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REPORT

RUN-ON AND RUN-OFF CONTROL SYSTEM PLAN - PERIODIC UPDATE

St. Johns River Power Park
Byproduct Storage Area B Phase I Development

Submitted to:

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Submitted by:

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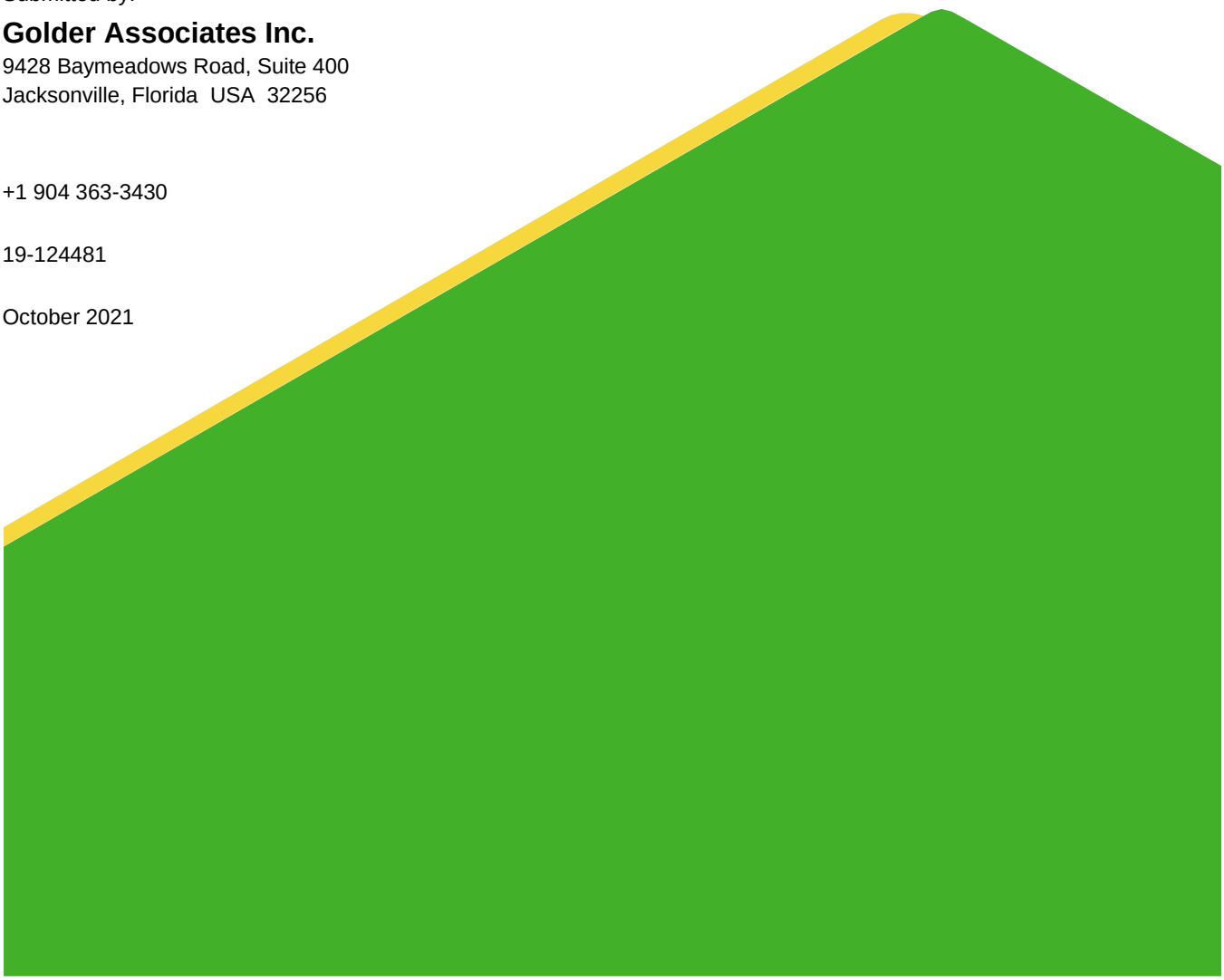
19-124481

October 2021



Distribution List

1 Copy - St. Johns River Power Park

PROFESSIONAL ENGINEER CERTIFICATION

I, Samuel F. Stafford, being a registered Professional Engineer in the state of Florida, do hereby certify to the best of my knowledge, information, and belief, that the information contained in this Run-On and Run-Off Control System Plan dated October 20, 2021 was conducted in accordance with the requirements of 40 CFR §257.81, is true and correct, and had been prepared in accordance with recognized and generally accepted good engineering practices.

Samuel F. Stafford, PE
Florida Professional Engineer No. 78648
Authorization No. 1670

Samuel F Stafford
This item has been electronically signed and sealed by Samuel F. Stafford, PE using a Digitial Signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.
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10/20/2021

Date

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1.0 INTRODUCTION

In October 2016, a Run-On and Run-Off Control System (ROROCS) Plan was prepared for the Phase I development of Area B Byproduct Storage Area (Area B BSA) at the St. Johns River Power Park in Duval County, Florida, in accordance with the requirements of the federal coal combustion residual (CCR) rule. Pursuant to §257.81(c), this plan is being updated to reflect the change in conditions at Area B BSA. Specifically, this ROROCS plan documents how the facility's run-on and run-off control systems meet the requirements of §257.81 following closure of Area B BSA and includes supporting engineering calculations and modeling analysis. This Plan will be included in the facility's operating records in accordance with §257.105(g)(3).

2.0 REGULATORY REQUIREMENTS

2.1 Federal CCR Rule

The CCR Rule, 40 CFR Part 257, Subpart D, requires that the owner or operator of a new and existing CCR landfill must prepare an initial and periodic ROROCS plans which document how the run-on and run-off control systems meet the following requirements as outlined in 40 CFR 257.81(a):

- A run-on control system must prevent flow onto the active portion of the CCR unit during the peak discharge from the 25-year, 24-hour storm event.
- A run-off control system from the active portion of the CCR unit must collect and control the peak discharge from the 25-year, 24-hour storm event.

The active portion is defined by 40 CFR 257.53 as the part of the CCR unit that has received or is receiving CCR or non-CCR waste and has not completed closure in accordance with 40 CFR Part 257.102. Area B BSA has been closed and capped and no longer has an active portion.

3.0 DESIGN METHODOLOGIES

3.1 Design Storm

The existing run-on and run-off control systems were designed for hydraulic capacity for at least the 25-year, 24-hour storm event as required by local and federal regulations. Site-specific precipitation estimates were obtained from Natural Resource Conservation Service (NRCS) 24-hour rainfall maps and the Soil Conservation Service Florida Modified Type II Rainfall Distribution was used. The 25-year, 24-hour storm event generates approximately 9.0 inches of precipitation at SJRPP.

3.2 Hydrologic Calculation and Stormwater Routing Methods

Hydrology calculations were completed using NRCS methods. Time of concentration values were calculated for each basin by dividing the flow paths into sheet flow and shallow concentration segments. The time of concentration calculations for the stormwater model are presented in Appendix A.

Composite curve numbers (CN) were calculated for each basin within the stormwater models (see Appendix A). CCR material was assumed to perform hydrologically consistent with bare soil conditions, which conservatively correlates to a CN of 86. Final cover material was assumed to perform hydrologically consistent with open space with good vegetative condition, which correlates to a CN of 74. A CN of 98 was used for impervious surfaces. Hydrologic soil group C was assumed for curve number computations.

Stormwater discharge and flow routing calculations were performed using the Streamline Technologies Interconnected Pond Routing (ICPR) version 4 stormwater modeling software. The ICPR model operates using three key elements that include basins, nodes, and links. The basins represent the hydrological information for each drainage contributing area. Stage-area data (or depressional storage areas) within each drainage basin was input into nodes. The nodal warning stages correlate to the maximum stage that can be reached within the depressional storage areas before overtopping occurs (e.g., top of bank elevation). The nodal warning stages vary for each drainage basin node. Nodes are interconnected by links and the links represent the existing or proposed culverts/pipes, ditches/swales, and weirs for flow routing.

4.0 RUN-ON CONTROL

Run-on is defined as stormwater that may flow towards the active portion a CCR unit. Area B BSA has been capped and closed and therefore has no active portion. Furthermore, based on the topography of the Area B BSA and surrounding topography, run-on potential is low. Area B BSA is topographically higher than surrounding areas and is surrounded by berms and a network of stormwater collection areas. The perimeter berms and stormwater collection areas (ditches, swales, and ponds) would intercept run-on flows.

5.0 RUN-OFF CONTROL

Run-off is defined as stormwater that falls on and flows off of Area B BSA. The CCR material has been covered with a final cover system and only non-contact stormwater will be generated. The final cover configuration of Area B BSA was analyzed for stormwater run-off management as it would generate the highest volume of stormwater run-off. At 20-foot (vertical) intervals, 2-foot deep, 10-foot-wide benches (backwardly inclined channels) have been constructed, with approximately 0.5 percent longitudinal slope that outlet to the perimeter ditch system via downcomer pipes (18-inch diameter), spaced approximately 500 feet apart. The perimeter ditch system will convey stormwater either to Pond A or Pond B via culverts. Stormwater will eventually discharge via infiltration to the water table or (under peak storm conditions) through control structures. Pond B may discharge under peak storm conditions via an overflow weir and associated channel to Pond A. Pond A will discharge under peak storm conditions via pipes and an overflow weir or control structure to an unnamed tributary of Clapboard Creek. The final cover configuration consists of 11 drainage basins and associated depressional storage areas that are interconnected by a series of pipes directing runoff ultimately to Pond B and Pond A (see Figure 1). Pond A, Pond B and the Pond A outfall location were modeled as Node 1, Node 10, and Node 7, respectively. The ICPR nodal diagram, model inputs, and results for the non-contact stormwater run-off configuration are presented in Appendix A.

The modeling results indicate that the final cover stormwater management system for Area B BSA has adequate capacity to collect, manage and route flows from the 25-year, 24-hour return period as warning stages were not exceeded at any of the basin nodes (no overtopping). The nodal peak staging results and available freeboard for each sub-area are summarized below:

Table 1: 25-year, 24-hour Peak Stage and Freeboard Summary

Node	Description	Peak Stage (feet)	Warning Stage (feet)	Freeboard 25-year, 24-hour Storm (feet)
1	Pond A	8.97	11.00	2.03
2	Final Cover East Slope and Perimeter Ditch	12.18	12.60	0.42
3	Final Cover South Slope and Perimeter Ditch	13.8	15.00	1.2
4	Final Cover Southwest Slope and Swale	19.44	20.65	1.21
5	Final Cover Northwest Slope and Swale	16.78	18.07	1.29
6	Final Cover North Slope and Swale	12.77	13.73	0.96
9	Depressional Storage East of Pond B	12.6	14	1.4
10	Pond B	9.14	13	3.86
11	Ditch Northeast of Pond B	12.57	14	1.43

6.0 CLOSING

As required by 40 CFR 257.81, the Area B BSA run-on control system has the capacity to prevent flow onto the active portion of the CCR unit during the peak discharge from a 25-year, 24-hour storm, and the run-off control system has the capacity to collect, manage and route flows resulting from a 25-year, 24-hour storm.

Signature Page

Golder Associates Inc.

Samuel F. Stafford, PE
Senior Engineer

Donald J. Miller
Principal and Practice Leader

HH/SFS/DJM/as

https://golderassociates.sharepoint.com/sites/110243/Project Files/6 Deliverables/ROROCS Plan/19-124481 SJRPP ROROCS Plan.docx

FIGURE

Node 11 Stage Storage Area	
ELEVATION	AREA (ACRES)
11.5	0.05
12.0	0.22
12.5	0.43
13.0	0.67
13.5	0.91
14.0	1.16
14.5	1.42

Node 2 Stage Storage Area	
ELEVATION	AREA (ACRES)
9.0	0.15
10.0	0.53
11.0	0.84
12.0	1.12

Pond A/ Node 1 Stage Storage Area	
ELEVATION	AREA (ACRES)
3.0	9.90
4.0	10.18
5.0	10.56
6.0	10.93
7.0	11.79
7.5	12.37
8.0	12.96
8.5	13.18
9.0	13.39
10.0	13.82
11.0	14.26

Node 9 Stage Storage Area	
ELEVATION	AREA (ACRES)
11.5	0.07
12.0	0.52
12.5	1.42
13.0	2.70
13.5	4.19
14.0	5.68
14.5	7.05

Node 10/ Pond B Stage Storage Area	
ELEVATION	AREA (ACRES)
-1.0	0.43
0.0	0.88
1.0	1.17
2.0	1.45
3.0	1.75
4.0	2.04
5.0	2.34
6.0	2.64
7.0	2.99
8.0	3.37
9.0	3.79
10.0	4.28
11.0	4.81
12.0	5.30
13.0	5.99

Node 3 Stage Storage Area	
ELEVATION	AREA (ACRES)
11.0	0.01
12.0	0.01
13.0	0.11
14.0	0.29
15.0	0.53
16.0	0.88

BASIN 11
TOTAL AREA: 3.53 ac

BASIN 10
TOTAL AREA: 8.56 ac

BASIN 9
TOTAL AREA: 10.94 ac

BASIN 5
TOTAL AREA: 5.21 ac

BASIN 6
TOTAL AREA: 6.21 ac

BASIN 2B
TOTAL AREA: 4.22 ac

BASIN 4
TOTAL AREA: 5.93 ac

BASIN 2A
TOTAL AREA: 6.07 ac

BASIN 3
TOTAL AREA: 3.71 ac

BASIN 1
TOTAL AREA: 15.98 ac

NODE 11

PIPE N11-N10 (1) & (2)
(2) 68 LF OF 24"x38" Ø ERCP
E. INV.EL.= 11.24, W. INV.EL. = 10.23
E. INV.EL.= 11.25, W. INV.EL. = 10.23

NODE 10

NODE 9

PIPE N9-N10 (1) & (2)
(2) 66 LF OF 24"x38" Ø ERCP
E. INV.EL.= 11.24, W. INV.EL. = 10.23
E. INV.EL.= 11.24, W. INV.EL. = 10.23

NODE 8

NODE 4

NODE 6

NODE 5

NODE 2

NODE 1

PIPE N2-N1 (1) & (2)
(2) 64 LF OF 24"x38" Ø ERCP
W. INV.EL.= 8.47, E. INV.EL. = 7.45
W. INV.EL.= 8.43, E. INV.EL. = 7.46

CONTROL STRUCTURE N1-N7 (1) & (2)
POND A PIPES
(2) 44 LF OF 8" Ø PVC
SW. INV.EL.= 7.48, NE. INV.EL. = 7.46
SW. INV.EL.= 7.48, NE. INV.EL. = 7.48

NODE 7

WEIR N1-N7
POND A SPILLWAY
INV. EL.=8.36'

NODE 3

PIPE N3-N2 (1), (2), & (3)
(3) 66 LF OF 24"x38" Ø ERCP
SW. INV.EL.= 11.95, NE. INV.EL. = 11.93
SW. INV.EL.= 12.05, NE. INV.EL. = 11.86
SW. INV.EL.= 12.10, NE. INV.EL. = 11.86

PIPE N10-N1 (1), (2), (3), & (4)
(4) 44 LF OF 24"x38" Ø ERCP
W. INV.EL.= 7.95, E. INV.EL. = 7.72
W. INV.EL.= 7.91, E. INV.EL. = 7.71
W. INV.EL.= 7.90, E. INV.EL. = 7.76
W. INV.EL.= 7.92, E. INV.EL. = 7.72

LEGEND

- DESIGN CONTOUR LINES
- EXISTING CONTOURS
- LIMIT OF WASTE
- PROPOSED PERIMETER DITCH
- PROPOSED ACCESS ROAD
- AREA B PHASE 1 FOOTPRINT
- GRADING HIGH POINT
- DOWN COMER PIPE
- TIME OF CONCENTRATION PATH
- BASIN AREA BOUNDARY
- HYDROLOGIC NODE
- DEPRESSIONAL STORAGE AREA

NOTE(S)

1. PROPOSED CONTOURS REPRESENT TOP OF FINAL COVER GRADES AFTER COMPLETION OF GRADING ACTIVITIES.

0 160 320
SCALE FEET

CLIENT
JEA

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2021-09-30
DESIGNED	HH
PREPARED	BCL
REVIEWED	SFS
APPROVED	DJM

PROJECT
RUN-ON AND RUN-OFF CONTROL SYSTEM
ST. JOHNS RIVER POWER PARK
JACKSONVILLE, DUVAL COUNTY, FLORIDA

TITLE
BYPRODUCT STORAGE AREA B PHASE I
RUN-OFF CONTROL PLAN

PROJECT NO.	Phase	REV.	FIGURE
19-124481	19124481-N002		1

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APPENDIX A

Stormwater Run-Off Calculations and Model

Time of Concentration Calculations

Hydrology calculations were completed using NRCS methods. Time of concentration values were calculated for each basin by dividing the flow paths into different segments based on overland flow characteristics. The travel times for each flow path were summed to get a time of concentration. The flow paths were divided into the following categories:

1. Sheet Flow – the maximum sheet flow distance used was 300 feet. The SCS equation for overland flow using Manning's equation was used and is shown below:

$$T_t = \frac{(0.007)(n*L)^{0.8}}{P_2^{0.5}(S)^{0.4}}, \text{ where:}$$

T_t = Travel Time (min.)
n = Manning's n
L = Flow path length (ft.)
P_2 = 2-year, 24-hour rainfall (in.)
S = Flow path slope (ft./ft.)

2. Shallow Concentrated Flow –concentrated overland flow towards channels. The equation for shallow concentrated flow is shown below:

$$T_t = \frac{L}{V} * \frac{1}{60}, \text{ where:}$$

T_t = Travel Time (min.)
L = Flow path length (ft.)
v = Flow velocity (feet/second)

Time of concentration calculations for each basin are presented in Table 2.

Composite Curve Number Calculations

CCR material was assumed to perform hydrologically consistent with bare soil conditions, which correlates to runoff curve number values ranging from 77 to 94 depending on the hydrologic soil group. Final cover material was assumed to perform hydrologically consistent with Open Space, Good Condition (grass cover > 75%), which correlates to runoff curve number values ranging from 39 to 80 depending on the hydrologic soil group. Hydrologic soil group B was assumed for curve number computations.

Composite curve number calculations for each basin are presented in Table 2.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description 1 (Pond A) 15.98 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	0.92	Tie-in Areas (Open Space - Good)	C	74	5.8%	4
	0.00	Perimeter Road (Impervious)	-	98	0.0%	0
	15.06	Pond/Pool (Water)	-	98	94.2%	92
					100.0%	
Total:	15.98	**OK**		Weighted SCS CN =		97

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow
*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow
*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.
*Mannings of 0.24 - Dense Grasses
*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
Overland Flow	0.24	4.74	0.05

	Dist. (ft)		Vel. (fps)	Time (min.)
	100	Sheet Flow		8
	0	Shallow concentrated flow	3.61	0
	0	Open channel flow	4.60	0
Total:	100			
			Time of Concentration =	8 min.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description 2A 6.07 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	5.32	Final Cover (Open Space - Good)	C	74	87.6%	65
	0.34	Perimeter Road (Impervious)	-	98	5.6%	5
	0.41	Pond/Pool (Water)	-	98	6.8%	7
					100.0%	
Total:	6.07	**OK**		Weighted SCS CN =		77

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

Overland Flow	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
	0.24	4.74	0.05

	Dist. (ft)		Vel. (fps)	Time (min.)
	300	Sheet Flow		20
	30	Shallow concentrated flow	3.61	0
	360	Open channel flow (Rim Ditch)	4.60	1
Total:	690			
			Time of Concentration =	21 min.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description 2B 4.22 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	3.46	Final Cover (Open Space - Good)	C	74	82.0%	61
	0.34	Perimeter Road (Impervious)	-	98	8.1%	8
	0.42	Pond/Pool (Water)	-	98	10.0%	10
					100.0%	
Total:	4.22	**OK**		Weighted SCS CN =		78

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
Overland Flow	0.24	4.74	0.05

	Dist. (ft)		Vel. (fps)	Time (min.)
	300	Sheet Flow		20
	30	Shallow concentrated flow	3.61	0
	240	Open channel flow (Rim Ditch)	4.60	1
Total:	570			
			Time of Concentration =	21 min.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description 3 — 3.71 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	2.57	Final Cover (Open Space - Good)	C	74	69.3%	51
	0.51	Perimeter Road (Impervious)	-	98	13.7%	13
	0.63	Pond/Pool (Water)	-	98	17.0%	17
					100.0%	
Total:	3.71	**OK**		Weighted SCS CN =		81

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
Overland Flow	0.24	4.74	0.33

	Dist. (ft)		Vel. (fps)	Time (min.)
	75	Sheet Flow		3
	0	Shallow concentrated flow	9.27	0
	285	Open channel flow (Bench Ditch)	4.60	1
Total:	360			

Time of Concentration = 4 min.

Minimum Time of Concentration = 6 min.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description 4 5.93 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	5.60	Final Cover (Open Space - Good)	C	74	94.4%	70
	0.07	Perimeter Road (Impervious)	-	98	1.2%	1
	0.26	Pond/Pool (Water)	-	98	4.4%	4
					100.0%	
Total:	5.93	**OK**		Weighted SCS CN =		75

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
Overland Flow	0.24	4.74	0.05

	Dist. (ft)		Vel. (fps)	Time (min.)
	300	Sheet Flow		20
	30	Shallow concentrated flow	3.61	0
	390	Open channel flow (Rim Ditch)	4.60	1
Total:	720			
			Time of Concentration =	21 min.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description 5 — 5.21 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	4.95	Final Cover (Open Space - Good)	C	74	95.0%	70
	0.09	Perimeter Road (Impervious)	-	98	1.7%	2
	0.17	Pond/Pool (Water)	-	98	3.3%	3
					100.0%	
Total:	5.21	**OK**		Weighted SCS CN =		75

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
Overland Flow	0.24	4.74	0.05

	Dist. (ft)		Vel. (fps)	Time (min.)
	300	Sheet Flow		20
	30	Shallow concentrated flow	3.61	0
	300	Open channel flow (Rim Ditch)	4.60	1
Total:	630			
			Time of Concentration =	21 min.

St. Johns River Power Park

CURVE NUMBER & TIME OF CONCENTRATION

REVISED AREA B DRAINAGE BASINS

Basin Description 6 6.21 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	5.85	Final Cover (Open Space - Good)	C	74	94.2%	70
	0.19	Perimeter Road (Impervious)	-	98	3.1%	3
	0.17	Pond/Pool (Water)	-	98	2.7%	3
					100.0%	
Total:	6.21	**OK**		Weighted SCS CN =		75

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

Overland Flow	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
	0.24	4.74	0.05

	Dist. (ft)		Vel. (fps)	Time (min.)
	300	Sheet Flow		20
	0	Shallow concentrated flow	3.61	0
	165	Open channel flow (Rim Ditch)	4.60	1
Total:	465			
			Time of Concentration =	20 min.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description 9 10.94 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	9.72	Tie-in Areas (Open Space - Good)	C	74	88.8%	66
	1.22	Perimeter Road (Impervious)	-	98	11.2%	11
	0.00	Pond/Pool (Water)	-	98	0.0%	0
					100.0%	
Total:	10.94	**OK**		Weighted SCS CN =		77

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
Overland Flow	0.24	4.74	0.005

	Dist. (ft)		Vel. (fps)	Time (min.)
	300	Sheet Flow		49
	375	Shallow concentrated flow	1.14	5
	0	Open channel flow	4.60	0
Total:	675			
			Time of Concentration =	55 min.

St. Johns River Power Park
CURVE NUMBER & TIME OF CONCENTRATION
REVISED AREA B DRAINAGE BASINS

Basin Description: 10 (Pond B) — 8.56 ac.

CN:

Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
2.57	Tie-in Areas (Open Space - Good)	C	74	30.0%	22
0.00	Perimeter Road (Impervious)	-	98	0.0%	0
5.99	Pond/Pool (Water)	-	98	70.0%	69
				100.0%	
Total: 8.56	**OK**		Weighted SCS CN =		91

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

Overland Flow	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
	0.24	4.74	0.05

Dist. (ft)		Vel. (fps)	Time (min.)
70	Sheet Flow		6
0	Shallow concentrated flow	3.61	0
0	Open channel flow	4.60	0
Total: 70			
		Time of Concentration =	6 min.

St. Johns River Power Park

CURVE NUMBER & TIME OF CONCENTRATION

REVISED AREA B DRAINAGE BASINS

Basin Description 11 3.53 ac.

CN:

	Ac.	Land Cover	Soil Type	SCS CN	%	Weight %
	2.61	Tie-in Areas (Open Space - Good)	C	74	73.9%	55
	0.92	Perimeter Road (Impervious)	-	98	26.1%	26
	0.00	Pond/Pool (Water)	-	98	0.0%	0
					100.0%	
Total:	3.53	**OK**		Weighted SCS CN =		80

Tc:

*First Time of Concentration segment less than 300-ft was calculated using the TR-55 formula for sheet flow

*The second segment was calculated using the TR-55 velocity vs. slope criteria for shallow concentrated flow

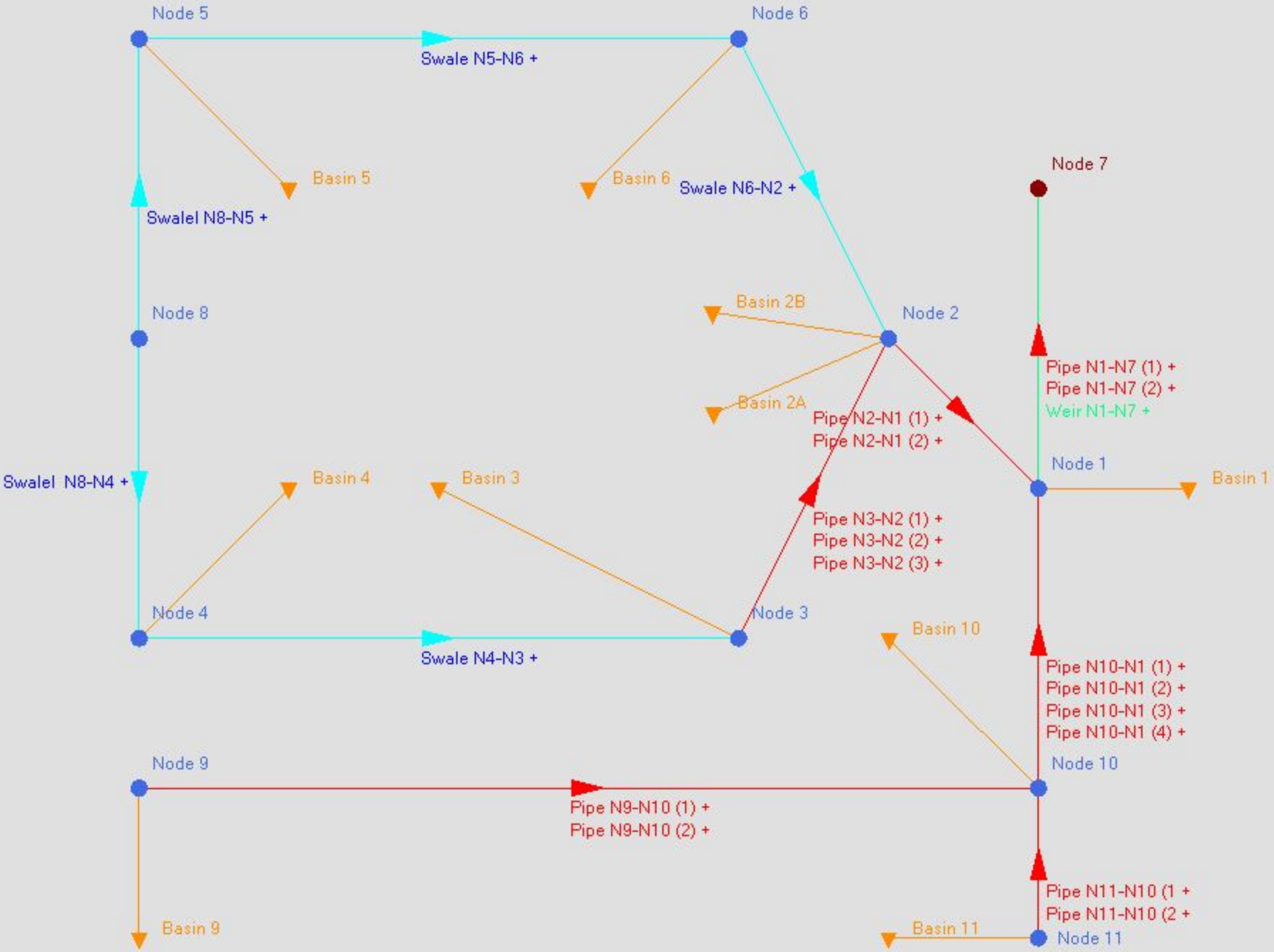
*The remaining segment was calculated using average channel flow velocity obtained from Channel Desgin.

*Mannings of 0.24 - Dense Grasses

*P2-yr,24-hr (in.) - NOAA Precipitation Frequency Data Server for Jacksonville, FL

	Mannings n	$P_{2\text{-yr},24\text{-hr}}$ (in.)	Slope (ft./ft.)
Overland Flow	0.24	4.74	0.05

	Dist. (ft)		Vel. (fps)	Time (min.)
	70	Sheet Flow		6
	0	Shallow concentrated flow	3.61	0
	0	Open channel flow	4.60	0
Total:	70			
			Time of Concentration =	6 min.


Node 5
Node 6
Swale N5-N6 +
Basin 5
Basin 6
Swale N6-N2 +
Swalel N8-N5 +
Node 7
Node 8
Basin 2B
Node 2
Pipe N1-N7 (1) +
Pipe N1-N7 (2) +
Weir N1-N7 +
Basin 2A
Pipe N2-N1 (1) +
Pipe N2-N1 (2) +
Swalel N8-N4 +
Basin 4
Basin 3
Node 1
Basin 1
Pipe N3-N2 (1) +
Pipe N3-N2 (2) +
Pipe N3-N2 (3) +
Node 4
Node 3
Basin 10
Swale N4-N3 +
Pipe N10-N1 (1) +
Pipe N10-N1 (2) +
Pipe N10-N1 (3) +
Pipe N10-N1 (4) +
Node 9
Node 10
Pipe N9-N10 (1) +
Pipe N9-N10 (2) +
Pipe N11-N10 (1 +
Pipe N11-N10 (2 +
Basin 9
Basin 11
Node 11

Simple Basin: Basin 1

Scenario:	SJRPP AREA B 2021
Node:	Node 1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	8.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	15.9800 ac
Curve Number:	97.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 10

Scenario:	SJRPP AREA B 2021
Node:	Node 10
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	6.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	8.5600 ac
Curve Number:	91.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 11

Scenario:	SJRPP AREA B 2021
Node:	Node 11
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	6.0000 min
Max Allowable Q:	999999.00 cfs

Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	3.5300 ac
Curve Number:	80.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 2A

Scenario:	SJRPP AREA B 2021
Node:	Node 2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	21.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	6.0700 ac
Curve Number:	77.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 2B

Scenario:	SJRPP AREA B 2021
Node:	Node 2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	21.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	4.2200 ac
Curve Number:	78.0
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 3

Scenario:	SJRPP AREA B 2021
Node:	Node 3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	6.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	3.7100 ac
Curve Number:	81.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 4

Scenario:	SJRPP AREA B 2021
Node:	Node 4
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	21.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	5.9300 ac
Curve Number:	75.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 5

Scenario:	SJRPP AREA B 2021
Node:	Node 5
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	21.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	5.2100 ac
Curve Number:	75.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 6

Scenario:	SJRPP AREA B 2021
Node:	Node 6
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	20.0000 min
Max Allowable Q:	999999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	Uh256
Peaking Factor:	256.0
Area:	6.2100 ac
Curve Number:	75.0
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: Basin 9

Scenario:	SJRPP AREA B 2021
Node:	Node 9
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	55.0000 min
Max Allowable Q:	999999.00 cfs

Time Shift: 0.0000 hr
Unit Hydrograph: Uh256
Peaking Factor: 256.0
Area: 10.9400 ac
Curve Number: 77.0
% Impervious: 0.00
% DCIA: 0.00
% Direct: 0.00
Rainfall Name:

Comment:

Node: Node 1

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 7.40 ft
Warning Stage: 11.00 ft

Stage [ft]	Area [ac]	Area [ft2]
3.00	9.9000	431244
4.00	10.1800	443441
5.00	10.5600	459994
6.00	10.9300	476111
7.00	11.7900	513572
7.50	12.3700	538837
8.00	12.9600	564538
8.50	13.1800	574121
9.00	13.3900	583268
10.00	13.8200	601999
11.00	14.2600	621166

Comment:

Node: Node 10

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 7.90 ft
Warning Stage: 13.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-1.00	0.4300	18731
0.00	0.8800	38333
1.00	1.1700	50965

Stage [ft]	Area [ac]	Area [ft2]
2.00	1.4500	63162
3.00	1.7500	76230
4.00	2.0400	88862
5.00	2.3400	101930
6.00	2.6400	114998
7.00	2.9900	130244
8.00	3.3700	146797
9.00	3.7900	165092
10.00	4.2800	186437
11.00	4.8100	209524
12.00	5.3000	230868
13.00	5.9900	260924

Comment:

Node: Node 11

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 11.50 ft
Warning Stage: 14.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.50	0.0463	2017
12.00	0.2203	9596
12.50	0.4260	18555
13.00	0.6739	29354
13.50	0.9113	39697
14.00	1.1633	50672
14.50	1.4245	62049

Comment:

Node: Node 2

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 9.00 ft
Warning Stage: 12.60 ft

Stage [ft]	Area [ac]	Area [ft2]
9.00	0.1500	6534
10.00	0.5300	23087
11.00	0.8400	36590

Stage [ft]	Area [ac]	Area [ft2]
12.00	1.1200	48787

Comment:

Node: Node 3

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 11.00 ft
Warning Stage: 15.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.00	0.0100	436
12.00	0.0100	436
13.00	0.1100	4792
14.00	0.2900	12632
15.00	0.5300	23087
16.00	0.8800	38333

Comment:

Node: Node 4

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 18.65 ft
Warning Stage: 20.65 ft

Comment:

Node: Node 5

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 16.07 ft
Warning Stage: 18.07 ft

Comment:

Node: Node 6

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 11.73 ft
Warning Stage: 13.73 ft

Comment:

Node: Node 7

Scenario: SJRPP AREA B 2021
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 7.00 ft
Warning Stage: 7.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	7.00
0	0	0	999.0000	7.00

Comment:

Node: Node 8

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 18.80 ft
Warning Stage: 20.80 ft

Comment: High Point at Channel.

Node: Node 9

Scenario: SJRPP AREA B 2021
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 11.50 ft
Warning Stage: 14.00 ft

Stage [ft]	Area [ac]	Area [ft2]
11.50	0.0700	3049
12.00	0.5200	22651
12.50	1.4200	61855
13.00	2.7000	117612
13.50	4.1900	182516
14.00	5.6800	247421
14.50	7.0500	307098

Comment:

Pipe Link: Pipe N1-N7 (1)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	7.48 ft	Invert:	7.46 ft
	2021	Manning's N:	0.0110	Manning's N:	0.0110
From Node:	Node 1	Geometry: Circular		Geometry: Circular	
To Node:	Node 7	Max Depth:	0.67 ft	Max Depth:	0.67 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	3	Manning's N:	0.0110	Manning's N:	0.0110
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0110	Manning's N:	0.0110

Comment:

Pipe Link: Pipe N1-N7 (2)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	7.48 ft	Invert:	7.48 ft
	2021	Manning's N:	0.0110	Manning's N:	0.0110
From Node:	Node 1	Geometry: Circular		Geometry: Circular	
To Node:	Node 7	Max Depth:	0.67 ft	Max Depth:	0.67 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	3	Manning's N:	0.0110	Manning's N:	0.0110
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0110	Manning's N:	0.0110

Comment:

Pipe Link: Pipe N10-N1 (1)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	7.95 ft	Invert:	7.72 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 10	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 1	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N10-N1 (2)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	7.91 ft	Invert:	7.71 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 10	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 1	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N10-N1 (3)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	7.90 ft	Invert:	7.76 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 10	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 1	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			

Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N10-N1 (4)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	7.92 ft	Invert:	7.72 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 10	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 1	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N11-N10 (1		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	11.24 ft	Invert:	10.23 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 11	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 10	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	68.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N11-N10 (2		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	11.25 ft	Invert:	10.23 ft

	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 11	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 10	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	68.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N2-N1 (1)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	8.47 ft	Invert:	7.45 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 2	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 1	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	64.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N2-N1 (2)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	8.43 ft	Invert:	7.46 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 2	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 1	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	64.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	

Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N3-N2 (1)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	11.95 ft	Invert:	11.93 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 3	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 2	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	66.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N3-N2 (2)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	12.05 ft	Invert:	11.86 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 3	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 2	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	66.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N3-N2 (3)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	12.10 ft	Invert:	11.86 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 3	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	

To Node:	Node 2	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	66.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N9-N10 (1)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	11.24 ft	Invert:	10.23 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 9	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 10	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	66.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment:					

Pipe Link: Pipe N9-N10 (2)		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	11.24 ft	Invert:	10.23 ft
	2021	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	Node 9	Geometry: Vertical Ellipse		Geometry: Vertical Ellipse	
To Node:	Node 10	Max Depth:	3.17 ft	Max Depth:	3.17 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	66.00 ft	Ref Node:		Ref Node:	
FHWA Code:	35	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.00	Top Clip			
Exit Loss Coef:	1.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120

Comment:

Channel Link: Swale N4-N3		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	18.65 ft	Invert:	17.34 ft
	2021	Manning's N:	0.0300	Manning's N:	0.0300
From Node:	Node 4	Geometry: Trapezoidal		Geometry: Trapezoidal	
To Node:	Node 3	Max Depth:	9980.35 ft	Max Depth:	9981.66 ft
Link Count:	1	Extrapolation:	Normal	Extrapolation:	Normal
Flow Direction:	Both	Bottom Width:	4.00 ft	Bottom Width:	8.00 ft
Damping:	0.0000 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Length:	230.00 ft	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Contraction Coef:	0.10	Bottom Clip			
Expansion Coef:	0.30	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0300	Manning's N:	0.0300
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0300	Manning's N:	0.0300

Comment:

Channel Link: Swale N5-N6		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	16.07 ft	Invert:	11.73 ft
	2021	Manning's N:	0.0300	Manning's N:	0.0300
From Node:	Node 5	Geometry: Trapezoidal		Geometry: Trapezoidal	
To Node:	Node 6	Max Depth:	9982.93 ft	Max Depth:	9987.27 ft
Link Count:	1	Extrapolation:	Normal	Extrapolation:	Normal
Flow Direction:	Both	Bottom Width:	8.00 ft	Bottom Width:	10.00 ft
Damping:	0.0000 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Length:	870.00 ft	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Contraction Coef:	0.10	Bottom Clip			
Expansion Coef:	0.30	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0300	Manning's N:	0.0300
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0300	Manning's N:	0.0300

Comment:

Channel Link: Swale N6-N2		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	11.73 ft	Invert:	9.84 ft
	2021	Manning's N:	0.0300	Manning's N:	0.0300
From Node:	Node 6	Geometry: Trapezoidal		Geometry: Trapezoidal	
To Node:	Node 2	Max Depth:	9987.27 ft	Max Depth:	9989.16 ft
Link Count:	1	Extrapolation:	Normal	Extrapolation:	Normal
Flow Direction:	Both	Bottom Width:	10.00 ft	Bottom Width:	10.00 ft
Damping:	0.0000 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Length:	400.00 ft	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Contraction Coef:	0.10	Bottom Clip			
Expansion Coef:	0.30	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0300	Manning's N:	0.0300
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0300	Manning's N:	0.0300
Comment:					

Channel Link: Swalel N8-N4		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	18.80 ft	Invert:	18.65 ft
	2021	Manning's N:	0.0300	Manning's N:	0.0300
From Node:	Node 8	Geometry: Trapezoidal		Geometry: Trapezoidal	
To Node:	Node 4	Max Depth:	9980.20 ft	Max Depth:	9980.35 ft
Link Count:	1	Extrapolation:	Normal	Extrapolation:	Normal
Flow Direction:	Both	Bottom Width:	4.00 ft	Bottom Width:	4.00 ft
Damping:	0.0000 ft	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Length:	30.00 ft	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Contraction Coef:	0.00	Bottom Clip			
Expansion Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Entr Loss Coef:	0.00	Op Table:		Op Table:	
Exit Loss Coef:	0.00	Ref Node:		Ref Node:	
Bend Loss Coef:	0.00	Manning's N:	0.0300	Manning's N:	0.0300
Bend Location:	0.00 dec	Top Clip			
Energy Switch:	Energy	Default:	0.00 ft	Default:	0.00 ft
		Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0300	Manning's N:	0.0300
Comment:					

Channel Link: Swalel N8-N5		Upstream		Downstream	
Scenario:	SJRPP AREA B	Invert:	18.80 ft	Invert:	16.07 ft
	2021	Manning's N:	0.0300	Manning's N:	0.0300

		Geometry: Trapezoidal		Geometry: Trapezoidal	
From Node:	Node 8	Max Depth:	9980.20 ft	Max Depth:	9982.93 ft
To Node:	Node 5	Extrapolation:	Normal	Extrapolation:	Normal
Link Count:	1	Bottom Width:	4.00 ft	Bottom Width:	8.00 ft
Flow Direction:	Both	Left Slope:	3.000 (h:v)	Left Slope:	3.000 (h:v)
Damping:	0.0000 ft	Right Slope:	3.000 (h:v)	Right Slope:	3.000 (h:v)
Length:	550.00 ft	Bottom Clip			
Contraction Coef:	0.10	Default:	0.00 ft	Default:	0.00 ft
Expansion Coef:	0.30	Op Table:		Op Table:	
Entr Loss Coef:	0.00	Ref Node:		Ref Node:	
Exit Loss Coef:	0.00	Manning's N:	0.0300	Manning's N:	0.0300
Bend Loss Coef:	0.00	Top Clip			
Bend Location:	0.00 dec	Default:	0.00 ft	Default:	0.00 ft
Energy Switch:	Energy	Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0300	Manning's N:	0.0300

Comment:

Weir Link: Weir N1-N7

		Bottom Clip	
Scenario:	SJRPP AREA B 2021	Default:	0.00 ft
From Node:	Node 1	Op Table:	
To Node:	Node 7	Ref Node:	
Link Count:	1	Top Clip	
Flow Direction:	Both	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:	
Weir Type:	Broad Crested Vertical	Ref Node:	
Geometry Type:	Trapezoidal	Discharge Coefficients	
Invert:	8.36 ft	Weir Default:	3.200
Control Elevation:	8.36 ft	Weir Table:	
Max Depth:	9999.00 ft	Orifice Default:	0.600
Extrapolation Method:	Normal Projection	Orifice Table:	
Bottom Width:	24.00 ft		
Left Slope:	3.000 (h:v)		
Right Slope:	3.000 (h:v)		

Comment:

Simulation: 25-24

Scenario:	SJRPP AREA B 2021
Run Date/Time:	10/4/2021 7:34:53 PM
Program Version:	ICPR4 4.07.08

General

Run Mode:	Normal

Year	Month	Day	Hour [hr]

Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		60.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder: ICPR3

Unit Hydrograph Folder: ICPR3

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0010 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft
Edge Length Option: Automatic

IA Recovery Time: 24.0000 hr
Smp/Man Basin Rain Opt: Global
Rainfall Name: Flmod
Rainfall Amount: 8.99 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 113 ft2

Energy Switch (1D): Energy

Comment:

SJRPP Area B ROROCS ICPR Nodal Max Report

Scenario	Sim	Node Name	Warning Stage [ft]	Maximum Stage [ft]	Maximum Inflow Rate [cfs]
SJRPP AREA B 2021	25-24	Node 1	11	8.97	140.15
SJRPP AREA B 2021	25-24	Node 2	12.6	12.18	95.8
SJRPP AREA B 2021	25-24	Node 3	15	13.8	28.9
SJRPP AREA B 2021	25-24	Node 4	20.65	19.44	17.74
SJRPP AREA B 2021	25-24	Node 5	18.07	16.78	22.11
SJRPP AREA B 2021	25-24	Node 6	13.73	12.77	40.5
SJRPP AREA B 2021	25-24	Node 7	7	7	42.02
SJRPP AREA B 2021	25-24	Node 8	20.8	19.3	6.62
SJRPP AREA B 2021	25-24	Node 9	14	12.6	19.7
SJRPP AREA B 2021	25-24	Node 10	13	9.14	67.2
SJRPP AREA B 2021	25-24	Node 11	14	12.57	18.73

SJRPP Area B ROROCS ICPR Mass Balance Report

Scenario	Sim	Relative Time [hrs]	Precipitation Volume [ac_ft]	Rainfall Excess Volume [ac_ft]	Stored Volume (Flow Based) [ac_ft]	Total Inflow Volume [ac_ft]	Total Outflow Volume [ac_ft]
SJRPP AREA B 2021	25-24	0	0	0	0	0	0
SJRPP AREA B 2021	25-24	0.2667	0.17	0	0.17	0.17	0
SJRPP AREA B 2021	25-24	0.5167	0.33	0	0.33	0.33	0
SJRPP AREA B 2021	25-24	0.75	0.47	0	0.47	0.47	0
SJRPP AREA B 2021	25-24	1	0.63	0.01	0.62	0.63	0.01
SJRPP AREA B 2021	25-24	1.25	0.8	0.02	0.78	0.8	0.02
SJRPP AREA B 2021	25-24	1.5167	0.99	0.04	0.95	0.99	0.04
SJRPP AREA B 2021	25-24	1.7667	1.16	0.06	1.1	1.16	0.06
SJRPP AREA B 2021	25-24	2.0167	1.33	0.08	1.25	1.33	0.08
SJRPP AREA B 2021	25-24	2.2667	1.51	0.1	1.41	1.51	0.1
SJRPP AREA B 2021	25-24	2.5167	1.7	0.13	1.56	1.7	0.13
SJRPP AREA B 2021	25-24	2.7667	1.88	0.17	1.71	1.88	0.17
SJRPP AREA B 2021	25-24	3.0167	2.06	0.2	1.86	2.06	0.2
SJRPP AREA B 2021	25-24	3.2667	2.26	0.24	2.02	2.26	0.24
SJRPP AREA B 2021	25-24	3.5167	2.46	0.28	2.18	2.46	0.28
SJRPP AREA B 2021	25-24	3.7667	2.66	0.33	2.33	2.66	0.33
SJRPP AREA B 2021	25-24	4.0167	2.86	0.38	2.49	2.86	0.38
SJRPP AREA B 2021	25-24	4.2667	3.09	0.43	2.66	3.09	0.43
SJRPP AREA B 2021	25-24	4.5167	3.31	0.49	2.82	3.31	0.49
SJRPP AREA B 2021	25-24	4.7667	3.53	0.55	2.99	3.53	0.55
SJRPP AREA B 2021	25-24	5.0167	3.76	0.61	3.15	3.76	0.61
SJRPP AREA B 2021	25-24	5.2667	4	0.68	3.32	4	0.68
SJRPP AREA B 2021	25-24	5.5167	4.23	0.75	3.48	4.23	0.75
SJRPP AREA B 2021	25-24	5.7667	4.47	0.83	3.64	4.47	0.83
SJRPP AREA B 2021	25-24	6.0167	4.71	0.92	3.79	4.71	0.92
SJRPP AREA B 2021	25-24	6.2667	4.99	1.02	3.97	4.99	1.02
SJRPP AREA B 2021	25-24	6.5167	5.26	1.13	4.13	5.26	1.13
SJRPP AREA B 2021	25-24	6.7667	5.54	1.24	4.3	5.54	1.24
SJRPP AREA B 2021	25-24	7.0167	5.82	1.36	4.46	5.82	1.36
SJRPP AREA B 2021	25-24	7.2667	6.13	1.51	4.63	6.13	1.51
SJRPP AREA B 2021	25-24	7.5167	6.45	1.65	4.8	6.45	1.65

SJRPP Area B ROROCS ICPR Mass Balance Report

Scenario	Sim	Relative Time [hrs]	Precipitation Volume [ac_ft]	Rainfall Excess Volume [ac_ft]	Stored Volume (Flow Based) [ac_ft]	Total Inflow Volume [ac_ft]	Total Outflow Volume [ac_ft]
SJRPP AREA B 2021	25-24	7.7667	6.77	1.81	4.96	6.77	1.81
SJRPP AREA B 2021	25-24	8.0167	7.09	1.97	5.12	7.09	1.97
SJRPP AREA B 2021	25-24	8.2667	7.46	2.16	5.3	7.46	2.16
SJRPP AREA B 2021	25-24	8.5	7.8	2.34	5.46	7.8	2.34
SJRPP AREA B 2021	25-24	8.75	8.22	2.58	5.65	8.22	2.58
SJRPP AREA B 2021	25-24	9	8.64	2.82	5.83	8.64	2.82
SJRPP AREA B 2021	25-24	9.25	9.09	3.08	6.01	9.09	3.08
SJRPP AREA B 2021	25-24	9.5	9.54	3.35	6.19	9.54	3.35
SJRPP AREA B 2021	25-24	9.75	10.07	3.68	6.39	10.07	3.68
SJRPP AREA B 2021	25-24	10	10.59	4.02	6.58	10.59	4.02
SJRPP AREA B 2021	25-24	10.25	11.25	4.45	6.81	11.25	4.45
SJRPP AREA B 2021	25-24	10.5	11.91	4.89	7.02	11.91	4.89
SJRPP AREA B 2021	25-24	10.75	12.76	5.48	7.28	12.76	5.48
SJRPP AREA B 2021	25-24	11	13.6	6.08	7.52	13.6	6.08
SJRPP AREA B 2021	25-24	11.25	14.5	6.73	7.77	14.5	6.73
SJRPP AREA B 2021	25-24	11.5	16.23	8.04	8.19	16.23	8.04
SJRPP AREA B 2021	25-24	11.75	22.13	12.8	9.34	22.13	12.8
SJRPP AREA B 2021	25-24	12	32	21.41	10.58	32	21.41
SJRPP AREA B 2021	25-24	12.25	36.05	25.1	10.95	36.05	25.1
SJRPP AREA B 2021	25-24	12.5	37.9	26.8	11.1	37.9	26.8
SJRPP AREA B 2021	25-24	12.75	39.01	27.82	11.19	39.01	27.82
SJRPP AREA B 2021	25-24	13	39.9	28.65	11.25	39.9	28.65
SJRPP AREA B 2021	25-24	13.25	40.64	29.33	11.31	40.64	29.33
SJRPP AREA B 2021	25-24	13.5	41.38	30.02	11.36	41.38	30.02
SJRPP AREA B 2021	25-24	13.75	41.96	30.56	11.4	41.96	30.56
SJRPP AREA B 2021	25-24	14	42.54	31.1	11.43	42.54	31.1
SJRPP AREA B 2021	25-24	14.25	43.04	31.57	11.47	43.04	31.57
SJRPP AREA B 2021	25-24	14.5	43.54	32.04	11.5	43.54	32.04
SJRPP AREA B 2021	25-24	14.75	43.96	32.44	11.53	43.96	32.44
SJRPP AREA B 2021	25-24	15	44.38	32.83	11.55	44.38	32.83
SJRPP AREA B 2021	25-24	15.25	44.78	33.2	11.58	44.78	33.2

SJRPP Area B ROROCS ICPR Mass Balance Report

Scenario	Sim	Relative Time [hrs]	Precipitation Volume [ac_ft]	Rainfall Excess Volume [ac_ft]	Stored Volume (Flow Based) [ac_ft]	Total Inflow Volume [ac_ft]	Total Outflow Volume [ac_ft]
SJRPP AREA B 2021	25-24	15.5	45.17	33.57	11.6	45.17	33.57
SJRPP AREA B 2021	25-24	15.75	45.52	33.9	11.62	45.52	33.9
SJRPP AREA B 2021	25-24	16	45.86	34.22	11.64	45.86	34.22
SJRPP AREA B 2021	25-24	16.25	46.18	34.52	11.66	46.18	34.52
SJRPP AREA B 2021	25-24	16.5	46.49	34.81	11.68	46.49	34.81
SJRPP AREA B 2021	25-24	16.75	46.78	35.09	11.69	46.78	35.09
SJRPP AREA B 2021	25-24	17	47.07	35.36	11.71	47.07	35.36
SJRPP AREA B 2021	25-24	17.25	47.36	35.63	11.73	47.36	35.63
SJRPP AREA B 2021	25-24	17.5	47.65	35.91	11.74	47.65	35.91
SJRPP AREA B 2021	25-24	17.75	47.89	36.13	11.76	47.89	36.13
SJRPP AREA B 2021	25-24	18	48.13	36.36	11.77	48.13	36.36
SJRPP AREA B 2021	25-24	18.25	48.39	36.61	11.78	48.39	36.61
SJRPP AREA B 2021	25-24	18.5	48.65	36.86	11.8	48.65	36.86
SJRPP AREA B 2021	25-24	18.75	48.86	37.06	11.81	48.86	37.06
SJRPP AREA B 2021	25-24	19	49.07	37.25	11.82	49.07	37.25
SJRPP AREA B 2021	25-24	19.25	49.31	37.48	11.83	49.31	37.48
SJRPP AREA B 2021	25-24	19.5	49.55	37.7	11.84	49.55	37.7
SJRPP AREA B 2021	25-24	19.75	49.76	37.9	11.86	49.76	37.9
SJRPP AREA B 2021	25-24	20	49.97	38.1	11.87	49.97	38.1
SJRPP AREA B 2021	25-24	20.25	50.15	38.28	11.88	50.15	38.28
SJRPP AREA B 2021	25-24	20.5	50.34	38.45	11.88	50.34	38.45
SJRPP AREA B 2021	25-24	20.75	50.52	38.63	11.89	50.52	38.63
SJRPP AREA B 2021	25-24	21	50.71	38.8	11.9	50.71	38.8
SJRPP AREA B 2021	25-24	21.25	50.89	38.98	11.91	50.89	38.98
SJRPP AREA B 2021	25-24	21.5	51.08	39.16	11.92	51.08	39.16
SJRPP AREA B 2021	25-24	21.75	51.26	39.33	11.93	51.26	39.33
SJRPP AREA B 2021	25-24	22	51.45	39.51	11.94	51.45	39.51
SJRPP AREA B 2021	25-24	22.25	51.63	39.68	11.95	51.63	39.68
SJRPP AREA B 2021	25-24	22.5	51.82	39.86	11.96	51.82	39.86
SJRPP AREA B 2021	25-24	22.7667	51.98	40.02	11.97	51.98	40.02
SJRPP AREA B 2021	25-24	23.0167	52.14	40.17	11.97	52.14	40.17

SJRPP Area B ROROCS ICPR Mass Balance Report

Scenario	Sim	Relative Time [hrs]	Precipitation Volume [ac_ft]	Rainfall Excess Volume [ac_ft]	Stored Volume (Flow Based) [ac_ft]	Total Inflow Volume [ac_ft]	Total Outflow Volume [ac_ft]
SJRPP AREA B 2021	25-24	23.2667	52.3	40.32	11.98	52.3	40.32
SJRPP AREA B 2021	25-24	23.5167	52.46	40.47	11.99	52.46	40.47
SJRPP AREA B 2021	25-24	23.7667	52.59	40.59	11.99	52.59	40.59
SJRPP AREA B 2021	25-24	24.0167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	24.2667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	24.5167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	24.7667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	25.0167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	25.2667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	25.5167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	25.7667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	26.0167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	26.2667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	26.5167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	26.7667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	27.0167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	27.2667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	27.5167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	27.7667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	28.0167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	28.2667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	28.5167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	28.7667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	29.0167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	29.2667	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	29.5167	52.71	40.71	12	52.71	40.71
SJRPP AREA B 2021	25-24	29.7667	52.71	40.71	12	52.71	40.71

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