Stantec Consulting Services Inc.
3052 Beaumont Centre Circle, Lexington KY 40513-1074

May 8, 2026
File: rpt_002_let_175578700
Revision 0

Tennessee Valley Authority
1101 Market Street
Chattanooga, Tennessee 37402

Re: Initial Inflow Design Flood Control System Plan
Ash Pond Complex
EPA Legacy Coal Combustion Residuals (CCR) Rule
TVA Widows Creek Fossil Plant
Stevenson, Alabama

1.0 PURPOSE

This letter documents Stantec Consulting Services Inc.'s (Stantec) certification of the initial inflow design flood control system plan for the Widows Creek Fossil Plant's Ash Pond Complex. Based on the assessment, the Ash Pond Complex complies with the inflow design flood control requirements in the EPA Legacy CCR Rule per 40 CFR 257.82.

2.0 INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN

As described in 40 CFR 257.82(c), an inflow design flood control system plan must be prepared to document how the inflow design flood control system has been designed and constructed to manage the design storm required by the hazard classification. Stantec has assigned the Ash Pond Complex a low hazard potential classification rating. Thus, the inflow design storm event was selected from 40 CFR 257.82(a)(3) as the 100-year flood event based upon a hazard potential classification of "low".

3.0 SUMMARY OF FINDINGS

The attached plan presents the analysis of the inflow design flood control system for the Ash Pond Complex. The plan and results show that the legacy CCR surface impoundment meets the requirements set forth in 40 CFR 257.82(a) and (b).

Re: **Initial Inflow Design Flood Control System Plan**
Ash Pond Complex
EPA Legacy Coal Combustion Residuals (CCR) Rule
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4.0 QUALIFIED PROFESSIONAL ENGINEER CERTIFICATION

I, Robert Fuller, being a Professional Engineer in good standing in the State of Alabama, do hereby certify, to the best of my knowledge, information, and belief:

1. that the information contained in this certification is prepared in accordance with the accepted practice of engineering;
2. that the information contained herein is accurate as of the date of my signature below; and
3. that the inflow design flood control system plan for the TVA Widows Creek Fossil Plant's Ash Pond Complex meets the requirements specified in 40 CFR 257.82(a), (b), and (c)(1).

SIGNATURE Robert D. Fuller DATE 5/8/2026

ADDRESS: Stantec Consulting Services Inc.
3052 Beaumont Centre Circle
Lexington, Kentucky 40513-1703

TELEPHONE: (859) 422-3000

ATTACHMENTS: Inflow Design Flood Control System Plan

Initial Inflow Design Flood Control System Plan

Ash Pond Complex, Widows Creek Fossil Plant, Stevenson, Alabama

Stantec

Prepared for:
Tennessee Valley Authority

Prepared by:
Stantec Consulting Services Inc.

Date:
May 8, 2026

Project/File:
175578700

Stantec Consulting Services Inc.

Table of Contents

List of Appendices

1 Background

The Ash Pond Complex at the Widows Creek Fossil Plant (WCF) is regulated under 40 CFR § 257 Subpart D as a legacy CCR surface impoundment. 40 CFR § 257.82 (c)(1) of the EPA Legacy CCR Rule requires that an inflow design flood control plan be prepared and placed in the facility's operating record by May 8, 2026.

Stantec Consulting Services Inc. (Stantec) was contracted by the Tennessee Valley Authority (TVA) to analyze the inflow design flood for the WCF Ash Pond Complex legacy CCR surface impoundment and evaluate compliance with § 257.82 of the EPA Legacy CCR Rule.

WCF is located in Stevenson, Alabama at the confluence of Widows Creek and the Tennessee River. The plant is located on the west bank of the Tennessee River, approximately 40 miles southwest of Chattanooga, Tennessee. The WCF Plant is an inactive facility that ceased power generation in September 2015 and is currently not in use. The former coal plant has been decommissioned and demolished and the site hosts no power production activities of any kind. The Ash Pond Complex, which contains the Ash Pond, Upper and Lower Ash Stilling Ponds, and Dredge Cell, is a legacy CCR surface impoundment as defined in EPA's regulations at 40 CFR § 257.53. The Ash Pond Complex is approximately 1,200 feet north of the former plant footprint. A site overview figure is included in the appendix. Closure of the legacy CCR surface impoundment was completed in November 2018. The facility no longer functions as an impoundment.

2 Existing Conditions

The Ash Pond Complex was closed by constructing an engineered cap system over the CCR material. The perimeter of the cap has a maximum exterior slope of 3H:1V. The facility was graded to convey flows from the site through riprap-lined flumes discharging to the Process Water Basin (to the west), the Tennessee River (to the south), or Widows Creek (to the north and east). The cap system contains a geocomposite drainage media with perforated HDPE pipes to collect precipitation infiltrating into the cap system above the geomembrane. The perforated HDPE pipes discharge into the perimeter surface drainage system and flow is conveyed beyond the toe of the facility. Key hydraulic structures are shown on the site overview figure.

3 Methods / Design Criteria

This Inflow Design Flood Control System Plan has been developed to document how the inflow design flood control system has been designed and constructed to meet the requirements of §257.82. The Ash Pond Complex was classified as a Low Hazard potential structure based on the report from Stantec to TVA dated May 8, 2026. Therefore, the following EPA Legacy CCR Rule criteria apply:

1. The inflow design flood control system must adequately manage flow into the CCR unit during and following the peak discharge of the inflow design flood. (Ref. §257.82(a)(1))
2. The inflow design flood control system must adequately manage flow from the CCR unit to collect and control the peak discharge resulting from the inflow design flood. (Ref. §257.82(a)(2))
3. The inflow design flood for a Low Hazard potential legacy CCR surface impoundment is the 100-year flood. (Ref. §257.82(a)(3)(iii))
4. Discharge from the CCR unit must be handled in accordance with the surface water requirements under §257.3-3
5. The owner or operator must prepare an initial inflow design flood control system plan for legacy CCR surface impoundments by May 8, 2026. (Ref. §257.100(f)(3)(v))
6. The plan must be revised every 5 years, and amendments must be made whenever there is a change in condition(s) that would substantially affect the written plan in effect. (Ref. §257.82(c)(4) and (2))
7. This plan will be considered complete upon its placement in the facility's operating record. (Ref. §257.82(c)(1))
8. The owner or operator must obtain a certification from a qualified professional engineer stating that the initial and periodic inflow design flood control system plans meet the requirements of §257.82. (Ref. §257.82(c)(5))

The legacy CCR surface impoundment is closed and designed to not impound stormwater. Hydrological calculations were performed based on Soil Conservation Service Technical Release 55 (TR-55) methods in Computational Hydraulics Institute (CHI) PCSWMM software to analyze the performance of the legacy CCR surface impoundment for the 100-year flood. The EPA Legacy CCR Rule does not specify the storm duration for the inflow design flood; therefore, a 24-hour storm duration was used as it is a typically modeled storm duration and conservative given the drainage area of the legacy CCR surface impoundment and the short time of concentration (less than 6 hours).

Modeling assumptions and hydrologic parameter inputs are described in the Basis of Design Reports for the Ash Pond Final Closure and Dredge Cell Final Closure prepared by Stantec dated January 29, 2016.

4 Calculation Results

The hydrologic modeling results were used to determine the performance of the Ash Pond Complex for the 100-year, 24-hour storm.

4.1 Capacity and Freeboard Results

Peak discharge depths within stormwater ditches did not exceed maximum ditch depths during the 100-year, 24-hour storm event. Maximum Hydraulic Grade Line (HGL) elevations in inlet/headwall structures did not exceed Ash Pond Complex perimeter crest elevations during the 100-year, 24-hour storm. Modeling results for each stormwater ditch and culvert at the Ash Pond Complex are described in the Basis of Design Reports for the Ash Pond Final Closure and Dredge Cell Final Closure prepared by Stantec dated January 29, 2016.

5 Conclusions

The calculations referenced in this report demonstrate that the inflow design flood control system adequately manages flow into and from the closed CCR unit during and following the peak discharge of the inflow design flood (100-year flood). In addition, the closed CCR unit discharges through NPDES permitted stormwater outfalls and is therefore handled in accordance with the surface water requirements under §257.3-3. Therefore, the Ash Pond Complex meets the requirements of §257.82 of the EPA Legacy CCR Rule.

6 References

1. EPA. (2024). Title 40 Code of Federal Regulations Part 257. Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Legacy CCR Surface Impoundments. May 8, 2024.

2. Stantec Consulting Services Inc., “Basis of Design Report (Rev. 0) Ash Pond Final Closure Widows Creek Fossil Plant”, January 29, 2016.

3. Stantec Consulting Services Inc., “Basis of Design Report (Rev. 0) Dredge Cell Final Closure Widows Creek Fossil Plant”, January 29, 2016.

4. Stantec Consulting Services Inc. “Initial Hazard Potential Classification Assessment – Ash Pond Complex”, May 8, 2026.

5. TVA Aerial Imagery. August 2023.

Appendix A
Site Overview Figure

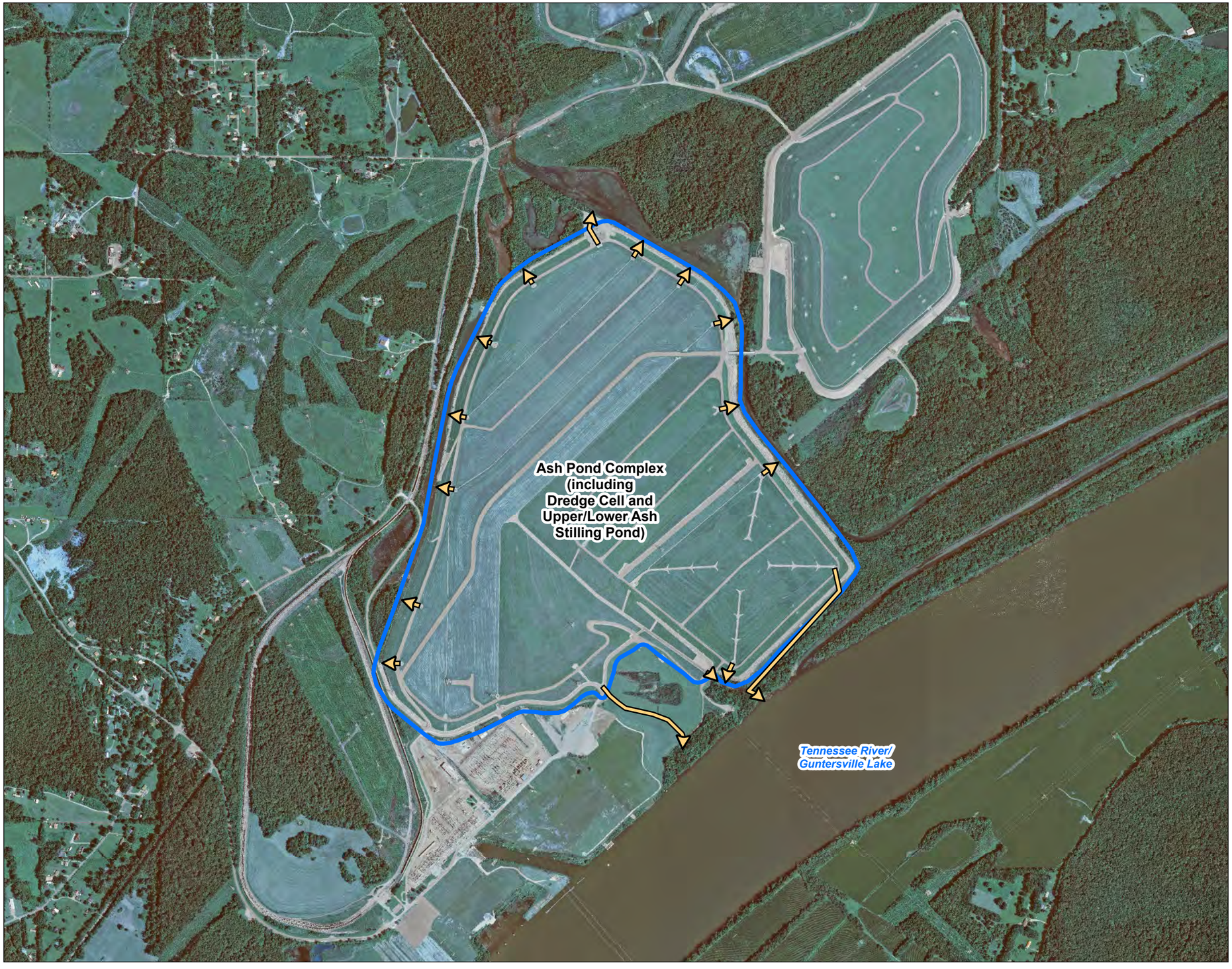

Exhibit No.

1

Title

Site Overview
WCF - Ash Pond Complex

Client/Project 175578700

Tennessee Valley Authority
Widows Creek Fossil Plant (WCF)
Initial Inflow Design Flood Control Plan

Project Location
Jackson County, Alabama

Prepared by DMB on 2026-04-20
Technical Review by CC on 2026-04-20

N

0 1,100 2,200 Feet

(At original document size of 11x17)
1:13,200

Legend

Hydraulic Structures

Unit Area Description

Legacy Surface Impoundment (Approximate)

Notes

1. Coordinate System: NAD 1983 2011 StatePlane Alabama East (ftUS)
2. Background: Imagery Provided by TVA (2023)

Stantec TVA