



CITY OF KISSIMMEE

PUBLIC WORKS AND ENGINEERING DEPARTMENT

CONSTRUCTION PLANS FOR

EMORY AVENUE

STORM WATER MANAGEMENT POND

PARCEL ID: 21-25-29-1402-0001-0010

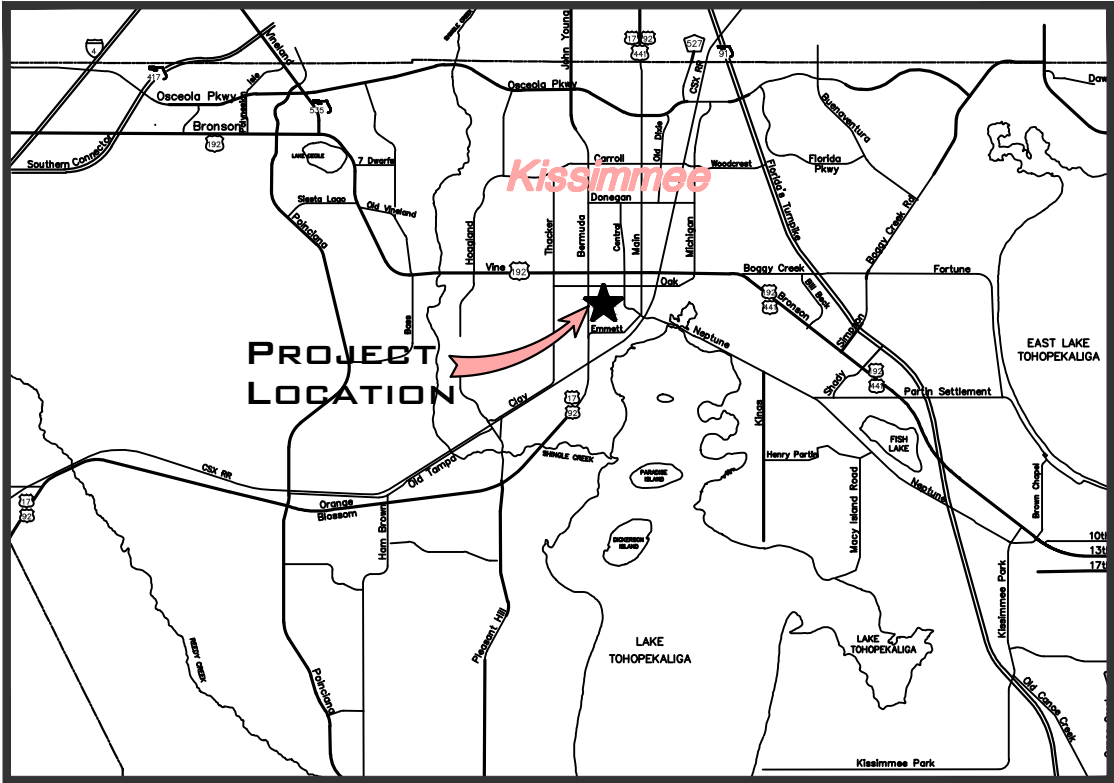
SHEET REVISIONS			
DATE	BY		DESCRIPTION

KEY SHEET REVISIONS		
DATE	BY	DESCRIPTION

NOTE:
THE SCALE OF THESE PLANS MAY HAVE
CHANGED DUE TO REPRODUCTION

For Design Standards Modifications
click on "Design Standards" at the following web site:
<http://www.dot.state.fl.us/rddesign/>

GOVERNING STANDARDS AND SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, DESIGN
STANDARDS DATED 2015, AND STANDARD SPECIFICATIONS
FOR ROAD AND BRIDGE CONSTRUCTION DATED 2015, AS
AMENDED BY CONTRACT DOCUMENTS.



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25	UTILITY ADJUSTMENT PLAN
26	TREE PROTECTION & REMOVAL PLAN
27	TREE MITIGATION PLAN

100% CONSTRUCTION PLANS

DATE: 3/3/2016

CITY OF KISSIMMEE

JIM SWAN
WANDA Y. RENTAS
SARA SHAW
JOSE A. ALVAREZ
ART OTERO

MAYOR
VICE MAYOR
MAYOR PRO-TEM
COMMISSIONER
COMMISSIONER

PROPERTY OWNER:
CITY OF KISSIMMEE
101 N. CHURCH STREET
KISSIMMEE, FL 34741
(407) 847-2821

DRC #15-00002

ROADWAY SHOP DRAWINGS TO BE SUBMITTED TO:	
CONSTRUCTION MANAGER	
PLANS PREPARED BY:	
	
ENGINEER OF RECORD: JOHN E. MOODY, P.E.	
P.E. NUMBER: NO. 48927	
SURVEYOR OF RECORD: W. TURNER WALLIS IV, PSM	
COMPANY: JOHNSTON'S SURVEYING INC.	

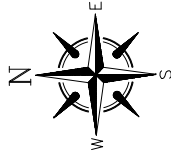
SHEET
NO.

1

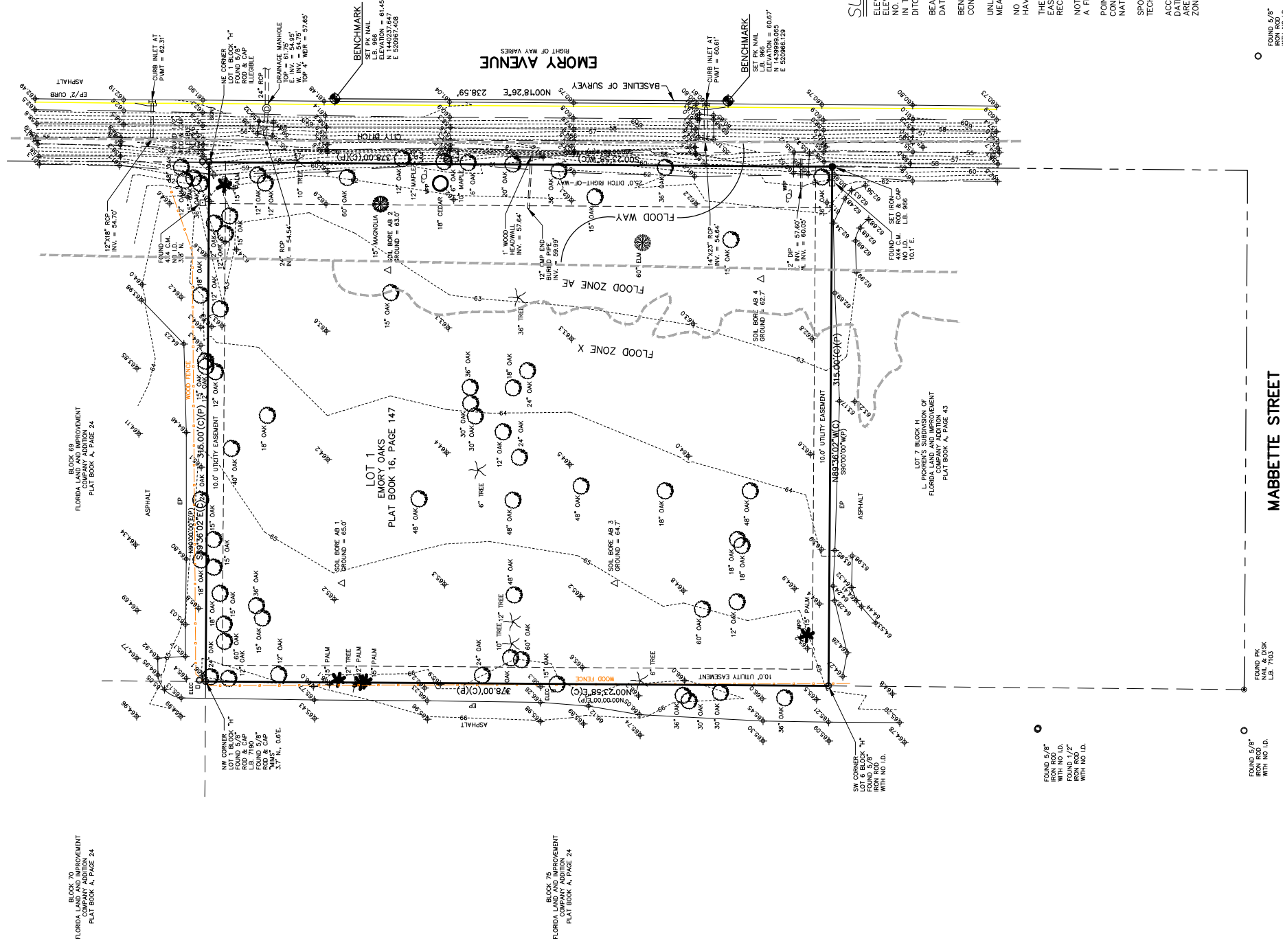
FOR BID PURPOSES ONLY

LEGEND

- BENCHMARK
- WOOD POWER POLE
- GUY WIRE ANCHOR
- SON
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- ELECTRIC BOX
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE



GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.



SURVEYOR'S NOTES:

ELEVATIONS SHOWN HEREON ARE BASED ON BENCHMARK RM 66-3, 66' 3\"/>

LEGAL DESCRIPTION:

LOT 1, EMORY OAKS AS FILED AND RECORDED IN PLAT BOOK 16, PAGE 147 OF THE PUBLIC RECORDS OF OSCEOLA COUNTY, FLORIDA.

VERTICAL DATUM = N.A.V.D. 1988

CERTIFICATION:

I HEREBY CERTIFY TO:
CITY OF ASSUMEE PUBLIC WORKS

W. TURNER WALLIS IV, P.S.M.
STATE OF FLORIDA
DATE: JUNE 19, 2013
(NOT VALID WITHOUT EMBOSSED SEAL)

DATE

ABBREVIATIONS

P.B. PLAT BOOK	(C) CALCULATED	D.U.E. DRAINAGE AND UTILITY EASEMENT
D.B. DEED BOOK	(P) PLAT	ID IDENTIFY EASEMENT
S.C. PAGE	(M) MEASURED	PRG. PROPOSED
TWP. TOWNSHIP	C.B. CHORD BEARING	P.O.C. POINT OF COMMENCEMENT
RNG. RANGE	R. RADII	F/F. FINISH FLOOR ELEV.
C&G. CORNER	L. LENGTH	O.R. OFFICIAL RECORDS
P.S.M. PROFESSIONAL SURVEYOR AND MAPPER	T. TANGENT	P.T. POINT OF TANGENCY
		P.C. POINT OF CURVE
		N&T. NAIL AND TAG
		CONC. CONCRETE
		MONUMENT FOUND
		DISK FOUND AS NOTED
		ALL OTHER PROPERTY CORNERS ARE AS NOTED ON DRAWINGS.

BOUNDARY & TOPOGRAPHIC SURVEY

LOT 1, EMORY OAKS

JOHNSTON'S
SURVEYING INC.

900 Shady Lane, Kissimmee, Florida 34744-8695
(407) 847-2179 • Fax (407) 847-6140

- DEMOLITION & MISC. NOTES:**

- 2

SUMMARY OF STAKED SILT FENCE				
LOCATION	SIDE	SILT FENCE		REMARKS
		LF		
		PLAN	FINAL	
N, S, W OF SITE	NA	1006.0		

SUMMARY OF SOIL TRACKING PREVENTION DEVICE				
LOCATION STATION	SIDE	P (EA)	F (EA)	REMARKS
NE SECTION OF SITE	N/A	1		
TOTAL		1		

SUMMARY OF EARTHWORK		
DESCRIPTION	CY	
	PLAN	FINAL
EXCAVATION		
SITE	23,650	
EMBANKMENT	95.3	
TOTAL	23745.3	

SUMMARY OF FLOATING TURBIDITY BARRIER				
LOCATION STA. TO STA.	SIDE	P (LF)	F (LF)	REMARKS
SE CORNER OF SITE	N/A	40		
TOTAL		40		

SUMMARY OF EARTHEN DAM			
LOCATION	SIDE	P	F
		(LF)	(LF)
E. SIDE OF SITE, N. OF MID POINT	N/A	16	
E. SIDE OF SITE, S. OF MID POINT	N/A	16	
TOTAL		32	

REMARK
THESE QUANTITIES ARE
INCLUDED IN EMBANKMENT

SUMMARY OF SIDEDRAIN & MITERED END SECTIONS																
LOCATION							PIPE LENGTH (LF)			MES (EA)					REMARKS	
STA. TO STA.		SIDE	BACK		AHEAD		UP TO 18"									
			OFFSET	F.L.	OFFSET	F.L.	18"	30"	48"	18"	30"	48"	14"X23"	19"X30"		
P	AT CONT. ENT.		N/A	N/A	53.30	N/A	53.30			20 LF			2			
F	DS-1B		N/A	N/A	55.00	N/A	54.90	46 LF			1					FROM POND
P	DS-1A		N/A	N/A	53.00	N/A	51.00		69 LF			1				TO POND
F																
P																
F																
	TOTAL							0	0	0	1	1	2	0	0	

STRUCTURE NAME	DESCRIPTION	BYPASS PIPES						DITCH BOTTOM INLET						CLASS 1 CONC.	CLASS II CONC.	REINF. STEEL	REMARKS	
		6"	12"	18"	24"	30"	36"	A	B	C	D	E	H-2 GRATE	H-4 GRATE	CY	CY		LBS.
DS-1A	DITCH DIVERSION STRUCTURE - THREE JOINTED DITCH BOTTOM INLETS WITH A CONCRETE APRON		45'									1			10.5		286	STEEL & CONCRETE FOR DITCH BOTTOM INLETS NOT INCLUDED IN STEEL AND CONCRETE QUANTITIES
													1					
														1				
DS-1B	TYPE C CONTROL STRUCTURE									1								

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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WITH PROFESSIONAL ENGINEERS SEAL
APPROVED BY

JOHN ERIC MOODY, PE
NO. 48927
DATE _____



City of Kissimmee
101 North Church Street,
Kissimmee, Florida 34741
Phone: 407-847-2821

<i>EMORY AVENUE</i> <i>STORM WATER MANAGEMENT POND</i>	<i>SHEET</i> <i>NO.</i>
SUMMARY OF QUANTITIES	4

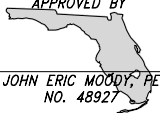
J:\2014\14-002 Emory Avenue Stormwater Pond\Drawings\Plan\Construction Plans\040723\04 14-002 SUMMARY QNTY.dwg PLT7729 00 Carol Selig 3/2/2016 2:50:42 PM

ITEM NUMBER	DESCRIPTION	QUANTITY	
		PLAN	ACTUAL
0-50-4-1	DESIGN / BUILD, BRIDGE CONSTRUCTION, TEMPORARY	1 LS	
101-1	MOBILIZATION	1 LS	
102-1	MAINTENANCE OF TRAFFIC	1 LS	
104-10-3	EROSION CONTROL (SEDIMENT BARRIER)	1,006 LF	
104-11	FLOATING TURBIDITY BARRIER	40 LF	
104-15	SOIL TRACKING PREVENTION DEVICE	1 EA	
110-1-1	CLEARING & GRUBBING	1 LS	
110-12.6-1	DELIVERY OF SALVAGEABLE MATERIAL TO THE CITY	1 LS	
120-1	REGULAR EXCAVATION	23,650 CY	
120-6	EMBANKMENT	95.3 CY	
145-1	GEOSYNTHETIC REINFORCED SOIL SLOPE - LANDLOK 300	3,204 SF	
425-1-525	INLETS, DT BOT, TYPE C, MOD DS-01B	1 EA	
425-1-901	INLETS, SPECIAL, DS-01A	1 EA	
430-174-118	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 18" SD	46 LF	
430-174-130	PIPE CULVERT, OPTIONAL MATERIAL, ROUND, 30" SD	69 LF	
430-982-125	MITERED END SECTION, OPTIONAL ROUND, 18" CD	1 EA	
430-982-133	MITERED END SECTION, OPTIONAL ROUND, 30" CD	1 EA	
519-78	BOLLARD	10 EA	
524-1-29	CONCRETE DITCH PAVEMENT, REINFORCED, ARMOR-FLEX	38 SY	
530-3-3	RIPRAP - RUBBLE, BANK AND SHORE	90 TN	
550-10-220	FENCING, TYPE B, 5.1' - 6.0', STANDARD	2,386 LF	
550-60-214	FENCE GATE, TYPE B, SINGLE, 18.1' - 20.0' OPENING	1 EA	
570-1-2	PERFORMANCE TURF (SOD)(BAHIA)	7,677 SY	
580-1-1	LANDSCAPE COMPLETE	1 LS	

REVISIONS					
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JOHN ERIC MOODY, PE
NO. 48927

DATE



CERTIFICATE OF AUTHORIZATION NUMBER: 00026269
1003 FLORIDA AVENUE, SAINT CLOUD, FL 34769
PHONE 407.891.0452 FAX 407.891.9173



City of Kissimmee
101 North Church Street,
Kissimmee, Florida 34741
Phone: 407-847-2821

EMORY AVENUE
STORM WATER MANAGEMENT POND

SUMMARY OF QUANTITIES

SHEET NO.

4a

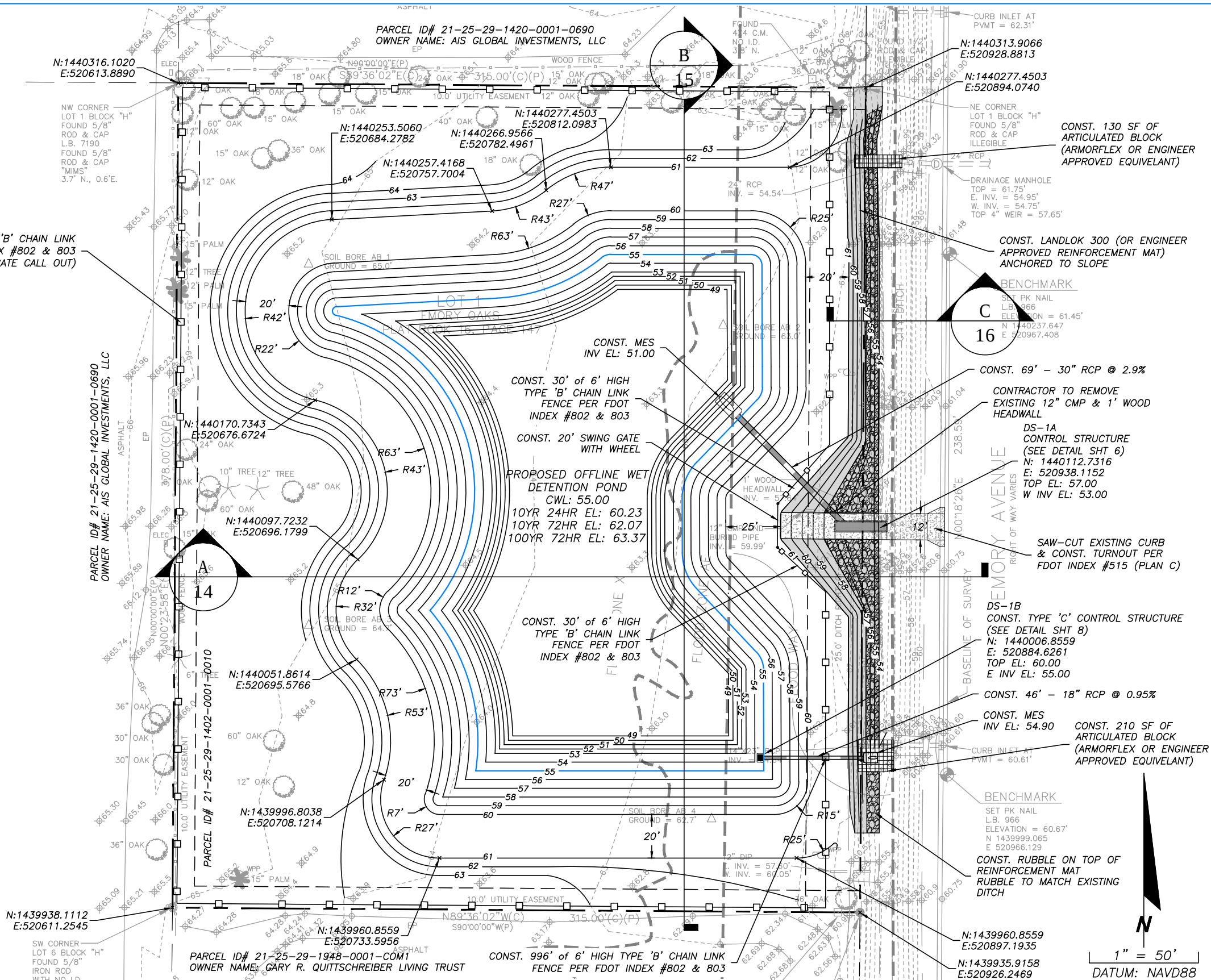
14-001414-001 Emory Avenue Stormwater Pond (SWM) Development Permit Construction Plans (SHTS) 15-14-2019 10:00 AM (A) 14-001414-001 Emory Avenue Stormwater Pond (SWM) Development Permit Construction Plans (SHTS) 15-14-2019 10:00 AM (A)

GENERAL NOTES:

- FENCE AND GATES TO BE CONSTRUCTED IN ACCORDANCE WITH INDEX NO. 802 AND 803 OF THE LATEST EDITION OF THE FDOT DESIGN STANDARDS AND SECTION 550 OF THE LATEST EDITION OF THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- FENCE CONTRACTOR TO INCLUDE IN THE BID A COST FOR REMOVING EXISTING VEGETATION & TREES, EXISTING FENCING AND OTHER OBSTRUCTION CONFLICTING WITH THE INSTALLATION OF THE PROPOSED FENCE AND GATES SHOWN ON THESE PLANS.
- CONTRACTOR RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS REQUIRED FOR INSTALLATION OF THE PROPOSED FENCE AND GATES.
- FENCE SHALL HAVE KNUCKLED SELVAGE AND SHALL NOT INCLUDE BARBED WIRE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR TRIMMING AND PRUNING TREES AS NECESSARY TO ALLOW FOR FENCE INSTALLATION.
- CONTRACTOR SHALL USE HIGH PRESSURE GROUT BETWEEN CONTROL STRUCTURE DS-1A AND THE SURROUNDING RIP RAP RUBBLE.

LEGEND

- RIP RAP RUBBLE
- LANDLOCK 300
- LANDLOCK 300



REVISIONS					
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JOHN ERIC MOODY, P.E.
NO. 48927
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1003 FLORIDA AVENUE, SAINT CLOUD, FL 34769
PHONE 407.891.0452 FAX 407.891.9173

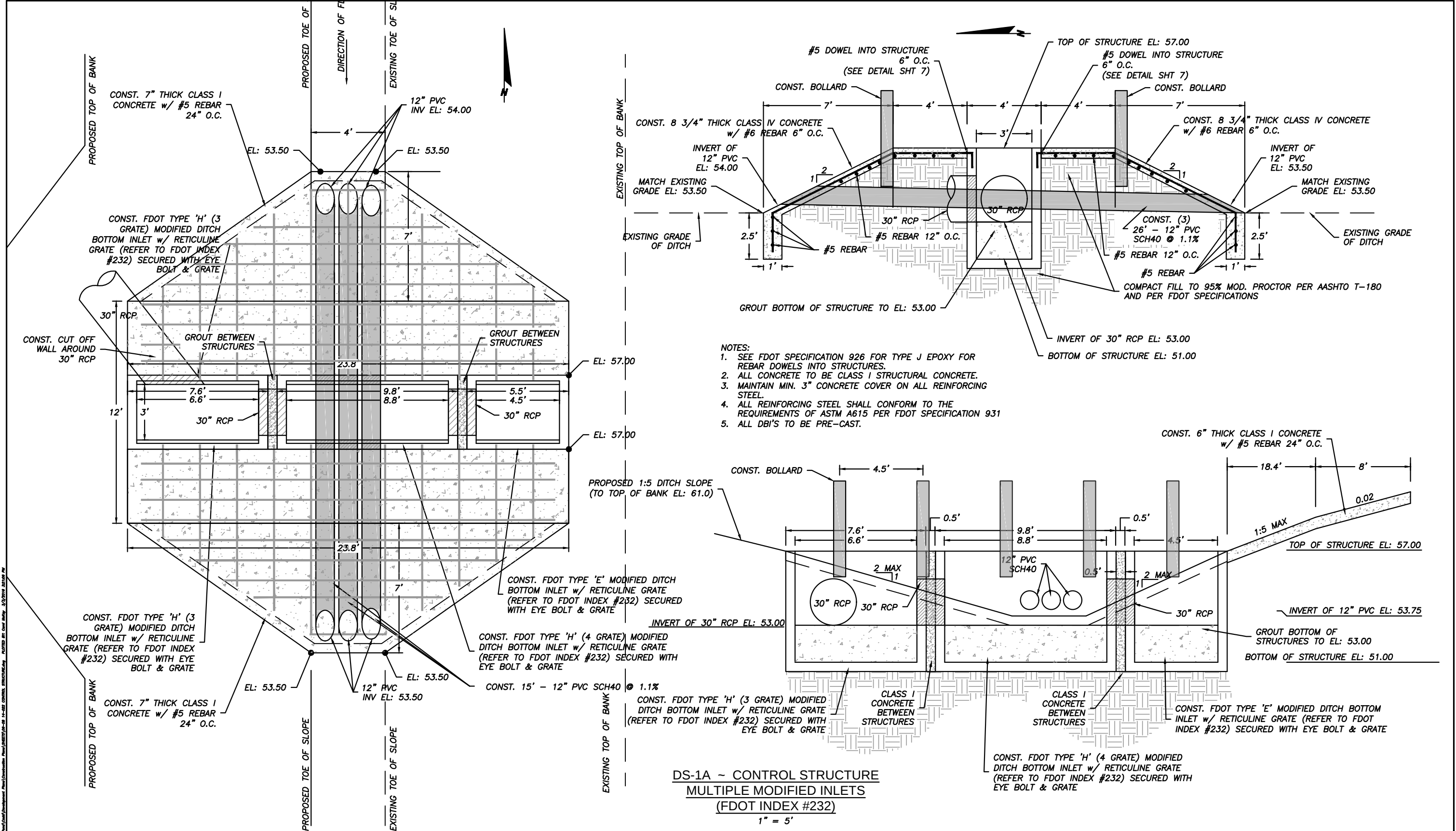


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EMORY AVENUE
STORM WATER MANAGEMENT POND
STORMWATER DRAINAGE
POND PLAN

SHEET
NO.

5



REVISIONS					
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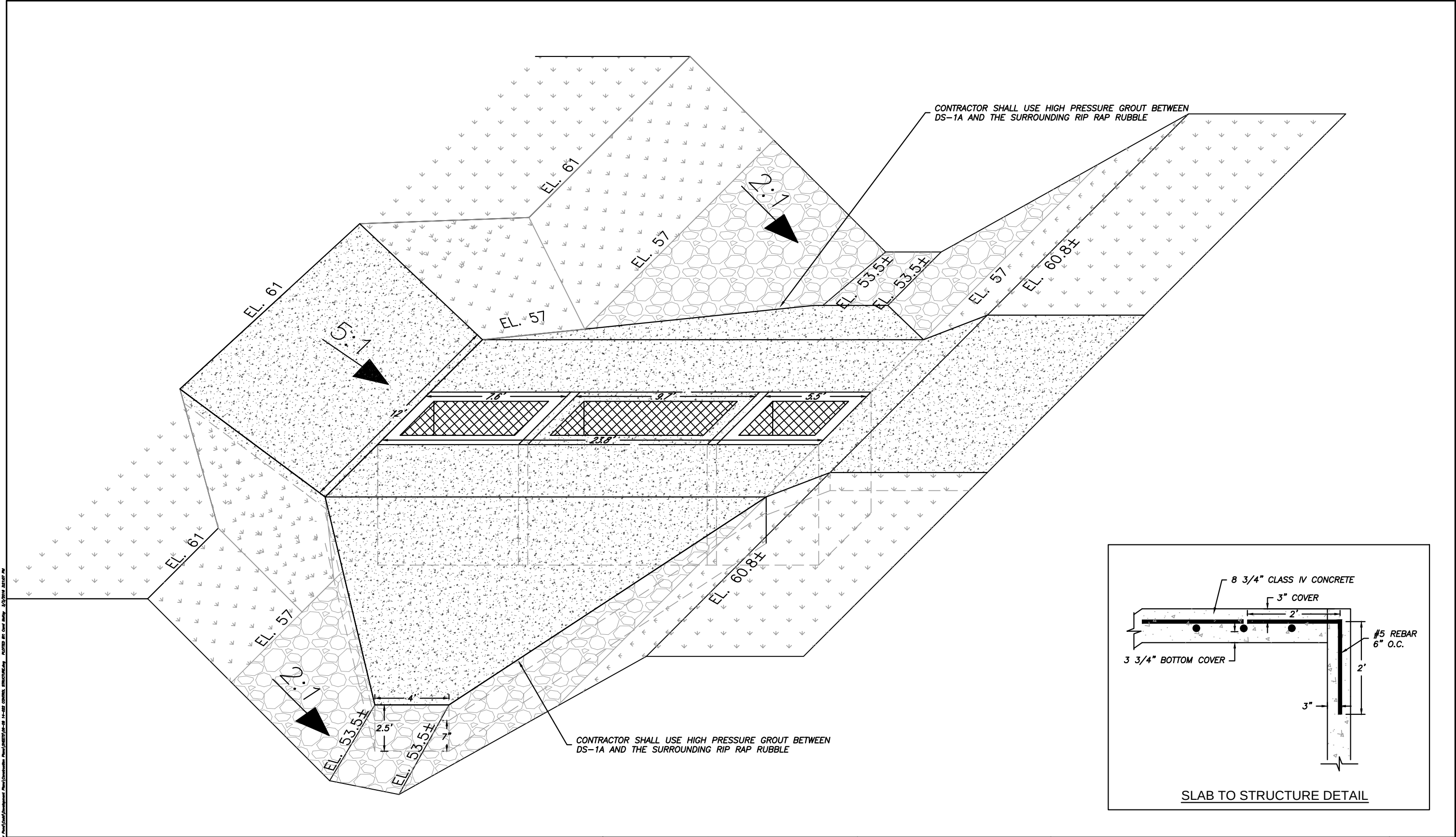
JOHN ERIC MOODY, P.E.
 NO. 48927
 DATE

OSCEOLA ENGINEERING, INCORPORATED
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City of Kissimmee
 101 North Church Street,
 Kissimmee, Florida 34741
 Phone: 407-847-2821

EMORY AVENUE STORM WATER MANAGEMENT POND CONTROL STRUCTURE 1A DETAILS		SHEET NO. 6
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REVISIONS						DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION									

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JOHN ERIC WOODY, P.E.
NO. 48927

DATE

OSCEOLA ENGINEERING, INCORPORATED

CERTIFICATE OF AUTHORIZATION NUMBER: 00026233

1003 FLORIDA AVENUE, SAINT CLOUD, FL 34769

PHONE 407.891.0452 FAX 407.891.9173

KISSIMMEE

FOUNDED 1883

INCORPORATED 1957

City of Kissimmee
101 North Church Street,
Kissimmee, Florida 34741
Phone: 407-847-2821

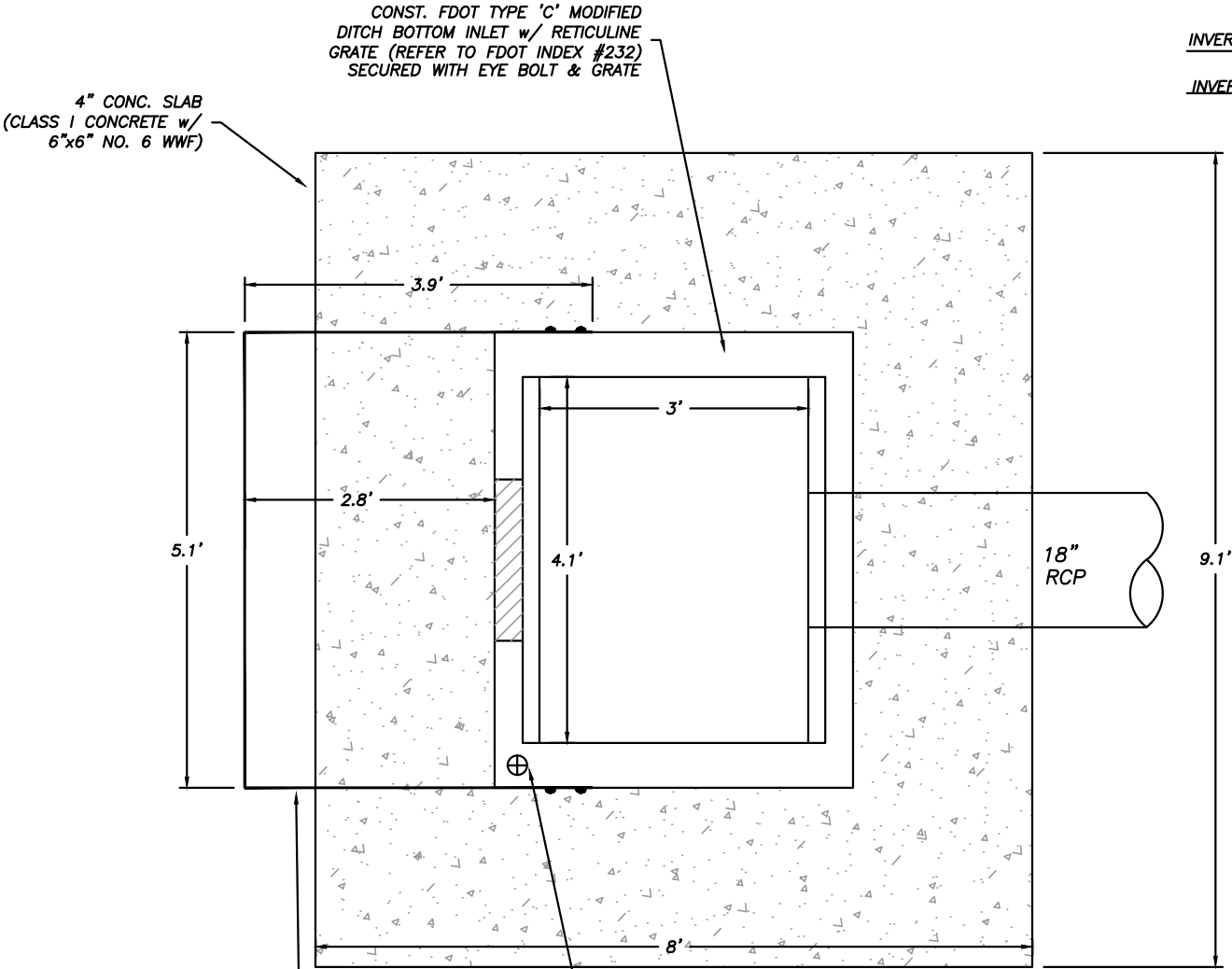
**EMORY AVENUE
STORM WATER MANAGEMENT POND
CONTROL STRUCTURE 1A
ISOMETRIC VIEW**

SHEET NO.
7

PERMANENT BRASS DISC BENCHMARK
CONTRACTOR SHALL PERMANENTLY SET A CITY OF KISSIMMEE BRASS DISC IN THE TOP OF CONTROL STRUCTURE WITH NON-SHRINK GROUT. CONTRACTOR TO PICK UP BRASS DISK @ CITY OF KISSIMMEE ENGINEER'S OFFICE. ELEVATION FOR EACH BENCH MARK TO BE CERTIFIED BY A REGISTERED PROFESSIONAL LAND SURVEYOR ON A APPROVED CERTIFICATE FORM AND FURNISHED TO THE CITY OF KISSIMMEE ENGINEERING DEPARTMENT. CONTRACTOR TO PAY \$310.00 FEE.

**CONTROL STRUCTURE
BENCHMARK DETAIL**

SFWMD STORM EVENT	MAX STAGES DETENTION POND
10-YEAR/24 HOUR	60.23
10-YEAR/72 HOUR	62.07
100-YEAR/72 HOUR	63.37



3/16" THICK OR 10 GA. ALUMINUM
(OR FIBERGLASS EQUIVALENT).
SKIMMER SHALL BE FASTENED TO
STRUCTURE WITH SUITABLE
FASTENERS.
(SHOP DRAWINGS FOR SKIMMER AND
FASTENERS SHALL BE APPROVED BY
THE PROJECT MANAGER PRIOR TO
CONSTRUCTION)

PERMANENT BRASS DISC BENCHMARK
(SEE NOTE ON THIS SHEET)

**DS-1B ~ CONTROL STRUCTURE
MODIFIED TYPE 'C' INLET
(FDOT INDEX #232)**

1" = 2'

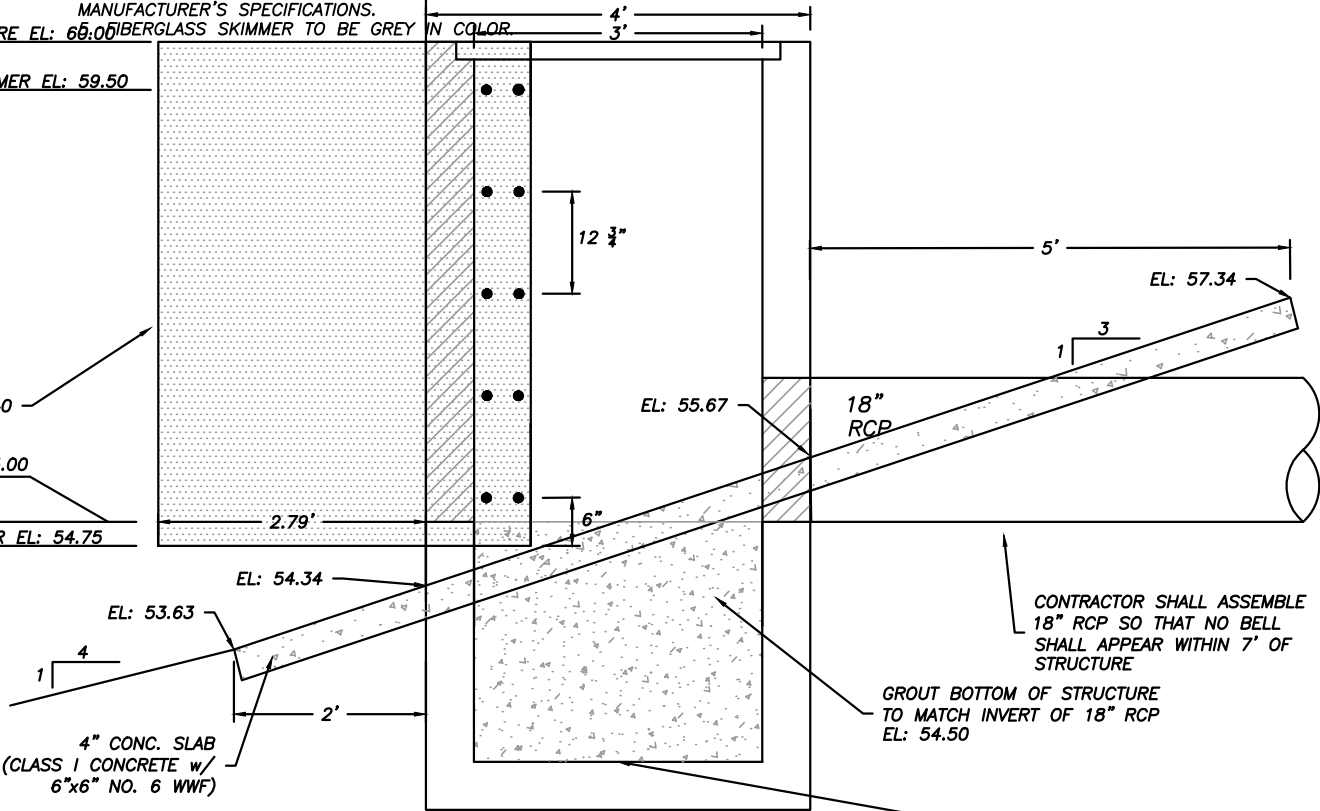
STRUCTURE:
4. SKIMMER TO BE MOUNTED IN ACCORDANCE WITH
MANUFACTURER'S SPECIFICATIONS.
FIBERGLASS SKIMMER TO BE GREY IN COLOR.

TOP OF SKIMMER EL: 60.00 TOP OF STRUCTURE EL: 60.00
BOTTOM OF SKIMMER EL: 59.50

CONST SKIMMER PER FDOT INDEX 240

INVERT OF V-NOTCH WEIR EL: 55.00

INVERT OF 18" RCP EL: 55.00
BOTTOM OF SKIMMER EL: 54.75

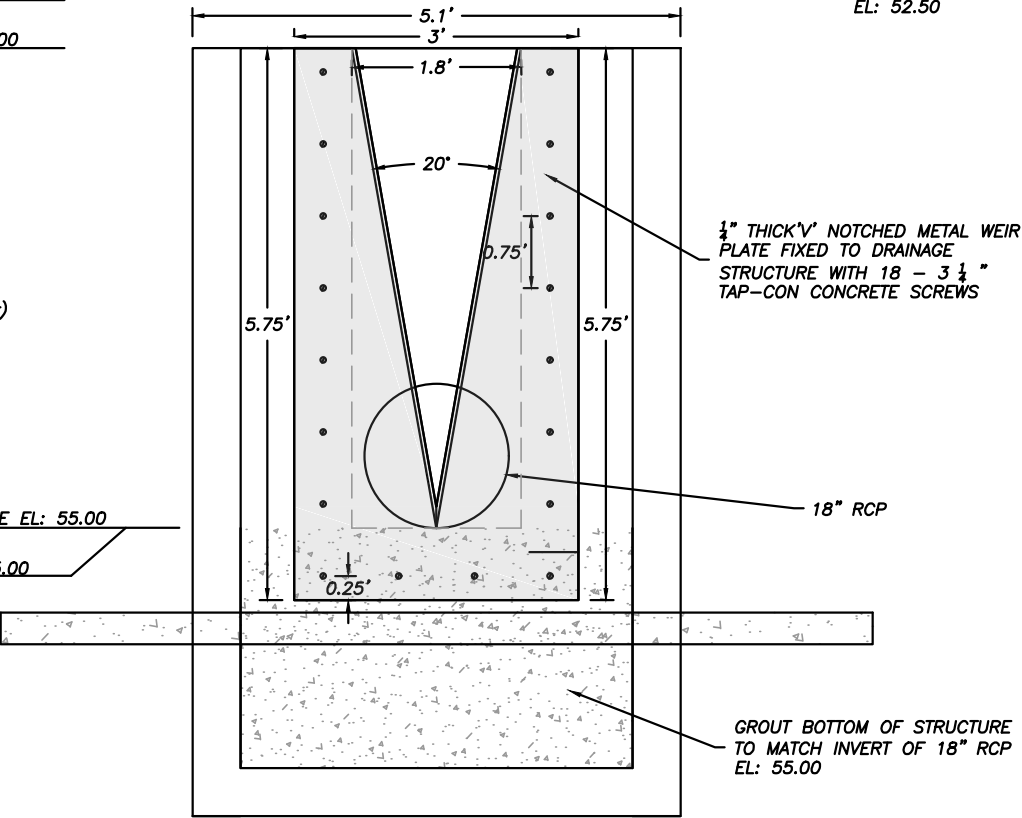


TOP OF SKIMMER EL: 60.50
TOP OF STRUCTURE EL: 60.00

Skimmer Bolts Shall Be:
3/8" Dia. Stainless Steel Stud Type
Expansion Anchor With Nut And Washer.
Embedment Depth= 2 1/2" , Anchors To
Be Kwik Bolt II By HILTI Corporation,
Power-Stud By Powers Fastening Inc.,
Or TruBolt By ITW Ramset/Red Head
Or Equal. Anchors To Be Installed
According To The Manufacturer's
Recommendations (20 Required for Skimmer)

INVERT OF V-NOTCH ORIFICE EL: 55.00

INVERT OF 18" RCP EL: 55.00



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JOHN ERIC MOODY, PE
NO. 48927
DATE

**OSCEOLA
ENGINEERING
INCORPORATED**
CERTIFICATE OF AUTHORIZATION NUMBER: 00026293
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PHONE 407.891.0452 FAX 407.891.9173



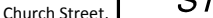
City of Kissimmee
101 North Church Street,
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Phone: 407-847-2821

**EMORY AVENUE
STORM WATER MANAGEMENT POND
CONTROL STRUCTURE 1B
DETAILS**

SHEET
NO.
8

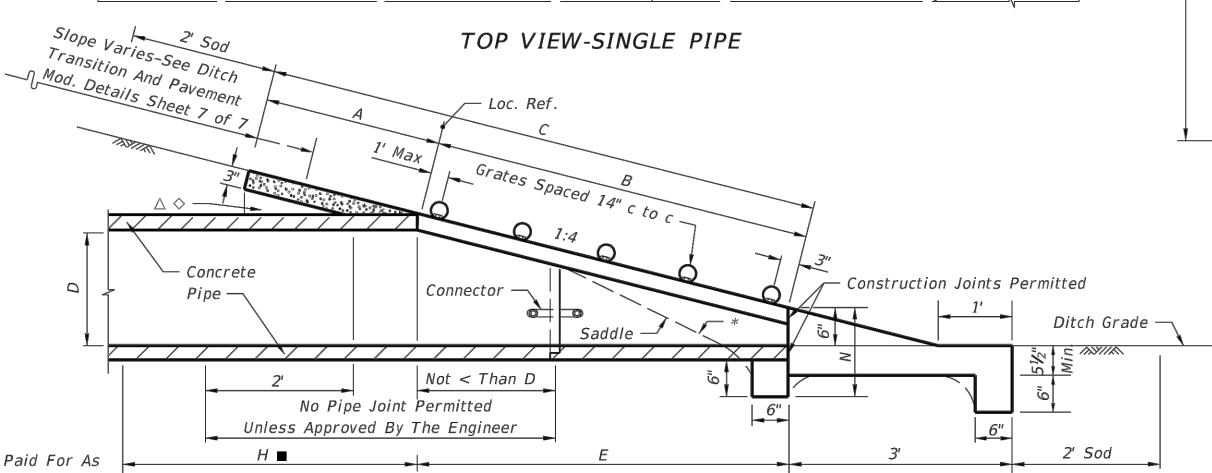
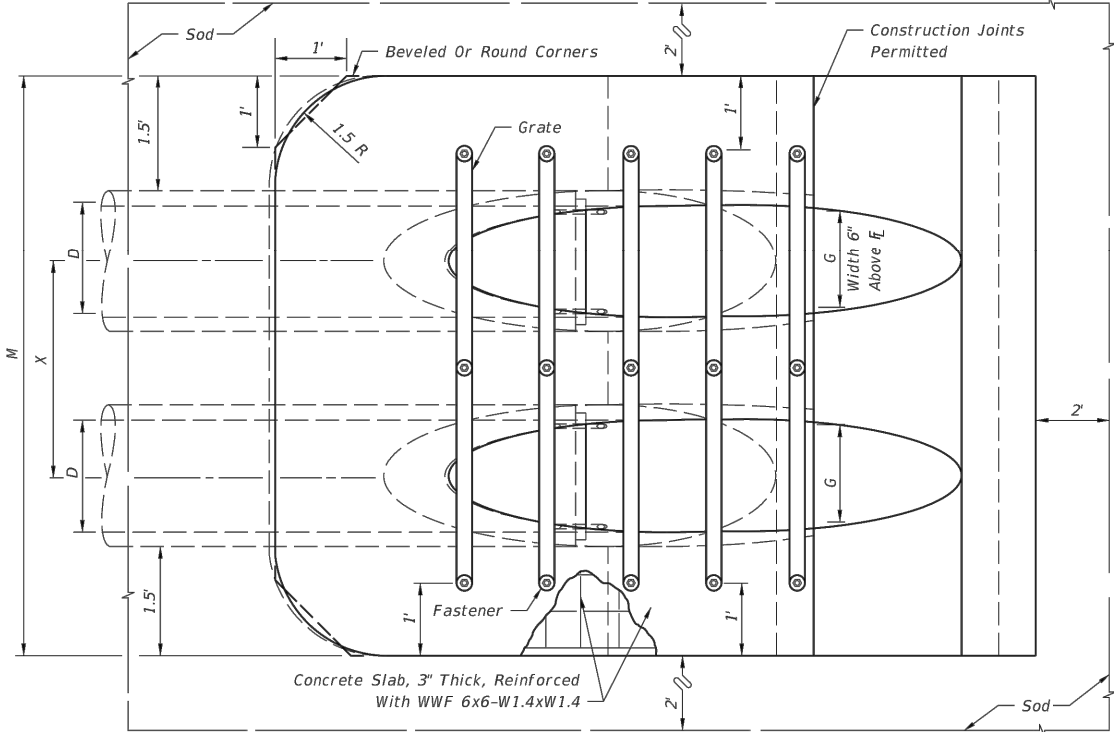
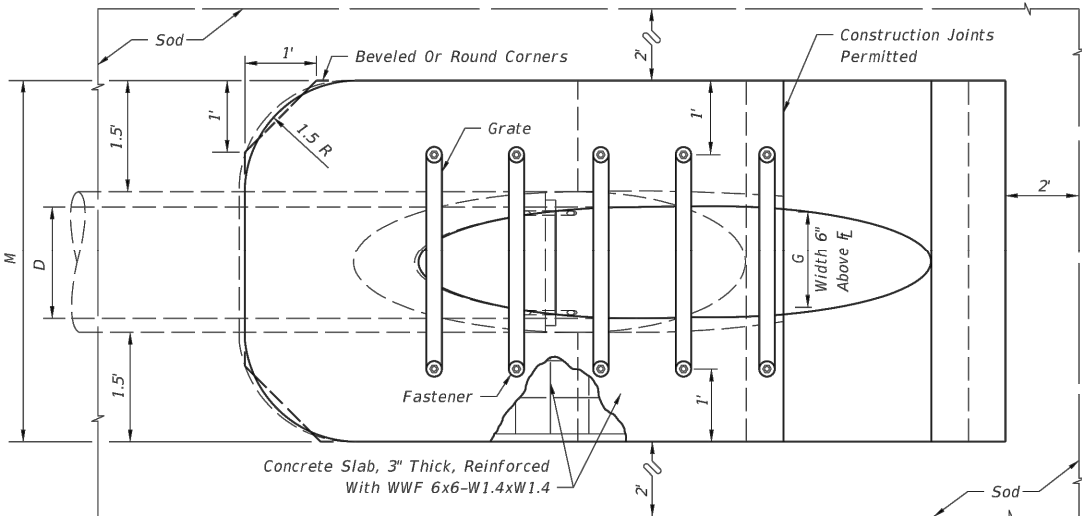
12/15/2014 14:00:00 Emory Avenue Storm Water Management Pond Control Structure Detail (Sheet) 12-15-2014 14:00:00 PM

9

REVISIONS						INFORMATIONAL COPY ONLY, UNLESS SEALED WITH PROFESSIONAL ENGINEERS SEAL				EMORY AVENUE STORM WATER MANAGEMENT POND		SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	APPROVED BY  JOHN ERIC MOODY, PE NO. 48927		 OSCEOLA ENGINEERING, INCORPORATED CERTIFICATE OF AUTHORIZATION NUMBER: 00026299 11003 FLORIDA AVENUE, SAINT CLOUD, FL 34769 PHONE 407.891.0452 FAX 407.891.9173			City of Kissimmee 101 North Church Street, Kissimmee, Florida 34741 Phone: 407-847-2821	
						DATE _____					MISC. DETAILS	10

DIMENSIONS & QUANTITIES																							
D	X	A	B	C	E	F	G	H ■	M				N	GRATE SIZES		CONCRETE (CY)				SODDING (SY)			
									Single Pipe	Double Pipe	Triple Pipe	Quad Pipe		Standard Weight Pipe	Extra Strong Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad Pipe	Single Pipe	Double Pipe	Triple Pipe	Quad Pipe
15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.0'	4.63'	7.21'	9.79'	12.37'	1.19'			0.76	1.16	1.54	1.94	8	10	11	12
18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.0'	4.92'	7.75'	10.58'	13.42'	1.21'			0.85	1.28	1.71	2.17	9	10	12	13
24"	3'-5"	2.53'	7.18' △	9.71'	7.03' △	11'	1.73'	4.0'	5.50'	8.92'	12.33'	15.75'	1.25'			1.02	1.58	2.15	2.75	10	12	13	15
30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	4.0'	6.08'	10.33'	14.58'	18.83'	1.29'	2½"	3"	1.23	1.98	2.74	3.50	12	14	15	17
36"	5'-1"	2.87'	11.31' ◇	14.18'	11.03' ◇	15'	2.24'	4.0'	6.67'	11.75'	16.83'	21.92'	1.33'	2½"	3"	1.40	2.38	3.33	4.24	13	15	17	20
42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	4.0'	7.25'	13.25'	19.25'	25.25'	1.38'	2½"	3½"	1.60	2.83	4.04	5.26	14	17	19	22
48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	4.0'	7.83'	14.58'	21.33'	28.08'	1.42'	2½"	3½"	1.81	3.26	4.70	6.14	15	18	21	24
54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	4.0'	8.42'	16.08'	23.75'	31.42'	1.46'	3"	4"	2.03	3.78	5.54	7.28	17	20	23	27
60"	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	4.0'	9.00'	17.50'	26.00'	34.50'	1.50'	3"	4"	2.28	4.36	6.43	8.50	18	22	25	29

△ 6.42' △ 6.25' Dimensions permitted to allow use of 8' standard pipe lengths.
◇ 10.40' ◇ 10.10' Dimensions permitted to allow use of 12' standard pipe lengths.
△ ◇ Concrete slab shall be deepened to form bridge across crown of pipe. See section below.
■ Values shown for estimating pipe quantities and are for information only.



SINGLE AND MULTIPLE ROUND CONCRETE PIPE

LAST REVISION 07/01/02	DESCRIPTION:		FDOT 2014 DESIGN STANDARDS	SIDE DRAIN MITERED END SECTION	INDEX NO. 273	SHEET NO. 1 of 7
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REVISIONS						DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION	SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION							
												12

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APPROVED BY

JOHN ERIC MOODY, P.E.
NO. 48927

DATE

OSCEOLA ENGINEERING, INCORPORATED
CERTIFICATE OF AUTHORIZATION NUMBER: 00026233
1003 FLORIDA AVENUE, SAINT CLOUD, FL 34769
PHONE 407.891.0452 FAX 407.891.9173

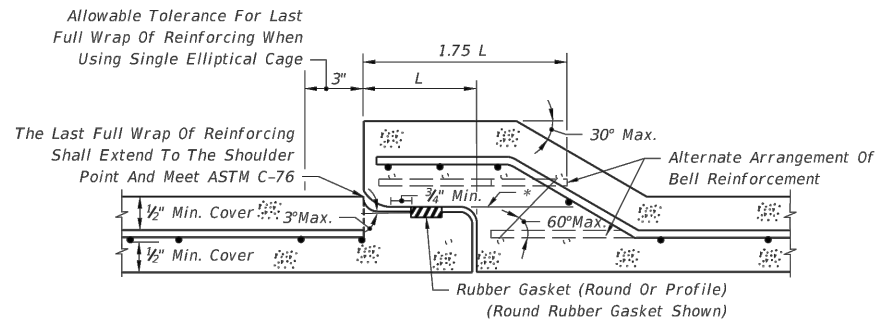
KISSIMMEE
FOUNDED 1883
INCORPORATED 1987

City of Kissimmee
101 North Church Street,
Kissimmee, Florida 34741
Phone: 407-847-2821

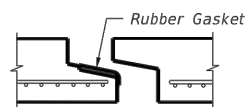
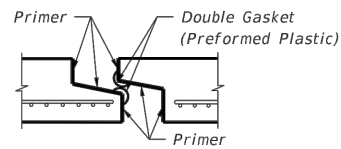
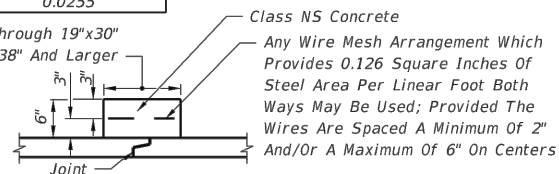
EMORY AVENUE
STORM WATER MANAGEMENT POND

MISC. DETAILS

Nominal Pipe Diameter	Design Bell Reinforcement	Maximum Reinforcement Under Tolerance
	in² per foot	in² per foot
15"	0.07	0.010
18"	0.07	0.010
24"	0.09	0.010
30"	0.12	0.010
36"	0.14	0.010
42"	0.16	0.010
48"	0.19	0.011
54"	0.21	0.012
60"	0.23	0.0135
66"	0.26	0.015
72"	0.28	0.0165
78"	0.30	0.018
84"	0.33	0.0195
90"	0.35	0.021
96"	0.37	0.0225
102"	0.40	0.024
108"	0.42	0.0255



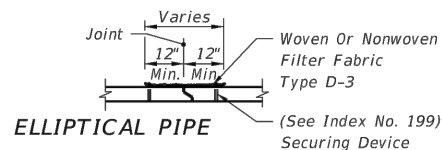
ROUND RUBBER GASKET SHOWN
DETAIL OF BELL & SPIGOT CONCRETE PIPE JOINT
USING ROUND OR PROFILE RUBBER GASKET



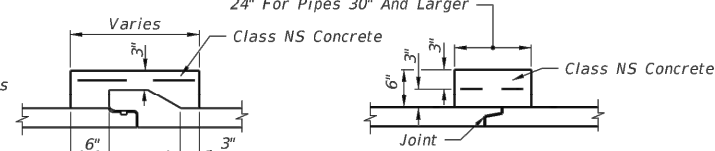
Cost of concrete jacket or filter fabric jacket to be included in cost of elliptical concrete pipe culverts.

ELLIPTICAL CONCRETE PIPE JOINTS

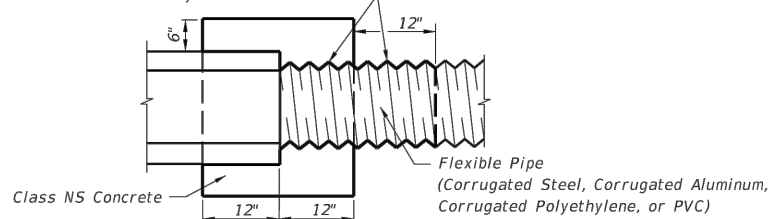
ELLIPTICAL PIPE SHOWN
ISOMETRIC VIEW



ROUND PIPE
PIPE SECTIONS



BELL AND SPIGOT TONGUE & GROOVE
DISSIMILAR JOINTS



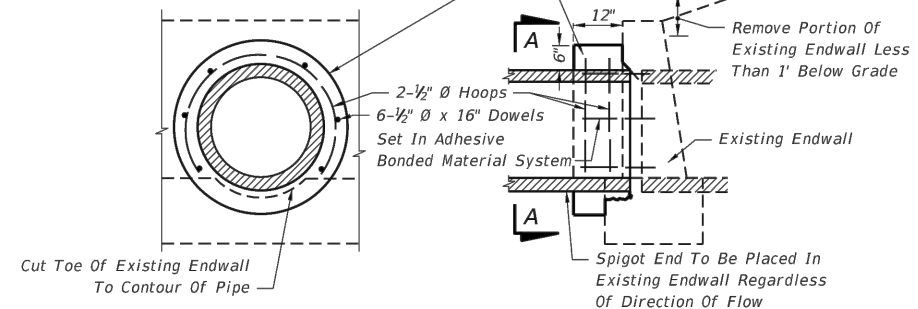
Alternate connection must be approved by the State Drainage Engineer.

A concrete jacket shall not be used to join:

- a) metal pipe of dissimilar materials
- b) flexible pipe when the minimum cover required in accordance with Index No. 205 cannot be obtained

DISSIMILAR TYPES

CONCRETE JACKET FOR CONNECTING DISSIMILAR TYPES OF PIPE AND CONCRETE PIPES WITH DISSIMILAR JOINTS



SECTION AA

Note: Cost for removal and disposal of portions of top and toe of existing endwall and cost of concrete, reinforcing steel and construction of collar to be included in the contract unit price for pipe culvert.

CONCRETE COLLAR FOR EXTENSION OF EXISTING PIPE CULVERTS

Cost of concrete and steel to be included in contract unit price for pipe culvert.

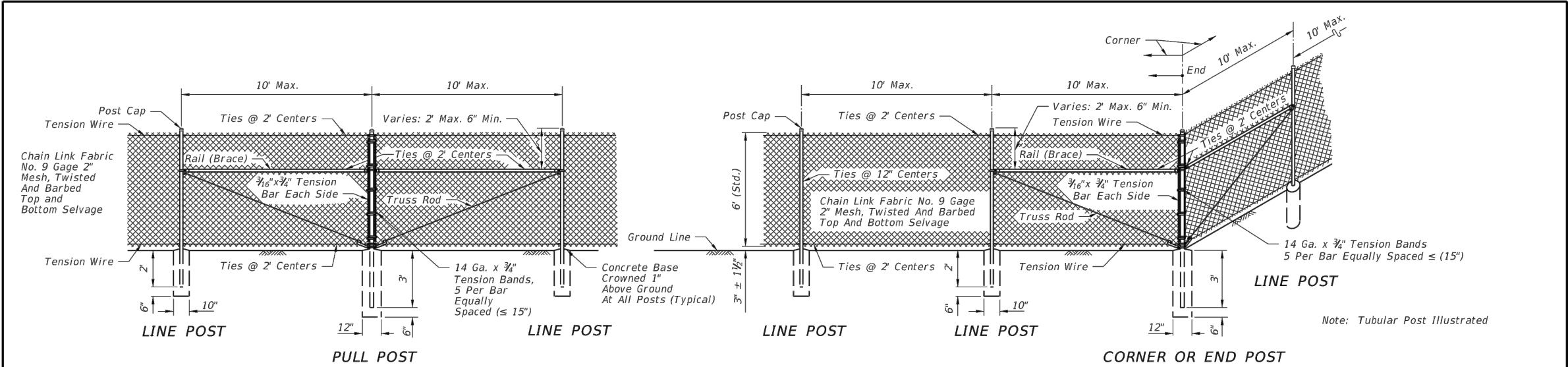
CONCRETE COLLAR FOR JOINING MAINLINE PIPE AND STUB PIPE

PIPE PLUG

Note: Unless otherwise called for in the plans, the cost of plugging pipes to be included in contract unit price for new pipe.

LAST REVISION 01/01/11	REVISION	DESCRIPTION:	 FDOT 2014 DESIGN STANDARDS	MISCELLANEOUS DRAINAGE DETAILS	INDEX NO. 280	SHEET NO. 1 of 3
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REVISIONS						INFORMATIONAL COPY ONLY, UNLESS SEALED WITH PROFESSIONAL ENGINEERS SEAL APPROVED BY  JOHN ERIC MOODY, PE NO. 48927 DATE _____	 OSCEOLA ENGINEERING INCORPORATED CERTIFICATE OF AUTHORIZATION NUMBER: 000262-9 1003 FLORIDA AVENUE, SAINT CLOUD, FL 34759 PHONE 407.891.0452 FAX 407.891.9173	 KISSIMMEE RIVER AUTHORITY City of Kissimmee 101 North Church Street, Kissimmee, Florida 34741 Phone: 407-847-2821	EMORY AVENUE	SHEET
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				STORM WATER MANAGEMENT POND	NO.
								MISC. DETAILS	13	



GENERAL NOTES

- This fence to be used generally in urban areas.
- For supplemental information refer to Section 550 of FDOT Standard Specifications.
- Chain link fabric, post, truss rods, tension wires, tie wires, stretcher bars, gates and all miscellaneous fittings and hardware shall meet the requirements of AASHTO and ASTM signify current reference.
- Fence Component Options:
 - Line post options:
 - Galvanized steel pipe, Schedule 40- 1½" nominal dia. zinc galvanized at the rate of 1.8 oz./ft².: ASTM A53 Table 2 (Grade A or B), ASTM F1083, and AASHTO M111.
 - Aluminum coated steel pipe: ASTM A53, Table 2 (Grade A or B); Schedule 40- 1½" nominal dia., 1.90" OD; coated at the rate 0.40 oz./ft.: AASHTO M111.
 - Aluminum alloy pipe- 2" nominal dia.: ASTM B241 or B221, Alloy 6063, T6.
 - Steel H-Beam- 1½"x 1½": Zinc Galv. 1.8 oz./ft.: AASHTO M111 and Detail.
 - Aluminum alloy H-Beam- 1½"x 1½" Detail.
 - Steel C- 1½"x 1½": Galv.: 1.8 oz./ft. zinc: AASHTO M111; OR , 0.9 oz./ft². zinc-5% aluminum-mischmetal: ASTM F1043 and Detail.
 - Resistance welded steel pipe; 50,000 psi min. yield strength ASTM A569/A569M, A653/A653M or undepleted stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry 2" OD, 1½" NPS, 1.900" dec. equiv., 0.120" min. wall thick. and min. wt. 2.28 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15µg/in². min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.
 - Corner, end, and pull post options:
 - Galvanized steel pipe, Schedule 40- 2" nominal dia. zinc galvanized at the rate of 1.8 oz./ft².: ASTM A53 Table X 2, ASTM F1083, and AASHTO M111.
 - Aluminum coated steel pipe: ASTM A53 steel, X 2 Tables: Schedule 40; 2" nominal dia., 2.375" OD; coated at the rate 0.40 oz./ft.: AASHTO M111.
 - Aluminum alloy pipe- 2½" nominal dia.: ASTM B241 or B221, Alloy 6063,T6.
 - Resistance welded steel pipe; 50,000 psi min. yield strength ASTM A569/A569M, A653/A653M or undepleted stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry 2½" OD, 2" NPS, 2.375" dec. equiv., 0.130"min. wall thick. and min. wt. 3.117 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15µg/in². min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.

- Rail options:
 - Galvanized steel pipe, Schedule 40- 1½" nominal dia. zinc galvanized at the rate of 1.8 oz./ft².: ASTM A53 Table X 2, ASTM F1083, and AASHTO M111.
 - Aluminum coated steel pipe; ASTM A53 steel, X 2 Tables: Schedule 40; 1½" nominal dia., 1.660" OD; coated at the rate 0.40 oz./ft.: AASHTO M111.
 - Aluminum alloy pipe- 1½" nominal dia.: ASTM B241 or B221, Alloy 6063, T6.
 - Resistance welded steel pipe; 50,000 psi min. yield strength ASTM A569/A569M, A653/A653M or undepleted stock of discontinued A446/A446M base materials; ASTM F669 Group IV (Alternative Design); fence industry 1½" OD, 1½" NPS, 1.660" dec. equiv., 0.111" min. wall thick. and min. wt. 1.836 lb./ft.; with ASTM F1043 metric equivalent internal coating Types A, B, C or D and external coating Types A, B, or C; the chromate conversion coating of external Type B shall have a thickness of 15µg/in². min. and the polymer film topcoat shall have a thickness of 0.0003" min.; internal and external coatings are not restricted to the combinations of Table 2, ASTM F1043.
- Chain link fabric options (2" mesh with twisted and barbed selvage top and bottom for all options except as described in Note No. 10):
 - AASHTO M181 Type I - Zinc Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 1.8 oz./ft². (M181 Class D 2.0 oz./ft². modified to 1.8 oz./ft².).
 - AASHTO M181 Type II -Aluminum Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 0.40 oz./ft².
 - AASHTO M181 Type IV- Polyvinyl Chloride (PVC) Coated Steel, No. 9 guage (coated core wire diameter), core wire-zinc coated steel. PVC coating: M181 Class A (either extruded or extruded and bonded) or Class B (bonded). See table right. Unless the plans call for M181 standard colors medium green, dark green or black the coating color shall be soft gray matching that of No. 36622 of Federal Standard 595a.
- Tension wire options:
 - Steel wire No. 7 gage zinc galvanized at the rate of 1.2 oz./ft².: AASHTO M181.
 - Aluminum alloy wire with a diameter of 0.1875" or larger conforming to the requirements of ASTM B211, Alloy 5056 Temper H38, or, Alclad Alloy 5056 Temper H192.
 - Aluminum coated steel wire No.7 gage coated at the rate of 0.040 oz./ft².: AASHTO M181.
- Tie wire and hog ring options:
 - Steel wire No.9 gage zinc galvanized at the rate of 1.2 oz./ft².
 - Aluminum alloy wire with a diameter of 0.1443" or larger conforming to the requirements of ASTM B211, Alloy 5056 Temper H38, or, Alclad Alloy 5056 Temper H192.
 - Aluminum coated steel wire No. 7 gage coated at the rate of 0.040 oz./ft².

LAST REVISION	DESCRIPTION:	FDOT 2014 DESIGN STANDARDS	FENCE TYPE B	INDEX NO.	SHEET NO.
07/01/09				802	1 of 3

REVISIONS						EMORY AVENUE STORM WATER MANAGEMENT POND	MISC. DETAILS	SHEET NO. 15
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			

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APPROVED BY

JOHN ERIC WOODY, PE
NO. 48927

DATE

OSCEOLA ENGINEERING, INCORPORATED

CERTIFICATE OF AUTHORIZATION NUMBER: 00026219

1003 FLORIDA AVENUE, SAINT CLOUD, FL 34769

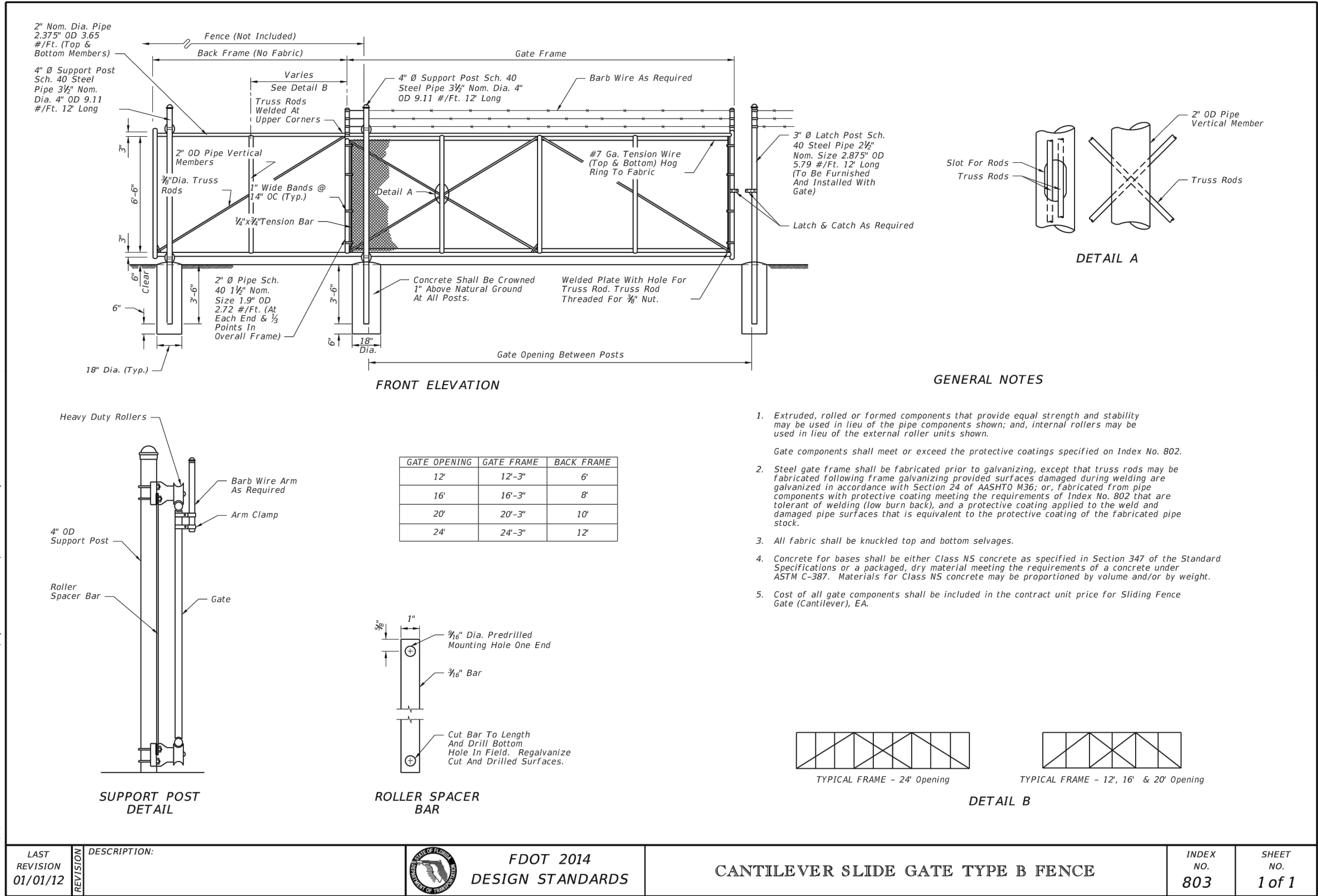
PHONE 407.891.0452 FAX 407.891.9173

KISSIMMEE

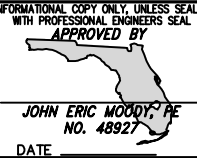
FOUNDED 1885

INCORPORATED 1987

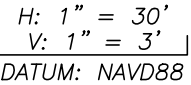
City of Kissimmee
101 North Church Street,
Kissimmee, Florida 34741
Phone: 407-847-2821



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				MISC. DETAILS	16

SECTION A



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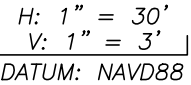
JOHN ERIC MOODY, PE
NO. 48927
DATE _____



HEET
NO.

17

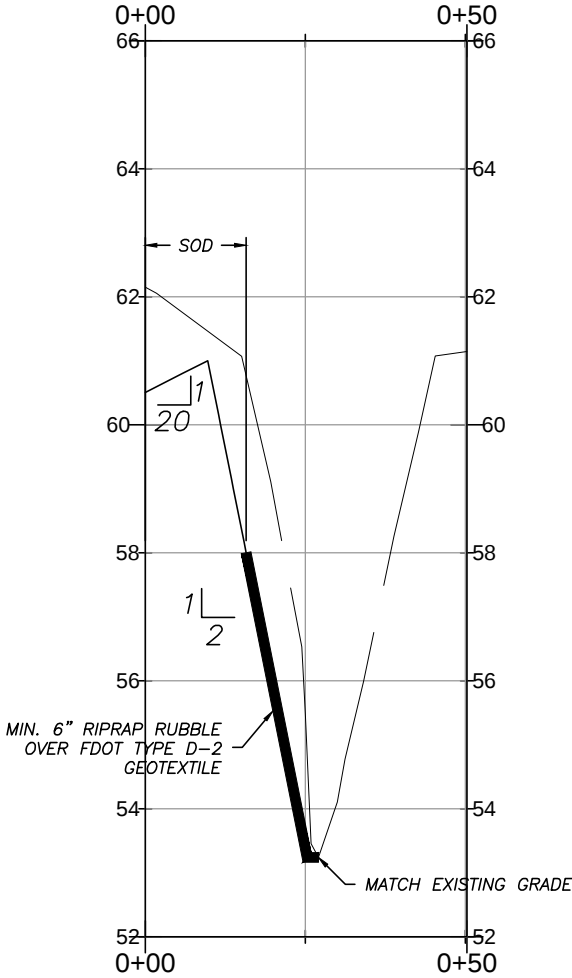
SECTION B



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				CROSS SECTIONS		18

SECTION C

$H: 1'' = 30'$
 $V: 1'' = 3'$
 DATUM: NAVD88



REVISIONS					INFORMATIONAL COPY ONLY, UNLESS SEALED WITH PROFESSIONAL ENGINEERS SEAL						EMORY AVENUE STORM WATER MANAGEMENT POND		SHEET NO.
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION			OSCEOLA ENGINEERING INCORPORATED CERTIFICATE OF AUTHORIZATION NUMBER: 00056213 1003 FLORIDA AVENUE, SAINT CLOUD, FL 34769 PHONE 407.891.0452 FAX 407.891.9173		City of Kissimmee 101 North Church Street, Kissimmee, Florida 34741 Phone: 407-847-2821		CROSS SECTIONS	19

STORMWATER POLLUTION PREVENTION PLAN

STORMWATER POLLUTION PREVENTION PLAN:

PROJECT NAME AND LOCATION:
EMORY AVENUE STORM WATER MANAGEMENT POND

THE PROJECT IS LOCATED ALONG THE WEST SIDE OF EMORY AVENUE APPROX. 260 LF NORTH OF MABBETTE STREET

OWNER NAME AND ADDRESS:

CITY OF KISSIMMEE
101 NORTH CHURCH STREET
KISSIMMEE, FL 34741

SITE DESCRIPTION:

- 1. THIS PROJECT WILL CONSIST OF STORM WATER POND AND STORM WATER INFRASTRUCTURE CONSTRUCTION.
- 2. SOIL DISTURBING ACTIVITIES WILL INCLUDE: INSTALLATION OF STORM WATER INFRASTRUCTURE AND STORM WATER POND.

SITE AREA:

THE SITE IS APPROXIMATELY 2.73± ACRES OF WHICH 2.2± ACRES WILL BE DISTURBED BY CONSTRUCTION ACTIVITIES.

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES:

- 1. INSTALL PERIMETER CONTROL INCLUDING SILT FENCES, TURBIDITY BARRIERS, ROCK BAGS AND SYNTHETIC BALES AS REQUIRED.
- 2. CONSTRUCT POND AND INSTALL STORM WATER INFRASTRUCTURE
- 3. WHEN ALL CONSTRUCTION ACTIVITY IS COMPLETE, REMOVE ANY TEMPORARY DIVERSION SWALES/DIKES AND RESEED/SOD AS REQUIRED

NAME OF RECEIVING WATERS AND DISCHARGE POINTS:

- 1. STORMWATER RUNOFF FROM BASIN 1 WILL BE DIRECTED TO AND ULTIMATELY DISCHARGE TO LAKE TOHOPEKALIGA.

CONTRACTOR RESPONSIBILITIES:

- 1. IT IS THE CONTRACTOR’S RESPONSIBILITY TO IMPLEMENT BEST MANAGEMENT PRACTICES (BMP’S) TO CONTROL EROSION AND TURBIDITY CAUSED BY STORMWATER RUNOFF.
- 2. IT IS THE CONTRACTOR’S RESPONSIBILITY TO INSTALL AND MAINTAIN PROPER CONTROLS TO PROVIDE THE PROTECTION AS REQUIRED BY ALL FEDERAL, STATE, AND LOCAL LAWS.
- 3. THE FOLLOWING BEST MANAGEMENT PRACTICES WILL BE IMPLEMENTED BY THE CONTRACTOR AS REQUIRED TO MEET THE EROSION AND TURBIDITY REQUIREMENTS IMPOSED ON THE PROJECT SITE BY THE REGULATORY AGENCIES.
- 4. CONTRACTOR SHALL UNDERTAKE ADDITIONAL MEASURES REQUIRED TO BE IN COMPLIANCE WITH APPLICABLE PERMIT CONDITIONS AND STATE WATER QUALITY STANDARDS.
- 5. DEPENDING ON THE NATURE OF MATERIALS AND METHODS OF CONSTRUCTION, THE CONTRACTOR MAY BE REQUIRED TO ADD FLOCCULENTS TO THE RETENTION SYSTEM PRIOR TO PLACING THE SYSTEM INTO OPERATION.

EROSION AND SEDIMENT CONTROLS (BMP’S):

STABILIZATION PRACTICES:

- 1. STOCKPILING MATERIAL: NO EXCAVATED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER AS TO DIRECT RUNOFF DIRECTLY OFF THE PROJECT SITE INTO ANY ADJACENT WATER BODY OR STORM WATER COLLECTION FACILITY.
- 2. TEMPORARY SEEDING AND MULCHING: SLOPES STEEPER THAN 3:1 SHALL RECEIVE APPROXIMATELY 70–90 LBS 1000 SQ. FT SECTION OF MULCH MATERIAL CUT INTO THE SOIL OF THE SEEDED AREA TO ADEQUATELY PREVENT MOVEMENT OF THE SEED AND MULCH.
- 3. PERMANENT SODDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO RECEIVE FINAL GRASSING TREATMENT IN 30 DAYS SHALL BE SODDED.

STRUCTURAL PRACTICES:

- 1. SILT FENCE: FILTER FABRIC BARRIER CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
 - a. WHERE THE SIZE OF THE DRAINAGE AREA IS NO GREATER THAN 0.25 ACRE PER 100 FEET OF SILT FENCE LENGTH AND MAXIMUM SLOPE GRADIENT BEHIND THE BARRIER IS 50 PERCENT (2:1).
 - b. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
- 2. SYNTHETIC BALE BARRIER: SYNTHETIC BALE BARRIER SHALL BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS:
 - a. WHERE THE SIZE OF THE DRAINAGE AREA IS NO GREATER THAN 0.9 ACRE PER 100 FEET OF BARRIER LENGTH AND MAXIMUM SLOPE GRADIENT BEHIND THE BARRIER IS 50 PERCENT (2:1).
 - b. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2 ACRES.
 - c. WHERE EFFECTIVENESS IS REQUIRED FOR LESS THAN 30 MONTHS.
 - d. UNDER NO CIRCUMSTANCES SHOULD THE SYNTHETIC BALE BARRIERS BE CONSTRUCTED IN STREAMS OR IN SWALES WHERE THERE IS A POSSIBILITY OF A WASHOUT.

STORMWATER MANAGEMENT CONTROLS:

- 1. INLET PROTECTION: INLETS AND CATCH BASINS WHICH DISCHARGE DIRECTLY OFFSITE SHALL BE PROTECTED FROM SEDIMENT–LADEN STORM RUNOFF UNTIL THE COMPLETION OF ALL CONSTRUCTION OPERATIONS THAT MAY CONTRIBUTE SEDIMENT TO THE INLET.
- 2. OUTLET PROTECTION: SILT FENCE AND SYNTHETIC BALES ARE TO BE INSTALLED IMMEDIATELY DOWNSTREAM OF OUTLETS OF ALL PIPES AND PAVED CHANNEL SECTIONS WHERE RUNOFF FLOW COULD CAUSE EROSION AND SEDIMENTATION ACCUMULATION.
- 3. THE PROPOSED STORMWATER PONDS 2 AND 3 SHALL BE USED AS THE SEDIMENT BASIN, TO BE CONSTRUCTED TO SERVE ANY DISTURBED AREA GREATER THAN 5 ACRES.
- 4. ALL SEDIMENT COLLECTED IN THE STORMWATER POND / SEDIMENT BASIN MUST BE REMOVED UPON FINAL STABILIZATION.

POTENTIAL POLLUTANTS CONTROLS:

- 1. WASTE DISPOSAL – WASTE MATERIAL IS TO BE DISPOSED INTO CONSTRUCTION DUMPSTERS MEETING ALL LOCAL AND STATE WASTE MANAGEMENT REGULATIONS.
- 2. OFFSITE VEHICULAR TRACKING – A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED TO HELP REDUCE VEHICULAR TRACKING OF SEDIMENTS TO ADJACENT PAVED SURFACES. EXISTING PAVED SURFACES TO BE SWEEP AS NECESSARY.
- 3. HAZARDOUS WASTE – THE SITE SUPERINTENDENT SHALL BE RESPONSIBLE FOR DISPOSING OF ANY HAZARDOUS WASTE MATERIAL IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
- 4. SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS LOCATED ON–SITE AS NEEDED. SANITARY WASTE TO BE DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE REGULATIONS.

TIMING OF CONTROL MEASURES:

- 1. AS INDICATED IN THE SEQUENCE OF MAJOR ACTIVITIES, THE SILT FENCES AND SYNTHETIC BALES, STABILIZED CONSTRUCTION ENTRANCE AND SEDIMENT BASIN WILL BE CONSTRUCTED PRIOR TO CLEARING OR GRADING OF ANY OTHER PORTIONS OF THE SITE.
- 2. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICAL IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED.
- 3. ONCE CONSTRUCTION ACTIVITY CEASES PERMANENTLY IN AN AREA, THAT AREA SHALL BE STABILIZED PERMANENTLY.
- 4. AFTER THE ENTIRE SITE IS STABILIZED, THE ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE RETENTION PONDS /SEDIMENT BASINS AND ANY EARTH DIKE/SWALES SHALL BE REGRADED AND STABILIZED.

POTENTIAL NON–STORMWATER DISCHARGES:

ALL NON–STORMWATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASINS PRIOR TO DISCHARGE.

- 1. WATER FROM WATER LINE AND FIRE HYDRANT FLUSHING
- 2. PAVEMENT WASH WATER (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIAL HAVE OCCURRED)
- 3. UNCONTAMINATED GROUNDWATER ASSOCIATED WITH DEWATERING ACTIVITIES

INSPECTION AND INSPECTION DOCUMENTATION:

- 1. A QUALIFIED INSPECTOR (PROVIDED BY THE OPERATOR) SHALL INSPECT ALL POINTS OF DISCHARGE, DISTURBED AREAS, AREAS USED FOR ON–SITE STORAGE OF MATERIALS, STRUCTURAL CONTROLS, AND VEHICULAR ACCESS LOCATIONS AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.50 INCHES OR GREATER.
- 2. A REPORT SUMMARIZING THE SCOPE OF THE INSPECTION SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN.

MAINTENANCE PLAN:

- 1. BASED ON RESULTS OF THE INSPECTIONS, ALL MAINTENANCE OPERATIONS SHALL BE DONE IN A TIMELY MANNER, BUT IN NO CASE LATER THAN 7 CALENDAR DAY FOLLOWING THE INSPECTION.
- 2. BUILT UP SEDIMENT SHALL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE–THIRD THE HEIGHT OF THE FENCE.
- 3. SILT FENCE WILL BE INSPECTED FOR DEPTH OF SEDIMENT, TEARS, TO SEE IF THE FABRIC IS SECURELY ATTACHED TO THE FENCE POSTS, AND TO SEE THAT THE FENCE POSTS ARE FIRMLY ON THE GROUND.
- 4. SEDIMENT TRAPS/BASINS SHALL BE INSPECTED FOR DEPTH OF SEDIMENT, AND BUILT–UP SEDIMENT WILL BE REMOVED WHEN IT REACHES 10 PERCENT OF THE DESIGN CAPACITY OR AT THE END OF THE JOB.
- 5. TEMPORARY AND PERMANENT SEEDING AND PLANTING SHALL BE INSPECTED FOR BARE SPOTS, WASHOUTS, HEALTHY GROWTH AND COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.

ADDITIONAL EROSION CONTROL NOTES:

- 1. DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO INSURE AGAINST POLLUTING, SILTING OR DISTURBING TO SUCH AN EXTENT AS TO CAUSE AN INCREASE IN TURBIDITY TO THE EXISTING SURFACE WATERS. SUCH MEASURES SHALL BE APPROVED BY THE PROJECT ENGINEER AND MAY INCLUDE, BUT NOT LIMITED TO, CONSTRUCTION OF TEMPORARY EROSION CONTROL STRUCTURES SUCH AS SEDIMENT BASINS, SEDIMENT CHECKS, OR SILT BARRIERS.
- 2. SODDING OF DETENTION PONDS SHOULD BE ACCOMPLISHED AS SOON AS POSSIBLE FOLLOWING COMPLETION OF GRADING TO MINIMIZE EROSION POTENTIAL.
- 3. AT A MINIMUM, THE RETENTION/DETENTION STORAGE AREA MUST BE EXCAVATED TO ROUGH GRADE PRIOR TO CONSTRUCTION OR PLACEMENT OF IMPERVIOUS SURFACE WITHIN THE AREA TO BE SERVED BY THOSE FACILITIES. TO PREVENT REDUCTION IN STORAGE VOLUME AND PERCOLATION RATES. ALL ACCUMULATED SEDIMENT MUST BE REMOVED FROM THE STORAGE AREA PRIOR TO FINAL GRADING AND STABILIZATION.
- 4. IF DURING CONSTRUCTION, THE PROPOSED EROSION CONTROL SYSTEM DOES NOT PERFORM SATISFACTORILY, ALTERNATIVES AND ADDITIONAL METHODS OF PROTECTION SHALL BE IMPLEMENTED BY THE CONTRACTOR IN ORDER TO COMPLY WITH S.F.W.M.D., AND THE CITY OF KISSIMMEE EROSION PROTECTION STANDARDS. CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR ALL EROSION CONTROL COSTS INCLUDING ANY COSTS ASSOCIATED WITH COMPLIANCE ISSUES AND ENFORCEMENT ACTIONS.
- 5. THE CONTRACTOR WILL BE REQUIRED TO SUBMIT A DETAILED EROSION CONTROL PLAN TO THE CITY OF KISSIMMEE FOR REVIEW AND APPROVAL A MINIMUM OF 2 WORKING DAYS PRIOR TO THE PRECONSTRUCTION MEETING. AT A MINIMUM, THE EROSION CONTROL PLAN SHALL PROPOSE SILT SCREEN OR STAKED SYNTHETIC BALES AND TURBIDITY BARRIERS, IN ACCORDANCE WITH THE CONSTRUCTION PLANS.
- 6. THE CONTRACTOR SHALL REPLACE SYNTHETIC HAY BALES EVERY 6 MONTHS AND SILT FENCE EVERY 12 MONTHS.
- 7. EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH FDOT INDEX 102.

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APPROVED BY

JOHN ERIC MOODY, PE
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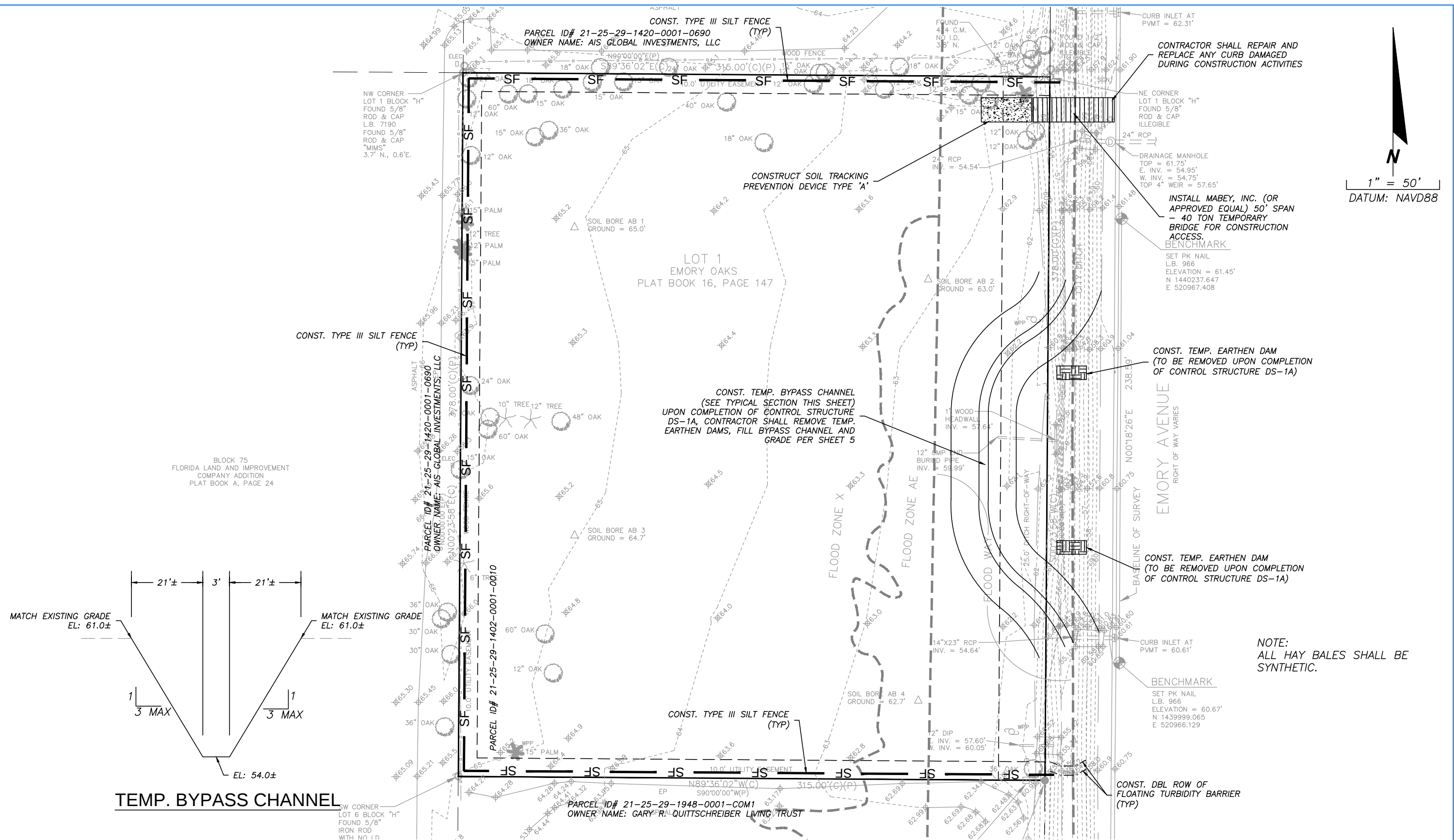


City of Kissimmee
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Phone: 407-847-2821

EMORY AVENUE
STORM WATER MANAGEMENT POND
STORMWATER POLLUTION
PREVENTION PLAN

SHEET
NO.

20

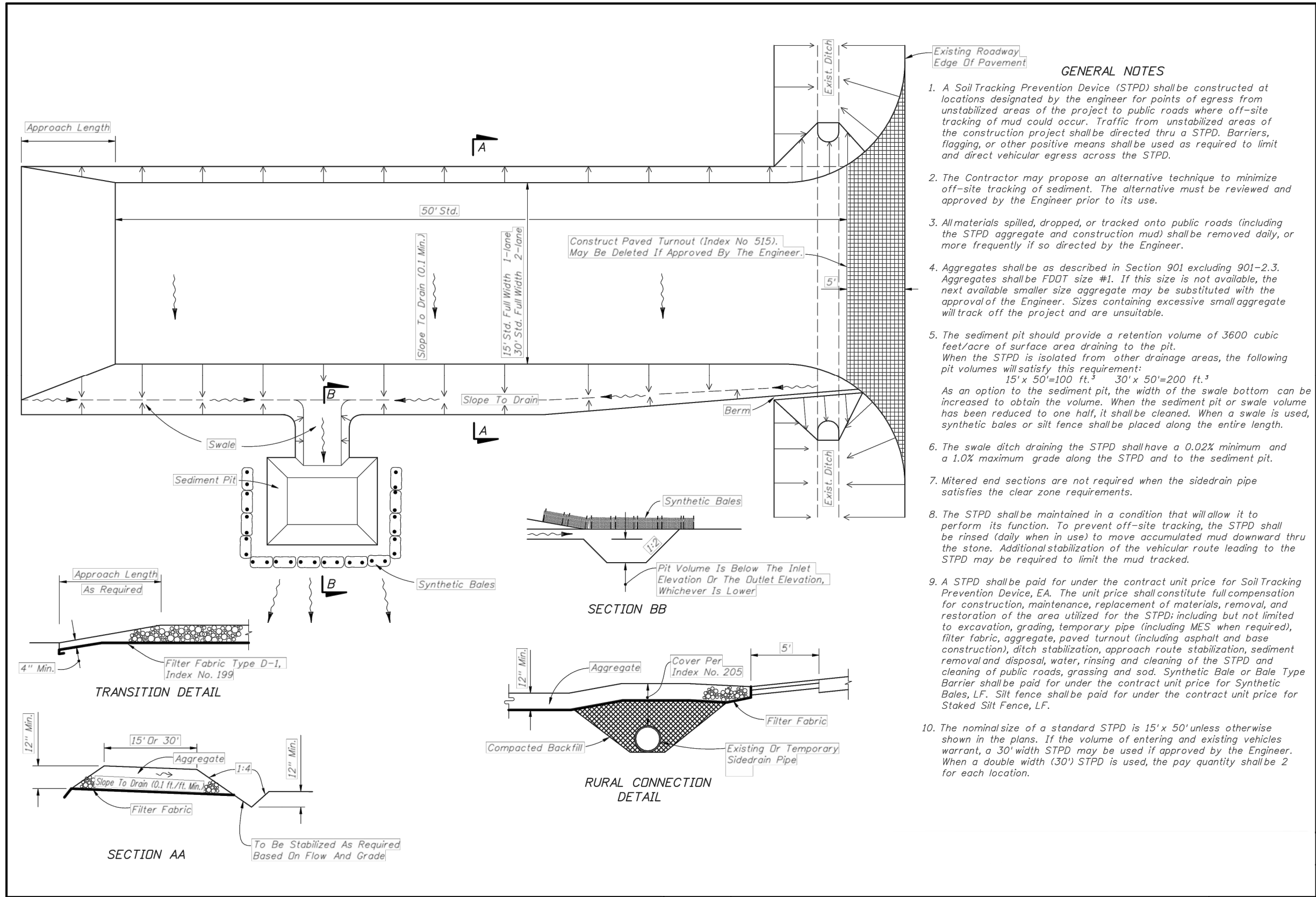


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SHEET
NO.
21

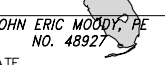


GENERAL NOTES

1. A Soil Tracking Prevention Device (STPD) shall be constructed at locations designated by the engineer for points of egress from unstabilized areas of the project to public roads where off-site tracking of mud could occur. Traffic from unstabilized areas of the construction project shall be directed thru a STPD. Barriers, flagging, or other positive means shall be used as required to limit and direct vehicular egress across the STPD.
2. The Contractor may propose an alternative technique to minimize off-site tracking of sediment. The alternative must be reviewed and approved by the Engineer prior to its use.
3. All materials spilled, dropped, or tracked onto public roads (including the STPD aggregate and construction mud) shall be removed daily, or more frequently if so directed by the Engineer.
4. Aggregates shall be as described in Section 901 excluding 901-2.3. Aggregates shall be FDOT size #1. If this size is not available, the next available smaller size aggregate may be substituted with the approval of the Engineer. Sizes containing excessive small aggregate will track off the project and are unsuitable.
5. The sediment pit should provide a retention volume of 3600 cubic feet/acre of surface area draining to the pit.
When the STPD is isolated from other drainage areas, the following pit volumes will satisfy this requirement:
 $15' \times 50' = 100 \text{ ft}^3$ $30' \times 50' = 200 \text{ ft}^3$
As an option to the sediment pit, the width of the swale bottom can be increased to obtain the volume. When the sediment pit or swale volume has been reduced to one half, it shall be cleaned. When a swale is used, synthetic bales or silt fence shall be placed along the entire length.
6. The swale ditch draining the STPD shall have a 0.02% minimum and a 1.0% maximum grade along the STPD and to the sediment pit.
7. Mitered end sections are not required when the sidedrain pipe satisfies the clear zone requirements.
8. The STPD shall be maintained in a condition that will allow it to perform its function. To prevent off-site tracking, the STPD shall be rinsed (daily when in use) to move accumulated mud downward thru the stone. Additional stabilization of the vehicular route leading to the STPD may be required to limit the mud tracked.
9. A STPD shall be paid for under the contract unit price for Soil Tracking Prevention Device, EA. The unit price shall constitute full compensation for construction, maintenance, replacement of materials, removal, and restoration of the area utilized for the STPD; including but not limited to excavation, grading, temporary pipe (including MES when required), filter fabric, aggregate, paved turnout (including asphalt and base construction), ditch stabilization, approach route stabilization, sediment removal and disposal, water, rinsing and cleaning of the STPD and cleaning of public roads, grassing and sod. Synthetic Bale or Bale Type Barrier shall be paid for under the contract unit price for Synthetic Bales, LF. Silt fence shall be paid for under the contract unit price for Staked Silt Fence, LF.
10. The nominal size of a standard STPD is 15' x 50' unless otherwise shown in the plans. If the volume of entering and existing vehicles warrant, a 30' width STPD may be used if approved by the Engineer. When a double width (30') STPD is used, the pay quantity shall be 2 for each location.

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**EMORY AVENUE
STORM WATER MANAGEMENT POND
EROSION CONTROL
DETAILS**

SHEET
NO.

24

Notes:

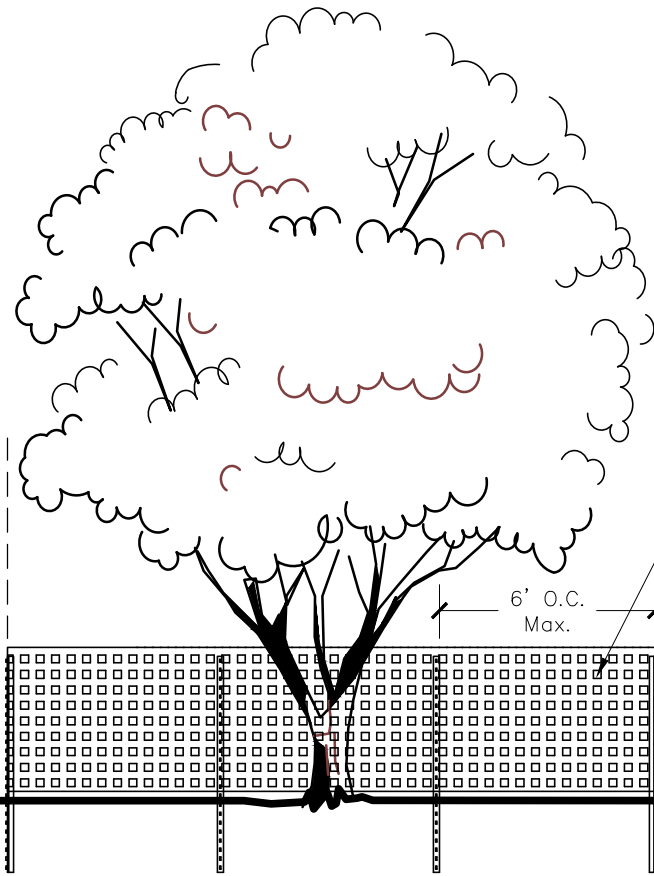
- Barrier zones shall be erected prior to commencement of land clearing operations.
- Vegetation designated for preservation shall be protected from all on-site construction via installation and maintenance of protective barriers installed along the perimeter of all preserve areas.
- Trees designated for preservation shall have barrier arranged such that posts are placed at points not closer than the drip line of the protected tree and spaced no more than six (6) feet on center. If approved plans allow built improvements within the dripline the barrier may be reduce as needed to allow proper construction access.

Restrictions within barrier zones:

- Any required removal of vegetation surrounding the tree shall be done using hand tools.
- No grade changes shall be made within the protective barrier zones, without prior approval of the County/City Manager or designee.
- Where roots greater than one (1) inch in diameter are exposed, they shall be cut cleanly and recovered with soil to prevent them from drying out.
- Storage or placement of soil deposits, debris, solvents, construction material, machinery or other equipment of any kind shall be prohibited within the drip-line of a protected tree.
- Where it is not practical for underground utility lines to be routed around the outside of the tree dripline, boring/tunneling may be employed to route the lines through the area to prevent significant root damage to protected tree.

Physical Components

- 4'high safety fence (orange or yellow)
- Medium duty steel studded T-posts (min. 6'length)
- T-post clips or plastic zip ties.



Dripline of tree

Safety Fence: 4' Ht., Orange or Yellow color. Attach to T-posts using T-post clips or plastic zip ties

Post: Steel T-post, 6' length, studded, medium duty w/o blade

1 TREE PROTECTION

1/4" = 1'-0"

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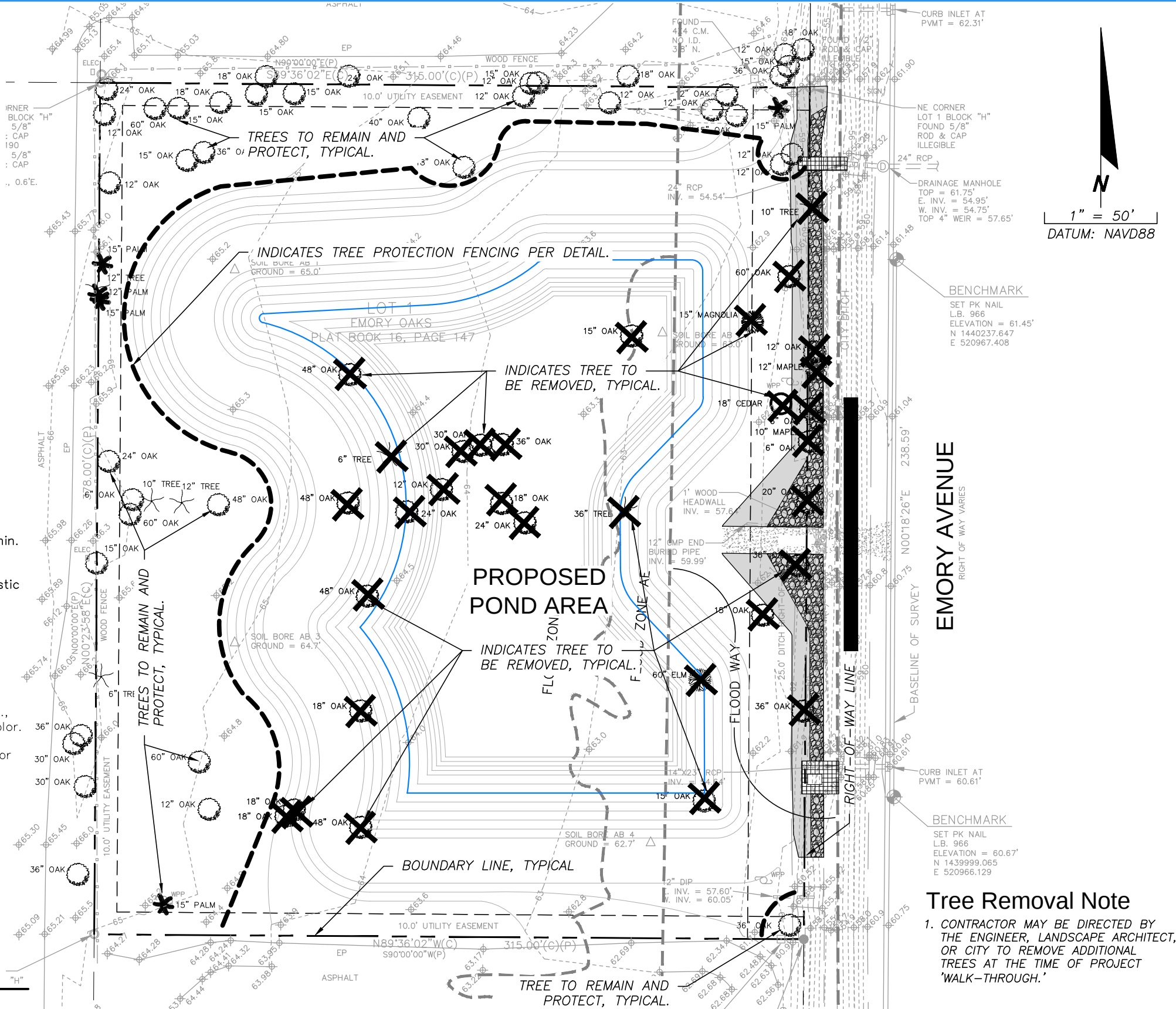


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EMORY AVENUE
STORM WATER MANAGEMENT POND
TREE PROTECTION & REMOVAL PLAN

SHEET NO.

26



Tree Removal Note

- CONTRACTOR MAY BE DIRECTED BY THE ENGINEER, LANDSCAPE ARCHITECT, OR CITY TO REMOVE ADDITIONAL TREES AT THE TIME OF PROJECT 'WALK-THROUGH.'

<u>TREES</u>	<u>CODE</u>	<u>QTY</u>	<u>BOTANICAL NAME / COMMON NAME</u>	<u>CONT</u>	<u>CAL</u>	<u>SIZE</u>
	QUE VIR	4	<i>Quercus virginiana</i> / Southern Live Oak	25 gal	2.5"Cal	10'x5'

General

1. Contractor shall obtain all necessary permits prior to construction. All construction shall conform to all applicable codes, ordinances and regulation of local and other regulatory bodies.
2. Unless meeting governmental requirements, no trees shall be planted within designated utility corridors or public right of way (without RIGHT OF WAY UTILIZATION PERMIT).

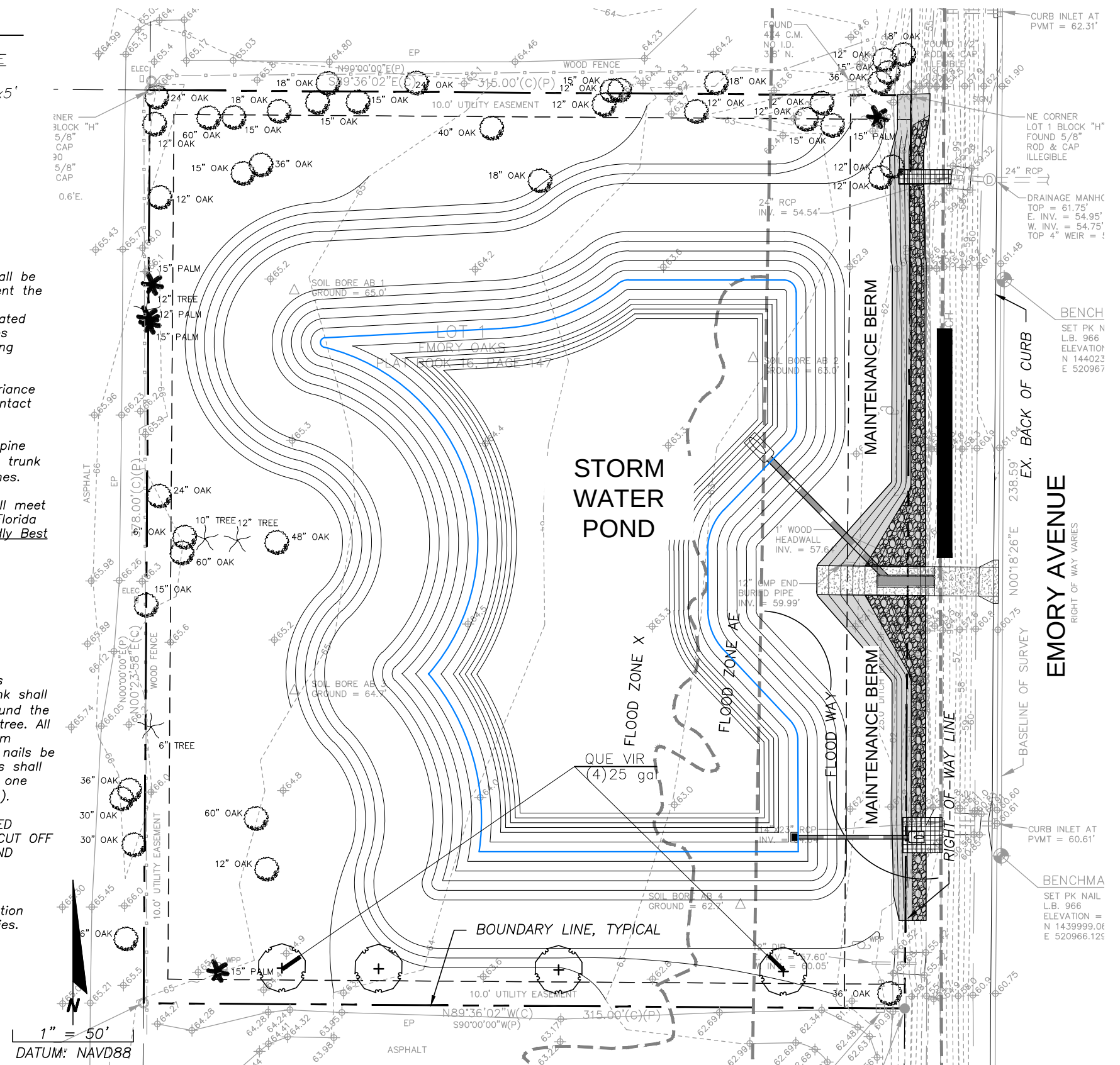
3. All plants shall be Florida No. 1 or better as set forth in the Florida Department of Agriculture "Grades and Standards for Nursery Plants", Parts I and II, including any revisions as determined by the State Plant Board of Florida. All plants shall be nursery-grown stock typical of their species or variety and shall have a normal habit of growth. They shall be sound, healthy and vigorous, well-branched and densely foliated when in leaf. They shall be free of disease and insect pests, eggs or larvae. They shall have healthy, well-developed root systems. All plants shall be hardy under climatic conditions similar to those in the locality of the project.

1. All landscaping (materials, installation & maintenance) shall comply with the requirements of Kissimmee's Land Development Code chapter 14. The landscape contractor shall be familiar with said code.
2. Irrigation shall be provided via hand watering as needed to assure the vigor and viability of the installed landscape. The irrigation period shall last until the establishment of the installed trees.
3. No tree, unless an understory tree (max. ht. 20') may be planted under or within 10 lateral feet of any overhead utility wire. No tree shall be planted within five feet of any underground water line, sewer line, transmission line or other utility. No landscaping shall violate the sight distance requirements of section 14-2-97. (LDC 14-2-94(A)(6).
4. Street trees – No trees shall be planted along the western side of street per city staff directive given verbally during 5/15/15 on site meeting.
5. Trees shall be staked with no less than 2x2 inch stakes driven 1 ½ to 2 feet into the ground. Two stakes shall be required for trees less than four

4. During site development, protective barriers shall be placed, as necessary, and maintained to prevent the destruction or damage of existing trees and vegetation. All trees and vegetation not designated for removal shall be protected by barrier zones erected prior to commencement of land clearing operations.
5. When the contractor notes a site condition variance from the planting plan the contractor shall contact and notify the Landscape Architect.
6. All Trees in turf area shall be surrounded by pine bark mulch a minimum of 24" out from main trunk of tree to a minimum depth of three (3) inches.
7. All landscape installation and maintenance shall meet or exceed standard BMP's. Reference: FLDEP Florida Friendly Landscape Publication – Florida Friendly Best Management Practices for Protection of Water Resources by the Green Industries (2008).

inches in diameter, and three stakes for trees greater than four inches in diameter. The trunk shall be protected by placing a 3/4 inch hose around the guy wire where it comes in contact with the tree. All stakes shall be of the same height for uniform appearance and support. In no instance shall nails be used in the trunk of the tree. Stakes and ties shall be removed after the first growing season or one year after installation. (LDC 14-2-94(E)(4)(b)).

6. ANY EXISTING TREE ROOTS, WHEN ENCOUNTERED DURING INSTALLATION OF UTILITIES, SHALL BE CUT OFF EVENLY WITH CLEAN SHARP PRUNING TOOLS AND COVERED WITH SOIL AS SOON AS POSSIBLE TO REDUCE DEHYDRATION.
7. All trees must maintain a minimum 5' separation from TWA owned water, sewer and reuse utilities.



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DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION				TREE MITIGATION PLAN	27	