PERIODIC INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN
391-3-4-.10(5) and 40 C.F.R. § 257.82
PLANT WANSLEY ASH POND 1 (AP-1)
GEORGIA POWER COMPANY

The Federal CCR Rule and, for Existing Surface Impoundments where applicable, the Georgia CCR Rule (391-3-4-.10) require the owner or operator of a CCR surface impoundment to design, construct, operate and maintain an inflow design flood control system capable of adequately managing flow during and following the peak discharge of the specified inflow design flood. The owner or operator must prepare an inflow design flood system written plan documenting how the inflow design flood control system has been designed and constructed. See 40 C.F.R. § 257.82; Ga. Comp. R. & Regs. r. 391.3-4-.10(5)(b). In addition, the Rules require periodic inflow design flood control system plans within 5 years of development of the previous plan and placement of the updated plan in the facility operating record. See 40 C.F.R. § 257.82(c)(4); Ga. Comp. R. & Regs. r. 391.3-4-.10(5)(b). The first Periodic Inflow Design Flood Control System Plan for Plant Wansley AP-1 was prepared by Southern Company Technical Shared Services (TSS), Environmental Solutions and placed in the Operating Record on October 15, 2021 (the 2021 Plan). This assessment (the 2026 Plan) constitutes the required 5-year periodic update to the 2021 Plan and will be placed in the Operating Record upon completion.

The CCR surface impoundment known as Plant Wansley AP-1 is located on Plant Wansley property, in Heard and Carroll Counties, Carrollton, Georgia. AP-1 is a 343-acre surface impoundment. The Notification of Intent to Initiate Closure was placed in the Operating Record on April 17, 2019. AP-1 is being closed using a closure by removal (CBR) strategy, whereby CCR is excavated and hauled to the on-site CCR landfill located approximately 0.5 miles from AP-1 via a dedicated on-site haul road. Closure construction activities underway as of the date of this assessment include construction of the haul road, expansion of the on-site landfill, removal of gypsum and soil berm material from inside of AP-1, and initial clearing for a planned diversion channel along the western embankment that is not yet in operation. These activities are reflected in the updated land use and curve number assignments described in the attached calculations.

The inflow design flood encompasses rainfall falling within the AP-1 limits and runoff from approximately 307 acres of adjoining watershed on the west/northwest and south/southeast sides. Under current water management operations, the primary spillway (a gated 42-inch fiberglass pipe) is maintained closed, and the AP-1 pool is managed via pumping to the Wastewater Treatment System (WWTS) to support ongoing CCR excavation activities. No discharge through the principal spillway or pump systems was credited in this analysis; the controlling overflow feature is the concrete auxiliary spillway system at EL 802.6 feet. Detailed assumptions and results are provided in the attached calculations.

The inflow design flood has been calculated using the Natural Resources Conservation Service (formerly Soil Conservation Service) (SCS) method for a 100-year (yr), 24-hour (hr) storm event, as required for a Low Hazard potential facility. Precipitation values were obtained from NOAA's Precipitation Frequency Data Server (Atlas 14). Hydrologic and hydraulic routing was performed using HydroCAD® 10.20.

Calculations indicate that AP-1 will adequately manage flow during and following the peak discharge of the inflow design flood without overtopping the perimeter embankments. This plan is supported by appropriate engineering calculations which are attached.

The facility is operated subject to and in accordance with § 257.3-3 of EPA's regulations.

I hereby certify that the inflow design flood control system plan meets the requirements of 40 C.F.R. § 257.82.



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Jeremy Gasser, P.E.
Licensed State of Georgia, PE No. 043417
Signed 10/12/2026

Geosyntec consultants

COMPUTATION COVER SHEET

Client:	Georgia Power Company & Southern Company Services	**Project:**	Plant Wansley Inflow Design Flood Control Plan and Factor of Safety Assessment	**Project #:**	26012493

TITLE OF COMPUTATION: **PERIODIC INFLOW DESIGN FLOOD CONTROL SYSTEM PLAN PLANT WANSLEY AP-1**

PREPARATION	**CALCULATION PREPARED BY:** (Calculation Preparer, CP)	Signature	Pratibha	07/17/2026
		Name	Pratibha Pandey, PhD	Date
		Title	Professional	
REVIEW	**ASSUMPTIONS & PROCEDURES CHECKED BY:** (Assumptions & Procedures Checker, APC)	Signature	Alexander C. Brewster	08/27/2026
		Name	Alexander C. Brewster	Date
		Title	Senior Engineer	
	COMPUTATIONS CHECKED BY: (Computation Checker, CC)	Signature	Alexander C. Brewster	08/27/2026
		Name	Alexander C. Brewster	Date
		Title	Senior Engineer	
BACK-CHECK	**BACK- CHECKED BY:** (Calculation Preparer, CP)	Signature	Pratibha	08/27/2026
		Name	Pratibha Pandey, PhD	Date
		Title	Professional	
APPROVAL	**APPROVED BY:** (Calculation Approver, CA)	Signature		10/12/2026
		Name	Jeremy Gasser, PE	Date
		Title	Senior Principal	

REVISION HISTORY:

NO.	DESCRIPTION	DATE	CP	APC	CC	CA
0	Issued Final	October 2026	PP	AB	AB	JG

1.0 Purpose of Calculation

The purpose of this report is to document the first required 5-year periodic update to the Plant Wansley AP-1 Periodic Inflow Design Flood Control System Plan, as prepared by Southern Company Technical Shared Services (TSS), Environmental Solutions ["Inflow Design Control System Plan: Hydrologic and Hydraulic Calculation Summary for Plant Wansley Ash Pond," placed in Operating Record October 15, 2021] (the 2021 Plan). This assessment was performed as of July 2026, which is within the 5-year interval required by 40 C.F.R. § 257.82(c)(4). Upon completion, this plan will be placed in the AP-1 Operating Record.

2.0 Summary of Conclusions

A hydrologic and hydraulic model was developed for the Plant Wansley Ash Pond (AP-1) to evaluate the capacity of the impoundment using an inflow design storm event equal to a 100-year (yr), 24-hour (hr) rainfall event. The results of routing a 100-yr, 24-hr storm through the impoundment area are presented in **Table 1** below.

Table 1. Flood Routing Results for Plant Wansley Ash Pond

Plant Wansley	Design Initial Pool EL (ft) [(2)]	Top of Embankment EL (ft)	Auxiliary Spillway Crest EL (ft)	Peak Water Surface Elevation (ft)	Freeboard (ft) [(3)]	Peak Inflow (cfs)	Peak Outflow (cfs)
AP-1	784.7	805	802.6	786.8	18.2	3,252	0

Notes:

1. ft – feet; cfs – cubic feet per second
2. The design initial pool elevation represents the maximum water level recorded in February 2026 and the maximum pool elevation anticipated under current and future closure operations.
3. Freeboard is measured from the top of the embankment (EL 805 ft) to the peak water surface elevation (EL 786.8 ft). A 15.8 ft margin is maintained relative to the auxiliary spillway crest (EL 802.6 ft).

As shown in **Table 1**, AP-1 maintains 18.2 ft of freeboard above the peak water surface elevation during the 100-yr, 24-hr design storm, measured from top of the embankment at EL 805 ft. The existing inflow management system therefore provides adequate capacity to safely manage the peak discharge of the inflow design flood without overtopping the perimeter embankments. Full HydroCAD model output is provided in **Attachment 1**.

3.0 Methodology

3.1 Hydrologic Analysis

Design Storm Event

The Plant Wansley Ash Pond is classified as a low hazard structure. The design storm for a low hazard structure is a 100-yr, 24-hr rainfall event, consistent with the classification established in the 2021 Plan. Design storm parameters and rainfall distribution methodology are presented in **Table 2**.

Table 2. Plant Wansley Ash Pond Storm Distribution

Hazard Classification	Return Frequency (yr)	Storm Duration (hr)	Rainfall Total (in)	Rainfall Source	Storm Distribution
Low	100	24	7.93	NOAA Atlas 14	SCS Type II

Rainfall Distribution

Attachment 2 shows the Site location on the SCS rainfall distribution map of the United States. The Site is located in Carrollton, Georgia, which is categorized by SCS Type II Rainfall Distribution. Rainfall depth for the design storm event was obtained from the NOAA Precipitation Frequency Data Server (Atlas 14) and is presented in **Table 2**.

Drainage Area

Drainage basin boundaries were delineated using 2-ft contours derived from a February 2026 topographic survey of AP-1, supplemented by October 2021 topographic data for the adjoining watershed areas outside AP-1 limits. The basin delineation is illustrated in **Attachment 3**.

Table 3. Ash Pond Hydrologic Information

Drainage Basin Area (acres)	650
Hydrologic Curve Number, CN	89
Time of Concentration (minutes)	34.8
Hydrologic Methodology	SCS Method; SCS Unit Hydrograph; initial abstraction ratio (Ia/S Ratio) = 0.20
Hydrologic Software	HydroCAD® 10.20 with 0.01-hour time steps over a 26-hour simulation.

3.2 Hydraulic Analysis

Storage Volume

Stage-area relationships for AP-1 were derived from 2-ft contours generated from the February 2026 topographic survey. Stage-storage data are provided in **Attachment 4**.

Outlet Devices

The discharge system at AP-1 includes a primary discharge structure and an auxiliary spillway system. The primary structure consists of a 42-inch gravity-flow fiberglass pipe with an invert elevation of EL 781.5 feet; however, the pipe inlet is fitted with a concrete decant structure and gate that is maintained in the closed position under current water management operations, and the AP-1 pool is instead managed via pumping to the Wastewater Treatment System (WWTS). Accordingly, no discharge through the primary spillway was credited in this analysis. Additionally, no credit was taken for pumping capacity during the design storm, which represents a conservative assumption as active pumping would reduce the peak water surface elevation below that reported in **Table 1**. The auxiliary spillway consists of a 36-inch diameter CMP and a 45-foot-wide concrete broad-crested weir with a crest elevation of EL 802.6 feet, located along the western embankment. The stage-area relationship was developed to EL 802.6 feet; the auxiliary spillway was not engaged during the design storm, confirming that the impoundment retains adequate capacity below the spillway crest.

4.0 SUPPORTING INFORMATION

Hydrologic Soil Group (HSG)

Soils within the contributing drainage area are classified as Hydrologic Soil Groups (HSG) B and D based on USDA Web Soil Survey data. HSG B comprises approximately 85% of the mapped soil area within the watershed and was applied to the modeled drainage basins consistent with the methodology used in the 2021 Plan.

Curve Number (CN)

Curve numbers (CNs) were selected based on TR-55 Table 2-2 and the current land cover conditions within the contributing drainage area, as summarized in **Table 4**. CN values were updated from the 2021 Plan to reflect current site conditions, resulting in an increase in the weighted CN from 72 (2021) to 89 (2026). This increase is attributable to the expansion of exposed CCR and active construction areas east of the AP-1 pool, which now represent the dominant land cover in the contributing area. As demonstrated in **Table 1**, this increase in CN and corresponding runoff does not adversely affect the performance of the inflow management system, which retains substantial freeboard under the design storm.

Table 4. Land Cover and Curve Number Assignments

Area Description	Area	CN
AP-1 Pool	166	100
CCR, Construction Areas, Laydown Areas, and WWTS	245	98
Upland and Run-on Areas	148	64.5
Future Diversion Channel Footprint	91	86
Weighted Average (over 650-acre drainage area)		89

Referencing the drainage area and feature proximity presented in **Attachment 3**, CN values were determined according to the following considerations:

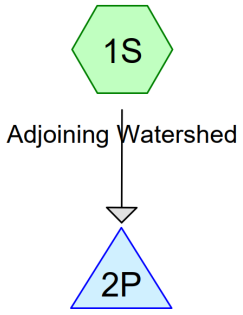
- **AP-1 Pool (CN = 100).** The current extents of the AP-1 pool (166 acres) were assigned CN = 100 per TR-55 Table 2-2, consistent with the Open Water classification.
- **CCR, Construction Areas, Laydown Areas, and WWTS (CN = 98).** The majority of the land area east of the AP-1 pool (245 acres) consists of presently exposed CCR, active excavation and construction staging areas within the ash delta, equipment laydown areas, the WWTS footprint, and ancillary runon areas adjacent to limits of AP-1. These areas are assigned CN = 98 per TR-55 Table 2-2 (Impervious Areas). This CN is applied regardless of HSG; because CCR excavation and closure construction activities cause grading, topography, and drainage patterns within these areas to evolve continuously, CN = 98 conservatively bounds this variability and ensures the analysis is not dependent on construction-condition surface detail that may not persist.
- **Future Diversion Channel Footprint (CN = 86).** A western diversion channel is proposed for construction as part of the AP-1 CBR closure strategy, as documented in the permit drawings ["Plant Wansley AP-1 Closure Project – Minor Permit Modification 2, Permit No. 074-006D(CCR), Part A; Section 8 Closure Drawings." Approved December 5, 2025]. The diversion channel is not yet constructed and is not credited with any reduction to inflow volumes or routing around AP-1 in this analysis. However, initial clearing activities within the diversion channel footprint have commenced. CN = 86 was conservatively assigned to this area per TR-55 Table 2-2 (Fallow, Bare Soil, HSG B), reflecting a fully cleared and disturbed ground condition.
- **Upland and Run-on Areas (CN = 64.5).** The remaining upland and runon areas west and southwest of AP-1 (148 acres), located upstream of the proposed diversion channel alignment, consist of a mixture of woodland and historically

cleared areas with evidence of past land use. A composite CN of 64.5 was assigned based on a 50% / 50% split between Woods in fair condition (CN = 60, HSG B, TR-55 Table 2-2) and Open Space with fair grass coverage (CN = 69, HSG B, TR-55 Table 2-2), reflecting the observed mixed character of these areas.

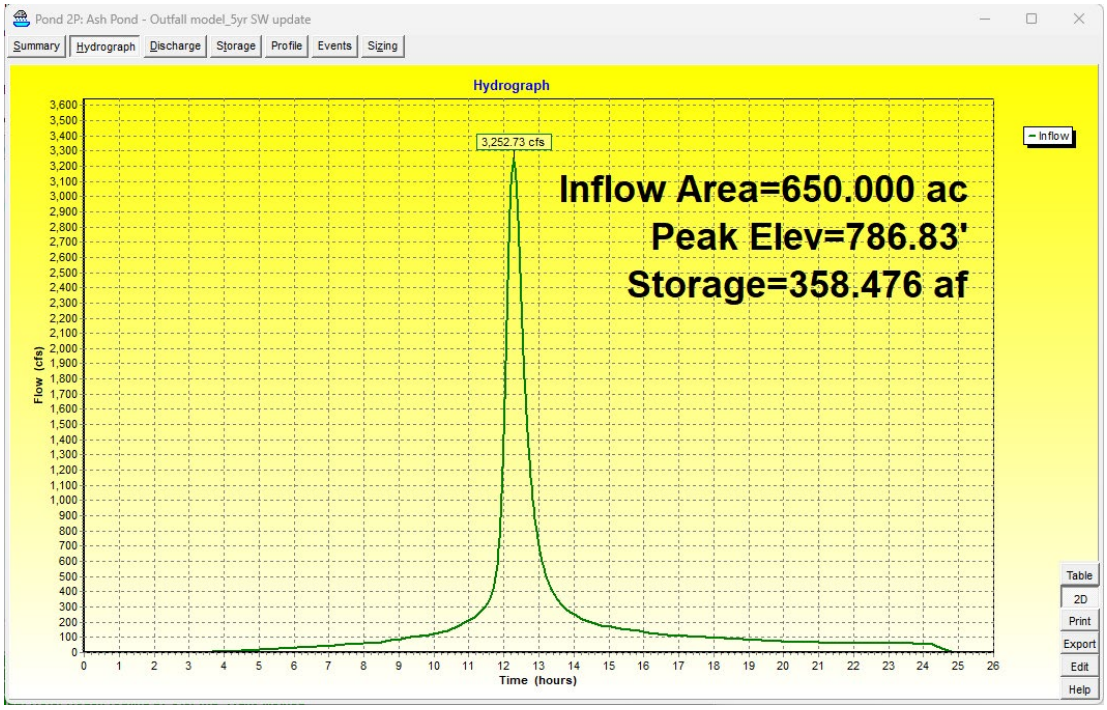
Time of Concentration

Time of concentration (Tc) was computed in the 2021 Plan using TR-55 sheet flow and shallow concentrated flow methodologies from the most hydraulically distant point within the contributing watershed to the AP-1 discharge point, yielding a Tc of 34.8 minutes. This value was carried forward to the 2026 analysis for consistency; however, time-of-concentration inputs do not materially influence the results of this evaluation given that the entire design storm runoff volume is stored below the auxiliary spillway crest elevation.

ATTACHMENT 1
Model Results



Ash Pond



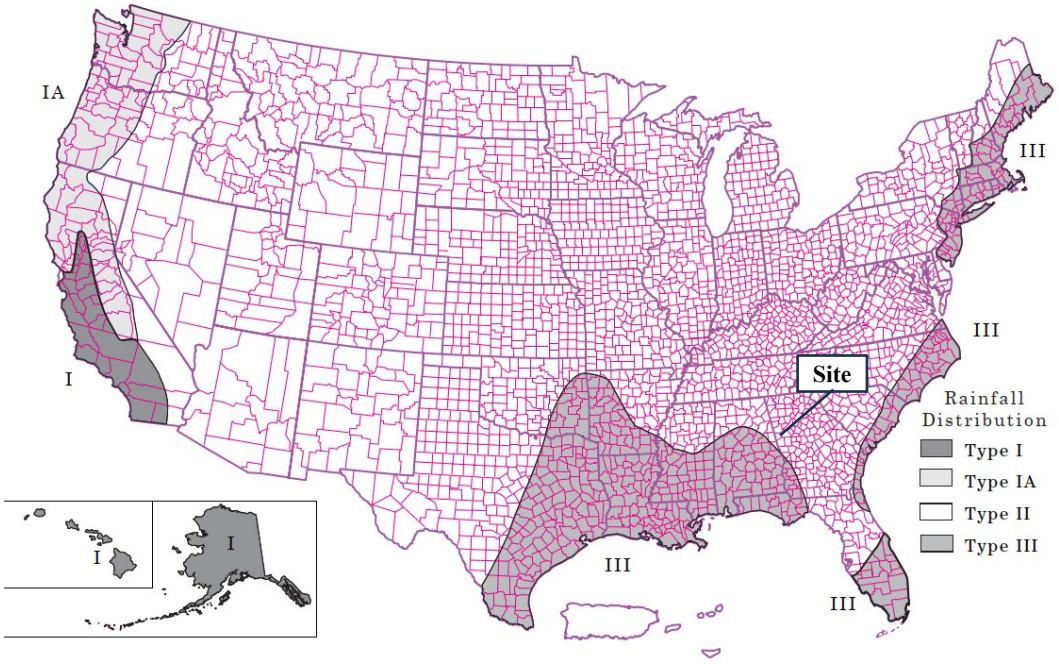
Time span=0.00-26.00 hrs, dt=0.01 hrs, 2601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Adjoining Watershed Runoff Area=650.000 ac 63.23% Impervious Runoff Depth=6.62"
Tc=34.8 min CN=89 Runoff=3,252.73 cfs 358.482 af

Pond 2P: Ash Pond Peak Elev=786.83' Storage=358.476 af Inflow=3,252.73 cfs 358.482 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 650.000 ac Runoff Volume = 358.482 af Average Runoff Depth = 6.62"
36.77% Pervious = 239.000 ac 63.23% Impervious = 411.000 ac

ATTACHMENT 2
SCS Rainfall Distribution and NOAA Precipitation Frequency Data



Geosyntec consultants

NOAA Atlas 14, Volume 9, Version 2
Location name: Franklin, Georgia, USA*
Latitude: 33.4147°, Longitude: -85.0453°
Elevation: 816 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.400 (0.329-0.490)	0.459 (0.377-0.562)	0.559 (0.458-0.687)	0.646 (0.527-0.796)	0.772 (0.611-0.975)	0.873 (0.675-1.11)	0.977 (0.731-1.26)	1.09 (0.781-1.43)	1.24 (0.856-1.66)	1.36 (0.914-1.84)
10-min	0.586 (0.482-0.717)	0.672 (0.553-0.824)	0.819 (0.671-1.00)	0.947 (0.771-1.16)	1.13 (0.895-1.43)	1.28 (0.988-1.63)	1.43 (1.07-1.85)	1.59 (1.14-2.10)	1.82 (1.25-2.43)	1.99 (1.34-2.69)
15-min	0.715 (0.588-0.875)	0.820 (0.674-1.00)	0.999 (0.819-1.23)	1.15 (0.941-1.42)	1.38 (1.09-1.74)	1.56 (1.20-1.98)	1.74 (1.30-2.26)	1.94 (1.39-2.56)	2.21 (1.53-2.97)	2.43 (1.63-3.28)
30-min	1.04 (0.857-1.28)	1.20 (0.984-1.47)	1.46 (1.20-1.79)	1.69 (1.38-2.08)	2.02 (1.60-2.55)	2.28 (1.76-2.91)	2.56 (1.91-3.31)	2.85 (2.04-3.75)	3.24 (2.24-4.35)	3.56 (2.39-4.81)
60-min	1.37 (1.13-1.68)	1.57 (1.29-1.92)	1.92 (1.57-2.36)	2.23 (1.82-2.74)	2.68 (2.13-3.40)	3.05 (2.36-3.90)	3.44 (2.58-4.47)	3.86 (2.78-5.10)	4.45 (3.08-5.97)	4.91 (3.30-6.64)
2-hr	1.70 (1.41-2.06)	1.94 (1.61-2.36)	2.38 (1.97-2.89)	2.77 (2.28-3.37)	3.34 (2.68-4.21)	3.82 (3.00-4.84)	4.33 (3.28-5.58)	4.88 (3.55-6.39)	5.65 (3.96-7.53)	6.26 (4.27-8.39)
3-hr	1.92 (1.60-2.31)	2.19 (1.82-2.64)	2.67 (2.22-3.22)	3.11 (2.57-3.76)	3.76 (3.04-4.72)	4.32 (3.40-5.44)	4.91 (3.75-6.29)	5.55 (4.07-7.24)	6.45 (4.56-8.57)	7.18 (4.93-9.58)
6-hr	2.36 (1.99-2.81)	2.67 (2.25-3.19)	3.23 (2.71-3.86)	3.74 (3.13-4.49)	4.52 (3.69-5.61)	5.17 (4.12-6.46)	5.87 (4.53-7.45)	6.63 (4.92-8.57)	7.70 (5.52-10.1)	8.58 (5.96-11.3)
12-hr	2.90 (2.47-3.42)	3.27 (2.78-3.86)	3.91 (3.31-4.63)	4.49 (3.78-5.33)	5.34 (4.40-6.55)	6.05 (4.87-7.47)	6.80 (5.31-8.54)	7.61 (5.72-9.73)	8.74 (6.33-11.4)	9.65 (6.80-12.6)
24-hr	3.45 (2.96-4.03)	3.91 (3.36-4.58)	4.70 (4.02-5.51)	5.38 (4.58-6.32)	6.35 (5.26-7.66)	7.13 (5.78-8.67)	7.93 (6.24-9.81)	8.76 (6.64-11.0)	9.90 (7.25-12.7)	10.8 (7.71-14.0)
2-day	3.97 (3.45-4.59)	4.56 (3.95-5.28)	5.53 (4.78-6.41)	6.35 (5.46-7.38)	7.48 (6.25-8.90)	8.37 (6.85-10.0)	9.26 (7.36-11.3)	10.2 (7.80-12.7)	11.4 (8.45-14.5)	12.3 (8.94-15.9)
3-day	4.38 (3.82-5.03)	4.96 (4.32-5.70)	5.95 (5.17-6.85)	6.79 (5.87-7.85)	7.99 (6.73-9.47)	8.94 (7.38-10.7)	9.92 (7.94-12.1)	10.9 (8.45-13.6)	12.3 (9.21-15.6)	13.4 (9.78-17.1)
4-day	4.71 (4.12-5.38)	5.30 (4.63-6.06)	6.30 (5.50-7.22)	7.18 (6.23-8.25)	8.44 (7.15-9.98)	9.46 (7.85-11.3)	10.5 (8.48-12.8)	11.6 (9.06-14.4)	13.2 (9.92-16.7)	14.4 (10.6-18.3)
7-day	5.49 (4.85-6.23)	6.17 (5.44-7.00)	7.34 (6.46-8.35)	8.38 (7.33-9.55)	9.89 (8.47-11.6)	11.1 (9.33-13.2)	12.4 (10.1-15.0)	13.8 (10.9-17.0)	15.7 (12.0-19.7)	17.2 (12.8-21.8)
10-day	6.20 (5.50-7.00)	6.96 (6.17-7.85)	8.26 (7.30-9.34)	9.41 (8.28-10.7)	11.1 (9.55-13.0)	12.5 (10.5-14.7)	13.9 (11.4-16.7)	15.4 (12.2-18.9)	17.5 (13.4-21.9)	19.2 (14.4-24.2)
20-day	8.42 (7.54-9.38)	9.29 (8.32-10.4)	10.8 (9.63-12.1)	12.1 (10.7-13.6)	13.9 (12.1-16.1)	15.4 (13.2-18.0)	17.0 (14.1-20.1)	18.6 (14.9-22.5)	20.9 (16.2-25.8)	22.6 (17.2-28.2)
30-day	10.4 (9.34-11.5)	11.4 (10.2-12.6)	13.0 (11.7-14.5)	14.4 (12.9-16.1)	16.4 (14.3-18.7)	18.0 (15.4-20.7)	19.6 (16.3-23.0)	21.2 (17.1-25.4)	23.4 (18.3-28.7)	25.1 (19.2-31.1)
45-day	12.9 (11.7-14.2)	14.1 (12.8-15.6)	16.1 (14.6-17.8)	17.7 (16.0-19.7)	19.9 (17.5-22.5)	21.6 (18.6-24.7)	23.2 (19.5-27.0)	24.9 (20.2-29.6)	27.0 (21.2-32.8)	28.5 (22.0-35.2)
60-day	15.1 (13.7-16.5)	16.6 (15.1-18.2)	18.9 (17.2-20.8)	20.8 (18.8-22.9)	23.3 (20.4-26.0)	25.0 (21.6-28.4)	26.7 (22.5-30.9)	28.4 (23.1-33.5)	30.4 (24.1-36.7)	31.8 (24.8-39.2)

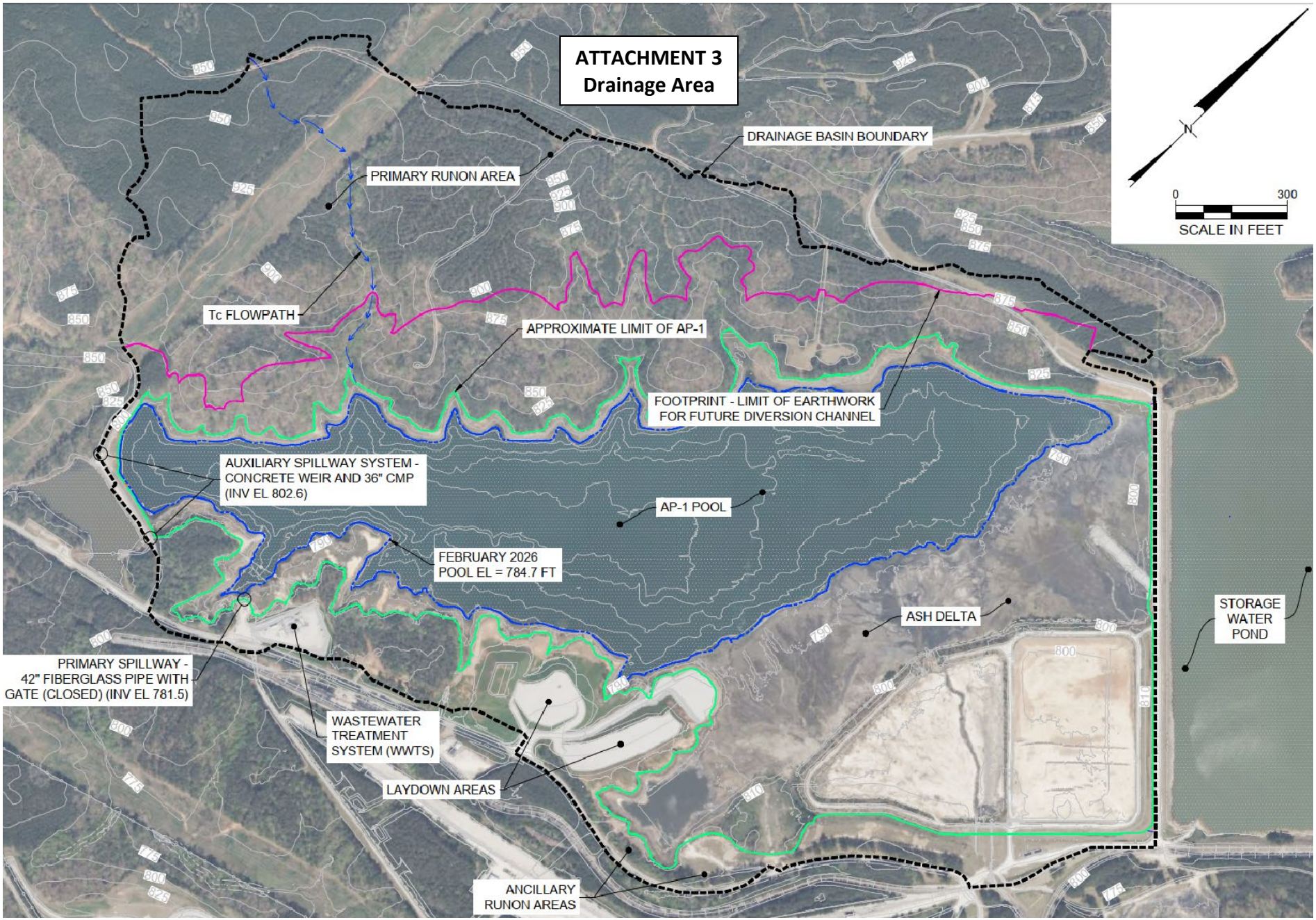
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical


ATTACHMENT 3
Drainage Area
DRAINAGE BASIN BOUNDARY
PRIMARY RUNON AREA
Tc FLOWPATH
APPROXIMATE LIMIT OF AP-1
FOOTPRINT - LIMIT OF EARTHWORK FOR FUTURE DIVERSION CHANNEL
AUXILIARY SPILLWAY SYSTEM - CONCRETE WEIR AND 36" CMP (INV EL 802.6)
AP-1 POOL
FEBRUARY 2026 POOL EL = 784.7 FT
ASH DELTA
STORAGE WATER POND
PRIMARY SPILLWAY - 42" FIBERGLASS PIPE WITH GATE (CLOSED) (INV EL 781.5)
WASTEWATER TREATMENT SYSTEM (WWTS)
LAYDOWN AREAS
ANCILLARY RUNON AREAS
N
0
300
SCALE IN FEET

Geosyntec consultants

ATTACHMENT 4
AP-1 Stage Storage
(Existing Condition)

Wansley Ash Pond	
Elevation (ft)	**Area (acres)**
784.70	166.2
785.00	167.0
786.00	169.2
787.00	171.1
788.00	173.7
789.00	177.2
790.00	184.0
791.00	193.2
792.00	208.5
793.00	222.9
794.00	231.1
795.00	236.7
796.00	241.3
797.00	249.1
798.00	254.9
799.00	260.6
800.00	273.2
801.00	279.8
801.50	283.7
802.00	286.5
802.60	302.2