> <p>The outfall from the fly ash pond is shown in this photograph. The concrete pipe, riprap, and surrounding slopes were found in good condition</p>	
<p><u>Photograph No. 40</u></p> <p>Typical view of the upstream slope illustrated in this photograph (looking north).</p>	

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Photograph No. 41  
Ash discharge pipes at the east dike upstream slope appeared in good and functional condition.



Photograph No. 42  
The downstream slope illustrated in this photograph (looking north).



Photograph No. 43  
The toe ditch at the east dike downstream slope and the drainage pipe culvert.





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Photograph No. 44

Typical repair section with rock surface is illustrated in this photograph.

