

*Valencia Water
Control District*

Agenda

November 10, 2020

AGENDA

**VALENCIA WATER CONTROL DISTRICT
NOTICE OF MEETING
OF
BOARD OF SUPERVISORS**

Please be advised that the Meeting of the Board of Supervisors of Valencia Water Control District will be held on Tuesday, November 10, 2020 at 1:00 P.M. in the **Lake Ridge Village Clubhouse, 10630 Larissa Street (Directions listed below)**. Attached is an Agenda for the meeting.



George S. Flint, District Director

DIRECTIONS TO MEETING:

From Orlando go West on I-4 to the Beach Line Expressway (528); go east past International Drive to Orangewood Blvd.; Go South on Orangewood Blvd., through 4-way stop at Gateway, turn left on Larissa Street. Proceed to Lake Ridge Village Clubhouse on right.

DISTRIBUTION

William Ingle; Ed Neal; Debra Donton; Brian Andreleczyk; Roy Miller; David E. Mahler; Stephen F. Broome; Green Briar Village Clubhouse; Lake Ridge Village Clubhouse; Lime Tree Village Clubhouse; Montpelier Village Clubhouse; Parkview Pointe Village Clubhouse; Somerset Village Clubhouse; Deer Creek Village Clubhouse; Wingate Club; Lyle Spector, WHOA; and Tom Johnson, Orangewood HOA; Roy Miller, Waterview HOA; and Ken LaFrance, Windsor Walk.

“Persons are advised that if they decide to appeal any decisions made at these meetings/hearings, they will need a record of the proceedings and for such purpose they may need to ensure that a verbatim record of the proceedings is made which includes the testimony and evidence upon which the appeal is to be based, per section 298.0105, Florida Statutes.”

“In accordance with the Americans with Disabilities Act, persons with disabilities needing a special accommodation should contact Valencia Water Control District at (407) 841-5524 x 101, not later than forty-eight hours prior to the meeting.”

AGENDA

November 10, 2020

VALENCIA WATER CONTROL DISTRICT
BOARD OF SUPERVISORS MEETING
1 P.M.

LAKE RIDGE VILLAGE CLUBHOUSE
10630 LARISSA STREET
WILLIAMSBURG, ORLANDO, FLORIDA 32821

Item

1. Call Meeting to Order
2. Public Comment Period
3. Approval of October 13, 2020 Minutes
4. General Fund Financial Reports
5. Engineer's Report
 - A. Approval of Permit #0513 – Big Sand Lake Drawdown
6. Attorney's Report
7. Director's Report
 - A. Customer Call Log
8. Other Business
9. Adjournment

SECTION III

**MINUTES OF THE MONTHLY MEETING
OF THE BOARD OF SUPERVISORS
OF VALENCIA WATER CONTROL DISTRICT**

October 13, 2020

The annual meeting of the Board of Supervisors of **VALENCIA WATER CONTROL DISTRICT** was held at 1:00 P.M. on Tuesday, October 13, 2020 via Zoom Video Conference. Present were Supervisors, Roy Miller, William Von Ingle, Ed Neal and Debra Donton. Also, in attendance were the following: Stephen F. Broome, District Attorney; George S. Flint, District Director; David Mahler, District Engineer; Stacie Vanderbilt, District Administrative Assistant; and Dan Brown, Sthern Environmental.

ITEM #1 **Call Meeting to Order**

Mr. Flint called the meeting to order at 1:00 P.M. A quorum was present. For purposes of the record, Mr. Flint stated that the meeting was being held telephonically via Zoom Video Conference pursuant to executive orders issued by the Governor due to the Covid-19 pandemic, waiving the physical quorum requirement and that the meeting was properly noticed with the Zoom information for the public.

ITEM #2 **Public Comment Period**

Mr. Flint noted that there were only Board members and staff present on the call and that there was no public present to make comments.

ITEM #3 **Approval of June 9, 2020 Minutes**

Mr. Flint stated the next item was the minutes from the June 9, 2020 annual meeting. He asked if there were any corrections, deletions or additions.

Mr. Mahler asked for clarification of one of the motions made during the meeting regarding the Shingle Creek Trail permit if the County needed to provide revised plans before sending them the permit.

Mr. Flint responded it was approved subject to the County providing the revised plans.

There being no other comments,

On MOTION by Mr. Miller seconded and carried, with all in favor the Minutes from June 9, 2020 Monthly Meeting were approved, as presented.

ITEM #4

General Fund Financial Reports

A. Approval of Fiscal Year 2020 Capital Reserve Fund Budget

Mr. Flint presented and explained the budget amendment to the Board. He explained excess funds needed to be moved to the Capital Reserve Fund to offset the expenses of the C-4 Canal project.

On MOTION by Ms. Donton, seconded and carried with all in favor, the Fiscal Year 2020 budget amendment was approved.

Mr. Flint stated that the District was 100% collected on the assessments and that expenses were low against the budget.

Mr. Miller asked if the water quality testing was done on all the District’s waterways.

Mr. Flint stated the District is required to test water that is coming in from and out to Shingle Creek.

Mr. Mahler added that there are currently 3 testing sites. He stated they used to test more locations but that it is now more streamlined due to State requirements changing.

The District’s financial reports for the period ending 9/30/2020 were accepted as distributed.

ITEM #5

Engineer’s Report

A. Approval of Modified Permit No. 0320 – J.W. Marriot Grande Lakes Resort

Mr. Mahler stated that the resort was adding some concrete at their site that is a minor modification to the current permit. He recommended approval.

On MOTION by Mr. Andrearczyk, seconded and carried with all in favor, the modification of Permit No. 0320 was approved.

Big Sand Lake Project

Mr. Maler stated he attended a Big Sand Lake meeting coordinated by Orange County Public Works and they are requesting pumping into the C-6 canal from the lake. He stated that

due to boat docks flooding, it was requested the County look into ways to remedy it. Another meeting was also scheduled later this evening that he would attend.

Mr. Flint asked what the timeframe was on Board approval.

Mr. Mahler responded it would be a permit modification as there is already one in place that should be ready by the November meeting. He added that any damages done to District property would be restored by the County and that there may be a need to open the S-1 or S-2 gates to control any surge.

Mr. Flint stated to advise that the Board needed to approve the permit modification before any work is done.

Mr. Miller asked if a structural permit is needed.

Mr. Mahler stated no.

ITEM #6

Attorney's Report

There being none,

ITEM #7

Director's Report

A. Ratification of Agreement & Change Order with Gary's Grading, Inc. for Area 2 Pond Stormwater Repair Services

Mr. Flint stated that the vendor needed to do work on some erosion on the A-2 pond and that the work was completed but the agreement needed ratification. He stated the amount of the contract was \$16,750 and that a \$600 change order was also issued to restock fish into the pond.

Mr. Miller stated that the Waterview HOA president reviewed at the area and approved of the work that was done.

On MOTION by Mr. Miller, seconded and carried, with all in favor, the agreement & change order with Gary's Grading, Inc. was ratified.

B. Consideration of Bids for Repairs at S-901 & C-10 Canal

Mr. Flint explained to the Board the purpose of the repairs and advised that 3 bids were received from area contractors.

Mr. Mahler added that Mr. Dan Brown brought to their attention the erosion due to the currents passing through the S-901 structure creating a washout of soil. He stated that there were two parts to the repair – stabilize and reshape the bank on both sides of the structure and install

rip-rap to prevent future washouts. Both he and Mr. Flint recommended selecting Crosscreek Environmental to perform the work.

On MOTION by Ms. Donton, seconded and carried with all in favor, the proposal from Crosscreek Environmental to provide repair services at the S-901 & C-10 canal in the amount of \$21,510.00 was approved.

C. Call Log

Mr. Flint reviewed the Call Log with the Board. He noted it was much longer than normal since the Board hadn't met since June. All issues were resolved with the exception of the Parkview Pointe erosion that Mr. Brown was tasked with devising a repair plan to triage the issue as it was not an imminent danger. The full log was provided in the agenda package for Board review.

Mr. Flint stated one item that wasn't on the log was correspondence from Donna Finkelstein regarding trespassing. He stated residents are encouraged to contact law enforcement when trespassers are detected.

ITEM #8

Other Business

Mr. Miller stated that he receives e-mail correspondence from Ms. Finkelstein regularly about people trespassing to fish in the pond and that he recommended she contact the Lake Ridge HOA to get other homeowners involved in combating trespassing. He stated Greenbriar residents were doing the same.

Mr. Miller directed to Mr. Brown about an irrigation pump behind the Lake Ridge pond where fences, shrubs and trees were cleaned up and asked if there were any other aesthetic improvements that could be done to help expand his mowing capability.

Mr. Flint stated he didn't believe that the District owned the property he was referring to and pulled up the map to verify.

Mr. Miller stated that there is another area behind the Williamsburg sign that has property owned by the District, the County, Spectrum and the Transit Authority that isn't being maintained where the sidewalk is and says it is difficult to walk through and prevents wheelchairs from passing. He also noted that the silk guard has so much trash and debris that is unsightly and makes its way down the canal into the Greenbriar neighborhood. He stated he needs assistance getting the correct entity to correct the issue.

Mr. Flint advised any property not owned by the District in that area is either owned by Orange County or FDOT. He stated he could meet Mr. Miller onsite to review the area in question to come up with a plan.

ITEM #9

Adjournment

On MOTION by Mr. Miller, seconded and carried, with all in favor the meeting was adjourned at 1:45 p.m.

Stephen F. Broome, Secretary

William Von Ingle

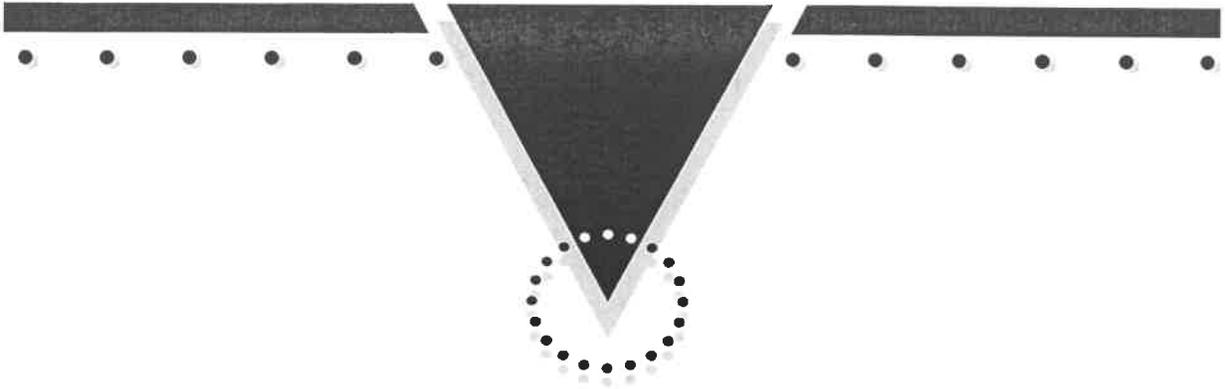
Ed Neal

Debra Donton

Roy Miller

Brian Andrelczyk

SECTION IV



**Valencia
Water Control District**

Unaudited Financial Reporting

October 31, 2020



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7	<hr/>	Assessment Receipt Schedule

VALENCIA
WATER CONTROL DISTRICT
BALANCE SHEET
October 31, 2020

	General Fund	Capital Reserve Fund	Totals 2021
ASSETS:			
<i>CURRENT ASSETS</i>			
OPERATING - SUNTRUST	\$394,264	---	\$394,264
CAPITAL RESERVE - SUNTRUST	---	\$77,412	\$77,412
<i>INVESTMENTS</i>			
SBA - CAPITAL RESERVES	---	\$108,328	\$108,328
SBA - OPERATING RESERVES	\$52,570	---	\$52,570
PETTY CASH	\$100	---	\$100
TOTAL CURRENT ASSETS	\$446,934	\$185,740	\$632,674
<i>FIXED ASSETS</i>			
LAND	\$700,120	---	\$700,120
STRUCTURES	\$672,531	---	\$672,531
CANALS	\$2,888,690	---	\$2,888,690
PONDS	\$1,245,537	---	\$1,245,537
EQUIPMENT & OFFICE FURNITURE	\$12,767	---	\$12,767
ACCUMULATED DEPRECIATION	(\$4,768,736)	---	(\$4,768,736)
TOTAL FIXED ASSETS	\$750,909	\$0	\$750,909
TOTAL ASSETS	\$1,197,843	\$185,740	\$1,383,583
LIABILITIES:			
ACCOUNTS PAYABLE	---	---	\$0
FUND EQUITY:			
<i>FUND BALANCES:</i>			
UNASSIGNED	\$446,934	\$185,740	\$632,674
NET ASSETS CAPITALIZED	\$750,909	---	\$750,909
TOTAL LIABILITIES & FUND EQUITY	\$1,197,843	\$185,740	\$1,383,583

VALENCIA

WATER CONTROL DISTRICT

GENERAL FUND

Statement of Revenues & Expenditures

For The Period Ending October 31, 2020

	ADOPTED BUDGET	PRORATED BUDGET THRU 10/31/20	ACTUAL THRU 10/31/20	VARIANCE
<u>REVENUES:</u>				
ASSESSMENTS - TAX ROLL	\$553,302	\$0	\$0	\$0
INTEREST	\$500	\$42	\$17	(\$25)
TOTAL REVENUES	\$553,802	\$42	\$17	(\$8)
<u>EXPENDITURES:</u>				
<u>ADMINISTRATIVE:</u>				
SUPERVISORS FEES	\$2,500	\$208	\$200	\$8
ENGINEERING	\$37,200	\$3,100	\$2,100	\$1,000
ATTORNEY	\$12,000	\$1,000	\$1,000	\$0
ANNUAL AUDIT	\$5,200	\$0	\$0	\$0
ASSESSMENT ROLL CERTIFICATION	\$2,500	\$2,500	\$2,500	\$0
MANAGEMENT FEES	\$48,800	\$4,067	\$4,067	(\$0)
WEBSITE ADMINISTRATION	\$1,200	\$100	\$100	\$0
INSURANCE	\$12,650	\$12,650	\$11,843	\$807
REPORT PREPARATION - NPDES	\$15,000	\$1,250	\$0	\$1,250
OFFICE LEASE	\$12,980	\$1,082	\$1,082	(\$0)
FREIGHT	\$200	\$17	\$0	\$17
PRINTING & BINDING	\$500	\$42	\$0	\$42
POSTAGE	\$500	\$42	\$1	\$41
TRAVEL PER DIEM	\$200	\$17	\$0	\$17
LEGAL ADVERTISING	\$1,200	\$100	\$0	\$100
BANK FEES	\$300	\$25	\$0	\$25
OTHER CURRENT CHARGES	\$400	\$33	\$0	\$33
OFFICE SUPPLIES	\$750	\$63	\$0	\$62
ELECTION FEES	\$3,100	\$0	\$0	\$0
MEETING RENTAL FEE	\$500	\$42	\$0	\$42
PROPERTY APPRAISER FEE	\$5,408	\$0	\$0	\$0
DUES, LICENSES & SUBSCRIPTIONS	\$2,150	\$2,150	\$1,675	\$475
TOTAL ADMINISTRATIVE	\$165,238	\$28,486	\$24,567	\$3,919

VALENCIA

WATER CONTROL DISTRICT

GENERAL FUND

Statement of Revenues & Expenditures

For The Period Ending October 31, 2020

	ADOPTED BUDGET	PRORATED BUDGET THRU 10/31/20	ACTUAL THRU 10/31/20	VARIANCE
<u>FIELD OPERATIONS:</u>				
<u>UTILITIES:</u>				
ELECTRIC	\$750	\$63	\$86	(\$24)
WATER & SEWER	\$500	\$42	\$0	\$42
<u>CONTRACTS:</u>				
AQUATIC WEED CONTROL	\$40,000	\$3,333	\$2,254	\$1,079
MOWING	\$95,000	\$7,917	\$0	\$7,917
WATER QUALITY MONITORING	\$19,746	\$1,646	\$0	\$1,646
<u>REPAIRS & MAINTENANCE:</u>				
CANAL & RETENTION POND MAINTENANCE	\$85,000	\$7,083	\$0	\$7,083
OFFICE	\$500	\$42	\$0	\$42
SECURITY GATES & SIGNS	\$750	\$63	\$0	\$63
<u>OTHER:</u>				
NPDES INSPECTION & FEES	\$6,000	\$500	\$0	\$500
OPERATING SUPPLIES	\$500	\$42	\$0	\$42
CONTINGENCY	\$2,500	\$208	\$0	\$208
TOTAL FIELD OPERATIONS	\$251,246	\$20,937	\$2,341	\$18,596
<u>OTHER USES</u>				
TRANSFER OUT - CAPITAL RESERVE (CY)	\$462,478	\$0	\$0	\$0
TOTAL OTHER USES	\$462,478	\$0	\$0	\$0
TOTAL EXPENDITURES	\$878,962	\$49,423	\$26,908	\$22,515
EXCESS REVENUES (EXPENDITURES)	(\$325,160)		(\$26,891)	
FUN D BALANCE - Beginning	\$325,160		\$1,224,734	
FUN D BALANCE - Ending	\$0		\$1,197,843	

VALENCIA

WATER CONTROL DISTRICT

CAPITAL RESERVE FUND

Statement of Revenues & Expenditures

For The Period Ending October 31, 2020

	ADOPTED BUDGET	PRORATED BUDGET THRU 10/31/20	ACTUAL THRU 10/31/20	VARIANCE
<u>REVENUES:</u>				
TRANSFER IN (CURRENT YEAR)	\$462,478	\$0	\$0	\$0
INTEREST	\$1,000	\$83	\$28	(\$56)
TOTAL REVENUES	\$463,478	\$83	\$28	(\$56)
<u>EXPENDITURES:</u>				
<u>EXPENDITURES</u>				
CAPITAL IMPROVEMENTS	\$86,793	\$7,233	\$15	\$7,218
TOTAL EXPENDITURES	\$86,793	\$7,233	\$15	\$7,218
EXCESS REVENUES (EXPENDITURES)	\$376,685		\$13	
FUN D BALANCE - Beginning	\$158,822		\$185,727	
FUN D BALANCE - Ending	\$535,507		\$185,740	

VALENCIA
Water Control District

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Total
REVENUES:													
ASSESSMENTS - TAX ROLL	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
INTEREST	\$17	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17
TOTAL REVENUES	\$17	\$0	\$17										
EXPENDITURES:													
ADMINISTRATIVE:													
SUPERVISORS FEES	\$200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$200
ENGINEERING	\$2,100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,100
ATTORNEY	\$1,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,000
ANNUAL AUDIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ASSESSMENT ROLL CERTIFICATION	\$2,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,500
MANAGEMENT FEES	\$4,067	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$4,067
WEBSITE ADMINISTRATION	\$100	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$100
INSURANCE	\$11,843	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11,843
REPORT PREPARATION - INPBES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
OFFICE LEASE	\$1,082	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,082
FREIGHT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PRINTING & BINDING	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
POSTAGE	\$1	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1
TRAVEL PER DIEM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
LEGAL ADVERTISING	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
BANK FEES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
OTHER CURRENT CHARGES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
OFFICE SUPPLIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
ELECTION FEES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MEETING RENTAL FEE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
PROPERTY APPRAISER FEE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
DUES, LICENSES & SUBSCRIPTIONS	\$1,675	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,675
TOTAL ADMINISTRATIVE	\$24,567	\$0	\$24,567										

VALENCIA
Water Control District

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Total
FIELD OPERATIONS:													
<u>UTILITIES:</u>													
ELECTRIC	\$86	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$86
WATER & SEWER	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>CONTRACTS:</u>													
AQUATIC WEED CONTROL	\$2,254	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,254
MOWING	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
WATER QUALITY MONITORING	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>REPAIRS & MAINTENANCE:</u>													
CANAL & RETENTION POND MAINTENANCE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
OFFICE	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
SECURITY GATES & SIGNS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
<u>OTHER:</u>													
INPDS INSPECTION & FEES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
OPERATING SUPPLIES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CONTINGENCY	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL FIELD OPERATIONS	\$2,341	\$0	\$2,341										
<u>OTHER USES:</u>													
TRANSFER OUT - CAPITAL RESERVE (CY)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL OTHER USES	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL EXPENDITURES	\$26,908	\$0	\$26,908										
EXCESS REVENUES (EXPENDITURES)	(\$26,891)	\$0	(\$26,891)										

SECTION V

SECTION A

Permit No. _____
(Assigned by V.W.C.D.)

PERMIT APPLICATION
Valencia Water Control District
c/o CPH, Inc.
1117 E. Robinson Street
Orlando, FL 32801
VWCD Office: (407) 841-5524 X 101 CPH, Inc. (407) 425-0452

- (1) PROPOSED USE: Pumped drawdown of Big Sand Lake
- (2) LOCATION OF WORK: Block: _____ Lot: _____ Subdivision: _____
or Section: 11 Township: 24 Range: 28E
- (3) DISTRICT WORKS INVOLVED: Pumped discharge from Big Sand Lake will be routed through district infrastructure.
- (4) OWNER OF PROPOSED WORK OR STRUCTURE: Phone #: 407-836-1400
Name: David D. Jones, PE, CEP Title: Manager, Orange County EPD
Address: 3165 McCrory Place, Suite 200 Orlando FL 32803
(Street) (City) (State) (Zip)
- (5) APPLICATION OTHER THAN OWNER: (if any) Phone #: 321-244-1472
Name: Michael DePree, PE Serving as: Authorized Agent/Consultant
Address: 3504 Lake Lynda Drive, Suite 155 Orlando FL 32801
(Street) (City) (State) (Zip)
- (6) AREA PROPOSED TO BE SERVED: Give legal description and size in acres. Attach legal description if necessary. If land is platted, indicate Block, Lot and Subdivision. _____
The Big Sand Lake watershed will be served by the proposed pumping activity.
- (7) CONSTRUCTION SCHEDULE: The proposed work, if permitted, will begin within 30 Calendar days of permit approval and be completed within 365 calendar days thereafter.
- (8) This application, including sketches, drawings or plans and specifications attached contains a full and complete description of work proposed or use desired of the above described facilities of the District and for which permit is herewith applied. It shall be a part of any permit that may be issued. It is agreed that all work or the use of the District's facilities will be in accordance with the permit to be granted.

Submitted this 3rd day of November, 2020

Signature of Property Owner (Officer of Corporation): David D. Jones

Print Name of Property Owner (Officer): David D. Jones, PE, CEP



engineers | scientists | innovators

BIG SAND LAKE DRAWDOWN

Permit Narrative

*SUPPORTING DOCUMENT FOR VALENCIA WATER CONTROL DISTRICT
APPLICATION SUBMITTAL*

Prepared for

Orange County
Environmental Protection Division
3165 McCroy Place, Suite 200
Orlando, FL 32803

Prepared by

Geosyntec Consultants, Inc.
3504 Lake Lynda Drive, Suite 155
Orlando, FL 32817

Project Number: FW7593

October 2020

BIG SAND LAKE DRAWDOWN

Permit Narrative

Prepared for

Orange County
Environmental Protection Division
3165 McCroy Place, Suite 200
Orlando, FL 32803

Prepared by

Geosyntec Consultants, Inc.
3504 Lake Lynda Drive, Suite 155
Orlando, FL 32817

The engineering material and data contained within the enclosed report was prepared by Geosyntec Consultants, Inc. for sole use of Orange County Environmental Protection Division on behalf of the Big Sand Lake Advisory Board. This report was prepared under the supervision and direction of the respective undersigned, whose seal as a registered professional engineer is affixed below.

Michael DePree, PE
Project Engineer
Florida PE# 86863



Mark W. Ellard, PE, CFM, D.WRE, ENV SP
Senior Water Resources Engineer



Michael DePree, PE
Water Resources Engineer

Project Number: FW7593

October 2020

1 BACKGROUND

Big Sand Lake in Orange County, Florida is experiencing water levels reaching an elevation that is a cause of concern for the surrounding properties, many of which are private residences. The Orange County Environmental Protection Division, on behalf of the Big Sand Lake Advisory Board, is interested in a temporary mechanical drawdown to alleviate the high stage in Big Sand Lake. This modification shall include placement of two temporary pumps, intake and discharge piping, and a dammed section of the receiving channel.

The pumping activity is proposed to occur at the Big Sand Lake outfall located within Section 11, Township 24 South, Range 28E, approximately 550' west of the intersection between Palm Parkway and Central Florida Parkway. In 2005, a similar operation was permitted through South Florida Water Management District as both a Water Use Permit and an Environmental Resource Permit, Application Number 050114-23 and 050114-24, respectively.

2 PUMPING ACTIVITY

2.1 Proposed Pumping Activity Components

Based on the above information, a conceptual plan for the proposed drawdown pumps and receiving channel has been developed. The following key components of the proposed conceptual plan are noted:

- There shall be two independent pumps placed near the referenced outfall location of Big Sand Lake with a combined design discharge rate of 22.2 cfs (11.1 cfs each). Each pump will have a 500-gallon double walled fuel tank to support the extended pumping operations proposed. The pumps will be self-contained, and the fuel tanks will be double walled to provide additional containment. The intake line will extend approximately 200 ft into Big Sand Lake.
- The receiving channel will be lined with riprap at the point of discharge of the pumps to dissipate the energy and mitigate any potential erosion in the area. The system downstream of the pump discharge location has been evaluated hydraulically in Interconnected Channel and Pond Routing version 4.07.04 (ICPR4) to ensure the pumping activity does not result in erosive velocities. ICPR4 modeling efforts are further described in Section 3 of this report, with results presented in Appendix B.
- Temporary, reusable, inflatable pipe plugs will be installed immediately upstream of the point of discharge in the dual 48" pipes under a ditch crossing to prevent the pumped water to flow back into Big Sand Lake. The pipe plugs will be placed in each of the 48" pipes immediately prior to commencing pumping activities and will be removed while pumping activity is halted temporarily, due to the controls discussed in Section 2.2.1 of this report, or permanently at the expiration of the dewatering permit.
- A staff gauge will be installed in Big Sand Lake in the immediate area of the proposed pumping to monitor water levels. The staff gauge will be monitored to serve as a control to the pumping activity. Pumping may continue until lake stages return to a level

considered appropriate by Orange County and the Big Sand Lake Advisory Board. In no circumstances will the levels be pumped below the lake control elevation of 91.7 ft NAVD88, the intake elevation of the lake drainwells.

Figure 1, below, depicts a general layout of the proposed site. For additional detail on the proposed improvements, refer to plans included Appendix A.

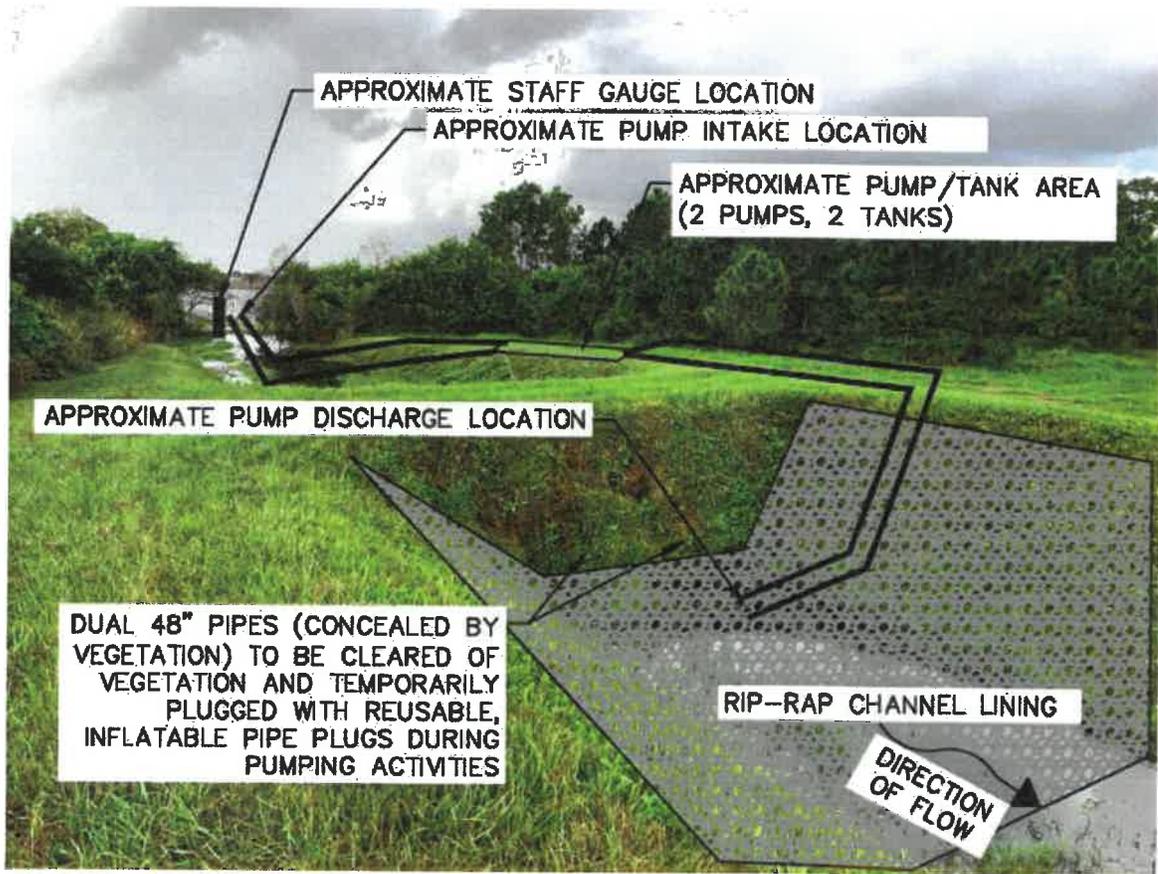


Figure 1- Proposed Site Improvements

2.2 Operation and Maintenance

It is understood that Orange County will act as the operation and maintenance entity on behalf of the Big Sand Lake Advisory Board, the entity supplying the funds for the aforementioned proposed pumping activity components and the below prescribed operation, maintenance, monitoring, and restoration measures.

2.2.1 Operation Controls

In order to ensure pumping activity does not increase flow in the downstream conveyance system beyond the allowable flow range, the pumping activity must be operated to a specific set of controls. Orange County will be responsible for ceasing pumping activity and removing the temporary pipe pumps if any of the following conditions are met:

- Valencia Water Control District (VWCD) Staff reports adverse impacts such as flooding or notable erosion
- Osceola County staff requests the pumping activities cease due to occurring or imminent flooding in Shingle Creek
- Water levels at the monitoring station in Shingle Creek at Campbell (FL USGS Stream No. 02264495) reach or exceed 59.0 feet (NAVD 88)
 - https://waterdata.usgs.gov/fl/nwis/uv?site_no=02264495
- Forecasted 24-hour rainfall exceeds 5 inches
 - <https://www.wpc.ncep.noaa.gov/qpf/qpf2.shtml>
- Water levels within Big Sand Lake are below elevation 91.70 ft (NAVD 88), the drainwell intake elevation.
- Water levels in Shingle Creek are at elevation 77.61 ft (NAVD 88) as measured at the Valencia Water Control District structure 102 of the C-1 Canal.
- Downstream increases in turbidity beyond the acceptable 29 NTU above background are noted resulting from the proposed pumping activities.

To report a concern, request a pause in pumping activity, or for information on pumping activities contact Melissa Lavigne of the Orange County Environmental Protection Division by phone at 407-505-8117 or by email at Melissa.Lavigne@ocfl.net.

2.2.2 Required Monitoring Activity

Orange County will be responsible for monitoring the impacted system on site and downstream during pumping activities. The following monitoring activities are required to occur daily:

- Water levels in Shingle Creek, both in VWCD and Osceola County, and Big Sand Lake shall be recorded while the pumps are active. The recorded elevations will be submitted weekly to Bill Graff with South Florida Water Management District (SFWMD).
 - wgraf@sfwmd.gov

- Turbidity samples will be collected and tested each day the pump is running. Samples are to be taken upstream and downstream of the pump discharge location, as depicted in Sheet C-5 of Appendix A.

Orange County will also be responsible for routine maintenance of the pumps to ensure no leaking or spillage of chemicals is occurring on site.

2.2.3 Restorative Measures

Upon expiration of the SFWMD Water Use Permit, Orange County will be responsible for restoring the site area and all affected downstream infrastructure to the existing condition observed prior to initiation of pumping activity.

3 MODELING EFFORTS

The proposed conditions have been modeled in ICPR4 to provide guidance on acceptable pumping rates and conditions. The model used for this effort is a modified version of the model permitted May 8, 2019 under Permit 48-101319-P (Application No. 181212-1047). Due to the size of the model, only relevant excerpts have been included in this analysis (Appendix B). For additional input data, refer to data from the previously mentioned permit.

Iterative simulations were analyzed with various rainfall intensities of a 24-hour storm with an Orange County rainfall distribution to develop the maximum predicted rainfall intensity, 5 inches. Based on the modeling efforts, the 22.2 cfs contributing to the existing overall runoff of the area contributing to the analyzed conveyance system will not practically exceed the 62 cfs maximum discharge limitation to the VWCD. It is noted in the results presented in Appendix B that a 62.04 cfs flow rate into VWCD results from this rainfall intensity, however, due to conservative assumptions in the model, a less than 50% statistical likelihood of a storm of this intensity occurring in any given year, and inaccuracies in the forecasted rainfall, the 0.04 cfs discrepancy is an acceptable variance for the proposed activity.

The iterative simulation's results were also used to check the velocities in the system to evaluate the pumping efforts resulting velocities compared to the recommended maximum velocities to avoid erosion. The results present average velocities in the pipes connecting the channels fall within an acceptable range, however, in various locations, upstream of Valencia Water Control District, maximum velocities modeled at the terminus of the pipes exceed the 4 ft/sec recommended maximum velocity in a vegetated channel (FDOT Drainage Manual 2020, Table 2.5). The immediate increase in flowable area and the partially submerged conditions encountered by water exiting the pipes will immediately reduce velocities to an acceptable range to avoid erosion in the ditches.

4 CONCLUSION

Upon completion of this analysis, the proposed pumping activity, utilizing the design flow rate and controls, will serve to reduce the water level in Big Sand Lake while having minimal effect on the downstream infrastructure.

Appendices:

Appendix A – Plans

Appendix B – Nodal Diagram, ICPR Results, and Input Report

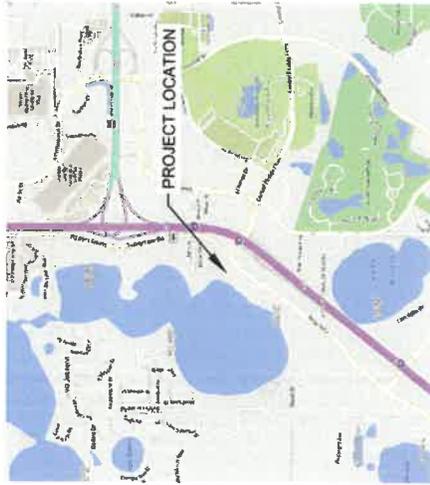
APPENDIX A: Plans



DESIGN PLANS FOR BIG SAND LAKE DRAWDOWN PROJECT ORANGE COUNTY, FL OCTOBER 2020

PROJECT NOTES:

1. THESE PLANS WERE PREPARED ACCORDING TO AVAILABLE INFORMATION TO ADEQUATELY ADDRESS CONDITIONS AS THEY EXISTED AT THE TIME OF PREPARATION. NEEDS, CONDITIONS, AND REGULATIONS MAY HAVE CHANGED SINCE PROJECT DESIGN. THE COUNTY'S REPRESENTATIVE WILL ADDRESS CHANGES AND NEEDS WITH THE CONTRACTOR. THE CONTRACTOR SHALL WORK WITH THE COUNTY'S REPRESENTATIVE TO ADDRESS CHANGES AND NEEDS AND CONDITIONS THAT MAY HAVE CHANGED SINCE PLANS PREPARATION.
2. GOVERNING STANDARDS AND SPECIFICATIONS: FLORIDA DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION DATED 2020.



- SUNSHINE STATE ONE CALL OF FLORIDA
CALL BEFORE YOU DIG! 1-800-432-4770
1. CALL 800-432-4770 TWO FULL BUSINESS DAYS (BUT NOT LATER THAN 10:00 AM) BEFORE YOU BEGIN TO FIND OUT WHERE BURIED FACILITIES (ELECTRIC, GAS, TELECOMMUNICATION, CABLE, WATER) ARE LOCATED. WAIT THE REQUIRED TIME FOR THE SITE TO BE LOCATED. MARK THE LOCATIONS OF ALL BURIED UTILITIES OR STAKES, AND CONFIRM THAT THE SITE HAS BEEN LOCATED.
 2. RESPECT AND PROTECT THE MARKS DURING THE CONSTRUCTION. MARKS ARE DESTROYED, REQUEST A NEW LOCAL TICKET.
 3. WITHIN 24 INCHES ON EITHER SIDE OF THE MARKS TO AVOID HITTING THE BURIED UTILITY LINES.
 4. NOTIFY THE APPROPRIATE UTILITY COMPANY AS SOON AS POSSIBLE TO REQUEST NECESSARY ADJUSTMENTS NECESSARY BASED ON THE PROPOSED IMPROVEMENTS. CONFLICTS HAVE BEEN IDENTIFIED BASED ON A UTILITY SURVEY PREPARED BY THE CONTRACTOR. THE CONTRACTOR IS REQUESTED TO IDENTIFY ALL POTENTIAL UTILITY CONFLICTS.
 5. THE CONTRACTOR SHALL NOTIFY AND COORDINATE ANY UTILITY RELOCATIONS WITH THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL VERIFY THE PLANS AND AS ENCOUNTERED IN THE FIELD.

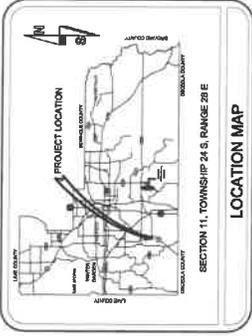
JERRY L. DEMINGS, COUNTY MAYOR
BOARD OF COUNTY COMMISSIONERS
BERRY VANDERLEY DISTRICT 1
DAVID J. BROWN DISTRICT 2
MAYRA LARBE DISTRICT 3
MARIBEL GOMEZ CORDEIRO DISTRICT 4
EMILY BONILLA DISTRICT 5
VICTORIA BIRLEN DISTRICT 6

CERTIFICATION TO PLANS

THIS IS TO CERTIFY THAT THE CONSTRUCTION PLANS AND SPECIFICATIONS CONTAINED HEREIN WERE PREPARED AND DESIGNED BY GEOSYNTEC CONSULTANTS, INC. FOR THE PROJECT DESCRIBED HEREIN. THE CONSTRUCTION DRAWINGS WERE PREPARED EITHER DIRECTLY OR UNDER THE CLOSE PERSONAL SUPERVISION AND CONTROL OF ME, UNDESIGNED, WHOSE SEAL AS A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF FLORIDA IS APPLIED BELOW.

CONSTRUCTION PLANS AND SPECIFICATIONS AS CONTAINED HEREIN WERE DESIGNED TO APPLICABLE STANDARDS AS SET FORTH IN THE "MANUAL OF UNIFORM MINIMUM STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION FOR STREETS AND HIGHWAYS" STATE OF FLORIDA, 10TH EDITION, 2018, AS ADOPTED BY THE FLORIDA DEPARTMENT OF TRANSPORTATION TALLAHASSEE, FLORIDA, 2018.

ENGINEER: MICHAEL E. DEPREE REG. NO. 68803 DATE: _____



SHEET NO.	SHEET TITLE
C-1	COVER SHEET
C-2	GENERAL NOTES & LEGEND
C-3	SUMMARY OF PAY ITEMS AND QUANTITIES
C-4	PROJECT OVERVIEW PLAN
C-5	LAYOUT PLAN
C-6	STORMWATER POLLUTION PREVENTION PLAN
C-7	EROSION AND SEDIMENT CONTROL PLAN
C-8	EROSION CONTROL DETAILS

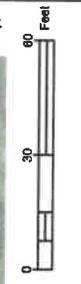
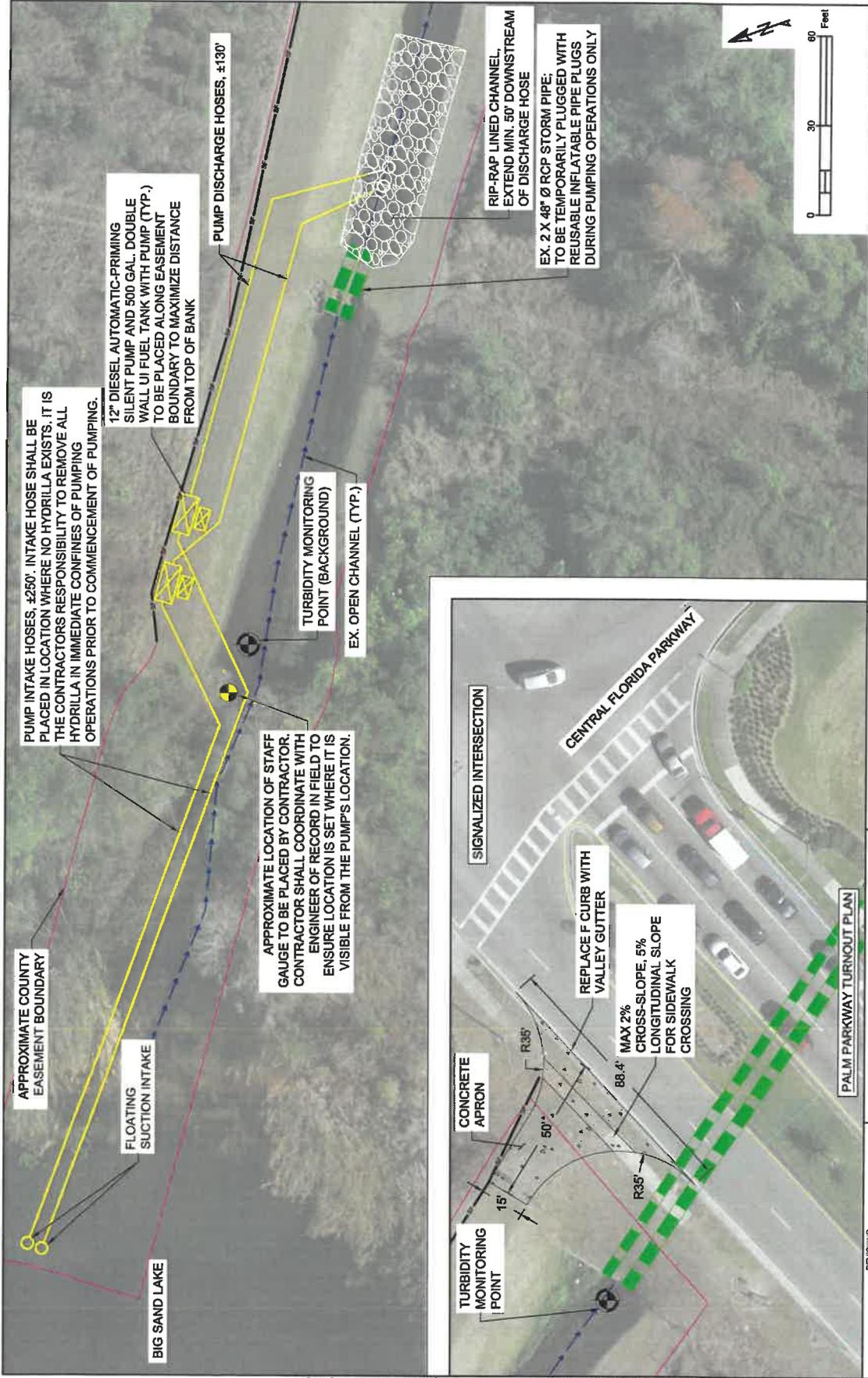
UTILITIES ENCOUNTERED
TO BE DETERMINED

Geosyntec consultants
MICHAEL E. DEPREE CERTIFICATE 4321
FLORIDA REGISTERED PROFESSIONAL ENGINEER
3004 LAKE LYNDIA DRIVE SUITE 100
ORLANDO, FL 32817

REVISIONS	DATE	BY

DATE: 10/15/2020
DRAWN BY: MDE
CHECKED BY: MDE
APPROVED BY: MDE
PROJECT NO: 17080

SHEET 1 OF 8



SHEET NO. **C-5**

LAYOUT PLAN

Geosyntec consultants
 3300 LAKE LYNN DRIVE
 ORLANDO, FL 32817
 MICHAEL E. DEPRELLE, PE
 AUTHORIZATION NUMBER 0221



BIG SAND LAKE DRAWDOWN

DATE	BY	REVISIONS	DESCRIPTION

The following narrative is the Stormwater Prevention Plan and contains references to the FOOT (latest edition) Standards Plan, the Stormwater Pollution Prevention Plan, and other areas of these construction plans. The complete Stormwater Pollution Prevention Plan includes several items:

- this narrative description,
- the documents referenced in this narrative,
- the Contractor's approved Erosion Control Plan (design drawings and detail documents) required by Section 104 of the FOOT Standard Specifications for Road and Bridge Construction (latest edition) herein after referred to as the "Section 104 Erosion Control Plan", and
- reports of inspection made during construction.

1.0 SITE DESCRIPTION

1.1 Nature of Construction Activity:

Big Sand Lake in Orange County, Florida, is a special-use water body, including a reservoir, that is a source of concern for the surrounding properties, many of which are private residences. The Orange County Environmental Protection District, on behalf of the Big Sand Lake Advisory Board, is interested in a temporary mechanical drawdown to allow the high water stage in Big Sand Lake. This modification shall include placement of two temporary pumps, intake and discharge piping, and a diked section of the receiving channel.

The pumping activity is proposed to occur at the Big Sand Lake outfall located within Section 11, Township 24 South, Range 19 East, and Meridian 16 West, Orange County, Florida. The drawdown activity, in 2005, a similar operation was permitted through South Florida Water Management District as both a Water Use Permit and an Environmental Resource Permit. Application Number 050114-23 and 050114-24, respectively.

1.2 Sequence of Major Soil Disturbance Activities:

The Contractor shall follow the sequence provided below, unless an alternative sequence proposed by the Contractor is approved by the County and the Engineer of Record.

It should be noted that during areas critical to the project, the Contractor is required to remove any existing flow blocking devices (temporary dikes / pipe plugs) to allow the Big Sand Lake outfall pipes and drainage ditches to discharge naturally to avoid upstream flooding conditions. The Contractor is responsible for providing continuous drawdown pumping, day and night, until the Big Sand Lake water elevation reaches 92.1. The Contractor shall also monitor storm event forecasts and heavy precipitation is anticipated to occur throughout the duration of the project.

Construction Sequence:

1. Contractor shall be responsible for a staging area to store equipment, materials, and vehicles, provide employee parking, etc. for the duration of construction or as approved by the County. Contractor is responsible for staging erosion control materials as needed to accommodate the staging area.
2. Contractor shall clear only vegetation that is necessary to accomplish construction tasks set out in the project design plans.
3. Install driveway connection as specified in the Project Layout Plan.
4. Install 10-inch diameter pipe to prevent scouring and sediment releases to conveyance channel consistent with the EROSION CONTROL GENERAL NOTES.
5. Install downflow pumps and hoses as shown in the EROSION PLAN.
6. Install flow blocking devices (F) in the double-barrel 48" RCP pipes where indicated by the EROSION PLAN.
7. Install staff gauge in Big Sand Lake as indicated in the EROSION PLAN.
8. Upon the completion of major construction activities the project site shall be permanently stabilized.
9. Project site shall be monitored during the continued drawdown pumping operations to ensure erosion does not occur in the immediate project area or downstream throughout the major drainage conveyance system.
10. Throughout construction, the contractor shall observe local weather forecasts for any predicted large rainstorm events and shut down all pumping operations and remove flow blocking devices until such time that the blocking of flow will not adversely impact downstream conditions.

1.3 Area Estimates:

Total project contributing area: 0.35 acres.

Total area to be disturbed: 0.10 acres.

1.4 Runoff Data:

Runoff (mean annual 24 hour event) = NA

Runoff Coefficient for impervious Areas: NA

Runoff Coefficient for Wet Areas: C = NA

Runoff Coefficient for Dry Areas: C = NA

1.7 Discharge Information Description: NA

1.5 Site Maps:

The site maps consist of the construction plans. The location of the required information is described below. The sheet numbers for the plans are referenced as identified on the Key Sheet.

- Locations of Temporary Controls - The temporary erosion control measures are depicted in the Sediment and Erosion Control Plan. The Sediment and Erosion Control Plan depicts the erosion control protection devices required when the Contractor first mobilizes, including all fence and siltation lining. Additional temporary controls shall be implemented as necessary during interim construction periods, or where the proposed controls do not adequately protect off-site regions from neighboring sediment releases from on-site areas.
- Locations of Permanent Controls - The permanent erosion control measures include sodding of disturbed areas.

The Summary of Erosion Control Measures provides parameters to address:

REVISIONS

DATE	BY	DESCRIPTION

BIG SAND LAKE DRAWDOWN



366 LAKE LINDA AVENUE
SUITE 105
ORLANDO, FL 32817
TEL: 407.241.8800
FAX: 407.241.8801
AUTHORIZATION NUMBER: 0201

SHEET NO. C-6

STORMWATER POLLUTION PREVENTION PLAN

- Areas To Be Stabilized - Temporary stabilization practices are shown in the Section 104 Erosion Control Plan. Permanent stabilization consists of sodding disturbed areas. The limits of sod are shown on the Sediment and Erosion Control Plan.

2.0 CONTROLS:

2.1 Erosion And Sediment Control:

In the Section 104 Erosion Control Plan, the Contractor shall describe the proposed stabilization and structural practices based on the Contractor's proposed Traffic Control Plan. The following recommended guidelines are based on the Traffic Control Plan. The Contractor may need to accept additional erosion control measures. The Contractor shall describe the proposed stabilization and structural practices, the Contractor may need to modify the plan to adapt to seasonal variation, and changes in construction activities.

2.1.1 Stabilization Practices:

In the Section 104 Erosion Control Plan, the Contractor shall describe the stabilization practices proposed to control erosion. The Contractor shall initiate all stabilization measures as soon as practical, but in no case more than 7 days. In portions of the site where construction activities have temporarily or permanently ceased, the stabilization practices shall include at least the following, unless otherwise approved by the County Engineer:

Temporary:

- Artificial coverings in accordance with Specification Section 104.
- Sodding / Sod in accordance with Specification Section 104.
- Contractor shall stabilize soil storage areas and stockpiles.

Permanent:

- Any portion of the re-graded levels shall be permanently stabilized within 7 days of final grading.
- Sod in accordance with Specification Section 575.
- 2.1.2 Structural Practices: In the Section 104 Erosion Control Plan, the Contractor shall describe the proposed structural practices to prevent the discharge of sediments from exposed areas of the site. Sediment controls shall be in place before disturbing soil upstream of the control. The structural practices shall include at least the following unless otherwise approved by the County Engineer:

Temporary:

- Silt fence, belted roll retention fences (BRPF) in accordance with Index 102 and Specification Section 104 and repair or rework to maintain water passage.
- Planting turbidity barrier in accordance with Index 103 and Specification Section 104

Permanent:

- Sod in accordance with Specification Section 570.
- 2.b Stormwater Management: Project is maintenance of existing drainage system and does not need treatment by SURVIMD permitting requirements.

2.c Other Controls:

- 2.c.1 Waste Disposal: In the Section 104 Erosion Control Plan, the Contractor shall describe the proposed methods to prevent the discharge of soil materials, including building materials, to waters of the United States. The proposed methods shall include at least the following:
 - Providing litter control and collection within the project during construction activities. Disposing of all fertilizer or other chemical containers according to EPA standard practices as detailed by the manufacturer.
 - Disposing of soil materials including building and construction materials off the project site.

2.c.2 Off-Site Vehicle Tracking & Dust Control:

In the Section 104 Erosion Control Plan, the Contractor shall describe the proposed methods for minimizing off-site tracking of sediments and dust. The methods shall include at least the following:

- Cleaning station at all ingress and egress points.
- Locations of construction entrances will be matted on a plans set provided to the Contractor at the pre-construction meeting. Contractor must submit a plan of adequate sediment tracking controls at ingress and egress points at the pre-construction meeting.
- Covering loaded haul trucks with tarpaulins.
- Removing excess dirt from roads daily.
- Using matway sweepers during dust generating activities such as excavation and hauling operations.
- 2.c.3 State and Local Regulations For Waste Disposal, Sanitary Sewer, Or Solid Lique Regulations - In the Section 104 Erosion Control Plan, the Contractor shall describe the proposed procedures to comply with applicable state and local regulations for waste disposal, and sanitary sewer or septic systems.
- 2.c.4 Fertilizers and Pesticides - In the Section 104 Erosion Control Plan, the Contractor shall describe the procedures for applying fertilizers and pesticides. The proposed procedures shall comply with applicable subsections of either Section 570 or 577 of the Specifications.
- 2.c.5 Toxic Substances - In the Section 104 Erosion Control Plan, the Contractor shall provide a list of toxic substances that are likely to be used on the job and provide a plan addressing the generation, application, migration, storage, and disposal of these substances.

3.0 MAINTENANCE:

In the Section 104 Erosion Control Plan, the Contractor shall provide a plan for maintaining all erosion and sediment

controls throughout construction. The maintenance plan shall at a minimum, comply with the following maintenance of silt fence, turbidity barrier, and belted roll retention fence (BRPF), per Section 104.

4.0 INSPECTIONS:

- Qualified personnel shall inspect the following items at least once every seven calendar days and within 24 hours of the end of a storm that is 0.50 inches or greater. The Contractor shall install and maintain rain gauges and record daily rainfall.
 - Disturbed areas of the site that have not been finally stabilized.
 - Areas used for storage of materials that are exposed to precipitation.
 - Structural controls.
 - Stormwater management systems.
 - Locations where vehicles enter or exit the site.
 - Outfall areas and discharge points.

The Contractor shall initiate repairs within 24 hours of inspections that indicate items require repair. If inspections indicate that the installed stabilization and structural practices are not sufficient to minimize erosion, retain sediment, and prevent discharging pollutants, the Contractor shall provide additional measures, as approved by the County.

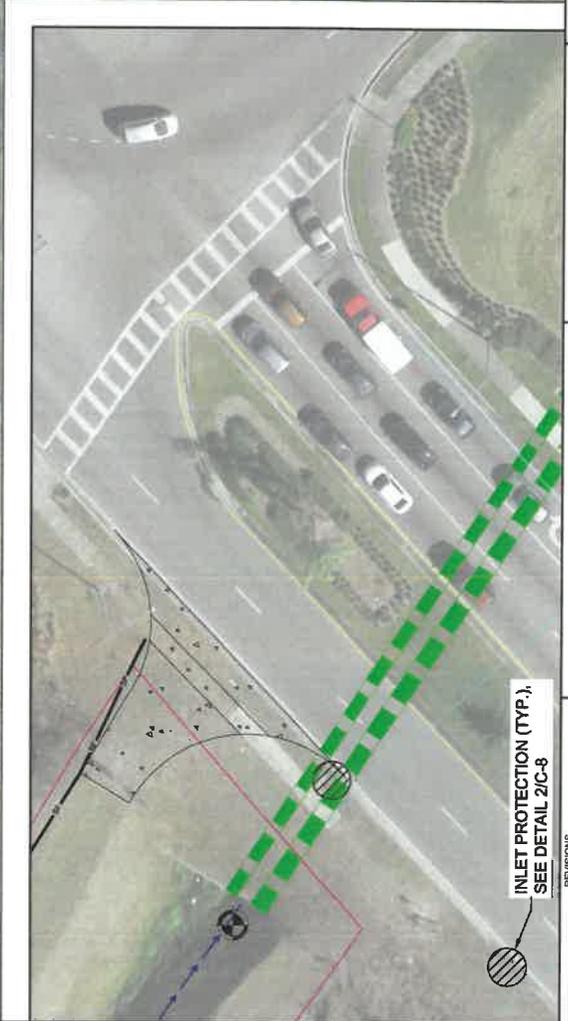
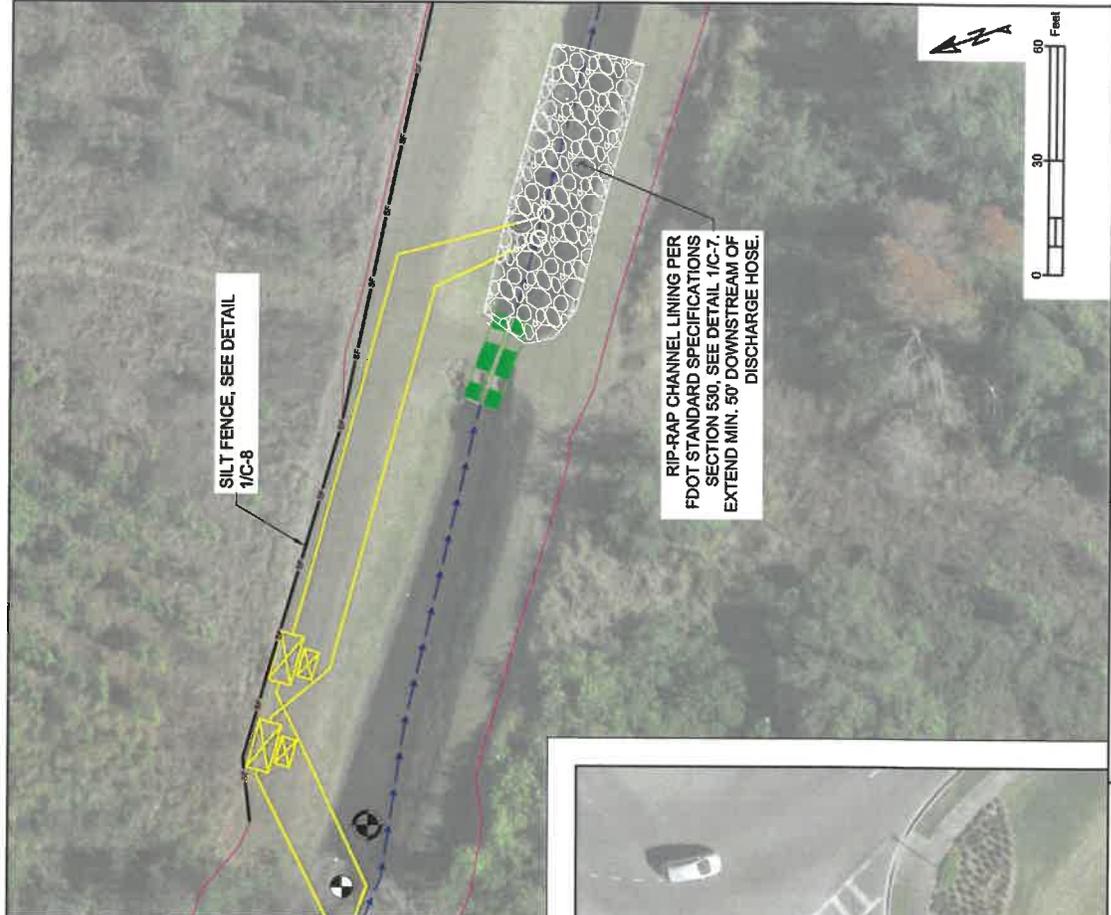
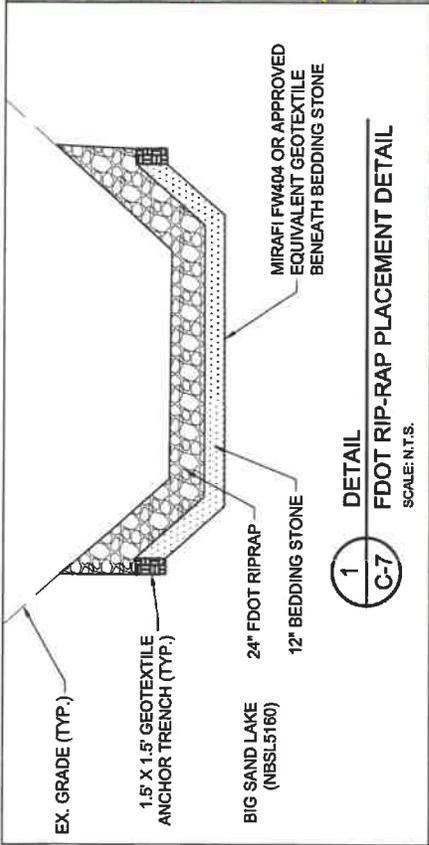
5.0 NON-Stormwater Discharges:

In the Section 104 Erosion Control Plan, the Contractor shall identify all anticipated non-stormwater discharges (except those from firefighting activities). The Contractor shall describe the proposed measures to prevent pollution of these non-stormwater discharges.

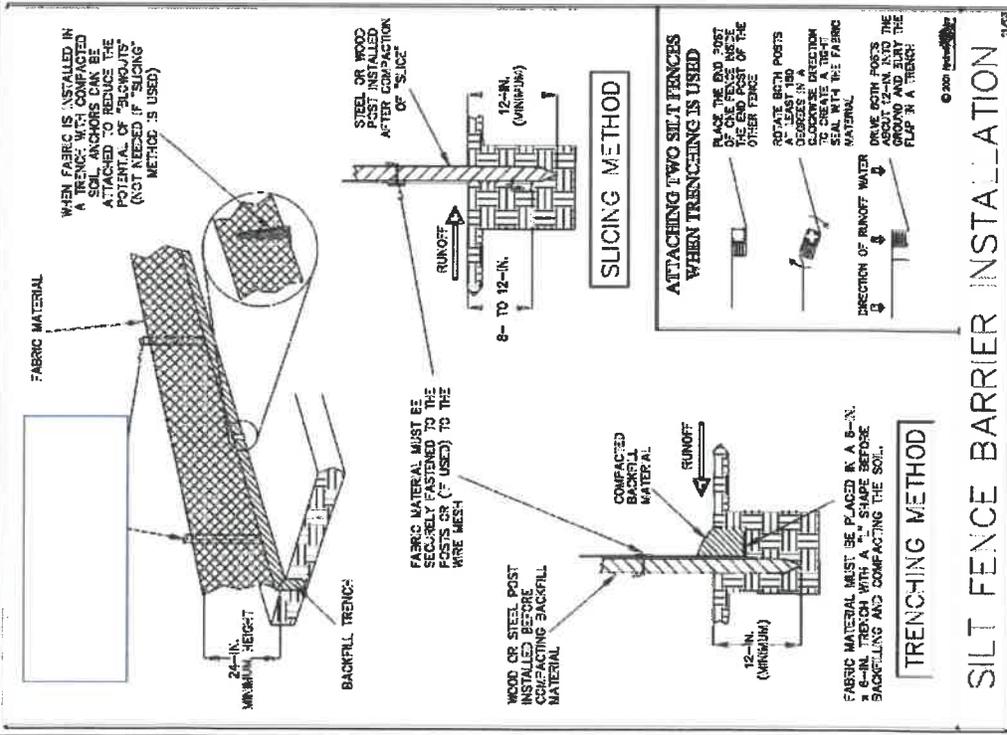
- Discharges - The Contractor shall develop and submit to the County prior to the pre-construction meeting the following information:
 - A description of the discharge, including the source, volume, and characteristics of the discharge.
 - A description of the discharge system that provides pretreatment of effluent prior to discharge into water bodies. Such treatment may include settling tanks, silt traps, and load diverting permit lines, valves, and regulators. Since the site is within 500 ft. of a known concentration, disposal to the sanitary sewer system shall be included as part of the effluent treatment plan.
- Dust Control - The Contractor shall develop in Section 104 Erosion Control Plan dust control plan, and remedial action to correct any malfunctioning measures.
- Equipment Washout - The Contractor shall develop in Section 104 Erosion Control Plan an effective plan to control equipment washout and other wash conditions from equipment cleaning operations, and remedial action to correct any malfunctioning measures.
- Hazardous Material Spills - The Contractor shall develop in Section 104 Erosion Control Plan an effective plan to control in the event any hazardous materials spill and remedial action to correct any malfunctioning measures. If the Contractor encounters contaminated soil or groundwater, the Contractor shall contact the Orange County Health Department, and the County immediately.

EROSION CONTROL GENERAL NOTES

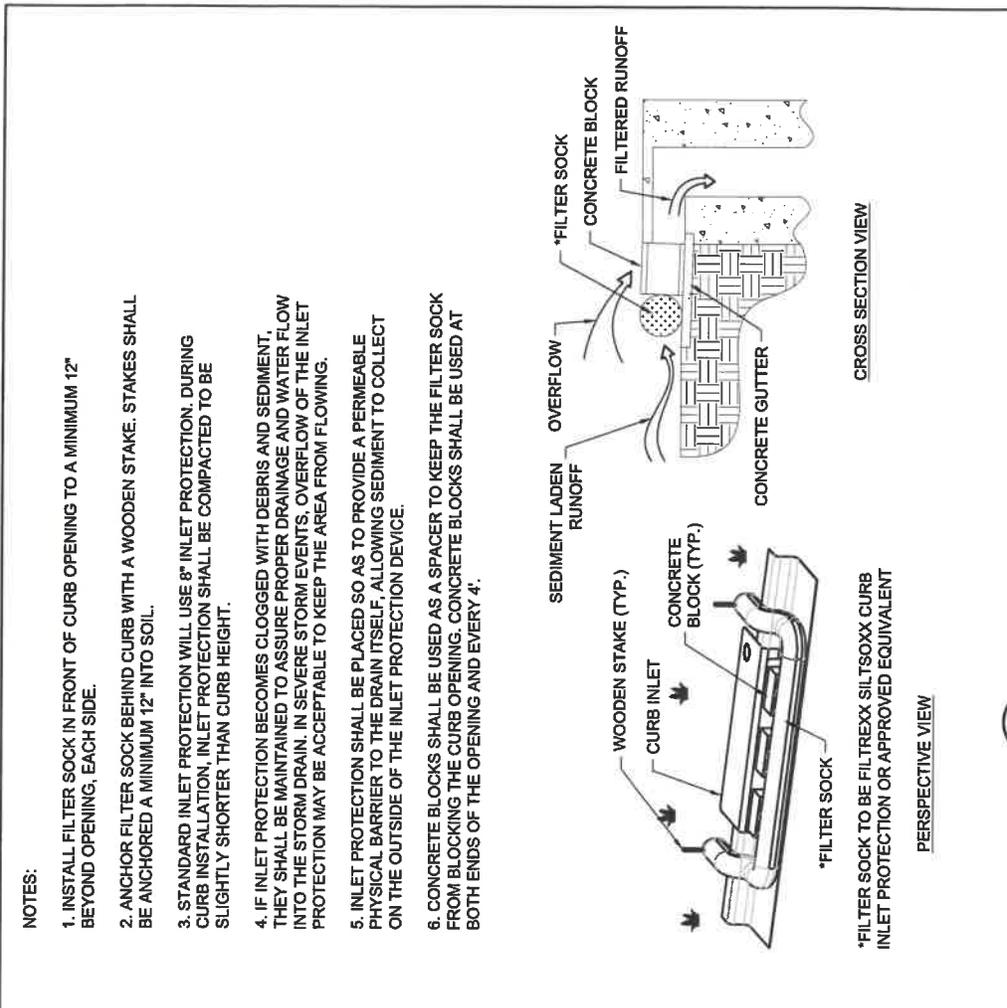
1. The contractor shall execute all measures necessary to limit the transport of sediments outside the limits of the project to the volume and amount that are existing prior to the commencement of construction. This condition will be satisfied for the total erosion control period. Problems must be made to preserve the integrity and capacity of the drainage system. The contractor shall provide silt barriers, turbidity barriers, rock bags, synthetic bank type barriers, temporary grouting, etc. as required to fully comply with the intent of this specification.
2. No excavated material shall be stockpiled in such a manner as to direct runoff directly off the project site or into any adjacent water body or stormwater collection facility.
3. The surface areas of open, raw erodible soil exposed by clearing and grubbing operations or excavation and filling operations shall be controlled, so that the operation will not significantly affect off-site deposit of sediments.
4. Ditch bottom inlets and adjacent surface waters, wetland, and conservation areas shall be protected from sediment laden stormwater runoff until the completion of construction operations that may contribute sediment to the inlet.
5. Areas opened by construction operations that are not anticipated to be dressed or receive final grading treatment within thirty days shall be seeded with a quick growing grass species which will provide an early cover during the season in which they are opened. Seeding shall be controlled so as to not interfere or compete with permanent grassing. The rate of seeding shall be 30 pounds per acre.
6. The seeded or sodded and mulched areas shall be rolled and watered as required to ensure optimum growing conditions for the establishment of a good grass cover.
7. If after 14 days, the temporary grassed areas have not attained a minimum of 75% good grass cover, the area will be reseeded and additional seed applied to establish the desired vegetation cover.
8. All features of the project shall be constructed to prevent erosion and sediment and shall be maintained during the life of the construction so as to function properly without the transport of sediments outside the limits of the project.
9. All disturbed areas outside the excavation and fill limits will be restored to a condition equal to or better than their condition prior to construction.
10. The contractor will be responsible for maintenance of all newly planted grasses or vegetation and retention/detention facilities until the work has been accepted by the County.
11. The contractor shall be responsible for the stability of embankments and shall replace any portion, which in the opinion of the engineer, has become displaced due to erosion of due to carelessness or negligence on the part of the contractor.
12. The contractor shall comply with all federal, state and local laws and regulations controlling pollution of the environment. Such restrictions shall be in accordance with the current FDOT standards.
13. Absolutely no work will be allowed within any conservation area, buffer area, riparian area or designated wetland area unless so specifically specified by the plans and granted by reason of permit from the governmental entity having jurisdiction over said area.
14. All fill embankment and graded areas shall be protected against erosion by methods stated in section 104, F.D.O.T. Standard Specifications for Bridge and Road Construction. Slope slopes may be seeded and mulched, provided that the mulch material is dark, harvested and the side slopes are neither greater than 3:1 nor part of a drainage conveyance.



SHEET NO. C-7	
EROSION AND SEDIMENT CONTROL PLAN	
 3800 LAKE LYNN DRIVE ORLANDO, FL 32817 MICHAEL E. DUFFELL, PE AUTO-OPERATION NUMBER 021	
 BIG SAND LAKE DRAWDOWN	
DATE	DESCRIPTION



1 DETAIL
C-8 INLET PROTECTION
 SCALE: N.T.S.



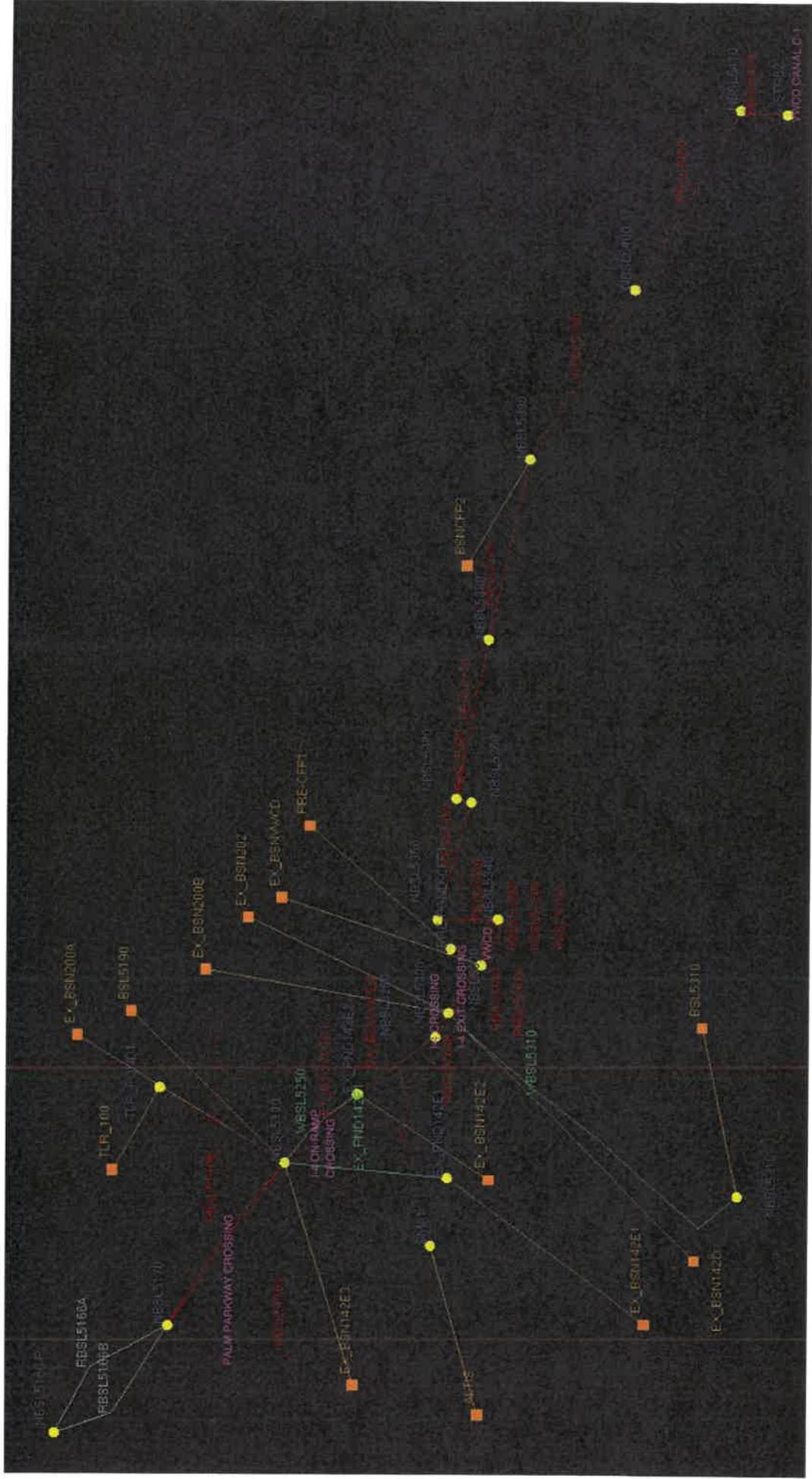
2 DETAIL
C-8 INLET PROTECTION
 SCALE: N.T.S.

- NOTES:**
1. INSTALL FILTER SOCK IN FRONT OF CURB OPENING TO A MINIMUM 12" BEYOND OPENING, EACH SIDE.
 2. ANCHOR FILTER SOCK BEHIND CURB WITH A WOODEN STAKE. STAKES SHALL BE ANCHORED A MINIMUM 12" INTO SOIL.
 3. STANDARD INLET PROTECTION WILL USE 8" INLET PROTECTION. DURING CURB INSTALLATION, INLET PROTECTION SHALL BE COMPACTED TO BE SLIGHTLY SHORTER THAN CURB HEIGHT.
 4. IF INLET PROTECTION BECOMES CLOGGED WITH DEBRIS AND SEDIMENT, THEY SHALL BE MAINTAINED TO ASSURE PROPER DRAINAGE AND WATER FLOW INTO THE STORM DRAIN. IN SEVERE STORM EVENTS, OVERFLOW OF THE INLET PROTECTION MAY BE ACCEPTABLE TO KEEP THE AREA FROM FLOWING.
 5. INLET PROTECTION SHALL BE PLACED SO AS TO PROVIDE A PERMEABLE PHYSICAL BARRIER TO THE DRAIN ITSELF, ALLOWING SEDIMENT TO COLLECT ON THE OUTSIDE OF THE INLET PROTECTION DEVICE.
 6. CONCRETE BLOCKS SHALL BE USED AS A SPACER TO KEEP THE FILTER SOCK FROM BLOCKING THE CURB OPENING. CONCRETE BLOCKS SHALL BE USED AT BOTH ENDS OF THE OPENING AND EVERY 4'.

		SHEET NO. C-8												
		EROSION CONTROL DETAILS												
3000 LAKE LYNN BLVD SUITE 100 ORLANDO, FL 32817 PHONE: 407.222.1111 FAX: 407.222.1111 AUTHORIZATION NUMBER: 0221														
1 DETAIL C-8 INLET PROTECTION SCALE: N.T.S.														
2 DETAIL C-8 INLET PROTECTION SCALE: N.T.S.														
REVISIONS <table border="1"> <thead> <tr> <th>DATE</th> <th>BY</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		DATE	BY	DESCRIPTION										
DATE	BY	DESCRIPTION												
BIG SAND LAKE DRAWDOWN														
PROJECT: SWANEE 1/18/2019/1793 BIG SAND LAKE DRAWDOWN/2020/09/F/W/1793-BL-C78-ESC/DWG (NUMBER: 220-1004/MH)														

APPENDIX B: **Nodal Diagram, ICPR Results, and Input Report**

BIG SAND LAKE DRAWDOWN - ICP4 NODAL DIAGRAM



THE DATA REPRESENTED ABOVE IS A RELEVANT SELECTION OF DATA FROM SUPPORT DOCUMENTATION SUBMITTED WITH APPLICATION NO. 181212-0147. FOR ADDITIONAL INFORMATION, REFER TO THE MODEL DATA SUBMITTED UNDER APPLICATION NO. 181212-0147

Node Max Conditions [2 Pumps - 22.2 cfs Total]

Node Name	Sim Name	Warning Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
EX_PND142E 1	VWCD Capacity	113.00	110.36	0.0001	1.39	0.00	12544
EX_PND142E 2	VWCD Capacity	103.00	99.35	0.0008	36.76	38.38	2449
NBSL5160	VWCD Capacity	95.00	95.84	0.0000	1561.45	759.14	49251452
NBSL5170	VWCD Capacity	107.00	99.40	0.0196	22.20	22.34	779
NBSL5190	VWCD Capacity	102.00	99.39	0.0010	34.41	35.98	7088
NBSL5260	VWCD Capacity	123.50	99.26	-0.0013	38.38	37.60	1608
NBSL5300	VWCD Capacity	106.92	99.26	0.0013	31.04	30.21	328
NBSL5310	VWCD Capacity	108.00	106.61	0.0000	12.54	0.00	233480
NBSL5330	VWCD Capacity	106.00	99.09	0.0009	62.30	62.06	3486
NBSL5340	VWCD Capacity	112.00	98.97	0.0008	62.06	62.04	556
NBSL5350	VWCD Capacity	107.60	98.55	-0.0010	62.04	62.04	957
NBSL5360	VWCD Capacity	111.70	97.85	0.0010	62.04	62.04	751
NBSL5370	VWCD Capacity	112.00	96.82	0.0010	62.04	62.05	1403
NBSL5380	VWCD Capacity	111.20	95.95	0.0033	62.05	62.06	1877
NBSL5390	VWCD Capacity	107.60	95.04	0.0010	64.52	64.50	2974
NBSL5400	VWCD Capacity	99.00	92.61	0.0010	64.50	64.49	1880
NBSL5410	VWCD Capacity	96.00	91.33	0.1713	193.78	64.50	1158
PRE-POND-CF P1	VWCD Capacity	106.00	104.88	0.0002	4.34	4.27	9249
SMA1	VWCD Capacity	113.10	111.12	0.0002	8.21	5.06	24517
TLR_POND1	VWCD Capacity	102.50	101.39	0.0000	7.13	2.95	98208
V-STR52	VWCD Capacity	96.09	91.11	-0.1431	64.60	193.78	80823

Link Min/Max Conditions [2 Pumps - 22.2 cfs Total]

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
DSMA1 - Pipe	VWCD Capacity	5.06	0.00	0.00	0.00	0.00	0.00
DSMA1 - Weir: 1	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
DSMA1 - Weir: 2	VWCD Capacity	5.06	0.00	0.00	3.02	3.02	3.02
DS_PND142E 1 - Pipe	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
DS_PND142E 1 - Weir: 1	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
DS_PND142E 1 - Weir: 2	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
EX_BSLVWCD 1	VWCD Capacity	0.00	-35.98	-0.06	-1.54	-4.64	-3.02
EX_BSLVWCD 2	VWCD Capacity	38.38	0.00	-1.82	2.73	2.94	2.70
EX_PND142E 1	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
PBSL5170A	VWCD Capacity	14.60	0.00	0.13	2.89	4.64	3.76
PBSL5170B	VWCD Capacity	10.69	0.00	0.07	3.10	4.73	3.91
PBSL5260A	VWCD Capacity	28.56	-0.02	-0.22	3.01	3.55	3.09
PBSL5260B	VWCD Capacity	10.24	-0.01	3.87	2.48	2.69	2.50
PBSL5300	VWCD Capacity	30.21	-0.05	0.26	2.40	3.38	2.77
PBSL5330A	VWCD Capacity	20.69	-0.42	-0.04	2.93	2.93	2.93
PBSL5330B	VWCD Capacity	20.69	-0.40	-0.04	2.93	2.93	2.93
PBSL5330C	VWCD Capacity	20.69	-0.17	-0.04	2.93	2.93	2.93
PBSL5340	VWCD Capacity	62.04	-2.34	0.02	4.94	4.94	4.94
PBSL5350	VWCD Capacity	62.04	0.00	0.01	4.94	4.94	4.94
PBSL5360	VWCD Capacity	62.04	0.00	0.02	5.21	8.66	6.06
PBSL5370	VWCD Capacity	62.05	0.00	0.02	4.94	5.12	5.03
PBSL5380	VWCD Capacity	62.06	0.00	0.02	5.05	5.20	5.12
PBSL5390	VWCD Capacity	64.50	0.00	0.02	5.31	7.85	6.58

Link Name	Sim Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
PBSL5400	VWCD Capacity	64.49	0.00	0.11	5.32	5.13	5.22
PBSL5410	VWCD Capacity	64.50	-193.78	14.06	-8.16	-10.77	-9.46
PRE-OCS-CFP 1 - Pipe	VWCD Capacity	4.27	0.00	0.28	0.00	0.00	0.00
PRE-OCS-CFP 1 - Weir: 1	VWCD Capacity	3.79	0.00	-0.01	1.46	1.46	1.46
PRE-OCS-CFP 1 - Weir: 2	VWCD Capacity	0.49	0.00	0.00	0.00	0.00	0.00
TLR_POND1R EACH - Pipe	VWCD Capacity	2.95	0.00	0.00	0.00	0.00	0.00
TLR_POND1R EACH - Weir: 1	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
TLR_POND1R EACH - Weir: 2	VWCD Capacity	2.54	0.00	0.00	1.79	1.79	1.79
TLR_POND1R EACH - Weir: 3	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
TLR_POND1R EACH - Weir: 4	VWCD Capacity	0.42	0.00	0.00	3.78	3.78	3.78
WBSL5250	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00
WBSL5310	VWCD Capacity	0.00	0.00	0.00	0.00	0.00	0.00

Manual Basin Runoff Summary [2 Pumps - 22.2 cfs Total]

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
ALTIS	VWCD Capacity	8.21	9.2000	5.00	2.63	13.5200	77.0	0.00	0.00
BSL5130	VWCD Capacity	8.27	9.0000	5.00	4.07	8.6130	91.9	0.00	0.00
BSNCFP2	VWCD Capacity	3.82	9.0000	5.00	4.37	4.1300	94.6	86.00	86.00
EX_BSN14 2D	VWCD Capacity	10.73	9.0000	5.00	3.36	13.9100	85.0	0.00	0.00
EX_BSN14 2E1	VWCD Capacity	1.39	9.0000	5.00	3.99	1.5200	91.1	44.08	44.08
EX_BSN14	VWCD	1.73	9.0000	5.00	3.99	1.8900	91.0	43.92	43.92

Basin Name	Sim Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]	Equivalent Curve Number	% Imperv	% DCIA
2E2	Capacity								
EX_BSN14	VWCD	0.91	9.0000	5.00	1.72	2.0300	65.9	1.03	1.03
2E3	Capacity								
EX_BSN20	VWCD	6.42	9.0000	5.00	3.26	9.1700	83.9	58.02	58.02
0A	Capacity								
EX_BSN20	VWCD	1.87	9.0000	5.00	1.49	4.8100	62.7	0.00	0.00
0B	Capacity								
EX_BSN20	VWCD	13.78	10.0000	5.00	1.87	35.5200	67.9	0.00	0.00
2	Capacity								
EX_BSNV	VWCD	0.83	9.0000	5.00	3.40	0.9700	85.3	0.00	0.00
WCD	Capacity								
PRE-CFP1	VWCD	4.34	9.0000	5.00	4.02	4.7100	91.3	45.90	45.90
	Capacity								
TLR_100	VWCD	7.13	9.0000	5.00	3.21	11.0300	83.3	61.20	61.20
	Capacity								

Manual Basin: ALTIS

Scenario: Pumping Activity Model Components
 Node: SMA1
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 31.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: Uh323
 Peaking Factor: 323.0
 Area: 13.5200 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
13.5200	ALTIS	ALTIS			

Comment: PER SWFWMD PERMIT 48-02286-P

Manual Basin: BSL5190

Scenario: Pumping Activity Model Components
 Node: NBSL5190
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: Uh256
 Peaking Factor: 256.0
 Area: 0.8500 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.8500	BSL5190	BSL5190			

Comment:

Manual Basin: BSL5310

Scenario: Pumping Activity Model Components
 Node: NBSL5310
 Hydrograph Method: NRCS Unit Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 34.4000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Unit Hydrograph: Uh256
 Peaking Factor: 256.0
 Area: 19.0300 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
19.0300	BSL5310	BSL5310			

Comment:

Manual Basin: BSNCFP2

Scenario: Pumping Activity Model Components
Node: NBSL5390
Hydrograph Method: Santa Barbara Urban Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 10.0000 min
Max Allowable Q: 99999.00 cfs
Time Shift: 0.0000 hr
Area: 4.1300 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
4.1300	BSNCFP2	BSNCFP2			

Comment: Draft Drainage Report, CH2M Hill, February 2018

Manual Basin: EX_BSN142D

Scenario: Pumping Activity Model Components
Node: NBSL5300
Hydrograph Method: Santa Barbara Urban Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 33.3000 min
Max Allowable Q: 99999.00 cfs
Time Shift: 0.0000 hr
Area: 13.9100 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
13.9100	EX_BSN142D	EX_BSN142D			

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Manual Basin: EX_BSN142E1

Scenario: Pumping Activity Model Components
Node: EX_PND142E1
Hydrograph Method: Santa Barbara Urban Hydrograph
Infiltration Method: Curve Number
Time of Concentration: 10.0000 min

Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 1.5200 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.5200	EX_BSN142E1	EX_BSN142E1			

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Manual Basin: EX_BSN142E2

Scenario: Pumping Activity Model Components
 Node: EX_PND142E2
 Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 1.8900 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
1.8900	EX_BSN142E2	EX_BSN142E2			

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Manual Basin: EX_BSN142E3

Scenario: Pumping Activity Model Components
 Node: NBSL5190
 Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 2.0300 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
2.0300	EX_BSN142E3	EX_BSN142E3			

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Manual Basin: EX_BSN200A

Scenario: Pumping Activity Model Components
 Node: NBSL5190

Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 9.1700 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
9.1700	EX_BSN200A	EX_BSN200A			

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Manual Basin: EX_BSN200B

Scenario: Pumping Activity Model Components
 Node: NBSL5300
 Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 4.8100 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
4.8100	EX_BSN200B	EX_BSN200B			

Comment: Draft Drainage Report, CH2M Hill, February 2018

Manual Basin: EX_BSN202

Scenario: Pumping Activity Model Components
 Node: NBSL5300
 Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 50.0000 min
 Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 35.5200 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
35.5200	EX_BSN202	EX_BSN202			

Comment: Draft Drainage Report, CH2M Hill, February 2018

Manual Basin: EX_BSNVWCD

Scenario: Pumping Activity Model Components
 Node: NBSL5330
 Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 0.9700 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
0.9700	EX_BSNVWCD	EX_BSNVWCD			

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Manual Basin: PRE-CFP1

Scenario: Pumping Activity Model Components
 Node: PRE-POND-CFP1
 Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 10.0000 min
 Max Allowable Q: 99999.00 cfs
 Time Shift: 0.0000 hr
 Area: 4.7100 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
4.7100	PRE-CFP1	PRE-CFP1			

Comment: Draft Drainage Report, CH2M Hill, February 2018

Manual Basin: TLR_100

Scenario: Pumping Activity Model Components
 Node: TLR_POND1
 Hydrograph Method: Santa Barbara Urban Hydrograph
 Infiltration Method: Curve Number
 Time of Concentration: 22.5000 min
 Max Allowable Q: 0.00 cfs
 Time Shift: 0.0000 hr
 Area: 11.0300 ac

Area [ac]	Land Cover Zone	Soil Zone	Rainfall Name	Crop Coefficient Zone	Reference ET Station
11.0300	TLR_100	TLR_100			

Comment:

Node: EX_PND142E1

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 108.00 ft
 Warning Stage: 113.00 ft

Stage [ft]	Area [ac]	Area [ft2]
108.00	0.1200	5227
109.00	0.2100	9148
110.00	0.2700	11761
111.00	0.3200	13939
112.00	0.3700	16117
113.00	0.4300	18731
113.43	0.4600	20038
114.00	0.4900	21344

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Node: EX_PND142E2

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 95.06 ft
 Warning Stage: 103.00 ft

Stage [ft]	Area [ac]	Area [ft2]
95.00	0.0120	523
96.00	0.0150	653
97.00	0.0180	784
98.00	0.0220	958
99.00	0.0270	1176
100.00	0.0320	1394
101.00	0.0380	1655
102.00	0.0470	2047
103.00	0.0570	2483
104.00	0.0950	4138

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Node: NBSL5160 P

Scenario: Pumping Activity Model
 Components

Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 95.64 ft
 Warning Stage: 100.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
86.24	0.0000	1
87.24	921.9044	40158157
88.24	954.5782	41581425
89.24	983.8926	42858360
90.24	1012.9363	44123507
91.24	1037.9517	45213174
92.24	1060.5948	46199511
93.24	1082.2815	47144184
94.24	1103.2897	48059299
95.24	1121.0169	48831498
96.24	1137.0618	49530412
97.24	1152.1769	50188827
98.24	1167.4618	50854635
99.24	1185.5210	51641294
100.24	1213.8972	52877360
101.24	1234.4078	53770802
102.24	1253.8356	54617078
103.24	1274.6702	55524636
104.24	1291.1037	56240475
105.24	1304.2245	56812018
106.24	1314.8619	57275383
107.24	1326.5286	57783584
108.24	1337.0787	58243149
109.24	1346.8881	58670444
110.24	1357.5528	59135002
111.24	1370.6137	59703934
112.24	1382.2382	60210298
113.24	1394.5514	60746660
114.24	1412.2412	61517227
115.24	1427.0549	62162511
116.24	1438.1114	62644132
117.24	1449.3753	63134789
118.24	1464.1152	63776859
119.24	1474.9550	64249039
120.24	1480.5158	64491270
121.24	1488.3715	64833463
122.24	1495.8923	65161070
123.24	1502.2938	65439920
124.24	1510.9244	65815869
125.24	1513.2700	65918043
126.24	1515.5588	66017740
127.24	1517.9404	66121485
128.24	1520.2236	66220940

Stage [ft]	Area [ac]	Area [ft2]
129.24	1523.0992	66346200
130.24	1526.6816	66502249
131.24	1530.4270	66665401
132.24	1533.3999	66794901
133.24	1535.7639	66897876
134.24	1536.5952	66934087
135.00	1536.7038	66938818

Comment:

Node: NBSL5170

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 92.17 ft
 Warning Stage: 107.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
107.57	0.0000	1
108.57	0.0595	2592
109.57	0.1200	5227
110.57	0.1800	7841
111.57	0.4000	17424
112.57	1.6900	73616
113.57	4.1500	180774
114.57	4.6500	202554
116.00	5.6500	246114

Comment: IC: Invert

Node: NBSL5190

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 94.63 ft
 Warning Stage: 102.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
97.00	0.0480	2091
98.00	0.1100	4792

Stage [ft]	Area [ac]	Area [ft2]
99.00	0.1500	6534
100.00	0.1800	7841
101.00	0.2200	9583
102.00	0.2500	10890
103.00	0.3000	13068
104.00	0.3400	14810
105.00	0.3800	16553
106.00	0.4300	18731
107.00	0.4800	20909
108.00	0.5500	23958
109.00	0.6000	26136
110.00	0.6700	29185
111.00	0.7600	33106
112.00	1.0200	44431
113.00	4.9100	213880
114.00	5.9000	257004
115.00	6.6200	288367
116.00	7.3300	319295

Comment: IC: Invert

Node: NBSL5200

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 111.89 ft
 Warning Stage: 117.50 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
113.00	0.0472	2056
114.00	0.6800	29621
115.00	1.5300	66647
116.00	1.8400	80150
117.00	2.5400	110642
118.00	4.3500	189486
119.00	5.1600	224770
120.00	5.2600	229126
121.00	5.3500	233046
122.00	5.4200	236095
123.00	5.4900	239144
124.00	5.5600	242194
125.00	5.6200	244807
126.00	5.6700	246985
127.00	5.7200	249163

Stage [ft]	Area [ac]	Area [ft2]
128.00	5.7800	251777
129.00	5.8200	253519
130.00	5.8600	255262
131.00	5.9100	257440
132.00	5.9500	259182
133.00	5.9700	260053
134.00	6.0000	261360
135.00	6.0100	261796
136.00	6.0400	263102
137.00	6.0600	263974
138.00	6.0700	264409
139.00	6.0800	264845

Comment: IC: Invert

Node: NBSL5210

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 111.19 ft
 Warning Stage: 115.50 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
112.00	0.0600	2614
113.00	0.6700	29185
114.00	1.6400	71438
115.00	2.2600	98446
116.00	3.0100	131116
117.00	4.2600	185566
118.00	5.6600	246550
119.00	5.8100	253084
120.00	5.9400	258746
121.00	6.0600	263974
122.00	6.1800	269201
123.00	6.2800	273557
124.00	6.3800	277913
125.00	6.4800	282269
126.00	6.5800	286625
127.00	6.6700	290545
128.00	6.7700	294901
129.00	6.8600	298822
130.00	6.9700	303613
131.00	7.0700	307969
132.00	7.1700	312325

Stage [ft]	Area [ac]	Area [ft2]
133.00	7.2800	317117
134.00	7.4000	322344
135.00	7.4900	326264
136.00	7.5700	329749
137.00	7.6600	333670
138.00	7.7400	337154
139.00	7.8500	341946
140.00	7.9000	344124
141.00	7.9600	346738
142.00	8.0100	348916
143.00	8.0700	351529
144.00	8.1200	353707
145.00	8.1700	355885
146.00	8.2200	358063
147.00	8.2600	359806
148.00	8.3000	361548
149.00	8.3500	363726
150.00	8.3900	365468
151.00	8.4300	367211
152.00	8.4800	369389
153.00	8.5400	372002
154.00	8.5900	374180
155.00	8.6300	375923
156.00	8.6700	377665

Comment: IC: Invert

Node: NBSL5230

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 98.75 ft
 Warning Stage: 102.10 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
98.82	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5240

Scenario: Pumping Activity Model

Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 98.59 ft
 Warning Stage: 103.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
98.62	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5260

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 94.80 ft
 Warning Stage: 123.50 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
94.82	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5300

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 94.84 ft
 Warning Stage: 106.92 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
106.92	0.0001	4
107.00	2.0100	87556
108.00	2.8800	125453
109.00	4.0900	178160
110.00	5.6900	247856
111.00	6.2800	273557
112.00	6.5100	283576

Stage [ft]	Area [ac]	Area [ft2]
113.00	6.7300	293159
114.00	6.9200	301435
115.00	7.0800	308405
116.00	7.2600	316246
117.00	7.4300	323651
118.00	7.6100	331492
119.00	7.8000	339768
120.00	8.0000	348480
121.00	8.2100	357628
122.00	8.5100	370696
123.00	8.8700	386377
124.00	9.3500	407286
125.00	9.5900	417740

Comment: IC: Invert

Node: NBSL5310

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 105.00 ft
 Warning Stage: 108.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
105.00	0.2500	10890
106.00	3.9400	171626
107.00	6.2600	272686
108.00	8.2500	359370
109.00	10.0600	438214
110.00	11.5500	503118
111.00	13.0600	568894
112.00	14.6300	637283
113.00	16.4300	715691
114.00	18.3700	800197
115.00	18.5600	808474
116.00	18.6000	810216
117.00	18.6500	812394
118.00	18.6900	814136
119.00	18.7400	816314
120.00	18.8600	821542

Comment: IC: Ground Elevation

Node: NBSL5330

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 94.80 ft
 Warning Stage: 106.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
100.00	0.0649	2827
101.00	0.0761	3315
102.00	0.0879	3829
103.00	0.1000	4356
104.00	0.1100	4792
105.00	0.1300	5663
106.00	0.1500	6534
107.00	0.1800	7841
108.00	0.2000	8712
109.00	0.2600	11326
110.00	0.4300	18731
111.00	0.5900	25700
112.00	0.6300	27443

Comment: IC: DEM Water Surface

Node: NBSL5340

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 94.80 ft
 Warning Stage: 112.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
94.54	0.0001	4
200.00	0.0001	4

Comment: IC: Upstream Water Surface

Node: NBSL5350

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area

Base Flow: 0.00 cfs
 Initial Stage: 95.41 ft
 Warning Stage: 107.60 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
94.53	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5360

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 94.78 ft
 Warning Stage: 111.70 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
93.90	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5370

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 93.34 ft
 Warning Stage: 112.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
92.46	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5380

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 91.99 ft
 Warning Stage: 111.20 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
92.02	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5390

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 91.42 ft
 Warning Stage: 107.60 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
91.45	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5400

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 88.85 ft
 Warning Stage: 99.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
88.88	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: NBSL5410

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 84.86 ft
 Warning Stage: 96.00 ft

Stage [ft]	Area [ac]	Area [ft2]
0.00	0.0000	0
84.89	0.0001	4
200.00	0.0001	4

Comment: IC: Invert

Node: PRE-POND-CFP1

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 102.00 ft
 Warning Stage: 106.00 ft

Stage [ft]	Area [ac]	Area [ft2]
96.00	0.0450	1960
102.00	0.0950	4138
103.00	0.1450	6316
104.00	0.1790	7797
105.00	0.2170	9453
106.00	0.2610	11369

Comment: Draft Drainage Report, CH2M Hill, February 2018

Node: SMA1

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 108.00 ft
 Warning Stage: 113.10 ft

Stage [ft]	Area [ac]	Area [ft2]
108.00	0.2800	12197
109.00	0.3600	15682
110.00	0.4500	19602

Stage [ft]	Area [ac]	Area [ft2]
111.00	0.5500	23958
112.00	0.6600	28750
113.00	0.7700	33541

Comment: PER SWFWMD PERMIT 48-02286-P

Node: TLR_POND1

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 100.59 ft
 Warning Stage: 102.50 ft

Stage [ft]	Area [ac]	Area [ft2]
92.59	1.0400	45302
94.59	1.2900	56192
98.59	1.5400	67082
100.59	2.1500	93654
102.59	2.4100	104980
104.59	2.9700	129373

Comment: IC: Control Elevation

Node: V-STR52

Scenario: Pumping Activity Model
 Components
 Type: Stage/Area
 Base Flow: 0.00 cfs
 Initial Stage: 91.09 ft
 Warning Stage: 96.09 ft

Stage [ft]	Area [ac]	Area [ft2]
90.09	0.0150	653
91.10	0.0300	1307
91.11	3.0000	130680
91.12	3.2000	139392
91.13	3.2100	139828
91.14	3.2200	140263
91.59	3.2300	140699
92.09	3.2400	141134
93.09	3.2500	141570
94.09	3.2600	142006
95.09	3.2700	142441

Stage [ft]	Area [ac]	Area [ft ²]
96.09	3.3400	145490

Comment: INFORMATION FROM VDD REPORT

Drop Structure Link: DSMA1		Upstream Pipe	Downstream Pipe
Scenario:	Pumping Activity	Invert: 103.17 ft	Invert: 98.00 ft
Model Components:		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	SMA1	Geometry: Circular	Geometry: Circular
To Node:	NBSL5190	Max Depth: 3.00 ft	Max Depth: 3.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Solution:	Combine	Op Table:	Op Table:
Increments:	10	Ref Node:	Ref Node:
Pipe Count:	1	Manning's N: 0.0120	Manning's N: 0.0120
Damping:	0.0000 ft	Top Clip	
Length:	361.00 ft	Default: 0.00 ft	Default: 0.00 ft
FHWA Code:	1	Op Table:	Op Table:
Entr Loss Coef:	0.50	Ref Node:	Ref Node:
Exit Loss Coef:	0.00	Manning's N: 0.0120	Manning's N: 0.0120
Bend Loss Coef:	0.00		
Bend Location:	0.00 dec		
Energy Switch:	Energy		

Pipe Comment:

Weir Component		
Weir:	1	Bottom Clip
Weir Count:	1	Default: 0.00 ft
Weir Flow Direction:	Both	Op Table:
Damping:	0.0000 ft	Ref Node:
Weir Type:	Horizontal	Top Clip
Geometry Type:	Rectangular	Default: 0.00 ft
Invert:	112.00 ft	Op Table:
Control Elevation:	112.00 ft	Ref Node:
Max Depth:	3.00 ft	Discharge Coefficients
Max Width:	4.50 ft	Weir Default: 2.860
Fillet:	0.00 ft	Weir Table:
		Orifice Default: 0.600
		Orifice Table:

Weir Comment:

Weir Component		
Weir:	2	Bottom Clip
Weir Count:	1	Default: 0.00 ft
Weir Flow Direction:	Both	Op Table:
Damping:	0.0000 ft	Ref Node:
Weir Type:	Sharp Crested Vertical	Top Clip

Geometry Type: Rectangular
 Invert: 110.00 ft
 Control Elevation: 110.00 ft
 Max Depth: 2.00 ft
 Max Width: 1.50 ft
 Fillet: 0.00 ft

Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 2.860
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Drop Structure Comment: PER SWFWMD PERMIT 48-02286-P

Drop Structure Link: DS_PND142E1

	Upstream Pipe	Downstream Pipe
Scenario:	Pumping Activity	
Model Components:		
From Node:	EX_PND142E1	EX_PND142E2
To Node:	EX_PND142E2	EX_PND142E1
Link Count:	1	1
Flow Direction:	Both	Both
Solution:	Combine	Combine
Increments:	10	10
Pipe Count:	1	1
Damping:	0.0000 ft	0.0000 ft
Length:	353.00 ft	353.00 ft
FHWA Code:	48	48
Entr Loss Coef:	0.50	0.50
Exit Loss Coef:	1.00	1.00
Bend Loss Coef:	0.00	0.00
Bend Location:	0.00 dec	0.00 dec
Energy Switch:	Energy	Energy

Pipe Comment:

Weir Component

	Bottom Clip	Top Clip
Weir:	1	1
Weir Count:	2	2
Weir Flow Direction:	Both	Both
Damping:	0.0000 ft	0.0000 ft
Weir Type:	Sharp Crested Vertical	Sharp Crested Vertical
Geometry Type:	Circular	Circular
Invert:	111.93 ft	111.93 ft
Control Elevation:	111.93 ft	111.93 ft
Max Depth:	0.33 ft	0.33 ft
	Discharge Coefficients	Discharge Coefficients
	Weir Default: 3.200	Weir Default: 3.200
	Weir Table:	Weir Table:
	Orifice Default: 0.600	Orifice Default: 0.600
	Orifice Table:	Orifice Table:

Weir Comment:

Weir Component	
Weir: 2	Bottom Clip
Weir Count: 1	Default: 0.00 ft
Weir Flow Direction: Both	Op Table:
Damping: 0.0000 ft	Ref Node:
Weir Type: Horizontal	Top Clip
Geometry Type: Rectangular	Default: 0.00 ft
Invert: 113.43 ft	Op Table:
Control Elevation: 113.43 ft	Ref Node:
Max Depth: 3.08 ft	Discharge Coefficients
Max Width: 4.08 ft	Weir Default: 3.200
Fillet: 0.00 ft	Weir Table:
	Orifice Default: 0.600
	Orifice Table:

Weir Comment:

Drop Structure Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Pipe Link: EX_BSLVWCD1	Upstream	Downstream
Scenario: Pumping Activity	Invert: 95.41 ft	Invert: 94.71 ft
Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node: EX_PND142E2	Geometry: Circular	Geometry: Circular
To Node: NBSL5190	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count: 2	Bottom Clip	
Flow Direction: Both	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 78.00 ft	Ref Node:	Ref Node:
FHWA Code: 1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef: 0.00	Top Clip	
Exit Loss Coef: 1.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 dec	Ref Node:	Ref Node:
Energy Switch: Energy	Manning's N: 0.0120	Manning's N: 0.0120

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Pipe Link: EX_BSLVWCD2	Upstream	Downstream
Scenario: Pumping Activity	Invert: 95.07 ft	Invert: 94.71 ft
Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node: EX_PND142E2	Geometry: Rectangular	Geometry: Rectangular
To Node: NBSL5260	Max Depth: 4.17 ft	Max Depth: 4.17 ft
Link Count: 1	Max Width: 5.50 ft	Max Width: 5.50 ft
Flow Direction: Both	Fillet: 0.00 ft	Fillet: 0.00 ft
Damping: 0.0000 ft	Bottom Clip	

Length:	411.00 ft	Default:	0.00 ft	Default:	0.00 ft
FHWA Code:	15	Op Table:		Op Table:	
Entr Loss Coef:	0.00	Ref Node:		Ref Node:	
Exit Loss Coef:	1.00	Manning's N:	0.0120	Manning's N:	0.0120
Bend Loss Coef:	0.00	Top Clip			
Bend Location:	0.00 dec	Default:	0.00 ft	Default:	0.00 ft
Energy Switch:	Energy	Op Table:		Op Table:	
		Ref Node:		Ref Node:	
		Manning's N:	0.0120	Manning's N:	0.0120

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Weir Link: EX_PND142E1

Scenario:	Pumping Activity Model	Bottom Clip	
Components:		Default:	0.00 ft
From Node:	EX_PND142E1	Op Table:	
To Node:	NBSL5190	Ref Node:	
Link Count:	1	Top Clip	
Flow Direction:	Both	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:	
Weir Type:	Broad Crested Vertical	Ref Node:	
Geometry Type:	Trapezoidal	Discharge Coefficients	
Invert:	114.00 ft	Weir Default:	3.200
Control Elevation:	114.00 ft	Weir Table:	
Max Depth:	1.00 ft	Orifice Default:	0.600
Extrapolation Method:	Normal Projection	Orifice Table:	
Bottom Width:	65.00 ft		
Left Slope:	4.000 (h:v)		
Right Slope:	4.000 (h:v)		

Comment: Appendix D: Segment 1 - AECOM Drainage Calculations

Pipe Link: PBSL5170A

	Upstream	Downstream	
Scenario:	Pumping Activity	Invert: 94.64 ft	
Model Components:		Invert: 94.52 ft	
From Node:	NBSL5170	Manning's N: 0.0120	
To Node:	NBSL5190	Manning's N: 0.0120	
Link Count:	1	Geometry: Circular	
Flow Direction:	Both	Geometry: Circular	
Damping:	0.0000 ft	Max Depth: 4.50 ft	
Length:	196.00 ft	Max Depth: 4.50 ft	
FHWA Code:	1	Bottom Clip	
Entr Loss Coef:	0.50	Default:	0.00 ft
Exit Loss Coef:	0.00	Op Table:	
Bend Loss Coef:	0.00	Ref Node:	
Bend Location:	0.00 dec	Manning's N:	0.0120
Energy Switch:	Energy	Manning's N:	0.0120
		Top Clip	
		Default:	0.00 ft
		Op Table:	
		Ref Node:	
		Manning's N:	0.0120

Comment: Source: Plans

Pipe Link: PBSL5170B		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.63 ft	Invert: 94.41 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5170	Geometry: Circular	Geometry: Circular
To Node:	NBSL5190	Max Depth: 3.50 ft	Max Depth: 3.50 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	197.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120

Comment: Source: Plans

Pipe Link: PBSL5200A		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 113.59 ft	Invert: 113.39 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5200	Geometry: Circular	Geometry: Circular
To Node:	NBSL5100	Max Depth: 1.50 ft	Max Depth: 1.50 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	64.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120

Comment: Source: Plans

Pipe Link: PBSL5200B		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 111.89 ft	Invert: 111.69 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5200	Geometry: Circular	Geometry: Circular
To Node:	NBSL5210	Max Depth: 2.50 ft	Max Depth: 2.50 ft
Link Count:	1	Bottom Clip	

Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	172.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.50	Top Clip			
Exit Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment: Source: Plans					

Pipe Link: PBSL5230					
		Upstream		Downstream	
Scenario:	Pumping Activity	Invert:	98.75 ft	Invert:	98.59 ft
Model Components:		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	NBSL5230	Geometry: Circular		Geometry: Circular	
To Node:	NBSL5240	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	71.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.50	Top Clip			
Exit Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment: Source: Plans					

Pipe Link: PBSL5240					
		Upstream		Downstream	
Scenario:	Pumping Activity	Invert:	98.59 ft	Invert:	98.09 ft
Model Components:		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	NBSL5240	Geometry: Circular		Geometry: Circular	
To Node:	NBSL5190	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	45.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.50	Top Clip			
Exit Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment: Source: Plans					

Pipe Link: PBSL5260A		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.79 ft	Invert: 94.37 ft
	Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5260	Geometry: Circular	Geometry: Circular
To Node:	NBSL5330	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	162.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	1.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans			

Pipe Link: PBSL5260B		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.79 ft	Invert: 94.60 ft
	Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5260	Geometry: Circular	Geometry: Circular
To Node:	NBSL5300	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	75.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	1.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans			

Pipe Link: PBSL5300		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.60 ft	Invert: 94.46 ft
	Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5300	Geometry: Circular	Geometry: Circular
To Node:	NBSL5330	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	87.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	

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

Pipe Link: PBSL5330A		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.54 ft	Invert: 94.51 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5330	Geometry: Circular	Geometry: Circular
To Node:	NBSL5340	Max Depth: 3.00 ft	Max Depth: 3.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	60.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans			

Pipe Link: PBSL5330B		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.54 ft	Invert: 94.53 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5330	Geometry: Circular	Geometry: Circular
To Node:	NBSL5340	Max Depth: 3.00 ft	Max Depth: 3.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	60.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans			

Pipe Link: PBSL5330C		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.54 ft	Invert: 94.70 ft

Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5330	Geometry: Circular	Geometry: Circular
To Node:	NBSL5340	Max Depth: 3.00 ft	Max Depth: 3.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	60.00 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans			

Pipe Link: PBSL5340		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.78 ft	Invert: 94.50 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5340	Geometry: Circular	Geometry: Circular
To Node:	NBSL5350	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	147.20 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans			

Pipe Link: PBSL5350		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 94.50 ft	Invert: 93.87 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	NBSL5350	Geometry: Circular	Geometry: Circular
To Node:	NBSL5360	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	329.50 ft	Ref Node:	Ref Node:
FHWA Code:	1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:

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

Pipe Link: PBSL5360	Upstream	Downstream
Scenario: Pumping Activity	Invert: 94.25 ft	Invert: 93.72 ft
Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node: NBSL5360	Geometry: Circular	Geometry: Circular
To Node: NBSL5370	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count: 1	Bottom Clip	
Flow Direction: Both	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 44.80 ft	Ref Node:	Ref Node:
FHWA Code: 1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef: 0.50	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 dec	Ref Node:	Ref Node:
Energy Switch: Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans		

Pipe Link: PBSL5370	Upstream	Downstream
Scenario: Pumping Activity	Invert: 92.43 ft	Invert: 92.26 ft
Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node: NBSL5370	Geometry: Circular	Geometry: Circular
To Node: NBSL5380	Max Depth: 4.00 ft	Max Depth: 4.00 ft
Link Count: 1	Bottom Clip	
Flow Direction: Both	Default: 0.00 ft	Default: 0.00 ft
Damping: 0.0000 ft	Op Table:	Op Table:
Length: 437.00 ft	Ref Node:	Ref Node:
FHWA Code: 1	Manning's N: 0.0120	Manning's N: 0.0120
Entr Loss Coef: 0.50	Top Clip	
Exit Loss Coef: 0.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef: 0.00	Op Table:	Op Table:
Bend Location: 0.00 dec	Ref Node:	Ref Node:
Energy Switch: Energy	Manning's N: 0.0120	Manning's N: 0.0120
Comment: Source: Plans		

Pipe Link: PBSL5380	Upstream	Downstream
Scenario: Pumping Activity	Invert: 92.17 ft	Invert: 91.42 ft
Model Components	Manning's N: 0.0120	Manning's N: 0.0120
From Node: NBSL5380	Geometry: Circular	Geometry: Circular

To Node:	NBSL5390	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	500.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.50	Top Clip			
Exit Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment: Source: Plans					

Pipe Link: PBSL5390		Upstream		Downstream	
Scenario:	Pumping Activity	Invert:	91.34 ft	Invert:	90.54 ft
Model Components:		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	NBSL5390	Geometry: Circular		Geometry: Circular	
To Node:	NBSL5400	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	540.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.50	Top Clip			
Exit Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120
Comment: Source: Orange County GIS Drainage					

Pipe Link: PBSL5400		Upstream		Downstream	
Scenario:	Pumping Activity	Invert:	88.91 ft	Invert:	84.86 ft
Model Components:		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	NBSL5400	Geometry: Circular		Geometry: Circular	
To Node:	NBSL5410	Max Depth:	4.00 ft	Max Depth:	4.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	570.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0120	Manning's N:	0.0120
Entr Loss Coef:	0.50	Top Clip			
Exit Loss Coef:	0.00	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0.00	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0120	Manning's N:	0.0120

Comment: Source: Plans

Pipe Link: PBSL5410		Upstream	Downstream
Scenario:	Pumping Activity	Invert: 83.59 ft	Invert: 82.84 ft
Model Components		Manning's N: 0.0240	Manning's N: 0.0240
From Node:	NBSL5410	Geometry: Circular	Geometry: Circular
To Node:	V-STR52	Max Depth: 5.50 ft	Max Depth: 5.50 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:	Op Table:
Length:	39.00 ft	Ref Node:	Ref Node:
FHWA Code:	4	Manning's N: 0.0240	Manning's N: 0.0240
Entr Loss Coef:	0.50	Top Clip	
Exit Loss Coef:	1.00	Default: 0.00 ft	Default: 0.00 ft
Bend Loss Coef:	0.00	Op Table:	Op Table:
Bend Location:	0.00 dec	Ref Node:	Ref Node:
Energy Switch:	Energy	Manning's N: 0.0240	Manning's N: 0.0240

Comment: Source: Plans

Drop Structure Link: PRE-OCS-CFP1		Upstream Pipe	Downstream Pipe
Scenario:	Pumping Activity	Invert: 97.25 ft	Invert: 97.38 ft
Model Components		Manning's N: 0.0110	Manning's N: 0.0110
From Node:	PRE-POND-CFP1	Geometry: Circular	Geometry: Circular
To Node:	NBSL5330	Max Depth: 2.00 ft	Max Depth: 2.00 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Solution:	Combine	Op Table:	Op Table:
Increments:	10	Ref Node:	Ref Node:
Pipe Count:	1	Manning's N: 0.0110	Manning's N: 0.0110
Damping:	0.0000 ft	Top Clip	
Length:	38.50 ft	Default: 0.00 ft	Default: 0.00 ft
FHWA Code:	1	Op Table:	Op Table:
Entr Loss Coef:	0.50	Ref Node:	Ref Node:
Exit Loss Coef:	1.00	Manning's N: 0.0110	Manning's N: 0.0110
Bend Loss Coef:	0.00		
Bend Location:	0.00 dec		
Energy Switch:	Energy		

Pipe Comment:

Weir Component		Bottom Clip
Weir:	1	Default: 0.00 ft
Weir Count:	1	Op Table:
Weir Flow Direction:	Both	Ref Node:
Damping:	0.0000 ft	Top Clip
Weir Type:	Horizontal	

Geometry Type: Circular
 Invert: 104.67 ft
 Control Elevation: 104.67 ft
 Max Depth: 4.00 ft

Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Weir Component

Weir: 2
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Circular
 Invert: 100.49 ft
 Control Elevation: 100.49 ft
 Max Depth: 0.25 ft

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:

Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:

Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Drop Structure Comment: Draft Drainage Report, CH2M Hill, February 2018

Rating Curve Link: RBSL5166A

Scenario: Pumping Activity Model Components
 From Node: NBSL5160 P
 To Node: NBSL5170
 Link Count: 1
 Flow Direction: Both

Table	Elev On [ft]	Elev On Node	Elev Off [ft]	Elev Off Node
RCBSL5166B	91.70	NBSL5160	91.70	NBSL5160

Comment: Dual pumps with 11.1 cfs max. discharge rate at BSL Outfall west of intersection between Palm Pkwy. and Central Florida Pkwy.

Rating Curve Link: RBSL5166B

Scenario: Pumping Activity Model Components
 From Node: NBSL5160 P
 To Node: NBSL5170

Link Count: 1
 Flow Direction: Both

Table	Elev On [ft]	Elev On Node	Elev Off [ft]	Elev Off Node
RCBSL5166B	91.70	NBSL5160	91.70	NBSL5160

Comment: Dual pumps with 11.1 cfs max. discharge rate at BSL Outfall west of Intersection between Palm Pkwy. and Central Florida Pkwy.

Drop Structure Link: TLR_POND1REACH		Upstream Pipe	Downstream Pipe
Scenario:	Pumping Activity	Invert: 99.09 ft	Invert: 99.06 ft
Model Components		Manning's N: 0.0120	Manning's N: 0.0120
From Node:	TLR_POND1	Geometry: Circular	Geometry: Circular
To Node:	NBSL5190	Max Depth: 1.50 ft	Max Depth: 1.50 ft
Link Count:	1	Bottom Clip	
Flow Direction:	Both	Default: 0.00 ft	Default: 0.00 ft
Solution:	Combine	Op Table:	Op Table:
Increments:	10	Ref Node:	Ref Node:
Pipe Count:	1	Manning's N: 0.0120	Manning's N: 0.0120
Damping:	0.0000 ft	Top Clip	
Length:	201.00 ft	Default: 0.00 ft	Default: 0.00 ft
FHWA Code:	1	Op Table:	Op Table:
Entr Loss Coef:	0.50	Ref Node:	Ref Node:
Exit Loss Coef:	0.00	Manning's N: 0.0120	Manning's N: 0.0120
Bend Loss Coef:	0.00		
Bend Location:	0.00 dec		
Energy Switch:	Energy		

Pipe Comment:

Weir Component		Bottom Clip
Weir:	1	Default: 0.00 ft
Weir Count:	1	Op Table:
Weir Flow Direction:	Both	Ref Node:
Damping:	0.0000 ft	Top Clip
Weir Type:	Horizontal	Default: 0.00 ft
Geometry Type:	Rectangular	Op Table:
Invert:	102.34 ft	Ref Node:
Control Elevation:	102.34 ft	Discharge Coefficients
Max Depth:	3.00 ft	Weir Default: 3.200
Max Width:	4.50 ft	Weir Table:
Fillet:	0.00 ft	Orifice Default: 0.600
		Orifice Table:

Weir Comment:

Weir Component		Bottom Clip
Weir:	2	Default: 0.00 ft
Weir Count:	1	

Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Rectangular
 Invert: 101.08 ft
 Control Elevation: 101.08 ft
 Max Depth: 1.15 ft
 Max Width: 4.50 ft
 Fillet: 0.00 ft

Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Weir Component

Weir: 3
 Weir Count: 1
 Weir Flow Direction: None
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Rectangular
 Invert: 99.09 ft
 Control Elevation: 99.09 ft
 Max Depth: 0.50 ft
 Max Width: 0.50 ft
 Fillet: 0.00 ft

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Weir Component

Weir: 4
 Weir Count: 1
 Weir Flow Direction: Both
 Damping: 0.0000 ft
 Weir Type: Sharp Crested Vertical
 Geometry Type: Circular
 Invert: 100.59 ft
 Control Elevation: 100.59 ft
 Max Depth: 0.38 ft

Bottom Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Top Clip
 Default: 0.00 ft
 Op Table:
 Ref Node:
 Discharge Coefficients
 Weir Default: 3.200
 Weir Table:
 Orifice Default: 0.600
 Orifice Table:

Weir Comment:

Drop Structure Comment: Source: Plans

Weir Link: WBSL5250		
Scenario:	Pumping Activity Model	Bottom Clip
Components		Default: 0.00 ft
From Node:	EX_PND142E2	Op Table:
To Node:	NBSL5190	Ref Node:
Link Count:	1	Top Clip
Flow Direction:	Both	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:
Weir Type:	Paved Road Vertical	Ref Node:
Geometry Type:	Rectangular	Discharge Coefficients
Invert:	103.50 ft	Weir Default: 2.800
Control Elevation:	103.50 ft	Weir Table:
Max Depth:	8333.25 ft	Orifice Default: 0.600
Max Width:	50.00 ft	Orifice Table:
Fillet:	0.00 ft	
Comment: Source: DEM		

Weir Link: WBSL5310		
Scenario:	Pumping Activity Model	Bottom Clip
Components		Default: 0.00 ft
From Node:	NBSL5310	Op Table:
To Node:	NBSL5300	Ref Node:
Link Count:	1	Top Clip
Flow Direction:	Both	Default: 0.00 ft
Damping:	0.0000 ft	Op Table:
Weir Type:	Broad Crested Vertical	Ref Node:
Geometry Type:	Irregular	Discharge Coefficients
Invert:	108.00 ft	Weir Default: 2.800
Control Elevation:	108.00 ft	Weir Table:
Cross Section:	XS_WBSL5310-W	Orifice Default: 0.600
		Orifice Table:
Comment: Source: DEM		

Curve Number: Icp3 [Set]		
Land Cover Zone	Soil Zone	Curve Number [dec]
ALTIS	ALTIS	77.0
BSL5190	BSL5190	60.3
BSL5310	BSL5310	82.4
BSNCFP2	BSNCFP2	57.4
EX_BSN142D	EX_BSN142D	85.0
EX_BSN142E1	EX_BSN142E1	84.0
EX_BSN142E2	EX_BSN142E2	84.0
EX_BSN142E3	EX_BSN142E3	65.4
EX_BSN200A	EX_BSN200A	55.3

Land Cover Zone	Soil Zone	Curve Number [dec]
EX_BSN200B	EX_BSN200B	62.7
EX_BSN202	EX_BSN202	67.9
EX_BSNVWCD	EX_BSNVWCD	85.3
PRE-CFP1	PRE-CFP1	84.0
TLR_100	TLR_100	46.9

Simulation: VWCD Capacity

Scenario: 2 Pumps - 22.2 cfs Total
Run Date/Time: 10/30/2020 6:09:03 PM
Program Version: ICPR4 4.07.04

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	65.0000

	Hydrology [sec]	Surface Hydraulics [sec]	Groundwater [sec]
Min Calculation Time:	60.0000	0.1000	900.0000
Max Calculation Time:		60.0000	

Output Time Increments

Hydrology

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

Surface Hydraulics

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

Groundwater

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	360.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Lookup Tables

Rainfall Folder: ICPR3
 Reference ET Folder:
 Unit Hydrograph ICPR3
 Folder:

Boundary Stage Set: 25yr_24hr
 Extern Hydrograph Set:
 Curve Number Set: ICPR3
 Green-Ampt Set: ICPR3
 Vertical Layers Set:
 Impervious Set: ICPR3
 Roughness Set:
 Crop Coef Set:
 Fillable Porosity Set:
 Conductivity Set:
 Leakage Set:

Tolerances & Options

Time Marching: SAOR
 Max Iterations: 6
 Over-Relax Weight 0.5 dec
 Fact:
 dZ Tolerance: 0.0010 ft
 Max dZ: 1.0000 ft
 Link Optimizer Tol: 0.0001 ft
 Edge Length Option: Automatic
 Dfit Damping (2D): 0.0050 ft
 Min Node Srf Area 1 ft2
 (2D):
 Energy Switch (2D): Energy

IA Recovery Time: 24.0000 hr
 ET for Manual Basins: False
 Smp/Man Basin Rain Global
 Opt:
 OF Region Rain Opt: Global
 Rainfall Name: Orange
 Rainfall Amount: 5.00 in
 Storm Duration: 24.0000 hr
 Dfit Damping (1D): 0.0050 ft
 Min Node Srf Area 113 ft2
 (1D):
 Energy Switch (1D): Energy

Comment:

SECTION VII

SECTION A

Customer Call Log - Valencia Water Control District							
Date	Name	Subdivision	Address	Issue	Pond/Canal Name	Resolution	Date Resolved
10/13/20	Shantel Houser	Waterview Reserve	n/a	Wanted to know what entity owned the underdrains that run from Area 2 pond under Orangewood Blvd.	Area 2 Pond	Mr. Flint advised that the pipe running under Orangewood Blvd. belonged to Orange County and that the pipes under Watervista Drive that discharge into the pond belonged to the HOA. Stacie V. relayed information to resident.	10/14/20
10/29/20	Mary Hense	Deer Creek Village	5005 Dyer Court	Following up regarding issue with ravine in her yard that has yet to be looked at by the District.	N/a	Mr. Flint reminder her that the District did not own any property bordering her home, only the Deer Creek Village HOA and suggested she contact the HOA regarding her issue. Resident asked additional questions about HOA access to the property besides going through yards that Mr. Flint was unable to advise on.	10/29/20