

*Drainage Calculations
SFWMD and Martin County*

Treasure Coast Classical Academy

1400 SE Cove Road
Stuart, Florida 34997
Section 34, Township 38S, Range 41E

Prepared for:

Todd Lucas
Summit Construction Group
421 South Summerlin Avenue
Orlando, Florida 32801

August 2018 (Revised Dec. 2018)

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CA 00000696 (863) 701-8702

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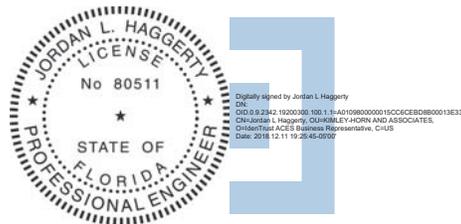
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Kimley-Horn and Associates, Inc.
Lakeland, Florida
046364001



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116 S. Kentucky Ave., Lakeland, FL 33801
CA 00000696 (863) 701-8702

Jordan L. Haggerty, P.E.
FL P.E. # 80511

Bradley A. Younts

This item has been electronically signed and sealed by
Jordan L. Haggerty, P.E. on 12/11/2018 using a digital
signature.
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and the signature must be verified on any electronic copies.

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1 SUMMARY

The proposed development, “Treasure Coast Classical Academy”, located on a ±14.22-acre parcel in Martin County, Florida, includes the proposed development of an educational institution building at 65,000 s.f. (2 story), recreational fields, 3.30 acres of upland preserve area, and vehicular parking areas along with the associated stormwater management system. The project area is comprised of six (6) post-development basins (Basin B1, Basin B2, Basin B3-A, Basin B3-B, Basin B3-C, and Basin B4) and a stormwater management system that is designed to treat and attenuate runoff from the 25-yr/3-day storm event per SFWMD and Martin County criteria. The proposed stormwater management system will be a major modification to the previously approved SFWMD ERP No. 43-02792-P. The proposed stormwater management system has been designed to comply with the South Florida Water Management District and Martin County.

1.1 LOCATION

The project is located south of SE Cove Road across from the Cove Isle Subdivision, west of the Samaritan House for Boys, east of the Dr. David L. Anderson Middle School, and north of the Atlantic Ridge Preserve State Park. The general site location is shown superimposed on a vicinity map (*See Exhibit A-1*) along with an aerial photograph (*See Exhibit A-2*), and a USGS Quad map (*See Exhibit A-3*).

2 PRE-DEVELOPMENT CONDITIONS

The project site is currently vacant, undeveloped, and has an existing SFWMD ERP No. 43-02792-P.

2.1 SOILS

Existing soils were determined by the U.S. Department of Agriculture – National Resources Conservation Service and subsequently published in the Martin County Soil Survey Report. The predominant soil types on-site were identified as Waveland and Immokalee Fine Sands (Hydrologic Group A/D) and Waveland and Immokalee Fine Sands, depressional (Hydrologic Group A/D); a Natural Resources Conservation Service (NRCS) Soils Map has been provided (*See Exhibit B*).

Dunkelberger Engineering & Testing, Inc., a Terracon company, performed a Geotechnical Engineering Investigation for the site. Please see attached, under separate cover, the Geotechnical report for subsurface evaluation dated March 12, 2015.

2.2 GROUNDWATER

The seasonal high groundwater levels were estimated by Dunkelberger Engineering & Testing, Inc. and are included as part of their Geotechnical Engineering Report. Based on the report and the existing ERP permit, it is estimated that the seasonal high groundwater

level is at an elevation of 15.00' in the vicinity of proposed Dry Retention 1A & 1B, 14.00' in the vicinity of Dry Retention 2, and 13.00' in the vicinity of proposed Dry Retention 3 and Wet Detention 4. The estimated SHWL for the wetlands were field set, surveyed and permitted as 14.95' for Wetland 1 and 12.62 for Wetland 2. Please refer to the attached, under separate cover, a copy of the aforementioned Geotechnical Exploration Report and the previously approved Stormwater Management Report.

2.3 FLOODZONE

The project site lies entirely within Flood Zone "X" (*See Exhibit C*), and as shown on FEMA Map Number 12085C0301G, dated March 3, 2015. Flood Zone "X" denotes areas outside of a designated 100-year flood plain.

2.4 ENVIRONMENTAL SUMMARY

Two existing wetlands are located onsite and have been surveyed by GCY, Inc. and approved by SFWMD, as part of the existing ERP No. 43-02792-P. The existing wetland SHWLs and stage/storage relationships have also been approved by the SFWMD and Martin County. There are no proposed wetland impacts associated with this proposed development.

2.5 PRE-DEVELOPMENT DRAINAGE

The existing pre-development drainage characteristics are detailed and discussed within the previously permitted SFWMD ERP No. 43-02792-P.

2.6 PRE-DEVELOPMENT DISCHARGE RATES

The pre-development discharge rates of the Treasure Coast Classical Academy project were previously determined and documented within the "Stormwater Management Report" of the previously approved Driftwood Cay – Cove Road ERP No. 43-02792-P. Per ERP No. 43-02792-P, the permitted pre-development discharge rates for the Treasure Coast Classical Academy project is 8.13 cfs.

3 PROPOSED DEVELOPMENT

The proposed development, "Treasure Coast Classical Academy", located on a ±14.22-acre parcel in Martin County, Florida, includes the proposed development of an educational institution building at 65,000 s.f. (2 story), recreational fields, 3.30 acres of upland preserve area, and vehicular parking areas along with the associated stormwater management system. The project area is comprised of six (6) post-development basins (Basin B1, Basin B2, Basin B3-A, Basin B3-B, Basin B3-C, and Basin B4) and a stormwater management system that is designed to treat and attenuate runoff from the 25-yr/3-day storm event per SFWMD and Martin County criteria. The proposed stormwater management system will be a major modification to the previously approved SFWMD ERP No. 43-02792-P. The proposed stormwater management system has been designed to comply with the South Florida Water Management District and Martin County.

Post-Development Basin Summary Table						
Basin Name	Basin B1	Basin B2	Basin B3-A	Basin B3-B	Basin B3-C	Basin B4
Area	1.00 acres	7.37 acres	2.95 acres	1.16 acres	3.87 acres	4.98 acres
CN	95	89	91	86	89	85
TC	10.0 min.	30.0 min.	10.0 min.	10.0 min.	10.0 min.	25.0 min.
Discharge Point	Basin B2	Basin B4	Basin B3-C	Basin B3-C	Basin B4	The Atlantic Ridge Preserve State Park

3.1 REQUIRED PERMITS AND REVIEWS

- Martin County Major Final Site Plan Review
- South Florida Water Management District (SFWMD) Environmental Resource Permit (Major Modification)
- NPDES
- FDEP Water & Sewer

3.2 POST-DEVELOPMENT STORM DESIGN PARAMETERS

Per the previously permitted and approved SFWMD ERP No. 43-02792-P, the following design storms will be utilized:

Storm Frequency	Storm Duration	Rainfall
100 Years	3 Days	15.00 Inches
25 Years	3 Days	12.00 Inches
10 Years	1 Day	7.00 Inches
3 Years	1 Day	5.25 Inches

3.3 STORMWATER MANAGEMENT/BASINS

The stormwater management system is designed to meet the requirements of the SFWMD, and Martin County. As previously mentioned, the proposed project consists of six (6) post-development basins (Basin B1, Basin B2, Basin B3-A, Basin B3-B, Basin B3-C, and Basin 4). Control structures within the proposed ponds (Dry Retention 1A & 1B, Dry Retention 2, Dry Retention 3, and Wet Detention 4) have been designed to attenuate stormwater runoff to a flow rate less than the pre-development condition and to provide pollution abatement. Proposed control structures within Wetlands 1 and 2 have been designed to preserve their natural wetland hydroperiods and maintain pre-development storm-event stages within an acceptable range. As stated in the previously approved and permitted SFWMD ERP No. 43-02792-P, an existing 3" diameter bleeder that allows the dry detention areas of the adjacent Samaritan House for Boys site to discharge throughout the site (App#120927-6). This discharge will be routed through the site via a shallow depressional area and stormwater pipes to the proposed development outfall, not contributing to the overall drainage basin calculations. Stormwater control structures within the proposed stormwater management system and associated conveyance system will limit flow to an amount less than the pre-development discharge rate towards the Atlantic Ridge Preserve State Park. Please see **Exhibit D** for the post-development drainage basin map.

3.3.1 CN CALCULATIONS

The post-development curve numbers have been calculated utilizing the SCS Tr-55 methodology. The basin has been broken down into different soil types and assigned a Hydrologic Soil Group classification. Based on land cover, a curve number was then assigned. **(See Appendix 1).**

3.3.2 TIME OF CONCENTRATION

The post-development time of concentration for Basin B1, Basin B3-A, Basin B3-B, and Basin B3-C are the minimum value of 10 minutes. Basin B2 and Basin B4 have time of concentration values of 30 minutes and 25 minutes, respectively, matching the basin time of concentration values set in the previously permitted and approved SFWMD ERP No. 43-02792-P.

3.3.3 TREATMENT VOLUME (TV)

The proposed storm water management system will contain three dry retention ponds and one wet detention pond to treat the stormwater runoff.

The following table summarizes the most stringent treatment volume required:

Discharge Point	Basin Area (ac)	SFWMD Criteria**			Martin County Required Treatment Volume
		1" Over Site (ac-ft)	2.5" x Impervious Area (ac-ft)	Required Treatment Volume for Nutrient Analysis (ac-ft)	3" x Impervious Area (w/o wetland or buffer) (ac-ft)
Basin B1	1.00	0.08*	0.09*	0.09	0.15
Total				0.09	0.15
Basin B3-A	2.95	0.18*	0.28*	0.28	0.45
Basin B3-B	1.16	0.05*	0.05*	0.05	0.08
Basin B3-C	3.87	0.26	0.13	0.26	0.15***
Total				0.59	0.68

* SFWMD required treatment volume reduced by 50% for using dry retention

** SFWMD required treatment volumes increased by 50% for impaired waterbody

*** Martin County required treatment volumes increased by 50% for using wet detention

Treatment Volume Provided	
Dry Retention 1A & 1B (Basin B1)	0.16 ac.-ft.
Total	0.16 ac.-ft.
Dry Retention 2 (Basin B3-A)	0.12 ac.-ft.
Dry Retention 3 (Basin B3-B)	0.14 ac.-ft.
Wet Detention 4 (Basin B3-C)	0.49 ac.-ft.
Total	0.75 ac.-ft.

3.3.4 POND STAGE/STORAGE

See **Appendix 2** for Dry Retention 1A & 1B, Dry Retention 2, Dry Retention 3, and Wet Detention 4 Stage/Storage Relationships.

3.3.5 TV RECOVERY

The required TV in a dry retention pond must be recovered within 72 hours. The TV recovery within the dry retention pond is accomplished by percolation. PONDS (Version 3.3) was used to demonstrate that the dry retention ponds recover their required TVs through percolation within 72 hours. Please refer to the attached Geotechnical Report for permeability rates and S.H.W.T. elevations, and **Appendix 4** for drawdown analysis and infiltration rates.

3.3.6 NET NUTRIENT IMPROVEMENT ANALYSIS

The proposed development has been designed to meet the maximum water quality for both SFWMD and Martin County criteria, as well as the water quality required for nutrient loading. The BMPTRAINS model utilizes the pre-development land use of “Upland Forests” with the associated runoff concentrations of Nitrogen and Phosphorous as used in the previously permitted and approved SFWMD ERP No. 43-02792-P, while the post-development land use is set as “Low-Intensity Commercial”. The required, nutrient loading water quality treatment volume has been provided within the dry retention and wet detention stormwater management system (*See Appendix 5*).

3.3.7 WATER QUALITY ANALYSIS

For stormwater management systems utilizing both dry retention and wet detention, half of the required treatment volumes must be recovered between 24 hours and 5 days. A stormwater management system utilizing both dry retention and wet detention must also recover 90% of the 25Y/3D runoff volume in 12 days from the cessation of the storm event. The Node Time Series Report from ICPR indicates the time at which the attenuation volume is fully recovered within all ponds (at the stages of the proposed treatment volumes). The Detailed Results report from PONDS (Version 3.3) then indicates the time from when the dry retention ponds at the provided treatment volume stage recover half their treatment volumes and full runoff volume recovery. For Wet Detention 4, the recovery requirements are both shown in **Appendix 3**. The table below summarizes the aforementioned recovery times:

Recovery Times		
Pond Name	Half of Treatment Volume	>90% Runoff Volume
Dry Retention 1A & 1B	<i>82.39 Hours (3.4 Days)</i>	<i>117.43 Hours (4.9 Days)</i>
Dry Retention 2	<i>95.70 Hours (4.0 Days)</i>	<i>147.83 Hours (6.2 Days)</i>
Dry Retention 3	<i>101.14 Hours (4.2 Days)</i>	<i>156.17 Hours (6.5 Days)</i>
Wet Detention 4	<i>110.83 Hours (4.6 Days)</i>	<i>80.00 Hours (3.3 Days)</i>

Please see **Appendix 3** for the ICPR Node Time Series Report, as well as **Appendix 4** for the PONDS Detailed Results Report.

3.3.8 POST-DEVELOPMENT RUNOFF

As previously mentioned, the storm water runoff from Basin B1, Basin B3-A and Basin B3-B will be managed through three (3) dry retention ponds (Dry Retention 1A & 1B, Dry Retention 2, and Dry Retention 3) and one (1) wet detention pond

(Wet Detention 4) designed to attenuate the post-development discharge rates. ICPR has been used to route the storm water runoff from the development through the storm water management system. The storm water management system has been designed such that the proposed development discharge rates do not exceed the pre-development discharge rates for the 25Y/3D storm-event. Furthermore, with a minimum proposed pavement elevation of 17.25' adjacent to Dry Retention 1A & 1B, 17.00' adjacent to Dry Retention 2, 16.25' adjacent to Dry Retention 3 and Wet Detention 4, and building F.F.E. of 18.25' for the proposed development, the proposed stormwater management system has been designed as to meet all minimum height requirements per Martin County. Furthermore, proposed runoff calculations using TR-55 methods were used to determine the required site storage to contain the 100Y/3D storm without discharge to an elevation below the proposed FFE (**Appendix 3**). The cumulative volume of the proposed site (11.06 ac-ft) at the proposed FFE of 18.25' exceeds the required volume (10.29 ac-ft) at elevation 18.13'. The following tables summarize the stage and discharge results from the post-development ICPR model:

Pond Stages					
Pond Name	Top of Bank	100Y/3D Stage	25Y/3D Stage	10Y/1D Stage	3Y/1D Stage
Dry Retention 1A & 1B	17.25'	17.06'	17.03'	16.98'	16.93'
Dry Retention 2	17.00'	16.94'	16.58'	16.32'	16.18'
Dry Retention 3	16.25'	16.20'	16.00'	15.70'	15.45'
Wet Detention 4	16.25'	15.47'	15.10'	14.58'	14.16'

Wetland Maximum Stages				
	100Y/3D Stage	25Y/3D Stage	10Y/1D Stage	3Y/1D Stage
Wetland 1 (SHWL = 14.95 NAVD)				
Pre-	16.07 NAVD	15.99 NAVD	15.63 NAVD	15.45 NAVD
Post-	16.15 NAVD	15.92 NAVD	15.58 NAVD	15.46 NAVD
Wetland 2 (SHWL = 12.62 NAVD)				
Pre-	14.22 NAVD	14.11 NAVD	13.78 NAVD	13.63 NAVD
Post-	14.80 NAVD	14.53 NAVD	13.93 NAVD	13.60 NAVD

Pre/Post-Development Runoff Comparison		
	25Y/3D (SFWMD)	
	Pre-Development	Post-Development
Discharge (cfs)	8.13*	7.86

* Pre-development discharge rate previously permitted and approved per SFWMD ERP No. 43-02792-P

3.4 WETLAND IMPACTS

There are no proposed wetland impacts associated with this proposed development.

3.5 FLOOD PLAIN IMPACTS

As the project site lies entirely within Flood Zone "X", there are no proposed flood plain impacts associated with this proposed development.

4 SYSTEM CONSTRUCTION AND MAINTENANCE

Construction of the proposed project will be finished in one phase. Erosion control methods will be utilized to prevent siltation to surrounding areas. The surface water management system will be maintained and operated by the Developer.

5 COMPLIANCE STATEMENT

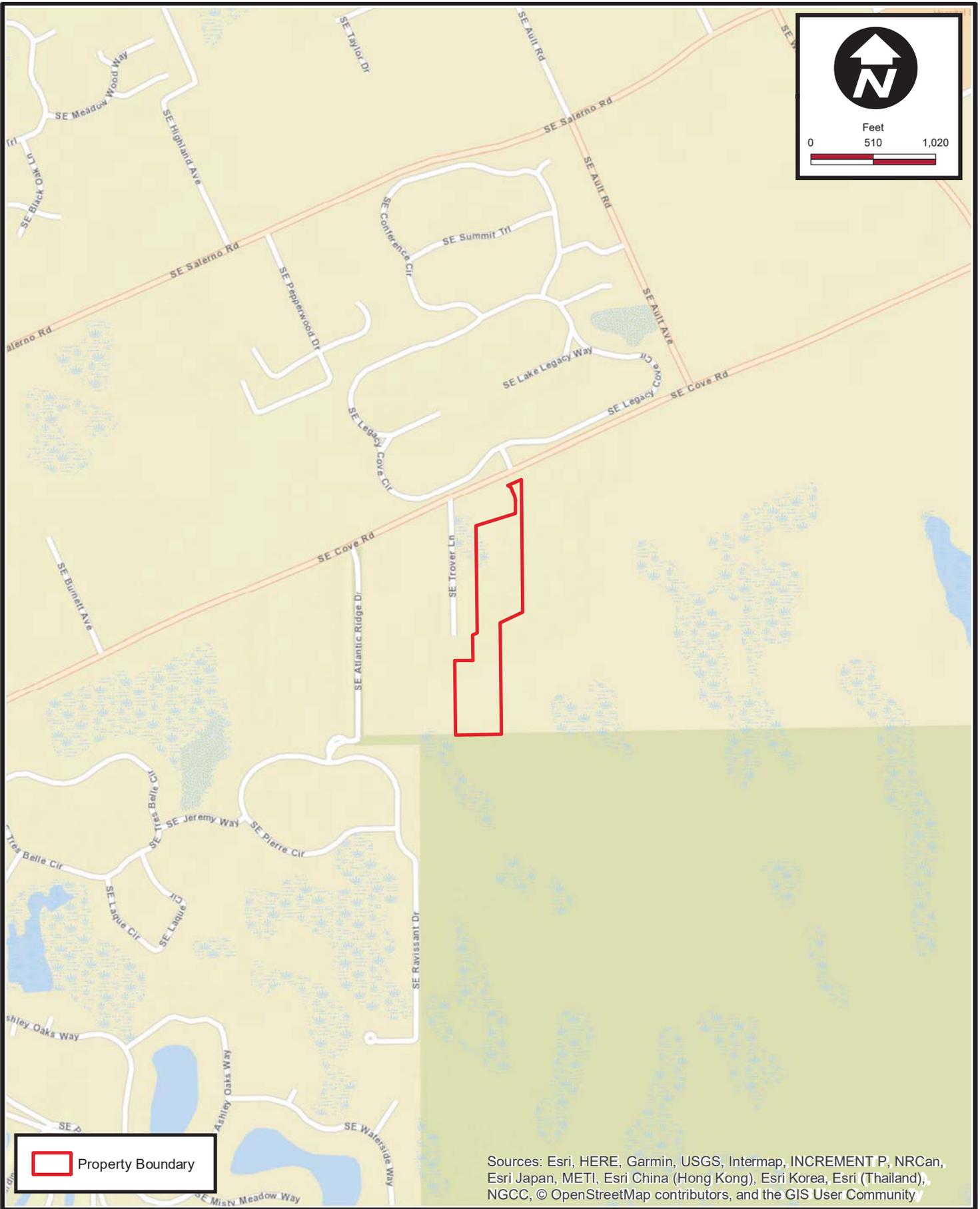
I, Jordan L. Haggerty, P.E., do certify to Martin County that the application for the Treasure Coast Classical Academy has been designed in full compliance with Division 9 of Article 4 of the Martin County Land Development Regulations (LDR). I acknowledge that Martin County's LDR may and do include requirements that are more stringent or restrictive than the requirements of other regulatory agencies including, but not limited to, the South Florida Water Management District (SFWMD), the U.S. Army Corps of Engineers (USACOE), the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP). Any plans, calculations, reports, or other documents submitted to Martin County or any regulatory agency in support of the application have been prepared in full recognition of and compliance with Martin County LDR.

EXHIBIT A

LOCATION MAPS

General Vicinity Map
Aerial Photograph
USGS Quad Map

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Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

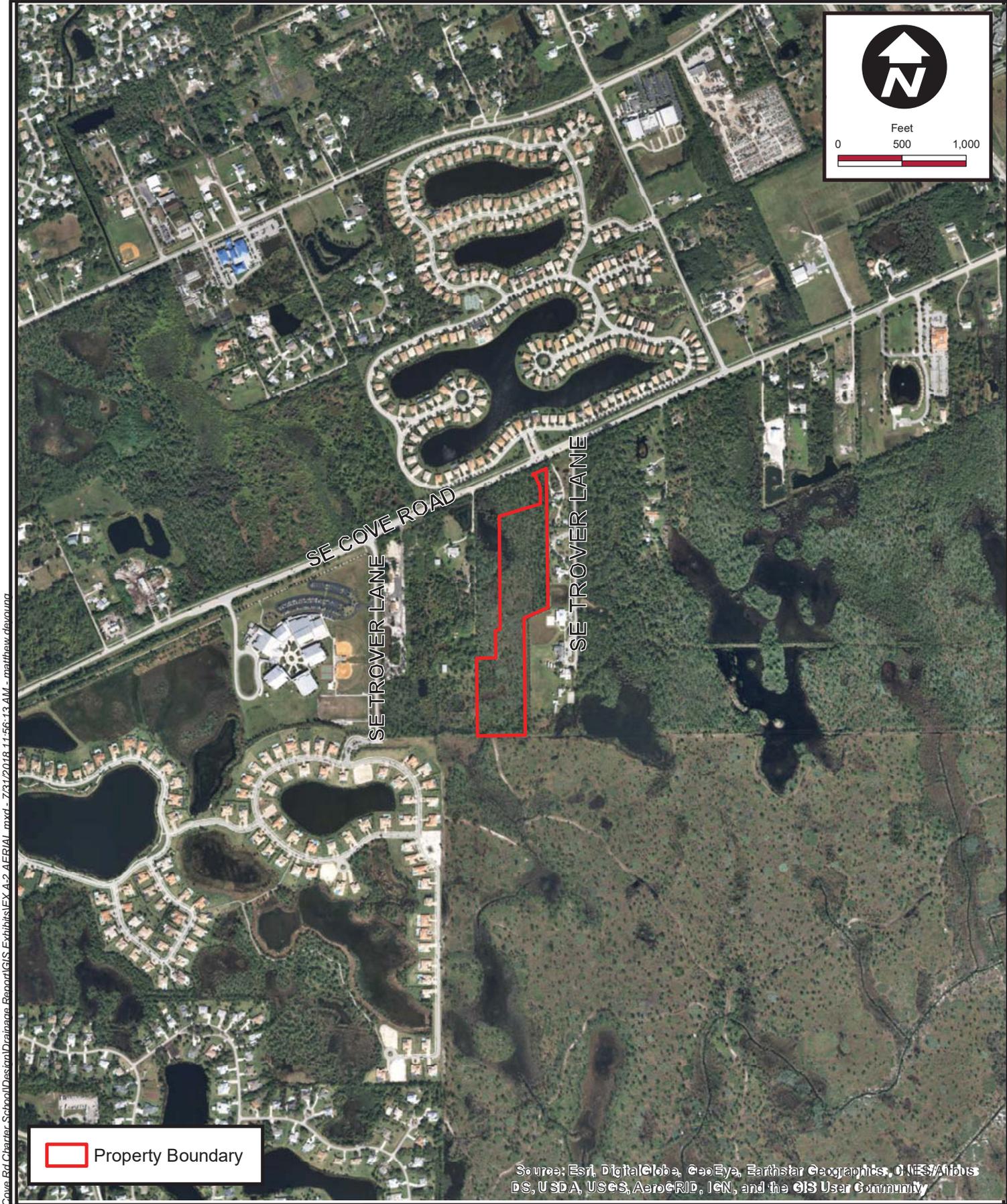
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VICINITY MAP

TREASURE COAST CLASSICAL ACADEMY
STUART, FL

Scale: As Noted	Project No.: 046403000	JULY 2018	Exhibit: A-1
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 Property Boundary

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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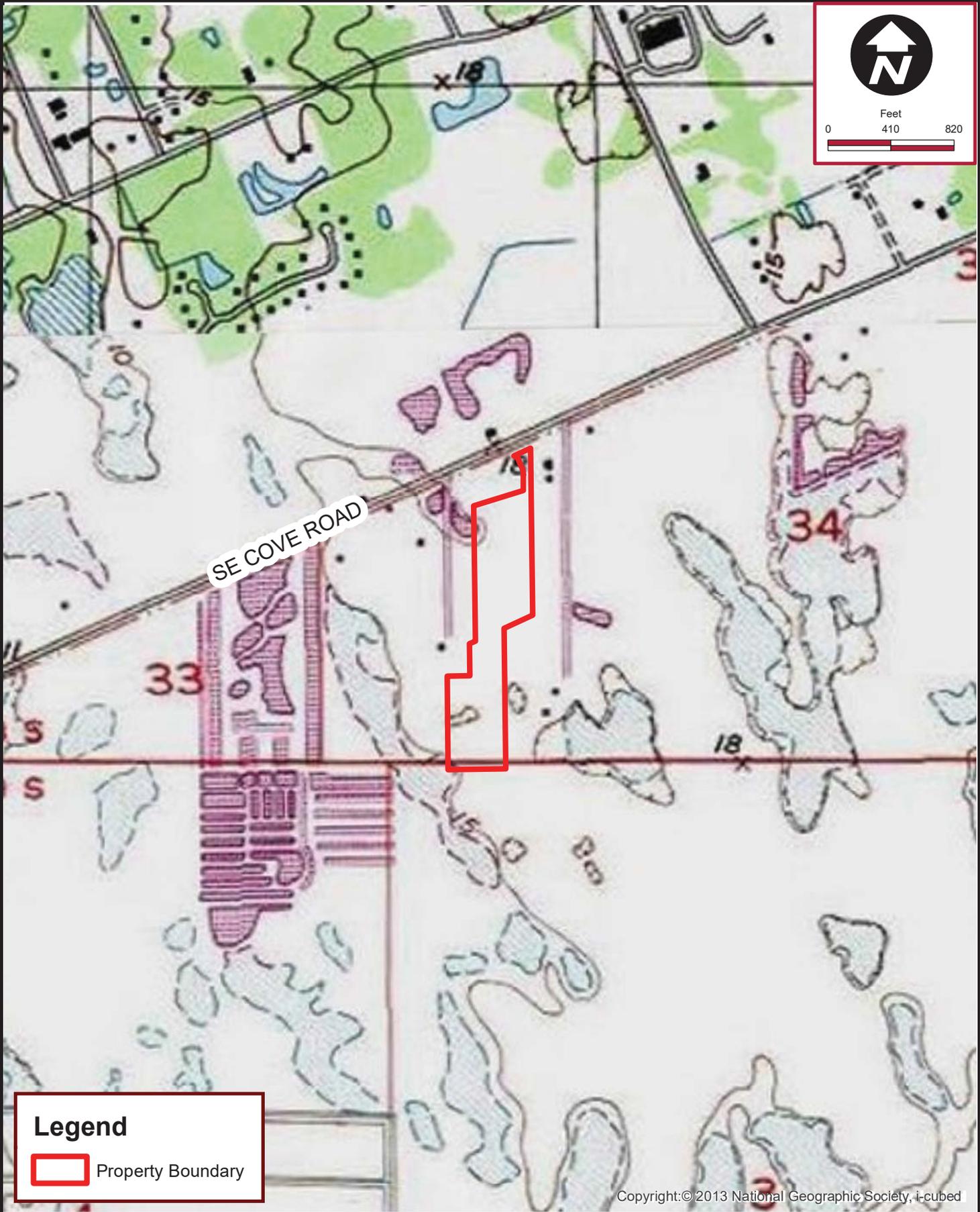
AERIAL MAP

TREASURE COAST CLASSICAL ACADEMY
 STUART, FL

Scale: As Noted	Project No.: 046403000	JULY 2018	Exhibit: A-2
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Feet
0 410 820



SE COVE ROAD

Legend

 Property Boundary

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USGS QUAD MAP

TREASURE COAST CLASSICAL ACADEMY STUART, FL

Scale: As Noted

Project No.: 046403000

JULY 2018

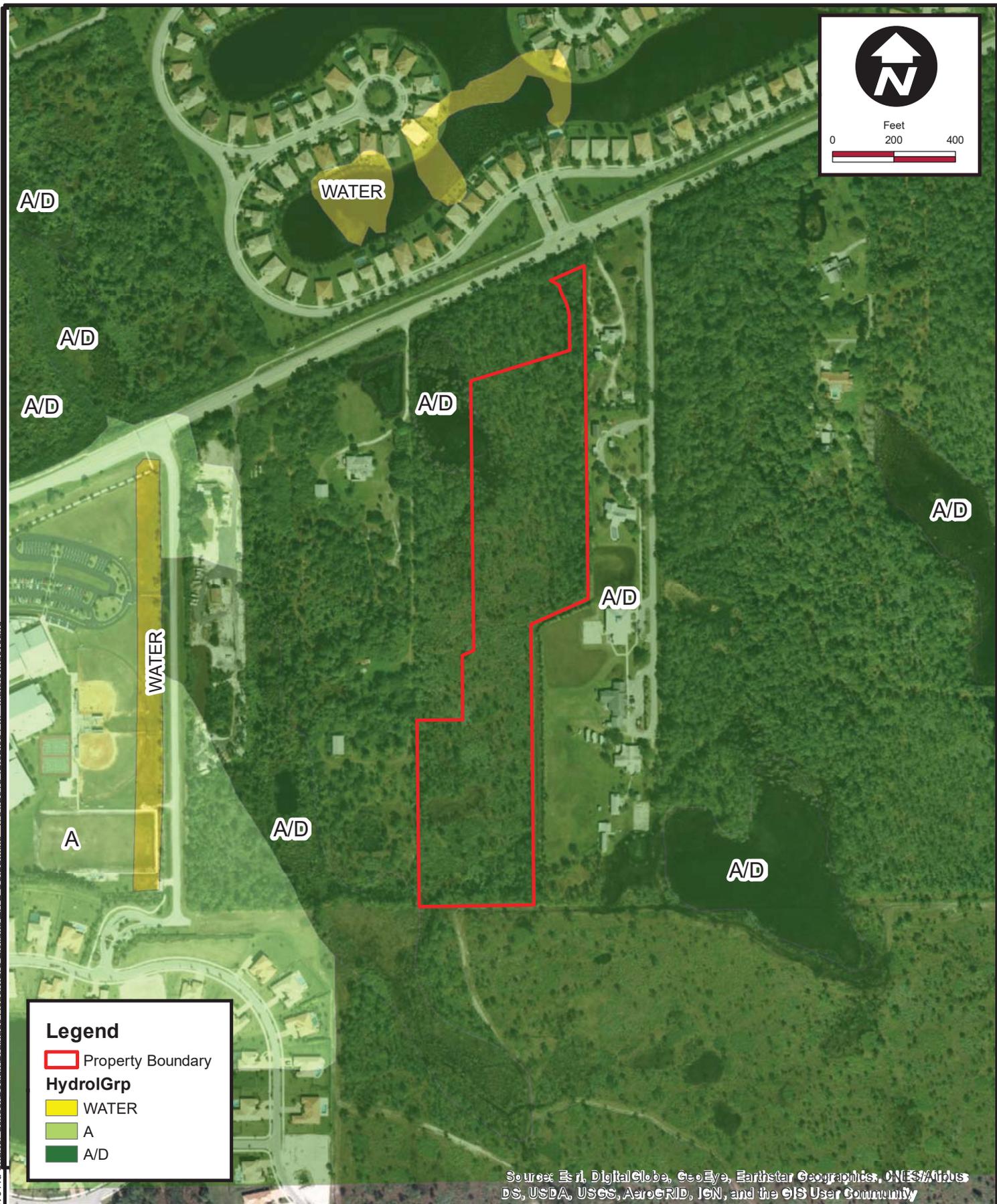
EX. A-3

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EXHIBIT B

NRCS SOIL SURVEY

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Legend

- Property Boundary
- HydroIGrp**
- WATER
- A
- A/D

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

USGS SOILS CLASSIFICATION MAP

**TREASURE COAST CLASSICAL ACADEMY
STUART, FL**



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Project No.: 046403000

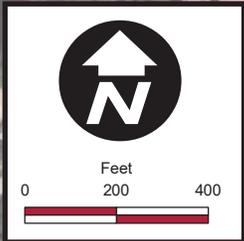
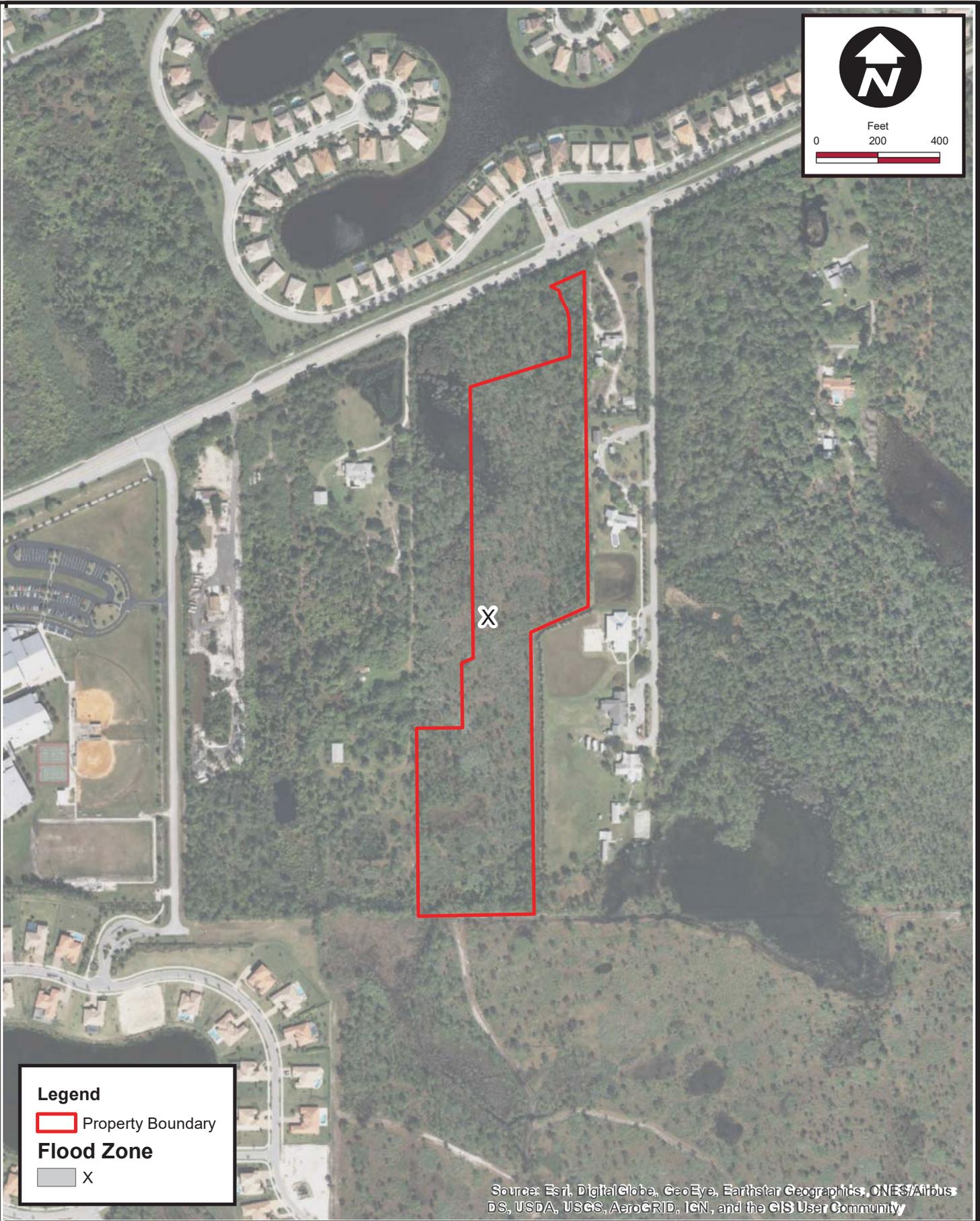
JULY 2018

EX. B

EXHIBIT C

FEMA FLOOD INSURANCE RATE MAP

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Legend

 Property Boundary

Flood Zone

 X

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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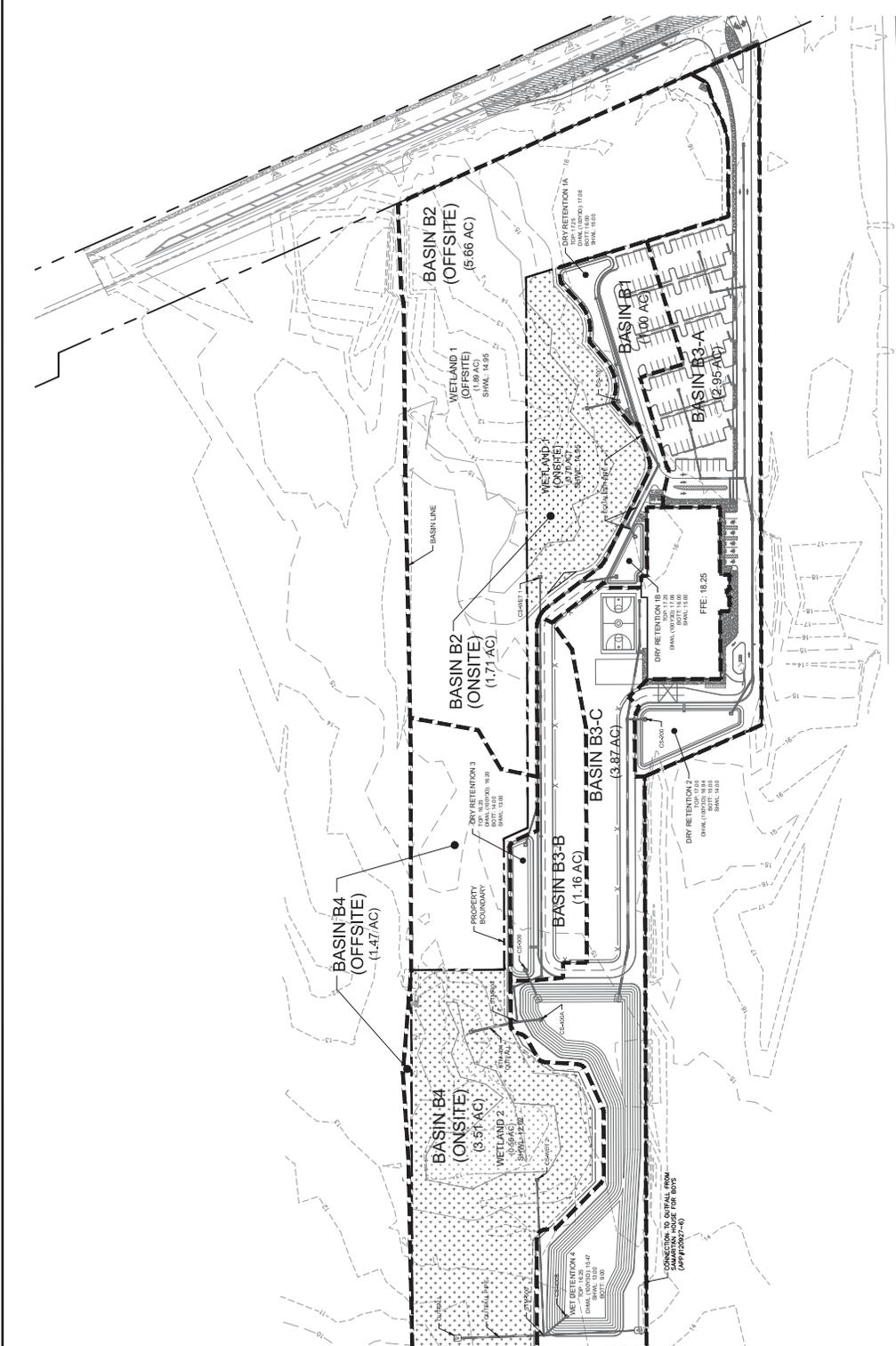
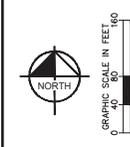
FEMA MAP

TREASURE COAST CLASSICAL ACADEMY
STUART, FL

Scale: As Noted	Project No.: 046403000	JULY 2018	EX. C
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EXHIBIT D

POST-DEVELOPMENT DRAINAGE BASIN MAP



POST-DEVELOPMENT BASIN LAND USE SUMMARY TABLE

LAND USE	BASIN B1 (ONSITE)	BASIN B2 (ONSITE)	BASIN B2 (OFFSITE)	BASIN B3-A	BASIN B3-B	BASIN B3-C	BASIN B4 (ONSITE)	BASIN B4 (OFFSITE)
WETLAND AREA	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC
PERVIOUS AREA (PAVEMENT & SIDEWALK)	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC
BUILDING AREA	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC
WET DETENTION A	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC
WETLAND BUFFER AREA	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC	0.00 AC
CURVE NUMBER	50	50	50	50	50	50	50	50

DRY RETENTION	TOP	BOTTOM	AREA (AC-FT)	STORAGE (AC-FT)	100/50
DRY RETENTION A	17.25	17.00	8,227	17,000	17.06
DRY RETENTION B	16.00	15.75	7,314	15,750	15.84
DRY RETENTION C	15.00	14.75	6,053	14,750	14.77
DRY RETENTION D	16.25	16.00	8,204	16,200	16.20
WET DETENTION 4	16.25	16.00	8,204	16,200	16.20
TOTAL	16.25	16.00	29,802	69,900	16.47

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APPENDIX 1

CURVE NUMBER CALCULATIONS

APPENDIX 2

**TREATMENT VOLUME,
STAGE/STORAGE, AND
ORIFICE
CALCULATIONS**

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = $\frac{1.00}{1}$
 Impervious Area (acres) = $\frac{0.60}{1}$
 POND = $\frac{\text{Dry Retention 1A \& 1B}}{1}$

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	17.25
POND BOTTOM ELEVATION (NAVD)	16.00
TOP AREA OF POND (SF)	11,790
BOTTOM AREA OF POND (SF)	7,314
TOTAL VOLUME OF POND (CF)	11940

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
17.25	1.25	11790.0	11940	0.27
17.00	1.00		9104	0.21
16.80	0.80		6997	0.16
16.50	0.50		4105	0.09
16.00	0.00	7314.0	0	0.00

Control/ Provided Treatment Vol.

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = 2.95
 Impervious Area (acres) = 1.79
 POND Dry Retention 2

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	17.00
POND BOTTOM ELEVATION (NAVD)	15.00
TOP AREA OF POND (SF)	11,611
BOTTOM AREA OF POND (SF)	8,073
TOTAL VOLUME OF POND (CF)	19684

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
17.00	2.00	11611.0	19684	0.45
16.50	1.50		14100	0.32
16.00	1.00		8958	0.21
15.60	0.60		5162	0.12
15.50	0.50		4258	0.10
15.00	0.00	8073.0	0	0.00

Control/ Provided Treatment Vol.

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = 1.16
 Impervious Area (acres) = 0.32
 POND Dry Retention 3

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	16.25
POND BOTTOM ELEVATION (NAVD)	14.00
TOP AREA OF POND (SF)	9,304
BOTTOM AREA OF POND (SF)	4,914
TOTAL VOLUME OF POND (CF)	15995

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
16.25	2.25	9304.0	15995	0.37
16.00	2.00		13730	0.32
15.50	1.50		9566	0.22
15.00	1.00		5890	0.14
14.50	0.50		2701	0.06
14.00	0.00	4914.0	0	0.00

Control/ Provided Treatment Vol.

TREATMENT VOLUME CALCULATIONS AND STAGE/STORAGE RELATIONSHIPS

Basin Area (acres) = 3.87
 Impervious Area (acres) = 2.18
 POND Wet Detention 4

POND STAGE/STORAGE

POND TOP ELEVATION (NAVD)	16.25
POND BOTTOM ELEVATION (NAVD)	9
TOP AREA OF POND (SF)	60,365
BOTTOM AREA OF POND (SF)	19,809
TOTAL VOLUME OF POND (CF)	286,423

POND STAGE (NAVD)	DEPTH IN POND (FT)	POND SURFACE AREA (SF)	CUMULATIVE VOLUME (CF)	CUMULATIVE VOLUME (AC-FT)
16.25	3.25	60365.0	164757	3.78
16.0	3.0		149852	3.44
15.0	2.0		93950	2.16
14.30	1.3		58360	1.34
14.0	1.0		44000	1.01
13.5	0.5		21256	0.49
13.0	0.0	41024.0	0	0.00

Treatment Vol.
SHWT / Control

13.0	4.0	41024.0	121666	2.79
12.0	3.0		83294	1.91
11.0	2.0		50226	1.15
10.0	1.0		22461	0.52
9.0	0.0	19809.0	0	0.00

SFWMD - BLEED-DOWN CALCULATIONS

WET DETENTION 4

Basin Area =	3.87	acres
Pervious Area =	1.69	acres
Water surface area =	1.01	acres
Roof Area =	0.76	acres
Impervious Area (Excluding water surface/roof area) =	0.41	acres

1. Volume to be discharged in the first 24 hours is 0.5 inch of the required detention:

$$\begin{aligned} &= 0.5 \text{ inch} \times (\text{total site} - \text{lakes}) \\ &= 0.5 \text{ inch} \times (3.87 \text{ ac.} - 1.01 \text{ ac.}) \times (1\text{ft}/12\text{in}) \\ &= \mathbf{0.12 \text{ ac-ft.}} \\ &= \mathbf{0.060 \text{ cfs}} \end{aligned}$$

ALLOWABLE DISCHARGE VOLUME = 0.12 ACRE-FT. = 0.06 CFS
--

2. Size control device/bleed-down mechanism for detention system:

Size Control Structure: Choose circular orifice

Required Detention Volume=	0.12 ac-ft
=	0.060 cfs
Design Head	= 0.50 ft
Area	= 0.0177 sf
Diameter	= 1.80 in.

CALCULATED CIRCULAR ORIFICE DIAMETER = 1.8 IN.

NOTE: MINIMUM 3-INCH CIRCULAR ORIFICE WILL BE UTILIZED FOR POND DESIGN

APPENDIX 3

POST DEVELOPMENT DRAINAGE ROUTING ANALYSIS (ICPR)

Network Layout

Input Report

Basin Summary

Node Min/Max Report

Node Time Series Report

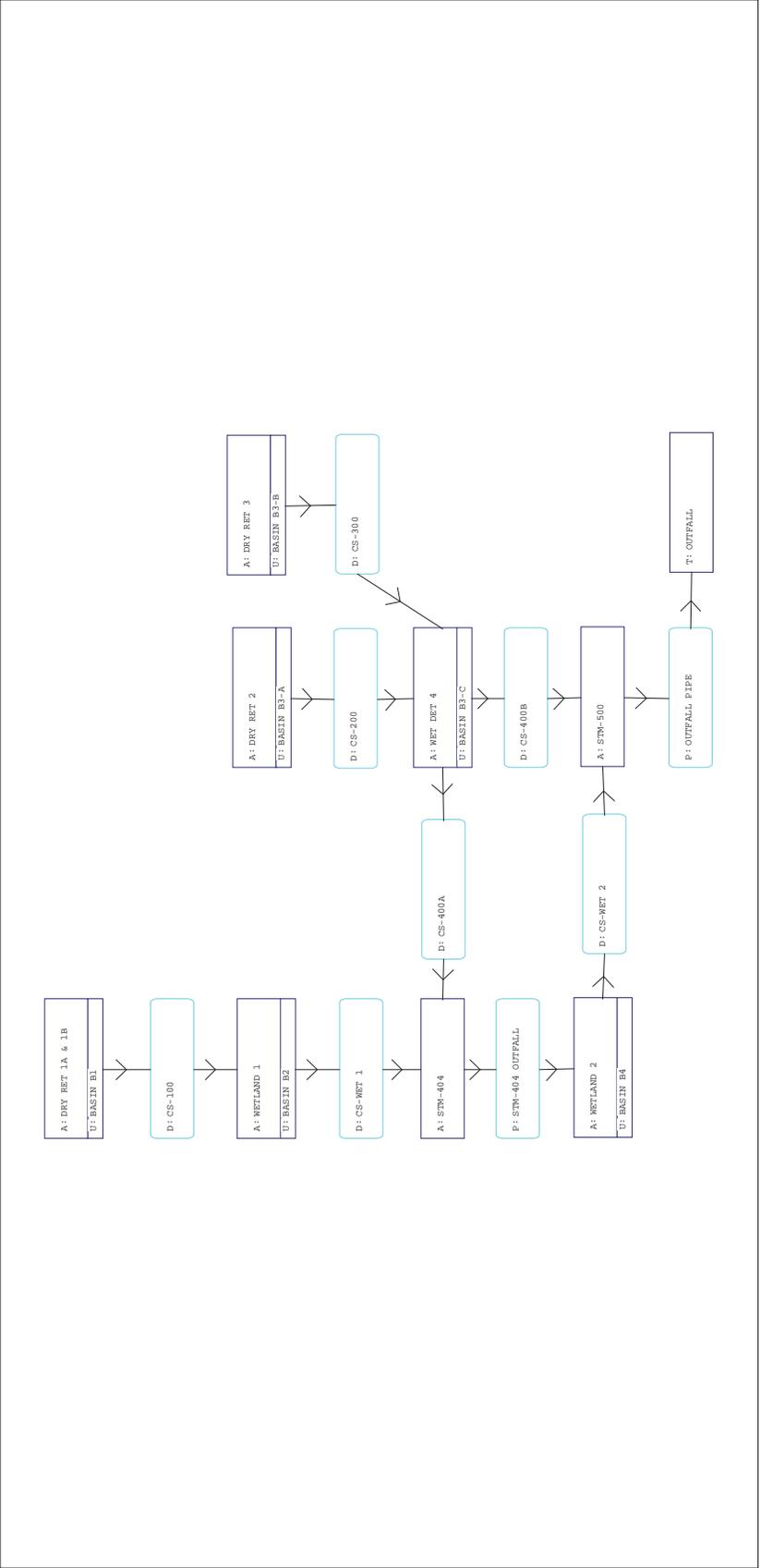
Link Min/Max Report

Runoff Volume Calculations

100Y/3D Zero-Discharge Stage/Storage

NETWORK LAYOUT

- Nodes
- A Stage/Area
- V Stage/Volume
- T Time/Stage
- M Manhole
- Basins
- O Overland Flow
- U SCS Unit CN
- S SBUH CN
- Y SCS Unit GA
- Z SBUH GA
- Links
- P Pipe
- W Weir
- C Channel
- B Drop Structure
- R Bridge
- R Rating Curve
- H Breach
- E Percolation
- F Filter
- X Exfil Trench



INPUT REPORT

=====
Basins
=====

Name: BASIN B1 Node: DRY RET 1A & 1B Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.000 Time Shift(hrs): 0.00
Curve Number: 95.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B2 Node: WETLAND 1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 30.00
Area(ac): 7.370 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B3-A Node: DRY RET 2 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.950 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B3-B Node: DRY RET 3 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 1.160 Time Shift(hrs): 0.00
Curve Number: 86.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B3-C Node: WET DET 4 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 3.870 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: BASIN B4 Node: WETLAND 2 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 25.00
Area(ac): 4.980 Time Shift(hrs): 0.00
Curve Number: 85.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

=====
Nodes
=====

Name: DRY RET 1A & 1B Base Flow(cfs): 0.000 Init Stage(ft): 16.070
Group: BASE Warn Stage(ft): 17.250
Type: Stage/Area

INPUT REPORT

11.400	0.0010
11.500	0.1800
12.000	0.3400
15.000	4.1300
17.000	7.3200

Name: WETLAND 2	Base Flow(cfs): 0.000	Init Stage(ft): 12.620
Group: BASE		Warn Stage(ft): 14.000
Type: Stage/Area		

Stage/Storage previously permitted (ERP No. 43-02792-P)

Stage(ft)	Area(ac)
12.000	0.0500
13.000	0.5500
14.000	3.2600

==== Operating Tables =====

Name: PERC- DRY RET 1	Group: BASE
Type: Rating Curve	
Function: Head vs. Discharge	

Head(ft)	Discharge(cfs)
0.00	0.07
0.50	0.06
1.00	0.11

Name: PERC- DRY RET 2	Group: BASE
Type: Rating Curve	
Function: Head vs. Discharge	

Head(ft)	Discharge(cfs)
0.00	0.03
0.50	0.03
1.00	0.04
1.50	0.06
2.00	0.09

Name: PERC- DRY RET 3	Group: BASE
Type: Rating Curve	
Function: Head vs. Discharge	

Head(ft)	Discharge(cfs)
0.00	0.17
0.50	0.14
1.00	0.26
1.50	0.66

==== Pipes =====

Name: OUTFALL PIPE	From Node: STM-500	Length(ft): 143.00
Group: BASE	To Node: OUTFALL	Count: 1
		Friction Equation: Automatic
		Solution Algorithm: Most Restrictive
UPSTREAM	DOWNSTREAM	Flow: Both
Geometry: Circular	Circular	Entrance Loss Coef: 0.00
Span(in): 24.00	24.00	Exit Loss Coef: 1.00
Rise(in): 24.00	24.00	Bend Loss Coef: 0.00
Invert(ft): 11.500	11.200	Outlet Ctrl Spec: Use dc or tw
Manning's N: 0.012000	0.012000	Inlet Ctrl Spec: Use dc
Top Clip(in): 0.000	0.000	Stabilizer Option: None
Bot Clip(in): 0.000	0.000	

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

INPUT REPORT

```

-----
Name: STM-404 OUTFALL      From Node: STM-404      Length(ft): 76.00
Group: BASE                To Node: WETLAND 2      Count: 1
                           Friction Equation: Automatic
                           Solution Algorithm: Most Restrictive
                           Flow: Both
UPSTREAM                   DOWNSTREAM
Geometry: Circular         Circular
Span(in): 30.00            30.00
Rise(in): 30.00            30.00
Invert(ft): 10.500         9.000
Manning's N: 0.012000     0.012000
Top Clip(in): 0.000        0.000
Bot Clip(in): 0.000        0.000
                           Entrance Loss Coef: 0.00
                           Exit Loss Coef: 1.00
                           Bend Loss Coef: 0.00
                           Outlet Ctrl Spec: Use dc or tw
                           Inlet Ctrl Spec: Use dc
                           Stabilizer Option: None
    
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

=====
Drop Structures
=====

```

-----
Name: CS-100              From Node: DRY RET 1A & 1B  Length(ft): 45.00
Group: BASE                To Node: WETLAND 1      Count: 1
                           Friction Equation: Automatic
                           Solution Algorithm: Most Restrictive
                           Flow: Both
UPSTREAM                   DOWNSTREAM
Geometry: Circular         Circular
Span(in): 18.00            18.00
Rise(in): 18.00            18.00
Invert(ft): 13.500         12.450
Manning's N: 0.012000     0.012000
Top Clip(in): 0.000        0.000
Bot Clip(in): 0.000        0.000
                           Entrance Loss Coef: 0.000
                           Exit Loss Coef: 1.000
                           Outlet Ctrl Spec: Use dc or tw
                           Inlet Ctrl Spec: Use dc
                           Solution Incs: 10
    
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 1 for Drop Structure CS-100 ***

```

Count: 1
Type: Horizontal
Flow: Both
Geometry: Rectangular
Span(in): 37.00
Rise(in): 49.00
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 16.800
Control Elev(ft): 16.800
TABLE
    
```

```

-----
Name: CS-200              From Node: DRY RET 2      Length(ft): 481.00
Group: BASE                To Node: WET DET 4      Count: 1
                           Friction Equation: Automatic
                           Solution Algorithm: Most Restrictive
                           Flow: Both
UPSTREAM                   DOWNSTREAM
Geometry: Circular         Circular
Span(in): 24.00            24.00
Rise(in): 24.00            24.00
Invert(ft): 12.500         9.000
Manning's N: 0.012000     0.012000
Top Clip(in): 0.000        0.000
Bot Clip(in): 0.000        0.000
                           Entrance Loss Coef: 0.000
                           Exit Loss Coef: 1.000
                           Outlet Ctrl Spec: Use dc or tw
                           Inlet Ctrl Spec: Use dc
                           Solution Incs: 10
    
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-200 ***

```

Count: 1
Type: Horizontal
Flow: Both
Geometry: Rectangular
Span(in): 37.00
Rise(in): 49.00
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 17.000
Control Elev(ft): 17.000
TABLE
    
```

*** Weir 2 of 2 for Drop Structure CS-200 ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Vertical: Mavis	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 60.00	Invert(ft): 15.600	
Rise(in): 16.80	Control Elev(ft): 15.600	

Name: CS-300	From Node: DRY RET 3	Length(ft): 56.00
Group: BASE	To Node: WET DET 4	Count: 1
UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 18.00	18.00	Flow: Both
Rise(in): 18.00	18.00	Entrance Loss Coef: 0.000
Invert(ft): 8.600	8.500	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-300 ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Horizontal	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 37.00	Invert(ft): 16.250	
Rise(in): 49.00	Control Elev(ft): 16.250	

*** Weir 2 of 2 for Drop Structure CS-300 ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Vertical: Mavis	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 14.00	Invert(ft): 15.000	
Rise(in): 15.00	Control Elev(ft): 15.000	

Name: CS-400A	From Node: WET DET 4	Length(ft): 38.00
Group: BASE	To Node: STM-404	Count: 1
UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 24.00	24.00	Flow: Both
Rise(in): 24.00	24.00	Entrance Loss Coef: 0.000
Invert(ft): 12.800	10.500	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-400A ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Horizontal	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 37.00	Invert(ft): 16.000	
Rise(in): 49.00	Control Elev(ft): 16.000	

*** Weir 2 of 2 for Drop Structure CS-400A ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Vertical: Mavis	Top Clip(in): 0.000	

INPUT REPORT

Flow: Both Weir Disc Coef: 3.200
 Geometry: Rectangular Orifice Disc Coef: 0.600
 Span(in): 48.00 Invert(ft): 13.500
 Rise(in): 30.00 Control Elev(ft): 13.500

Name: CS-400B From Node: WET DET 4 Length(ft): 47.00
 Group: BASE To Node: STM-500 Count: 1

UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 18.00	18.00	Flow: Both
Rise(in): 18.00	18.00	Entrance Loss Coef: 0.000
Invert(ft): 12.500	11.500	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
 Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
 Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-400B ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Vertical: Mavis	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Circular	Orifice Disc Coef: 0.600	
Span(in): 3.00	Invert(ft): 13.000	
Rise(in): 3.00	Control Elev(ft): 13.000	

*** Weir 2 of 2 for Drop Structure CS-400B ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Horizontal	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 37.00	Invert(ft): 16.000	
Rise(in): 49.00	Control Elev(ft): 16.000	

Name: CS-WET 1 From Node: WETLAND 1 Length(ft): 741.00
 Group: BASE To Node: STM-404 Count: 1

UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 18.00	18.00	Flow: Both
Rise(in): 18.00	18.00	Entrance Loss Coef: 0.000
Invert(ft): 12.000	10.500	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
 Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
 Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-WET 1 ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Vertical: Mavis	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 6.00	Invert(ft): 14.950	
Rise(in): 4.00	Control Elev(ft): 14.950	

*** Weir 2 of 2 for Drop Structure CS-WET 1 ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Horizontal	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 54.00	Invert(ft): 15.500	
Rise(in): 36.00	Control Elev(ft): 15.500	

Name: CS-WET 2 From Node: WETLAND 2 Length(ft): 249.00
 Group: BASE To Node: STM-500 Count: 1

UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 18.00	18.00	Flow: Both
Rise(in): 18.00	18.00	Entrance Loss Coef: 0.000
Invert(ft): 12.000	11.500	Exit Loss Coef: 1.000
Manning's N: 0.012000	0.012000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
 Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
 Circular Concrete: Square edge w/ headwall

*** Weir 1 of 2 for Drop Structure CS-WET 2 ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Horizontal	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 37.00	Invert(ft): 14.000	
Rise(in): 49.00	Control Elev(ft): 14.000	

*** Weir 2 of 2 for Drop Structure CS-WET 2 ***

Count: 1	Bottom Clip(in): 0.000	TABLE
Type: Vertical: Mavis	Top Clip(in): 0.000	
Flow: Both	Weir Disc Coef: 3.200	
Geometry: Rectangular	Orifice Disc Coef: 0.600	
Span(in): 76.00	Invert(ft): 13.000	
Rise(in): 12.00	Control Elev(ft): 13.000	

=====
 Hydrology Simulations
 =====

Name: 100Y3D
 Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\100Y3D.R32

Override Defaults: Yes
 Storm Duration(hrs): 72.00
 Rainfall File: Sfwmd72
 Rainfall Amount(in): 15.00

Time(hrs)	Print Inc(min)
-----	-----
80.000	5.00
360.000	5.00

Name: 10Y1D
 Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\10Y1D.R32

Override Defaults: Yes
 Storm Duration(hrs): 24.00
 Rainfall File: Flmod
 Rainfall Amount(in): 7.00

Time(hrs)	Print Inc(min)
-----	-----
24.000	5.00
360.000	5.00

Name: 25Y3D
 Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\25Y3D.R32

Override Defaults: Yes
 Storm Duration(hrs): 72.00
 Rainfall File: Sfwmd72
 Rainfall Amount(in): 12.00

Time(hrs)	Print Inc(min)
-----	-----
80.000	5.00
360.000	5.00

INPUT REPORT

Name: 3Y1D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\3Y1D.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 5.25

Time(hrs)	Print Inc(min)
80.000	5.00
360.000	5.00

=====
==== Routing Simulations =====
=====

Name: 100Y3D Hydrology Sim: 100Y3D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\100Y3D.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 360.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
58.000	15.000
64.000	5.000
100.000	30.000
360.000	60.000

Group	Run
BASE	Yes

Name: 10Y1D Hydrology Sim: 10Y1D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\10Y1D.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 360.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
10.000	15.000
14.000	5.000
100.000	30.000
360.000	60.000

Group	Run
BASE	Yes

Name: 25Y3D Hydrology Sim: 25Y3D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\25Y3D.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 360.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
8.000	15.000

INPUT REPORT

12.000 5.000
60.000 30.000
100.000 50.000
360.000 60.000

Group Run

BASE Yes

Name: 3Y1D Hydrology Sim: 3Y1D
Filename: K:\LAK_Civil\046403000 - Cove Rd Charter School\Design\ICPR\3Y1D.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 360.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

8.000 15.000
12.000 5.000
60.000 30.000
360.000 60.000

Group Run

BASE Yes

BASIN SUMMARY

Basin Name: BASIN B1
Group Name: BASE
Simulation: 100Y3D
Node Name: DRY RET 1A & 1B
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
Curve Number: 95.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 6.64
Runoff Volume (in): 14.381
Runoff Volume (ft3): 52204

Basin Name: BASIN B2
Group Name: BASE
Simulation: 100Y3D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.20
Flow Max (cfs): 30.09
Runoff Volume (in): 13.608
Runoff Volume (ft3): 364047

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 100Y3D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
Curve Number: 91.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 19.47
Runoff Volume (in): 13.870
Runoff Volume (ft3): 148530

Basin Name: BASIN B3-B
Group Name: BASE

BASIN SUMMARY

Simulation: 100Y3D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 7.56
Runoff Volume (in): 13.204
Runoff Volume (ft3): 55601

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 100Y3D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 25.43
Runoff Volume (in): 13.608
Runoff Volume (ft3): 191162

Basin Name: BASIN B4
Group Name: BASE
Simulation: 100Y3D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 15.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 60.11
Flow Max (cfs): 22.17
Runoff Volume (in): 13.068
Runoff Volume (ft3): 236227

Basin Name: BASIN B1
Group Name: BASE
Simulation: 10Y1D
Node Name: DRY RET 1A & 1B

BASIN SUMMARY

Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
Curve Number: 95.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 4.12
Runoff Volume (in): 6.404
Runoff Volume (ft3): 23245

Basin Name: BASIN B2
Group Name: BASE
Simulation: 10Y1D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 12.27
Flow Max (cfs): 17.16
Runoff Volume (in): 5.706
Runoff Volume (ft3): 152657

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 10Y1D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
Curve Number: 91.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 11.70
Runoff Volume (in): 5.937
Runoff Volume (ft3): 63573

Basin Name: BASIN B3-B
Group Name: BASE
Simulation: 10Y1D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

BASIN SUMMARY

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 4.28
Runoff Volume (in): 5.364
Runoff Volume (ft3): 22586

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 10Y1D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 14.95
Runoff Volume (in): 5.706
Runoff Volume (ft3): 80160

Basin Name: BASIN B4
Group Name: BASE
Simulation: 10Y1D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Flmod
Rainfall Amount (in): 7.000
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 12.22
Flow Max (cfs): 11.91
Runoff Volume (in): 5.251
Runoff Volume (ft3): 94921

Basin Name: BASIN B1
Group Name: BASE
Simulation: 25Y3D
Node Name: DRY RET 1A & 1B
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0

BASIN SUMMARY

Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
Curve Number: 95.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 5.31
Runoff Volume (in): 11.387
Runoff Volume (ft3): 41334

Basin Name: BASIN B2
Group Name: BASE
Simulation: 25Y3D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.20
Flow Max (cfs): 23.90
Runoff Volume (in): 10.631
Runoff Volume (ft3): 284406

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 25Y3D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
Curve Number: 91.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 15.51
Runoff Volume (in): 10.886
Runoff Volume (ft3): 116571

Basin Name: BASIN B3-B
Group Name: BASE
Simulation: 25Y3D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33

BASIN SUMMARY

Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 5.98
Runoff Volume (in): 10.242
Runoff Volume (ft3): 43128

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 25Y3D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 20.21
Runoff Volume (in): 10.631
Runoff Volume (ft3): 149342

Basin Name: BASIN B4
Group Name: BASE
Simulation: 25Y3D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Sfwmd72
Rainfall Amount (in): 12.000
Storm Duration (hrs): 72.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 60.11
Flow Max (cfs): 17.50
Runoff Volume (in): 10.111
Runoff Volume (ft3): 182781

Basin Name: BASIN B1
Group Name: BASE
Simulation: 3Y1D
Node Name: DRY RET 1A & 1B
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250

BASIN SUMMARY

Storm Duration (hrs): 24.00
 Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
 Area (ac): 1.000
Vol of Unit Hyd (in): 1.000
 Curve Number: 95.000
 DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 3.05
Runoff Volume (in): 4.666
Runoff Volume (ft3): 16936

Basin Name: BASIN B2
Group Name: BASE
Simulation: 3Y1D
Node Name: WETLAND 1
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.00
Comp Time Inc (min): 4.00
 Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
 Status: Onsite
Time of Conc (min): 30.00
Time Shift (hrs): 0.00
 Area (ac): 7.370
Vol of Unit Hyd (in): 1.000
 Curve Number: 89.000
 DCIA (%): 0.000

Time Max (hrs): 12.27
Flow Max (cfs): 12.21
Runoff Volume (in): 4.010
Runoff Volume (ft3): 107289

Basin Name: BASIN B3-A
Group Name: BASE
Simulation: 3Y1D
Node Name: DRY RET 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
 Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
 Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
 Area (ac): 2.950
Vol of Unit Hyd (in): 1.000
 Curve Number: 91.000
 DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 8.47
Runoff Volume (in): 4.224
Runoff Volume (ft3): 45229

Basin Name: BASIN B3-B
Group Name: BASE
Simulation: 3Y1D
Node Name: DRY RET 3
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
 Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
 Status: Onsite

BASIN SUMMARY

Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.160
Vol of Unit Hyd (in): 1.000
Curve Number: 86.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 3.00
Runoff Volume (in): 3.700
Runoff Volume (ft3): 15579

Basin Name: BASIN B3-C
Group Name: BASE
Simulation: 3Y1D
Node Name: WET DET 4
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.870
Vol of Unit Hyd (in): 1.000
Curve Number: 89.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 10.69
Runoff Volume (in): 4.010
Runoff Volume (ft3): 56338

Basin Name: BASIN B4
Group Name: BASE
Simulation: 3Y1D
Node Name: WETLAND 2
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 3.33
Comp Time Inc (min): 3.33
Rainfall File: Flmod
Rainfall Amount (in): 5.250
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 25.00
Time Shift (hrs): 0.00
Area (ac): 4.980
Vol of Unit Hyd (in): 1.000
Curve Number: 85.000
DCIA (%): 0.000

Time Max (hrs): 12.22
Flow Max (cfs): 8.24
Runoff Volume (in): 3.599
Runoff Volume (ft3): 65053

NODE MIN/MAX REPORT

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
DRY RET 1A & 1B	BASE	100Y3D	60.06	17.06	17.25	0.0009	11113	60.00	6.63	60.06	6.22
DRY RET 1A & 1B	BASE	10Y1D	12.14	16.98	17.25	-0.0005	10829	12.00	4.02	12.14	3.58
DRY RET 1A & 1B	BASE	25Y3D	60.07	17.03	17.25	0.0008	10982	60.00	5.29	60.07	4.94
DRY RET 1A & 1B	BASE	3Y1D	12.29	16.93	17.25	0.0003	10636	12.00	2.97	12.29	2.08
DRY RET 2	BASE	100Y3D	60.19	16.94	17.00	-0.0046	11661	60.00	19.42	60.07	13.18
DRY RET 2	BASE	10Y1D	12.16	16.32	17.00	-0.0020	10585	12.00	11.38	12.16	9.88
DRY RET 2	BASE	25Y3D	60.14	16.58	17.00	-0.0031	11022	60.00	15.47	60.09	12.15
DRY RET 2	BASE	3Y1D	12.17	16.18	17.00	-0.0010	10325	12.17	8.22	12.17	6.99
DRY RET 3	BASE	100Y3D	60.24	16.20	16.25	0.0028	9053	60.00	7.53	60.16	4.56
DRY RET 3	BASE	10Y1D	12.44	15.70	16.25	0.0021	8089	12.00	4.15	12.44	2.20
DRY RET 3	BASE	25Y3D	60.22	16.00	16.25	-0.0026	8663	60.00	5.96	60.20	3.73
DRY RET 3	BASE	3Y1D	12.59	15.45	16.25	0.0009	7600	12.08	2.90	12.59	1.13
OUTFALL	BASE	100Y3D	0.00	12.00	12.00	0.0000	130	64.37	8.41	0.00	0.00
OUTFALL	BASE	10Y1D	0.00	12.00	12.00	0.0000	130	14.67	6.60	0.00	0.00
OUTFALL	BASE	25Y3D	0.00	12.00	12.00	0.0000	130	64.20	7.86	0.00	0.00
OUTFALL	BASE	3Y1D	0.00	12.00	12.00	0.0000	130	14.10	5.56	0.00	0.00
STM-404	BASE	100Y3D	62.12	14.87	15.53	0.0375	118	60.46	20.22	60.47	20.20
STM-404	BASE	10Y1D	14.32	13.97	15.53	0.0375	118	12.97	9.27	12.97	9.22
STM-404	BASE	25Y3D	62.38	14.58	15.53	0.0375	118	60.63	18.34	60.64	18.32
STM-404	BASE	3Y1D	14.27	13.61	15.53	0.0375	118	12.93	5.11	12.92	5.10
STM-500	BASE	100Y3D	64.37	13.17	15.58	0.0032	228	64.36	8.41	64.37	8.41
STM-500	BASE	10Y1D	14.67	12.92	15.58	0.0032	246	14.66	6.60	14.67	6.60
STM-500	BASE	25Y3D	64.20	13.09	15.58	0.0032	235	64.18	7.86	64.20	7.86
STM-500	BASE	3Y1D	14.10	12.77	15.58	0.0032	251	14.09	5.56	14.10	5.56
WET DET 4	BASE	100Y3D	60.77	15.47	16.25	0.0034	55835	60.00	42.27	60.49	16.08
WET DET 4	BASE	10Y1D	12.83	14.58	16.25	0.0026	50465	12.08	25.24	12.97	9.11
WET DET 4	BASE	25Y3D	60.66	15.10	16.25	0.0031	53638	60.00	35.07	60.66	14.10
WET DET 4	BASE	3Y1D	12.95	14.16	16.25	0.0012	47955	12.08	17.21	12.88	5.08
WETLAND 1	BASE	100Y3D	62.63	16.15	16.00	0.0012	259929	60.17	35.68	60.02	4.88
WETLAND 1	BASE	10Y1D	16.32	15.58	16.00	0.0010	220067	12.25	20.48	16.32	1.59
WETLAND 1	BASE	25Y3D	62.36	15.92	16.00	0.0008	243721	60.17	28.37	60.34	4.67
WETLAND 1	BASE	3Y1D	24.10	15.46	16.00	0.0004	211529	12.25	14.23	24.10	0.47
WETLAND 2	BASE	100Y3D	64.41	14.80	14.00	0.0023	236617	60.17	40.55	64.42	8.10
WETLAND 2	BASE	10Y1D	14.78	13.93	14.00	0.0015	134270	12.37	18.39	14.80	6.35
WETLAND 2	BASE	25Y3D	64.22	14.53	14.00	0.0019	204551	60.25	32.43	64.22	7.58
WETLAND 2	BASE	3Y1D	14.16	13.60	14.00	0.0007	94230	12.48	11.68	14.17	5.33

NODE TIME SERIES REPORT

Simulation	Node	Group	Time	Stage	Warning	Surface	Total	Total	Total	Total
			hrs	ft	Stage	Area	Inflow	Outflow	Vol In	Vol Out
					ft	ft2	cfs	cfs	af	af
25Y3DDRY	RET 1A & 1B	BASE	0.00	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	0.25	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	0.50	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	0.75	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.00	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.25	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.50	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	1.75	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.00	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.25	16.07	17.25	7649	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.50	16.07	17.25	7650	0.00	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	2.75	16.07	17.25	7652	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.00	16.07	17.25	7655	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.25	16.07	17.25	7658	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.50	16.07	17.25	7662	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	3.75	16.08	17.25	7668	0.01	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.00	16.08	17.25	7674	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.25	16.08	17.25	7680	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.50	16.08	17.25	7687	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	4.75	16.08	17.25	7695	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.00	16.09	17.25	7704	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.25	16.09	17.25	7713	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.50	16.09	17.25	7722	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	5.75	16.09	17.25	7732	0.02	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.00	16.10	17.25	7742	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.25	16.10	17.25	7753	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.50	16.10	17.25	7764	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	6.75	16.11	17.25	7775	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.00	16.11	17.25	7787	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.25	16.11	17.25	7799	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.50	16.12	17.25	7812	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	7.75	16.12	17.25	7824	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.00	16.12	17.25	7837	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.25	16.13	17.25	7850	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.33	16.13	17.25	7855	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.42	16.13	17.25	7859	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.50	16.13	17.25	7864	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.58	16.13	17.25	7868	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.67	16.13	17.25	7873	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.75	16.14	17.25	7878	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.83	16.14	17.25	7882	0.03	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	8.92	16.14	17.25	7887	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.00	16.14	17.25	7891	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.08	16.14	17.25	7896	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.17	16.14	17.25	7901	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.25	16.14	17.25	7906	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.33	16.14	17.25	7910	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.42	16.15	17.25	7915	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.50	16.15	17.25	7920	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.58	16.15	17.25	7925	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.67	16.15	17.25	7929	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.75	16.15	17.25	7934	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.83	16.15	17.25	7939	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	9.92	16.15	17.25	7944	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.00	16.16	17.25	7949	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.08	16.16	17.25	7954	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.17	16.16	17.25	7959	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.25	16.16	17.25	7964	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.33	16.16	17.25	7969	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.42	16.16	17.25	7974	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.50	16.16	17.25	7979	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.58	16.17	17.25	7984	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.67	16.17	17.25	7989	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.75	16.17	17.25	7994	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.83	16.17	17.25	7999	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	10.92	16.17	17.25	8004	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.00	16.17	17.25	8009	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.08	16.17	17.25	8014	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.17	16.18	17.25	8019	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.25	16.18	17.25	8024	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.33	16.18	17.25	8029	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.42	16.18	17.25	8035	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.50	16.18	17.25	8040	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.58	16.18	17.25	8045	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.67	16.19	17.25	8050	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.75	16.19	17.25	8055	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.83	16.19	17.25	8061	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	11.92	16.19	17.25	8066	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	12.00	16.19	17.25	8071	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	12.50	16.20	17.25	8103	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	13.00	16.21	17.25	8135	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	13.50	16.22	17.25	8167	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	14.00	16.23	17.25	8200	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	14.50	16.24	17.25	8233	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	15.00	16.25	17.25	8266	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	15.50	16.26	17.25	8300	0.04	0.00	0.0	0.0

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3DDRY	RET 1A & 1B	BASE	16.00	16.27	17.25	8333	0.04	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	16.50	16.28	17.25	8367	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	17.00	16.29	17.25	8401	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	17.50	16.30	17.25	8435	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	18.00	16.31	17.25	8469	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	18.50	16.32	17.25	8504	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	19.00	16.33	17.25	8538	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	19.50	16.33	17.25	8572	0.05	0.00	0.0	0.0
25Y3DDRY	RET 1A & 1B	BASE	20.00	16.34	17.25	8607	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	20.50	16.35	17.25	8641	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	21.00	16.36	17.25	8676	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	21.50	16.37	17.25	8710	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	22.00	16.38	17.25	8745	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	22.50	16.39	17.25	8779	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	23.00	16.40	17.25	8814	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	23.50	16.41	17.25	8849	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	24.00	16.42	17.25	8883	0.05	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	24.50	16.44	17.25	8926	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	25.00	16.45	17.25	8975	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	25.50	16.46	17.25	9025	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	26.00	16.48	17.25	9075	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	26.50	16.49	17.25	9125	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	27.00	16.51	17.25	9175	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	27.50	16.52	17.25	9225	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	28.00	16.54	17.25	9274	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	28.50	16.55	17.25	9324	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	29.00	16.56	17.25	9373	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	29.50	16.58	17.25	9422	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	30.00	16.59	17.25	9471	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	30.50	16.61	17.25	9520	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	31.00	16.62	17.25	9569	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	31.50	16.63	17.25	9617	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	32.00	16.65	17.25	9666	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	32.50	16.66	17.25	9714	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	33.00	16.68	17.25	9762	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	33.50	16.69	17.25	9810	0.07	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	34.00	16.70	17.25	9858	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	34.50	16.72	17.25	9906	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	35.00	16.73	17.25	9953	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	35.50	16.74	17.25	10000	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	36.00	16.76	17.25	10048	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	36.50	16.77	17.25	10095	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	37.00	16.79	17.25	10142	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	37.50	16.80	17.25	10189	0.08	0.00	0.1	0.0
25Y3DDRY	RET 1A & 1B	BASE	38.00	16.81	17.25	10225	0.08	0.04	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	38.50	16.81	17.25	10238	0.08	0.07	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	39.00	16.81	17.25	10241	0.08	0.07	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	39.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	40.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	40.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	41.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	41.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	42.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	42.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	43.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	43.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	44.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	44.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	45.00	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	45.50	16.81	17.25	10242	0.08	0.08	0.2	0.0
25Y3DDRY	RET 1A & 1B	BASE	46.00	16.81	17.25	10242	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	46.50	16.81	17.25	10242	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	47.00	16.81	17.25	10243	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	47.50	16.81	17.25	10243	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	48.00	16.81	17.25	10243	0.08	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	48.50	16.81	17.25	10244	0.09	0.08	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	49.00	16.82	17.25	10246	0.09	0.09	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	49.50	16.82	17.25	10246	0.09	0.09	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	50.00	16.82	17.25	10247	0.09	0.09	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	50.50	16.82	17.25	10250	0.10	0.10	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	51.00	16.82	17.25	10253	0.10	0.10	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	51.50	16.82	17.25	10255	0.11	0.11	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	52.00	16.82	17.25	10257	0.11	0.11	0.2	0.1
25Y3DDRY	RET 1A & 1B	BASE	52.50	16.82	17.25	10263	0.14	0.13	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	53.00	16.82	17.25	10268	0.15	0.14	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	53.50	16.82	17.25	10275	0.18	0.17	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	54.00	16.82	17.25	10280	0.18	0.18	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	54.50	16.83	17.25	10287	0.21	0.20	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	55.00	16.83	17.25	10291	0.22	0.22	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	55.50	16.83	17.25	10298	0.25	0.24	0.3	0.1
25Y3DDRY	RET 1A & 1B	BASE	56.00	16.83	17.25	10302	0.26	0.25	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	56.50	16.83	17.25	10310	0.29	0.28	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	57.00	16.83	17.25	10314	0.30	0.30	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	57.50	16.84	17.25	10323	0.35	0.33	0.3	0.2
25Y3DDRY	RET 1A & 1B	BASE	58.00	16.84	17.25	10333	0.38	0.37	0.4	0.2
25Y3DDRY	RET 1A & 1B	BASE	58.50	16.84	17.25	10343	0.42	0.41	0.4	0.2

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3DDRY RET 1A & 1B		BASE	59.00	16.85	17.25	10368	0.55	0.51	0.4	0.2
25Y3DDRY RET 1A & 1B		BASE	59.50	16.87	17.25	10422	0.86	0.77	0.4	0.3
25Y3DDRY RET 1A & 1B		BASE	60.00	17.02	17.25	10965	5.29	4.79	0.6	0.4
25Y3DDRY RET 1A & 1B		BASE	60.84	16.89	17.25	10507	0.91	1.24	0.8	0.6
25Y3DDRY RET 1A & 1B		BASE	61.67	16.85	17.25	10371	0.47	0.53	0.8	0.7
25Y3DDRY RET 1A & 1B		BASE	62.50	16.84	17.25	10327	0.31	0.35	0.8	0.7
25Y3DDRY RET 1A & 1B		BASE	63.33	16.83	17.25	10307	0.27	0.27	0.9	0.7
25Y3DDRY RET 1A & 1B		BASE	64.17	16.83	17.25	10303	0.22	0.26	0.9	0.7
25Y3DDRY RET 1A & 1B		BASE	65.00	16.82	17.25	10276	0.16	0.17	0.9	0.7
25Y3DDRY RET 1A & 1B		BASE	65.83	16.82	17.25	10273	0.16	0.16	0.9	0.7
25Y3DDRY RET 1A & 1B		BASE	66.67	16.82	17.25	10273	0.16	0.16	0.9	0.8
25Y3DDRY RET 1A & 1B		BASE	67.50	16.82	17.25	10273	0.16	0.16	0.9	0.8
25Y3DDRY RET 1A & 1B		BASE	68.33	16.82	17.25	10267	0.12	0.14	0.9	0.8
25Y3DDRY RET 1A & 1B		BASE	69.17	16.82	17.25	10255	0.11	0.11	0.9	0.8
25Y3DDRY RET 1A & 1B		BASE	70.00	16.82	17.25	10254	0.11	0.11	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	70.83	16.82	17.25	10254	0.11	0.11	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	71.67	16.82	17.25	10254	0.11	0.11	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	72.50	16.81	17.25	10233	0.01	0.06	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	73.33	16.80	17.25	10207	0.00	0.01	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	74.17	16.80	17.25	10200	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	75.00	16.80	17.25	10197	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	75.83	16.80	17.25	10196	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	76.67	16.80	17.25	10195	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	77.50	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	78.33	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	79.17	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	80.00	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	80.83	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	81.67	16.80	17.25	10194	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	82.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	83.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	84.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	85.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	85.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	86.67	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	87.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	88.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	89.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	90.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	90.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	91.67	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	92.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	93.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	94.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	95.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	95.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	96.67	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	97.50	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	98.33	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	99.17	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	100.00	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	100.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	101.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	102.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	103.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	104.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	105.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	106.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	107.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	108.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	109.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	110.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	111.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	112.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	113.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	114.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	115.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	116.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	117.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	118.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	119.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	120.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	121.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	122.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	123.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	124.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	125.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	126.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	127.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	128.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	129.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	130.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	131.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	132.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	133.83	16.80	17.25	10193	0.00	0.00	1.0	0.8
25Y3DDRY RET 1A & 1B		BASE	134.83	16.80	17.25	10193	0.00	0.00	1.0	0.8



DRY RETENTION 1A & 1B RECOVERS ATTENUATION VOLUME AT HOUR 73.33. REFER TO APPENDIX 4 PONDS MODEL FOR TREATMENT VOLUME RECOVERY.

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 2	BASE	7.75	15.24	17.00	8700	0.05	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.00	15.25	17.00	8710	0.05	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.25	15.25	17.00	8719	0.05	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.33	15.26	17.00	8723	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.42	15.26	17.00	8726	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.50	15.26	17.00	8729	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.58	15.26	17.00	8733	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.67	15.26	17.00	8736	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.75	15.27	17.00	8740	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.83	15.27	17.00	8743	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	8.92	15.27	17.00	8747	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.00	15.27	17.00	8751	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.08	15.27	17.00	8754	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.17	15.28	17.00	8758	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.25	15.28	17.00	8762	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.33	15.28	17.00	8766	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.42	15.28	17.00	8769	0.06	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.50	15.29	17.00	8773	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.58	15.29	17.00	8777	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.67	15.29	17.00	8781	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.75	15.29	17.00	8785	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.83	15.29	17.00	8789	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	9.92	15.30	17.00	8793	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.00	15.30	17.00	8797	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.08	15.30	17.00	8801	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.17	15.30	17.00	8806	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.25	15.31	17.00	8810	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.33	15.31	17.00	8814	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.42	15.31	17.00	8818	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.50	15.31	17.00	8823	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.58	15.32	17.00	8827	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.67	15.32	17.00	8831	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.75	15.32	17.00	8836	0.07	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.83	15.32	17.00	8840	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	10.92	15.33	17.00	8845	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.00	15.33	17.00	8849	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.08	15.33	17.00	8854	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.17	15.33	17.00	8858	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.25	15.34	17.00	8863	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.33	15.34	17.00	8867	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.42	15.34	17.00	8872	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.50	15.34	17.00	8877	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.58	15.35	17.00	8881	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.67	15.35	17.00	8886	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.75	15.35	17.00	8891	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.83	15.36	17.00	8895	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	11.92	15.36	17.00	8900	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	12.00	15.36	17.00	8905	0.08	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	12.50	15.38	17.00	8935	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	13.00	15.40	17.00	8965	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	13.50	15.41	17.00	8996	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	14.00	15.43	17.00	9028	0.09	0.00	0.0	0.0
25Y3D	DRY RET 2	BASE	14.50	15.45	17.00	9061	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	15.00	15.47	17.00	9094	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	15.50	15.49	17.00	9128	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	16.00	15.51	17.00	9162	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	16.50	15.53	17.00	9197	0.10	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	17.00	15.55	17.00	9233	0.11	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	17.50	15.57	17.00	9268	0.11	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	18.00	15.59	17.00	9305	0.11	0.00	0.1	0.0
25Y3D	DRY RET 2	BASE	18.50	15.61	17.00	9340	0.11	0.02	0.1	0.0
25Y3D	DRY RET 2	BASE	19.00	15.62	17.00	9364	0.11	0.06	0.1	0.0
25Y3D	DRY RET 2	BASE	19.50	15.63	17.00	9376	0.11	0.09	0.1	0.0
25Y3D	DRY RET 2	BASE	20.00	15.63	17.00	9382	0.11	0.10	0.1	0.0
25Y3D	DRY RET 2	BASE	20.50	15.64	17.00	9385	0.12	0.11	0.1	0.0
25Y3D	DRY RET 2	BASE	21.00	15.64	17.00	9386	0.12	0.11	0.1	0.0
25Y3D	DRY RET 2	BASE	21.50	15.64	17.00	9387	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	22.00	15.64	17.00	9388	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	22.50	15.64	17.00	9388	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	23.00	15.64	17.00	9389	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	23.50	15.64	17.00	9389	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	24.00	15.64	17.00	9389	0.12	0.12	0.1	0.0
25Y3D	DRY RET 2	BASE	24.50	15.64	17.00	9397	0.17	0.14	0.1	0.1
25Y3D	DRY RET 2	BASE	25.00	15.65	17.00	9405	0.18	0.17	0.2	0.1
25Y3D	DRY RET 2	BASE	25.50	15.65	17.00	9408	0.18	0.18	0.2	0.1
25Y3D	DRY RET 2	BASE	26.00	15.65	17.00	9410	0.19	0.18	0.2	0.1
25Y3D	DRY RET 2	BASE	26.50	15.65	17.00	9411	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	27.00	15.65	17.00	9412	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	27.50	15.65	17.00	9412	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	28.00	15.65	17.00	9413	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	28.50	15.65	17.00	9413	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	29.00	15.65	17.00	9413	0.19	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	29.50	15.65	17.00	9414	0.20	0.19	0.2	0.1
25Y3D	DRY RET 2	BASE	30.00	15.65	17.00	9414	0.20	0.20	0.2	0.1
25Y3D	DRY RET 2	BASE	30.50	15.65	17.00	9415	0.20	0.20	0.2	0.1
25Y3D	DRY RET 2	BASE	31.00	15.65	17.00	9415	0.20	0.20	0.2	0.2

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 2	BASE	31.50	15.65	17.00	9415	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	32.00	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	32.50	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	33.00	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	33.50	15.65	17.00	9416	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	34.00	15.65	17.00	9417	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	34.50	15.65	17.00	9417	0.20	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	35.00	15.65	17.00	9417	0.21	0.20	0.3	0.2
25Y3D	DRY RET 2	BASE	35.50	15.65	17.00	9417	0.21	0.21	0.3	0.2
25Y3D	DRY RET 2	BASE	36.00	15.65	17.00	9418	0.21	0.21	0.3	0.2
25Y3D	DRY RET 2	BASE	36.50	15.66	17.00	9418	0.21	0.21	0.3	0.2
25Y3D	DRY RET 2	BASE	37.00	15.66	17.00	9418	0.21	0.21	0.3	0.3
25Y3D	DRY RET 2	BASE	37.50	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	38.00	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	38.50	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	39.00	15.66	17.00	9419	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	39.50	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	40.00	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	40.50	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	41.00	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	41.50	15.66	17.00	9420	0.21	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	42.00	15.66	17.00	9420	0.22	0.21	0.4	0.3
25Y3D	DRY RET 2	BASE	42.50	15.66	17.00	9420	0.22	0.22	0.4	0.3
25Y3D	DRY RET 2	BASE	43.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	43.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	44.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	44.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	45.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	45.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	46.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	46.50	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	47.00	15.66	17.00	9421	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	47.50	15.66	17.00	9422	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	48.00	15.66	17.00	9422	0.22	0.22	0.5	0.4
25Y3D	DRY RET 2	BASE	48.50	15.66	17.00	9425	0.24	0.23	0.6	0.5
25Y3D	DRY RET 2	BASE	49.00	15.66	17.00	9428	0.24	0.24	0.6	0.5
25Y3D	DRY RET 2	BASE	49.50	15.66	17.00	9429	0.25	0.24	0.6	0.5
25Y3D	DRY RET 2	BASE	50.00	15.66	17.00	9430	0.25	0.25	0.6	0.5
25Y3D	DRY RET 2	BASE	50.50	15.67	17.00	9436	0.29	0.27	0.6	0.5
25Y3D	DRY RET 2	BASE	51.00	15.67	17.00	9441	0.30	0.29	0.6	0.5
25Y3D	DRY RET 2	BASE	51.50	15.67	17.00	9446	0.32	0.31	0.6	0.5
25Y3D	DRY RET 2	BASE	52.00	15.67	17.00	9450	0.32	0.32	0.6	0.5
25Y3D	DRY RET 2	BASE	52.50	15.68	17.00	9462	0.41	0.37	0.6	0.5
25Y3D	DRY RET 2	BASE	53.00	15.69	17.00	9472	0.42	0.41	0.7	0.6
25Y3D	DRY RET 2	BASE	53.50	15.69	17.00	9487	0.51	0.47	0.7	0.6
25Y3D	DRY RET 2	BASE	54.00	15.70	17.00	9496	0.52	0.51	0.7	0.6
25Y3D	DRY RET 2	BASE	54.50	15.71	17.00	9511	0.61	0.57	0.7	0.6
25Y3D	DRY RET 2	BASE	55.00	15.71	17.00	9520	0.63	0.61	0.8	0.7
25Y3D	DRY RET 2	BASE	55.50	15.72	17.00	9533	0.72	0.68	0.8	0.7
25Y3D	DRY RET 2	BASE	56.00	15.73	17.00	9542	0.73	0.72	0.8	0.7
25Y3D	DRY RET 2	BASE	56.50	15.74	17.00	9557	0.84	0.80	0.8	0.7
25Y3D	DRY RET 2	BASE	57.00	15.74	17.00	9567	0.86	0.85	0.9	0.8
25Y3D	DRY RET 2	BASE	57.50	15.75	17.00	9586	1.00	0.94	0.9	0.8
25Y3D	DRY RET 2	BASE	58.00	15.76	17.00	9606	1.10	1.05	1.0	0.8
25Y3D	DRY RET 2	BASE	58.50	15.77	17.00	9626	1.22	1.17	1.0	0.9
25Y3D	DRY RET 2	BASE	59.00	15.80	17.00	9674	1.59	1.45	1.1	0.9
25Y3D	DRY RET 2	BASE	59.50	15.86	17.00	9780	2.48	2.16	1.2	1.0
25Y3D	DRY RET 2	BASE	60.00	16.48	17.00	10862	15.45	11.93	1.5	1.3
25Y3D	DRY RET 2	BASE	60.84	16.01	17.00	10037	2.65	4.21	2.1	1.9
25Y3D	DRY RET 2	BASE	61.67	15.82	17.00	9702	1.38	1.63	2.3	2.1
25Y3D	DRY RET 2	BASE	62.50	15.76	17.00	9606	0.92	1.05	2.4	2.2
25Y3D	DRY RET 2	BASE	63.33	15.74	17.00	9561	0.78	0.81	2.4	2.2
25Y3D	DRY RET 2	BASE	64.17	15.73	17.00	9550	0.65	0.76	2.5	2.3
25Y3D	DRY RET 2	BASE	65.00	15.70	17.00	9497	0.47	0.51	2.5	2.3
25Y3D	DRY RET 2	BASE	65.83	15.70	17.00	9489	0.47	0.47	2.5	2.4
25Y3D	DRY RET 2	BASE	66.67	15.70	17.00	9488	0.47	0.47	2.6	2.4
25Y3D	DRY RET 2	BASE	67.50	15.70	17.00	9488	0.47	0.47	2.6	2.4
25Y3D	DRY RET 2	BASE	68.33	15.69	17.00	9478	0.36	0.43	2.6	2.5
25Y3D	DRY RET 2	BASE	69.17	15.68	17.00	9453	0.31	0.33	2.7	2.5
25Y3D	DRY RET 2	BASE	70.00	15.67	17.00	9449	0.31	0.31	2.7	2.5
25Y3D	DRY RET 2	BASE	70.83	15.67	17.00	9448	0.31	0.31	2.7	2.5
25Y3D	DRY RET 2	BASE	71.67	15.67	17.00	9449	0.31	0.31	2.7	2.5
25Y3D	DRY RET 2	BASE	72.50	15.65	17.00	9411	0.04	0.19	2.7	2.6
25Y3D	DRY RET 2	BASE	73.33	15.62	17.00	9359	0.00	0.05	2.7	2.6
25Y3D	DRY RET 2	BASE	74.17	15.61	17.00	9342	0.00	0.02	2.7	2.6
25Y3D	DRY RET 2	BASE	75.00	15.61	17.00	9334	0.00	0.01	2.7	2.6
25Y3D	DRY RET 2	BASE	75.83	15.60	17.00	9330	0.00	0.01	2.7	2.6
25Y3D	DRY RET 2	BASE	76.67	15.60	17.00	9328	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	77.50	15.60	17.00	9326	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	78.33	15.60	17.00	9325	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	79.17	15.60	17.00	9325	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	80.00	15.60	17.00	9324	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	80.83	15.60	17.00	9324	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	81.67	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	82.50	15.60	17.00	9323	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	83.33	15.60	17.00	9323	0.00	0.00	2.7	2.6

DRY RETENTION 2 RECOVERS
ATTENUATION VOLUME AT HOUR 75.83.
REFER TO APPENDIX 4 PONDS MODEL
FOR TREATMENT VOLUME RECOVERY.



25Y3D DRY RET 2 BASE 75.83 15.60 17.00 9330 0.00 0.01 2.7 2.6

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 2	BASE	338.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	339.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	340.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	341.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	342.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	343.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	344.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	345.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	346.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	347.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	348.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	349.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	350.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	351.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	352.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	353.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	354.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	355.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	356.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	357.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	358.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	359.83	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 2	BASE	360.00	15.60	17.00	9322	0.00	0.00	2.7	2.6
25Y3D	DRY RET 3	BASE	0.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	0.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	0.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	0.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	1.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	2.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	3.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	4.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	5.75	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.00	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.25	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.50	14.29	16.25	5353	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	6.75	14.29	16.25	5354	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.00	14.29	16.25	5354	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.25	14.29	16.25	5355	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.50	14.29	16.25	5357	0.00	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	7.75	14.29	16.25	5358	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.00	14.29	16.25	5360	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.25	14.29	16.25	5363	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.33	14.30	16.25	5363	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.42	14.30	16.25	5364	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.50	14.30	16.25	5365	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.58	14.30	16.25	5366	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.67	14.30	16.25	5367	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.75	14.30	16.25	5368	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.83	14.30	16.25	5369	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	8.92	14.30	16.25	5370	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.00	14.30	16.25	5371	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.08	14.30	16.25	5372	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.17	14.30	16.25	5373	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.25	14.30	16.25	5374	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.33	14.30	16.25	5375	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.42	14.30	16.25	5376	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.50	14.30	16.25	5378	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.58	14.30	16.25	5379	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.67	14.30	16.25	5380	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.75	14.30	16.25	5381	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.83	14.31	16.25	5383	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	9.92	14.31	16.25	5384	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.00	14.31	16.25	5386	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.08	14.31	16.25	5387	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.17	14.31	16.25	5388	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.25	14.31	16.25	5390	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.33	14.31	16.25	5391	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.42	14.31	16.25	5393	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.50	14.31	16.25	5394	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.58	14.31	16.25	5396	0.01	0.00	0.0	0.0

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 3	BASE	10.67	14.31	16.25	5397	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.75	14.31	16.25	5399	0.01	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.83	14.31	16.25	5401	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	10.92	14.32	16.25	5402	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.00	14.32	16.25	5404	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.08	14.32	16.25	5406	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.17	14.32	16.25	5407	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.25	14.32	16.25	5409	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.33	14.32	16.25	5411	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.42	14.32	16.25	5413	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.50	14.32	16.25	5414	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.58	14.32	16.25	5416	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.67	14.32	16.25	5418	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.75	14.32	16.25	5420	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.83	14.33	16.25	5422	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	11.92	14.33	16.25	5424	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	12.00	14.33	16.25	5426	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	12.50	14.33	16.25	5438	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	13.00	14.34	16.25	5451	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	13.50	14.35	16.25	5464	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	14.00	14.35	16.25	5478	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	14.50	14.36	16.25	5493	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	15.00	14.37	16.25	5509	0.02	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	15.50	14.38	16.25	5525	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	16.00	14.39	16.25	5541	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	16.50	14.40	16.25	5558	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	17.00	14.41	16.25	5576	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	17.50	14.41	16.25	5594	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	18.00	14.42	16.25	5612	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	18.50	14.43	16.25	5631	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	19.00	14.44	16.25	5650	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	19.50	14.45	16.25	5670	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	20.00	14.46	16.25	5690	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	20.50	14.47	16.25	5710	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	21.00	14.49	16.25	5731	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	21.50	14.50	16.25	5752	0.03	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	22.00	14.51	16.25	5773	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	22.50	14.52	16.25	5795	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	23.00	14.53	16.25	5817	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	23.50	14.54	16.25	5839	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	24.00	14.55	16.25	5861	0.04	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	24.50	14.57	16.25	5889	0.05	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	25.00	14.58	16.25	5922	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	25.50	14.60	16.25	5956	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	26.00	14.62	16.25	5989	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	26.50	14.64	16.25	6024	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	27.00	14.65	16.25	6058	0.06	0.00	0.0	0.0
25Y3D	DRY RET 3	BASE	27.50	14.67	16.25	6093	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	28.00	14.69	16.25	6129	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	28.50	14.71	16.25	6164	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	29.00	14.73	16.25	6200	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	29.50	14.75	16.25	6235	0.06	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	30.00	14.76	16.25	6272	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	30.50	14.78	16.25	6308	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	31.00	14.80	16.25	6344	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	31.50	14.82	16.25	6381	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	32.00	14.84	16.25	6417	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	32.50	14.86	16.25	6454	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	33.00	14.88	16.25	6491	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	33.50	14.90	16.25	6528	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	34.00	14.92	16.25	6565	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	34.50	14.93	16.25	6602	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	35.00	14.95	16.25	6639	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	35.50	14.97	16.25	6676	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	36.00	14.99	16.25	6713	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	36.50	15.01	16.25	6750	0.07	0.00	0.1	0.0
25Y3D	DRY RET 3	BASE	37.00	15.03	16.25	6782	0.07	0.02	0.1	0.0
25Y3D	DRY RET 3	BASE	37.50	15.04	16.25	6807	0.07	0.03	0.1	0.0
25Y3D	DRY RET 3	BASE	38.00	15.05	16.25	6826	0.07	0.04	0.1	0.0
25Y3D	DRY RET 3	BASE	38.50	15.06	16.25	6839	0.07	0.05	0.1	0.0
25Y3D	DRY RET 3	BASE	39.00	15.06	16.25	6849	0.07	0.06	0.1	0.0
25Y3D	DRY RET 3	BASE	39.50	15.07	16.25	6856	0.08	0.06	0.1	0.0
25Y3D	DRY RET 3	BASE	40.00	15.07	16.25	6861	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	40.50	15.07	16.25	6864	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	41.00	15.07	16.25	6867	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	41.50	15.07	16.25	6869	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	42.00	15.07	16.25	6870	0.08	0.07	0.1	0.0
25Y3D	DRY RET 3	BASE	42.50	15.07	16.25	6871	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	43.00	15.07	16.25	6872	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	43.50	15.07	16.25	6872	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	44.00	15.08	16.25	6873	0.08	0.08	0.1	0.0
25Y3D	DRY RET 3	BASE	44.50	15.08	16.25	6873	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	45.00	15.08	16.25	6874	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	45.50	15.08	16.25	6874	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	46.00	15.08	16.25	6875	0.08	0.08	0.2	0.0
25Y3D	DRY RET 3	BASE	46.50	15.08	16.25	6875	0.08	0.08	0.2	0.1

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	DRY RET 3	BASE	47.00	15.08	16.25	6875	0.08	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	47.50	15.08	16.25	6876	0.08	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	48.00	15.08	16.25	6876	0.08	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	48.50	15.08	16.25	6878	0.09	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	49.00	15.08	16.25	6881	0.09	0.08	0.2	0.1
25Y3D	DRY RET 3	BASE	49.50	15.08	16.25	6884	0.09	0.09	0.2	0.1
25Y3D	DRY RET 3	BASE	50.00	15.08	16.25	6886	0.09	0.09	0.2	0.1
25Y3D	DRY RET 3	BASE	50.50	15.08	16.25	6892	0.11	0.09	0.2	0.1
25Y3D	DRY RET 3	BASE	51.00	15.09	16.25	6898	0.11	0.10	0.2	0.1
25Y3D	DRY RET 3	BASE	51.50	15.09	16.25	6905	0.12	0.10	0.2	0.1
25Y3D	DRY RET 3	BASE	52.00	15.09	16.25	6911	0.12	0.11	0.2	0.1
25Y3D	DRY RET 3	BASE	52.50	15.10	16.25	6924	0.15	0.12	0.2	0.1
25Y3D	DRY RET 3	BASE	53.00	15.11	16.25	6938	0.16	0.13	0.2	0.1
25Y3D	DRY RET 3	BASE	53.50	15.12	16.25	6955	0.19	0.15	0.2	0.1
25Y3D	DRY RET 3	BASE	54.00	15.13	16.25	6972	0.19	0.17	0.2	0.1
25Y3D	DRY RET 3	BASE	54.50	15.14	16.25	6991	0.23	0.19	0.2	0.1
25Y3D	DRY RET 3	BASE	55.00	15.14	16.25	7008	0.23	0.21	0.3	0.1
25Y3D	DRY RET 3	BASE	55.50	15.15	16.25	7027	0.27	0.23	0.3	0.1
25Y3D	DRY RET 3	BASE	56.00	15.16	16.25	7044	0.27	0.25	0.3	0.1
25Y3D	DRY RET 3	BASE	56.50	15.17	16.25	7065	0.32	0.27	0.3	0.2
25Y3D	DRY RET 3	BASE	57.00	15.18	16.25	7083	0.32	0.29	0.3	0.2
25Y3D	DRY RET 3	BASE	57.50	15.20	16.25	7107	0.38	0.32	0.3	0.2
25Y3D	DRY RET 3	BASE	58.00	15.21	16.25	7136	0.42	0.36	0.3	0.2
25Y3D	DRY RET 3	BASE	58.50	15.23	16.25	7166	0.46	0.40	0.3	0.2
25Y3D	DRY RET 3	BASE	59.00	15.25	16.25	7220	0.60	0.48	0.4	0.2
25Y3D	DRY RET 3	BASE	59.50	15.31	16.25	7336	0.95	0.66	0.4	0.3
25Y3D	DRY RET 3	BASE	60.00	15.87	16.25	8403	5.96	3.01	0.5	0.3
25Y3D	DRY RET 3	BASE	60.84	15.74	16.25	8167	1.03	2.30	0.8	0.5
25Y3D	DRY RET 3	BASE	61.67	15.42	16.25	7544	0.53	1.02	0.8	0.6
25Y3D	DRY RET 3	BASE	62.50	15.29	16.25	7288	0.36	0.58	0.9	0.7
25Y3D	DRY RET 3	BASE	63.33	15.22	16.25	7163	0.30	0.40	0.9	0.7
25Y3D	DRY RET 3	BASE	64.17	15.20	16.25	7113	0.25	0.33	0.9	0.7
25Y3D	DRY RET 3	BASE	65.00	15.16	16.25	7043	0.18	0.25	0.9	0.8
25Y3D	DRY RET 3	BASE	65.83	15.15	16.25	7010	0.18	0.21	0.9	0.8
25Y3D	DRY RET 3	BASE	66.67	15.14	16.25	6996	0.18	0.19	1.0	0.8
25Y3D	DRY RET 3	BASE	67.50	15.14	16.25	6991	0.18	0.19	1.0	0.8
25Y3D	DRY RET 3	BASE	68.33	15.13	16.25	6982	0.14	0.18	1.0	0.8
25Y3D	DRY RET 3	BASE	69.17	15.12	16.25	6952	0.12	0.15	1.0	0.8
25Y3D	DRY RET 3	BASE	70.00	15.11	16.25	6937	0.12	0.13	1.0	0.8
25Y3D	DRY RET 3	BASE	70.83	15.10	16.25	6931	0.12	0.13	1.0	0.8
25Y3D	DRY RET 3	BASE	71.67	15.10	16.25	6928	0.12	0.12	1.0	0.9
25Y3D	DRY RET 3	BASE	72.50	15.09	16.25	6899	0.02	0.10	1.0	0.9
25Y3D	DRY RET 3	BASE	73.33	15.06	16.25	6840	0.00	0.05	1.0	0.9
25Y3D	DRY RET 3	BASE	74.17	15.04	16.25	6806	0.00	0.03	1.0	0.9
25Y3D	DRY RET 3	BASE	75.00	15.03	16.25	6785	0.00	0.02	1.0	0.9
25Y3D	DRY RET 3	BASE	75.83	15.02	16.25	6772	0.00	0.01	1.0	0.9
25Y3D	DRY RET 3	BASE	76.67	15.02	16.25	6763	0.00	0.01	1.0	0.9
25Y3D	DRY RET 3	BASE	77.50	15.01	16.25	6756	0.00	0.01	1.0	0.9
25Y3D	DRY RET 3	BASE	78.33	15.01	16.25	6751	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	79.17	15.01	16.25	6747	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	80.00	15.01	16.25	6744	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	80.83	15.01	16.25	6742	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	81.67	15.01	16.25	6740	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	82.50	15.01	16.25	6739	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	83.33	15.01	16.25	6737	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	84.17	15.00	16.25	6736	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	85.00	15.00	16.25	6735	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	85.83	15.00	16.25	6735	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	86.67	15.00	16.25	6734	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	87.50	15.00	16.25	6733	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	88.33	15.00	16.25	6733	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	89.17	15.00	16.25	6732	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	90.00	15.00	16.25	6732	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	90.83	15.00	16.25	6732	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	91.67	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	92.50	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	93.33	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	94.17	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	95.00	15.00	16.25	6731	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	95.83	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	96.67	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	97.50	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	98.33	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	99.17	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	100.00	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	100.83	15.00	16.25	6730	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	101.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	102.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	103.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	104.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	105.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	106.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	107.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	108.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	109.83	15.00	16.25	6729	0.00	0.00	1.0	0.9
25Y3D	DRY RET 3	BASE	110.83	15.00	16.25	6729	0.00	0.00	1.0	0.9

DRY RETENTION 3 RECOVERS
ATTENUATION VOLUME AT HOUR 84.17.
REFER TO APPENDIX 4 PONDS MODEL
FOR TREATMENT VOLUME RECOVERY.



25Y3D DRY RET 3 BASE 84.17 15.00 16.25 6736 0.00 0.00 1.0 0.9

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	1.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.00	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.25	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.50	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	2.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.00	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.25	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.50	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	3.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.00	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.25	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.50	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	4.75	13.00	16.25	40946	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.00	13.00	16.25	40947	0.00	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.25	13.00	16.25	40947	0.01	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.50	13.00	16.25	40948	0.01	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	5.75	13.00	16.25	40950	0.02	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.00	13.00	16.25	40952	0.02	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.25	13.00	16.25	40955	0.02	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.50	13.00	16.25	40959	0.03	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	6.75	13.00	16.25	40962	0.03	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.00	13.00	16.25	40967	0.03	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.25	13.00	16.25	40971	0.04	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.50	13.01	16.25	40977	0.04	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	7.75	13.01	16.25	40982	0.04	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.00	13.01	16.25	40988	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.25	13.01	16.25	40995	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.33	13.01	16.25	40997	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.42	13.01	16.25	40999	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.50	13.01	16.25	41002	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.58	13.01	16.25	41004	0.05	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.67	13.01	16.25	41006	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.75	13.01	16.25	41009	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.83	13.01	16.25	41011	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	8.92	13.01	16.25	41014	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.00	13.01	16.25	41016	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.08	13.01	16.25	41019	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.17	13.01	16.25	41022	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.25	13.01	16.25	41024	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.33	13.01	16.25	41027	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.42	13.01	16.25	41030	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.50	13.01	16.25	41033	0.06	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.58	13.01	16.25	41036	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.67	13.02	16.25	41038	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.75	13.02	16.25	41041	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.83	13.02	16.25	41044	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	9.92	13.02	16.25	41047	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.00	13.02	16.25	41050	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.08	13.02	16.25	41053	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.17	13.02	16.25	41056	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.25	13.02	16.25	41060	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.33	13.02	16.25	41063	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.42	13.02	16.25	41066	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.50	13.02	16.25	41069	0.07	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.58	13.02	16.25	41072	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.67	13.02	16.25	41076	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.75	13.02	16.25	41079	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.83	13.02	16.25	41082	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	10.92	13.02	16.25	41086	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.00	13.02	16.25	41089	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.08	13.02	16.25	41093	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.17	13.02	16.25	41096	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.25	13.03	16.25	41100	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.33	13.03	16.25	41103	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.42	13.03	16.25	41107	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.50	13.03	16.25	41110	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.58	13.03	16.25	41114	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.67	13.03	16.25	41118	0.08	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.75	13.03	16.25	41121	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.83	13.03	16.25	41125	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	11.92	13.03	16.25	41129	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	12.00	13.03	16.25	41133	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	12.50	13.03	16.25	41156	0.09	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	13.00	13.04	16.25	41180	0.10	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	13.50	13.04	16.25	41205	0.10	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	14.00	13.05	16.25	41230	0.10	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	14.50	13.05	16.25	41256	0.11	0.00	0.0	0.0
25Y3D	WET DET 4	BASE	15.00	13.06	16.25	41283	0.11	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	15.50	13.06	16.25	41311	0.11	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	16.00	13.07	16.25	41339	0.11	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	16.50	13.07	16.25	41367	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	17.00	13.07	16.25	41396	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	17.50	13.08	16.25	41425	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	18.00	13.08	16.25	41454	0.12	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	18.50	13.09	16.25	41485	0.14	0.01	0.1	0.0
25Y3D	WET DET 4	BASE	19.00	13.10	16.25	41525	0.19	0.02	0.1	0.0

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	19.50	13.10	16.25	41574	0.22	0.02	0.1	0.0
25Y3D	WET DET 4	BASE	20.00	13.11	16.25	41629	0.24	0.02	0.1	0.0
25Y3D	WET DET 4	BASE	20.50	13.12	16.25	41686	0.24	0.02	0.1	0.0
25Y3D	WET DET 4	BASE	21.00	13.13	16.25	41744	0.25	0.03	0.1	0.0
25Y3D	WET DET 4	BASE	21.50	13.14	16.25	41802	0.25	0.03	0.1	0.0
25Y3D	WET DET 4	BASE	22.00	13.15	16.25	41860	0.26	0.04	0.2	0.0
25Y3D	WET DET 4	BASE	22.50	13.16	16.25	41917	0.26	0.04	0.2	0.0
25Y3D	WET DET 4	BASE	23.00	13.17	16.25	41975	0.26	0.04	0.2	0.0
25Y3D	WET DET 4	BASE	23.50	13.18	16.25	42031	0.27	0.05	0.2	0.0
25Y3D	WET DET 4	BASE	24.00	13.19	16.25	42088	0.27	0.05	0.2	0.0
25Y3D	WET DET 4	BASE	24.50	13.20	16.25	42154	0.35	0.06	0.2	0.0
25Y3D	WET DET 4	BASE	25.00	13.21	16.25	42234	0.39	0.06	0.2	0.0
25Y3D	WET DET 4	BASE	25.50	13.23	16.25	42319	0.40	0.07	0.2	0.0
25Y3D	WET DET 4	BASE	26.00	13.24	16.25	42404	0.41	0.07	0.3	0.0
25Y3D	WET DET 4	BASE	26.50	13.26	16.25	42490	0.41	0.08	0.3	0.0
25Y3D	WET DET 4	BASE	27.00	13.27	16.25	42575	0.42	0.08	0.3	0.0
25Y3D	WET DET 4	BASE	27.50	13.28	16.25	42659	0.42	0.09	0.3	0.0
25Y3D	WET DET 4	BASE	28.00	13.30	16.25	42742	0.42	0.10	0.3	0.0
25Y3D	WET DET 4	BASE	28.50	13.31	16.25	42825	0.43	0.10	0.3	0.0
25Y3D	WET DET 4	BASE	29.00	13.33	16.25	42907	0.43	0.11	0.4	0.0
25Y3D	WET DET 4	BASE	29.50	13.34	16.25	42990	0.43	0.11	0.4	0.1
25Y3D	WET DET 4	BASE	30.00	13.35	16.25	43071	0.44	0.11	0.4	0.1
25Y3D	WET DET 4	BASE	30.50	13.37	16.25	43153	0.44	0.12	0.4	0.1
25Y3D	WET DET 4	BASE	31.00	13.38	16.25	43234	0.44	0.12	0.4	0.1
25Y3D	WET DET 4	BASE	31.50	13.39	16.25	43315	0.45	0.12	0.5	0.1
25Y3D	WET DET 4	BASE	32.00	13.41	16.25	43396	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	32.50	13.42	16.25	43477	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	33.00	13.43	16.25	43557	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	33.50	13.45	16.25	43637	0.45	0.13	0.5	0.1
25Y3D	WET DET 4	BASE	34.00	13.46	16.25	43717	0.46	0.14	0.5	0.1
25Y3D	WET DET 4	BASE	34.50	13.47	16.25	43796	0.46	0.14	0.6	0.1
25Y3D	WET DET 4	BASE	35.00	13.49	16.25	43875	0.46	0.14	0.6	0.1
25Y3D	WET DET 4	BASE	35.50	13.50	16.25	43954	0.46	0.14	0.6	0.1
25Y3D	WET DET 4	BASE	36.00	13.51	16.25	44031	0.46	0.16	0.6	0.1
25Y3D	WET DET 4	BASE	36.50	13.52	16.25	44103	0.47	0.19	0.6	0.1
25Y3D	WET DET 4	BASE	37.00	13.53	16.25	44169	0.49	0.23	0.7	0.1
25Y3D	WET DET 4	BASE	37.50	13.54	16.25	44229	0.51	0.27	0.7	0.2
25Y3D	WET DET 4	BASE	38.00	13.55	16.25	44283	0.52	0.31	0.7	0.2
25Y3D	WET DET 4	BASE	38.50	13.56	16.25	44330	0.53	0.35	0.7	0.2
25Y3D	WET DET 4	BASE	39.00	13.57	16.25	44371	0.54	0.38	0.7	0.2
25Y3D	WET DET 4	BASE	39.50	13.57	16.25	44406	0.54	0.41	0.8	0.2
25Y3D	WET DET 4	BASE	40.00	13.58	16.25	44435	0.55	0.44	0.8	0.2
25Y3D	WET DET 4	BASE	40.50	13.58	16.25	44460	0.55	0.46	0.8	0.2
25Y3D	WET DET 4	BASE	41.00	13.59	16.25	44480	0.56	0.48	0.8	0.3
25Y3D	WET DET 4	BASE	41.50	13.59	16.25	44496	0.56	0.50	0.9	0.3
25Y3D	WET DET 4	BASE	42.00	13.59	16.25	44510	0.56	0.51	0.9	0.3
25Y3D	WET DET 4	BASE	42.50	13.59	16.25	44521	0.56	0.52	0.9	0.3
25Y3D	WET DET 4	BASE	43.00	13.59	16.25	44530	0.57	0.53	0.9	0.3
25Y3D	WET DET 4	BASE	43.50	13.60	16.25	44537	0.57	0.54	1.0	0.4
25Y3D	WET DET 4	BASE	44.00	13.60	16.25	44544	0.57	0.55	1.0	0.4
25Y3D	WET DET 4	BASE	44.50	13.60	16.25	44549	0.57	0.55	1.0	0.4
25Y3D	WET DET 4	BASE	45.00	13.60	16.25	44553	0.57	0.56	1.0	0.4
25Y3D	WET DET 4	BASE	45.50	13.60	16.25	44557	0.57	0.56	1.0	0.5
25Y3D	WET DET 4	BASE	46.00	13.60	16.25	44560	0.57	0.56	1.1	0.5
25Y3D	WET DET 4	BASE	46.50	13.60	16.25	44563	0.58	0.56	1.1	0.5
25Y3D	WET DET 4	BASE	47.00	13.60	16.25	44565	0.58	0.57	1.1	0.5
25Y3D	WET DET 4	BASE	47.50	13.60	16.25	44567	0.58	0.57	1.1	0.6
25Y3D	WET DET 4	BASE	48.00	13.60	16.25	44569	0.58	0.57	1.2	0.6
25Y3D	WET DET 4	BASE	48.50	13.60	16.25	44575	0.62	0.58	1.2	0.6
25Y3D	WET DET 4	BASE	49.00	13.60	16.25	44586	0.63	0.59	1.2	0.6
25Y3D	WET DET 4	BASE	49.50	13.61	16.25	44597	0.65	0.60	1.2	0.7
25Y3D	WET DET 4	BASE	50.00	13.61	16.25	44609	0.66	0.61	1.3	0.7
25Y3D	WET DET 4	BASE	50.50	13.61	16.25	44627	0.73	0.63	1.3	0.7
25Y3D	WET DET 4	BASE	51.00	13.61	16.25	44652	0.76	0.66	1.3	0.7
25Y3D	WET DET 4	BASE	51.50	13.62	16.25	44681	0.82	0.69	1.4	0.8
25Y3D	WET DET 4	BASE	52.00	13.62	16.25	44711	0.84	0.73	1.4	0.8
25Y3D	WET DET 4	BASE	52.50	13.63	16.25	44755	1.01	0.78	1.4	0.8
25Y3D	WET DET 4	BASE	53.00	13.64	16.25	44814	1.08	0.85	1.5	0.9
25Y3D	WET DET 4	BASE	53.50	13.65	16.25	44885	1.27	0.94	1.5	0.9
25Y3D	WET DET 4	BASE	54.00	13.67	16.25	44964	1.35	1.04	1.6	0.9
25Y3D	WET DET 4	BASE	54.50	13.68	16.25	45050	1.55	1.16	1.6	1.0
25Y3D	WET DET 4	BASE	55.00	13.70	16.25	45140	1.63	1.28	1.7	1.0
25Y3D	WET DET 4	BASE	55.50	13.71	16.25	45233	1.83	1.42	1.8	1.1
25Y3D	WET DET 4	BASE	56.00	13.73	16.25	45326	1.91	1.56	1.9	1.1
25Y3D	WET DET 4	BASE	56.50	13.74	16.25	45424	2.15	1.71	1.9	1.2
25Y3D	WET DET 4	BASE	57.00	13.76	16.25	45524	2.25	1.87	2.0	1.3
25Y3D	WET DET 4	BASE	57.50	13.78	16.25	45633	2.56	2.04	2.1	1.4
25Y3D	WET DET 4	BASE	58.00	13.80	16.25	45772	2.84	2.23	2.2	1.5
25Y3D	WET DET 4	BASE	58.50	13.83	16.25	45934	3.15	2.43	2.4	1.5
25Y3D	WET DET 4	BASE	59.00	13.87	16.25	46177	3.99	2.74	2.5	1.7
25Y3D	WET DET 4	BASE	59.50	13.95	16.25	46659	6.04	3.34	2.7	1.8
25Y3D	WET DET 4	BASE	60.00	14.56	16.25	50344	35.07	8.32	3.6	2.0
25Y3D	WET DET 4	BASE	60.84	15.08	16.25	53499	9.98	13.33	5.1	2.8
25Y3D	WET DET 4	BASE	61.67	14.83	16.25	52003	4.45	8.33	5.6	3.5
25Y3D	WET DET 4	BASE	62.50	14.68	16.25	51050	2.84	4.61	5.9	4.0
25Y3D	WET DET 4	BASE	63.33	14.62	16.25	50696	2.24	2.67	6.0	4.2

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	64.17	14.60	16.25	50618	1.94	2.19	6.2	4.4
25Y3D	WET DET 4	BASE	65.00	14.58	16.25	50485	1.37	1.73	6.3	4.5
25Y3D	WET DET 4	BASE	65.83	14.56	16.25	50372	1.30	1.59	6.4	4.6
25Y3D	WET DET 4	BASE	66.67	14.55	16.25	50269	1.28	1.57	6.5	4.7
25Y3D	WET DET 4	BASE	67.50	14.53	16.25	50165	1.27	1.57	6.6	4.8
25Y3D	WET DET 4	BASE	68.33	14.51	16.25	50041	1.07	1.55	6.7	4.9
25Y3D	WET DET 4	BASE	69.17	14.47	16.25	49833	0.88	1.53	6.7	5.1
25Y3D	WET DET 4	BASE	70.00	14.43	16.25	49578	0.85	1.61	6.8	5.2
25Y3D	WET DET 4	BASE	70.83	14.38	16.25	49284	0.85	1.69	6.8	5.3
25Y3D	WET DET 4	BASE	71.67	14.33	16.25	48964	0.85	1.72	6.9	5.4
25Y3D	WET DET 4	BASE	72.50	14.27	16.25	48579	0.34	1.59	6.9	5.5
25Y3D	WET DET 4	BASE	73.33	14.19	16.25	48098	0.10	1.41	7.0	5.6
25Y3D	WET DET 4	BASE	74.17	14.10	16.25	47590	0.05	1.42	7.0	5.7
25Y3D	WET DET 4	BASE	75.00	14.01	16.25	47055	0.03	1.46	7.0	5.8
25Y3D	WET DET 4	BASE	75.83	13.94	16.25	46616	0.02	1.29	7.0	5.9
25Y3D	WET DET 4	BASE	76.67	13.85	16.25	46096	0.01	1.37	7.0	6.0
25Y3D	WET DET 4	BASE	77.50	13.77	16.25	45570	0.01	1.29	7.0	6.1
25Y3D	WET DET 4	BASE	78.33	13.69	16.25	45098	0.01	1.08	7.0	6.2
25Y3D	WET DET 4	BASE	79.17	13.63	16.25	44727	0.00	0.75	7.0	6.2
25Y3D	WET DET 4	BASE	80.00	13.59	16.25	44484	0.00	0.49	7.0	6.3
25Y3D	WET DET 4	BASE	80.83	13.56	16.25	44320	0.00	0.34	7.0	6.3
25Y3D	WET DET 4	BASE	81.67	13.54	16.25	44201	0.00	0.25	7.0	6.3
25Y3D	WET DET 4	BASE	82.50	13.52	16.25	44110	0.00	0.20	7.0	6.3
25Y3D	WET DET 4	BASE	83.33	13.51	16.25	44037	0.00	0.16	7.0	6.4
25Y3D	WET DET 4	BASE	84.17	13.50	16.25	43974	0.00	0.15	7.0	6.4
25Y3D	WET DET 4	BASE	85.00	13.49	16.25	43915	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	85.83	13.48	16.25	43857	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	86.67	13.47	16.25	43800	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	87.50	13.46	16.25	43743	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	88.33	13.45	16.25	43686	0.00	0.14	7.0	6.4
25Y3D	WET DET 4	BASE	89.17	13.45	16.25	43631	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	90.00	13.44	16.25	43576	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	90.83	13.43	16.25	43522	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	91.67	13.42	16.25	43469	0.00	0.13	7.0	6.4
25Y3D	WET DET 4	BASE	92.50	13.41	16.25	43416	0.00	0.13	7.0	6.5
25Y3D	WET DET 4	BASE	93.33	13.40	16.25	43364	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	94.17	13.39	16.25	43313	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	95.00	13.38	16.25	43262	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	95.83	13.38	16.25	43212	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	96.67	13.37	16.25	43163	0.00	0.12	7.0	6.5
25Y3D	WET DET 4	BASE	97.50	13.36	16.25	43115	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	98.33	13.35	16.25	43067	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	99.17	13.34	16.25	43021	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	100.00	13.34	16.25	42974	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	100.83	13.33	16.25	42929	0.00	0.11	7.0	6.5
25Y3D	WET DET 4	BASE	101.83	13.32	16.25	42876	0.00	0.10	7.0	6.5
25Y3D	WET DET 4	BASE	102.83	13.31	16.25	42824	0.00	0.10	7.0	6.6
25Y3D	WET DET 4	BASE	103.83	13.30	16.25	42773	0.00	0.10	7.0	6.6
25Y3D	WET DET 4	BASE	104.83	13.29	16.25	42723	0.00	0.10	7.0	6.6
25Y3D	WET DET 4	BASE	105.83	13.29	16.25	42675	0.00	0.09	7.0	6.6
25Y3D	WET DET 4	BASE	106.83	13.28	16.25	42629	0.00	0.09	7.0	6.6
25Y3D	WET DET 4	BASE	107.83	13.27	16.25	42585	0.00	0.08	7.0	6.6
25Y3D	WET DET 4	BASE	108.83	13.26	16.25	42543	0.00	0.08	7.0	6.6
25Y3D	WET DET 4	BASE	109.83	13.26	16.25	42502	0.00	0.08	7.0	6.6
25Y3D	WET DET 4	BASE	110.83	13.25	16.25	42463	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	111.83	13.25	16.25	42425	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	112.83	13.24	16.25	42388	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	113.83	13.23	16.25	42352	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	114.83	13.23	16.25	42316	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	115.83	13.22	16.25	42282	0.00	0.07	7.0	6.6
25Y3D	WET DET 4	BASE	116.83	13.22	16.25	42249	0.00	0.06	7.0	6.6
25Y3D	WET DET 4	BASE	117.83	13.21	16.25	42217	0.00	0.06	7.0	6.6
25Y3D	WET DET 4	BASE	118.83	13.21	16.25	42187	0.00	0.06	7.0	6.7
25Y3D	WET DET 4	BASE	119.83	13.20	16.25	42157	0.00	0.06	7.0	6.7
25Y3D	WET DET 4	BASE	120.83	13.20	16.25	42128	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	121.83	13.19	16.25	42101	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	122.83	13.19	16.25	42074	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	123.83	13.18	16.25	42049	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	124.83	13.18	16.25	42024	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	125.83	13.17	16.25	42000	0.00	0.05	7.0	6.7
25Y3D	WET DET 4	BASE	126.83	13.17	16.25	41977	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	127.83	13.17	16.25	41955	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	128.83	13.16	16.25	41934	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	129.83	13.16	16.25	41913	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	130.83	13.16	16.25	41893	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	131.83	13.15	16.25	41874	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	132.83	13.15	16.25	41855	0.00	0.04	7.0	6.7
25Y3D	WET DET 4	BASE	133.83	13.15	16.25	41838	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	134.83	13.14	16.25	41820	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	135.83	13.14	16.25	41804	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	136.83	13.14	16.25	41788	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	137.83	13.14	16.25	41772	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	138.83	13.13	16.25	41757	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	139.83	13.13	16.25	41742	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	140.83	13.13	16.25	41728	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	141.83	13.13	16.25	41715	0.00	0.03	7.0	6.7

WET DETENTION 4 RECOVERS 90% OF RUNOFF VOLUME AT HOUR 80.00

WET DETENTION 4 RECOVERS HALF OF TREATMENT VOLUME AT HOUR 110.83

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	142.83	13.13	16.25	41701	0.00	0.03	7.0	6.7
25Y3D	WET DET 4	BASE	143.83	13.12	16.25	41689	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	144.83	13.12	16.25	41676	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	145.83	13.12	16.25	41664	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	146.83	13.12	16.25	41652	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	147.83	13.12	16.25	41641	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	148.83	13.11	16.25	41630	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	149.83	13.11	16.25	41619	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	150.83	13.11	16.25	41609	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	151.83	13.11	16.25	41599	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	152.83	13.11	16.25	41589	0.00	0.02	7.0	6.7
25Y3D	WET DET 4	BASE	153.83	13.10	16.25	41580	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	154.83	13.10	16.25	41570	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	155.83	13.10	16.25	41561	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	156.83	13.10	16.25	41553	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	157.83	13.10	16.25	41544	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	158.83	13.10	16.25	41536	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	159.83	13.10	16.25	41528	0.00	0.02	7.0	6.8
25Y3D	WET DET 4	BASE	160.83	13.10	16.25	41520	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	161.83	13.09	16.25	41512	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	162.83	13.09	16.25	41505	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	163.83	13.09	16.25	41497	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	164.83	13.09	16.25	41490	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	165.83	13.09	16.25	41483	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	166.83	13.09	16.25	41476	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	167.83	13.09	16.25	41470	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	168.83	13.09	16.25	41463	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	169.83	13.08	16.25	41457	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	170.83	13.08	16.25	41451	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	171.83	13.08	16.25	41445	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	172.83	13.08	16.25	41439	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	173.83	13.08	16.25	41433	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	174.83	13.08	16.25	41428	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	175.83	13.08	16.25	41422	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	176.83	13.08	16.25	41417	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	177.83	13.08	16.25	41411	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	178.83	13.08	16.25	41406	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	179.83	13.08	16.25	41401	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	180.83	13.07	16.25	41396	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	181.83	13.07	16.25	41391	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	182.83	13.07	16.25	41387	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	183.83	13.07	16.25	41382	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	184.83	13.07	16.25	41378	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	185.83	13.07	16.25	41373	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	186.83	13.07	16.25	41369	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	187.83	13.07	16.25	41365	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	188.83	13.07	16.25	41360	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	189.83	13.07	16.25	41356	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	190.83	13.07	16.25	41352	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	191.83	13.07	16.25	41348	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	192.83	13.07	16.25	41344	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	193.83	13.07	16.25	41341	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	194.83	13.06	16.25	41337	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	195.83	13.06	16.25	41333	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	196.83	13.06	16.25	41330	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	197.83	13.06	16.25	41326	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	198.83	13.06	16.25	41323	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	199.83	13.06	16.25	41319	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	200.83	13.06	16.25	41316	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	201.83	13.06	16.25	41313	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	202.83	13.06	16.25	41309	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	203.83	13.06	16.25	41306	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	204.83	13.06	16.25	41303	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	205.83	13.06	16.25	41300	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	206.83	13.06	16.25	41297	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	207.83	13.06	16.25	41294	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	208.83	13.06	16.25	41291	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	209.83	13.06	16.25	41288	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	210.83	13.06	16.25	41285	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	211.83	13.06	16.25	41283	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	212.83	13.06	16.25	41280	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	213.83	13.05	16.25	41277	0.00	0.01	7.0	6.8
25Y3D	WET DET 4	BASE	214.83	13.05	16.25	41275	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	215.83	13.05	16.25	41272	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	216.83	13.05	16.25	41270	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	217.83	13.05	16.25	41267	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	218.83	13.05	16.25	41265	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	219.83	13.05	16.25	41262	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	220.83	13.05	16.25	41260	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	221.83	13.05	16.25	41257	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	222.83	13.05	16.25	41255	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	223.83	13.05	16.25	41253	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	224.83	13.05	16.25	41250	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	225.83	13.05	16.25	41248	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	226.83	13.05	16.25	41246	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	227.83	13.05	16.25	41244	0.00	0.00	7.0	6.8

NODE TIME SERIES REPORT

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25Y3D	WET DET 4	BASE	314.83	13.03	16.25	41131	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	315.83	13.03	16.25	41130	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	316.83	13.03	16.25	41129	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	317.83	13.03	16.25	41128	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	318.83	13.03	16.25	41128	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	319.83	13.03	16.25	41127	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	320.83	13.03	16.25	41126	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	321.83	13.03	16.25	41125	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	322.83	13.03	16.25	41125	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	323.83	13.03	16.25	41124	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	324.83	13.03	16.25	41123	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	325.83	13.03	16.25	41122	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	326.83	13.03	16.25	41122	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	327.83	13.03	16.25	41121	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	328.83	13.03	16.25	41120	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	329.83	13.03	16.25	41120	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	330.83	13.03	16.25	41119	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	331.83	13.03	16.25	41118	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	332.83	13.03	16.25	41118	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	333.83	13.03	16.25	41117	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	334.83	13.03	16.25	41116	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	335.83	13.03	16.25	41116	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	336.83	13.03	16.25	41115	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	337.83	13.03	16.25	41114	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	338.83	13.03	16.25	41114	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	339.83	13.03	16.25	41113	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	340.83	13.03	16.25	41112	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	341.83	13.03	16.25	41112	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	342.83	13.03	16.25	41111	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	343.83	13.03	16.25	41111	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	344.83	13.03	16.25	41110	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	345.83	13.03	16.25	41109	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	346.83	13.03	16.25	41109	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	347.83	13.03	16.25	41108	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	348.83	13.03	16.25	41108	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	349.83	13.03	16.25	41107	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	350.83	13.03	16.25	41106	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	351.83	13.03	16.25	41106	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	352.83	13.03	16.25	41105	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	353.83	13.03	16.25	41105	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	354.83	13.03	16.25	41104	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	355.83	13.03	16.25	41104	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	356.83	13.03	16.25	41103	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	357.83	13.03	16.25	41102	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	358.83	13.03	16.25	41102	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	359.83	13.03	16.25	41101	0.00	0.00	7.0	6.8
25Y3D	WET DET 4	BASE	360.00	13.03	16.25	41101	0.00	0.00	7.0	6.8

LINK MIN/MAX REPORT

Name	Group	Simulation	Max Time Flow hrs	Max Flow cfs	Max Delta Q cfs	Max Time US hrs	Max Stage US ft	Max Time DS hrs	Max Stage DS ft	Max Time ft
CS-100	BASE	100Y3D	60.06	6.22	-0.026	60.06	17.06	62.63	16.15	
CS-200	BASE	100Y3D	60.07	13.18	0.065	60.19	16.94	60.77	15.47	
CS-300	BASE	100Y3D	60.16	4.56	0.014	60.24	16.20	60.77	15.47	
CS-400A	BASE	100Y3D	60.48	15.73	0.641	60.77	15.47	62.12	14.87	
CS-400B	BASE	100Y3D	60.76	0.36	0.000	60.77	15.47	64.37	13.17	
CS-WET 1	BASE	100Y3D	60.02	4.88	0.015	62.63	16.15	62.12	14.87	
CS-WET 2	BASE	100Y3D	64.42	8.10	-0.053	64.41	14.80	64.37	13.17	
OUTFALL PIPE	BASE	100Y3D	64.37	8.41	-0.701	64.37	13.17	64.37	12.23	
STM-404 OUTFALL	BASE	100Y3D	60.47	20.20	-12.646	62.12	14.87	64.41	14.80	
CS-100	BASE	10Y1D	12.14	3.58	-0.013	12.14	16.98	16.32	15.58	
CS-200	BASE	10Y1D	12.16	9.88	-0.036	12.16	16.32	12.83	14.58	
CS-300	BASE	10Y1D	12.44	2.20	0.008	12.44	15.70	12.83	14.58	
CS-400A	BASE	10Y1D	12.97	8.83	0.645	12.83	14.58	14.32	13.97	
CS-400B	BASE	10Y1D	12.83	0.28	0.000	12.83	14.58	14.67	12.92	
CS-WET 1	BASE	10Y1D	16.32	1.59	0.002	16.32	15.58	14.32	13.97	
CS-WET 2	BASE	10Y1D	14.80	6.35	0.014	14.78	13.93	14.67	12.92	
OUTFALL PIPE	BASE	10Y1D	14.67	6.60	-0.701	14.67	12.92	14.67	12.11	
STM-404 OUTFALL	BASE	10Y1D	12.97	9.22	-12.646	14.32	13.97	14.78	13.93	
CS-100	BASE	25Y3D	60.07	4.94	0.020	60.07	17.03	62.36	15.92	
CS-200	BASE	25Y3D	60.09	12.15	-0.053	60.14	16.58	60.66	15.10	
CS-300	BASE	25Y3D	60.20	3.73	0.011	60.22	16.00	60.66	15.10	
CS-400A	BASE	25Y3D	60.66	13.77	-0.641	60.66	15.10	62.38	14.58	
CS-400B	BASE	25Y3D	60.66	0.33	0.000	60.66	15.10	64.20	13.09	
CS-WET 1	BASE	25Y3D	60.34	4.67	0.023	62.36	15.92	62.38	14.58	
CS-WET 2	BASE	25Y3D	64.22	7.58	-0.054	64.22	14.53	64.20	13.09	
OUTFALL PIPE	BASE	25Y3D	64.20	7.86	-0.701	64.20	13.09	64.20	12.20	
STM-404 OUTFALL	BASE	25Y3D	60.64	18.32	-12.646	62.38	14.58	64.22	14.53	
CS-100	BASE	3Y1D	12.29	2.08	0.006	12.29	16.93	24.10	15.46	
CS-200	BASE	3Y1D	12.17	6.99	-0.014	12.17	16.18	12.95	14.16	
CS-300	BASE	3Y1D	12.59	1.13	0.003	12.59	15.45	12.95	14.16	
CS-400A	BASE	3Y1D	12.88	4.83	0.012	12.95	14.16	14.27	13.61	
CS-400B	BASE	3Y1D	12.95	0.24	0.000	12.95	14.16	14.10	12.77	
CS-WET 1	BASE	3Y1D	24.10	0.47	0.000	24.10	15.46	14.27	13.61	
CS-WET 2	BASE	3Y1D	14.17	5.33	0.011	14.16	13.60	14.10	12.77	
OUTFALL PIPE	BASE	3Y1D	14.10	5.56	-0.701	14.10	12.77	14.10	12.03	
STM-404 OUTFALL	BASE	3Y1D	12.92	5.10	-12.646	14.27	13.61	14.16	13.60	

TR-55 Volume Calculations - Proposed

Treasure Coast Classical Academy

Job No. 046403000

Designed by: BAY

Checked by: JLH

Date: 12/5/2018

Volume Required

	<u>3 year /24 hours</u>	<u>10 year /24 hours</u>	<u>25 year /72 hours</u>	<u>100 year /72 hours</u>
Potential Maximum Retention (S) (in)	1.11	1.11	1.11	1.11
Rainfall (P) (in)	5.25	7.00	12.00	15.00
Total Project Drainage Area (A) (ac)	8.98	8.98	8.98	8.98
Runoff (Q) (in)	4.119	5.824	10.764	13.746
Volume of Runoff (V _r) (ac-ft)	3.082	4.358	8.055	10.286

Equations Used (from Technical Release 55)

$$S = (1000/CN)-10$$

$$Q = (P_{25} - 0.2S)^2 / (P_{25} + 0.8S)$$

$$V_r (\text{ac-ft}) = (Q)(A)/12$$

Stage - Storage Information

Land Use	Storage Type	Area (AC)	Elevation Range	
			Avg Low	Avg High
Impervious	L	3.120	16.25	18.25
Pervious	L	3.510	16.75	18.00

Cumulative Volume	(ac-ft)
Dry Retention 1A & 1B	0.27
Dry Retention 2	0.45
Dry Retention 3	0.37
Wet Detention 4	3.78
Total	4.87

Stage	Impervious		Pervious		SWMMS		TOTAL CUM. AC-FT
	Impervious	Pervious	Pervious	SWMMS	SWMMS	CUM. AC-FT	
13.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14.00	0.000	0.000	0.000	1.010	1.010	1.010	1.010
15.00	0.000	0.000	0.000	2.300	2.300	2.300	2.300
16.00	0.000	0.000	0.000	3.970	3.970	3.970	3.970
17.00	0.439	0.088	0.088	4.810	4.810	5.337	5.337
18.00	2.389	2.194	2.194	4.870	9.453	9.453	9.453
18.13	2.761	2.655	2.655	4.870	10.286	10.286	10.286
18.25	3.120	3.071	3.071	4.870	11.061	11.061	11.061

100yr-72hour Zero Discharge Stage /Min FFE

APPENDIX 4

**TREATMENT VOLUME
RECOVERY ANALYSIS
(PONDS v3.3)**

**Input Report
Treatment**

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
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Devo Seereeram, Ph.D., P.E.

Project Data

Project Name: Dry Retention 1A & 1B
Simulation Description: Treatment Recovery Analysis
Project Number: 046403000
Engineer : Jordan L. Haggerty
Supervising Engineer: Bradley A. Younts
Date: 11-29-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 10.00
Water Table Elevation, [WT] (ft datum): 15.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 16.00
Fillable Porosity, [n] (%): 20.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 432.0
Equivalent Pond Width, [W] (ft): 20.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

<u>Stage (ft datum)</u>	<u>Area (ft²)</u>
16.00	7314.0
17.25	11790.0

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Summary of Results :: Scenario 1 :: 6997 ft³ slug load

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	288.000	15.31		
Maximum	0.002	16.80		
Inflow				
Rate - Maximum - Positive	0.002		1166.1670	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			6997.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			6997.0
Infiltration				
Rate - Maximum - Positive	0.002		1.4868	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	48.000			6997.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			6997.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	16.07		6473.8
72 Hour Stage and Infiltration Volume	72.000	15.73		6997.0

DRY RETENTION 1A & 1B RECOVERS
 HALF OF TREATMENT VOLUME AT
 HOUR 9.06 AFTER ATTENUATION
 VOLUME RECOVERY AT HOUR 73.33.
 TOTAL TIME = 82.39 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
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Detailed Results :: Scenario 1 :: 6997 ft³ slug load

Elapsed Time (hours)	Instantaneous Inflow Rate (ft ³ /s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft ³ /s)	Combined Instantaneous Discharge Rate (ft ³ /s)	Cumulative Inflow Volume (ft ³)	Cumulative Infiltration Volume (ft ³)	Combined Cumulative Discharge (ft ³)	Flow Type
0.000	1166.1670	0.00000	16.00000	1.48852	0	0.000	0.0	0	N.A.
0.002	1166.1670	0.00000	16.79912	1.48677	0	6997.000	8.9	0	S
2.400	0.00000	0.00000	16.59469	0.17620	0	6997.000	2014.2	0	S
6.000	0.00000	0.00000	16.46518	0.07698	0	6997.000	3207.3	0	S
12.000	0.00000	0.00000	16.33719	0.04446	0	6997.000	4327.3	0	S
24.000	0.00000	0.00000	16.18163	0.02484	0	6997.000	5609.5	0	S
36.000	0.00000	0.00000	16.07032	0.01606	0	6997.000	6473.8	0	S
48.000	0.00000	0.00000	15.96608	0.00606	0	6997.000	6997.0	0	S
60.000	0.00000	0.00000	15.82148	0.00000	0	6997.000	6997.0	0	S
72.000	0.00000	0.00000	15.72757	0.00000	0	6997.000	6997.0	0	S
84.000	0.00000	0.00000	15.65896	0.00000	0	6997.000	6997.0	0	S
96.000	0.00000	0.00000	15.60568	0.00000	0	6997.000	6997.0	0	S
120.000	0.00000	0.00000	15.53141	0.00000	0	6997.000	6997.0	0	S
144.000	0.00000	0.00000	15.47627	0.00000	0	6997.000	6997.0	0	S
168.000	0.00000	0.00000	15.43345	0.00000	0	6997.000	6997.0	0	S
192.000	0.00000	0.00000	15.39900	0.00000	0	6997.000	6997.0	0	S
216.000	0.00000	0.00000	15.37063	0.00000	0	6997.000	6997.0	0	S
240.000	0.00000	0.00000	15.34677	0.00000	0	6997.000	6997.0	0	S
264.000	0.00000	0.00000	15.32638	0.00000	0	6997.000	6997.0	0	S
288.000	0.00000	0.00000	15.30868	----	----	6997.000	6997.0	0	N.A.

FULL RUNOFF VOLUME
 RECOVERY AT HOUR 44.10
 AFTER ATTENUATION VOLUME
 RECOVERY AT HOUR 73.33.
 TOTAL TIME = 117.43 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
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Project Data

Project Name: Dry Retention 2
Simulation Description: Treatment Recovery Analysis
Project Number: 046403000
Engineer : Jordan L. Haggerty
Supervising Engineer: Bradley A. Younts
Date: 07-31-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 9.00
Water Table Elevation, [WT] (ft datum): 14.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 16.00
Fillable Porosity, [n] (%): 20.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 163.0
Equivalent Pond Width, [W] (ft): 52.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

<u>Stage (ft datum)</u>	<u>Area (ft²)</u>
15.00	8073.0
17.00	11611.0

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Summary of Results :: Scenario 1 :: 5162 ft³ slug load

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	288.000	14.41		
Maximum	0.002	15.60		
Inflow				
Rate - Maximum - Positive	0.002		860.3333	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			5162.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5162.0
Infiltration				
Rate - Maximum - Positive	0.002		0.6296	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	96.000			5162.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5162.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	15.20		3539.5
72 Hour Stage and Infiltration Volume	72.000	15.05		4793.2

DRY RETENTION 2 RECOVERS HALF OF TREATMENT VOLUME AT HOUR 19.87 AFTER ATTENUATION VOLUME RECOVERY AT HOUR 75.83. TOTAL TIME = 95.70 HOURS

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Detailed Results :: Scenario 1 :: 5162 ft³ slug load

Elapsed Time (hours)	Instantaneous Inflow Rate (ft ³ /s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft ³ /s)	Combined Instantaneous Discharge Rate (ft ³ /s)	Cumulative Inflow Volume (ft ³)	Cumulative Infiltration Volume (ft ³)	Combined Cumulative Discharge (ft ³)	Flow Type
0.000	860.3333	0.00000	15.00000	0.63034	0	0.000	0.0	0	N.A.
0.002	860.3333	0.00000	15.59956	0.62961	0	5162.000	3.8	0	S
2.400	0.0000	0.00000	15.49922	0.08155	0	5162.000	911.4	0	S
6.000	0.0000	0.00000	15.43196	0.03963	0	5162.000	1509.8	0	S
12.000	0.0000	0.00000	15.36122	0.02537	0	5162.000	2130.5	0	S
24.000	0.0000	0.00000	15.26793	0.01631	0	5162.000	2935.5	0	S
36.000	0.0000	0.00000	15.19674	0.01263	0	5162.000	3539.5	0	S
48.000	0.0000	0.00000	15.13849	0.01040	0	5162.000	4027.0	0	S
60.000	0.0000	0.00000	15.08886	0.00887	0	5162.000	4437.6	0	S
72.000	0.0000	0.00000	15.04546	0.00775	0	5162.000	4793.2	0	S
84.000	0.0000	0.00000	15.00681	0.00427	0	5162.000	5107.0	0	S
96.000	0.0000	0.00000	14.91511	0.00085	0	5162.000	5162.0	0	S
120.000	0.0000	0.00000	14.77826	0.00000	0	5162.000	5162.0	0	S
144.000	0.0000	0.00000	14.68226	0.00000	0	5162.000	5162.0	0	S
168.000	0.0000	0.00000	14.60975	0.00000	0	5162.000	5162.0	0	S
192.000	0.0000	0.00000	14.55247	0.00000	0	5162.000	5162.0	0	S
216.000	0.0000	0.00000	14.50597	0.00000	0	5162.000	5162.0	0	S
240.000	0.0000	0.00000	14.46724	0.00000	0	5162.000	5162.0	0	S
264.000	0.0000	0.00000	14.43436	0.00000	0	5162.000	5162.0	0	S
288.000	0.0000	0.00000	14.40610	----	----	5162.000	5162.0	0	N.A.

FULL RUNOFF VOLUME RECOVERY AT HOUR 72.00. AFTER ATTENUATION VOLUME RECOVERY AT HOUR 75.83. TOTAL TIME = 147.83 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
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Project Data

Project Name: Dry Retention 3
Simulation Description: Treatment Recovery Analysis
Project Number: 046403000
Engineer : Jordan L. Haggerty
Supervising Engineer: Bradley A. Younts
Date: 11-27-2018

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum): 8.00
Water Table Elevation, [WT] (ft datum): 13.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day): 16.00
Fillable Porosity, [n] (%): 20.00
Vertical infiltration was not considered.

Geometry Data

Equivalent Pond Length, [L] (ft): 213.0
Equivalent Pond Width, [W] (ft): 28.0
Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

<u>Stage (ft datum)</u>	<u>Area (ft²)</u>
14.00	4914.0
16.25	9304.0

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Retention Pond Recovery - Refined Method
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Devo Seereeram, Ph.D., P.E.

Summary of Results :: Scenario 1 :: 5890 ft³ slug load

	Time (hours)	Stage (ft datum)	Rate (ft ³ /s)	Volume (ft ³)
Stage				
Minimum	288.000	13.39		
Maximum	0.002	15.00		
Inflow				
Rate - Maximum - Positive	0.002		981.6667	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			5890.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5890.0
Infiltration				
Rate - Maximum - Positive	0.002		0.8798	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	84.000			5890.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			5890.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	288.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	36.000	14.29		4382.0
72 Hour Stage and Infiltration Volume	72.000	14.05		5618.0

DRY RETENTION 3 RECOVERS HALF OF TREATMENT VOLUME AT HOUR 16.97 AFTER ATTENUATION VOLUME RECOVERY AT HOUR 84.17. TOTAL TIME = 101.14 HOURS

PONDS Version 3.3.0278
Retention Pond Recovery - Refined Method
Copyright 2012
Devo Seereeram, Ph.D., P.E.

Detailed Results :: Scenario 1 :: 5890 ft³ slug load

Elapsed Time (hours)	Instantaneous Inflow Rate (ft ³ /s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft ³ /s)	Combined Instantaneous Discharge Rate (ft ³ /s)	Cumulative Inflow Volume (ft ³)	Cumulative Infiltration Volume (ft ³)	Combined Cumulative Discharge (ft ³)	Flow Type
0.000	981.6667	0.00000	14.00000	0.88081	0	0.000	0.0	0	N.A.
0.002	981.6667	0.00000	14.99930	0.87979	0	5890.000	5.3	0	S
2.400	0.0000	0.00000	14.81262	0.11075	0	5890.000	1252.6	0	S
6.000	0.0000	0.00000	14.69047	0.05090	0	5890.000	2031.9	0	S
12.000	0.0000	0.00000	14.56556	0.03083	0	5890.000	2798.8	0	S
24.000	0.0000	0.00000	14.40726	0.01832	0	5890.000	3726.9	0	S
36.000	0.0000	0.00000	14.29016	0.01338	0	5890.000	4382.0	0	S
48.000	0.0000	0.00000	14.19722	0.01045	0	5890.000	4882.9	0	S
60.000	0.0000	0.00000	14.12026	0.00851	0	5890.000	5284.9	0	S
72.000	0.0000	0.00000	14.05476	0.00700	0	5890.000	5618.0	0	S
84.000	0.0000	0.00000	13.99526	0.00315	0	5890.000	5890.0	0	S
96.000	0.0000	0.00000	13.88007	0.00000	0	5890.000	5890.0	0	S
120.000	0.0000	0.00000	13.74452	0.00000	0	5890.000	5890.0	0	S
144.000	0.0000	0.00000	13.65092	0.00000	0	5890.000	5890.0	0	S
168.000	0.0000	0.00000	13.58104	0.00000	0	5890.000	5890.0	0	S
192.000	0.0000	0.00000	13.52655	0.00000	0	5890.000	5890.0	0	S
216.000	0.0000	0.00000	13.48242	0.00000	0	5890.000	5890.0	0	S
240.000	0.0000	0.00000	13.44587	0.00000	0	5890.000	5890.0	0	S
264.000	0.0000	0.00000	13.41500	0.00000	0	5890.000	5890.0	0	S
288.000	0.0000	0.00000	13.38852	----	----	5890.000	5890.0	0	N.A.

FULL RUNOFF VOLUME RECOVERY AT HOUR 72.00. AFTER ATTENUATION VOLUME RECOVERY AT HOUR 84.17. TOTAL TIME = 156.17 HOURS

APPENDIX 5

**NET NUTRIENT
IMPROVEMENT ANALYSIS
(BMPTRAINS v7.7)**

Select the appropriate Meteorological Zone, input the appropriate Mean Annual Rainfall amount and select the type of analysis

NAME OF PROJECT
Treasure Coast Classical Academy

CLICK ON CELL BELOW TO SELECT
Zone 5

Meteorological Zone (Please use zone map):
56.50 Inches

Mean Annual Rainfall (Please use rainfall map):
Net improvement %

Type of analysis:

Treatment efficiency (N, P) (leave empty if net improvement or BMP analysis is used):

Select the **STORMWATER TREATMENT ANALYSIS** Button below to begin analyzing the effectiveness of Best Management Practices.

Model documentation and example problems.

STORMWATER TREATMENT ANALYSIS

- Systems available for analysis:**
 Retention Basin with option for calculating effluent concentration
 Wet Detention
 Exfiltration Trench
 Pervious Pavement
 Stormwater Harvesting
 Biofiltration
 Greenroof
 Rainwater Harvesting
 Managed Aquatic Plants Detention
 Vegetated Natural Buffer
 Vegetated Filter Strip
 Swale
 Rain Garden
 Tree Well
 Lined reuse pond
 User Defined BMP

There is a user's manual for the BMPTRAINS model. It can be downloaded from www.stormwater.ucf.edu. The results from the example problems shown in the manual however may not reflect current model results due to ongoing updates of the model.

RESET INPUT FOR STORMWATER TREATMENT ANALYSIS

METHODLOGY FOR CALCULATING REQUIRED TREATMENT EFFICIENCY

METHODLOGY FOR RETENTION SYSTEMS

METHODLOGY FOR WATER HARVESTING SYSTEMS

METHODLOGY FOR WET DETENTION SYSTEMS

METHODLOGY FOR GREENROOF SYSTEMS

Blue Numbers = Input data
 Red Numbers = Calculated or Carryover
HELP
 VIEW ZONE MAP
 VIEW MEAN ANNUAL RAINFALL MAP
 GO TO WATERSHED CHARACTERISTICS

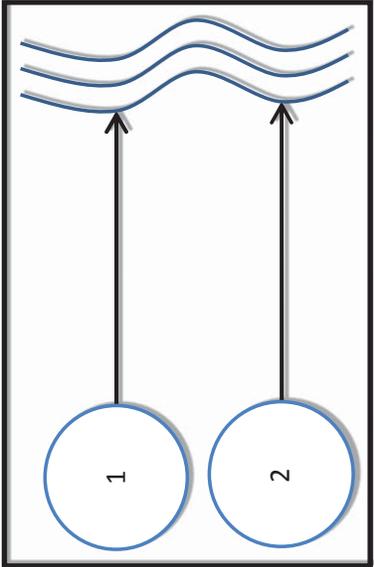
WATERSHED CHARACTERISTICS V 7.7		GO TO STORMWATER TREATMENT ANALYSIS		HELP - LAND USES/EMC	
		Blue Numbers =	Input data	Red Numbers =	Calculated
SELECT CATCHMENT CONFIGURATION		CLICK ON CELL BELOW TO SELECT CONFIGURATION			
		C - 2 Catchment-Parallel			
CATCHMENT NO.1 CHARACTERISTICS:		VIEW AVERAGE ANNUAL RUNOFF "C" Factor			
Pre-development land use: with default EMCs	CLICK ON CELL BELOW TO SELECT User Defined (must over write concentrations)	7.98 AC	7.98 AC	77.00 %	0.00 %
Post-development land use: with default EMCs	CLICK ON CELL BELOW TO SELECT Low-Intensity Commercial: TN=1.13 TP=0.188	7.98 AC	7.98 AC	89.00 %	0.00 %
Total pre-development catchment area:		7.98 AC	7.98 AC	0.00 %	0.00 %
Total post-development catchment or BMP analysis area:		7.98 AC	7.98 AC	0.00 %	0.00 %
Pre-development Non DCIA CN:		77.00 %	77.00 %	89.00 %	0.00 %
Post-development Non DCIA CN:		89.00 %	89.00 %	0.00 %	0.00 %
Estimated BMPArea (No loading from this area)		1.87 AC	1.87 AC		
CATCHMENT NO.2 CHARACTERISTICS:		VIEW EMC & FLUCCS			
Pre-development land use: with default EMCs	CLICK ON CELL BELOW TO SELECT User Defined (must over write concentrations)	1.00 AC	1.00 AC	77.00 %	0.00 %
Post-development land use: with default EMCs	CLICK ON CELL BELOW TO SELECT Low-Intensity Commercial: TN=1.13 TP=0.188	1.00 AC	1.00 AC	95.00 %	0.00 %
Total pre-development catchment area:		1.00 AC	1.00 AC	0.00 %	0.27 AC
Total post-development catchment or BMP analysis area:		1.00 AC	1.00 AC	0.00 %	0.27 AC
Pre-development Non DCIA CN:		77.00 %	77.00 %	0.00 %	0.00 %
Post-development Non DCIA CN:		95.00 %	95.00 %	0.00 %	0.00 %
Estimated BMPArea (No loading from this area)		0.27 AC	0.27 AC		
CATCHMENT NO.3 CHARACTERISTICS:		VIEW AVERAGE ANNUAL RUNOFF "C" Factor			
Pre-development land use: with default EMCs	CLICK ON CELL BELOW TO SELECT User Defined (must over write concentrations)	1.00 AC	1.00 AC	77.00 %	0.00 %
Post-development land use: with default EMCs	CLICK ON CELL BELOW TO SELECT Low-Intensity Commercial: TN=1.13 TP=0.188	1.00 AC	1.00 AC	95.00 %	0.00 %
Total pre-development catchment area:		1.00 AC	1.00 AC	0.00 %	0.27 AC
Total post-development catchment or BMP analysis area:		1.00 AC	1.00 AC	0.00 %	0.27 AC
Pre-development Non DCIA CN:		77.00 %	77.00 %	0.00 %	0.00 %
Post-development Non DCIA CN:		95.00 %	95.00 %	0.00 %	0.00 %
Estimated BMPArea (no loading from this area)		0.27 AC	0.27 AC		
VIEW CATCHMENT CONFIGURATION		CLICK ON CELL BELOW TO SELECT CONFIGURATION			
		C - 2 Catchment-Parallel			
OVERWRITE DEFAULT CONCENTRATIONS USING:		OVERWRITE DEFAULT CONCENTRATIONS			
PRE: EMC(N):	0.690 mg/L	PRE: EMC(N):	0.690 mg/L	POST: 1.130 mg/L	
EMC(P):	0.090 mg/L	EMC(P):	0.090 mg/L	0.188 mg/L	
OVERWRITE DEFAULT CONCENTRATIONS:		OVERWRITE DEFAULT CONCENTRATIONS			
Average annual pre runoff volume:	5.065 ac-ft/year	Average annual pre runoff volume:	0.635 ac-ft/year	Average annual pre runoff volume:	0.635 ac-ft/year
Pre-development Annual Mass Loading - Nitrogen:	7.923 ac-ft/year	Pre-development Annual Mass Loading - Nitrogen:	1.530 ac-ft/year	Pre-development Annual Mass Loading - Nitrogen:	1.530 ac-ft/year
Post-development Annual Mass Loading - Nitrogen:	4.310 kg/year	Post-development Annual Mass Loading - Nitrogen:	0.540 kg/year	Post-development Annual Mass Loading - Nitrogen:	0.540 kg/year
Estimated BMPArea (No loading from this area)	0.562 kg/year	Estimated BMPArea (No loading from this area)	0.070 kg/year	Estimated BMPArea (No loading from this area)	0.070 kg/year
	11.041 kg/year		2.131 kg/year		2.131 kg/year
	1.837 kg/year		0.355 kg/year		0.355 kg/year
OVERWRITE DEFAULT CONCENTRATIONS:		OVERWRITE DEFAULT CONCENTRATIONS			
PRE: EMC(N):	0.690 mg/L	PRE: EMC(N):	0.690 mg/L	POST: 1.130 mg/L	
EMC(P):	0.090 mg/L	EMC(P):	0.090 mg/L	0.188 mg/L	
OVERWRITE DEFAULT CONCENTRATIONS:		OVERWRITE DEFAULT CONCENTRATIONS			
Average annual pre runoff volume:	0.635 ac-ft/year	Average annual pre runoff volume:	0.635 ac-ft/year	Average annual pre runoff volume:	0.635 ac-ft/year
Pre-development Annual Mass Loading - Nitrogen:	1.530 ac-ft/year	Pre-development Annual Mass Loading - Nitrogen:	0.540 kg/year	Pre-development Annual Mass Loading - Nitrogen:	0.540 kg/year
Post-development Annual Mass Loading - Nitrogen:	0.540 kg/year	Post-development Annual Mass Loading - Nitrogen:	0.070 kg/year	Post-development Annual Mass Loading - Nitrogen:	0.070 kg/year
Estimated BMPArea (No loading from this area)	0.070 kg/year	Estimated BMPArea (No loading from this area)	2.131 kg/year	Estimated BMPArea (No loading from this area)	2.131 kg/year
	2.131 kg/year		0.355 kg/year		0.355 kg/year
OVERWRITE DEFAULT CONCENTRATIONS:		OVERWRITE DEFAULT CONCENTRATIONS			
PRE: EMC(N):	0.690 mg/L	PRE: EMC(N):	0.690 mg/L	POST: 1.130 mg/L	
EMC(P):	0.090 mg/L	EMC(P):	0.090 mg/L	0.188 mg/L	
OVERWRITE DEFAULT CONCENTRATIONS:		OVERWRITE DEFAULT CONCENTRATIONS			
Average annual pre runoff volume:	0.635 ac-ft/year	Average annual pre runoff volume:	0.635 ac-ft/year	Average annual pre runoff volume:	0.635 ac-ft/year
Pre-development Annual Mass Loading - Nitrogen:	1.530 ac-ft/year	Pre-development Annual Mass Loading - Nitrogen:	0.540 kg/year	Pre-development Annual Mass Loading - Nitrogen:	0.540 kg/year
Post-development Annual Mass Loading - Nitrogen:	0.540 kg/year	Post-development Annual Mass Loading - Nitrogen:	0.070 kg/year	Post-development Annual Mass Loading - Nitrogen:	0.070 kg/year
Estimated BMPArea (no loading from this area)	0.070 kg/year	Estimated BMPArea (no loading from this area)	2.131 kg/year	Estimated BMPArea (no loading from this area)	2.131 kg/year
	2.131 kg/year		0.355 kg/year		0.355 kg/year

If not done, specify pre- and post-development watershed characteristics.

GO TO WATERSHED CHARACTERISTICS

Total Required Treatment Efficiency:

Required Treatment Eff (Nitrogen):	63.181 %
Required Treatment Eff (Phosphorus):	71.134 %



Select one of the BMPs below to analyze efficiency or review the summary data.

RETENTION BASIN	WET DETENTION	EXFILTRATION TRENCH	RAIN GARDEN	SWALE	USER DEFINED BMP
PERVIOUS PAVEMENT	STORMWATER HARVESTING	FILTRATION including Up-Flow Filters	LINED REUSE POND & UNDERDRAIN INPUT	<p>NOTE !!!: All individual system must be sized prior to being analyzed in conjunction with other systems. Please read instructions in the CATCHMENT AND TREATMENT SUMMARY RESULTS tab for more information.</p>	
GREENROOF	RAINWATER HARVESTING	MANAGED AQUATIC PLANTS			
VEGETATED NATURAL BUFFER	VEGETATED FILTER STRIP	TREE WELL			
CATCHMENT AND TREATMENT SUMMARY RESULTS					

RETENTION BASIN SERVING: Treasure Coast Classical Academy

Loadings from BMP area are contained by the BMP, thus no BMP area load.

Watershed area contributing to basin:

Required Treatment Eff (Nitrogen):

Required Treatment Eff (Phosphorus):

Required retention depth over the watershed to meet required efficiency

Required water quality retention volume:

	Catchment 1	Catchment 2	Catchment 3	Catchment 4
ac	6.110	0.730	0.000	0.000
%	60.965	74.662	0.000	0.000
in	69.396	80.135	0.000	0.000
in	1.258	1.937	0.000	0.000
ac-ft	0.641	0.118	0.000	0.000

RETENTION BASIN FOR MULTIPLE TREATMENT SYSTEMS (if there is a need for additional removal efficiencies in a series of BMPs):

Retention volume based on retention depth and total area

Provided retention depth (0.1-3.99 inches over the watershed)

Provided treatment efficiency (Nitrogen):

Provided treatment efficiency (Phosphorus):

Remaining treatment efficiency (Nitrogen):

Remaining treatment efficiency (Phosphorus):

Remaining retention depth needed:

	0.260	0.160	0.000	0.000
ac-ft	0.391	1.925	0.000	0.000
in	37.598	79.987	0.000	0.000
%	37.598	79.987	0.000	0.000
%	37.445	0.000	0.000	0.000
%	50.957	0.741	0.000	0.000
in	0.867	0.012	0.000	0.000

NOTE FOR TREATMENT EFFICIENCY GRAPH:

The purpose of this graph is to help illustrate the treatment efficiency of the retention system as the function of retention depth for a single BMP and in a single catchment. The graph illustrates that there is a diminished return as the retention depth is increased. Thus evaluations of other alternatives in "treatment trains" and compensatory treatment should be considered. **NOTE:** the retention volume can not exceed 3.99 inches to be within the range of data used to determine effectiveness.



Use only down flow media mix before water enters the ground, specify type

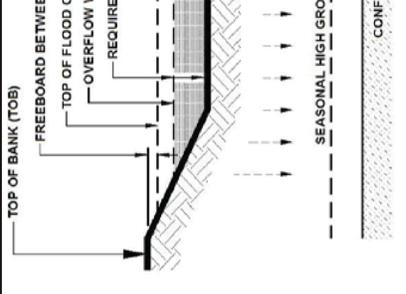
Nitrogen mass reduction in groundwater discharge (%)

Phosphorus mass reduction in groundwater discharge (%)

Blue Numbers = Input data

Red Numbers = Calculated or Carryover

GO TO STORMWATER TREATMENT ANALYSIS



TYPICAL CROSS SECTION OF A "DRY" RETENTION SYSTEM

Source of Graphic: draft STORMWATER QUALITY APPLICANT'S HANDBOOK dated March 2010, by the Department of Environmental Protection, available at: http://www.dep.state.fl.us/water/wetlands/erprules/stormwater_March_2010.

HELP - EXAMPLE PROBLEM 3

View Media Mixes

Catchment 1 Catchment 2 Catchment 3 Catchment 4

CATCHMENTS AND TREATMENT SUMMARY RESULTS

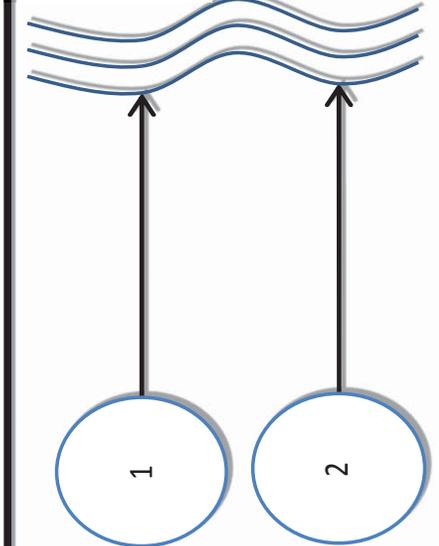
V 7.7

CALCULATION METHODS:

1. The effectiveness of each BMP in a single catchment is converted to an equivalent capture volume.
2. Certain BMP treatment train combinations have not been evaluated and in practice they are at this time not used, an example is a greenroof following a tree well.
3. Wet detention is last when used in a single catchment with other BMPs, except when followed by filtration

PROJECT TITLE	Treasure Coast Classical Academy	Optional Identification	
		Catchment 1:	Catchment 2:
BMP Name	Retention Basin	Retention Basin	Catchment 3:
BMP Name	Wet Detention		Catchment 4:
BMP Name			

Summary Performance of Entire Watershed

Catchment Configuration	C - 2 Catchment-Parallel	12/6/2018
Nitrogen Pre Load (kg/yr)	4.85	 <p style="font-size: 24px; font-weight: bold; color: green;">Treatment Objectives or Target MET</p>
Phosphorus Pre Load (kg/yr)	0.63	
Nitrogen Post Load (kg/yr)	13.17	
Phosphorus Post Load (kg/yr)	2.19	
Target Load Reduction (N) %	63.2	
Target Load Reduction (P) %	71.1	
Target Discharge Load, N (kg/yr)	4.85	
Target Discharge Load, P (kg/yr)	0.63	
Provided Overall Efficiency, N (%):	66.2	
Provided Overall Efficiency, P (%):	80.2	
Discharged Load, N (kg/yr & lb/yr):	4.45	
Discharged Load, P (kg/yr & lb/yr):	0.43	
Load Removed, N (kg/yr & lb/yr):	8.72	
Load Removed, P (kg/yr & lb/yr):	1.76	

BMPTRAINS MODEL

APPENDIX 6

**PREVIOUSLY APPROVED
AND PERMITTED DRAINAGE
REPORT SUPPORTING
DOCUMENTS**

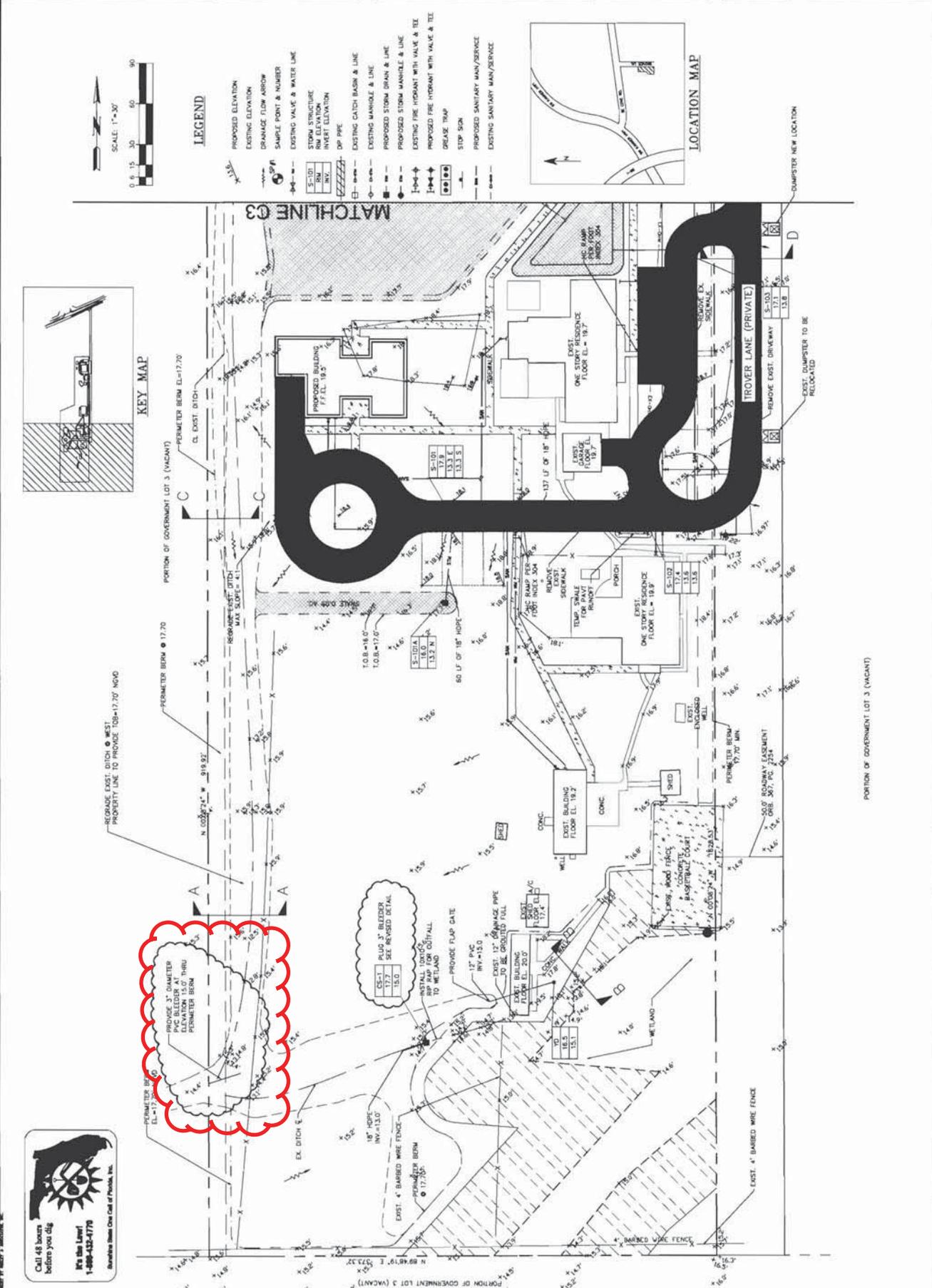
REV	DATE	DESCRIPTION
05	07/27/12	AS NOTED
04	05/11/11	AS NOTED
03	05/11/11	AS NOTED
02	05/11/11	AS NOTED
01	05/11/11	AS NOTED

SMILEY & ASSOCIATES, INC.
 1224 CONCORD LANE, SUITE 2, MARTIN COUNTY, VIRGINIA 24557
 PHONE: (540) 881-5900
 FAX: (540) 881-5901
 WWW: WWW.SMILEY-ASSOCIATES.COM

SAMARITAN HOUSE
 FOR
 SAMARITAN CENTER
 MARTIN COUNTY

DATE	1/11/08
DIST	J2A
DES	AB
CHKD	ABG
CAUSING	CADD-010

C2
 SHEET TYPE
 SHEET 2 OF 19
 JOB # 07-016



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