KESHAVARZ
& ASSOCIATES
CIVIL ENGINEERING | SURVEYING | CONSULTING

Stormwater Management
REPORT

for

Cornerstone
Fort Pierce, FL

Prepared for:
Pulte Home Company, LLC

January 31th, 2025
K&A Project No. 24-1479

Digitally signed by Yamai X Yi
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Summary

Project Name:	Cornerstone
Permittee:	Pulte Home Company, LLC 1475 Centrepark Blvd., Suite 140 West Palm Beach, FL 33401
Owner:	Cornerstone Fort Pierce Development, LLC 180 Glastonbury Blvd, Suite 401 Glastonbury, Connecticut 06033
Operating Entity:	Pulte Home Company, LLC 1475 Centrepark Blvd., Suite 140 West Palm Beach, FL 33401
Location:	2721 S. Jenkins Road *(Refer to Appendix A for location map)* Fort Pierce, Florida 34981 St. Lucie County
Permit Acres:	49.92 acres
Project Land Use:	Residential
Special Drainage District:	North St. Lucie River Water Control District
District Drainage Basin:	North St. Lucie *(Refer to Appendix G for basin map)*
Water Body Classification:	Class II
FDEP Water Body ID:	3194D (Fivemile Creek)
Conservation Easement to District:	No
Sovereign Submerged Lands:	No

Project Summary

We are requesting an Environmental Resource Permit (ERP) from South Florida Water Management District for the project mentioned above to authorize Construction and Operation of a stormwater management (SWM) system, land clearing, and earthwork.

The project site was presently used for agricultural purposes and contains irrigation/drainage ditches throughout the site. There are two 18" RCP culverts hydraulically connecting the project site the drainage ditch along the west side of Jenkins Road. The ditch along the west side of Jenkins Road runs south and connects to the NSLRWCD Canal No. 39 with a 24" CMP.

The existing ditches run in the north-south direction and connect to a larger ditch on the south boundary parallel to the NSLRWCD Canal No. 39. The Northeast corner of the property previously contained two residential homes that have been removed.

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The proposed improvements include the construction of 246 single-family homes, a clubhouse and pool, and associated sidewalks and roadway to accommodate the project. The SWM system consist of underground stormwater system, several dry detention areas, and two lakes.

In 2008, an Environmental Resource Permit with SFWMD was obtained for the project site, SFWMD Permit No. 50-02924-P for the construction of a surface water management system for commercial development; however, no construction occurred and this permit expired in 2013.

SWM Engineering Evaluation

Refer to Appendix C for stormwater calculations and a Land Use Exhibit and Appendix D for stormwater modeling. Below is a summary of the results.

Land Use
Below is the existing vs proposed land use table for the project site.

Land Type	Exist. Area (ac)	Exist. % of Total Basin	Prop. Area (ac)	Prop. % of Total Basin
TOTAL IMPERVIOUS	**0.00**	**0%**	**30.01**	**59.6%**
Bldg. Coverage	0.00	0%	17.98	36%
Other Impervious	0.00	0%	7.80	15%
Lake Surface	0.00	0%	4.24	8%
TOTAL PERVIOUS AREA	**50.37**	**100%**	**20.36**	**40.4%**
Detention Areas	0.00	0%	1.73	3%
Lake Banks	0.00	0%	1.21	3%
Open Space	49.92	99%	16.96	34%
Offsite Open Space	0.46	1%	0.46	1%
TOTAL	**50.37**	**100%**	**50.37**	**100%**

Water Quality
Water quality treatment for the project site has been designed in accordance with Environmental Resource Permit (ERP) Applicant's Handbook (AH) Volume II, effective May 22, 2016 as the project will qualify as "Grandfathered Activities" pursuant to ERP AH Volume 1, effective June 28, 2024.

ERP AH Volume 1, effective June 28, 2024, Part I, Section 3.0 Regulated Activities, 3.1.2 "Grandfathered Activities", (e) 4; Projects of activities that are the subject of a general or individual permit application that is deemed complete on or before December 28, 2025, shall be exempt from the amendments to Chapter 62-330, F.A.C., and Volume I adopted on June 28, 2024, and the corresponding amendments to the applicable Volume II.

The project site is located within the Fivemile Creek Waterbody (WBID 3194D) of the St. Lucie Basin. Fivemile Creek is not designated as Outstanding Florida Waters (OFW), therefore the project site does not directly discharge into an OFW. Fivemile Creek has been identified by FDEP as Waters Not Attaining Standards for only total phosphorus and it is on the "verified list" of impaired water bodies pursuant to 403.067 Florida Statutes.

Please refer to the FDEP's Verified List, see link below:

Comprehensive Verified List | Florida Department of Environmental Protection

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The project has been designed to meet the volumetric requirements of worst-case scenario between the 1" of runoff from the entire developed project site vs. 2.5" times the percent impervious of the developed project site.

The water quality criteria is based on 1" of runoff for the entire site (50.37 acres), which requires 4.20 ac-ft of water quality. In addition, because the site discharges to a WNAS, an additional 50% water quality is provided, bringing the total water quality required to 6.30 ac-ft.

1. Compute 1 inch of runoff from the entire developed project site:
   = 1" x 50.37 acres x (1'/12")
   = 4.20 ac-ft
2. Compute 2.5 inches times the percent impervious for the developed project site:
   Site area for water quality pervious / impervious calculations only:
   = Total Project - (Lake Area + Building Coverage)
   = 50.37 acres - (4.24 acres + 17.98 acres)
   = 28.16 acres of site area for water quality calculations
   Impervious area for water quality pervious / impervious calculations only
   = Site area for water quality - Pervious Area
   = 28.16 acres - 20.36 acres
   = 7.80 acres of impervious area for water quality calculations
   Percentage of impervious area for water quality:
   = Impervious area for water quality / Site area for water quality x 100%
   = 7.80 acres / 28.16 acres x 100%
   = 27.70 % Impervious
   For 2.5 inches times the percentage of impervious area:
   = 2.5" x 27.70 % = 0.69"
   Compute volume required for quality detention:
   = Inches to be treated x (Total Site Area - Lake Area)
   = 0.69" x (50.38 acres - 4.24 acres) x (1'/12")
   = 2.66 ac-ft

3. The first inch of runoff from the entire developed site = 4.20 ac-ft
   2.5 inches times the percentage of impervious area = 2.66 ac-ft

   Additional 50% = 2.10 ac-ft

   Total WQ volume of 6.30 ac-ft required

The project provides 16.49 ac-ft of water quality treatment within the proposed lakes between elevation 13.0 ft (control elevation) and the weir elevation of 16.50 ft.

Basin	Treatment Type	Treatment System	Vol. Req. (ac-ft)	Vol. Prop. (ac-ft)	Area (ac)	Overflow Elev. (ft NAVD 88)
1	Treatment	Wet Detention	6.30	16.49	5.45	16.50 (Weir Elev)

In addition to the water quality requirements listed above, a pre development versus post development nutrient loading analysis was conducted for total phosphorus (TP) to demonstrate that the proposed project will not degrade the waterbody for the parameter that is not meeting attained standards. The analysis utilized

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wet detention and dry retention as the treatment method which resulted in an overall net reduction in TP. The existing TP discharge loading was calculated at 1.836 kg/yr and the proposed TP discharge loading was calculated at 1.376 kg/yr, for a total reduction in TP of 0.46 kg/yr, refer to Appendix F.

For the average high ground water control elevation, a conservative elevation was chosen based on the Geotechnical Report by UES dated July 2024 and nearby developments.

From Geotechnical Report - Water found at depths: 6 – 8 feet **G.W.E.:** 7 NAVD – 11 NAVD
From Wawa (Permit No. 56-03581-P) **G.W.E.:** 15.0 NAVD
From Avalon Crossing (Permit No. 56-102595-P) **G.W.E.:** 13.8 NGVD (12.3 NAVD)
From St Peter's Lutheran Church (Permit No. 56-01416-P) **G.W.E.:** 14.0 NGVD (12.5 NAVD)

Ground Water Elevation Used: 13.0 NAVD

Water Quantity
Refer to Appendix B for rainfall maps.

Basin	Elev. Type	Storm Event (Yr/Day)	Precipitation Depth (in)	Peak Stage (ft NAVD 88)	Min. Elev. (ft NAVD 88)
1	Finish Floor	100 YR 3 Day	10.0	17.57	18.50
		25 YR 3 Day	9.0	16.76	18.00
	Perimeter Berm/ Discharge	10 YR 3 Day	8.3	16.50	18.00
	Road Crown	10 YR 1 Day	5.6	15.24	17.00

Discharge
The project is located within the NSLRWCD and discharges to Canal 39. The NSLRWCD design criteria requires gravity discharge to be less than 2" of depth over the area served (50.37 acres) for any 24-hour period from the 10-year – 72-hour storm event.

Max Allowed Discharge = 2" x 50.37 acres = 8.39 ac-ft
Max Discharge Provided over a 24-hour period = < 6.0 ac-ft
The SFWMD bleeder discharge criteria is a max of 13.5 CSM x 50.37 acres = 1.06 cfs

Basin	Control Elev. (ft NAVD 88)	Structure #	Structure Type	Count	Type	Size	Invert Elev. (ft NAVD 88)	Receiving Body
1	13.0	CS #1	Weir	1	Sharp Crested	36"	16.50	Canal 39
1	13.0	CS #1	Bleeder	1	Round	8"	13.0	Canal 39

FEMA
FEMA elevation for the project site is entirely zone X for the site, based on the FIRM Map #12111C0167J, dated Feb 16, 2012. Refer to Appendix E for the FEMA map.

Additional Concerns

Ownership, Operation and Maintenance
Perpetual operation and maintenance of the stormwater management system will be the responsibility of Pulte Home Company, LLC. A draft of the POA documents is enclosed.

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Wetlands and Other Surface Waters
Refer to the Environmental Assessment Report by EW Consultants, Inc., dated August 2024. No official wetlands were found onsite; however, there is an area onsite "that contains wetland characteristics and may, upon review by the South Florida Water Management District, be considered a jurisdictional wetland".

Water Use Permit
There is an active Water Use Permit with SFWMD for the site that will expire in 2028 that was obtained for a previous commercial development that was never built. Below is the permit information for reference:

- Permit No. 56-02911-W, Application No. 080626-15
- Permittee: Cornerstone Fort Pierce Development LLC
- Total Serviced Acreage: 5.3 acres (of landscape area to be irrigated)
- Surface Water From: On-Site Lakes
  - Two (2) proposed 100 GPM pumps
- Ground Water From: Surficial Aquifer System
  - One (1) proposed 6" diameter 60' deep Recharge Well with 120 GPM pump (Well ID 224053)
- Annual Allocation: 6,565,900 Gallons, Max Monthly Allocation: 950,300 Gallons

At this time, it is anticipated that irrigation water will be provided using potable water with a water meter.

Dewatering is not required for construction of this project and the project qualifies for the District's General Permit by Rule for dewatering, by meeting the following criteria.

☒ Has a maximum daily pumpage of less than five million gallons (MG) and a maximum total project pumpage of less than 100 MG over a one-year period.

☒ Will retain all discharge on the project site unless associated with an aquifer performance test.

☒ Will not dewater to a depth below 0.0 feet NGVD within 1,000 feet of saline water, except when dewatering water with chloride concentration of greater than 1,000 milligrams per liter.

☒ Will not occur within 100 feet of a wastewater treatment plant rapid-rate land application system permitted under Part IV of Chapter 62-610, F.A.C.
☒ Will not occur within 1,000 feet of a known landfill or contamination

☒ Will not occur within 1,000 feet of a freshwater wetland unless dewatering activities are completed within 60 days

Water and Wastewater
Fort Pierce Utility Authority (FPUA). Water and sanitary sewer will serve letters are enclosed.

Historical / Archeological Resources
No information has been found at this time that indicates the presence of archaeological or historical resources on the project site.

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Exhibit A – Location Map

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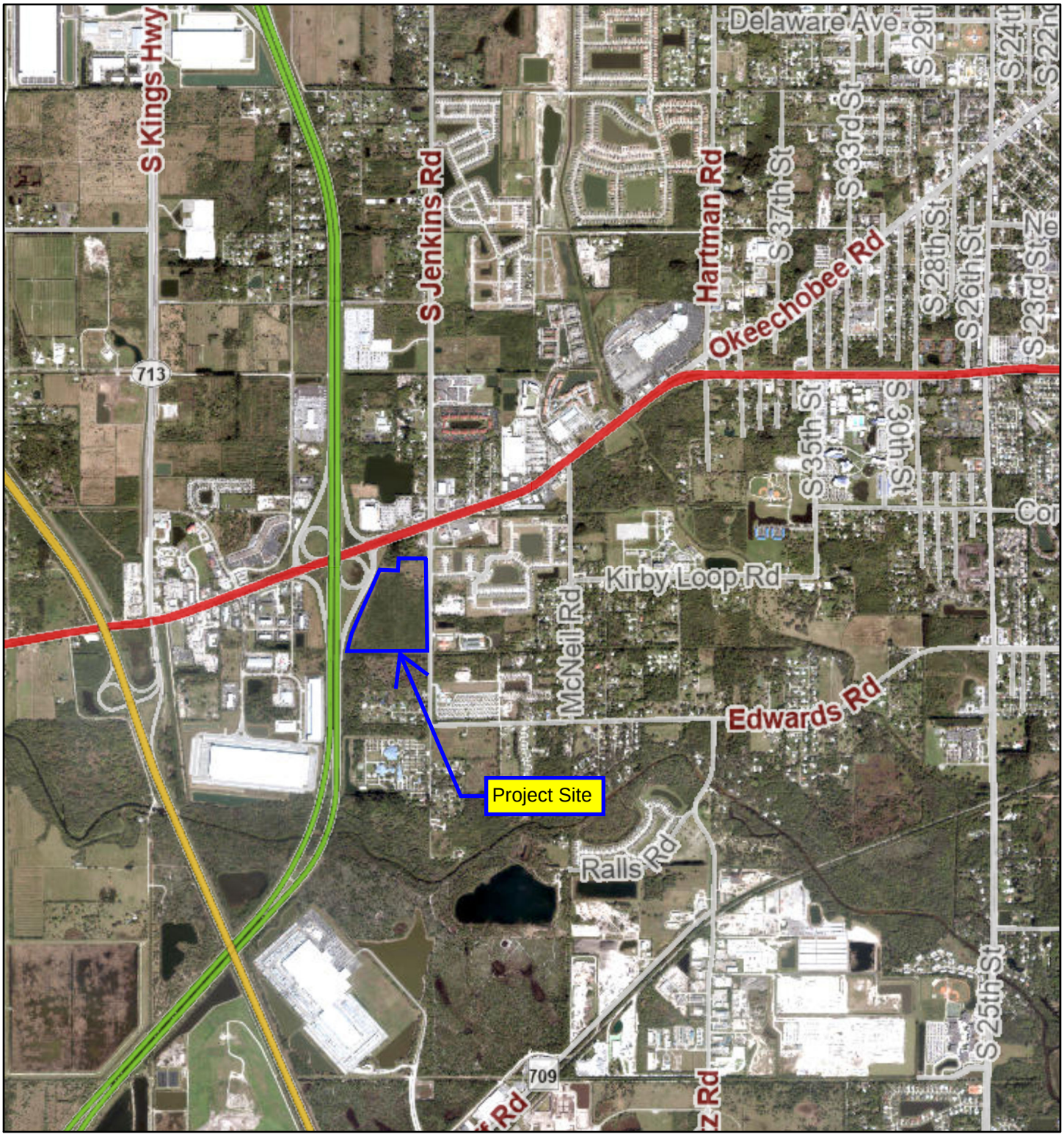
Saint Lucie County Property Appraiser



11/26/2024

Comparable Search

1:36,112

0 1,250 2,500 5,000 ft

0 440 880 1,760 m

Exhibit B – Rainfall Maps

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RAINFALL ISO-CURVE
RAINFALL EVENT: 10 YEAR - 24 HOUR

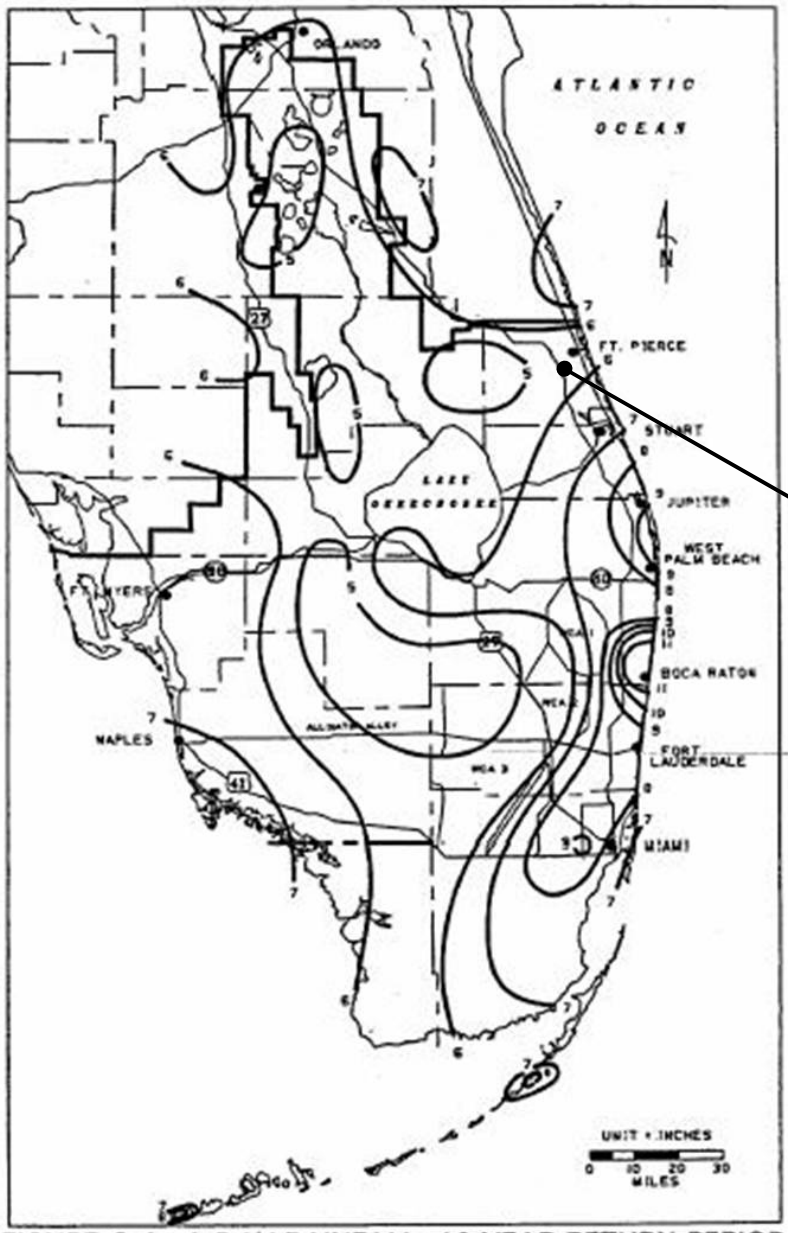

FIGURE C-4. 1-DAY RAINFALL: 10-YEAR RETURN PERIOD

PROJECT SITE

I = 5.6 INCHES

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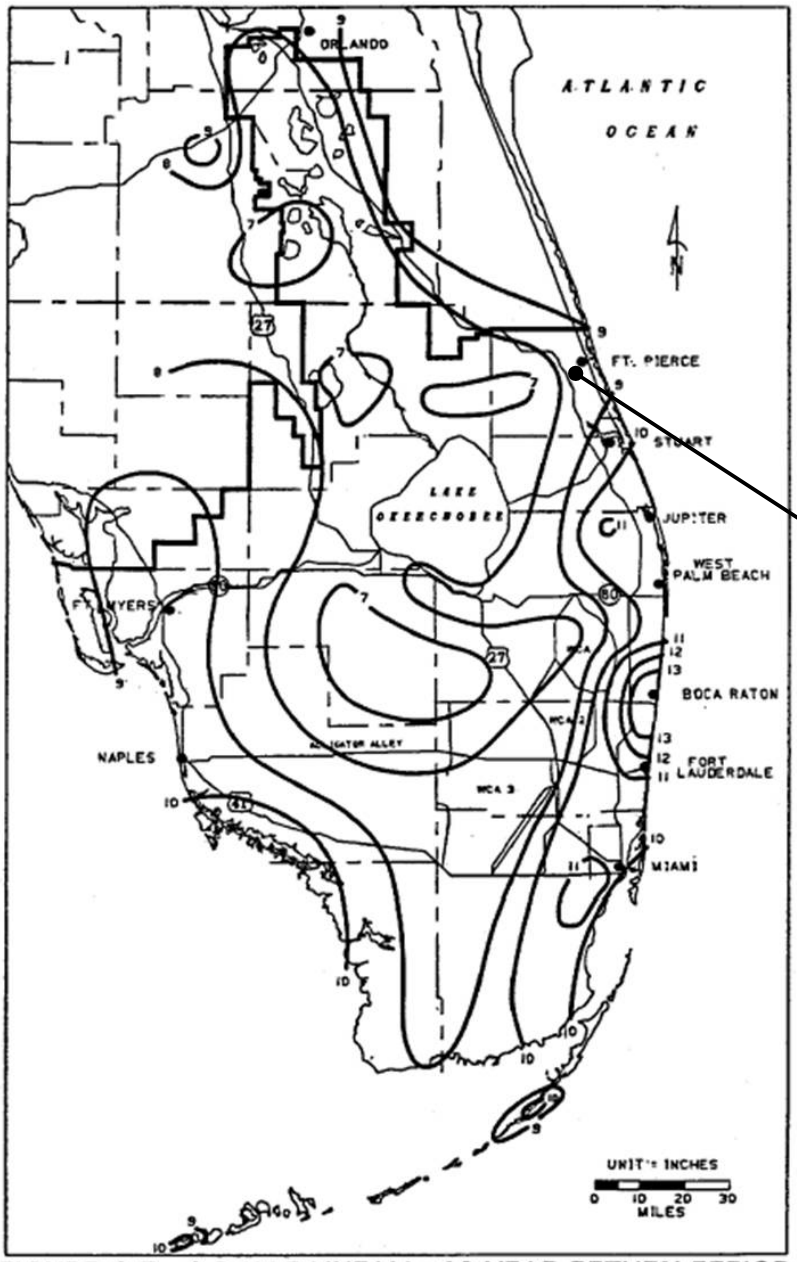
RAINFALL ISO-CURVE
RAINFALL EVENT: 10 YEAR - 72 HOUR



PROJECT SITE

I = 8.3 INCHES

FIGURE C-7. 3-DAY RAINFALL: 10-YEAR RETURN PERIOD

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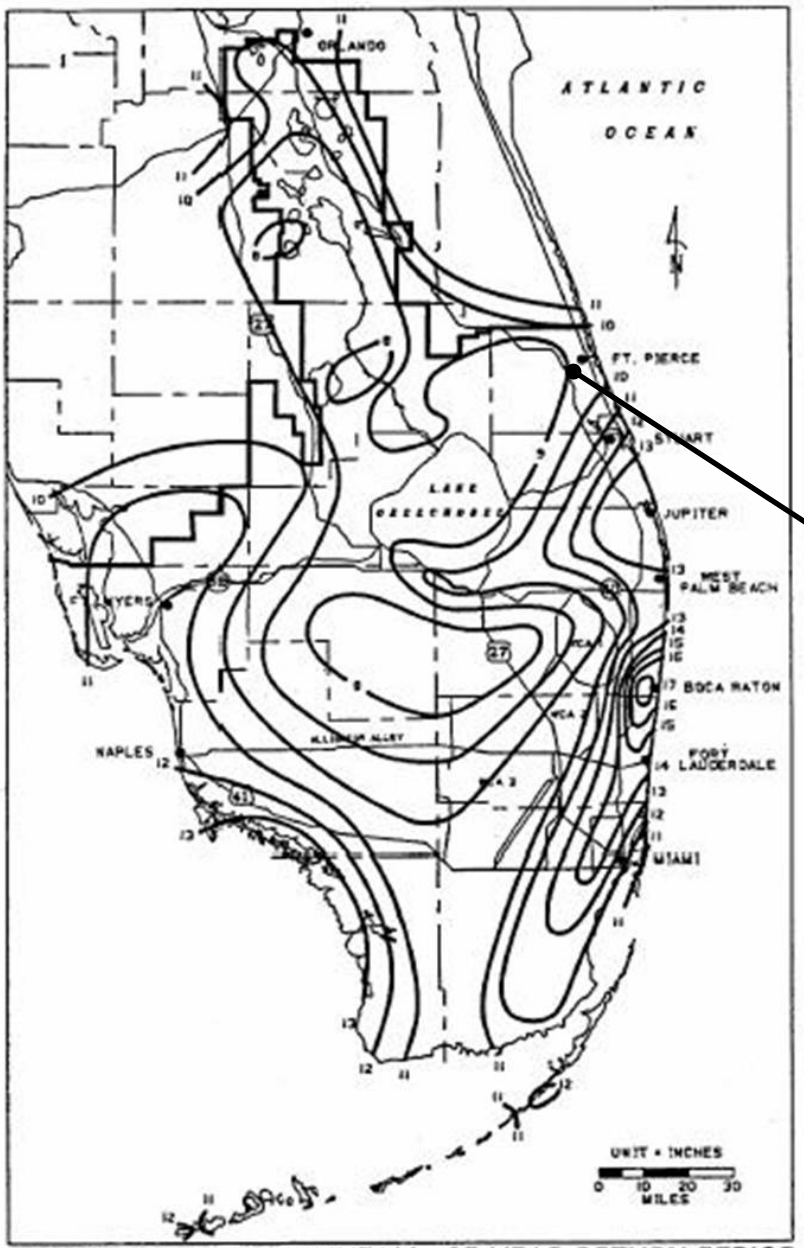
West Palm Beach, Florida 33401

RAINFALL ISO-CURVE
RAINFALL EVENT: 25 YEAR - 72 HOUR



PROJECT SITE

I = 9 INCHES

FIGURE C-8. 3-DAY RAINFALL: 25-YEAR RETURN PERIOD

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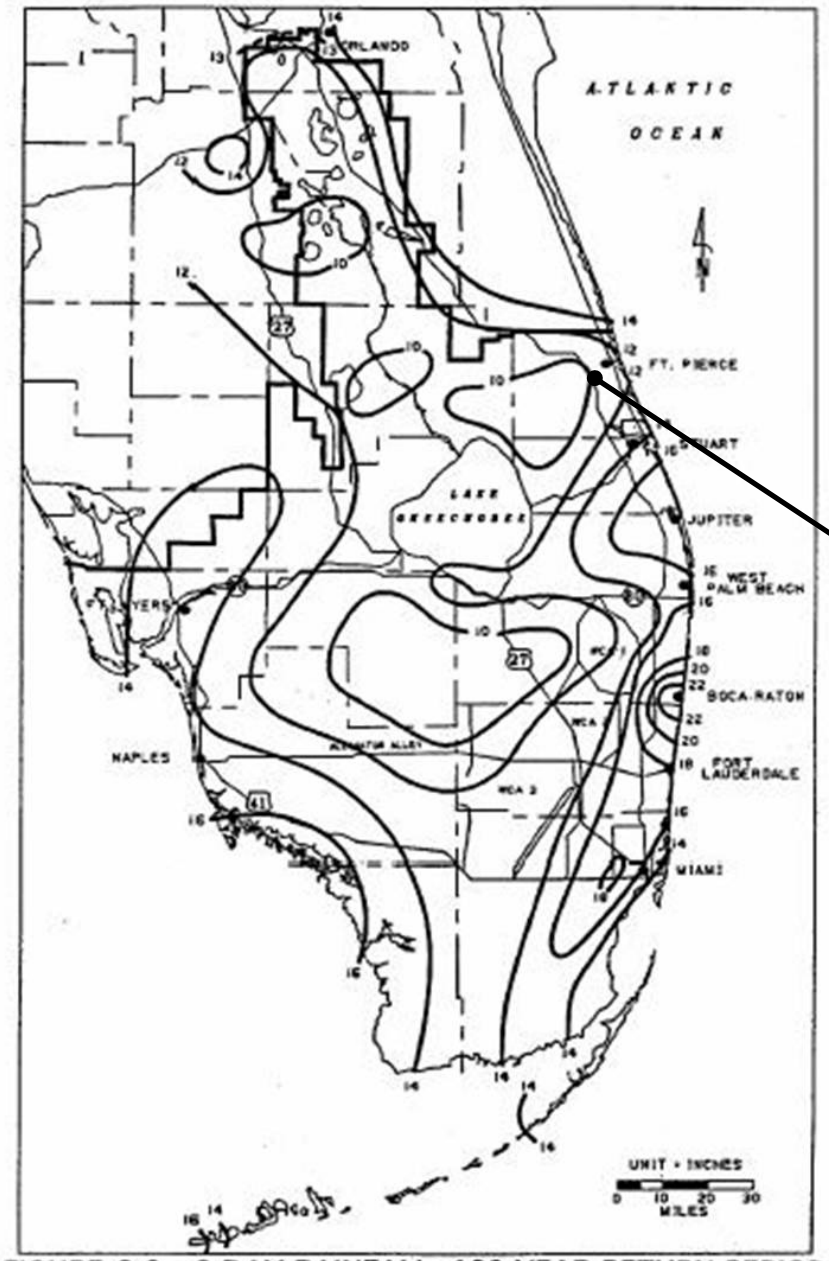
West Palm Beach, Florida 33401

RAINFALL ISO-CURVE
RAINFALL EVENT: 100 YEAR - 72 HOUR



PROJECT SITE

I = 10 INCHES

FIGURE C-9. 3-DAY RAINFALL: 100-YEAR RETURN PERIOD

Exhibit C – Stormwater Calculations & Land Use

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Cornerstone
Project Number: 24-1479

LAND USE AND SOIL STORAGE
29-Jan-25

BASIN # 1 **EXISTING CONDITIONS**

TOTAL AREA 50.37 ACRES

LAND USES

TYPE	TOTAL AREA (ACRES)	IMPERVIOUS ROOF (ACRES)	IMPERVIOUS PAVE (ACRES)	IMPERVIOUS SWM (ACRES)	PERVIOUS AREA (ACRES)	% OF TOTAL BASIN
DRY DETENTION BOTTOM	0.000	---	---		---	0%
DRY DETENTION BANK	0.000	---	---		---	0%
LAKE BOTTOM	0.000	---	---		---	0%
LAKE BANK	0.000	---	---		---	0%
OPEN SPACE	50.374	---	---	---	50.374	100%
IMPERVIOUS	0.000	---			---	0%
BUILDING	0.000		---	---	---	0%
SUBTOTALS		0.000	0.000	0.000		
TOTALS	50.374		0.000		50.374	
% IMPERVIOUS / PERVIOUS			0.0%		100.0%	

AREAS AVAIL FOR STORAGE

	AREA (ACRES)	TYPE	LOW EL (FT)	HIGH EL (FT)	WEIGHTED AVG. (ACRES)
DRY DETENTION BOTTOM	0.000	V			0.00
DRY DETENTION BANK	0.000	L			0.00
LAKE BOTTOM	0.000	V			0.00
LAKE BANK	0.000	L			0.00
OPEN SPACE	50.374	L	15.5	19.0	868.94
IMPERVIOUS	0.000	L			0.00
BUILDING	0.000	---	---	---	0.00

SOIL STORAGE

AVERAGE OPEN SPACE ELEV. (FT)	17.3
SOIL TYPE (COASTAL, FLATWOODS, OR DEPRESSIONAL)	FLATWOODS
WET SEASON WATER TABLE ELEVATION (FT)	13.0
DEPTH TO WATER TABLE (FT)	4.3
S = COMPACTED STORAGE * % PERVIOUS	
COMPACTED STORAGE (INCHES) =	9.00
S (PRO-RATED BASED ON PERV. AREA) =	9.00
CN (CURVE NUMBER) = 1000 / (10+ S)	
CN =	53
CN (PERVIOUS AREA) =	52.63

Cornerstone
Project Number: 24-1479

NUTRIENT REDUCTION ANALYSIS CALCULATIONS
29-Jan-25

EXISTING CONDITIONS

non DCIA CN $= \frac{CN * (100- imp) + 98(Imp - DCIA)}{(100 - DCIA)}$

CN	52.6	(pervious area CN)
Imp	0.0	%
DCIA	0.00	%
nDCIA CN	52.6	

PRE-DEVELOPMENT CATCHMENT AREA	50.37	ACRES
PRE-DEVELOPMENT NON- DCIA CN	52.6	
PRE-DEVELOPMENT DCIA PERCENTAGE	0.0	%
PRE-DEVELOPMENT LAND USE	Agricultural	

Cornerstone
Project Number: 24-1479

LAND USE AND SOIL STORAGE
8-Jan-25

BASIN # 1 **PROPOSED CONDITIONS**

TOTAL AREA 50.37 ACRES

LAND USES

TYPE	TOTAL AREA (ACRES)	IMPERVIOUS ROOF (ACRES)	IMPERVIOUS PAVE (ACRES)	IMPERVIOUS SWM (ACRES)	PERVIOUS AREA (ACRES)	% OF TOTAL BASIN	
DRY DETENTION BOTTOM	0.830	---	---	---	0.83	2%	
DRY DETENTION BANK	0.900	---	---	---	0.90	2%	12' Wide @ 4:1
LAKE SURFACE	4.240	---	---	4.24	---	8%	
LAKE BANK	1.210	---	---	---	1.21	2%	16' Wide Bank @ 4:1
OPEN SPACE	17.418	---	---	---	17.42	35%	Includes 0.46 acres of offsite runoff
DRIVEWAYS	2.259	---	2.26	---	---	4%	20' x 20' Driveways per Lot (246 Lots)
ROAD RW IMPERVIOUS	5.540	---	5.54	---	---	11%	Sidewalks, curb and road pavement
BUILDING	17.976	17.98	---	---	---	36%	Assumes 70% Lot Coverage
SUBTOTALS		17.976	7.799	4.240			
TOTALS	50.374		30.015		20.358		
% IMPERVIOUS / PERVIOUS			59.6%		40.4%		

AREAS AVAIL FOR STORAGE

	AREA (ACRES)	TYPE	LOW EL (FT)	HIGH EL (FT)	WEIGHTED AVG. (ACRES)		
DRY DETENTION BOTTOM	0.830	V	14.0		5.81		
DRY DETENTION BANK	0.900	L	14.0	17.0	13.95	Swale:	18.0 - 19.0
LAKE SURFACE	4.240	L	13.0		27.56	Back of Lot:	17.5 - 18.5
LAKE BANK	1.210	L	13.0	17.5	18.45	FFE:	18.5 - 19.5
OPEN SPACE	17.418	L	17.0	19.0	313.53	Garage Entrance:	18.0 - 19.0
DRIVEWAYS	2.259	L	17.0	19.0	40.66	Min. Inlet:	17.0 - 18.0
ROAD RW IMPERVIOUS	5.540	L	17.0	18.2	97.50	Min. Road Crown:	17.2 - 18.2
BUILDING	17.976	---	---	---	0.00		
PERVIOUS AREA ONLY	20.358				351.744		

SOIL STORAGE

AVERAGE OPEN SPACE ELEV. (FT)	17.28
SOIL TYPE (COASTAL, FLATWOODS, OR DEPRESSIONAL)	FLATWOODS
WET SEASON WATER TABLE ELEVATION (FT)	13.00
DEPTH TO WATER TABLE (FT)	4.28
S = COMPACTED STORAGE * % PERVIOUS	
COMPACTED STORAGE (INCHES) =	6.75
S (PRO-RATED BASED ON PERV. AREA) =	2.73
CN (CURVE NUMBER) = 1000 / (10+ S)	
CN =	78.57
CN (PERVIOUS AREA) =	59.70

Cornerstone
Project Number: 24-1479

WATER QUALITY AND BLEEDER DESIGN
8-Jan-25

PROPOSED CONDITIONS

WATER QUALITY COMPUTATION

CRITERIA #1	1" OF RUNOFF (AC-FT)	4.20 AC-FT
	OR	
CRITERIA #2	2.5" * % IMPERV (AC-FT)	2.66 AC-FT
	2.5 * IMPERV AREA /(TOTAL AREA - SWM)	
	greater of two	4.20 AC-FT
DOES THE SITE DISCHARGE TO A WNAS BODY ?		YES
	ADD 50% FOR WNAS =	2.10 AC-FT
	TOTAL WATER QUALITY REQUIRED	**6.30** AC-FT

BLEEDER CALCULATIONS

WATER QUALITY STAGE =				14.3 FT
GROUND WATER ELEVATION =				13.0 FT
HEAD ON VERTEX OF NOTCH =				1.3 FT
compute circular orifice configuration:				
CIRCULAR, A=Q/C(2G*(1/2)H))^0.5				
Max Q =	1.06 CFS	H =	1.30 FT	
C =	0.60	G =	32.2	
therefore:		A =	0.27 SF	
		D =	7.08 IN	
		D, MIN. =	8.00 IN	
CIRCULAR ORIFICE SIZE =			0.67 FT	

Cornerstone
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STORM EVENTS AND RUNOFF CALCULATIONS
29-Jan-25

PROPOSED CONDITIONS

100YR-72HR, MAX STAGE CALCULATION, ZERO DISCHARGE

FINISH FLOOR ELEVATION	RUNOFF = ((P-(0.2*S))^2 / (P+(0.8*S))	
	P, 100 YR - 72 HOUR RAINFALL (INCHES) =	10.00
	S, SOIL STORAGE (INCHES) =	2.73
	RUNOFF (INCHES) =	7.34
	RUNOFF (AC-FT) =	30.80
	STAGE IN BASIN =	17.57

25YR-72HR, MAX STAGE CALCULATIONS

BASIN DESIGN, PRELIM.	RUNOFF = ((P-(0.2*S))^2 / (P+(0.8*S))	
	P, 25 YR - 72 HOUR RAINFALL (INCHES) =	9.00
	S, SOIL STORAGE (INCHES) =	2.73
	RUNOFF (INCHES) =	6.39
	RUNOFF (AC-FT) =	26.83
	STAGE IN BASIN (NO DISCHARGE) =	17.28
	STAGE IN BASIN (ICPR) =	

10YR-72HR, MAX STAGE CALCULATIONS

	RUNOFF = ((P-(0.2*S))^2 / (P+(0.8*S))	
	P, 10 YR - 24 HOUR RAINFALL (INCHES) =	8.30
	S, SOIL STORAGE (INCHES) =	2.73
	RUNOFF (INCHES) =	5.74
	RUNOFF (AC-FT) =	24.08
	STAGE IN BASIN (NO DISCHARGE) =	17.08
	STAGE IN BASIN (ICPR) =	16.50

10YR-24HR, MAX STAGE CALCULATIONS

	RUNOFF = ((P-(0.2*S))^2 / (P+(0.8*S))	
	P, 10 YR - 24 HOUR RAINFALL (INCHES) =	5.60
	S, SOIL STORAGE (INCHES) =	2.73
	RUNOFF (INCHES) =	3.28
	RUNOFF (AC-FT) =	13.78
	STAGE IN BASIN (NO DISCHARGE) =	15.61
	STAGE IN BASIN (ICPR) =	15.24

Cornerstone
Project Number: 24-1479

NUTRIENT REDUCTION ANALYSIS CALCULATIONS
8-Jan-25

PROPOSED CONDITIONS

non DCIA CN	= CN * (100- imp) + 98(Imp - DCIA)	CN	59.7	Pervious Area CN
	(100 - DCIA)	Impervious	59.6 %	Imp. Area %: Roads, Driveways, Sidewalks + Roofs + SWM
		DCIA	15.48 %	DC Impervious Area %: Road, Driveways and Sidewalks
		nDCIA CN	79.7	

POST-DEVELOPMENT CATCHMENT AREA	50.37 ACRES
POST-DEVELOPMENT NON- DCIA CN	79.7
POST-DEVELOPMENT DCIA PERCENTAGE	15.5 %
POST-DEVELOPMENT LANDUSE	Single Family

Cornerstone
Project Number: 24-1479

STAGE - STORAGE TABULATIONS
8-Jan-25

PROPOSED STORAGE

	Area (ac)	Type of Storage	Lowest Elevation	Highest Elevation		
DRY DETENTION BOTTOM	0.83	V	14.00		Start Stage At	12.00
DRY DETENTION BANK	0.90	L	14.00	17.00	Stage Increments	1.00
LAKE SURFACE	4.24	V	13.00			
LAKE BANK	1.21	L	13.00	17.50		
OPEN SPACE	17.42	L	17.00	19.00		
ROAD RW IMPERVIOUS	5.54	L	17.00	18.20		
BUILDING	17.98	---	---	---		

STAGE (ft)	DRY DETENTION STORAGE (ac-ft)	DRY DETENTION BANK STORAGE (ac-ft)	LAKE SURFACE STORAGE (ac-ft)	LAKE BANK STORAGE (ac-ft)	OPEN SPACE STORAGE (ac-ft)	AD RW IMPERVIC STORAGE (ac-ft)	EXFILTRATION T. STORAGE (ac-ft)	ADDITIONAL STORAGE (ac-ft)	TOTAL STORAGE (ac-ft)
12.00	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00
13.00	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00
14.00	0.000	0.000	4.240	0.134	0.000	0.000	0.00	0.00	4.37
15.00	0.830	0.150	8.480	0.538	0.000	0.000	0.00	0.00	10.00
16.00	**1.660**	**0.600**	**12.720**	**1.210**	0.000	0.000	0.00	0.00	16.19
17.00	2.490	1.350	16.960	2.151	0.000	0.000	0.00	0.00	22.95
18.00	3.320	2.250	21.200	3.328	4.355	2.308	0.00	0.00	36.76
19.00	4.150	3.150	25.440	4.538	17.418	7.756	0.00	0.00	62.45
20.00	4.980	4.050	29.680	5.748	34.837	13.296	0.00	0.00	92.59
21.00	5.810	4.950	33.920	6.958	52.255	18.836	0.00	0.00	122.73

At Stage:	**14.35 ft**	The Total Cumulative Storage:	**6.343 ac-ft**

Exhibit D – Stormwater Modeling

711 N Dixie Highway, Suite 201 • West Palm Beach, FL 33401 • 561-689-8600 • www.keshavarz.com

Project Name: Cornerstone
Reviewer:
Project Number: 24-1479
  Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr
  Time Step: 0.2 hr, Iterations: 10

Basin 1: Onsite

  Method: Santa Barbara Unit Hydrograph
  Rainfall Distribution: SFWMD - 24 hr
  Design Frequency: 10 year
  1 Day Rainfall: 5.6 inches
  Area: 50.37 acres
  Ground Storage: 2.73 inches
  Time of Concentration: 0.16 hours
  Initial Stage: 13 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
13.00	0.00
14.00	4.37
15.00	10.00
16.00	16.19
17.00	22.95
18.00	36.76
19.00	62.45
20.00	92.59

Offsite Receiving Body: Offsite1

Time (hr)	Stage (ft NGVD)
0.00	13.00
360.00	13.00

Structure: 1

  From Basin: Onsite
  To Basin: Offsite1
  Structure Type: Gravity
    Weir: Sharp Crested, Crest Elev = 16.5 ft NGVD, Length = 3 ft
    Bleeder: Circular, Invert Elev = 13 ft NGVD, Diameter = 0.67 ft
      Default Coefs: Weir Coef = 0.6, Orifice Coef = 0.6
    Pipe: Diameter = 1.5 ft, Manning's n = 0.013, Length = 100 ft
      US Invert Elev = 10.5 ft NGVD, DS Invert Elev = 6.5 ft NGVD, flap gate

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	13.00	13.00
1.00	0.06	0.00	0.00	0.00	13.00	13.00
2.00	0.11	0.00	0.00	0.00	13.00	13.00
3.00	0.18	0.00	0.00	0.00	13.00	13.00
4.00	0.25	0.00	0.00	0.00	13.00	13.00
5.00	0.35	0.00	0.00	0.00	13.00	13.00
6.00	0.46	0.00	0.00	0.00	13.00	13.00
7.00	0.60	0.18	0.00	0.00	13.00	13.00
8.00	0.77	1.07	0.00	0.00	13.01	13.00
9.00	0.96	2.31	0.01	0.00	13.04	13.00
10.00	1.19	4.09	0.03	0.00	13.10	13.00
11.00	1.51	7.79	0.13	0.01	13.21	13.00
12.00	3.67	132.36	1.49	0.06	14.11	13.00
13.00	4.30	18.71	2.02	0.22	14.75	13.00
14.00	4.58	11.05	2.14	0.40	14.92	13.00
15.00	4.76	7.26	2.20	0.57	15.01	13.00
16.00	4.93	7.26	2.24	0.76	15.08	13.00
17.00	5.03	4.39	2.26	0.95	15.11	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
18.00	5.13	4.40	2.28	1.13	15.14	13.00
19.00	5.23	4.42	2.30	1.32	15.17	13.00
20.00	5.33	4.44	2.32	1.51	15.20	13.00
21.00	5.40	2.97	2.32	1.71	15.21	13.00
22.00	5.47	2.98	2.33	1.90	15.22	13.00
23.00	5.53	2.98	2.34	2.09	15.23	13.00
24.00	5.60	2.99	2.34	2.28	15.24	13.00
25.00	5.60	0.01	2.33	2.48	15.21	13.00
26.00	5.60	0.00	2.31	2.67	15.18	13.00
27.00	5.60	0.00	2.29	2.86	15.15	13.00
28.00	5.60	0.00	2.27	3.05	15.12	13.00
29.00	5.60	0.00	2.25	3.23	15.09	13.00
30.00	5.60	0.00	2.23	3.42	15.06	13.00
31.00	5.60	0.00	2.21	3.60	15.03	13.00
32.00	5.60	0.00	2.19	3.78	15.00	13.00
33.00	5.60	0.00	2.17	3.96	14.97	13.00
34.00	5.60	0.00	2.15	4.14	14.94	13.00
35.00	5.60	0.00	2.13	4.32	14.91	13.00
36.00	5.60	0.00	2.11	4.49	14.87	13.00
37.00	5.60	0.00	2.09	4.67	14.84	13.00
38.00	5.60	0.00	2.06	4.84	14.81	13.00
39.00	5.60	0.00	2.04	5.01	14.78	13.00
40.00	5.60	0.00	2.02	5.17	14.75	13.00
41.00	5.60	0.00	2.00	5.34	14.72	13.00
42.00	5.60	0.00	1.98	5.50	14.69	13.00
43.00	5.60	0.00	1.96	5.67	14.67	13.00
44.00	5.60	0.00	1.94	5.83	14.64	13.00
45.00	5.60	0.00	1.92	5.99	14.61	13.00
46.00	5.60	0.00	1.90	6.14	14.58	13.00
47.00	5.60	0.00	1.87	6.30	14.55	13.00
48.00	5.60	0.00	1.85	6.45	14.53	13.00
49.00	5.60	0.00	1.83	6.61	14.50	13.00
50.00	5.60	0.00	1.81	6.76	14.47	13.00
51.00	5.60	0.00	1.79	6.90	14.45	13.00
52.00	5.60	0.00	1.77	7.05	14.42	13.00
53.00	5.60	0.00	1.75	7.20	14.39	13.00
54.00	5.60	0.00	1.73	7.34	14.37	13.00
55.00	5.60	0.00	1.70	7.48	14.34	13.00
56.00	5.60	0.00	1.68	7.62	14.32	13.00
57.00	5.60	0.00	1.66	7.76	14.29	13.00
58.00	5.60	0.00	1.64	7.90	14.27	13.00
59.00	5.60	0.00	1.62	8.03	14.25	13.00
60.00	5.60	0.00	1.60	8.16	14.22	13.00
61.00	5.60	0.00	1.58	8.29	14.20	13.00
62.00	5.60	0.00	1.56	8.42	14.18	13.00
63.00	5.60	0.00	1.54	8.55	14.15	13.00
64.00	5.60	0.00	1.51	8.68	14.13	13.00
65.00	5.60	0.00	1.49	8.80	14.11	13.00
66.00	5.60	0.00	1.47	8.92	14.09	13.00
67.00	5.60	0.00	1.45	9.04	14.07	13.00
68.00	5.60	0.00	1.43	9.16	14.04	13.00
69.00	5.60	0.00	1.41	9.28	14.02	13.00
70.00	5.60	0.00	1.39	9.40	14.00	13.00
71.00	5.60	0.00	1.36	9.51	13.98	13.00
72.00	5.60	0.00	1.33	9.62	13.95	13.00
73.00	5.60	0.00	1.31	9.73	13.93	13.00
74.00	5.60	0.00	1.28	9.84	13.90	13.00
75.00	5.60	0.00	1.25	9.94	13.88	13.00
76.00	5.60	0.00	1.22	10.04	13.86	13.00
77.00	5.60	0.00	1.20	10.14	13.83	13.00
78.00	5.60	0.00	1.17	10.24	13.81	13.00
79.00	5.60	0.00	1.14	10.34	13.79	13.00
80.00	5.60	0.00	1.12	10.43	13.77	13.00
81.00	5.60	0.00	1.09	10.52	13.75	13.00
82.00	5.60	0.00	1.06	10.61	13.73	13.00
83.00	5.60	0.00	1.03	10.69	13.71	13.00
84.00	5.60	0.00	1.01	10.78	13.69	13.00
85.00	5.60	0.00	0.94	10.86	13.67	13.00
86.00	5.60	0.00	0.91	10.94	13.65	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
87.00	5.60	0.00	0.88	11.01	13.63	13.00
88.00	5.60	0.00	0.84	11.08	13.62	13.00
89.00	5.60	0.00	0.81	11.15	13.60	13.00
90.00	5.60	0.00	0.78	11.21	13.59	13.00
91.00	5.60	0.00	0.75	11.28	13.57	13.00
92.00	5.60	0.00	0.72	11.34	13.56	13.00
93.00	5.60	0.00	0.70	11.40	13.54	13.00
94.00	5.60	0.00	0.67	11.45	13.53	13.00
95.00	5.60	0.00	0.64	11.51	13.52	13.00
96.00	5.60	0.00	0.62	11.56	13.51	13.00
97.00	5.60	0.00	0.60	11.61	13.50	13.00
98.00	5.60	0.00	0.58	11.66	13.48	13.00
99.00	5.60	0.00	0.55	11.70	13.47	13.00
100.00	5.60	0.00	0.53	11.75	13.46	13.00
101.00	5.60	0.00	0.51	11.79	13.45	13.00
102.00	5.60	0.00	0.50	11.83	13.44	13.00
103.00	5.60	0.00	0.48	11.87	13.44	13.00
104.00	5.60	0.00	0.46	11.91	13.43	13.00
105.00	5.60	0.00	0.45	11.95	13.42	13.00
106.00	5.60	0.00	0.43	11.99	13.41	13.00
107.00	5.60	0.00	0.42	12.02	13.40	13.00
108.00	5.60	0.00	0.40	12.05	13.39	13.00
109.00	5.60	0.00	0.39	12.09	13.39	13.00
110.00	5.60	0.00	0.37	12.12	13.38	13.00
111.00	5.60	0.00	0.36	12.15	13.37	13.00
112.00	5.60	0.00	0.35	12.18	13.37	13.00
113.00	5.60	0.00	0.34	12.21	13.36	13.00
114.00	5.60	0.00	0.33	12.23	13.35	13.00
115.00	5.60	0.00	0.32	12.26	13.35	13.00
116.00	5.60	0.00	0.31	12.29	13.34	13.00
117.00	5.60	0.00	0.30	12.31	13.33	13.00
118.00	5.60	0.00	0.29	12.34	13.33	13.00
119.00	5.60	0.00	0.28	12.36	13.32	13.00
120.00	5.60	0.00	0.27	12.38	13.32	13.00
121.00	5.60	0.00	0.27	12.40	13.31	13.00
122.00	5.60	0.00	0.26	12.43	13.31	13.00
123.00	5.60	0.00	0.25	12.45	13.30	13.00
124.00	5.60	0.00	0.24	12.47	13.30	13.00
125.00	5.60	0.00	0.24	12.49	13.29	13.00
126.00	5.60	0.00	0.23	12.51	13.29	13.00
127.00	5.60	0.00	0.22	12.52	13.29	13.00
128.00	5.60	0.00	0.22	12.54	13.28	13.00
129.00	5.60	0.00	0.21	12.56	13.28	13.00
130.00	5.60	0.00	0.21	12.58	13.27	13.00
131.00	5.60	0.00	0.20	12.59	13.27	13.00
132.00	5.60	0.00	0.20	12.61	13.27	13.00
133.00	5.60	0.00	0.19	12.63	13.26	13.00
134.00	5.60	0.00	0.19	12.64	13.26	13.00
135.00	5.60	0.00	0.18	12.66	13.26	13.00
136.00	5.60	0.00	0.18	12.67	13.25	13.00
137.00	5.60	0.00	0.17	12.69	13.25	13.00
138.00	5.60	0.00	0.17	12.70	13.25	13.00
139.00	5.60	0.00	0.16	12.71	13.24	13.00
140.00	5.60	0.00	0.16	12.73	13.24	13.00
141.00	5.60	0.00	0.16	12.74	13.24	13.00
142.00	5.60	0.00	0.15	12.75	13.23	13.00
143.00	5.60	0.00	0.15	12.77	13.23	13.00
144.00	5.60	0.00	0.15	12.78	13.23	13.00
145.00	5.60	0.00	0.14	12.79	13.22	13.00
146.00	5.60	0.00	0.14	12.80	13.22	13.00
147.00	5.60	0.00	0.14	12.81	13.22	13.00
148.00	5.60	0.00	0.13	12.82	13.22	13.00
149.00	5.60	0.00	0.13	12.83	13.21	13.00
150.00	5.60	0.00	0.13	12.85	13.21	13.00
151.00	5.60	0.00	0.13	12.86	13.21	13.00
152.00	5.60	0.00	0.12	12.87	13.21	13.00
153.00	5.60	0.00	0.12	12.88	13.21	13.00
154.00	5.60	0.00	0.12	12.89	13.20	13.00
155.00	5.60	0.00	0.11	12.90	13.20	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
156.00	5.60	0.00	0.11	12.90	13.20	13.00
157.00	5.60	0.00	0.11	12.91	13.20	13.00
158.00	5.60	0.00	0.11	12.92	13.19	13.00
159.00	5.60	0.00	0.11	12.93	13.19	13.00
160.00	5.60	0.00	0.10	12.94	13.19	13.00
161.00	5.60	0.00	0.10	12.95	13.19	13.00
162.00	5.60	0.00	0.10	12.96	13.19	13.00
163.00	5.60	0.00	0.10	12.97	13.18	13.00
164.00	5.60	0.00	0.10	12.97	13.18	13.00
165.00	5.60	0.00	0.09	12.98	13.18	13.00
166.00	5.60	0.00	0.09	12.99	13.18	13.00
167.00	5.60	0.00	0.09	13.00	13.18	13.00
168.00	5.60	0.00	0.09	13.00	13.18	13.00
169.00	5.60	0.00	0.09	13.01	13.17	13.00
170.00	5.60	0.00	0.09	13.02	13.17	13.00
171.00	5.60	0.00	0.08	13.03	13.17	13.00
172.00	5.60	0.00	0.08	13.03	13.17	13.00
173.00	5.60	0.00	0.08	13.04	13.17	13.00
174.00	5.60	0.00	0.08	13.05	13.17	13.00
175.00	5.60	0.00	0.08	13.05	13.16	13.00
176.00	5.60	0.00	0.08	13.06	13.16	13.00
177.00	5.60	0.00	0.08	13.06	13.16	13.00
178.00	5.60	0.00	0.07	13.07	13.16	13.00
179.00	5.60	0.00	0.07	13.08	13.16	13.00
180.00	5.60	0.00	0.07	13.08	13.16	13.00
181.00	5.60	0.00	0.07	13.09	13.16	13.00
182.00	5.60	0.00	0.07	13.09	13.15	13.00
183.00	5.60	0.00	0.07	13.10	13.15	13.00
184.00	5.60	0.00	0.07	13.11	13.15	13.00
185.00	5.60	0.00	0.07	13.11	13.15	13.00
186.00	5.60	0.00	0.07	13.12	13.15	13.00
187.00	5.60	0.00	0.06	13.12	13.15	13.00
188.00	5.60	0.00	0.06	13.13	13.15	13.00
189.00	5.60	0.00	0.06	13.13	13.15	13.00
190.00	5.60	0.00	0.06	13.14	13.15	13.00
191.00	5.60	0.00	0.06	13.14	13.14	13.00
192.00	5.60	0.00	0.06	13.15	13.14	13.00
193.00	5.60	0.00	0.06	13.15	13.14	13.00
194.00	5.60	0.00	0.06	13.16	13.14	13.00
195.00	5.60	0.00	0.06	13.16	13.14	13.00
196.00	5.60	0.00	0.06	13.17	13.14	13.00
197.00	5.60	0.00	0.06	13.17	13.14	13.00
198.00	5.60	0.00	0.05	13.18	13.14	13.00
199.00	5.60	0.00	0.05	13.18	13.14	13.00
200.00	5.60	0.00	0.05	13.19	13.13	13.00
201.00	5.60	0.00	0.05	13.19	13.13	13.00
202.00	5.60	0.00	0.05	13.19	13.13	13.00
203.00	5.60	0.00	0.05	13.20	13.13	13.00
204.00	5.60	0.00	0.05	13.20	13.13	13.00
205.00	5.60	0.00	0.05	13.21	13.13	13.00
206.00	5.60	0.00	0.05	13.21	13.13	13.00
207.00	5.60	0.00	0.05	13.21	13.13	13.00
208.00	5.60	0.00	0.05	13.22	13.13	13.00
209.00	5.60	0.00	0.05	13.22	13.13	13.00
210.00	5.60	0.00	0.05	13.23	13.12	13.00
211.00	5.60	0.00	0.05	13.23	13.12	13.00
212.00	5.60	0.00	0.04	13.23	13.12	13.00
213.00	5.60	0.00	0.04	13.24	13.12	13.00
214.00	5.60	0.00	0.04	13.24	13.12	13.00
215.00	5.60	0.00	0.04	13.24	13.12	13.00
216.00	5.60	0.00	0.04	13.25	13.12	13.00
217.00	5.60	0.00	0.04	13.25	13.12	13.00
218.00	5.60	0.00	0.04	13.25	13.12	13.00
219.00	5.60	0.00	0.04	13.26	13.12	13.00
220.00	5.60	0.00	0.04	13.26	13.12	13.00
221.00	5.60	0.00	0.04	13.27	13.12	13.00
222.00	5.60	0.00	0.04	13.27	13.12	13.00
223.00	5.60	0.00	0.04	13.27	13.11	13.00
224.00	5.60	0.00	0.04	13.27	13.11	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
225.00	5.60	0.00	0.04	13.28	13.11	13.00
226.00	5.60	0.00	0.04	13.28	13.11	13.00
227.00	5.60	0.00	0.04	13.28	13.11	13.00
228.00	5.60	0.00	0.04	13.29	13.11	13.00
229.00	5.60	0.00	0.04	13.29	13.11	13.00
230.00	5.60	0.00	0.04	13.29	13.11	13.00
231.00	5.60	0.00	0.04	13.30	13.11	13.00
232.00	5.60	0.00	0.03	13.30	13.11	13.00
233.00	5.60	0.00	0.03	13.30	13.11	13.00
234.00	5.60	0.00	0.03	13.30	13.11	13.00
235.00	5.60	0.00	0.03	13.31	13.11	13.00
236.00	5.60	0.00	0.03	13.31	13.11	13.00
237.00	5.60	0.00	0.03	13.31	13.10	13.00
238.00	5.60	0.00	0.03	13.32	13.10	13.00
239.00	5.60	0.00	0.03	13.32	13.10	13.00
240.00	5.60	0.00	0.03	13.32	13.10	13.00
241.00	5.60	0.00	0.03	13.32	13.10	13.00
242.00	5.60	0.00	0.03	13.33	13.10	13.00
243.00	5.60	0.00	0.03	13.33	13.10	13.00
244.00	5.60	0.00	0.03	13.33	13.10	13.00
245.00	5.60	0.00	0.03	13.33	13.10	13.00
246.00	5.60	0.00	0.03	13.34	13.10	13.00
247.00	5.60	0.00	0.03	13.34	13.10	13.00
248.00	5.60	0.00	0.03	13.34	13.10	13.00
249.00	5.60	0.00	0.03	13.34	13.10	13.00
250.00	5.60	0.00	0.03	13.35	13.10	13.00
251.00	5.60	0.00	0.03	13.35	13.10	13.00
252.00	5.60	0.00	0.03	13.35	13.10	13.00
253.00	5.60	0.00	0.03	13.35	13.10	13.00
254.00	5.60	0.00	0.03	13.36	13.10	13.00
255.00	5.60	0.00	0.03	13.36	13.09	13.00
256.00	5.60	0.00	0.03	13.36	13.09	13.00
257.00	5.60	0.00	0.03	13.36	13.09	13.00
258.00	5.60	0.00	0.03	13.36	13.09	13.00
259.00	5.60	0.00	0.03	13.37	13.09	13.00
260.00	5.60	0.00	0.03	13.37	13.09	13.00
261.00	5.60	0.00	0.03	13.37	13.09	13.00
262.00	5.60	0.00	0.03	13.37	13.09	13.00
263.00	5.60	0.00	0.02	13.37	13.09	13.00
264.00	5.60	0.00	0.02	13.38	13.09	13.00
265.00	5.60	0.00	0.02	13.38	13.09	13.00
266.00	5.60	0.00	0.02	13.38	13.09	13.00
267.00	5.60	0.00	0.02	13.38	13.09	13.00
268.00	5.60	0.00	0.02	13.38	13.09	13.00
269.00	5.60	0.00	0.02	13.39	13.09	13.00
270.00	5.60	0.00	0.02	13.39	13.09	13.00
271.00	5.60	0.00	0.02	13.39	13.09	13.00
272.00	5.60	0.00	0.02	13.39	13.09	13.00
273.00	5.60	0.00	0.02	13.39	13.09	13.00
274.00	5.60	0.00	0.02	13.40	13.09	13.00
275.00	5.60	0.00	0.02	13.40	13.09	13.00
276.00	5.60	0.00	0.02	13.40	13.09	13.00
277.00	5.60	0.00	0.02	13.40	13.08	13.00
278.00	5.60	0.00	0.02	13.40	13.08	13.00
279.00	5.60	0.00	0.02	13.40	13.08	13.00
280.00	5.60	0.00	0.02	13.41	13.08	13.00
281.00	5.60	0.00	0.02	13.41	13.08	13.00
282.00	5.60	0.00	0.02	13.41	13.08	13.00
283.00	5.60	0.00	0.02	13.41	13.08	13.00
284.00	5.60	0.00	0.02	13.41	13.08	13.00
285.00	5.60	0.00	0.02	13.41	13.08	13.00
286.00	5.60	0.00	0.02	13.42	13.08	13.00
287.00	5.60	0.00	0.02	13.42	13.08	13.00
288.00	5.60	0.00	0.02	13.42	13.08	13.00
289.00	5.60	0.00	0.02	13.42	13.08	13.00
290.00	5.60	0.00	0.02	13.42	13.08	13.00
291.00	5.60	0.00	0.02	13.42	13.08	13.00
292.00	5.60	0.00	0.02	13.43	13.08	13.00
293.00	5.60	0.00	0.02	13.43	13.08	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
294.00	5.60	0.00	0.02	13.43	13.08	13.00
295.00	5.60	0.00	0.02	13.43	13.08	13.00
296.00	5.60	0.00	0.02	13.43	13.08	13.00
297.00	5.60	0.00	0.02	13.43	13.08	13.00
298.00	5.60	0.00	0.02	13.44	13.08	13.00
299.00	5.60	0.00	0.02	13.44	13.08	13.00
300.00	5.60	0.00	0.02	13.44	13.08	13.00
301.00	5.60	0.00	0.02	13.44	13.08	13.00
302.00	5.60	0.00	0.02	13.44	13.08	13.00
303.00	5.60	0.00	0.02	13.44	13.08	13.00
304.00	5.60	0.00	0.02	13.44	13.07	13.00
305.00	5.60	0.00	0.02	13.45	13.07	13.00
306.00	5.60	0.00	0.02	13.45	13.07	13.00
307.00	5.60	0.00	0.02	13.45	13.07	13.00
308.00	5.60	0.00	0.02	13.45	13.07	13.00
309.00	5.60	0.00	0.02	13.45	13.07	13.00
310.00	5.60	0.00	0.02	13.45	13.07	13.00
311.00	5.60	0.00	0.02	13.45	13.07	13.00
312.00	5.60	0.00	0.02	13.45	13.07	13.00
313.00	5.60	0.00	0.02	13.46	13.07	13.00
314.00	5.60	0.00	0.02	13.46	13.07	13.00
315.00	5.60	0.00	0.02	13.46	13.07	13.00
316.00	5.60	0.00	0.02	13.46	13.07	13.00
317.00	5.60	0.00	0.02	13.46	13.07	13.00
318.00	5.60	0.00	0.02	13.46	13.07	13.00
319.00	5.60	0.00	0.01	13.46	13.07	13.00
320.00	5.60	0.00	0.01	13.46	13.07	13.00
321.00	5.60	0.00	0.01	13.47	13.07	13.00
322.00	5.60	0.00	0.01	13.47	13.07	13.00
323.00	5.60	0.00	0.01	13.47	13.07	13.00
324.00	5.60	0.00	0.01	13.47	13.07	13.00
325.00	5.60	0.00	0.01	13.47	13.07	13.00
326.00	5.60	0.00	0.01	13.47	13.07	13.00
327.00	5.60	0.00	0.01	13.47	13.07	13.00
328.00	5.60	0.00	0.01	13.47	13.07	13.00
329.00	5.60	0.00	0.01	13.48	13.07	13.00
330.00	5.60	0.00	0.01	13.48	13.07	13.00
331.00	5.60	0.00	0.01	13.48	13.07	13.00
332.00	5.60	0.00	0.01	13.48	13.07	13.00
333.00	5.60	0.00	0.01	13.48	13.07	13.00
334.00	5.60	0.00	0.01	13.48	13.07	13.00
335.00	5.60	0.00	0.01	13.48	13.07	13.00
336.00	5.60	0.00	0.01	13.48	13.07	13.00
337.00	5.60	0.00	0.01	13.48	13.07	13.00
338.00	5.60	0.00	0.01	13.49	13.07	13.00
339.00	5.60	0.00	0.01	13.49	13.07	13.00
340.00	5.60	0.00	0.01	13.49	13.06	13.00
341.00	5.60	0.00	0.01	13.49	13.06	13.00
342.00	5.60	0.00	0.01	13.49	13.06	13.00
343.00	5.60	0.00	0.01	13.49	13.06	13.00
344.00	5.60	0.00	0.01	13.49	13.06	13.00
345.00	5.60	0.00	0.01	13.49	13.06	13.00
346.00	5.60	0.00	0.01	13.49	13.06	13.00
347.00	5.60	0.00	0.01	13.49	13.06	13.00
348.00	5.60	0.00	0.01	13.50	13.06	13.00
349.00	5.60	0.00	0.01	13.50	13.06	13.00
350.00	5.60	0.00	0.01	13.50	13.06	13.00
351.00	5.60	0.00	0.01	13.50	13.06	13.00
352.00	5.60	0.00	0.01	13.50	13.06	13.00
353.00	5.60	0.00	0.01	13.50	13.06	13.00
354.00	5.60	0.00	0.01	13.50	13.06	13.00
355.00	5.60	0.00	0.01	13.50	13.06	13.00
356.00	5.60	0.00	0.01	13.50	13.06	13.00
357.00	5.60	0.00	0.01	13.50	13.06	13.00
358.00	5.60	0.00	0.01	13.51	13.06	13.00
359.00	5.60	0.00	0.01	13.51	13.06	13.00
360.00	5.60	0.00	0.01	13.51	13.06	13.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	2.34	24.00	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Onsite	15.24	24.00	13.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Onsite	13.77	0.00	13.51	0.00	0.26	0.00

Project Name: Cornerstone
Reviewer:
Project Number: 24-1479
  Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr
  Time Step: 0.2 hr, Iterations: 10

Basin 1: Onsite

  Method: Santa Barbara Unit Hydrograph
  Rainfall Distribution: SFWMD - 3day
  Design Frequency: 10 year
  3 Day Rainfall: 8.3 inches
  Area: 50.37 acres
  Ground Storage: 2.73 inches
  Time of Concentration: 0.16 hours
  Initial Stage: 13 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
13.00	0.00
14.00	4.37
15.00	10.00
16.00	16.19
17.00	22.95
18.00	36.76
19.00	62.45
20.00	92.59

Offsite Receiving Body: Offsite1

Time (hr)	Stage (ft NGVD)
0.00	13.00
360.00	13.00

Structure: 1

  From Basin: Onsite
  To Basin: Offsite1
  Structure Type: Gravity
    Weir: Sharp Crested, Crest Elev = 16.5 ft NGVD, Length = 3 ft
    Bleeder: Circular, Invert Elev = 13 ft NGVD, Diameter = 0.67 ft
      Default Coefs: Weir Coef = 0.6, Orifice Coef = 0.6
    Pipe: Diameter = 1.5 ft, Manning's n = 0.013, Length = 100 ft
      US Invert Elev = 10.5 ft NGVD, DS Invert Elev = 6.5 ft NGVD, flap gate

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	13.00	13.00
1.00	0.04	0.00	0.00	0.00	13.00	13.00
2.00	0.07	0.00	0.00	0.00	13.00	13.00
3.00	0.11	0.00	0.00	0.00	13.00	13.00
4.00	0.15	0.00	0.00	0.00	13.00	13.00
5.00	0.19	0.00	0.00	0.00	13.00	13.00
6.00	0.22	0.00	0.00	0.00	13.00	13.00
7.00	0.26	0.00	0.00	0.00	13.00	13.00
8.00	0.30	0.00	0.00	0.00	13.00	13.00
9.00	0.33	0.00	0.00	0.00	13.00	13.00
10.00	0.37	0.00	0.00	0.00	13.00	13.00
11.00	0.41	0.00	0.00	0.00	13.00	13.00
12.00	0.45	0.00	0.00	0.00	13.00	13.00
13.00	0.48	0.00	0.00	0.00	13.00	13.00
14.00	0.52	0.00	0.00	0.00	13.00	13.00
15.00	0.56	0.01	0.00	0.00	13.00	13.00
16.00	0.59	0.06	0.00	0.00	13.00	13.00
17.00	0.63	0.10	0.00	0.00	13.00	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
18.00	0.67	0.15	0.00	0.00	13.00	13.00
19.00	0.71	0.20	0.00	0.00	13.01	13.00
20.00	0.74	0.24	0.00	0.00	13.01	13.00
21.00	0.78	0.28	0.00	0.00	13.02	13.00
22.00	0.82	0.32	0.00	0.00	13.02	13.00
23.00	0.85	0.36	0.00	0.00	13.03	13.00
24.00	0.89	0.39	0.00	0.00	13.04	13.00
25.00	0.95	0.64	0.01	0.00	13.05	13.00
26.00	1.00	0.72	0.01	0.00	13.06	13.00
27.00	1.05	0.78	0.02	0.00	13.07	13.00
28.00	1.11	0.85	0.02	0.00	13.09	13.00
29.00	1.16	0.91	0.03	0.01	13.10	13.00
30.00	1.22	0.97	0.04	0.01	13.12	13.00
31.00	1.27	1.02	0.06	0.01	13.14	13.00
32.00	1.33	1.08	0.07	0.02	13.16	13.00
33.00	1.38	1.13	0.09	0.03	13.18	13.00
34.00	1.43	1.18	0.11	0.04	13.20	13.00
35.00	1.49	1.22	0.13	0.05	13.22	13.00
36.00	1.54	1.27	0.16	0.06	13.24	13.00
37.00	1.60	1.31	0.19	0.07	13.26	13.00
38.00	1.65	1.35	0.22	0.09	13.28	13.00
39.00	1.70	1.39	0.25	0.11	13.30	13.00
40.00	1.76	1.43	0.28	0.13	13.32	13.00
41.00	1.81	1.46	0.32	0.16	13.35	13.00
42.00	1.87	1.50	0.35	0.18	13.37	13.00
43.00	1.92	1.53	0.39	0.22	13.39	13.00
44.00	1.98	1.56	0.43	0.25	13.41	13.00
45.00	2.03	1.59	0.47	0.29	13.43	13.00
46.00	2.08	1.62	0.51	0.33	13.45	13.00
47.00	2.14	1.65	0.55	0.37	13.47	13.00
48.00	2.19	1.68	0.59	0.42	13.49	13.00
49.00	2.25	1.92	0.64	0.47	13.52	13.00
50.00	2.31	1.95	0.69	0.53	13.54	13.00
51.00	2.39	2.39	0.75	0.59	13.57	13.00
52.00	2.47	2.81	0.82	0.65	13.60	13.00
53.00	2.57	3.70	0.91	0.72	13.65	13.00
54.00	2.70	4.65	1.04	0.81	13.71	13.00
55.00	2.85	5.64	1.15	0.90	13.79	13.00
56.00	3.03	6.69	1.26	1.00	13.89	13.00
57.00	3.24	8.24	1.39	1.11	14.00	13.00
58.00	3.49	10.38	1.50	1.23	14.12	13.00
59.00	3.84	15.46	1.65	1.36	14.28	13.00
60.00	6.20	174.41	2.38	1.52	15.31	13.00
61.00	6.88	22.68	2.80	1.75	16.05	13.00
62.00	7.19	13.20	2.88	1.98	16.21	13.00
63.00	7.38	8.61	2.92	2.22	16.29	13.00
64.00	7.57	8.57	2.95	2.47	16.36	13.00
65.00	7.68	5.16	2.97	2.71	16.40	13.00
66.00	7.79	5.16	2.98	2.96	16.42	13.00
67.00	7.90	5.17	3.00	3.20	16.45	13.00
68.00	8.01	5.18	3.01	3.45	16.48	13.00
69.00	8.08	3.46	3.01	3.70	16.49	13.00
70.00	8.15	3.46	3.02	3.95	16.49	13.00
71.00	8.23	3.46	3.02	4.20	16.50	13.00
72.00	8.30	3.47	3.02	4.45	16.50	13.00
73.00	8.30	0.01	3.01	4.70	16.47	13.00
74.00	8.30	0.00	2.99	4.95	16.44	13.00
75.00	8.30	0.00	2.97	5.19	16.40	13.00
76.00	8.30	0.00	2.95	5.44	16.36	13.00
77.00	8.30	0.00	2.94	5.68	16.33	13.00
78.00	8.30	0.00	2.92	5.92	16.29	13.00
79.00	8.30	0.00	2.90	6.16	16.26	13.00
80.00	8.30	0.00	2.88	6.40	16.22	13.00
81.00	8.30	0.00	2.87	6.64	16.19	13.00
82.00	8.30	0.00	2.85	6.88	16.15	13.00
83.00	8.30	0.00	2.83	7.11	16.12	13.00
84.00	8.30	0.00	2.81	7.34	16.08	13.00
85.00	8.30	0.00	2.80	7.57	16.05	13.00
86.00	8.30	0.00	2.78	7.81	16.01	13.00

Discharge over 24 hours 4.03 ac-ft

Peak Discharge

Discharge over 24 hours 5.57 ac-ft

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)	
87.00	8.30	0.00	2.76	8.03	15.98	13.00	
88.00	8.30	0.00	2.74	8.26	15.94	13.00	
89.00	8.30	0.00	2.72	8.49	15.90	13.00	
90.00	8.30	0.00	2.70	8.71	15.87	13.00	
91.00	8.30	0.00	2.68	8.93	15.83	13.00	
92.00	8.30	0.00	2.66	9.15	15.80	13.00	
93.00	8.30	0.00	2.64	9.37	15.76	13.00	
94.00	8.30	0.00	2.63	9.59	15.73	13.00	
95.00	8.30	0.00	2.61	9.81	15.69	13.00	
96.00	8.30	0.00	2.59	10.02	15.66	13.00	
97.00	8.30	0.00	2.57	10.23	15.62	13.00	
98.00	8.30	0.00	2.55	10.45	15.59	13.00	
99.00	8.30	0.00	2.53	10.65	15.55	13.00	
100.00	8.30	0.00	2.51	10.86	15.52	13.00	
101.00	8.30	0.00	2.49	11.07	15.49	13.00	
102.00	8.30	0.00	2.47	11.27	15.45	13.00	
103.00	8.30	0.00	2.45	11.48	15.42	13.00	
104.00	8.30	0.00	2.43	11.68	15.39	13.00	
105.00	8.30	0.00	2.41	11.88	15.36	13.00	Discharge over 24 hours 4.67 ac-ft
106.00	8.30	0.00	2.39	12.08	15.32	13.00	
107.00	8.30	0.00	2.38	12.28	15.29	13.00	
108.00	8.30	0.00	2.36	12.47	15.26	13.00	
109.00	8.30	0.00	2.34	12.66	15.23	13.00	
110.00	8.30	0.00	2.32	12.86	15.20	13.00	
111.00	8.30	0.00	2.30	13.05	15.17	13.00	
112.00	8.30	0.00	2.28	13.24	15.14	13.00	
113.00	8.30	0.00	2.26	13.42	15.11	13.00	
114.00	8.30	0.00	2.24	13.61	15.08	13.00	
115.00	8.30	0.00	2.22	13.79	15.05	13.00	
116.00	8.30	0.00	2.20	13.98	15.02	13.00	
117.00	8.30	0.00	2.18	14.16	14.99	13.00	
118.00	8.30	0.00	2.16	14.34	14.96	13.00	
119.00	8.30	0.00	2.14	14.51	14.92	13.00	
120.00	8.30	0.00	2.12	14.69	14.89	13.00	
121.00	8.30	0.00	2.10	14.86	14.86	13.00	
122.00	8.30	0.00	2.08	15.04	14.83	13.00	
123.00	8.30	0.00	2.06	15.21	14.80	13.00	
124.00	8.30	0.00	2.03	15.38	14.77	13.00	
125.00	8.30	0.00	2.01	15.54	14.74	13.00	
126.00	8.30	0.00	1.99	15.71	14.71	13.00	
127.00	8.30	0.00	1.97	15.87	14.68	13.00	
128.00	8.30	0.00	1.95	16.03	14.65	13.00	
129.00	8.30	0.00	1.93	16.19	14.63	13.00	
130.00	8.30	0.00	1.91	16.35	14.60	13.00	Discharge over 24 hours 3.69 ac-ft
131.00	8.30	0.00	1.89	16.51	14.57	13.00	
132.00	8.30	0.00	1.86	16.66	14.54	13.00	
133.00	8.30	0.00	1.84	16.82	14.51	13.00	
134.00	8.30	0.00	1.82	16.97	14.49	13.00	
135.00	8.30	0.00	1.80	17.12	14.46	13.00	
136.00	8.30	0.00	1.78	17.27	14.43	13.00	
137.00	8.30	0.00	1.76	17.41	14.41	13.00	
138.00	8.30	0.00	1.74	17.56	14.38	13.00	
139.00	8.30	0.00	1.72	17.70	14.36	13.00	
140.00	8.30	0.00	1.70	17.84	14.33	13.00	
141.00	8.30	0.00	1.67	17.98	14.31	13.00	
142.00	8.30	0.00	1.65	18.12	14.28	13.00	
143.00	8.30	0.00	1.63	18.25	14.26	13.00	
144.00	8.30	0.00	1.61	18.38	14.24	13.00	
145.00	8.30	0.00	1.59	18.52	14.21	13.00	
146.00	8.30	0.00	1.57	18.65	14.19	13.00	
147.00	8.30	0.00	1.55	18.78	14.17	13.00	
148.00	8.30	0.00	1.53	18.90	14.14	13.00	
149.00	8.30	0.00	1.51	19.03	14.12	13.00	
150.00	8.30	0.00	1.48	19.15	14.10	13.00	
151.00	8.30	0.00	1.46	19.27	14.08	13.00	
152.00	8.30	0.00	1.44	19.39	14.06	13.00	
153.00	8.30	0.00	1.42	19.51	14.04	13.00	
154.00	8.30	0.00	1.40	19.63	14.01	13.00	
155.00	8.30	0.00	1.38	19.74	13.99	13.00	

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
156.00	8.30	0.00	1.35	19.85	13.97	13.00
157.00	8.30	0.00	1.32	19.96	13.94	13.00
158.00	8.30	0.00	1.29	20.07	13.92	13.00
159.00	8.30	0.00	1.27	20.18	13.89	13.00
160.00	8.30	0.00	1.24	20.28	13.87	13.00
161.00	8.30	0.00	1.21	20.38	13.85	13.00
162.00	8.30	0.00	1.19	20.48	13.82	13.00
163.00	8.30	0.00	1.16	20.58	13.80	13.00
164.00	8.30	0.00	1.13	20.67	13.78	13.00
165.00	8.30	0.00	1.10	20.76	13.76	13.00
166.00	8.30	0.00	1.08	20.85	13.74	13.00
167.00	8.30	0.00	1.05	20.94	13.72	13.00
168.00	8.30	0.00	1.02	21.03	13.70	13.00
169.00	8.30	0.00	0.99	21.11	13.68	13.00
170.00	8.30	0.00	0.93	21.19	13.66	13.00
171.00	8.30	0.00	0.89	21.26	13.64	13.00
172.00	8.30	0.00	0.86	21.34	13.63	13.00
173.00	8.30	0.00	0.83	21.41	13.61	13.00
174.00	8.30	0.00	0.80	21.47	13.60	13.00
175.00	8.30	0.00	0.77	21.54	13.58	13.00
176.00	8.30	0.00	0.74	21.60	13.57	13.00
177.00	8.30	0.00	0.71	21.66	13.55	13.00
178.00	8.30	0.00	0.68	21.72	13.54	13.00
179.00	8.30	0.00	0.66	21.77	13.53	13.00
180.00	8.30	0.00	0.63	21.83	13.51	13.00
181.00	8.30	0.00	0.61	21.88	13.50	13.00
182.00	8.30	0.00	0.59	21.93	13.49	13.00
183.00	8.30	0.00	0.57	21.97	13.48	13.00
184.00	8.30	0.00	0.55	22.02	13.47	13.00
185.00	8.30	0.00	0.53	22.06	13.46	13.00
186.00	8.30	0.00	0.51	22.11	13.45	13.00
187.00	8.30	0.00	0.49	22.15	13.44	13.00
188.00	8.30	0.00	0.47	22.19	13.43	13.00
189.00	8.30	0.00	0.45	22.22	13.42	13.00
190.00	8.30	0.00	0.44	22.26	13.41	13.00
191.00	8.30	0.00	0.42	22.30	13.41	13.00
192.00	8.30	0.00	0.41	22.33	13.40	13.00
193.00	8.30	0.00	0.40	22.36	13.39	13.00
194.00	8.30	0.00	0.38	22.40	13.38	13.00
195.00	8.30	0.00	0.37	22.43	13.38	13.00
196.00	8.30	0.00	0.36	22.46	13.37	13.00
197.00	8.30	0.00	0.35	22.49	13.36	13.00
198.00	8.30	0.00	0.33	22.51	13.36	13.00
199.00	8.30	0.00	0.32	22.54	13.35	13.00
200.00	8.30	0.00	0.31	22.57	13.34	13.00
201.00	8.30	0.00	0.30	22.59	13.34	13.00
202.00	8.30	0.00	0.30	22.62	13.33	13.00
203.00	8.30	0.00	0.29	22.64	13.33	13.00
204.00	8.30	0.00	0.28	22.67	13.32	13.00
205.00	8.30	0.00	0.27	22.69	13.32	13.00
206.00	8.30	0.00	0.26	22.71	13.31	13.00
207.00	8.30	0.00	0.25	22.73	13.31	13.00
208.00	8.30	0.00	0.25	22.75	13.30	13.00
209.00	8.30	0.00	0.24	22.77	13.30	13.00
210.00	8.30	0.00	0.23	22.79	13.29	13.00
211.00	8.30	0.00	0.23	22.81	13.29	13.00
212.00	8.30	0.00	0.22	22.83	13.28	13.00
213.00	8.30	0.00	0.21	22.85	13.28	13.00
214.00	8.30	0.00	0.21	22.86	13.28	13.00
215.00	8.30	0.00	0.20	22.88	13.27	13.00
216.00	8.30	0.00	0.20	22.90	13.27	13.00
217.00	8.30	0.00	0.19	22.91	13.26	13.00
218.00	8.30	0.00	0.19	22.93	13.26	13.00
219.00	8.30	0.00	0.18	22.94	13.26	13.00
220.00	8.30	0.00	0.18	22.96	13.25	13.00
221.00	8.30	0.00	0.17	22.97	13.25	13.00
222.00	8.30	0.00	0.17	22.99	13.25	13.00
223.00	8.30	0.00	0.17	23.00	13.24	13.00
224.00	8.30	0.00	0.16	23.02	13.24	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
225.00	8.30	0.00	0.16	23.03	13.24	13.00
226.00	8.30	0.00	0.15	23.04	13.23	13.00
227.00	8.30	0.00	0.15	23.05	13.23	13.00
228.00	8.30	0.00	0.15	23.07	13.23	13.00
229.00	8.30	0.00	0.14	23.08	13.23	13.00
230.00	8.30	0.00	0.14	23.09	13.22	13.00
231.00	8.30	0.00	0.14	23.10	13.22	13.00
232.00	8.30	0.00	0.14	23.11	13.22	13.00
233.00	8.30	0.00	0.13	23.12	13.22	13.00
234.00	8.30	0.00	0.13	23.14	13.21	13.00
235.00	8.30	0.00	0.13	23.15	13.21	13.00
236.00	8.30	0.00	0.12	23.16	13.21	13.00
237.00	8.30	0.00	0.12	23.17	13.21	13.00
238.00	8.30	0.00	0.12	23.18	13.20	13.00
239.00	8.30	0.00	0.12	23.19	13.20	13.00
240.00	8.30	0.00	0.11	23.20	13.20	13.00
241.00	8.30	0.00	0.11	23.21	13.20	13.00
242.00	8.30	0.00	0.11	23.21	13.20	13.00
243.00	8.30	0.00	0.11	23.22	13.19	13.00
244.00	8.30	0.00	0.11	23.23	13.19	13.00
245.00	8.30	0.00	0.10	23.24	13.19	13.00
246.00	8.30	0.00	0.10	23.25	13.19	13.00
247.00	8.30	0.00	0.10	23.26	13.19	13.00
248.00	8.30	0.00	0.10	23.27	13.18	13.00
249.00	8.30	0.00	0.10	23.27	13.18	13.00
250.00	8.30	0.00	0.09	23.28	13.18	13.00
251.00	8.30	0.00	0.09	23.29	13.18	13.00
252.00	8.30	0.00	0.09	23.30	13.18	13.00
253.00	8.30	0.00	0.09	23.30	13.18	13.00
254.00	8.30	0.00	0.09	23.31	13.17	13.00
255.00	8.30	0.00	0.09	23.32	13.17	13.00
256.00	8.30	0.00	0.08	23.32	13.17	13.00
257.00	8.30	0.00	0.08	23.33	13.17	13.00
258.00	8.30	0.00	0.08	23.34	13.17	13.00
259.00	8.30	0.00	0.08	23.34	13.17	13.00
260.00	8.30	0.00	0.08	23.35	13.16	13.00
261.00	8.30	0.00	0.08	23.36	13.16	13.00
262.00	8.30	0.00	0.08	23.36	13.16	13.00
263.00	8.30	0.00	0.07	23.37	13.16	13.00
264.00	8.30	0.00	0.07	23.38	13.16	13.00
265.00	8.30	0.00	0.07	23.38	13.16	13.00
266.00	8.30	0.00	0.07	23.39	13.16	13.00
267.00	8.30	0.00	0.07	23.39	13.15	13.00
268.00	8.30	0.00	0.07	23.40	13.15	13.00
269.00	8.30	0.00	0.07	23.40	13.15	13.00
270.00	8.30	0.00	0.07	23.41	13.15	13.00
271.00	8.30	0.00	0.06	23.42	13.15	13.00
272.00	8.30	0.00	0.06	23.42	13.15	13.00
273.00	8.30	0.00	0.06	23.43	13.15	13.00
274.00	8.30	0.00	0.06	23.43	13.15	13.00
275.00	8.30	0.00	0.06	23.44	13.14	13.00
276.00	8.30	0.00	0.06	23.44	13.14	13.00
277.00	8.30	0.00	0.06	23.45	13.14	13.00
278.00	8.30	0.00	0.06	23.45	13.14	13.00
279.00	8.30	0.00	0.06	23.46	13.14	13.00
280.00	8.30	0.00	0.06	23.46	13.14	13.00
281.00	8.30	0.00	0.06	23.47	13.14	13.00
282.00	8.30	0.00	0.05	23.47	13.14	13.00
283.00	8.30	0.00	0.05	23.47	13.14	13.00
284.00	8.30	0.00	0.05	23.48	13.13	13.00
285.00	8.30	0.00	0.05	23.48	13.13	13.00
286.00	8.30	0.00	0.05	23.49	13.13	13.00
287.00	8.30	0.00	0.05	23.49	13.13	13.00
288.00	8.30	0.00	0.05	23.50	13.13	13.00
289.00	8.30	0.00	0.05	23.50	13.13	13.00
290.00	8.30	0.00	0.05	23.50	13.13	13.00
291.00	8.30	0.00	0.05	23.51	13.13	13.00
292.00	8.30	0.00	0.05	23.51	13.13	13.00
293.00	8.30	0.00	0.05	23.52	13.13	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
294.00	8.30	0.00	0.05	23.52	13.13	13.00
295.00	8.30	0.00	0.05	23.52	13.12	13.00
296.00	8.30	0.00	0.05	23.53	13.12	13.00
297.00	8.30	0.00	0.04	23.53	13.12	13.00
298.00	8.30	0.00	0.04	23.54	13.12	13.00
299.00	8.30	0.00	0.04	23.54	13.12	13.00
300.00	8.30	0.00	0.04	23.54	13.12	13.00
301.00	8.30	0.00	0.04	23.55	13.12	13.00
302.00	8.30	0.00	0.04	23.55	13.12	13.00
303.00	8.30	0.00	0.04	23.55	13.12	13.00
304.00	8.30	0.00	0.04	23.56	13.12	13.00
305.00	8.30	0.00	0.04	23.56	13.12	13.00
306.00	8.30	0.00	0.04	23.56	13.12	13.00
307.00	8.30	0.00	0.04	23.57	13.11	13.00
308.00	8.30	0.00	0.04	23.57	13.11	13.00
309.00	8.30	0.00	0.04	23.57	13.11	13.00
310.00	8.30	0.00	0.04	23.58	13.11	13.00
311.00	8.30	0.00	0.04	23.58	13.11	13.00
312.00	8.30	0.00	0.04	23.58	13.11	13.00
313.00	8.30	0.00	0.04	23.58	13.11	13.00
314.00	8.30	0.00	0.04	23.59	13.11	13.00
315.00	8.30	0.00	0.04	23.59	13.11	13.00
316.00	8.30	0.00	0.04	23.59	13.11	13.00
317.00	8.30	0.00	0.03	23.60	13.11	13.00
318.00	8.30	0.00	0.03	23.60	13.11	13.00
319.00	8.30	0.00	0.03	23.60	13.11	13.00
320.00	8.30	0.00	0.03	23.61	13.11	13.00
321.00	8.30	0.00	0.03	23.61	13.11	13.00
322.00	8.30	0.00	0.03	23.61	13.10	13.00
323.00	8.30	0.00	0.03	23.61	13.10	13.00
324.00	8.30	0.00	0.03	23.62	13.10	13.00
325.00	8.30	0.00	0.03	23.62	13.10	13.00
326.00	8.30	0.00	0.03	23.62	13.10	13.00
327.00	8.30	0.00	0.03	23.62	13.10	13.00
328.00	8.30	0.00	0.03	23.63	13.10	13.00
329.00	8.30	0.00	0.03	23.63	13.10	13.00
330.00	8.30	0.00	0.03	23.63	13.10	13.00
331.00	8.30	0.00	0.03	23.63	13.10	13.00
332.00	8.30	0.00	0.03	23.64	13.10	13.00
333.00	8.30	0.00	0.03	23.64	13.10	13.00
334.00	8.30	0.00	0.03	23.64	13.10	13.00
335.00	8.30	0.00	0.03	23.64	13.10	13.00
336.00	8.30	0.00	0.03	23.65	13.10	13.00
337.00	8.30	0.00	0.03	23.65	13.10	13.00
338.00	8.30	0.00	0.03	23.65	13.10	13.00
339.00	8.30	0.00	0.03	23.65	13.10	13.00
340.00	8.30	0.00	0.03	23.65	13.09	13.00
341.00	8.30	0.00	0.03	23.66	13.09	13.00
342.00	8.30	0.00	0.03	23.66	13.09	13.00
343.00	8.30	0.00	0.03	23.66	13.09	13.00
344.00	8.30	0.00	0.03	23.66	13.09	13.00
345.00	8.30	0.00	0.03	23.67	13.09	13.00
346.00	8.30	0.00	0.03	23.67	13.09	13.00
347.00	8.30	0.00	0.02	23.67	13.09	13.00
348.00	8.30	0.00	0.02	23.67	13.09	13.00
349.00	8.30	0.00	0.02	23.67	13.09	13.00
350.00	8.30	0.00	0.02	23.68	13.09	13.00
351.00	8.30	0.00	0.02	23.68	13.09	13.00
352.00	8.30	0.00	0.02	23.68	13.09	13.00
353.00	8.30	0.00	0.02	23.68	13.09	13.00
354.00	8.30	0.00	0.02	23.68	13.09	13.00
355.00	8.30	0.00	0.02	23.69	13.09	13.00
356.00	8.30	0.00	0.02	23.69	13.09	13.00
357.00	8.30	0.00	0.02	23.69	13.09	13.00
358.00	8.30	0.00	0.02	23.69	13.09	13.00
359.00	8.30	0.00	0.02	23.69	13.09	13.00
360.00	8.30	0.00	0.02	23.69	13.09	13.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	3.02	72.00	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Onsite	16.50	72.00	13.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Onsite	24.06	0.00	23.69	0.00	0.37	0.00

Project Name: Cornerstone
Reviewer:
Project Number: 24-1479
  Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr
  Time Step: 0.2 hr, Iterations: 10

Basin 1: Onsite

  Method: Santa Barbara Unit Hydrograph
  Rainfall Distribution: SFWMD - 3day
  Design Frequency: 25 year
  3 Day Rainfall: 9 inches
  Area: 50.37 acres
  Ground Storage: 2.73 inches
  Time of Concentration: 0.16 hours
  Initial Stage: 13 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
13.00	0.00
14.00	4.37
15.00	10.00
16.00	16.19
17.00	22.95
18.00	36.76
19.00	62.45
20.00	92.59

Offsite Receiving Body: Offsite1

Time (hr)	Stage (ft NGVD)
0.00	13.00
360.00	13.00

Structure: 1

  From Basin: Onsite
  To Basin: Offsite1
  Structure Type: Gravity
    Weir: Sharp Crested, Crest Elev = 16.5 ft NGVD, Length = 3 ft
    Bleeder: Circular, Invert Elev = 13 ft NGVD, Diameter = 0.67 ft
      Default Coefs: Weir Coef = 0.6, Orifice Coef = 0.6
    Pipe: Diameter = 1.5 ft, Manning's n = 0.013, Length = 100 ft
      US Invert Elev = 10.5 ft NGVD, DS Invert Elev = 6.5 ft NGVD, flap gate

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
0.00	0.00	0.00	0.00	0.00	13.00	13.00
1.00	0.04	0.00	0.00	0.00	13.00	13.00
2.00	0.08	0.00	0.00	0.00	13.00	13.00
3.00	0.12	0.00	0.00	0.00	13.00	13.00
4.00	0.16	0.00	0.00	0.00	13.00	13.00
5.00	0.20	0.00	0.00	0.00	13.00	13.00
6.00	0.24	0.00	0.00	0.00	13.00	13.00
7.00	0.28	0.00	0.00	0.00	13.00	13.00
8.00	0.32	0.00	0.00	0.00	13.00	13.00
9.00	0.36	0.00	0.00	0.00	13.00	13.00
10.00	0.40	0.00	0.00	0.00	13.00	13.00
11.00	0.44	0.00	0.00	0.00	13.00	13.00
12.00	0.48	0.00	0.00	0.00	13.00	13.00
13.00	0.52	0.00	0.00	0.00	13.00	13.00
14.00	0.56	0.02	0.00	0.00	13.00	13.00
15.00	0.60	0.07	0.00	0.00	13.00	13.00
16.00	0.64	0.13	0.00	0.00	13.00	13.00
17.00	0.68	0.18	0.00	0.00	13.01	13.00
18.00	0.73	0.24	0.00	0.00	13.01	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
19.00	0.77	0.28	0.00	0.00	13.01	13.00
20.00	0.81	0.33	0.00	0.00	13.02	13.00
21.00	0.85	0.38	0.00	0.00	13.03	13.00
22.00	0.89	0.42	0.00	0.00	13.03	13.00
23.00	0.93	0.46	0.01	0.00	13.04	13.00
24.00	0.97	0.50	0.01	0.00	13.05	13.00
25.00	1.03	0.81	0.01	0.00	13.07	13.00
26.00	1.08	0.89	0.02	0.00	13.08	13.00
27.00	1.14	0.96	0.03	0.01	13.10	13.00
28.00	1.20	1.03	0.04	0.01	13.12	13.00
29.00	1.26	1.10	0.05	0.01	13.14	13.00
30.00	1.32	1.16	0.07	0.02	13.16	13.00
31.00	1.38	1.22	0.09	0.02	13.18	13.00
32.00	1.44	1.28	0.11	0.03	13.20	13.00
33.00	1.50	1.33	0.14	0.04	13.22	13.00
34.00	1.55	1.38	0.17	0.06	13.24	13.00
35.00	1.61	1.43	0.20	0.07	13.27	13.00
36.00	1.67	1.48	0.23	0.09	13.29	13.00
37.00	1.73	1.53	0.27	0.11	13.31	13.00
38.00	1.79	1.57	0.31	0.13	13.34	13.00
39.00	1.85	1.61	0.35	0.16	13.36	13.00
40.00	1.91	1.65	0.39	0.19	13.39	13.00
41.00	1.97	1.69	0.43	0.23	13.41	13.00
42.00	2.02	1.72	0.47	0.26	13.43	13.00
43.00	2.08	1.76	0.52	0.31	13.46	13.00
44.00	2.14	1.79	0.57	0.35	13.48	13.00
45.00	2.20	1.82	0.61	0.40	13.50	13.00
46.00	2.26	1.85	0.66	0.45	13.53	13.00
47.00	2.32	1.88	0.70	0.51	13.55	13.00
48.00	2.38	1.91	0.75	0.57	13.57	13.00
49.00	2.44	2.19	0.80	0.63	13.60	13.00
50.00	2.51	2.22	0.85	0.70	13.62	13.00
51.00	2.59	2.71	0.92	0.78	13.65	13.00
52.00	2.68	3.19	1.01	0.86	13.69	13.00
53.00	2.79	4.19	1.08	0.94	13.74	13.00
54.00	2.93	5.24	1.17	1.04	13.81	13.00
55.00	3.09	6.35	1.28	1.14	13.90	13.00
56.00	3.28	7.51	1.39	1.25	14.01	13.00
57.00	3.51	9.22	1.49	1.37	14.11	13.00
58.00	3.79	11.59	1.62	1.50	14.24	13.00
59.00	4.16	17.21	1.77	1.64	14.42	13.00
60.00	6.72	192.14	2.52	1.81	15.54	13.00
61.00	7.46	24.88	2.94	2.05	16.33	13.00
62.00	7.79	14.47	3.03	2.30	16.51	13.00
63.00	8.01	9.43	3.36	2.56	16.60	13.00
64.00	8.21	9.39	3.76	2.86	16.67	13.00
65.00	8.32	5.65	3.96	3.18	16.70	13.00
66.00	8.44	5.65	4.10	3.52	16.72	13.00
67.00	8.56	5.66	4.23	3.86	16.74	13.00
68.00	8.68	5.67	4.35	4.22	16.76	13.00
69.00	8.76	3.79	4.33	4.58	16.75	13.00
70.00	8.84	3.79	4.28	4.93	16.75	13.00
71.00	8.92	3.79	4.24	5.28	16.74	13.00
72.00	9.00	3.79	4.20	5.63	16.74	13.00
73.00	9.00	0.01	3.91	5.97	16.69	13.00
74.00	9.00	0.00	3.62	6.28	16.65	13.00
75.00	9.00	0.00	3.39	6.56	16.61	13.00
76.00	9.00	0.00	3.21	6.83	16.56	13.00
77.00	9.00	0.00	3.07	7.09	16.53	13.00
78.00	9.00	0.00	3.02	7.34	16.49	13.00
79.00	9.00	0.00	3.00	7.59	16.45	13.00
80.00	9.00	0.00	2.98	7.84	16.42	13.00
81.00	9.00	0.00	2.96	8.08	16.38	13.00
82.00	9.00	0.00	2.94	8.33	16.34	13.00
83.00	9.00	0.00	2.93	8.57	16.31	13.00
84.00	9.00	0.00	2.91	8.81	16.27	13.00
85.00	9.00	0.00	2.89	9.05	16.24	13.00
86.00	9.00	0.00	2.87	9.29	16.20	13.00
87.00	9.00	0.00	2.86	9.53	16.17	13.00
88.00	9.00	0.00	2.84	9.76	16.13	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
89.00	9.00	0.00	2.82	9.99	16.10	13.00
90.00	9.00	0.00	2.80	10.23	16.06	13.00
91.00	9.00	0.00	2.79	10.46	16.03	13.00
92.00	9.00	0.00	2.77	10.69	15.99	13.00
93.00	9.00	0.00	2.75	10.91	15.96	13.00
94.00	9.00	0.00	2.73	11.14	15.92	13.00
95.00	9.00	0.00	2.71	11.37	15.88	13.00
96.00	9.00	0.00	2.69	11.59	15.85	13.00
97.00	9.00	0.00	2.67	11.81	15.81	13.00
98.00	9.00	0.00	2.65	12.03	15.78	13.00
99.00	9.00	0.00	2.63	12.25	15.74	13.00
100.00	9.00	0.00	2.61	12.47	15.71	13.00
101.00	9.00	0.00	2.59	12.68	15.67	13.00
102.00	9.00	0.00	2.58	12.89	15.64	13.00
103.00	9.00	0.00	2.56	13.11	15.60	13.00
104.00	9.00	0.00	2.54	13.32	15.57	13.00
105.00	9.00	0.00	2.52	13.53	15.54	13.00
106.00	9.00	0.00	2.50	13.73	15.50	13.00
107.00	9.00	0.00	2.48	13.94	15.47	13.00
108.00	9.00	0.00	2.46	14.14	15.44	13.00
109.00	9.00	0.00	2.44	14.34	15.40	13.00
110.00	9.00	0.00	2.42	14.55	15.37	13.00
111.00	9.00	0.00	2.40	14.74	15.34	13.00
112.00	9.00	0.00	2.38	14.94	15.31	13.00
113.00	9.00	0.00	2.36	15.14	15.27	13.00
114.00	9.00	0.00	2.34	15.33	15.24	13.00
115.00	9.00	0.00	2.33	15.53	15.21	13.00
116.00	9.00	0.00	2.31	15.72	15.18	13.00
117.00	9.00	0.00	2.29	15.91	15.15	13.00
118.00	9.00	0.00	2.27	16.09	15.12	13.00
119.00	9.00	0.00	2.25	16.28	15.09	13.00
120.00	9.00	0.00	2.23	16.47	15.06	13.00
121.00	9.00	0.00	2.21	16.65	15.03	13.00
122.00	9.00	0.00	2.19	16.83	15.00	13.00
123.00	9.00	0.00	2.17	17.01	14.97	13.00
124.00	9.00	0.00	2.15	17.19	14.94	13.00
125.00	9.00	0.00	2.13	17.37	14.91	13.00
126.00	9.00	0.00	2.11	17.54	14.87	13.00
127.00	9.00	0.00	2.09	17.71	14.84	13.00
128.00	9.00	0.00	2.06	17.88	14.81	13.00
129.00	9.00	0.00	2.04	18.05	14.78	13.00
130.00	9.00	0.00	2.02	18.22	14.75	13.00
131.00	9.00	0.00	2.00	18.39	14.72	13.00
132.00	9.00	0.00	1.98	18.55	14.69	13.00
133.00	9.00	0.00	1.96	18.72	14.67	13.00
134.00	9.00	0.00	1.94	18.88	14.64	13.00
135.00	9.00	0.00	1.92	19.04	14.61	13.00
136.00	9.00	0.00	1.89	19.19	14.58	13.00
137.00	9.00	0.00	1.87	19.35	14.55	13.00
138.00	9.00	0.00	1.85	19.50	14.53	13.00
139.00	9.00	0.00	1.83	19.65	14.50	13.00
140.00	9.00	0.00	1.81	19.80	14.47	13.00
141.00	9.00	0.00	1.79	19.95	14.45	13.00
142.00	9.00	0.00	1.77	20.10	14.42	13.00
143.00	9.00	0.00	1.75	20.24	14.39	13.00
144.00	9.00	0.00	1.73	20.39	14.37	13.00
145.00	9.00	0.00	1.70	20.53	14.34	13.00
146.00	9.00	0.00	1.68	20.67	14.32	13.00
147.00	9.00	0.00	1.66	20.81	14.29	13.00
148.00	9.00	0.00	1.64	20.94	14.27	13.00
149.00	9.00	0.00	1.62	21.08	14.25	13.00
150.00	9.00	0.00	1.60	21.21	14.22	13.00
151.00	9.00	0.00	1.58	21.34	14.20	13.00
152.00	9.00	0.00	1.56	21.47	14.18	13.00
153.00	9.00	0.00	1.54	21.60	14.15	13.00
154.00	9.00	0.00	1.51	21.73	14.13	13.00
155.00	9.00	0.00	1.49	21.85	14.11	13.00
156.00	9.00	0.00	1.47	21.97	14.09	13.00
157.00	9.00	0.00	1.45	22.09	14.07	13.00
158.00	9.00	0.00	1.43	22.21	14.04	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
159.00	9.00	0.00	1.41	22.33	14.02	13.00
160.00	9.00	0.00	1.39	22.44	14.00	13.00
161.00	9.00	0.00	1.36	22.56	13.98	13.00
162.00	9.00	0.00	1.33	22.67	13.95	13.00
163.00	9.00	0.00	1.31	22.78	13.93	13.00
164.00	9.00	0.00	1.28	22.88	13.90	13.00
165.00	9.00	0.00	1.25	22.99	13.88	13.00
166.00	9.00	0.00	1.22	23.09	13.86	13.00
167.00	9.00	0.00	1.20	23.19	13.83	13.00
168.00	9.00	0.00	1.17	23.29	13.81	13.00
169.00	9.00	0.00	1.14	23.38	13.79	13.00
170.00	9.00	0.00	1.12	23.48	13.77	13.00
171.00	9.00	0.00	1.09	23.57	13.75	13.00
172.00	9.00	0.00	1.06	23.66	13.73	13.00
173.00	9.00	0.00	1.03	23.74	13.71	13.00
174.00	9.00	0.00	1.01	23.83	13.69	13.00
175.00	9.00	0.00	0.94	23.91	13.67	13.00
176.00	9.00	0.00	0.91	23.98	13.65	13.00
177.00	9.00	0.00	0.88	24.06	13.63	13.00
178.00	9.00	0.00	0.84	24.13	13.62	13.00
179.00	9.00	0.00	0.81	24.20	13.60	13.00
180.00	9.00	0.00	0.78	24.26	13.59	13.00
181.00	9.00	0.00	0.75	24.32	13.57	13.00
182.00	9.00	0.00	0.72	24.39	13.56	13.00
183.00	9.00	0.00	0.70	24.44	13.54	13.00
184.00	9.00	0.00	0.67	24.50	13.53	13.00
185.00	9.00	0.00	0.64	24.55	13.52	13.00
186.00	9.00	0.00	0.62	24.61	13.51	13.00
187.00	9.00	0.00	0.60	24.66	13.50	13.00
188.00	9.00	0.00	0.57	24.70	13.48	13.00
189.00	9.00	0.00	0.55	24.75	13.47	13.00
190.00	9.00	0.00	0.53	24.80	13.46	13.00
191.00	9.00	0.00	0.51	24.84	13.45	13.00
192.00	9.00	0.00	0.50	24.88	13.44	13.00
193.00	9.00	0.00	0.48	24.92	13.44	13.00
194.00	9.00	0.00	0.46	24.96	13.43	13.00
195.00	9.00	0.00	0.45	25.00	13.42	13.00
196.00	9.00	0.00	0.43	25.03	13.41	13.00
197.00	9.00	0.00	0.42	25.07	13.40	13.00
198.00	9.00	0.00	0.40	25.10	13.39	13.00
199.00	9.00	0.00	0.39	25.13	13.39	13.00
200.00	9.00	0.00	0.37	25.17	13.38	13.00
201.00	9.00	0.00	0.36	25.20	13.37	13.00
202.00	9.00	0.00	0.35	25.22	13.37	13.00
203.00	9.00	0.00	0.34	25.25	13.36	13.00
204.00	9.00	0.00	0.33	25.28	13.35	13.00
205.00	9.00	0.00	0.32	25.31	13.35	13.00
206.00	9.00	0.00	0.31	25.33	13.34	13.00
207.00	9.00	0.00	0.30	25.36	13.33	13.00
208.00	9.00	0.00	0.29	25.38	13.33	13.00
209.00	9.00	0.00	0.28	25.41	13.32	13.00
210.00	9.00	0.00	0.27	25.43	13.32	13.00
211.00	9.00	0.00	0.27	25.45	13.31	13.00
212.00	9.00	0.00	0.26	25.47	13.31	13.00
213.00	9.00	0.00	0.25	25.49	13.30	13.00
214.00	9.00	0.00	0.24	25.51	13.30	13.00
215.00	9.00	0.00	0.24	25.53	13.29	13.00
216.00	9.00	0.00	0.23	25.55	13.29	13.00
217.00	9.00	0.00	0.22	25.57	13.29	13.00
218.00	9.00	0.00	0.22	25.59	13.28	13.00
219.00	9.00	0.00	0.21	25.61	13.28	13.00
220.00	9.00	0.00	0.21	25.62	13.27	13.00
221.00	9.00	0.00	0.20	25.64	13.27	13.00
222.00	9.00	0.00	0.20	25.66	13.27	13.00
223.00	9.00	0.00	0.19	25.67	13.26	13.00
224.00	9.00	0.00	0.19	25.69	13.26	13.00
225.00	9.00	0.00	0.18	25.70	13.26	13.00
226.00	9.00	0.00	0.18	25.72	13.25	13.00
227.00	9.00	0.00	0.17	25.73	13.25	13.00
228.00	9.00	0.00	0.17	25.75	13.25	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
229.00	9.00	0.00	0.16	25.76	13.24	13.00
230.00	9.00	0.00	0.16	25.77	13.24	13.00
231.00	9.00	0.00	0.16	25.79	13.24	13.00
232.00	9.00	0.00	0.15	25.80	13.23	13.00
233.00	9.00	0.00	0.15	25.81	13.23	13.00
234.00	9.00	0.00	0.15	25.83	13.23	13.00
235.00	9.00	0.00	0.14	25.84	13.22	13.00
236.00	9.00	0.00	0.14	25.85	13.22	13.00
237.00	9.00	0.00	0.14	25.86	13.22	13.00
238.00	9.00	0.00	0.13	25.87	13.22	13.00
239.00	9.00	0.00	0.13	25.88	13.21	13.00
240.00	9.00	0.00	0.13	25.89	13.21	13.00
241.00	9.00	0.00	0.13	25.90	13.21	13.00
242.00	9.00	0.00	0.12	25.91	13.21	13.00
243.00	9.00	0.00	0.12	25.92	13.21	13.00
244.00	9.00	0.00	0.12	25.93	13.20	13.00
245.00	9.00	0.00	0.11	25.94	13.20	13.00
246.00	9.00	0.00	0.11	25.95	13.20	13.00
247.00	9.00	0.00	0.11	25.96	13.20	13.00
248.00	9.00	0.00	0.11	25.97	13.19	13.00
249.00	9.00	0.00	0.11	25.98	13.19	13.00
250.00	9.00	0.00	0.10	25.99	13.19	13.00
251.00	9.00	0.00	0.10	26.00	13.19	13.00
252.00	9.00	0.00	0.10	26.00	13.19	13.00
253.00	9.00	0.00	0.10	26.01	13.18	13.00
254.00	9.00	0.00	0.10	26.02	13.18	13.00
255.00	9.00	0.00	0.09	26.03	13.18	13.00
256.00	9.00	0.00	0.09	26.04	13.18	13.00
257.00	9.00	0.00	0.09	26.04	13.18	13.00
258.00	9.00	0.00	0.09	26.05	13.18	13.00
259.00	9.00	0.00	0.09	26.06	13.17	13.00
260.00	9.00	0.00	0.09	26.07	13.17	13.00
261.00	9.00	0.00	0.08	26.07	13.17	13.00
262.00	9.00	0.00	0.08	26.08	13.17	13.00
263.00	9.00	0.00	0.08	26.09	13.17	13.00
264.00	9.00	0.00	0.08	26.09	13.17	13.00
265.00	9.00	0.00	0.08	26.10	13.16	13.00
266.00	9.00	0.00	0.08	26.11	13.16	13.00
267.00	9.00	0.00	0.08	26.11	13.16	13.00
268.00	9.00	0.00	0.07	26.12	13.16	13.00
269.00	9.00	0.00	0.07	26.12	13.16	13.00
270.00	9.00	0.00	0.07	26.13	13.16	13.00
271.00	9.00	0.00	0.07	26.14	13.16	13.00
272.00	9.00	0.00	0.07	26.14	13.15	13.00
273.00	9.00	0.00	0.07	26.15	13.15	13.00
274.00	9.00	0.00	0.07	26.15	13.15	13.00
275.00	9.00	0.00	0.07	26.16	13.15	13.00
276.00	9.00	0.00	0.07	26.16	13.15	13.00
277.00	9.00	0.00	0.06	26.17	13.15	13.00
278.00	9.00	0.00	0.06	26.18	13.15	13.00
279.00	9.00	0.00	0.06	26.18	13.15	13.00
280.00	9.00	0.00	0.06	26.19	13.15	13.00
281.00	9.00	0.00	0.06	26.19	13.14	13.00
282.00	9.00	0.00	0.06	26.20	13.14	13.00
283.00	9.00	0.00	0.06	26.20	13.14	13.00
284.00	9.00	0.00	0.06	26.21	13.14	13.00
285.00	9.00	0.00	0.06	26.21	13.14	13.00
286.00	9.00	0.00	0.06	26.21	13.14	13.00
287.00	9.00	0.00	0.06	26.22	13.14	13.00
288.00	9.00	0.00	0.05	26.22	13.14	13.00
289.00	9.00	0.00	0.05	26.23	13.14	13.00
290.00	9.00	0.00	0.05	26.23	13.13	13.00
291.00	9.00	0.00	0.05	26.24	13.13	13.00
292.00	9.00	0.00	0.05	26.24	13.13	13.00
293.00	9.00	0.00	0.05	26.25	13.13	13.00
294.00	9.00	0.00	0.05	26.25	13.13	13.00
295.00	9.00	0.00	0.05	26.25	13.13	13.00
296.00	9.00	0.00	0.05	26.26	13.13	13.00
297.00	9.00	0.00	0.05	26.26	13.13	13.00
298.00	9.00	0.00	0.05	26.27	13.13	13.00

Time (hr)	Cumulative Rainfall (in)	Instant Runoff (cfs)	Current Discharge (cfs)	Cumulative Discharge (acre-ft)	Head Water Stage (ft NGVD)	Tail Water Stage (ft NGVD)
299.00	9.00	0.00	0.05	26.27	13.13	13.00
300.00	9.00	0.00	0.05	26.27	13.12	13.00
301.00	9.00	0.00	0.05	26.28	13.12	13.00
302.00	9.00	0.00	0.04	26.28	13.12	13.00
303.00	9.00	0.00	0.04	26.28	13.12	13.00
304.00	9.00	0.00	0.04	26.29	13.12	13.00
305.00	9.00	0.00	0.04	26.29	13.12	13.00
306.00	9.00	0.00	0.04	26.30	13.12	13.00
307.00	9.00	0.00	0.04	26.30	13.12	13.00
308.00	9.00	0.00	0.04	26.30	13.12	13.00
309.00	9.00	0.00	0.04	26.31	13.12	13.00
310.00	9.00	0.00	0.04	26.31	13.12	13.00
311.00	9.00	0.00	0.04	26.31	13.12	13.00
312.00	9.00	0.00	0.04	26.32	13.12	13.00
313.00	9.00	0.00	0.04	26.32	13.11	13.00
314.00	9.00	0.00	0.04	26.32	13.11	13.00
315.00	9.00	0.00	0.04	26.33	13.11	13.00
316.00	9.00	0.00	0.04	26.33	13.11	13.00
317.00	9.00	0.00	0.04	26.33	13.11	13.00
318.00	9.00	0.00	0.04	26.33	13.11	13.00
319.00	9.00	0.00	0.04	26.34	13.11	13.00
320.00	9.00	0.00	0.04	26.34	13.11	13.00
321.00	9.00	0.00	0.04	26.34	13.11	13.00
322.00	9.00	0.00	0.03	26.35	13.11	13.00
323.00	9.00	0.00	0.03	26.35	13.11	13.00
324.00	9.00	0.00	0.03	26.35	13.11	13.00
325.00	9.00	0.00	0.03	26.35	13.11	13.00
326.00	9.00	0.00	0.03	26.36	13.11	13.00
327.00	9.00	0.00	0.03	26.36	13.10	13.00
328.00	9.00	0.00	0.03	26.36	13.10	13.00
329.00	9.00	0.00	0.03	26.37	13.10	13.00
330.00	9.00	0.00	0.03	26.37	13.10	13.00
331.00	9.00	0.00	0.03	26.37	13.10	13.00
332.00	9.00	0.00	0.03	26.37	13.10	13.00
333.00	9.00	0.00	0.03	26.38	13.10	13.00
334.00	9.00	0.00	0.03	26.38	13.10	13.00
335.00	9.00	0.00	0.03	26.38	13.10	13.00
336.00	9.00	0.00	0.03	26.38	13.10	13.00
337.00	9.00	0.00	0.03	26.39	13.10	13.00
338.00	9.00	0.00	0.03	26.39	13.10	13.00
339.00	9.00	0.00	0.03	26.39	13.10	13.00
340.00	9.00	0.00	0.03	26.39	13.10	13.00
341.00	9.00	0.00	0.03	26.40	13.10	13.00
342.00	9.00	0.00	0.03	26.40	13.10	13.00
343.00	9.00	0.00	0.03	26.40	13.10	13.00
344.00	9.00	0.00	0.03	26.40	13.10	13.00
345.00	9.00	0.00	0.03	26.40	13.09	13.00
346.00	9.00	0.00	0.03	26.41	13.09	13.00
347.00	9.00	0.00	0.03	26.41	13.09	13.00
348.00	9.00	0.00	0.03	26.41	13.09	13.00
349.00	9.00	0.00	0.03	26.41	13.09	13.00
350.00	9.00	0.00	0.03	26.42	13.09	13.00
351.00	9.00	0.00	0.03	26.42	13.09	13.00
352.00	9.00	0.00	0.03	26.42	13.09	13.00
353.00	9.00	0.00	0.02	26.42	13.09	13.00
354.00	9.00	0.00	0.02	26.42	13.09	13.00
355.00	9.00	0.00	0.02	26.43	13.09	13.00
356.00	9.00	0.00	0.02	26.43	13.09	13.00
357.00	9.00	0.00	0.02	26.43	13.09	13.00
358.00	9.00	0.00	0.02	26.43	13.09	13.00
359.00	9.00	0.00	0.02	26.43	13.09	13.00
360.00	9.00	0.00	0.02	26.44	13.09	13.00

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)
1	4.36	68.20	0.00	0.00

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Onsite	16.76	68.20	13.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Onsite	26.82	0.00	26.43	0.00	0.38	0.00

Project Name: Cornerstone
Reviewer:
Project Number: 24-1479
Period Begin: Jan 01, 2000;0000 hr End: Jan 16, 2000;0000 hr Duration: 360 hr
Time Step: 0.2 hr, Iterations: 10

Basin 1: Onsite

Method: Santa Barbara Unit Hydrograph
Rainfall Distribution: SFWMD - 3day
Design Frequency: 100 year
3 Day Rainfall: 10 inches
Area: 50.37 acres
Ground Storage: 2.73 inches
Time of Concentration: 0.16 hours
Initial Stage: 13 ft NGVD

Stage (ft NGVD)	Storage (acre-ft)
13.00	0.00
14.00	4.37
15.00	10.00
16.00	16.19
17.00	22.95
18.00	36.76
19.00	62.45
20.00	92.59

STRUCTURE MAXIMUM AND MINIMUM DISCHARGES

Struc	Max (cfs)	Time (hr)	Min (cfs)	Time (hr)

BASIN MAXIMUM AND MINIMUM STAGES

Basin	Max (ft)	Time (hr)	Min (ft)	Time (hr)
Onsite	17.57	73.80	13.00	0.00

BASIN WATER BUDGETS (all units in acre-ft)

Basin	Total Runoff	Structure Inflow	Structure Outflow	Initial Storage	Final Storage	Residual
Onsite	30.78	0.00	0.00	0.00	30.78	0.00

Exhibit E – FEMA Map

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NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Transverse Mercator State Plane Florida East FIPS 0901. The **horizontal datum** was NAD83 HARN, GRS1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov/ or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242** or visit its website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by St. Lucie County and the Florida Geographic Data Library.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

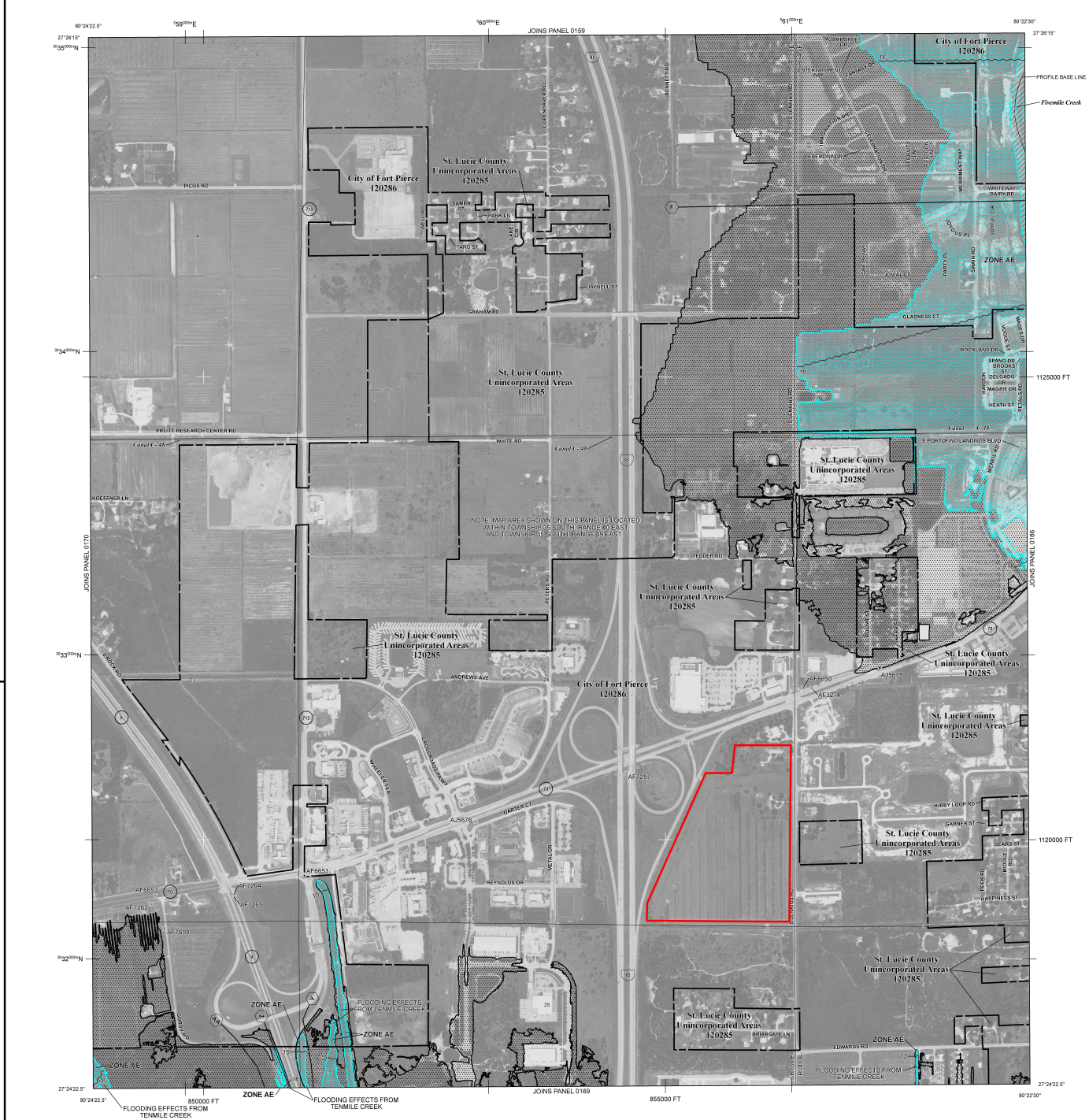
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

Contact the **FEMA Map Information eXchange (FMIX)** at 1-877-336-2627 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FMIX may also be reached at its website at http://msc.fema.gov/.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip/.

The **"profile base lines"** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
0.2% annual chance floodplain boundary
Floodway boundary
Zone D boundary
CBRS and OPA boundary
Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities
513 Base Flood Elevation line and value; elevation in feet*
(EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

A–A Cross section line
23–23 Transect line
97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4275000mE 1000-meter Universal Transverse Mercator grid ticks, zone 17
6000000 FT 5000-foot grid values: Florida State Plane coordinate system, East Zone (FIPSZONE = 0901), Transverse Mercator projection
DX5510 Bench mark (see explanation in Notes to Users section of this FIRM panel)
M1.5 River Mile

MAP REPOSITORIES
Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
August 19, 1991

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
November 4, 1992

June 30, 1999

February 16, 2012 - to update corporate limits, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to add roads and road names, to update the effects of wave action, and to incorporate previously issued Letters of Map Revision.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

200 0 350 500 750 1,000 FEET
100 0 100 200 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0167J

FIRM

FLOOD INSURANCE RATE MAP

ST. LUCIE COUNTY, FLORIDA AND INCORPORATED AREAS

PANEL 167 OF 420

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FORT PIERCE, CITY OF	120286	0167	J
ST. LUCIE COUNTY	120285	0167	J

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
12111C0167J

MAP REVISED
FEBRUARY 16, 2012

Federal Emergency Management Agency

Exhibit F – BMP Trains Nutrient Removal

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Complete Report (not including cost) Ver 4.3.5

Project: Cornerstone
Date: 1/29/2025 3:07:35 PM

Site and Catchment Information

Analysis: Specified Removal Efficiency

Catchment Name	Site
Rainfall Zone	Florida Zone 2
Annual Mean Rainfall	55.00

Pre-Condition Landuse Information

Landuse	Undeveloped - Upland Hardwood: TN=1.042 TP=0.346
Area (acres)	50.37
Rational Coefficient (0-1)	0.02
Non DCIA Curve Number	52.60
DCIA Percent (0-100)	0.00
Nitrogen EMC (mg/l)	1.042
Phosphorus EMC (mg/l)	0.346
Runoff Volume (ac-ft/yr)	4.303
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000
Nitrogen Loading (kg/yr)	5.529
Phosphorus Loading (kg/yr)	1.836

Post-Condition Landuse Information

Landuse	Single-Family: TN=2.070 TP=0.327
Area (acres)	50.37
Rational Coefficient (0-1)	0.22
Non DCIA Curve Number	79.70
DCIA Percent (0-100)	15.50
Wet Pond Area (ac)	4.24
Nitrogen EMC (mg/l)	2.070
Phosphorus EMC (mg/l)	0.327
Runoff Volume (ac-ft/yr)	46.067
Groundwater N (kg/yr)	0.000
Groundwater P (kg/yr)	0.000

Nitrogen Loading (kg/yr)	117.578
Phosphorus Loading (kg/yr)	18.574

Catchment Number: 1 Name: Site

Project: Cornerstone
Date: 1/29/2025

Multiple BMP in Series Design Parameters

BMP in Series Number: 1
BMP Type: Retention

Retention Depth (in)	0.588
Retention Volume (ac-ft)	2.260

BMP in Series Number: 2
BMP Type: Wet Detention

Permanent Pool Volume (ac-ft)	32.495
Permanent Pool Volume (ac-ft) for 31 days residence	3.913
Annual Residence Time (days)	257
Littoral Zone Efficiency Credit	
Wetland Efficiency Credit	

BMP in Series Number: 3
BMP Type: None

BMP in Series Number: 4
BMP Type: None

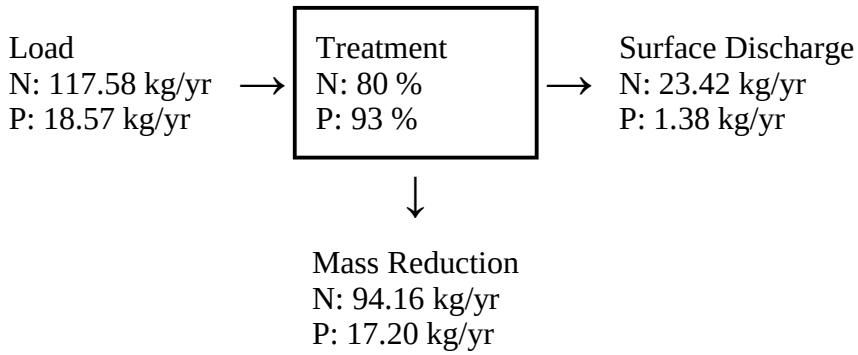
Watershed Characteristics

Catchment Area (acres)	50.37
Contributing Area (acres)	46.130
Non-DCIA Curve Number	79.70
DCIA Percent	15.50
Rainfall Zone	Florida Zone 2
Rainfall (in)	55.00

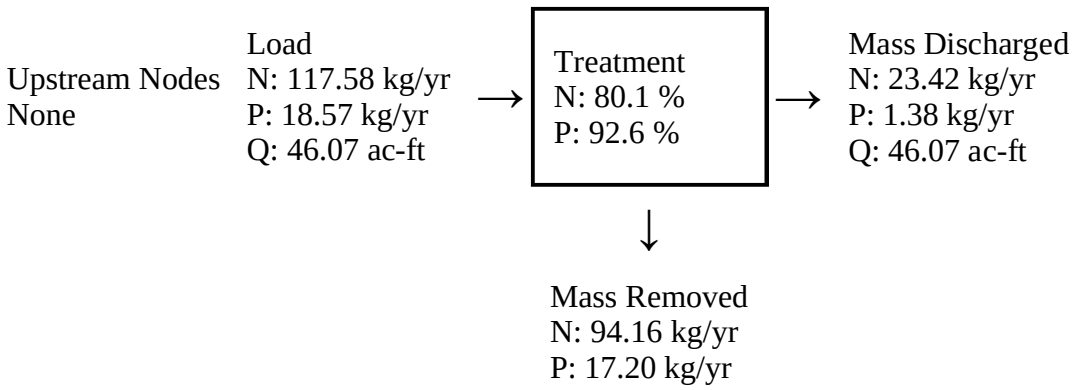
Surface Water Discharge

Required TN Treatment Efficiency (%)	
Provided TN Treatment Efficiency (%)	80
Required TP Treatment Efficiency (%)	90
Provided TP Treatment Efficiency (%)	93

Load for Multiple BMP in Series



Load Diagram for Multiple BMP (As Used In Routing)



Summary Treatment Report Version: 4.3.5

Project: Cornerstone

Analysis Type: Specified Removal Efficiency

Date:1/29/2025

BMP Types:

Catchment 1 - (Site) Multiple BMP

Based on % removal values to the nearest percent

Routing Summary

Catchment 1 Routed to Outlet

Total nitrogen target removal met? **Yes**

Total phosphorus target removal met? **Yes**

Summary Report

Nitrogen

Surface Water Discharge

Total N pre load	5.53 kg/yr	
Total N post load	117.58 kg/yr	
Target N load reduction	%	
Target N discharge load	117.58 kg/yr	
Percent N load reduction	80 %	
Provided N discharge load	23.42 kg/yr	51.65 lb/yr
Provided N load removed	94.16 kg/yr	207.61 lb/yr

Phosphorus

Surface Water Discharge

Total P pre load	1.836 kg/yr	
Total P post load	18.574 kg/yr	
Target P load reduction	90 %	
Target P discharge load	1.857 kg/yr	
Percent P load reduction	93 %	
Provided P discharge load	1.376 kg/yr	3.03 lb/yr
Provided P load removed	17.198 kg/yr	37.921 lb/yr

Exhibit G – SFWMD Basin Map

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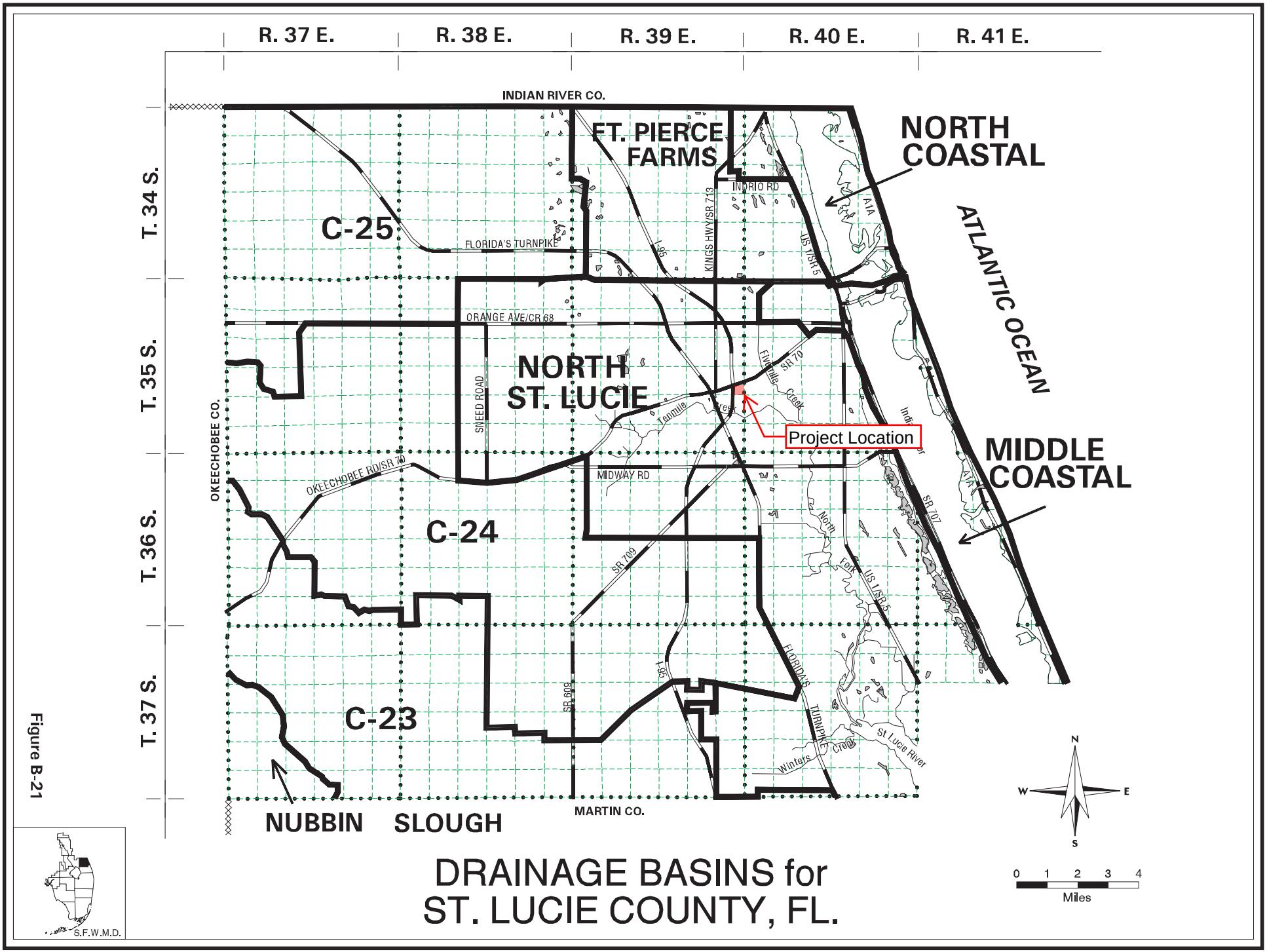

DRAINAGE BASINS for
ST. LUCIE COUNTY, FL.

Figure B-21

Exhibit H – USDA Soil Report

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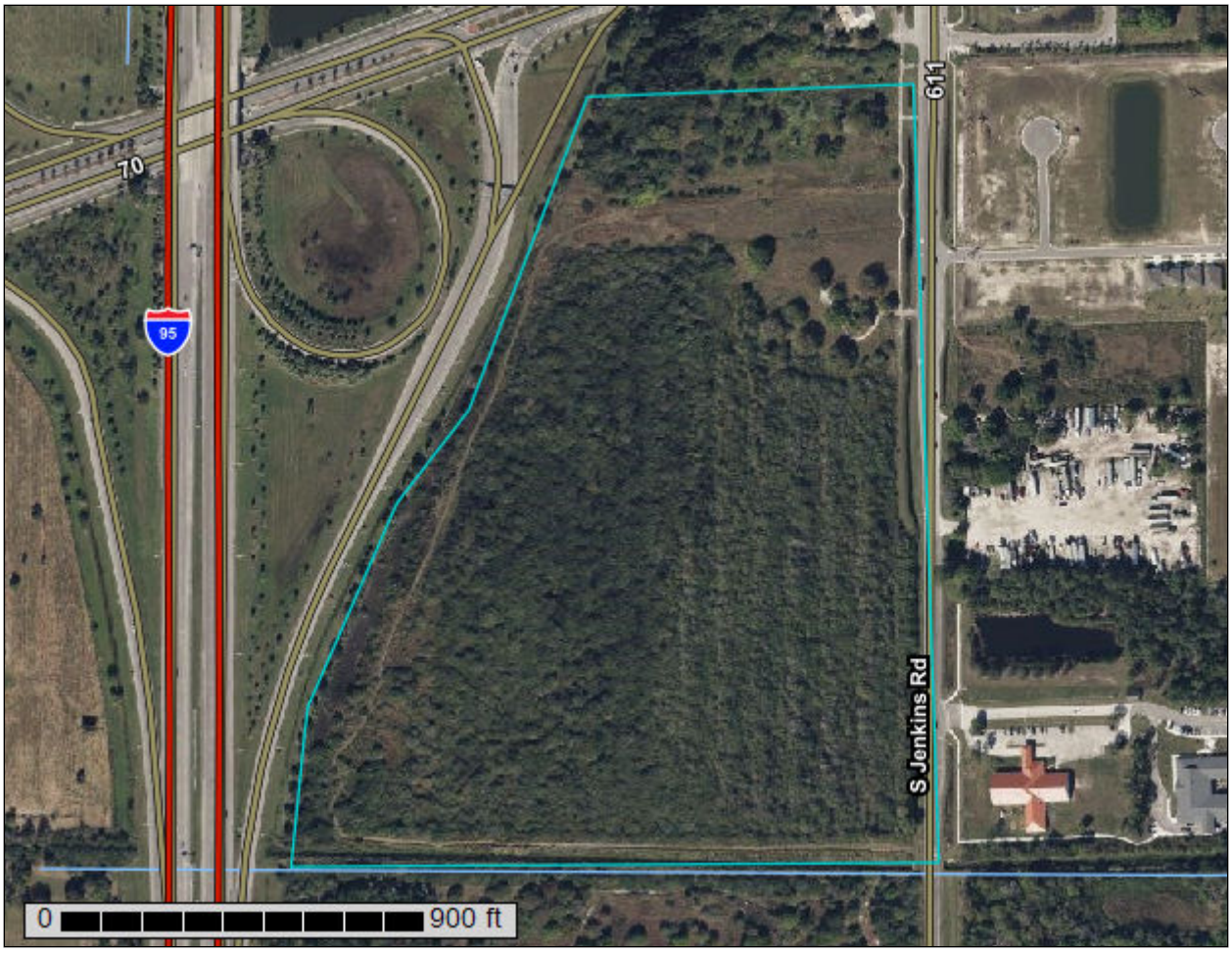
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for St. Lucie County, Florida



November 6, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

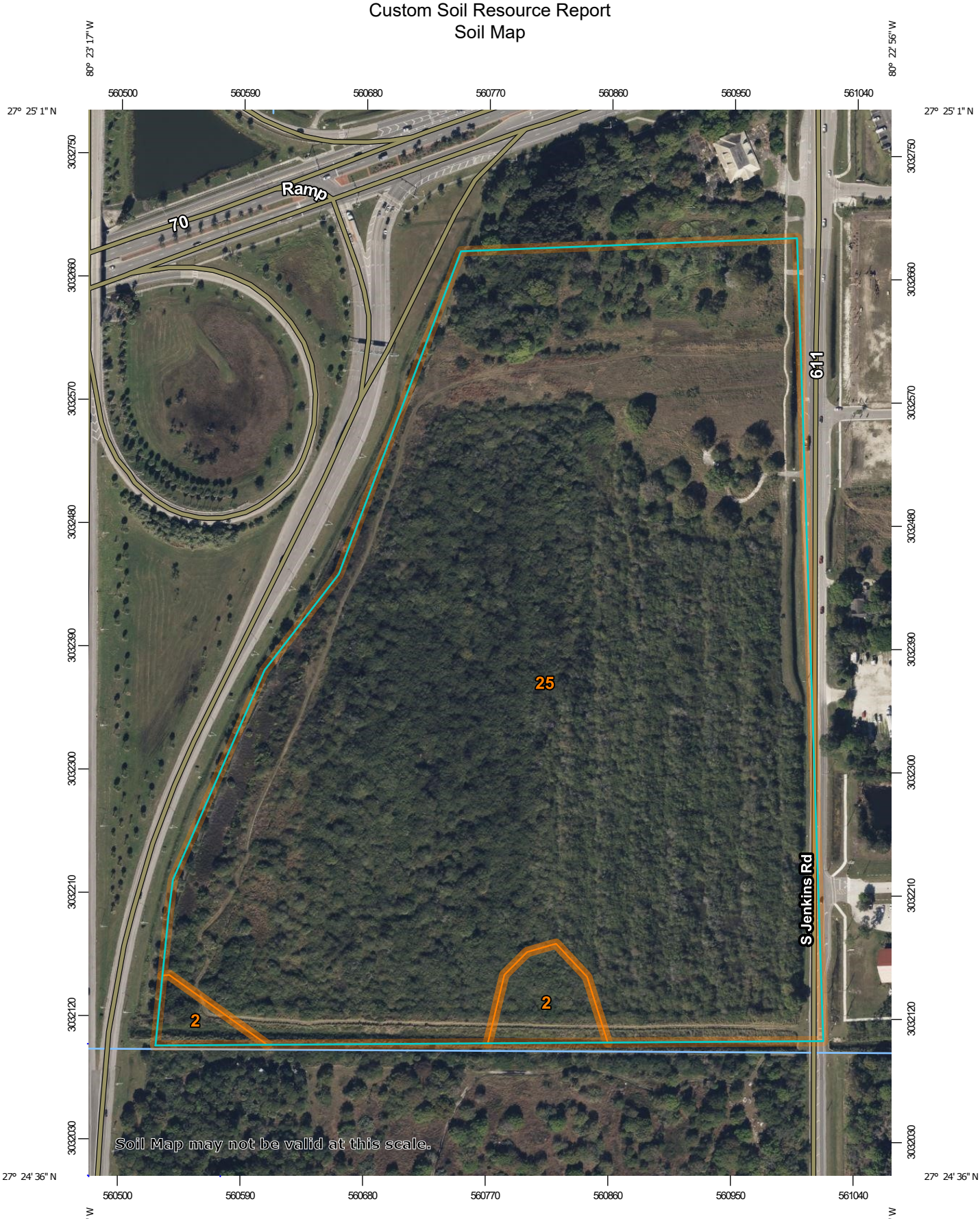
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:3,800 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 150 300 600 900

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 17N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: St. Lucie County, Florida
Survey Area Data: Version 18, Aug 23, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 18, 2022—Jan 30, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2	Ankona and Farmton sands	1.7	3.0%
25	Nettles and Oldsmar sands	53.3	97.0%
Totals for Area of Interest		**55.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

St. Lucie County, Florida

2—Ankona and Farmton sands

Map Unit Setting

National map unit symbol: 1jptv
Elevation: 0 to 200 feet
Mean annual precipitation: 49 to 58 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Ankona and similar soils: 50 percent
Farmton and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ankona

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 11 inches: sand
E - 11 to 38 inches: sand
Bh - 38 to 48 inches: loamy sand
Btg - 48 to 57 inches: sandy loam
Cg - 57 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 31 to 50 inches to ortstein
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 1.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)

Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Description of Farmton

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Interfluve, talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 7 inches: sand
E - 7 to 34 inches: sand
Bh - 34 to 50 inches: sand
Btg - 50 to 80 inches: sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B/D
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Minor Components

Electra

Percent of map unit: 4 percent
Landform: Knolls on marine terraces, rises on marine terraces
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY150FL - Sandy Flatwoods and Hammocks on Rises and Knolls of Mesic Uplands
Other vegetative classification: Sandy soils on rises and knolls of mesic uplands (G156BC131FL)
Hydric soil rating: No

Waveland

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Lawnwood

Percent of map unit: 3 percent
Landform: Marine terraces on flatwoods
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: F155XY120FL - Sandy Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

25—Nettles and Oldsmar sands

Map Unit Setting

National map unit symbol: 1jpvl
Elevation: 0 to 30 feet
Mean annual precipitation: 49 to 58 inches
Mean annual air temperature: 70 to 77 degrees F
Frost-free period: 350 to 365 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Nettles and similar soils: 41 percent
Oldsmar and similar soils: 39 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Nettles

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 8 inches: sand

E - 8 to 33 inches: sand
Bh1 - 33 to 39 inches: sand
Bh2 - 39 to 55 inches: sand
Btg - 55 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: 31 to 50 inches to ortstein
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 1.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C/D
Ecological site: F156BY040FL - Sandy Pine Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Description of Oldsmar

Setting

Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 5 inches: sand
E - 5 to 32 inches: sand
Bh - 32 to 42 inches: sand
Btg - 42 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0

Available water supply, 0 to 60 inches: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: A/D
Ecological site: F156BY040FL - Sandy Pine Flatwoods and Hammocks
Forage suitability group: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Minor Components

Ankona

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F156BY040FL - Sandy Pine Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Oldsmar

Percent of map unit: 4 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R156BY021FL - Mineral Isolated Marshes and Swamps
Other vegetative classification: Sandy soils on stream terraces, flood plains, or in depressions (G156BC145FL)
Hydric soil rating: Yes

Pepper

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F156BY040FL - Sandy Pine Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

Pineda

Percent of map unit: 4 percent
Landform: Flats on marine terraces, drainageways on marine terraces
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: F156BY041FL - Sandy Over Loamy Pine Flatwoods and Hammocks

Other vegetative classification: Sandy over loamy soils on flats of hydric or mesic lowlands (G156BC241FL)
Hydric soil rating: Yes

Wabasso

Percent of map unit: 4 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Talf
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: F156BY040FL - Sandy Pine Flatwoods and Hammocks
Other vegetative classification: Sandy soils on flats of mesic or hydric lowlands (G156BC141FL)
Hydric soil rating: No

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