AP-1 is a legacy CCR surface impoundment at Plant Arkwright that was taken out of service in 1990 and closed with a soil cover in accordance with state requirements at the time. The Georgia EPD issued a closure certification in 2010. Subsequent federal CCR regulations established additional closure pathways and compliance requirements. AP-1 is being addressed under the current CCR framework through closure by removal in accordance with 40 CFR § 257.102(c). In its current condition, the unit is inactive and does not function as an operational impoundment. Closure by removal will eliminate CCR from the unit.

INITIAL SAFETY FACTOR ASSESSMENT
40 C.F.R § 257.100(f)(2)(iv) and 40 C.F.R. § 257.73(e)
PLANT ARKWRIGHT ASH POND 1 (AP-1)
GEORGIA POWER COMPANY

A rule amendment to the Federal CCR Rule became effective on November 8, 2024. S*ee* Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Legacy CCR Surface Impoundments, 89 Fed. Reg. 38950 ("Legacy Rule"). The Legacy Rule defines the term "legacy CCR surface impoundment" and establishes regulatory requirements for units that meet the definition of a legacy CCR surface impoundment. The Legacy Rule requires the owner or operator of a legacy CCR impoundment to conduct an initial and periodic safety factor assessment for each CCR unit and document whether the calculated factors of safety for each unit achieve the minimum safety factors specified in § 257.73(e)(1)(i) through (iv) for the critical section of the dam. *See* 40 C.F.R. Part 257, §257.100(f)(2)(iv) and §257.73(e). In addition, the Rules require a subsequent assessment be performed within 5 years of the previous assessment. *See* 40 C.F.R. § 257.73(f)(3).

The legacy CCR unit known as Plant Arkwright Ash Pond 1 (AP-1) is located in Bibb County, Georgia, approximately six (6) miles northwest of the city of Macon. Plant Arkwright began operation in 1941 and was retired in 2002. Plant Arkwright was decommissioned in 2003, and demolition of the plant was completed in 2003. AP-1 was designed to receive and store CCR produced during the electric generating process at Plant Arkwright and was used from 1941 until 1977. The Ocmulgee River is located directly east and Beaverdam Creek is located directly west of the unit.

The northern portion of AP-1 was created by construction of a main dam across a valley on the north end. The southern portion of AP-1 was created by construction of a main dam, which bounds the south pond on the east, south and west sides. Between the north pond and the south pond was original native ground. During operations, CCR was stacked above the original perimeter dams and on native high ground areas.

The AP-1 unit was closed in place in 1990, and a Closure Certificate was issued by GA EPD for AP-1 on July 30, 2010 and tracking number 011-030D(LI) was assigned. AP-1 has been capped and no longer impounds water or receives waste. Closure construction activities completed on AP-1 have rendered the former surface impoundment incapable of receiving, discharging or impounding water.

The critical slope stability cross sections of the AP-1 unit are located adjacent to the Ocmulgee River (Section A-A') and adjacent to Beaverdam Creek (Section D-D'). The analysis used to determine the minimum safety factor for the critical section resulted in the following minimum safety factors:

Facility	Critical Cross Section	EPA Final CCR Rule Loading Condition	EPA Final CCR Rule Required Factor of Safety	Calculated Factor of Safety
AP-1	A-A'	Long-term maximum storage pool	1.50	1.38
		Maximum surcharge pool	1.40	N/A
		Seismic	1.00	1.18
		Liquefaction	1.20	1.38
AP-1	D-D'	Long-term maximum storage pool	1.50	1.46
		Maximum surcharge pool	1.40	N/A
		Seismic	1.00	1.18
		Liquefaction	1.20	1.39

Since AP-1 has been closed and is no longer capable of impounding water, the maximum surcharge pool load conditions are not applicable at AP-1.

This assessment is supported by appropriate engineering calculations, presented in Attachment A.

The results show that AP-1 meets the required factor of safety for seismic and liquefaction loading conditions but does not meet the required factor of safety for long-term maximum storage pool loading condition. However, AP-1 will soon be subject to additional closure activities that will remove the CCR and thus eliminate the potential for CCR release due to slope instability. These closure by removal activities will result in AP-1 meeting the required factors of safety for each loading condition.

I hereby certify that the safety factor assessment was conducted in accordance with 40 C.F.R. § 257.100(f)(2)(iv) and 40 C.F.R. § 257.73.

Jeffrey S. Dingrando, P.E.

Licensed State of GA, P.E. No. 050669

ATTACHMENT A
ENGINEERING CALCULATIONS

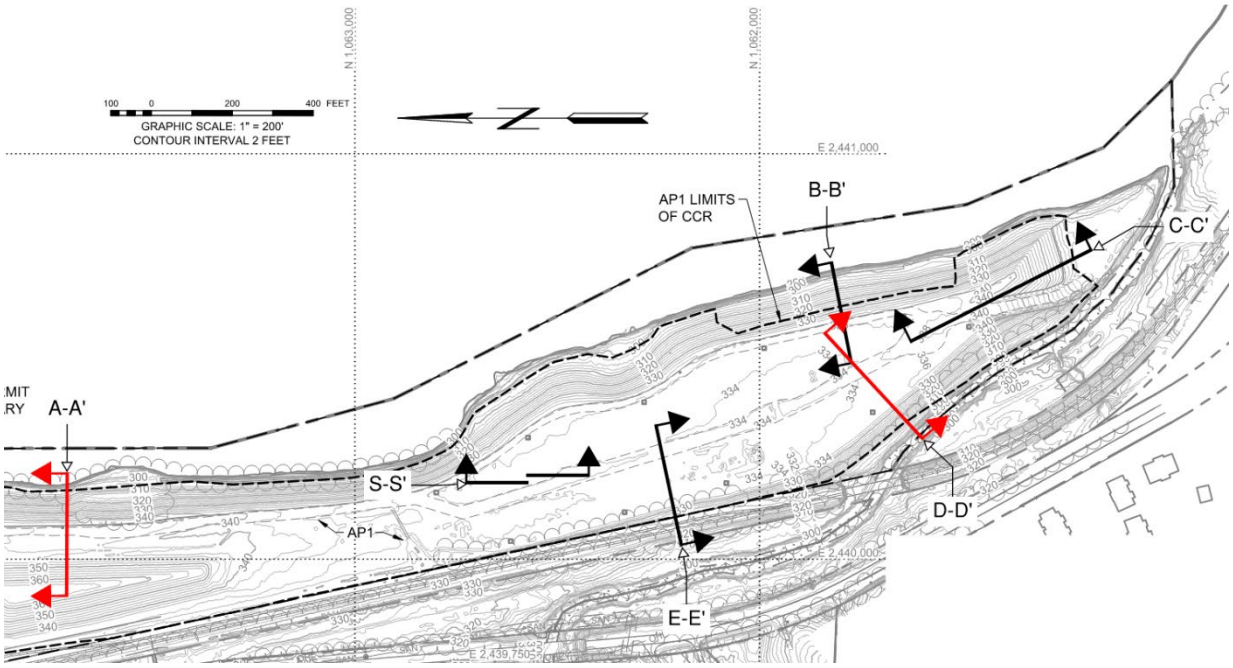
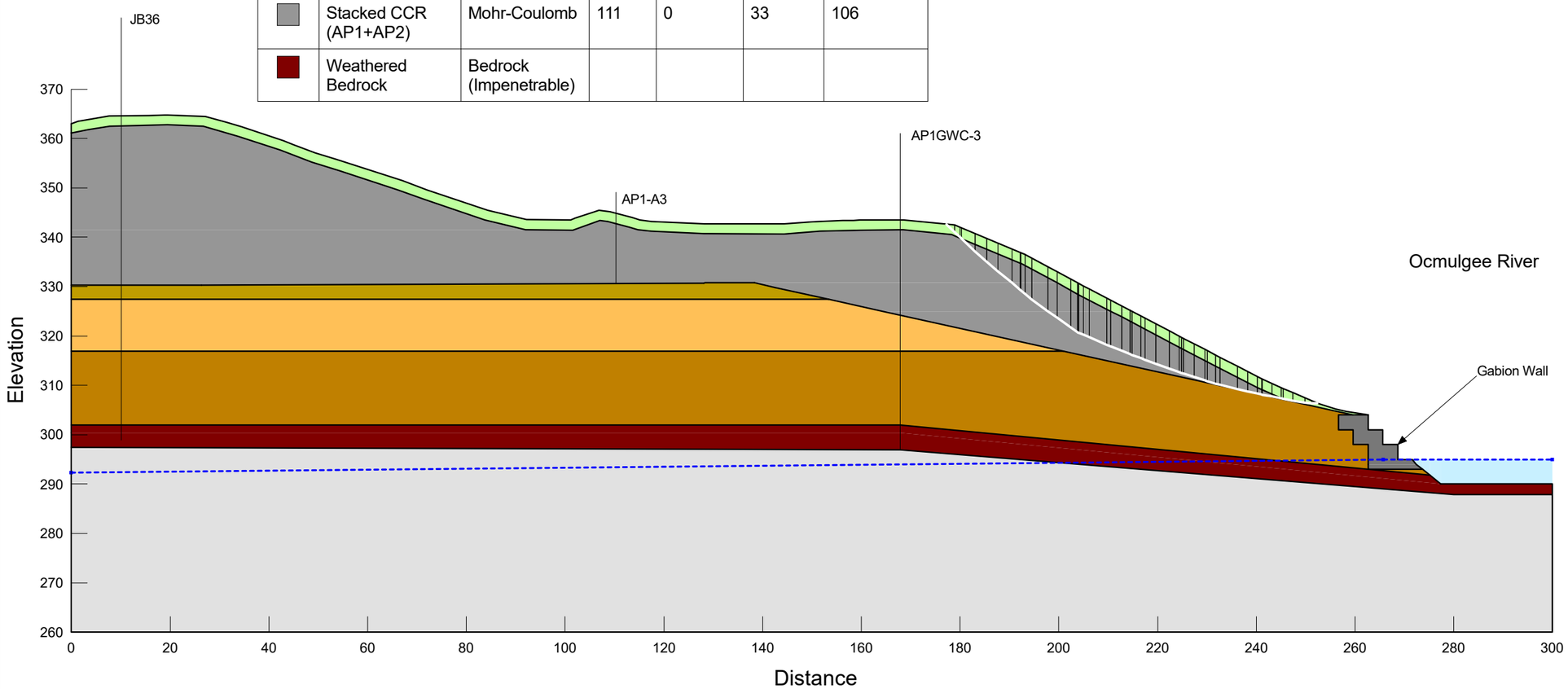


Figure 1. AP-1 Current Conditions Plan View Showing Cross Sections (Stantec 2025a)

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Constant Unit Wt. Above Piezometric Surface (pcf)
	Bedrock	Bedrock (Impenetrable)				
	Cover Soil	Mohr-Coulomb	125	0	28	122
	Residual Sand & Gravel	Mohr-Coulomb	123	0	37	117
	Residual Silty Clay	Mohr-Coulomb	121	0	35	119
	Residual Silty Sand	Mohr-Coulomb	120	0	35	115
	Riprap	Mohr-Coulomb	125	0	40	115
	Stacked CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106
	Weathered Bedrock	Bedrock (Impenetrable)				

1.38



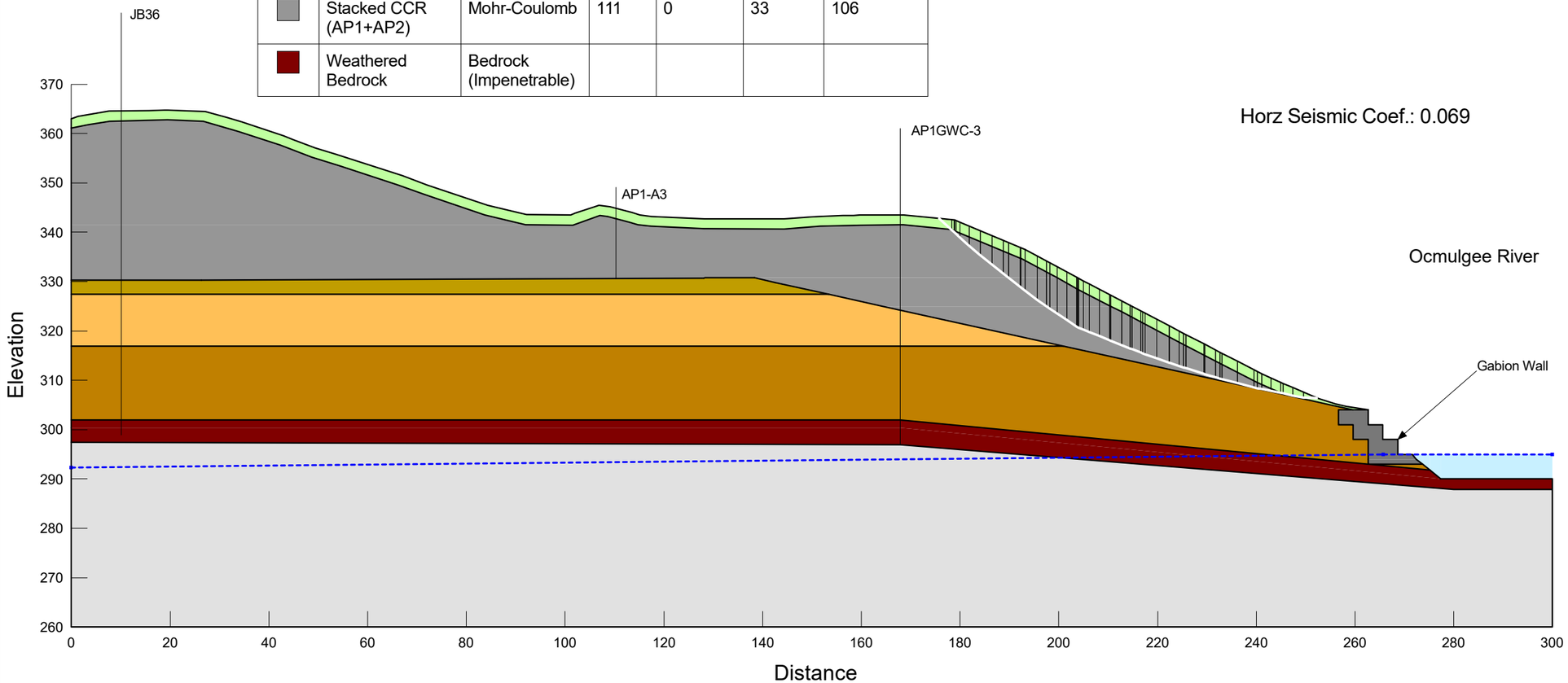
Note: The results of the analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. The drawing depicts approximate subsurface conditions based on historical drawings or specific borings at the time of drilling.No warranties can be made regarding the continuity of subsurface conditions.

Safety Factor Outboard (Normal Pool), Drained

AP1_section_AA.gsz

11/21/2025

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Constant Unit Wt. Above Piezometric Surface (pcf)
	Bedrock	Bedrock (Impenetrable)				
	Cover Soil	Mohr-Coulomb	125	0	28	122
	Residual Sand & Gravel	Mohr-Coulomb	123	0	37	117
	Residual Silty Clay	Mohr-Coulomb	121	0	35	119
	Residual Silty Sand	Mohr-Coulomb	120	0	35	115
	Riprap	Mohr-Coulomb	125	0	40	115
	Stacked CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106
	Weathered Bedrock	Bedrock (Impenetrable)				



Note: The results of the analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. The drawing depicts approximate subsurface conditions based on historical drawings or specific borings at the time of drilling.No warranties can be made regarding the continuity of subsurface conditions.

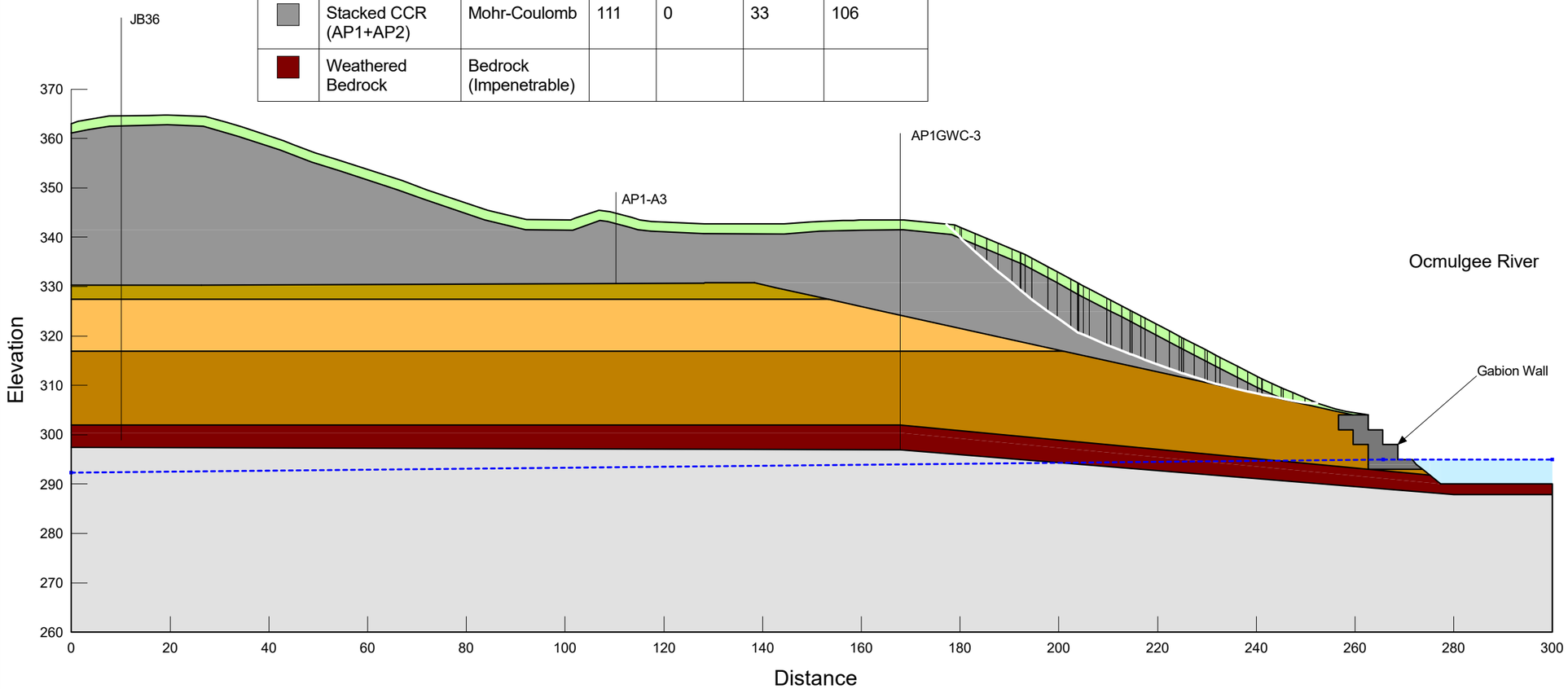
Safety Factor Outboard (Normal Pool), Seismic

AP1_section_AA.gsz

11/21/2025

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Constant Unit Wt. Above Piezometric Surface (pcf)
	Bedrock	Bedrock (Impenetrable)				
	Cover Soil	Mohr-Coulomb	125	0	28	122
	Residual Sand & Gravel	Mohr-Coulomb	123	0	37	117
	Residual Silty Clay	Mohr-Coulomb	121	0	35	119
	Residual Silty Sand	Mohr-Coulomb	120	0	35	115
	Riprap	Mohr-Coulomb	125	0	40	115
	Stacked CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106
	Weathered Bedrock	Bedrock (Impenetrable)				

1.38



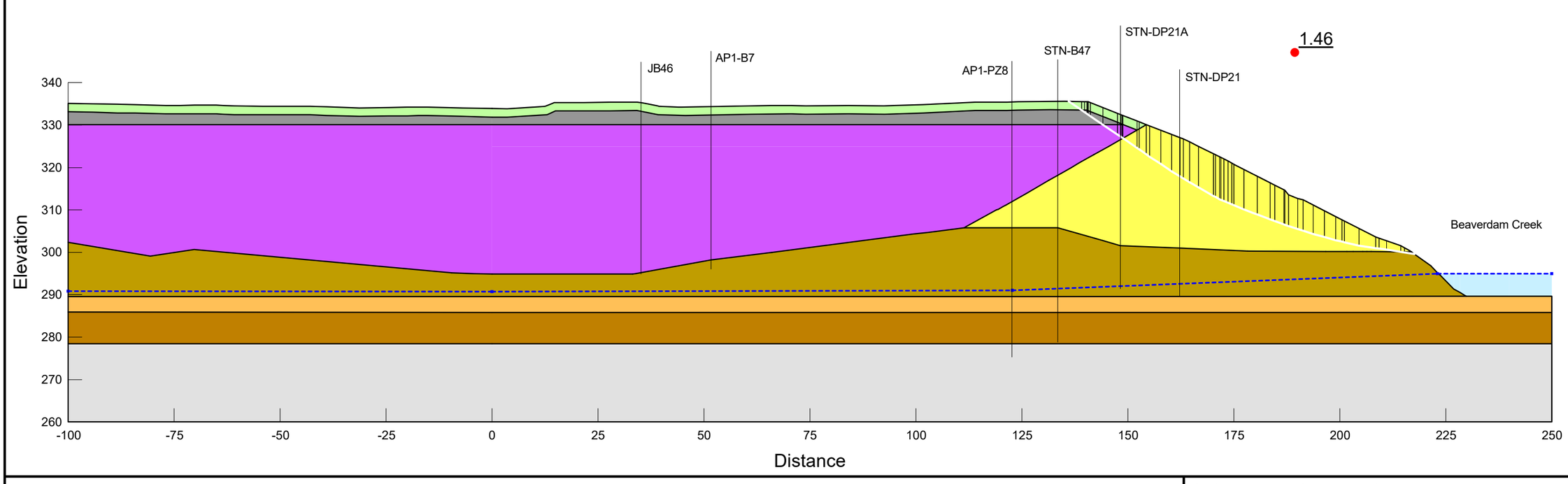
Note: The results of the analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. The drawing depicts approximate subsurface conditions based on historical drawings or specific borings at the time of drilling.No warranties can be made regarding the continuity of subsurface conditions.

Safety Factor Outboard (Normal Pool), Post-EQ

AP1_section_AA.gsz

11/21/2025

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Constant Unit Wt. Above Piezometric Surface (pcf)
	Bedrock	Bedrock (Impenetrable)				
	Cover Soil	Mohr-Coulomb	125	0	28	122
	Dike Fill (AP1)	Mohr-Coulomb	120	0	33	117
	Residual Sand & Gravel	Mohr-Coulomb	123	0	37	117
	Residual Silty Clay	Mohr-Coulomb	121	0	35	119
	Residual Silty Sand	Mohr-Coulomb	120	0	35	115
	Sluiced CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106
	Stacked CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106



Note: The results of the analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. The drawing depicts approximate subsurface conditions based on historical drawings or specific borings at the time of drilling.No warranties can be made regarding the continuity of subsurface conditions.

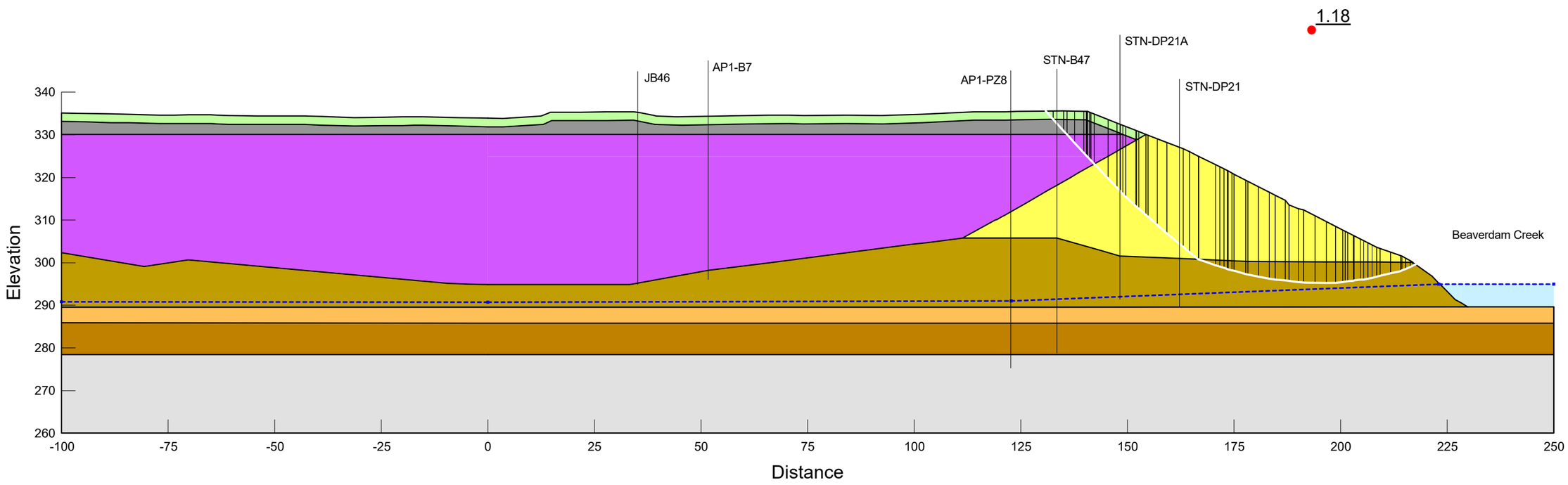
Safety Factor Outboard (Normal Pool), Drained

AP1_section_DD.gsz

11/21/2025

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Constant Unit Wt. Above Piezometric Surface (pcf)	Phi 1 (°)	Phi 2 (°)	Normal Effective Stress (psf)
	Bedrock	Bedrock (Impenetrable)							
	Cover Soil	Mohr-Coulomb	125	0	28	122			
	Dike Fill (AP1)	Mohr-Coulomb	120	0	33	117			
	Residual Sand & Gravel	Mohr-Coulomb	123	0	37	117			
	Residual Silty Clay (Seismic)	Bilinear	121	0		119	35	15	555.22
	Residual Silty Sand (Seismic)	Bilinear	120	0		115	35	15	370.149
	Sluiced CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106			
	Stacked CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106			

Horz Seismic Coef.: 0.069



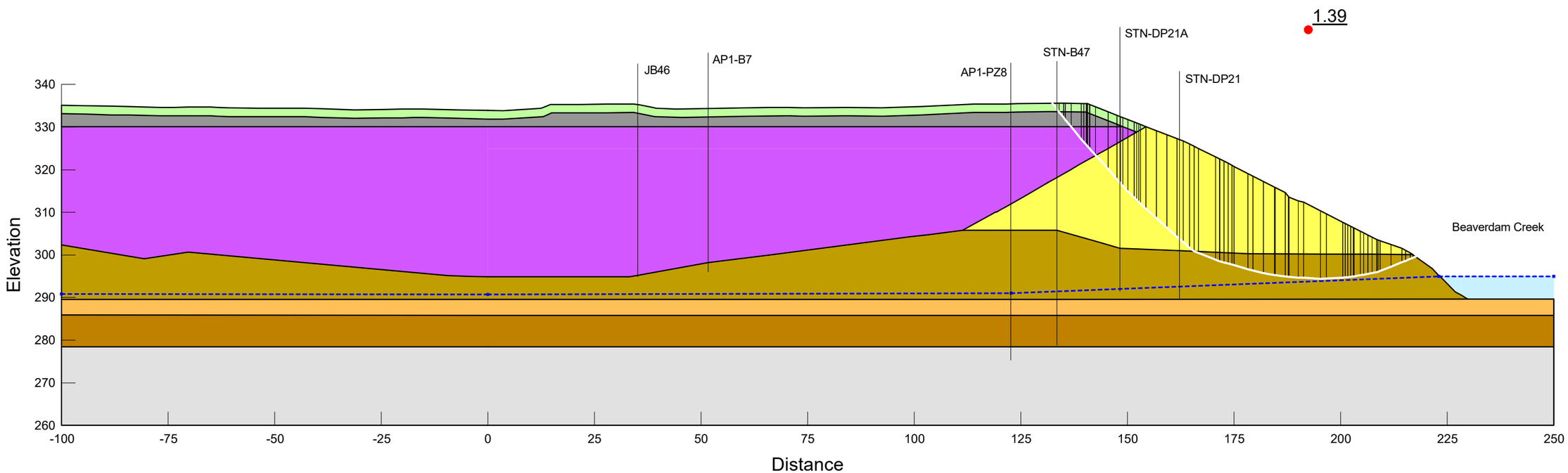
Note: The results of the analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. The drawing depicts approximate subsurface conditions based on historical drawings or specific borings at the time of drilling.No warranties can be made regarding the continuity of subsurface conditions.

Safety Factor Outboard (Normal Pool), Seismic

AP1_section_DD.gsz

11/21/2025

Color	Name	Slope Stability Material Model	Unit Weight (pcf)	Effective Cohesion (psf)	Effective Friction Angle (°)	Constant Unit Wt. Above Piezometric Surface (pcf)	Phi 1 (°)	Phi 2 (°)	Normal Effective Stress (psf)
	Bedrock	Bedrock (Impenetrable)							
	Cover Soil	Mohr-Coulomb	125	0	28	122			
	Dike Fill (AP1)	Mohr-Coulomb	120	0	33	117			
	Residual Sand & Gravel	Mohr-Coulomb	123	0	37	117			
	Residual Silty Clay (Seismic)	Bilinear	121	0		119	35	15	555.22
	Residual Silty Sand (Seismic)	Bilinear	120	0		115	35	15	370.149
	Sluiced CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106			
	Stacked CCR (AP1+AP2)	Mohr-Coulomb	111	0	33	106			



Note: The results of the analysis shown here are based on available subsurface information, laboratory test results and approximate soil properties. The drawing depicts approximate subsurface conditions based on historical drawings or specific borings at the time of drilling.No warranties can be made regarding the continuity of subsurface conditions.

Safety Factor Outboard (Normal Pool), Post-EQ

AP1_section_DD.gsz

11/21/2025