

22x34

CRANE CREEK

M-1 CANAL FLOW RESTORATION

PREPARED FOR:
ST. JOHNS RIVER
WATER MANAGEMENT
DISTRICT



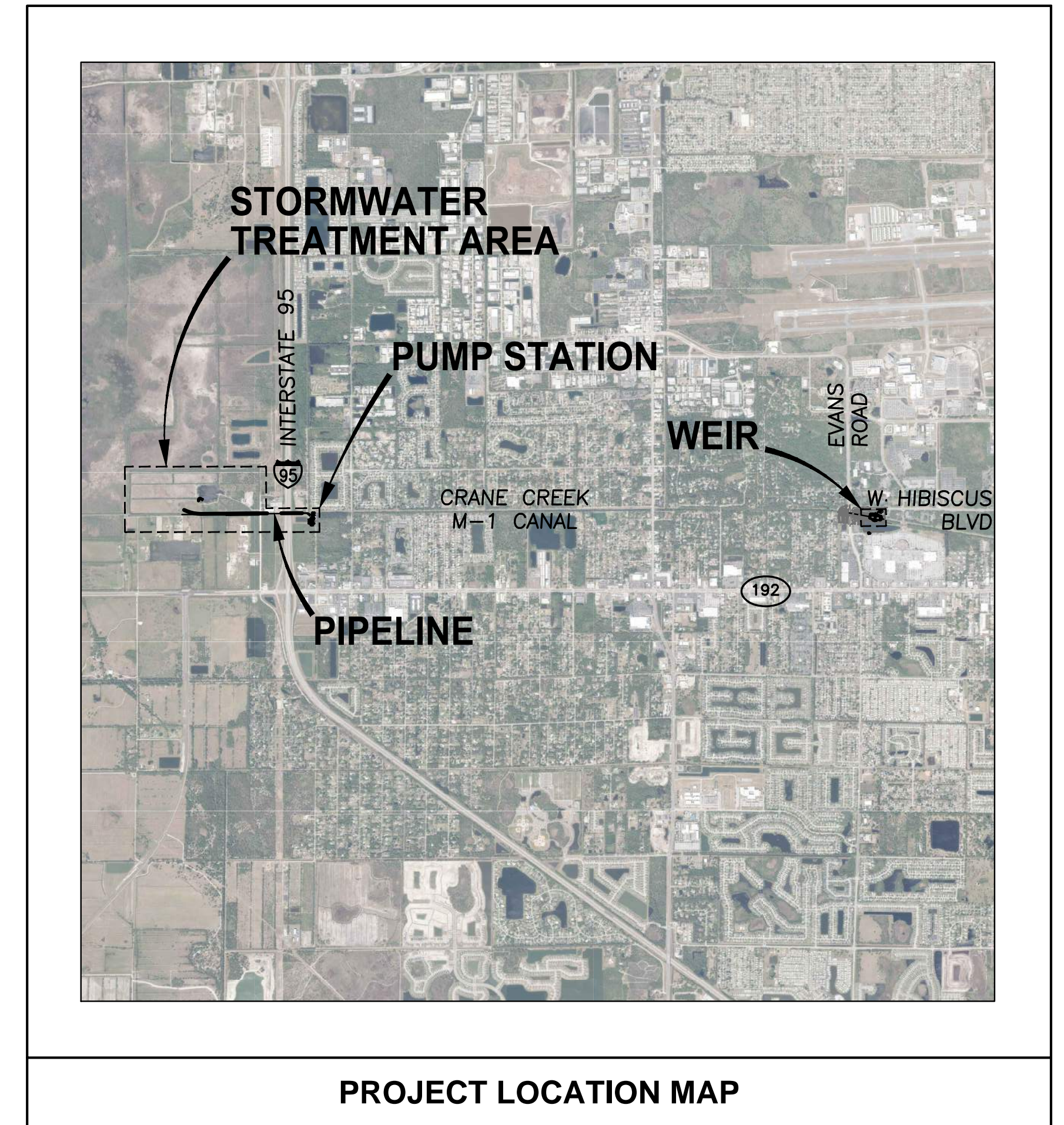
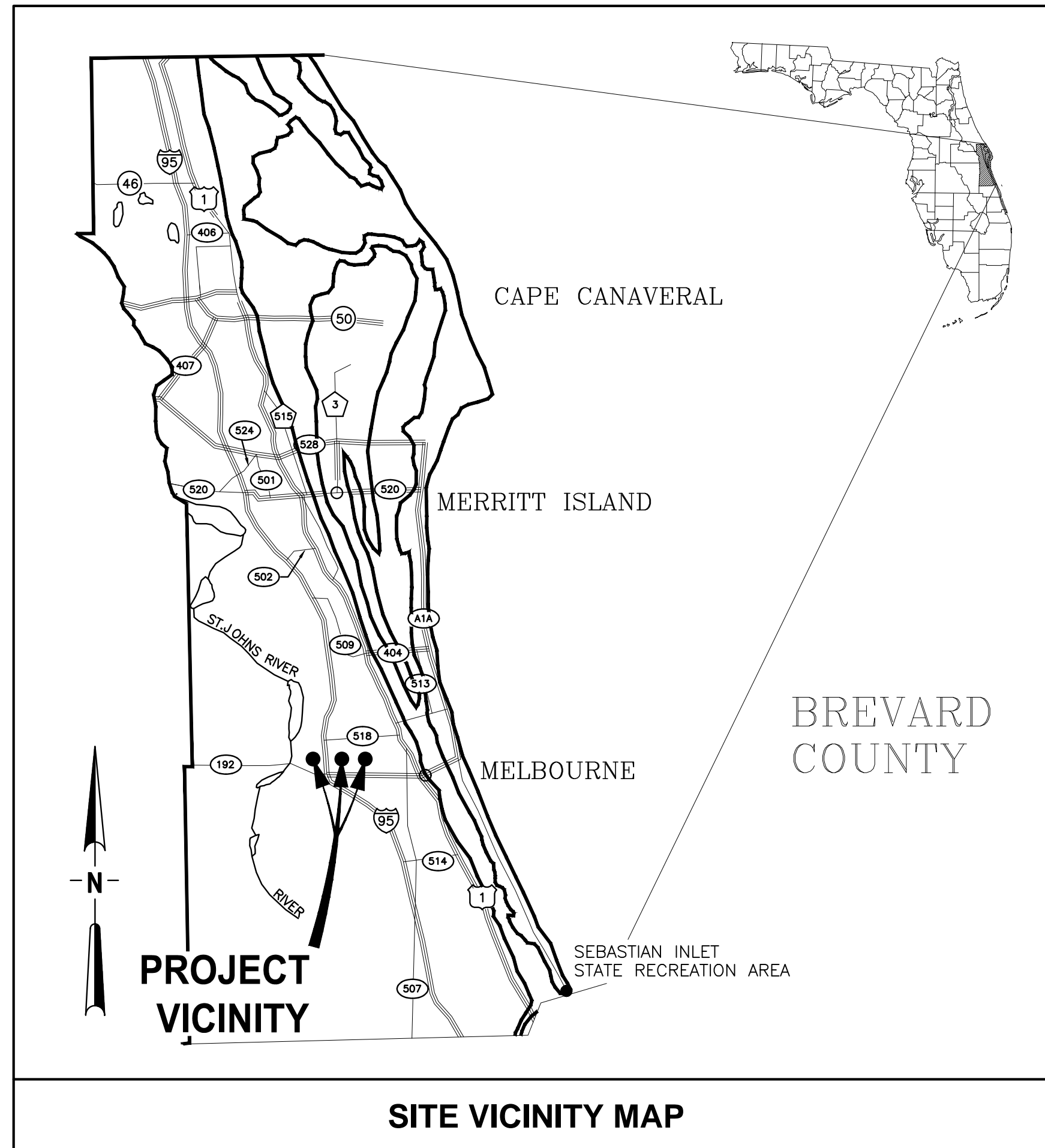
PREPARED BY:

JonesEdmunds

CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821

Always call 811 two full business days before you dig to have underground utilities located and marked.

Sunshine811.com



LTR.	DATE	REVISIONS	BY	APPRD.
A	12/20/19	REVISED PER COWM	RK	RK

CONTRACT NO: 32116
PROJECT NO: 19750-066-01

CITY OF MELBOURNE PROJECT NUMBER: IF 20-01
 BREVARD COUNTY ROW PERMIT NUMBER: 20RW00261
 BREVARD COUNTY RIGHT-OF-WAY REVIEW AND APPROVAL DOES NOT CONSTITUTE COUNTY APPROVAL OR REVIEW OF ANY PRIVATE PARTY DEED RESTRICTIONS, COVENANTS, PRIVATE EASEMENTS, OR OTHER PRIVATE AGREEMENTS. ANY CHANGES TO THE APPROVED MUST BE COORDINATED THROUGH THE PUBLIC WORKS ENGINEERING PROGRAM. THE APPLICANT ASSUMES THE RISK THAT THE RIGHT-OF-WAY PERMIT MAY REQUIRE ADDITIONAL COUNTY REVIEW INCLUDING ENGINEERING REVISIONS OR OTHER APPLICABLE COUNTY REVIEW PROCESSES SHOULD ANY ACTION TO ENFORCE ANY SUCH RESTRICTIONS REQUIRE REDESIGN OF THE PROJECT.

AUGUST 2020

LAST SAVED: 8/5/2020 12:12 PM BY: LHABERMAN PLOTTED: 8/5/2020 12:15 PM BY: LUKE HABERMAN

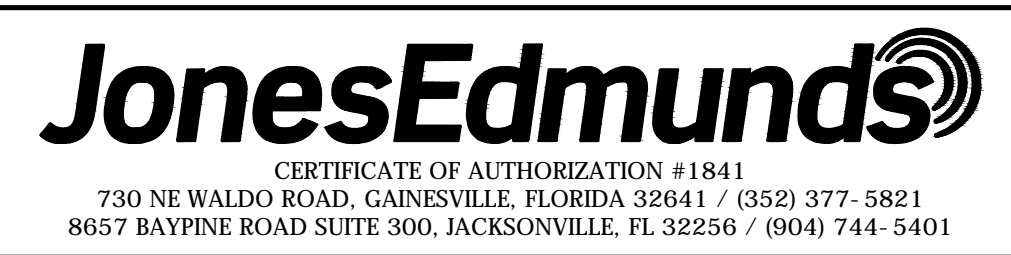
BID DOCUMENTS

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 8/5/2020 11:59 AM LHABERMAN

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DRAWING	DESCRIPTION	EOB
GENERAL		
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G2	DRAWING INDEX	A. GOODDEN
G3	GENERAL NOTES & ABBREVIATIONS	A. GOODDEN
G4	CIVIL LEGEND	A. GOODDEN
G5	MECHANICAL LEGEND & PIPE SCHEDULE	D. YOUNG
G6	ELECTRICAL LEGEND	H. DIETRICK
G7	STRUCTURAL GENERAL NOTES	M. THUE
G8	KEY MAP	A. GOODDEN
G9	BREVARD COUNTY PUBLIC WORKS ENGINEERING STD DEVELOPMENT NOTES	A. GOODDEN
G10	BREVARD COUNTY LAND DEVELOPMENT EXHIBITS	A. GOODDEN
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V1	STORMWATER TREATMENT AREA EXISTING CONDITIONS	N/A
EXISTING CONDITIONS: SURVEY		
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V3	SURVEY	R. JOHNSON
V4	SURVEY	R. JOHNSON
V5	SURVEY	R. JOHNSON
V6	SURVEY	R. JOHNSON
V7	SURVEY	R. JOHNSON
V8	SURVEY	R. JOHNSON
V9	SURVEY	R. JOHNSON
V10	SURVEY	R. JOHNSON
V11	SURVEY	R. JOHNSON
V12	SURVEY	R. JOHNSON
V13	SURVEY	R. JOHNSON
V14	SURVEY	R. JOHNSON
V15	SURVEY	R. JOHNSON
V16	SURVEY	R. JOHNSON
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C1-3	STORMWATER TREATMENT AREA SECTIONS	A. GOODDEN
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WEIR: EROSION CONTROL		
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DESIGNED	A. GOODDEN		
DRAWN	D. HAUBRICH		
CHECKED	R. KOLLER		
LTR.	DATE	REVISIONS	BY
A	12/20/19	REVISED PER COWM	RK



CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

DRAWING INDEX

CERTIFICATE OF AUTHORIZATION #1841
APPROVED BY
A. GOODDEN
P.E. # 60097

PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	G2

BID DOCUMENTS

GENERAL NOTES

- TOPOGRAPHIC SURVEY INFORMATION FOR ALL AREAS EXCEPT THE STA SITE WAS PROVIDED BY SOUTHEASTERN SURVEYING AND MAPPING CORPORATION, A REGISTERED PROFESSIONAL LAND SURVEYOR, DATED NOVEMBER 21 2018. THE SURVEYOR'S DRAWINGS ARE INCLUDED IN THIS DRAWING SET. STA SITE TOPOGRAPHIC SURVEY INFORMATION IS LIDAR DATA PROVIDED BY BREVARD COUNTY.
- THE HORIZONTAL DATUM IS BASED ON FLORIDA STATE PLANE EAST, NORTH AMERICAN DATUM 1983 (NAD83), 2011 ADJUSTMENT. VERTICAL INFORMATION SHOWN REFERS TO NATIONAL GEODETIC SURVEY (NGS) POINT PID#DG8680 HAVING A RECORDED ELEVATION OF 22.98 FEET (NAVD 88).
- INFORMATION SHOWN HEREIN REPRESENTS CONDITIONS AS THEY EXISTED ON THE SURVEY DATE SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.
- ALL DISTURBED AREAS SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION INCLUDING BUT NOT LIMITED TO SOD, LANDSCAPING, ETC. NEW SOD SHALL MATCH ADJACENT SOD OR IF NONE IS PRESENT IT SHALL BE A BAHIA/ BERMUDA MIX.
- EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL REMAIN, UNLESS OTHERWISE NOTED.
- EXISTING PAVEMENTS DAMAGED DUE TO CONSTRUCTION ARE TO BE REPLACED IN-KIND AT THE SAME LOCATION, WIDTH, AND GEOMETRY UNLESS OTHERWISE SHOWN IN THE PLANS. CONTRACTOR SHALL RECONSTRUCT ROADWAY AND DRIVEWAY PAVEMENT TO EXISTING GRADES UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR WILL REMOVE BURIED OUT OF SERVICE UTILITY LINES WITHIN THE LIMITS OF ALL EXCAVATION. THE COST OF THIS WORK WILL BE INCIDENTAL TO AND INCLUDED IN THE COST OF THE WORK BEING PERFORMED WHEN THE LINES ARE ENCOUNTERED.
- ALL EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED. CONTRACTOR TO PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
- THE CONTRACTOR SHALL NOTIFY UTILITY OWNERS THROUGH SUNSHINE ONE CALL OF FLORIDA, INC. (1-800-432-4770) TWO BUSINESS DAYS IN ADVANCE OF BEGINNING CONSTRUCTION ON THE JOB SITE.
- THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH FDOT TO LOCATE UTILITIES AND FDOT FACILITIES WITHIN THE I-95 CORRIDOR.
- CONTRACTOR SHALL NOTIFY SJRWMD IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR OMISSIONS IN CONSTRUCTION PLANS THAT WOULD AFFECT THE CONSTRUCTION OF THE PROJECT.
- DISPOSAL OF ALL EXCESS EARTHWORK MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. DISPOSAL SITES SHALL BE AS DIRECTED BY SJRWMD, AS THE OWNER.
- CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF THE FLORIDA STATE TRENCH SAFETY ACT.
- CONTRACTOR SHALL OBTAIN A TEMPORARY DEWATERING PERMIT PRIOR TO ANY DEWATERING ACTIVITIES. CONTRACTOR SHALL SUBMIT DEWATERING PLAN TO SJRWMD FOR APPROVAL. DURING DEWATERING OPERATIONS, CONTRACTOR SHALL NOT DISCHARGE DIRECTLY TO EXISTING WETLAND SYSTEMS, CANALS OR DITCHES.
- CONTRACTOR TO ESTABLISH ALL LINES, GRADES, AND REFERENCE POINTS AS REQUIRED FOR WORK UNDER THIS CONTRACT. ALL PROJECT LAYOUTS SHALL BE DONE USING A PROFESSIONAL SURVEYOR & MAPPER LICENSED IN THE STATE OF FLORIDA.
- CONTRACTOR TO PROVIDE ALL LABOR, INSTRUMENTS, STAKES AND OTHER MATERIALS NECESSARY FOR MARKING AND MAINTAINING ALL LINES AND GRADE.
- ALL EXISTING TREES OUTSIDE THE GRADING LIMITS ARE TO REMAIN.
- CONTRACTOR SHALL KEEP ALL SPOILS AND EQUIPMENT OUTSIDE OF THE TREE DRIPLINE FOR ALL TREES NOT DIRECTLY AFFECTED BY CONSTRUCTION.
- BURNING OF MATERIAL AND/OR DEBRIS IS PROHIBITED WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL CLEARED/GRUBBED MATERIAL OFFSITE.
- UNLESS OTHERWISE SPECIFIED ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2020), AND FDOT STANDARD PLANS (2020-21).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A STAGING AREA FOR MATERIAL AND EQUIPMENT STORAGE. THIS MAY INCLUDE LOCATING A SITE, OBTAINING PERMITS, AND MAKING THE SITE SUITABLE FOR USE. THE CONTRACTOR SHALL NOT USE RIGHT-OF-WAY FOR STAGING MATERIAL AND EQUIPMENT.
- THE CONTRACTOR SHALL PROVIDE MATERIAL AND CONSTRUCTION TESTING BY A FLORIDA QUALIFIED GEOTECHNICAL TESTING FIRM. ACCEPTANCE TESTING INCLUDES BUT IS NOT LIMITED TO CONCRETE, ROADWAY STABILIZATION AND BASE, ASPHALT DENSITY, AND LIMEROCK.
- AS-BUILT PLANS TO BE PROVIDED BY THE CONTRACTOR TO SJRWMD AND CERTIFIED BY A FLORIDA REGISTERED LAND SURVEYOR.
- ANY EXISTING FENCING THAT IS DAMAGED OR TEMPORARILY REMOVED DURING CONSTRUCTION MUST BE REPLACED IN-KIND. CONTRACTOR TO COORDINATE WITH PROPERTY OWNER REGARDING ANY FENCE REMOVAL OR REPLACEMENT.
- FENCE ADJACENT TO I-95 AND FENCE ADJACENT TO ST. JOHNS HERITAGE PARKWAY MUST BE IN PLACE AT ALL TIMES.
- CONTRACTOR TO COORDINATE REMOVAL OF SALVAGE EQUIPMENT. PROVIDE SJRWMD MINIMUM OF 30 DAYS NOTICE TO REMOVE/RELOCATE EQUIPMENT.
- THE CONTRACTOR WILL STABILIZE ALL EARTHWORK TO PREVENT EROSION.
- ALL FLAT BERM TOPS WILL BE STABILIZED WITH SEED.
- ALL SLOPES 4H:1V OR STEEPER SHALL BE STABILIZED WITH STAKED SOD.
- CONTRACTOR SHALL MAINTAIN EXISTING DRAINAGE DURING ALL PHASES OF CONSTRUCTION. THE EXISTING DRAINAGE SHALL NOT BE BLOCKED OF ADVERSELY AFFECTED BY CONSTRUCTION.



City Hall
2240 Minton Road
West Melbourne, FL 32908
Phone: (321) 727-7700
Fax: (321) 768-2390
www.westmelbourne.org

Development Closeout Checklist

- Complete all required construction inspections.
- Submit test results for compaction for pipe backfill, structure backfill (manholes and drainage structures) and for the road structural section (AC pavement and concrete).
- Submit materials tickets for concrete and AC pavement delivered to the project for public improvements.
- Provide As-builts for water, sewer, drainage, roads and site finish grades (note: city requirements exceed FDEP requirements). Please note that there are specific things the City requires for As-builts that are different than that required by other agencies. See the City's As-built drawing checklist.
- FDEP clearances for water and sewer improvements
- Schedule a final construction walk through (submit as-builts prior to scheduling walk through)
- Prepare bill(s) of sale for public improvements constructed by the developer that are being transferred to the city (include only the cost of portion transferred). Provide separate accounting for road improvements, drainage improvements, water improvements and wastewater improvements. Bill of sale shall be signed and sealed by the engineer of record.
- Using the cost(s) from above provide a 2 year maintenance bond for 20% of the value, for improvements transferred to the city
- Transfer easements for public improvements (min. 20' wide centered on improvements) to the city
- Coordinated submittal of performance bonds, maintenance bonds, and bills of sale with the City Clerk, City Planning Department and City Attorney's office.

ABBREVIATIONS

©	AT	HDD	HORIZONTAL DIRECTIONAL DRILL	STD	STANDARD
&	AND	HDPE	HIGH DENSITY POLYETHYLENE	STRUC	STRUCTURE
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	HORIZ	HORIZONTAL	STL	STEEL
ADF	AVERAGE DAILY FLOW	HP	HORSEPOWER	STS	STORMWATER SYSTEM
ADJ	ADJUSTABLE	HR	HOUR	SY	SQUARE YARD
ALUM	ALUMINUM	HWL	HIGH WATER LEVEL	TBM	TEMPORARY BENCHMARK
ALT	ALTERNATIVE	ID	INSIDE DIAMETER	TH	TOTAL HEAD
AISI	AMERICAN IRON STEEL INSTITUTE	IE	INVERT ELEVATION	THD	THREADED
AMPS	AMPERES	IF	INSULATED FLANGE	THK	THICK
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	IPS	IRON PIPE SIZE	TOB	TOP OF BERM
AR	AIR RELEASE	JT	JOINT	TOC	TOP OF CONCRETE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	LB	POUNDS	TOS	TOE OF SLOPE
AV	AIR VACUUM	LBR	LIMEROCK BEARING RATIO	TS	THICKENED SLAB
AWWA	AMERICAN WATER WORKS ASSOCIATION	LF	LINEAR FEET	TYP	TYPICAL
BLD	BLIND	LIDAR	LIGHT DETECTION AND RANGING	UE	UTILITY EASEMENT
BLDG	BUILDING	LOC	LIMITS OF CONSTRUCTION	ULC	ULTRASONIC LEVEL CONTROLLER
BF	BLIND FLANGE	LR	LONG RADIUS	VERT	VERTICAL
BFP	BACKFLOW PREVENTOR	LWL	LOW WATER LEVEL	W	WEST
BFV	BUTTERFLY VALVE	M/F	MALE/FEMALE	W/	WITH
BMP	BEST MANAGEMENT PRACTICES	MAX	MAXIMUM	WM	WATER MAIN
BO	BLOW-OFF	MES	MITERED END SECTION	WSE	WATER SURFACE ELEVATION
BTM	BOTTOM	MFR	MANUFACTURER	WT	WEIGHT
BTM/	BOTTOM OF	MH	MANHOLE	WWF	WELDED WIRE FABRIC
BV	BALL VALVE	MIN	MINIMUM	YR	YEAR
BW	BLENDED WATER	MJ	MECHANICAL JOINT		
BYP	BY-PASS	MNPT	MALE NATIONAL PIPE THREAD		
CD	CENTER OF DITCH/POND CENTER OF DITCH	N	NORTH		
CEN	CENTER	NAD	NORTH AMERICAN DATUM		
CL	CENTERLINE	NAVD	NORTH AMERICAN VERTICAL DATUM		
CC	CENTER TO CENTER	NC	NORMALLY CLOSED		
CI	CAST IRON	NEC	NATIONAL ELECTRIC CODE		
CO	CLEAN OUT	NHW	NORMAL HIGH WATER		
CIP	CAST IRON PIPE	NIC	NOT IN CONTRACT		
CISP	CAST IRON SLIP PIECE	NLW	NORMAL LOW WATER		
CJ	CONSTRUCTION JOINT	No, #	NUMBER		
CLR	CLEAR	NOM	NOMINAL		
CMF	CONCRETE MONUMENT, FOUND	NPT	NATIONAL PIPE THREAD		
CMP	CORRUGATED METAL PIPE	NRS	NONRISING STEM		
CONSTR	CONSTRUCTION	NTS	NOT TO SCALE		
CONT	CONTINUOUS	NSF	NATIONAL SANITATION FOUNDATION		
CONC	CONCRETE	NW	NORTHWEST		
CON	CONCENTRIC	OC	ON CENTER		
CORP	CORPORATION	OD	OUTSIDE DIAMETER		
CS	CARBON STEEL	OHE	OVERHEAD ELECTRIC		
CV	CHECK VALVE	OS&Y	OUTSIDE STEM & YOKE		
DIA, Ø	DIAMETER	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION		
DBI	DITCH BOTTOM INLET	PE	PLAIN END		
DI	DUCTILE IRON	PI	PRESSURE INDICATOR/GAUGE		
DIV	DIVISION	PL	PLATE		
DWG	DRAWING	P/L	PROPERTY LINE		
EA	EACH	PP	POWER POLE		
ECC	ECCENTRIC	PRV	PRESSURE REDUCING VALVE		
EF	EACH FACE	PSF	POUNDS PER SQUARE FOOT		
EG	SUCH AS	PSI	POUNDS PER SQUARE INCH		
EL	ELEVATION	PV	PLUG VALVE		
ELB	ELBOW	PVC	POLYVINYL CHLORIDE		
EOP	EDGE OF PAVEMENT	PVMT	PAVEMENT		
EOR	ENGINEER OF RECORD	R	RADIUS		
E/R	EDGE OF ROAD	RCP	REINFORCED CONCRETE PIPE		
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	RED	REDUCER		
EW	EACH WAY	REINF	REINFORCED		
FAB	FABRICATED	REQ, REQ'D	REQUIRED		
FAC	FLORIDA ADMINISTRATIVE CODE	RF	REDUCING FLANGE		
FCA	FLANGED COUPLING ADAPTER	RJ	RESTRAINED JOINT		
FCV	FLOW CONTROL VALVE	RPM	REVOLUTIONS PER MINUTE		
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	RPOJ	RESTRAINED PUSH ON JOINT		
F/F	FINISHED FLOOR	RST	REGIONAL STORMWATER TREATMENT		
FG	FIBERGLASS	RTU	REMOTE TELEMETRY UNIT		
FIN	FINISHED	RW	RAW WATER		
FJ	FLANGE JOINT	ROW	RIGHT-OF-WAY		
FL	FLOOR	S	SOUTH		
FLEX	FLEXIBLE	SAN	SANITARY		
FLG	FLANGE(D)	SCH	SCHEDULE		
FM	FORCE MAIN	SE	SOUTHEAST		
FND	FOUNDATION	SEC	SHOULDERED-END COUPLING		
FNPT	FEMALE NATIONAL PIPE THREAD	SIM	SIMILAR		
FRP	FIBER REINFORCED PLASTIC	SJRWMD	ST. JOHNS RIVER WATER MANAGEMENT DISTRICT		
FS	FLORIDA STATUTES	SP	STANDARD PLANS (FDOT)		
GALV	GALVANIZED	SPI	STANDARD PLANS INDEX (FDOT)		
GPM	GALLONS PER MINUTE	SQ	SQUARE		
GR	GRADE	SR	SURGE RELIEF		
GRU	GAINESVILLE REGIONAL UTILITIES	SRV	SURGE RELIEF VALVE		
GS	GALVANIZED STEEL	SS, SST	STAINLESS STEEL		
GV	GATE VALVE	STS	STORMWATER GRAVITY PIPE		
		STA	STORMWATER TREATMENT AREA		

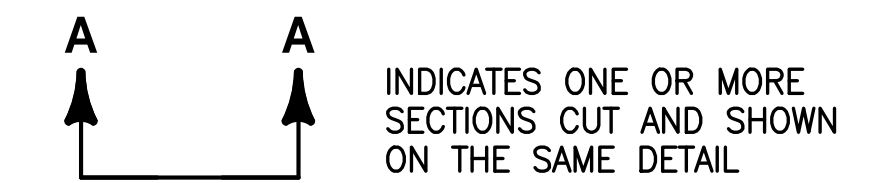
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BID DOCUMENTS

DESIGNED	A GOODDEN		CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	GENERAL NOTES & ABBREVIATIONS	CERTIFICATE OF AUTHORIZATION #1841		PROJECT NO:	DATE:
DRAWN	D HAUBRICH				APPROVED BY	19750-066-01	AUG 2020	
CHECKED	R KOLLER				A. GOODDEN	INDEX NO:	DWG NO:	
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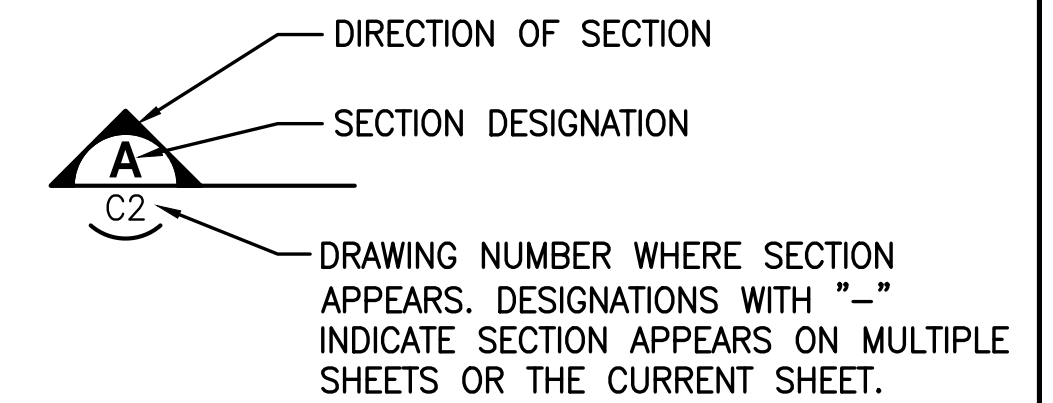
LEGEND

	MATCHLINE		DRAINAGE PIPE W/MITERED END SECTION
	UTILITY EASEMENT		STORM PIPE/CULVERT
	RIGHT-OF-WAY BOUNDARY		MANHOLE
	CENTERLINE		ELEVATION TAG
	LIMITS OF CONSTRUCTION		SOIL BORING
	SILT FENCE		WATER METER
	TURBIDITY CURTAIN		BENCHMARK
	GRADE BREAK		POWER POLE
	WETLAND LINE		WATER LEVEL
	PROPOSED CONTOUR		EXISTING CONCRETE MONUMENT, FOUND
	EXISTING CONTOUR		SLOPE INDICATOR
	FENCE		ALIGNMENT LINE DATA
	STORMWATER FORCE MAIN (HORIZONTAL DIRECTIONAL DRILL)		ALIGNMENT CURVE DATA
	STORMWATER FORCE MAIN (OPEN CUT)		EXISTING SANITARY SEWER FORCE MAIN
	GRAVITY STORM PIPING		EXISTING POTABLE WATER MAIN
	REINFORCED CONCRETE PIPE (RCP)		
	DITCH BOTTOM INLET		
	MITERED END SECTION		
	STRUCTURE/PIPE DESIGNATION		
	STABILIZED DRIVE SURFACE		
	ASPHALT SURFACE		
	LIMITS OF MILLING AND RESURFACING		
	LIMEROCK		
	CROSS HATCHING INDICATES REMOVAL/DEMOLITION		
	CONCRETE		
	RIPRAP		
	HEDGE, BUSH, SHRUBS, WOODS		
	SPOT ELEVATION		
	PROPOSED SIGN		
	DRAWING DESIGNATION		
	COORDINATE POINT		
	DRAINAGE FLOW DIRECTION		

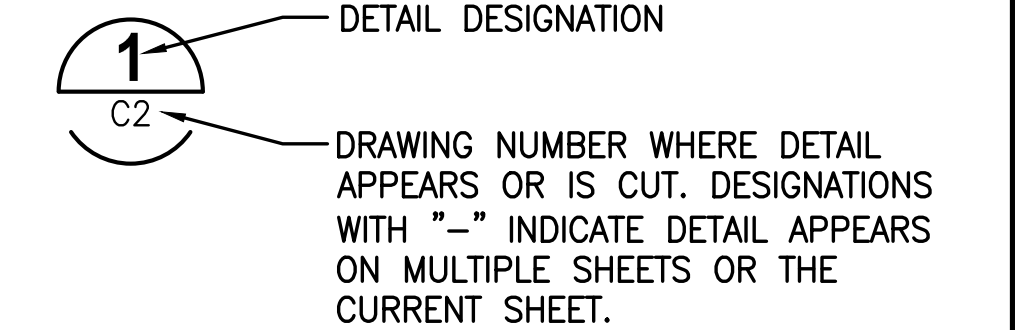


INDICATES ONE OR MORE SECTIONS CUT AND SHOWN ON THE SAME DETAIL

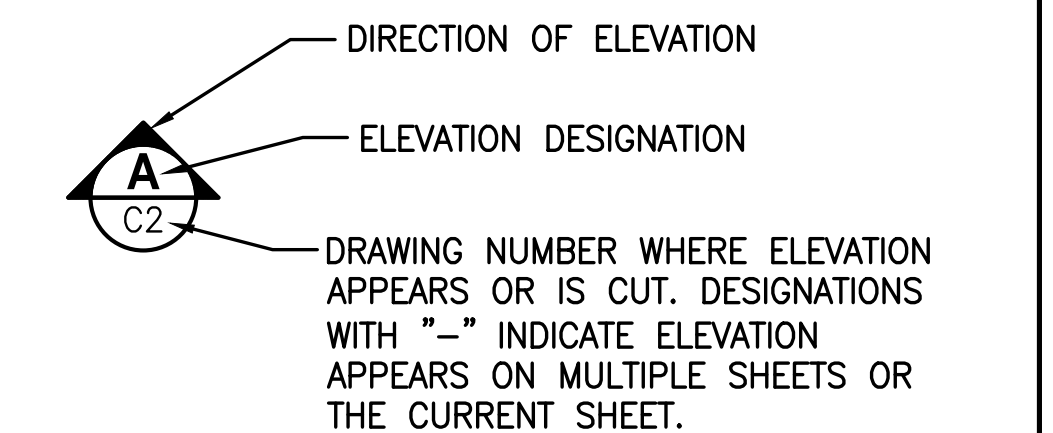
SECTION DESIGNATION



SECTION DESIGNATION



DETAIL/SECTION DESIGNATION



ELEVATION DESIGNATION

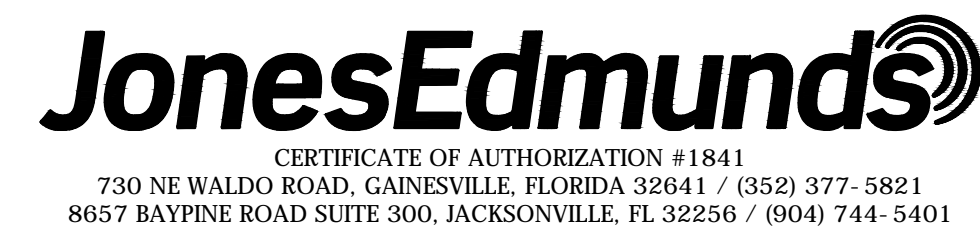
NOTES

- IN GENERAL, EXISTING FACILITIES AND UTILITIES ARE NOTED AS EXISTING AND/OR SHOWN IN LIGHT LINE WEIGHT (SCREENED). PROPOSED CONSTRUCTION IS SHOWN IN HEAVY LINE WEIGHT AND/OR IDENTIFIED AS PROPOSED. SCREENING IS ALSO USED IN ORDER TO CLARIFY DRAWINGS. FOR EXAMPLE, STRUCTURES ARE SCREENED ON MECHANICAL DRAWINGS TO HIGHLIGHT PIPING AND EQUIPMENT. THIS DRAFTING CONVENTION IS TYPICAL THROUGHOUT THE SET OF PLANS.
- THIS IS A STANDARD LEGEND DRAWING. SOME ITEMS MAY APPEAR IN LEGENDS AND NOT ON THE DRAWINGS.

Y:\19750-SURWMD\PROJECTS\066-01-CRANE CREEK M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\GENERAL\19750-066-01-G04.DWG

BID DOCUMENTS

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.
A	12/20/19	REVISED PER COWM	RK	RK

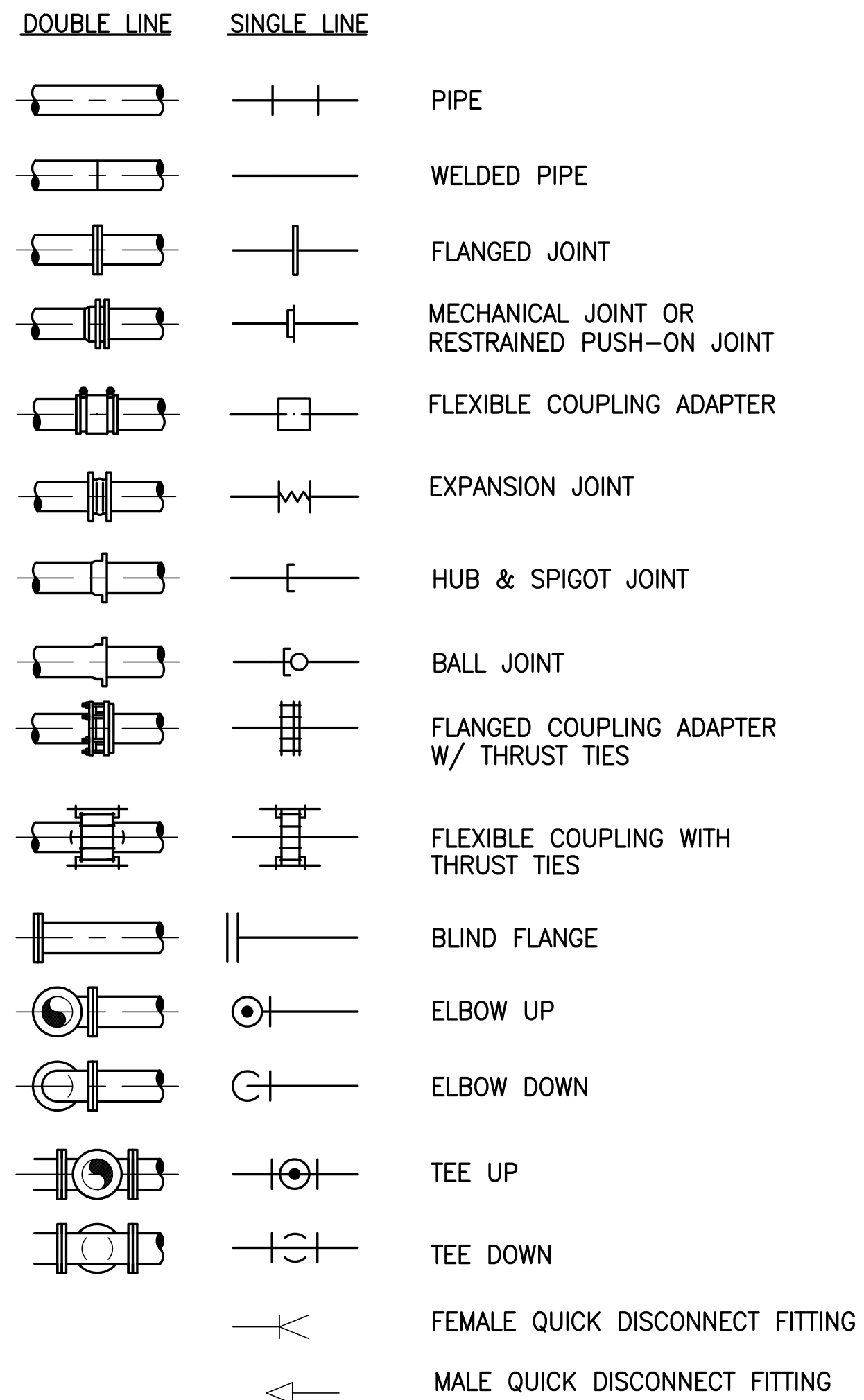


**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

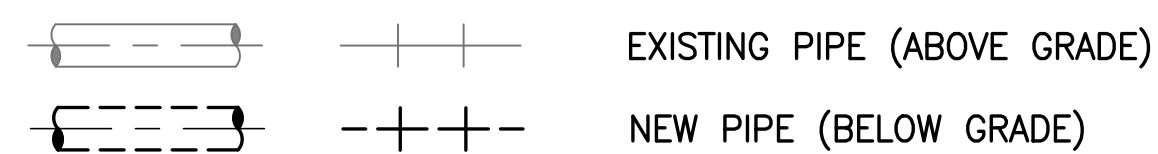
CIVIL LEGEND

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY A. GOODDEN P.E. # 60097	INDEX NO:	DWG NO: G4

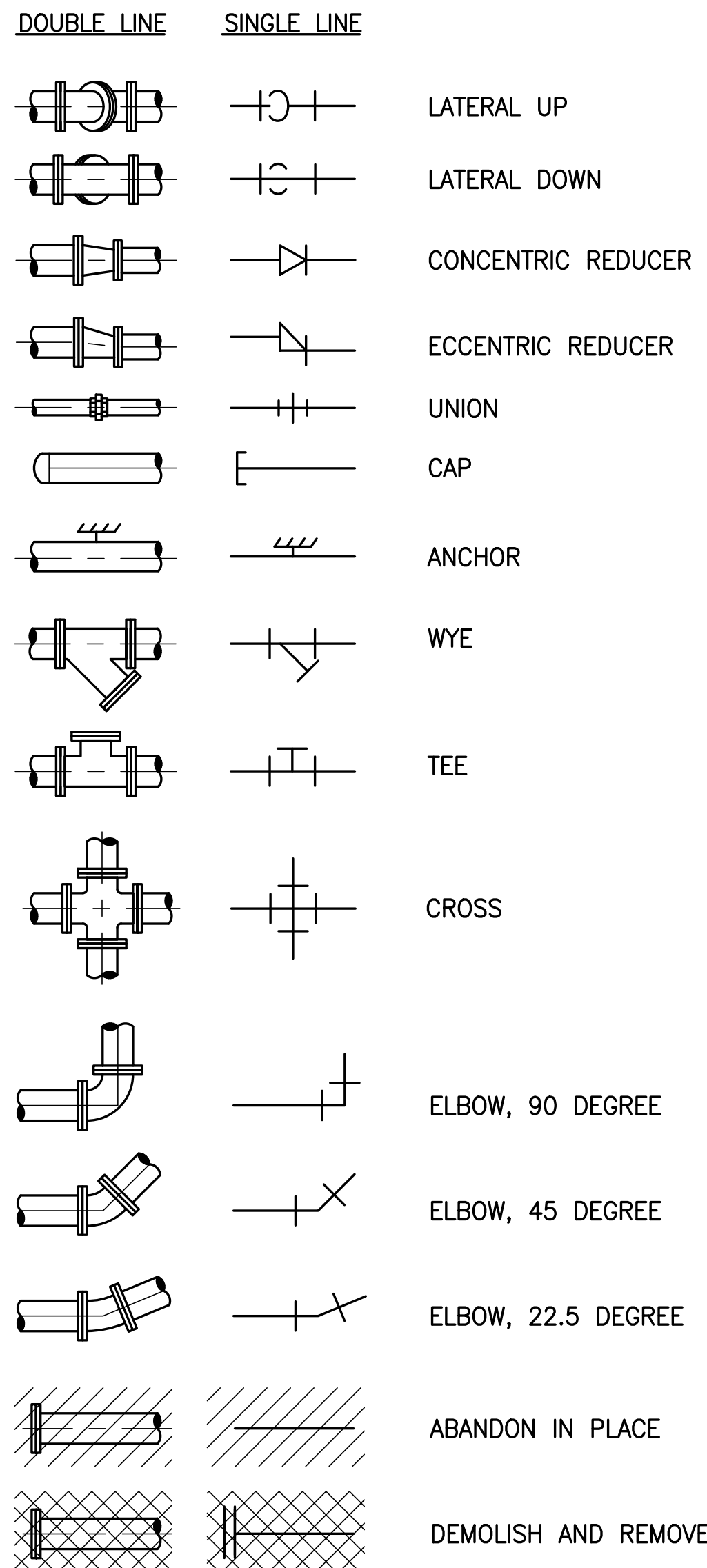
PIPING SYMBOLS



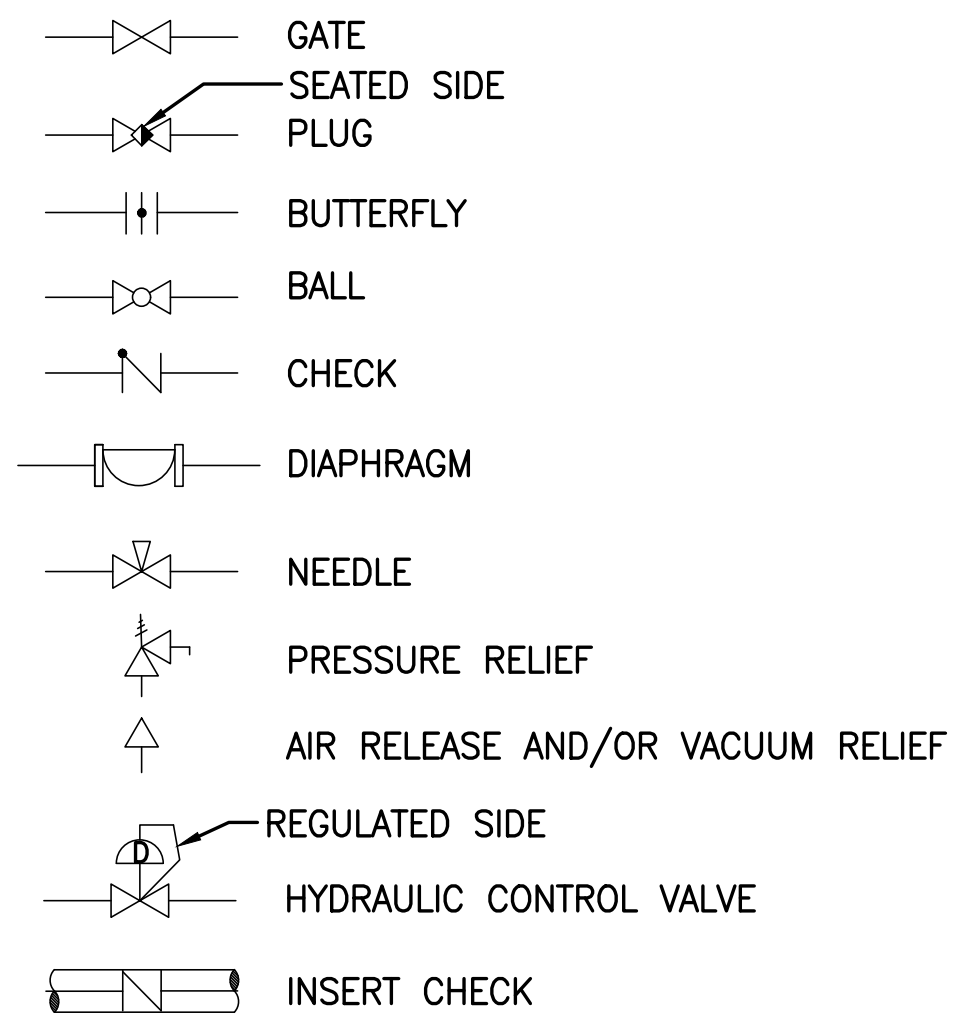
NOTE:
EXISTING PIPE AND EQUIPMENT ARE SHOWN IN THE DRAWINGS AS LIGHT-LINED AND/OR SCREENED. PROPOSED PIPE AND EQUIPMENT ARE SHOWN IN THE DRAWINGS AS HEAVY-LINED. ABOVE GRADE PIPE AND EQUIPMENT ARE SHOWN IN DRAWINGS AS SOLID-LINED EXCEPT FOR PIPELINE PLANS AND PROFILES. BELOW GRADE PIPE AND EQUIPMENT ARE SHOWN IN DRAWINGS AS DASHED-LINED. SEE BELOW EXAMPLES:



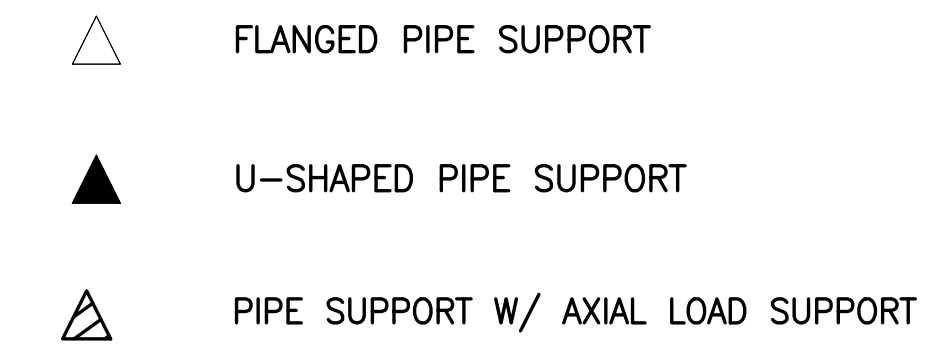
MECHANICAL LEGEND



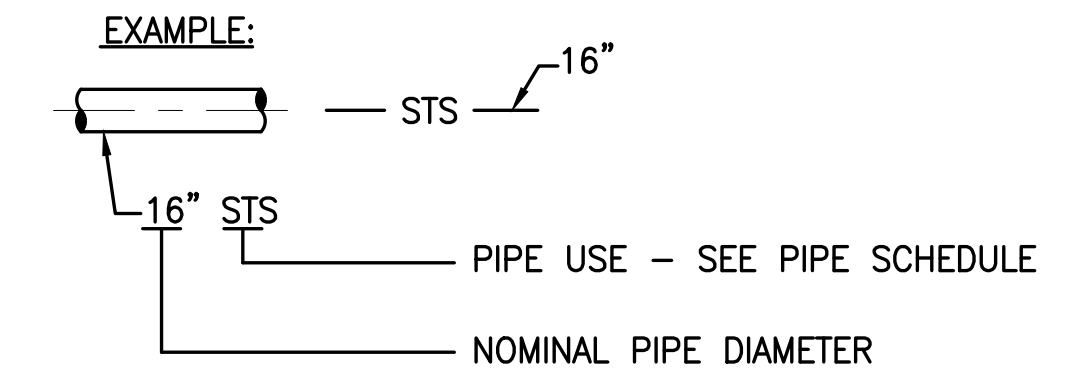
VALVE SYMBOLS



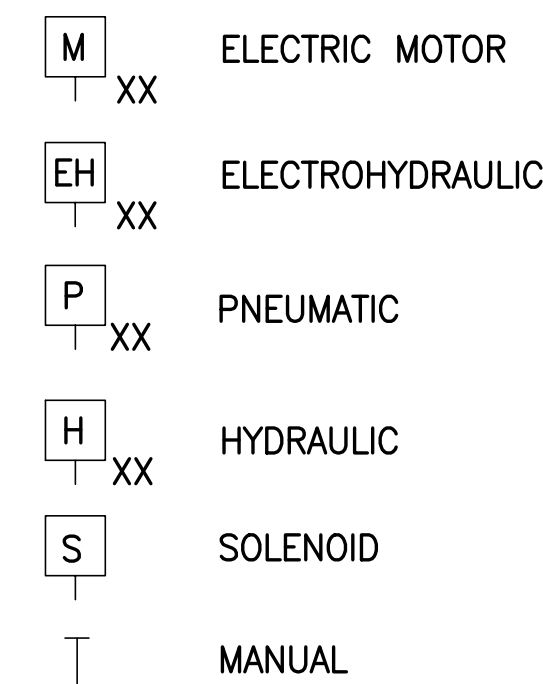
PIPE SUPPORT SYMBOLS



PIPING DESIGNATION



ACTUATOR SYMBOLS



NOTE:
ON LOSS OF PRIMARY POWER
(PNEUMATIC, ELECTRICAL OR HYDRAULIC)
XX: FO = FAIL OPEN
FC = FAIL CLOSED
FLP = FAIL TO LAST POSITION

NOTE

1. THIS IS A STANDARD LEGEND DRAWING. SOME ITEMS MAY APPEAR IN LEGENDS AND NOT ON THE DRAWINGS.

PIPE SCHEDULE

FLOW STREAM IDENTIFICATION	PIPE/DUCT MATERIAL	PIPE MATERIAL ABBREV	SPECIFICATION NUMBER	PIPE LINING	NORMAL MAX OPERATING PRESSURE (PSIG)	FIELD TEST PRESSURE (PSIG)	EXPOSED PIPE PAINT SYSTEM	COLOR CODE	SPECIFIC NOTES	RESTRAINT SYSTEM NOTES
FM-1	DUCTILE IRON	DI	15155	CERAMIC EPOXY	25	100	12	BROWN STRIPE	(A)	(1)
FM-2	HIGH DENSITY POLYETHYLENE (DI PIPE SIZE)	HDPE, DR11	15146	N/A	25	100	N/A	BROWN STRIPE	N/A	(2)
FM-3	POLYVINYL CHLORIDE	PVC, DR18	15291	N/A	25	100	N/A	BROWN STRIPE	N/A	(1)
STS-1	REINFORCED CONCRETE	RCP		N/A	5	N/A	N/A	N/A	N/A	N/A
STS-2	POLYVINYL CHLORIDE	PVC, SDR 35		N/A	5	N/A	N/A	GREEN W/ "STORMWATER" STENCIL	N/A	N/A

GENERAL NOTES:

- COAT BURIED AND SUBMERGED PIPE PER PIPE SPECIFICATIONS.
- TEST LINES PER SECTION 15144 UNLESS NOTED OTHERWISE.

RESTRAINT SYSTEM NOTES:

- RESTRAIN EVERYTHING (FITTINGS, VALVES, ETC.) INCLUDING NEW TO EXISTING.
- RESTRAIN AT FITTINGS AND VALVES.

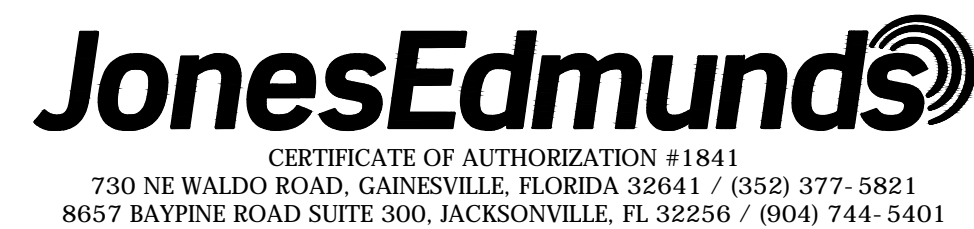
SPECIFIC NOTES:

- APPLY ABOVE GRADE PAINT SYSTEM ONLY TO PIPING EXPOSED TO SUNLIGHT. PIPING UNDER FACILITY CANOPY STRUCTURE SHALL BE CLASSIFIED AS EXPOSED TO SUNLIGHT.

SAVED: 7/29/2020 2:02 PM WHOFFMAN Y:\19750-SJRWMD\PROJECTS\066-01_CRANE CREEK_M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\GENERAL\19750-066-01-G05.DWG

BID DOCUMENTS

DESIGNED	D. YOUNG
DRAWN	D. HAUBRICH
CHECKED	R. KOLLER



**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**MECHANICAL LEGEND & PIPE
SCHEDULE**

CERTIFICATE OF AUTHORIZATION #1841
APPROVED BY
D. YOUNG
P.E. # 44204

PROJECT NO:	DATE:
19750-066-01	AUG 2020
INDEX NO:	DWG NO:
	G5

ELECTRICAL ABBREVIATIONS

A	AMMETER, AMPERE	PVC	POLYVINYL CHLORIDE
AC	ALTERNATING CURRENT	PWR	POWER
AFF	ABOVE FINISHED FLOOR	RGS	RIGID GALVANIZED STEEL
AFG	ABOVE FINISHED GRADE	RCPT	RECEPTACLE
AMP	AMPERE	RTU	REMOTE TELEMETRY UNIT
ATS	AUTOMATIC TRANSFER SWITCH	SA	SURGE ARRESTER
AUTO	AUTOMATIC	SH	SPACE HEATER
AUX	AUXILIARY	SPD	SURGE PROTECTION DEVICE
AWG	AMERICAN WIRE GAGE	SS	STAINLESS STEEL
BAT	BATTERY	SW	SWITCH
BC	BARE COPPER	T	THERMOSTAT, THERMIST
BRKR	BREAKER	TD	TEMPERATURE DETECTOR,
C	CONDUIT, CONTACTOR, CONDUCTOR,		TIME DELAY
CB	CIRCUIT BREAKER	TDR	TIME DELAY RELAY
CKT	CIRCUIT	TEMP	TEMPERATURE
CPT	CONTROL POWER TRANSFORMER	UNO	UNLESS NOTED OTHERWISE
CT	CURRENT TRANSFORMER, CABLE TRAY	UPS	UNINTERRUPTIBLE POWER
DC	DIRECT CURRENT		SUPPLY
DIV	DIVISION	V	VOLTAGE, VOLTS
DPDT	DOUBLE-POLE DOUBLE-THROW	W	WATT
DPST	DOUBLE-POLE SINGLE-THROW	WP	WEATHERPROOF
DS	DISCONNECT SWITCH	XFMR	TRANSFORMER
ETM	ELAPSED TIME METER		
ETR	EXISTING TO REMAIN		
EXP	EXPLOSION-PROOF		
FDR	FEEDER		
F,FU	FUSE		
FLEX	FLEXIBLE CONDUIT		
FREQ	FREQUENCY		
GALV	GALVANIZED		
GFCI	GROUND FAULT CIRCUIT INTERRUPTER		
G,GND	GROUND		
HH	HANDHOLE		
HP	HORSEPOWER		
HZ	HERTZ		
I & C	INSTRUMENTATION AND CONTROL		
ISR	INTRINSICALLY SAFE RELAY		
J,JB	JUNCTION BOX		
K	KEY INTERLOCK		
KA	KILOAMPERES		
KV	KILOVOLT		
KVA	KILOVOLT AMPERES		
KW	KILOWATTS		
LT	LIQUID-TIGHT		
MISC	MISCELLANEOUS		
MS	MOTOR STARTER		
MT,MTD	MOUNT, MOUNTED		
N	NEUTRAL, NORMAL		
NA	NON-AUTOMATIC		
NC	NORMALLY CLOSED		
NEC	NATIONAL ELECTRIC CODE		
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC		
NO	NORMALLY OPEN		
NTS	NOT TO SCALE		
OL	OVERLOAD RELAY		
PB	PULL BOX		
PC	PHOTOCELL		
PH	PHASE		
PNL	PANEL		

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
X	INDICATES ELECT. CKT. #
S	TOGGLE SWITCH, 1-POLE, 20 AMP, 120 VOLT (3 INDICATES 3-WAY, 4 INDICATES 4-WAY)
Ⓣ	JUNCTION BOX
Ⓜ	DUPLEX RECEPTACLE, 3 WIRE GROUNDING, NEMA 5-20R, 20 AMP, 125 VOLT
Ⓜ	MOTOR, HORSEPOWER INDICATED
□ ^{PB}	IN GROUND PULL BOX, SEE NOTE 11 & 13
□ ^{HH1}	NEW HANDHOLE (NUMBER INDICATED), SEE NOTE 12
⊙	GROUND ROD, 5/8"x10'-0" COPPER CLAD
○	CONDUIT UP (MULTIPLE OR SINGLE)
●	CONDUIT DOWN (MULTIPLE OR SINGLE)
---	CONDUIT, EXPOSED
---	CONDUIT IN FLOOR OR UNDERGROUND
---	OVERHEAD ELECTRIC LINE, 3-PHASE
①	CONDUIT RUN
~P101	CIRCUIT REFERENCE, SEE WIRING SCHEDULES
"X"	ON SYMBOL INDICATES REMOVAL
Ⓛ	LOCAL CONTROL STATION HAND-OFF-AUTOMATIC IN NEMA 4X SS ENCL.
Ⓛ	SAFETY SWITCH NEMA 4X STAINLESS STEEL 3 POLE UNLESS OTHERWISE NOTED WITH 2 FORM "C" AUX CONTACTS
ETM	ELAPSED TIME METER
Ⓛ	CIRCUIT BREAKER
Ⓛ	FUSE
□	TERMINAL
Ⓛ	CONTROL POWER TRANSFORMER
Ⓛ	INDICATING LIGHT, R=RED, G=GREEN, A=AMBER
Ⓛ	GROUND CONNECTION
OL'S	THERMAL OVERLOADS
Ⓛ	PHASE MONITOR RELAY CONTACT
Ⓛ	PUSHBUTTON SWITCH
Ⓛ	N.C.T.O. CONTACT
Ⓛ	N.O.T.C. CONTACT
Ⓛ	NORMALLY OPEN INSTANTANEOUS CONTACT
Ⓛ	NORMALLY CLOSED INSTANTANEOUS CONTACT
Ⓛ	TIME DELAY RELAY (0-180 SEC)
---	FIELD/INTERCONNECTION WIRING
---	LOCAL/INTERNAL WIRING

SYMBOL	DESCRIPTION
Ⓛ	TIME CLOCK (24 HR, 15 MIN ON/OFF)
Ⓛ	TIME DELAY RELAY (0-180 SEC)
Ⓛ	ELAPSED TIME METER
Ⓛ	MOTOR SPACE HEATER
Ⓛ	MAGNETIC FLOW METER
Ⓛ	PHASE MONITOR RELAY
Ⓛ	TORQUE SWITCH
Ⓛ	THERMOSTAT
Ⓛ	SELECTOR SWITCH
Ⓛ	HAND OFF AUTOMATIC (HOA)
Ⓛ	ON-OFF (O-O)
Ⓛ	ON OFF REMOTE (OOR)
Ⓛ	VFD/BYPASS (V-B)
Ⓛ	SURGE PROTECTION DEVICE (SPD)
Ⓛ	MOTOR CIRCUIT PROTECTOR (MCP) OR CIRCUIT BREAKER (TRIP AMPS INDICATED) 3 POLE UNLESS OTHERWISE INDICATED
Ⓛ	CURRENT TRANSFORMER
Ⓛ	POWER TRANSFORMER
Ⓛ	COMBINATION MOTOR STARTER WITH MCP
Ⓛ	FVR = FULL VOLTAGE REVERSING
Ⓛ	FVNR = FULL VOLTAGE NON-REVERSING
Ⓛ	SSRV = SOLID STATE REDUCED VOLTAGE
Ⓛ	VFD = VARIABLE FREQUENCY DRIVE
Ⓛ	CONTROL POWER TRANSFORMER
Ⓛ	CONTROL PANEL
O-O	ON - OFF
---	EQUIPMENT OUTLINE

ELECTRICAL NOTES

- COORDINATE THE INSTALLATION WITH POWER COMPANY PRIOR TO BEGINNING WORK. CONTACT THE POWER COMPANY AND SUBMIT ANY FORMS NECESSARY FOR WORK REQUIRED UNDER THIS CONTRACT.
- ALL WORK SHALL CONFORM TO THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEC). GROUND ALL ELECTRICAL EQUIPMENT AND ENCLOSURES IN ACCORDANCE WITH THE NEC.
- THE EXISTING UTILITIES ARE SHOWN BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL DETERMINE ACTUAL LOCATIONS OF EXISTING UTILITIES AND TAKE NECESSARY CARE TO AVOID DAMAGE TO THOSE UTILITIES. THE CONTRACTOR SHALL REPLACE ALL CIRCUITS AND REPAIR PIPING DAMAGED AS A RESULT OF CONTRACTOR OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
- COORDINATE CONDUIT RUNS WITH FACILITIES AND PIPING RUNS. PROVIDE 6" CLEAR AT PIPE CROSSINGS.
- THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS OF ALL SYSTEMS INCLUDING ROUTING OF HOME RUNS AS SPECIFIED.
- INSTRUMENTATION AND CONTROL CIRCUITS IN CONDUITS SHALL BE SEPARATED BY 6" MINIMUM WHERE RUNNING IN PARALLEL WITH POWER CIRCUIT CONDUITS.
- ALL MOUNTING HARDWARE, ANCHORS, CHANNEL, PLATES, BRACKETS, FLOAT SUSPENSION CABLES, CABLE HANGERS AND ENCLOSURES SHALL BE STAINLESS STEEL UNLESS OTHERWISE INDICATED.
- UNLESS OTHERWISE NOTED, ALL CONDUIT SHALL BE SCHEDULE 40 PVC BELOW GRADE AND SCHEDULE 80 ABOVE GRADE.
- ALL LOW VOLTAGE CIRCUITS SHALL BE PROVIDED WITH A GREEN GROUNDING CONDUCTOR, SIZED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRIC CODE (NEC).
- IN GENERAL, LIGHT LINES INDICATE EXISTING OR WORK OF OTHER TRADES, BOLD LINES INDICATE NEW ELECTRICAL WORK.
- THE CONTRACTOR SHALL TEST AND RE-VERIFY SIGNAL AND CONNECTIVITY OF RELOCATED ANTENNA SYSTEM TO ENSURE IT MAINTAINS AT A MINIMUM THE SAME CAPABILITIES AS IN ITS ORIGINAL LOCATION.

THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS.

SAVED: 11/15/2019 11:33 AM HAL D:\ISSUE 06-19-2020\G6.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

ELECTRICAL LEGEND

PROJECT NO: 19750-066-01		DATE: JUN 2020	
INDEX NO:		DWG NO: G6	

GENERAL NOTES:

- THESE NOTES ARE GENERAL AND SUPPLEMENTAL TO THE SPECIFICATIONS. THESE NOTES APPLY TO THE ENTIRE PROJECT UNLESS MODIFIED OR NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
- DESIGN IS IN ACCORDANCE WITH AND CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE 2017 FLORIDA BUILDING CODE, EXCEPT WHERE OTHER APPLICABLE CODES AND THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.
- LIVE LOADS:

ROOFS:	20 PSF
PROCESS AREAS:	200 PSF
STAIRS & PLATFORMS:	100 PSF
CANAL SLAB-ON-GRADE:	HS20 TRUCK LOADING
- ALL DIMENSIONS INDICATED (*) ARE TO BE VERIFIED EITHER BY FIELD MEASUREMENTS FOR EXISTING STRUCTURES OR BY SHOP DRAWINGS FOR EQUIPMENT FURNISHED. STRUCTURAL DIMENSIONS NOT SHOWN BUT CONTROLLED BY OR RELATED TO EQUIPMENT SHALL BE VERIFIED WITH THE MANUFACTURER PRIOR TO CONSTRUCTION.
- EQUIPMENT ANCHOR BOLT SIZES, TYPES, AND PATTERNS SHALL BE VERIFIED WITH THE MANUFACTURER. ALL BOLT PATTERNS SHALL BE TEMPLATED TO INSURE ACCURACY OF PLACEMENT.
- STRUCTURAL DRAWINGS SHALL BE USED IN COORDINATION WITH DRAWINGS OF ALL OTHER DISCIPLINES AND MANUFACTURER'S SHOP DRAWINGS.
- IF A CONFLICT IS FOUND BETWEEN DIFFERENT PORTIONS OF THE CONTRACT DOCUMENTS, NOTIFY THE OWNER IMMEDIATELY. CONTINUED CONSTRUCTION OF THE AREA IN CONFLICT SHALL BE AT THE CONTRACTOR'S OWN RISK UNTIL THE CONFLICT IS RESOLVED BY THE OWNER.
- STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND TEMPORARY SUPPORTS WHEREVER EXCESSIVE CONSTRUCTION LOADS MAY OCCUR. OVERSTRESSING OF ANY STRUCTURAL ELEMENT IS PROHIBITED.
- NO BACK FILL SHALL BE PLACED AGAINST ANY WALL UNLESS ALL SUPPORTING ELEMENTS OF THE STRUCTURE HAVE BEEN CONSTRUCTED AND HAVE REACHED THE SPECIFIED MINIMUM CONCRETE STRENGTH.
- DO NOT SCALE THESE DRAWINGS. USE DIMENSIONS.
- CONTRACTOR'S CONSTRUCTION AND/OR ERECTION SEQUENCES SHALL RECOGNIZE AND CONSIDER THE EFFECTS OF THERMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING THE CONSTRUCTION PERIOD.
- PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS AND AT WALL INTERSECTIONS AS SHOWN IN STANDARD DETAILS.
- FOR SIZES AND LOCATIONS OF EQUIPMENT SUPPORTS AND PIPE OPENINGS, SEE OTHER DISCIPLINE DRAWINGS. OPENINGS SIZES LESS THAN 12" ARE NOT SHOWN ON STRUCTURAL DRAWINGS. REFERENCE OTHER DISCIPLINE DRAWINGS FOR LOCATIONS.
- FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS, AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.
- STANDARD DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
- DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC. UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
- VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

FOUNDATION NOTES:

- DESIGN OF FOUNDATION IS BASED ON SUBSURFACE SOIL EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION (PROJECT NO. 18-23-5319) COMPLETED BY ARDAMAN & ASSOCIATES, INC., ON MAY 3, 2019.
- MINIMUM DEPTH FROM ADJACENT FINISHED GRADE TO BOTTOM OF EXTERIOR FOUNDATION 1'-6" UNLESS OTHERWISE NOTED.
- FOUNDATION SLABS AND SLABS-ON-GRADE SHALL BEAR ON COMPACTED SOILS MEETING THE REQUIREMENTS OF THE GEOTECHNICAL REPORT UNLESS OTHERWISE NOTED IN FACILITY NOTES. CONTRACTOR SHALL SUBMIT DENSITY TESTS TO GEOTECHNICAL AND STRUCTURAL ENGINEER OF RECORD FOR 2 FEET OF SUPPORTING SOILS BELOW BOTTOM OF SLABS AND FOUNDATIONS. PLACE 6 MIL VISQUEEN OVER COMPACTED SOILS PRIOR TO PLACING CHAIRS THAT SUPPORT REINFORCING MATS.
- FOUNDATION AND SLAB ON GRADE BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF FORM WORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS, TEST PITS, TESTING AND DATA REPORTS.

CONCRETE NOTES:

- CONCRETE 28-DAY COMPRESSIVE STRENGTH:

CLASS A	- 2500 PSI FOR CONCRETE FILL & DUCT ENCASMENT
CLASS B	- 3000 PSI FOR SIDEWALKS, CURBS ETC.
CLASS C	- 5000 PSI ALL FOUNDATIONS AND STRUCTURAL WALLS, SLABS AND BEAMS
CLASS D	- 5000 PSI PRE-CAST CONCRETE
- REINFORCEMENT: ASTM A615, GRADE 60.
- CONCRETE COVER FOR REINFORCING:

A) SURFACES CAST AGAINST SUBGRADE	3"
B) TOP SURFACES OF SLABS WHERE PVC WATERSTOP IS REQUIRED IN WALLS	3"
C) FORMED SURFACES IN CONTACT WITH WEATHER, SOIL, OR LIQUID	2"
D) BOTTOM SURFACES OF SLABS OVER LIQUID	2"
E) SURFACES NOT IN CONTACT WITH WEATHER, SOIL, OR LIQUID	1 1/2"
- CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON THE DRAWINGS. WHERE NOT SHOWN, CONSTRUCTION JOINTS SHALL BE LOCATED AT NO MORE THAN 40' ON CENTER SPACING. SUBMIT PROPOSED CONSTRUCTION JOINT LOCATIONS FOR REVIEW PRIOR TO CONSTRUCTION.
- WHERE HORIZONTAL CONSTRUCTION JOINTS, LOCATED ABOVE THE FOUNDATION SLAB, EXTEND BEYOND WHERE NEEDED, TERMINATE AT A VERTICAL CONSTRUCTION JOINT AS APPROVED BY THE ENGINEER.
- EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS BUT REQUIRED BY OTHER CONTRACT DOCUMENTS, SHALL BE PROVIDED FOR PRIOR TO PLACING CONCRETE.
- AT ALL TYPICAL CURBS, EQUIPMENT PADS, AND PIPE SUPPORT PIERS, REINFORCING DOWELS SHOWN MAY BE REPLACED WITH MATCHING DOWELS SET IN EPOXY IN DRILLED HOLES USING HILTI HIT-RE 500 ADHESIVE SYSTEM OR EQUAL AND 8" MIN. EMBEDMENT. CONTRACTOR TO SUBMIT SIZE, LOCATION AND PROPOSED EMBEDMENTS FOR REVIEW PRIOR TO INSTALLATION OF ANY POST-INSTALLED DOWELS. DOWELS LOCATED CLOSER THAN 3 INCHES FROM ANY EDGE OF CONCRETE SHALL NOT BE REPLACED WITH DRILLED DOWELS.
- WHERE DRILLED EPOXY DOWELS ARE PLACED INTO HARDENED CONCRETE, ADJUST THE DOWEL LOCATIONS AS NEEDED TO AVOID DRILLING THROUGH ANY REINFORCING BARS. IF THE DOWEL LOCATION NEEDS TO BE MODIFIED, CONTACT THE ENGINEER PRIOR TO DRILLING.
- DOWELS, ANCHOR BOLTS, PIPES, AND OTHER EMBEDDED ITEMS SHALL BE HELD SECURELY IN POSITION WHILE CONCRETE IS PLACED.
- CONDUITS AND PIPES EMBEDDED IN OR PENETRATING THROUGH CONCRETE SHALL BE SPACED ON CENTER NOT LESS THAN 3 TIMES THEIR OUTSIDE DIMENSION, BUT NOT LESS THAN 2 1/2 INCHES CLEAR. OUTSIDE DIMENSION OF EMBEDDED ITEMS SHALL NOT EXCEED 1/3 OF THE CONCRETE MEMBER THICKNESS. CLEAR SPACING REQUIREMENTS SHALL APPLY FOR EMBEDDED CONDUITS OR PIPES CROSSING AT AN ANGLE LESS THAN 60 DEGREES.
- THE EFFECTIVE DIMENSION USED TO MEET MEMBER THICKNESS LIMITATIONS SHALL BE THE SUM OF THE OUTER DIMENSIONS OF CROSSING ELEMENTS.
- EMBEDDED CONDUITS AND PIPES SHALL BE LOCATED BETWEEN THE LAYERS OF REINFORCEMENT AND A MINIMUM OF 2 1/2 INCHES CLEAR FROM APPROXIMATELY PARALLEL REINFORCING BARS. REQUIREMENTS FOR EMBEDDED ELEMENTS CROSSING REINFORCING BARS SHALL BE AS REQUIRED FOR CROSSING EMBEDDED ELEMENTS.
- CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN OR PASS THROUGH COLUMNS OR BEAMS UNLESS INDICATED OTHERWISE OR AUTHORIZED BY ENGINEER.
- REINFORCING BARS AND ACCESSORIES SHALL NOT BE IN CONTACT WITH ANY METAL PIPE, PIPE IN FLANGE, METAL CONDUIT, OR OTHER METAL PARTS EMBEDDED IN CONCRETE. A MINIMUM CLEARANCE OF 2 INCHES SHALL BE PROVIDED.
- PROVIDE 3/4 INCH CHAMFER USING WOOD CHAMFER STRIPS ON ALL EXPOSED CORNERS OF COLUMNS, BEAMS, AND WALLS.
- SIZE AND SPACING OF WALL CORNER AND WALL INTERSECTION REINFORCING SHALL MATCH TYPICAL WALL REINFORCING UNLESS OTHERWISE SHOWN ON PLANS.
- 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 350 STANDARD HOOKS.
- WALL CORNERS AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS, AS INDICATED IN STANDARD DETAILS.
- WALL FOOTING CORNER AND INTERSECTION REINFORCEMENT BARS SHALL BE EXTENDED INTO CONNECTING FOOTINGS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING FOOTING. OUTSIDE FACE WALL FOOTING REINFORCEMENT SHALL BE LAPPED WITH CORNER BARS. ALL WALL FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMN OR PILASTER FOOTINGS.
- REINFORCING STEEL FOR FOOTINGS AND SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING ABOVE THE PREPARED GRADE. LIFTING REINFORCING OFF GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.
- PREPARE AND PATCH FORM SNAP-TIE HOLES AND ALTERNATE FORM-THROUGH BOLT HOLE BY DRY-PACKING WITH APPROVED NON-SHRINK GROUT.
- SUBMIT VERTICAL WALL CONSTRUCTION JOINT. LOCATION FOR REVIEW PRIOR TO CONSTRUCTION.

STRUCTURAL STEEL NOTES:

- DETAIL, FABRICATE, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL AND AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, LATEST EDITION.
- STEEL MATERIAL:
 - STRUCTURAL TUBING, ASTM A500, GRADE B OR C
 - STRUCTURAL PIPE, ASTM A53, GRADE B
 - W SHAPES, ASTM A992
 - STRUCTURAL CHANNELS, ASTM A36
 - ALL OTHER SHAPES AND PLATES, ASTM A36 UON
- BOLTS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM SPECIFICATIONS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:

UNLESS SHOW OTHERWISE	A325-N
SLIP CONTROL	A325-SC
ANCHOR BOLTS (AB)	
STAINLESS STEEL	F593, AISI TYPE 316, CONDITION CW
STEEL	F1554, GR 36
GALVANIZED STEEL	F1554, GR 36 / A153
MACHINE BOLTS (MB)	A307
- PROVIDE TYPICAL STEEL BEAM CONNECTIONS FOR A CAPACITY OF NOT LESS THAN THE TOTAL UNIFORM LOAD CAPACITY TABULATED IN THE AISC TABLES FOR ALLOWABLE LOADS OF BEAMS.
- DO NOT PAINT STEEL SURFACES WHICH ARE TO BE WELDED OR ENCASED IN CONCRETE.
- FILLET WELD SIZES SHALL BE THE MINIMUM SIZE REQUIRED BY AISC AND AWS FOR PLATE SIZES TO BE CONNECTED AND SHALL BE APPLIED TO THE ENTIRE JOINT CONTACT LENGTH.
- STAINLESS STEEL SHALL BE TYPE 316L-ASTM A276.
- STAINLESS STEEL TYPE 316L SHALL BE USED IN ALL AREAS TO BE SUBMERGED AND AS SHOWN ON DWGS.
- IF STAINLESS STEEL MEMBERS ARE NOT AVAILABLE, PROVIDE EQUIVALENT STAINLESS STEEL SECTIONS, BUILT UP OUT OF STAINLESS STEEL PLATES.
- ALL BOLTS, ANCHOR BOLTS, AND CONCRETE ANCHORS CONNECTING STAINLESS STEEL SHALL BE TYPE 316 STAINLESS STEEL.
- WHENEVER ONE MEMBER IS FASTENED TO ANOTHER WITH FASTENINGS (BOLTS, WELDS, ETC.) SET AT A UNIFORM SPACING, THERE SHALL BE A MINIMUM OF TWO FASTENINGS PER PIECE CONNECTED AND THE FIRST AND LAST FASTENINGS SHALL BE LOCATED NOT TO EXCEED 1/4 SPACE FROM EACH END.
- ALL GRATING SHALL BE ALUMINUM UNLESS OTHERWISE NOTED.
- ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
- NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

STEEL SHEET PILING NOTES:

- SEE SPECIFICATIONS FOR ALL STEEL SHEET PILING REQUIREMENTS.
- SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A REGISTERED FLORIDA P.E. FOR REVIEW PRIOR TO FABRICATION.

PRECAST CONCRETE NOTES:

- SEE SPECIFICATIONS FOR ALL PRECAST CONCRETE REQUIREMENTS.
- SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A REGISTERED FLORIDA P.E. FOR REVIEW PRIOR TO FABRICATION.

SLAB/SLAB-ON-GRADE REINFORCEMENT LAP SPLICE LENGTH SCHEDULE (INCHES)				
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)		
		f _c = 3 KSI	f _c = 4 KSI	f _c = 5 KSI
#4	2	29	25	23
#5	3	36	31	28
#6	3	43	37	34

RETAINING WALL AND MAT FOUNDATION LAP SPLICE LENGTH SCHEDULE (INCHES)					
BAR SIZE	MIN BAR SPACING (INCHES)	TENSION (LTS)			
		f _c = 4 KSI		f _c = 5 KSI	
		TOP	OTHER	TOP	OTHER
#5	3	40	31	36	28
#6	4	48	37	44	34
#7	4	71	54	63	49
#8	4	81	62	72	56

LAP SPLICE NOTES:

- TABULATED VALUES ARE PER ACI 318-08 REQUIREMENTS FOR NORMALWEIGHT CONCRETE. THE VALUES ON THIS SHEET DO NOT APPLY TO LIGHTWEIGHT CONCRETE.
- MINIMUM BAR SPACING DIAGRAM - "S"
- TABULATED VALUES ARE FOR NON-EPOXY COATED REINFORCEMENT. FOR EPOXY COATED REINFORCEMENT MULTIPLY VALUES BY 1.3 OR "TOP BARS" AND 1.5 FOR ALL OTHER REINFORCEMENT.
- WHERE BARS OF DIFFERENT SIZES ARE LAP SPliced IN TENSION, THE LAP LENGTH SHALL BE THE TENSION LAP SPLICE LENGTH (LTS) OF THE SMALLER BAR.
- "TOP BARS" ARE DEFINED PER ACI HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE. "OTHER BARS ARE ALL BARS FOR WHICH THIS DOES NOT APPLY."

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DESIGNED	M THUE			
DRAWN	J GALLER			
CHECKED	D CRAPPS			
LTR.	DATE	REVISIONS	BY	APPRD.

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPIRE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

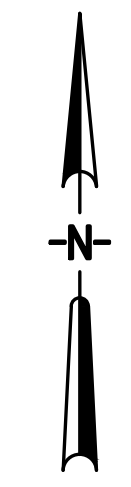
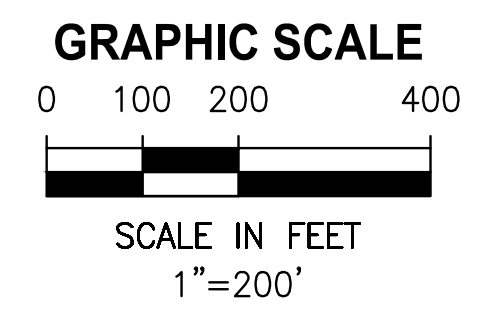
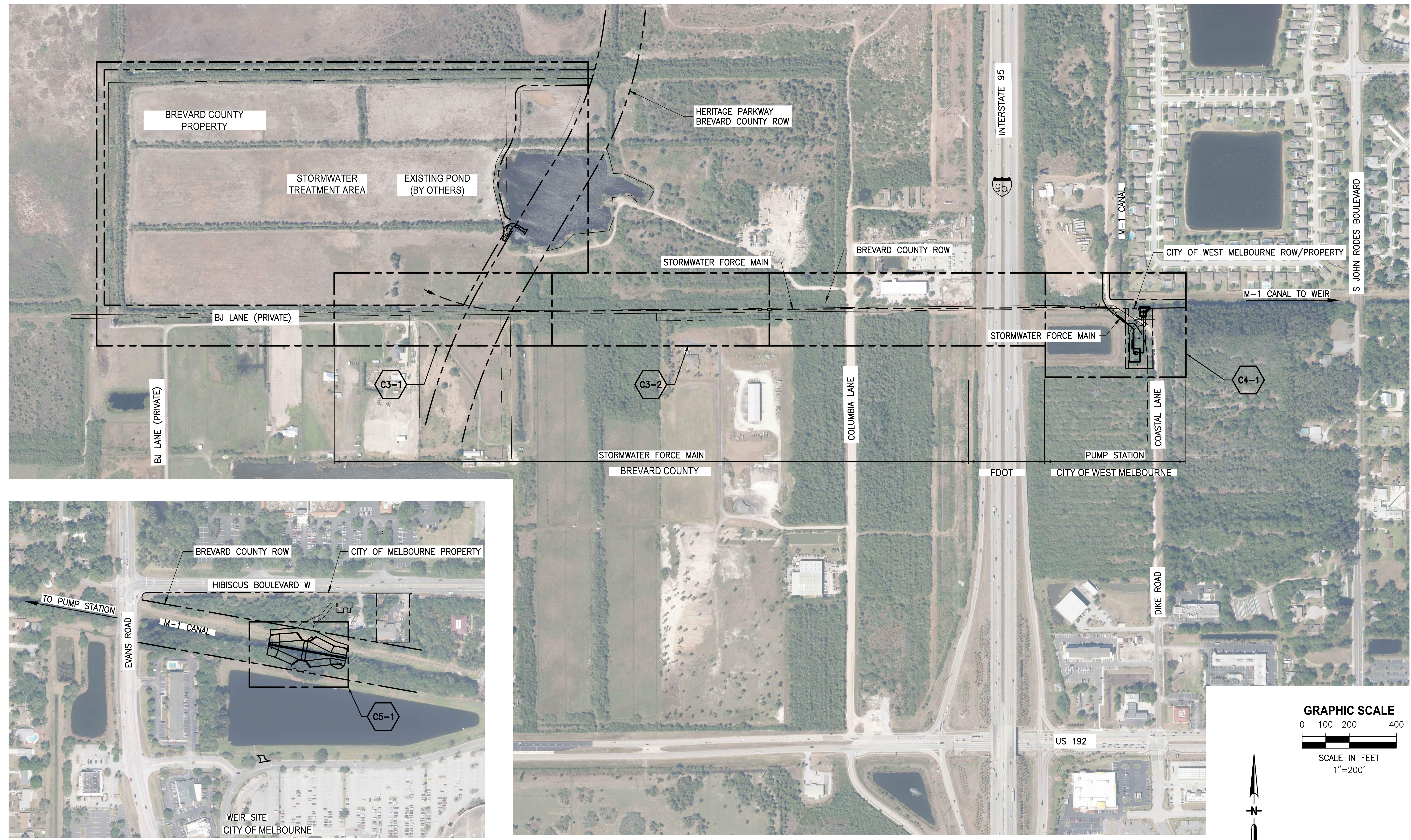
STRUCTURAL GENERAL NOTES

GSE
 Engineering & Consulting, Inc.
 5590 SW 64th Street, Suite B
 Gainesville, Florida 32608
 Phone: (352) 377-3233 Fax: (352) 377-0335

CERTIFICATE OF AUTHORIZATION #1841
 APPROVED BY
 MONRAD R. THUE
 P.E. # 32071

PROJECT NO:	DATE:
19750-066-01	JUN 2020
INDEX NO:	DWG NO:
	G7

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BID DOCUMENTS

DESIGNED	A GOODDEN		
DRAWN	D HAUBRICH		
CHECKED	R KOLLER		
LTR.	DATE	REVISIONS	BY
A	12/20/19	REVISED PER COWM	RK
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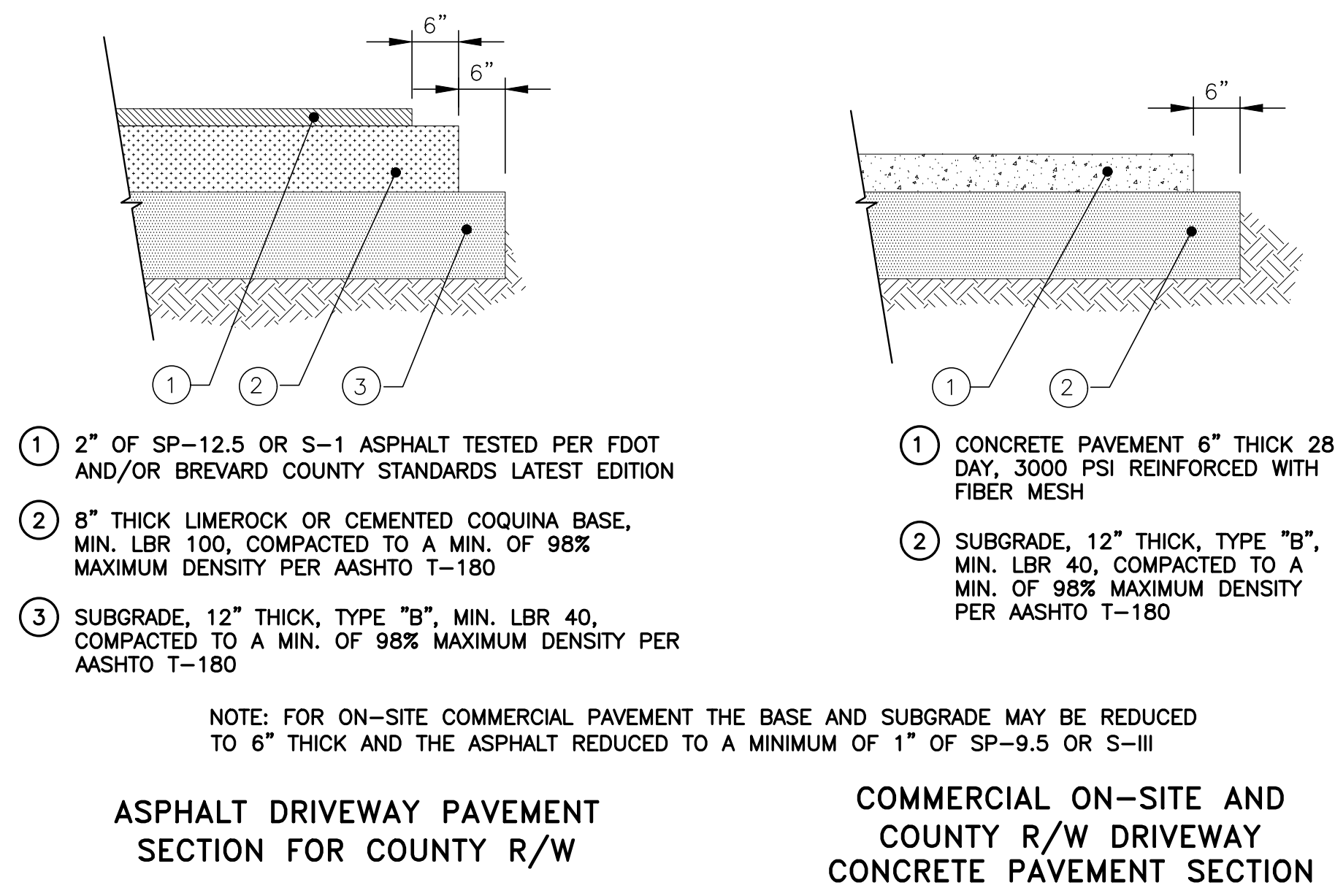
JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
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**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

KEY MAP

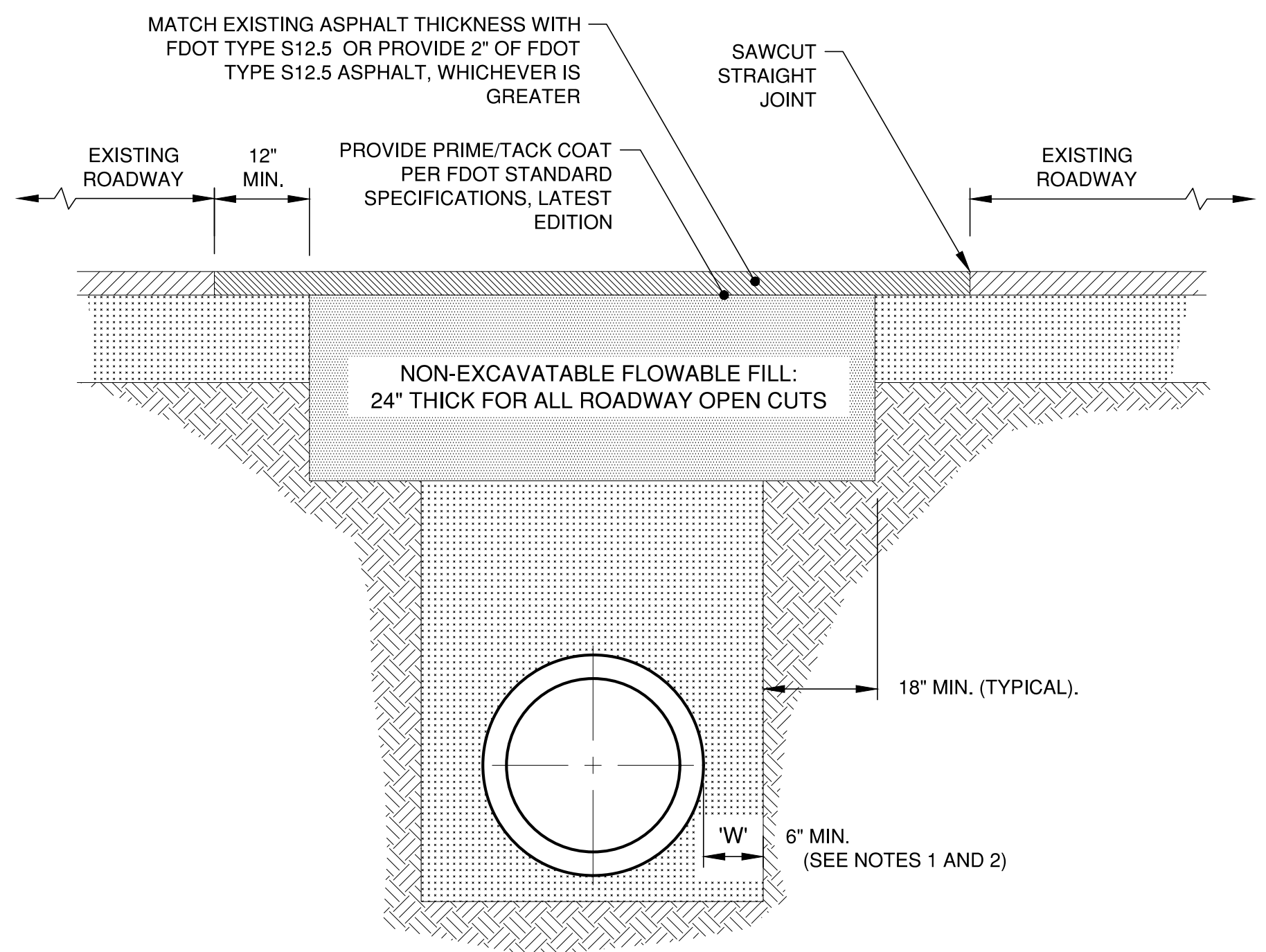
CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	AUG 2020
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		G8

Y:\19750-SURVMD\PROJECTS\066-01_CRANE_CREEK_M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\GENERAL\19750-066-01-G10.DWG
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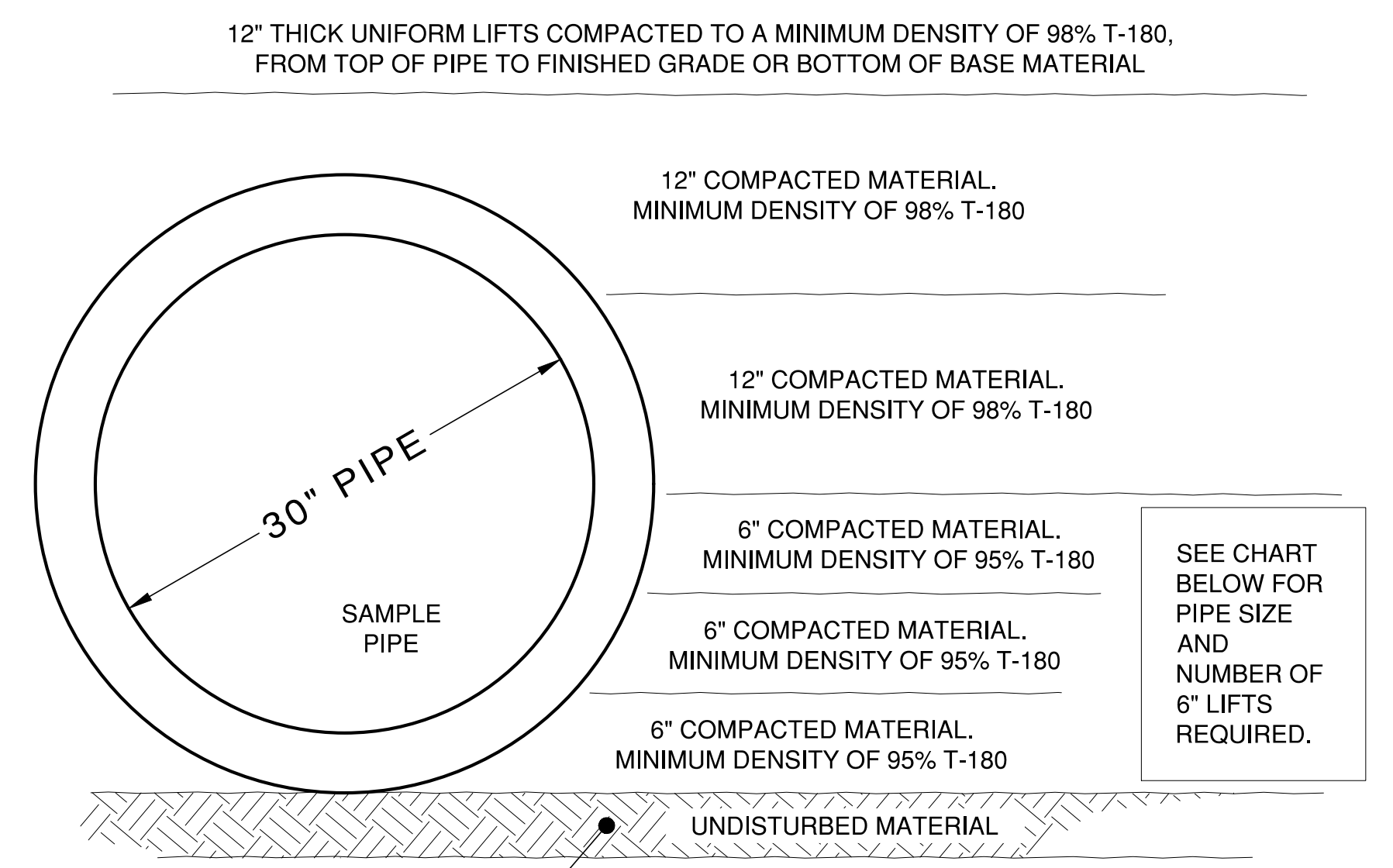
- NOTES:**
- CONCRETE PAVEMENT SHALL BE CONSTRUCTED OF 28 DAY, 3000 PSI, CLASS 1 CONCRETE.
 - CONTRACTION JOINTS SHALL BE 1/8 INCH WIDE AND SAW-CUT OR TOOLED.
 - CONSTRUCTION JOINTS ARE REQUIRED WHEN CONSTRUCTING ADJACENT FRESH CONCRETE POURS.
 - EXPANSION JOINTS ARE REQUIRED ALONG ALL OTHER ADJACENT PAVEMENTS, AT EACH SIDE OF STORM INLET STRUCTURES, AND AT ALL RADIUS POINTS.
 - EXPANSION JOINTS SHALL BE 1/2 INCH WIDE (WITH 1/2 INCH PREMOLDED JOINT MATERIAL) AND SHALL BE FULL DEPTH OF THE PAVEMENT.
 - JOINT MATERIAL SHALL BE IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS, SECTION 932, LATEST EDITION.
 - THE SUBGRADE SHALL BE COMPACTED TO A MIN. OF 98% MAXIMUM DENSITY PER AASHTO T-180 AND SHALL EXTEND 6 INCHES (MINIMUM) BEYOND EDGE OF PAVEMENT.
 - DRIVEWAYS SHALL BE OF UNIFORM WIDTH FROM THE RIGHT OF WAY LINE TO THE EDGE OF PAVEMENT.
 - COMMERCIAL DRIVEWAYS SHALL HAVE A MINIMUM RADIUS AS FOLLOWS:
 - 35' STD. RADIUS
 - 50' MIN. RADIUS FOR LARGE TRUCKS (WB 40 AND WB 50)
 - CONSTRUCT DROP CURB AS PER FDOT INDEX 300 ACROSS COMMERCIAL DRIVEWAYS WHERE CURB AND GUTTER EXISTS.

REQUIREMENTS FOR COMMERCIAL PARKING AND DRIVEWAYS



- NOTES:**
- "W" SHALL BE A MINIMUM OF 6" WIDE AND OF SUFFICIENT WIDTH TO ACCOMMODATE NECESSARY COMPACTION EFFORTS. IN THE EVENT THE REQUIRED MINIMUM DENSITY IS NOT ACHIEVED, LOOSE MATERIAL SHALL BE REMOVED, REPLACED AND COMPACTED TO THE REQUIRED DENSITY, OR REPLACED WITH FULL DEPTH FLOWABLE FILL. DENSITY TESTS BELOW THE SPRING LINE OF THE PIPE ARE REQUIRED IN ADDITION TO OTHER TESTING REQUIREMENTS. (IN THE EVENT FULL DEPTH FLOWABLE FILL IS USED AS BACKFILL, DENSITY REQUIREMENTS ARE WAIVED.)
 - CONTRACTOR SHALL EXCAVATE BOTTOM OF TRENCH TO ALLOW FOR BELL SECTION OF PIPE.
 - MINIMUM ALLOWABLE BACKFILL DENSITY SHALL BE 98% OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE PER AASHTO T-180. REFER TO EXHIBIT-27 FOR STORMWATER PIPE BACKFILL REQUIREMENTS.
 - FLOWABLE FILL SHALL COMPLY WITH FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SECTION 121, LATEST EDITION.
 - ALL OPEN CUTS SHALL HAVE FLOWABLE FILL AND TEMPORARY ASPHALT INSTALLED WITHIN 2 DAYS OF EXCAVATION. PERMANENT ASPHALT INCLUDING MILLING, IF NEEDED, SHALL BE COMPLETED WITHIN 30 DAYS OF EXCAVATION.
 - THESE ARE MINIMUM REQUIREMENTS. ADDITIONAL RESTRICTIONS MAY BE NECESSARY ON A CASE BY CASE BASIS.

ASPHALT ROADWAY OPEN CUT - PAVEMENT REMOVAL AND REPLACEMENT



IF DISTURBED, COMPACT TO 95% T-180 OR INSTALL #57 STONE MAXIMUM THICKNESS 4". FILTER CLOTH WRAP NOT REQUIRED FOR 4" THICKNESS OR LESS

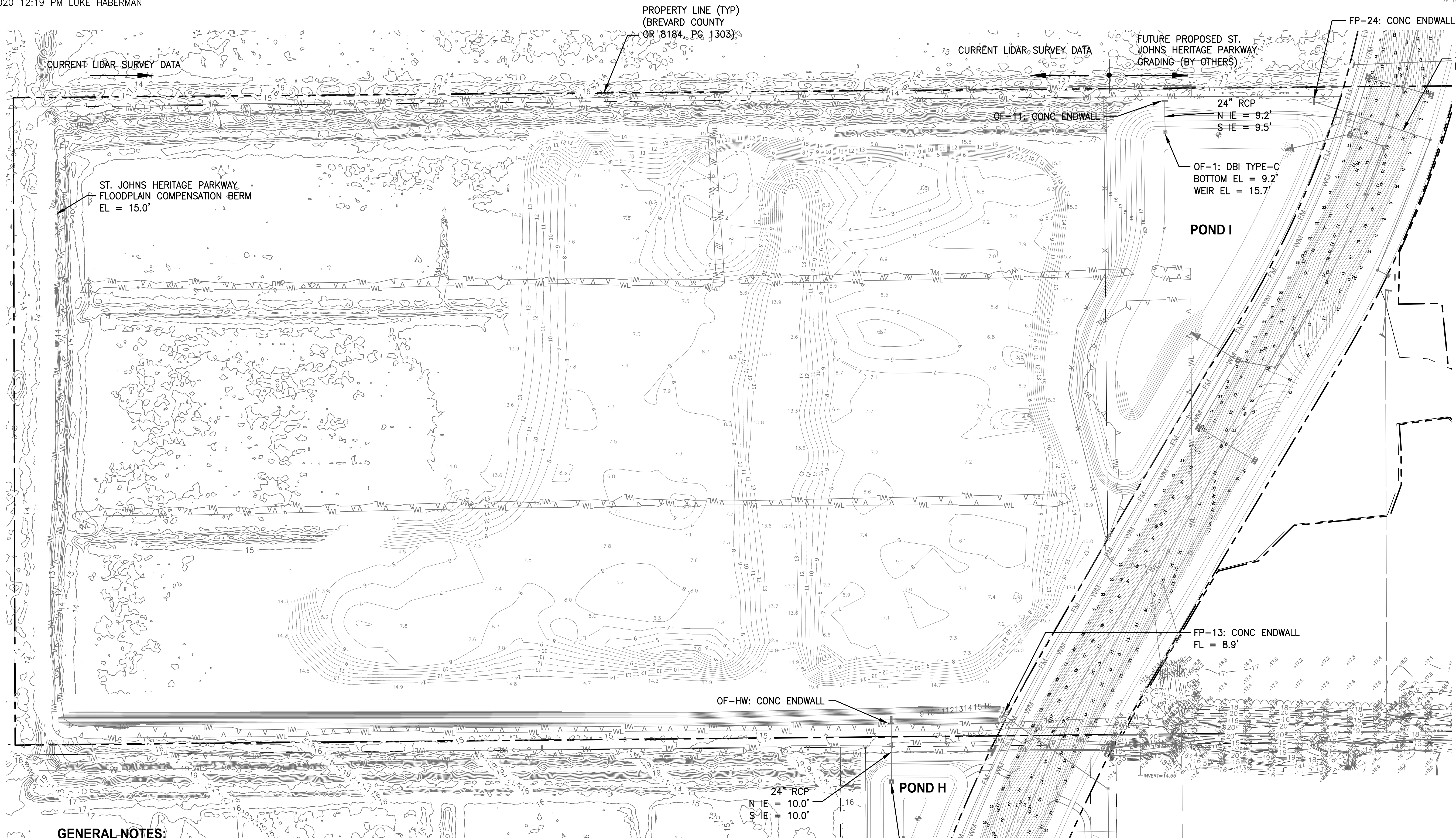
- NOTES:**
- NUMBER OF LIFTS REQUIRED FOR PIPE SIZES IN EXCESS OF THOSE SHOWN IN CHART SHALL BE APPROVED BY THE ENGINEER OF RECORD AND BREVARD COUNTY ENGINEERING, IN WRITING, PRIOR TO INSTALLATION.
 - THESE REQUIREMENTS APPLY TO ALL STORMWATER PIPE INSTALLATIONS IN SUBDIVISIONS, PUBLIC OR PRIVATE, DRAINAGE EASEMENTS, PUBLIC OR PRIVATE, ALL COUNTY RIGHTS-OF-WAY, AND FOR ANY OTHER STORMWATER PIPE INSTALLATIONS THAT WILL BECOME COUNTY MAINTAINED INFRASTRUCTURE.
 - BACKFILL AROUND STORMWATER STRUCTURES SHALL BE COMPACTED IN 12" LIFTS TO A MINIMUM DENSITY OF 98% T-180.

PIPE SIZE	NUMBER OF 6" LIFTS	PIPE SIZE	NUMBER OF 6" LIFTS
15"	2	11" x 17"	2
18"	2	14" x 23"	2
24"	2	19" x 30"	2
30"	3	24" x 38"	2
36"	4	29" x 45"	4
42"	5	34" x 53"	4
48"	5	38" x 60"	4
54"	6	43" x 68"	5
60"	6	48" x 76"	5
66"	7	58" x 91"	6
72"	7		

STORMWATER PIPE INSTALLATION BACKFILL REQUIREMENTS

	DESIGNED <u>A GOODDEN</u>	 CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	BREVARD COUNTY LAND DEVELOPMENT EXHIBITS	CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY <u>A. GOODDEN</u> P.E. # 60097	PROJECT NO: 19750-066-01	DATE: AUG 2020
	DRAWN <u>D HAUBRICH</u>		INDEX NO:	DWG NO: G10			
	CHECKED <u>R KOLLER</u>						

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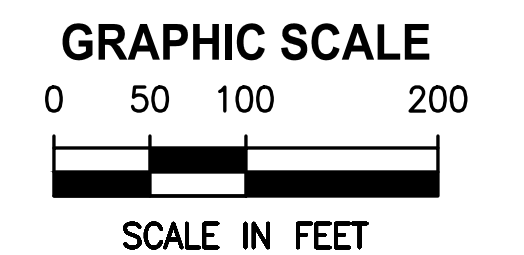


GENERAL NOTES:

- 1) JONES EDMUNDS DOES NOT HAVE A COMPLETE SURVEY OF THE PROPERTY FOR THE STORMWATER TREATMENT AREA. THE DATA PRESENTED IN V1 ARE AN APPROXIMATION OF THE GRADES THAT WILL EXIST AFTER THE ST. HERITAGE PARKWAY IS CONSTRUCTED AND WHEN THE CRANE CREEK M-1 CANAL RESTORATION PROJECT STARTS. V1 IS A COMPOSITE CREATED FROM THE REFERENCED DATA LISTED HERE.
- 2) THE FOLLOWING DATA WERE USED TO PREPARE THE EXISTING CONDITIONS:
 - a. 2007 BREVARD COUNTY LIDAR DATA. SOURCE DATA PROVIDES ELEVATIONS BASED ON NAVD88.
 - b. ST. JOHNS HERITAGE PARKWAY FROM DRMP AS-BUILT, 4/13/2020 CAD FILES FOR THE ST. JOHNS HERITAGE PARKWAY.

- c. SOURCE DATA PROVIDES ELEVATIONS BASED ON NAVD88. BORROW AREA SURVEYS PREPARED BY JR DAVIS CONSTRUCTION COMPANY FOR THE PURPOSE OF PROVIDING INTERMEDIATE CONSTRUCTION DATA TO BREVARD COUNTY DURING THE ST. JOHNS HERITAGE PARKWAY CONSTRUCTION PROJECT. THE SURVEYS ARE DATED 3/13/2020. SOURCE DATA PROVIDES ELEVATIONS BASED ON NAVD88.
- d. THE ST. JOHNS HERITAGE PARKWAY ROW LINE WAS DRAWN BY JONES EDMUNDS USING DATA PRESENTED IN THE PRELIMINARY (06/25/2011) ST JOHNS HERITAGE PARKWAY RIGHT-OF-WAY MAP. THE FINAL ROW WILL BE FILED AND PLATTED AT THE COMPLETION OF THE ST JOHNS HERITAGE PARKWAY PROJECT.
- e. THE PROPERTY BOUNDARY IS BASED ON THE PROPERTY

- 3) PRIOR TO CONSTRUCTION, THE CONTRACTOR WILL SURVEY THE PROPERTY BOUNDARY AND RIGHTS-OF-WAY AND ENSURE ALL PROPOSED WORK IS WITHIN THE PROPERTY LIMITS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND THE ENGINEER IMMEDIATELY OF ANY CONFLICTS.
 - f. WETLAND LINES ARE APPROXIMATE AND BASED ON DRMP'S ENVIRONMENTAL ASSESSMENT FOR ST. JOHNS HERITAGE PARKWAY, 2016.



DESIGNED	_____			
DRAWN	_____			
CHECKED	_____			
LTR.	DATE	REVISIONS	BY	APPRD.

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
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 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

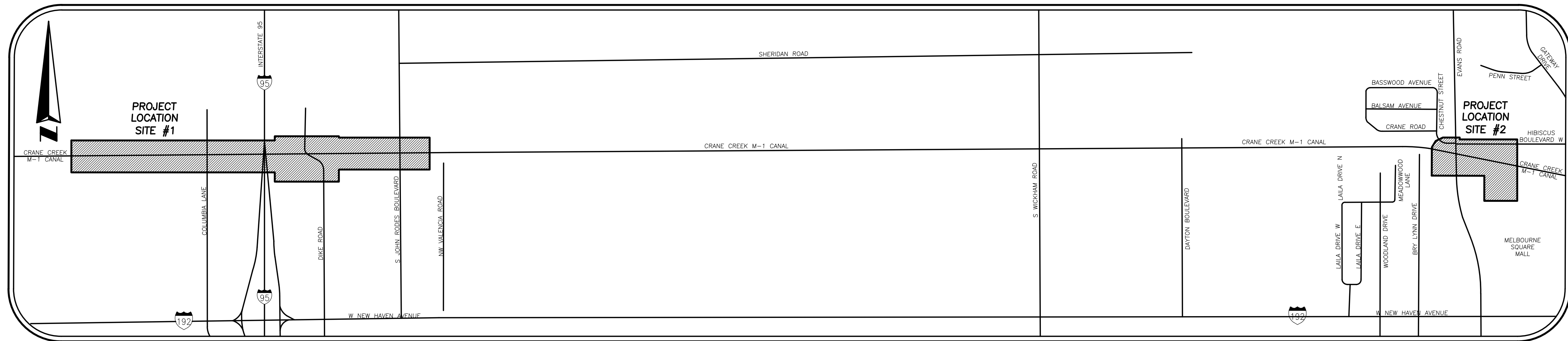
**STORMWATER TREATMENT AREA
 EXISTING CONDITIONS**

PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	V1
P.E. #			

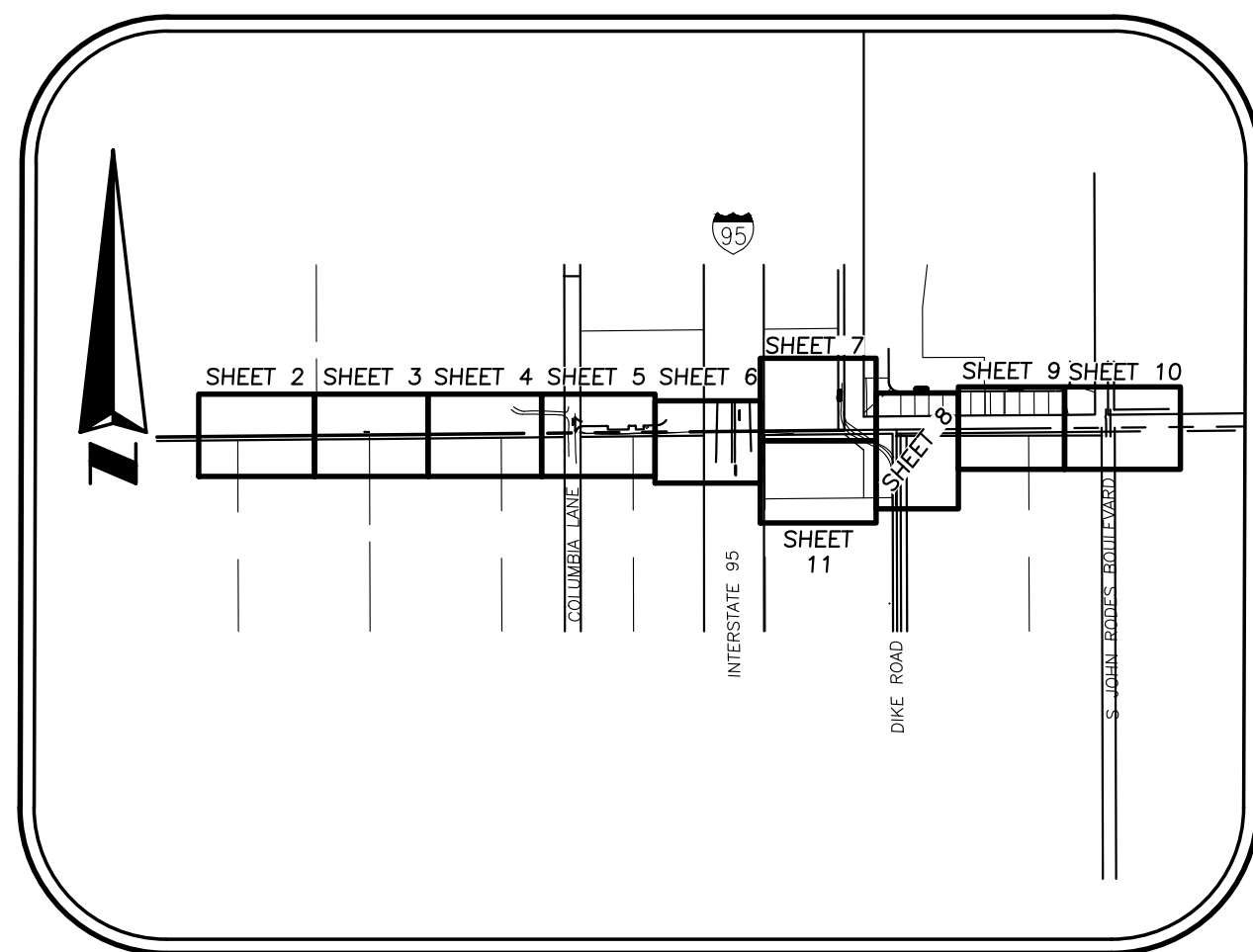
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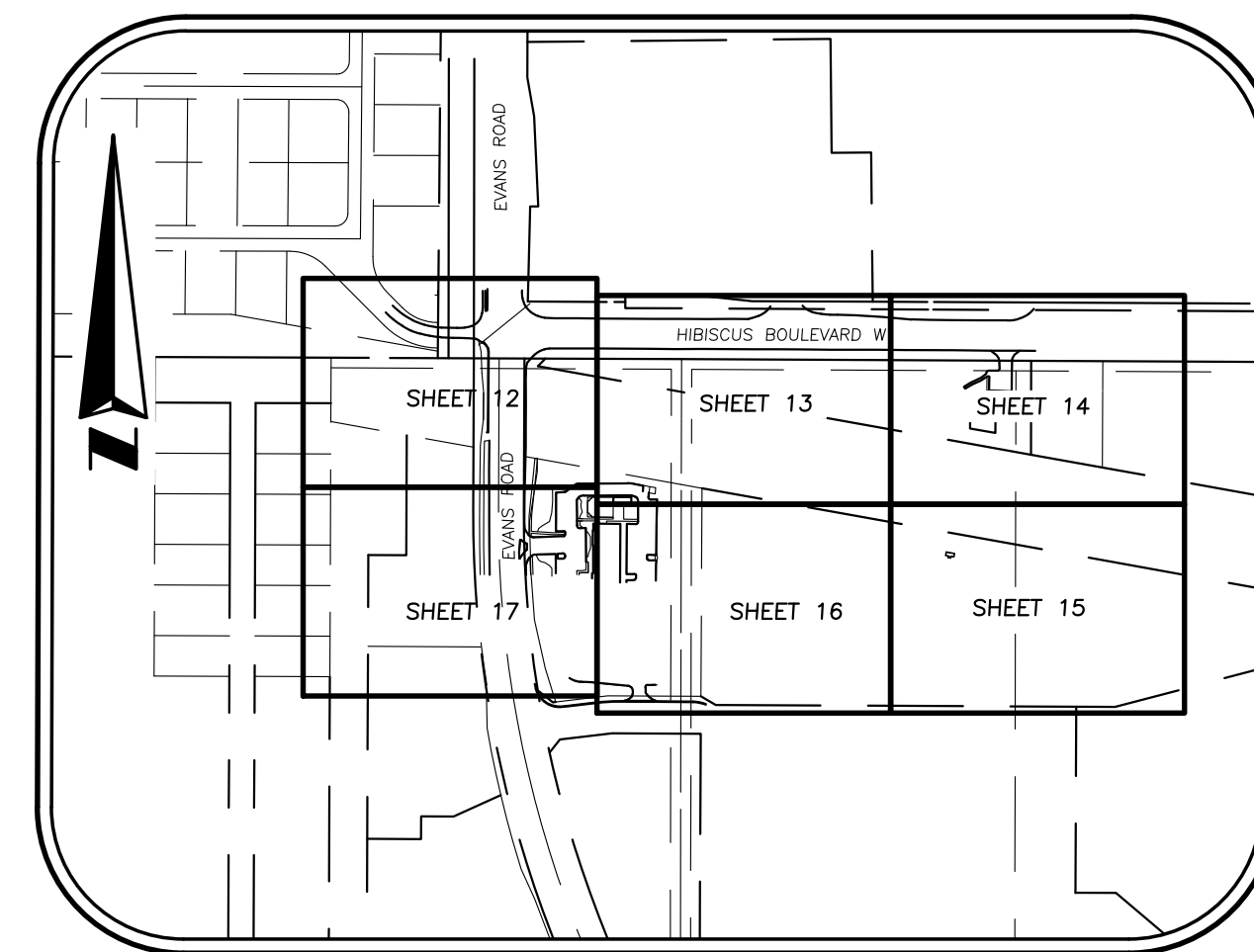
VACINITY MAP
NOT TO SCALE



SHEET LAYOUT SITE # 1
NOT TO SCALE



SHEET LAYOUT SITE # 2
NOT TO SCALE



LEGEND & ABBREVIATIONS:

-X-	= CHAINLINK FENCE	PLS	= PROFESSIONAL LAND SURVEYOR	⊠	= AIR RELEASE VALVE	⊠	= NON-TRAFFIC SIGN
-0-	= WOOD FENCE	RLS	= REGISTERED LAND SURVEYOR	⊙	= BUSH	⊙	= SPRINKLER
-**-	= WIRE FENCE	PSM	= PROFESSIONAL SURVEYOR AND MAPPER	⊠	= BURIED TELEPHONE PEDESTAL	⊠	= SEWER VALVE
-***-	= BARBED WIRE FENCE	R/W	= RIGHT OF WAY	■	= CONCRETE MONUMENT	⊠	= TRAFFIC CONTROLLER CABINET
-BEL-	= BURIED ELECTRIC LINE	GR SILT	= TOP OF SILT ELEVATION	⊙	= CLEAN OUT	⊠	= TRAFFIC SIGN
-BTL-	= BURIED TELEPHONE LINE	DB	= DEED BOOK	⊙	= COMBINATION UTILITY POLE	⊠	= TRANSFORMER ON SLAB
-COMM-	= COMMUNICATION LINE	ORB	= OFFICIAL RECORDS BOOK	⊙	= DRAINAGE MANHOLE	⊙	= TRAFFIC SIGNAL SPAN POLE
-G-	= GAS LINE	PG	= PAGE	⊙	= ELECTRIC SERVICE METER	⊙	= UTILITY MARKER
-OHL-	= OVERHEAD UTILITY LINE	ID	= IDENTIFICATION	⊙	= FLAT GRATE INLET	⊙	= VAULT
-WL-	= WATER LINE	EOI	= END OF INFORMATION	⊙	= FIRE HYDRANT	⊙	= WELL
-FM-	= FORCE MAIN	NAD	= NORTH AMERICAN DATUM	∨	= DOWN GUY	⊠	= WATER METER
-OTC-	= OVERHEAD TRAFFIC CONTROL	NAVD	= NORTH AMERICAN VERTICAL DATUM	⊙	= WATER SPIGOT	⊠	= WATER VALVE
⌒	= TREE LINE	TRAV.PT.	= TRAVERSE POINT	□	= HAND HOLE		
⌒	= GUARDRAIL	SSMC	= SOUTHEASTERN SURVEYING & MAPPING CORPORATION	○	= IRON PIPE		
ABS	= ACRYLONITRILE BUTADIENE STYRENE PIPE	TELE	= TELEPHONE	●	= IRON ROD		
CMP	= CORRUGATED METAL PIPE	FGTC	= FLORIDA GAS TRANSMISSION COMPANY	⊠	= IRRIGATION VALVE		
CPP	= CORRUGATED PLASTIC PIPE	FPL	= FLORIDA POWER & LIGHT COMPANY	⊠	= LIGHT POLE		
PVC	= POLYVINYL CHLORIDE PIPE			⊠	= MAILBOX		
RCP	= REINFORCED CONCRETE PIPE			⊠	= MITERED END SECTION		
LB	= LICENSED BUSINESS			⊙	= NAIL W/DISC		
				⊙	= UTILITY POLE		
				●	= POST/BOLLARD		
				⊠	= PUMP		
				⊠	= RAILROAD SPIKE		

SIZE SHOWN IS TRUNK DIAMETER
IN INCHES MEASURED AT CHEST
HEIGHT

⊙	= PALM
⊙	= TREE
CA	= CAMPHOR
O	= OAK
PI	= PINE
UK	= UNKNOWN
E	= ELM
M	= MAPLE

DESCRIPTION:

A portion of Section 34, Township 27 South, Range 36 East, Section 03, Township 28 South, Range 36 East, Sections 05 and 06, Township 28 South, Range 37 East, Sections 31 and 32, Township 27 South, Range 37 East, lying in Brevard County, Florida.

SURVEYOR'S REPORT:

- Utility locations shown hereon are based on field locations of markings by Southeastern Surveying & Mapping Corp. Field markings are based on signals received from Ground Penetrating Radar (GPR) and electronic equipment. Locations are approximate and Test Holes should be performed for verification.
- Easements or rights of way that appear on recorded plans or that have been furnished to the surveyor by others have been incorporated into this drawing with appropriate notation. Other easements may be discovered by a search of the Public Records.
- Minimum Horizontal Accuracy for this survey is in accordance with the STANDARDS OF PRACTICE set forth by the Board of Professional Surveyors and Mappers in Chapter 5J-17 requirements of Florida Administration Code. The map and measurement methods used for this survey meet or exceed this requirement. The dimensions shown hereon are in United States survey feet and decimals thereof.
- This survey does not determine ownership of the lands shown hereon.
- Underground foundations have not been located.
- Survey map and report or the copies thereof are not valid without the signature and the original raised seal of a Florida Licensed Surveyor and Mapper.
- Features shown by symbol as indicated in the legend are not to scale.
- Additions or deletions to survey maps or reports by other than the signing party or parties is prohibited without written consent of the signing party or parties.
- Vertical information shown hereon refers to National Geodetic Survey (NGS) point PID#DG8680 having a recorded elevation of 22.98 feet (NAVD 88)
- Horizontal positions for all features shown on the map are relative to North American Datum of 1983 (NAD83), 2011 adjustment, State Plane Coordinate System, Florida East Zone. Control point(s) used for this survey are National Geodetic Survey (NGS) points PID#DG8680; distances shown are GRID distances.
- This Survey was performed without benefit of an abstract, title search, title opinion or title commitment. A title search may reveal additional information affecting the parcel as shown.
- Improvements & Topographic features shown hereon are limited to areas per specific instructions of the client.
- Right of Way information shown hereon was determined by found monumentation, recorded plats and information obtained on the Brevard County Property Appraisers web site.

NOTICE OF LIABILITY:

This survey is certified to those individuals shown on the face thereof. Any other use, benefit or reliance by any other party is strictly prohibited and restricted. Surveyor is responsible only to those certified and hereby disclaims any other liability and hereby restricts the rights of any other individual or firm to use this survey, without express written consent of the surveyor.

09/17/2019 ADDED TEST HOLES 1-10 DH

REVISION DATE	BY	DESCRIPTION
12/02/2018	RAYMOND	ADD EASEMENTS SHEET 4, 5 & 6
01/09/2019		ADDITIONAL TOPO
02/12/2019		CHANGE BORDER SIZE
8/16/2019		ADDED PROPOSED DIKE VENTURES PARCEL

SHEET NUMBER 1 OF 17
NOT VALID WITHOUT SHEETS 1 THROUGH 17

Topographic Survey		Scale: 1" = 20'
M-1 Canal Flow Restoration, Brevard County, Florida		Drawn By: SMF
Field Date: November, 21 2018	Project:	

Certified to:
Jones, Edmunds & Associates, Inc.

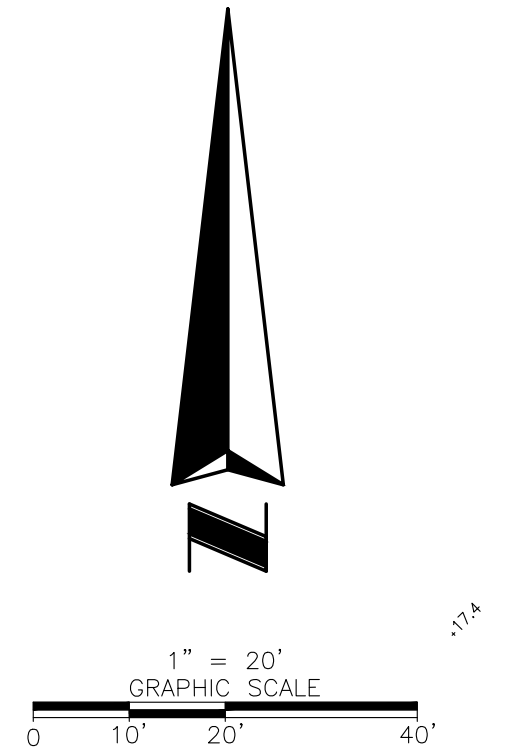
DRAWING NUMBER
52783016
SHEET NUMBER
1 OF 17

Raymond
RAYMOND
Brevard County Surveyor
Number 12821

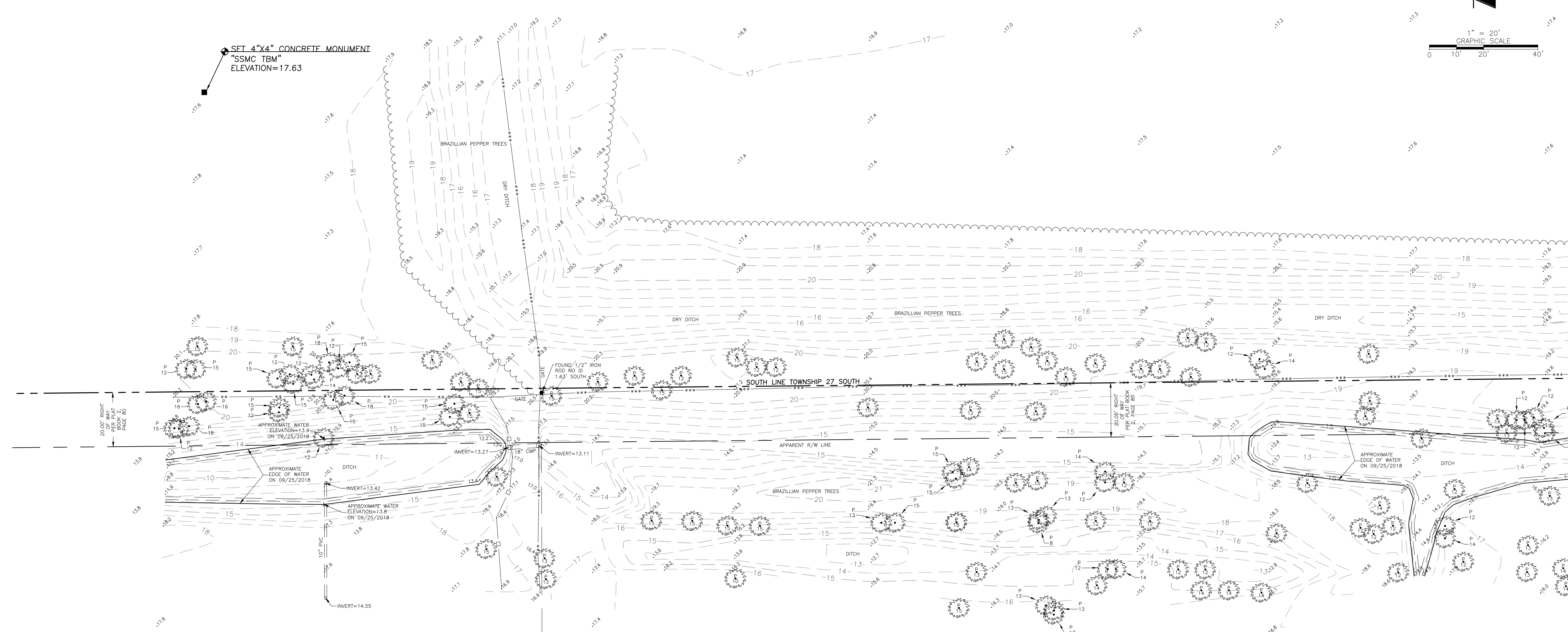
Southeastern Surveying and Mapping Corporation
6800 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8850
e-mail: info@semsurveying.com
Certification Number: LB2108

PARCEL ID:
27-36-34-00-501
WELCHWOOD ENTERPRISES INC

SW 1/4 SECTION 34-27-36



SET 4"x4" CONCRETE MONUMENT
"SSMC TBM"
ELEVATION=17.63



PARCEL ID:
28-36-03-00-256
CREWS, MICHAEL B SR
CREWS, REBECCA B
ORB 5560, PG 2916

PARCEL ID:
28-36-03-00-262
CREWS, MICHAEL B SR
CREWS, REBECCA B
ORB 5566, PG 0898

FLORIDA-INDIAN RIVER LAND CO
PLAT BOOK 2, PAGE 80

NW 1/4 SECTION 3-28-36

SEE SHEET 3

SEE SHEET 3

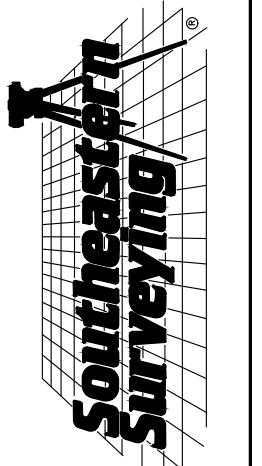
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01/09/2019 <td>ADDITIONAL TOPO <td>SMF </td></td>	ADDITIONAL TOPO <td>SMF </td>	SMF
02/12/2019 <td>CHANGE BORDER SIZE <td>SMF </td></td>	CHANGE BORDER SIZE <td>SMF </td>	SMF
8/16/2019 <td>ADDED PROPOSED DIRT VENTURES PARCEL <td>EM </td></td>	ADDED PROPOSED DIRT VENTURES PARCEL <td>EM </td>	EM
8/16/2019 <td>ADDED PROPOSED DIRT VENTURES PARCEL <td>EM </td></td>	ADDED PROPOSED DIRT VENTURES PARCEL <td>EM </td>	EM

Project: **Topographic Survey**
M-1 Canal Flow Restoration,
Brevard County, Florida
Drawn By: SMF
Field Date: November, 21, 2018
Scale: 1" = 20'

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER
2 OF **17**

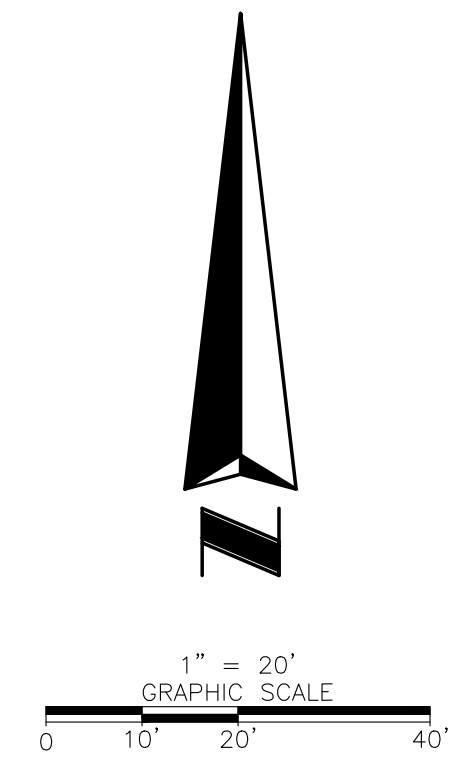
**SOUTHEASTERN SURVEYING
AND MAPPING CORPORATION**
6500 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@seasurveying.com
Certification Number: LB2108



SHEET NUMBER 2 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17

PARCEL ID:
27-36-34-00-501
WELCHWOOD ENTERPRISES INC

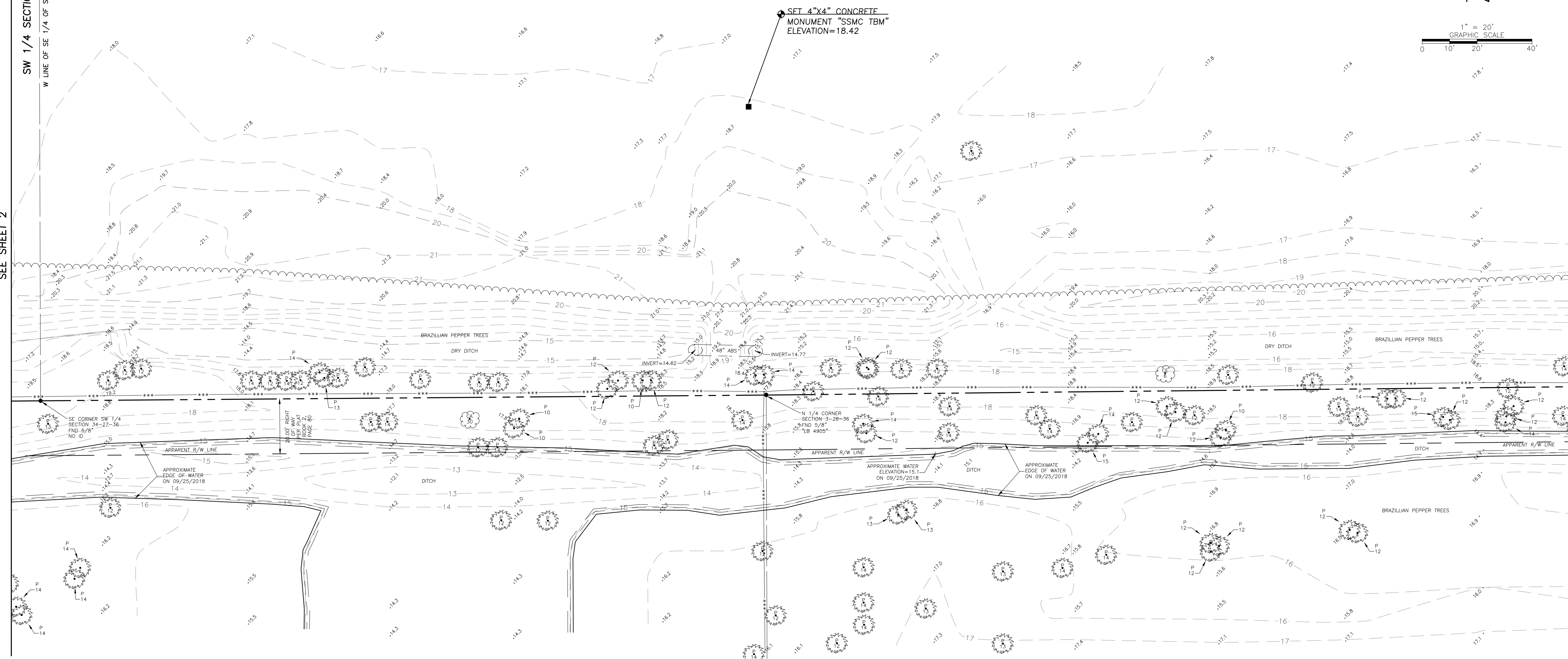
SE 1/4 SECTION 34-27-36



SW 1/4 SECTION 34-27-36
W LINE OF SE 1/4 OF SECTION 34-27-36

SEE SHEET 2

SEE SHEET 4



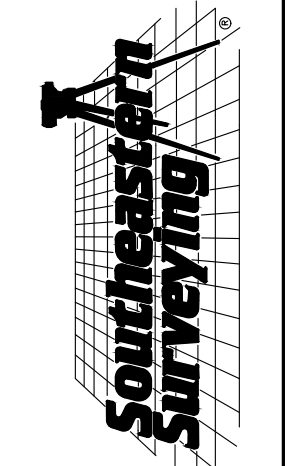
PARCEL ID:
28-36-03-00-250
FORAL ELEANOR
ELLIOTT, JUDITH A FORAL
ORB 6797, PG 0492

FLORIDA-INDIAN RIVER LAND CO
PLAT BOOK 2, PAGE 80

NW 1/4 SECTION 3-28-36

NE 1/4 SECTION 3-28-36

SHEET NUMBER 3 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



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AND MAPPING CORPORATION**
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Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@seasmapping.com
certification Number: LB2108

REVISION DATE	REVISION	BY
12/05/2018	ADD EASEMENTS SHEET 4, 5 & 6	SMF
01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DITCH VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DITCH VENTURES PARCEL	EM

Topographic Survey
Project: **M-1 Canal Flow Restoration, Brevard County, Florida**
Field Date: November, 21, 2018
Drawn By: SMF
Scale: 1" = 20'

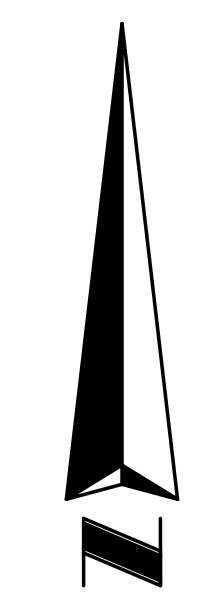
SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER
3 OF 17

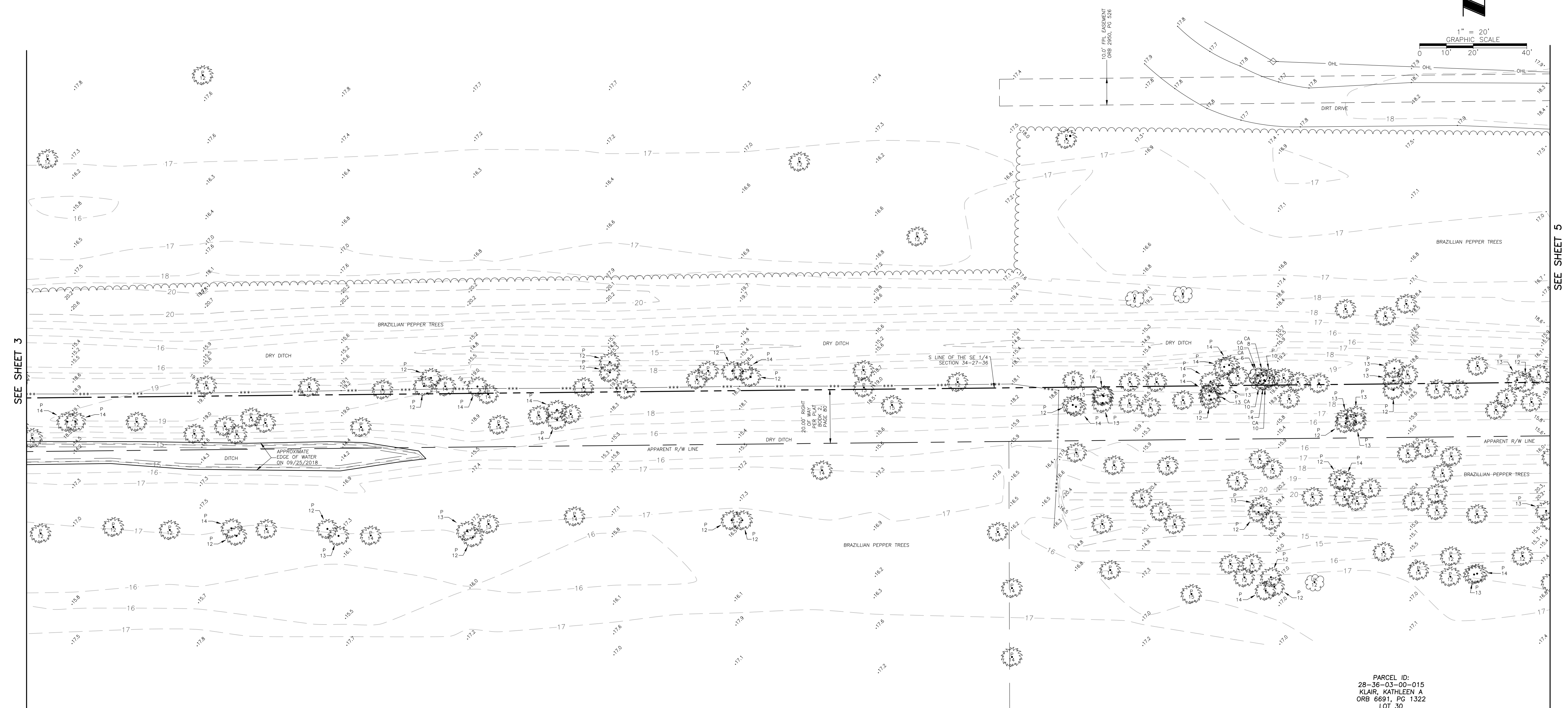
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PARCEL ID:
27-36-34-00-501
WELCHWOOD ENTERPRISES INC

SE 1/4 SECTION 34-27-36



1" = 20'
GRAPHIC SCALE



LOT 29

PARCEL ID:
28-36-03-00-3
TUMBAUGH, WILLIAM P TR
ORB 3610, PG 2961
LOT 29

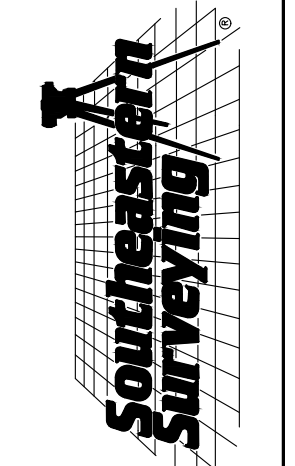
PARCEL ID:
28-36-03-00-015
KLAIR, KATHLEEN A
ORB 6691, PG 1322
LOT 30

FLORIDA-INDIAN RIVER LAND CO
PLAT BOOK 2, PAGE 80

NE 1/4 SECTION 3-28-36

P:\527831\DWG C3D\52783016.dwg

SHEET NUMBER 4 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



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Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@semsurveying.com
certification Number: LR2208

BY	REVISION	DATE	DESCRIPTION
SMF	ADD EASEMENTS SHEET 4, 5 & 6	12/05/2018	
SMF	ADDITIONAL TOPO	01/09/2019	
SMF	CHANGE BORDER SIZE	02/12/2019	
EM	ADDED PROPOSED DIRT VENTURES PARCEL	8/16/2019	
EM	ADDED PROPOSED DIRT VENTURES PARCEL	8/16/2019	

Topographic Survey
M-1 Canal Flow Restoration,
Brevard County, Florida
Project:
Field Date: November, 21, 2018
Drawn By: SMF
Scale: 1" = 20'

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER
4 OF 17

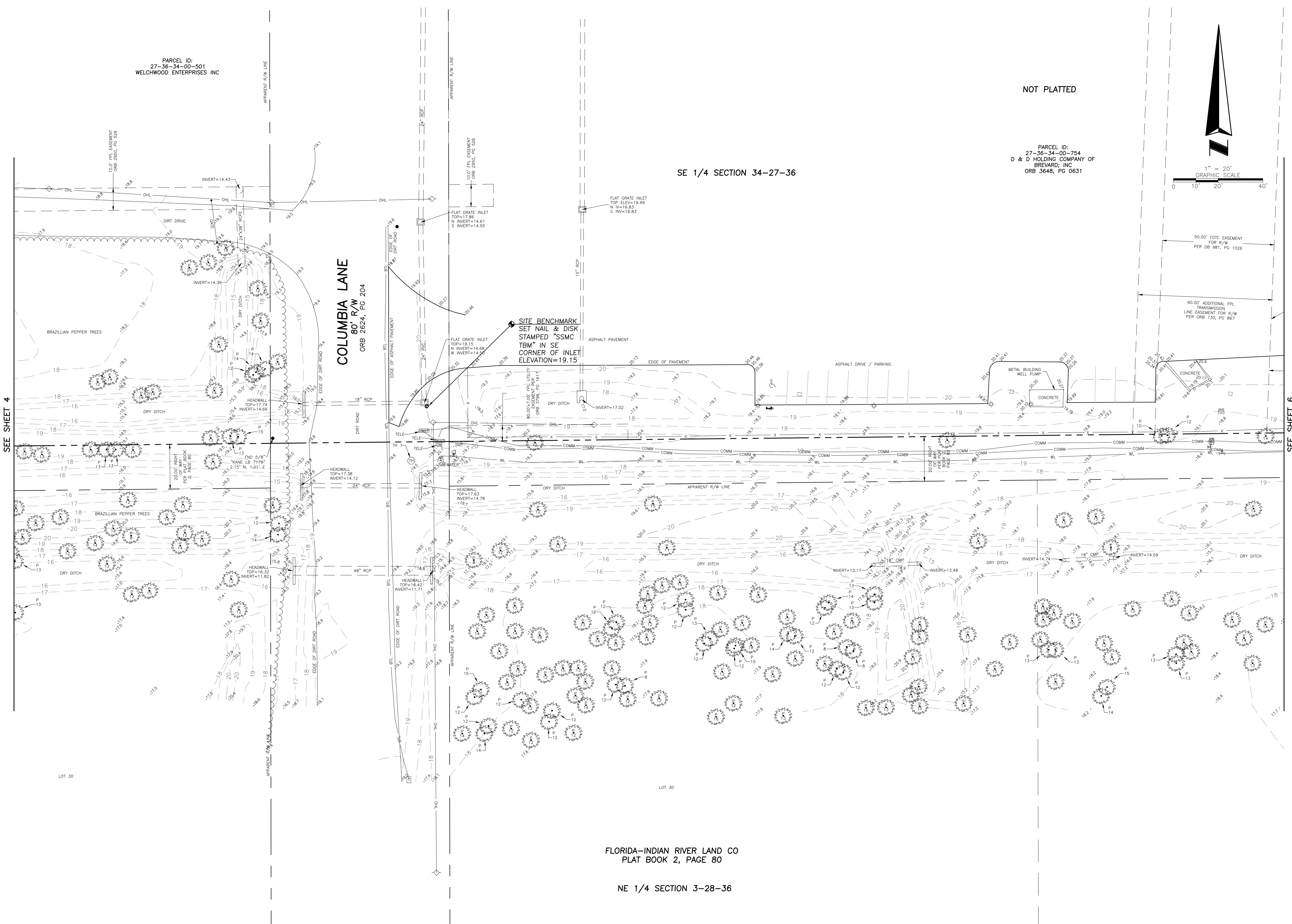
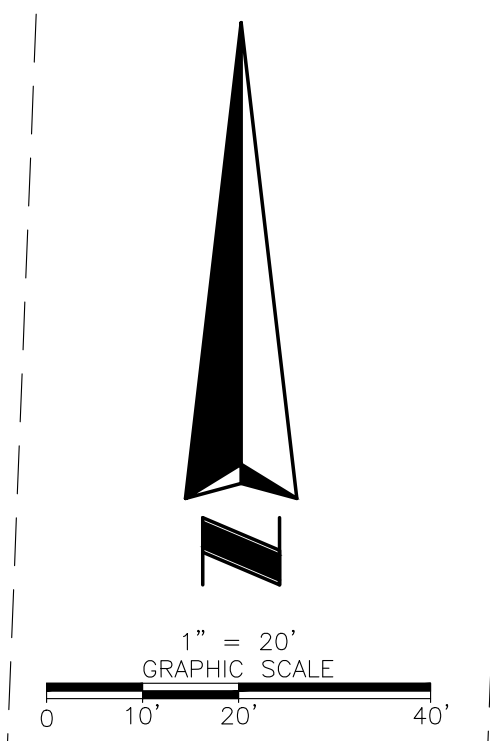
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PARCEL ID:
27-36-34-00-501
WELCHWOOD ENTERPRISES INC

NOT PLATTED

PARCEL ID:
27-36-34-00-754
D & D HOLDING COMPANY OF
BREVARD, INC
ORB 3648, PG 0631

SE 1/4 SECTION 34-27-36



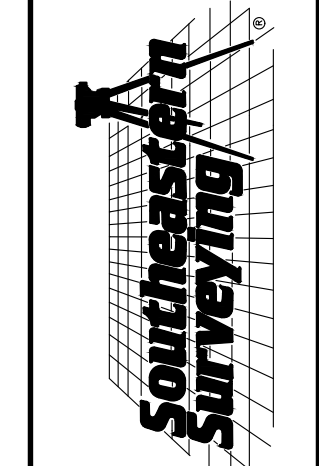
FLORIDA-INDIAN RIVER LAND CO
PLAT BOOK 2, PAGE 80

NE 1/4 SECTION 3-28-36

SEE SHEET 4

SEE SHEET 6

SHEET NUMBER 5 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



**SOUTHEASTERN SURVEYING
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6500 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@seasmapping.com
certification Number: LR2208

BY	REVISION	DATE	DESCRIPTION
SMF	ADD EASEMENTS SHEET 4, 5, & 6	12/05/2018	
SMF	ADDITIONAL TOPO	01/09/2019	
SMF	CHANGE BORDER SIZE	02/12/2019	
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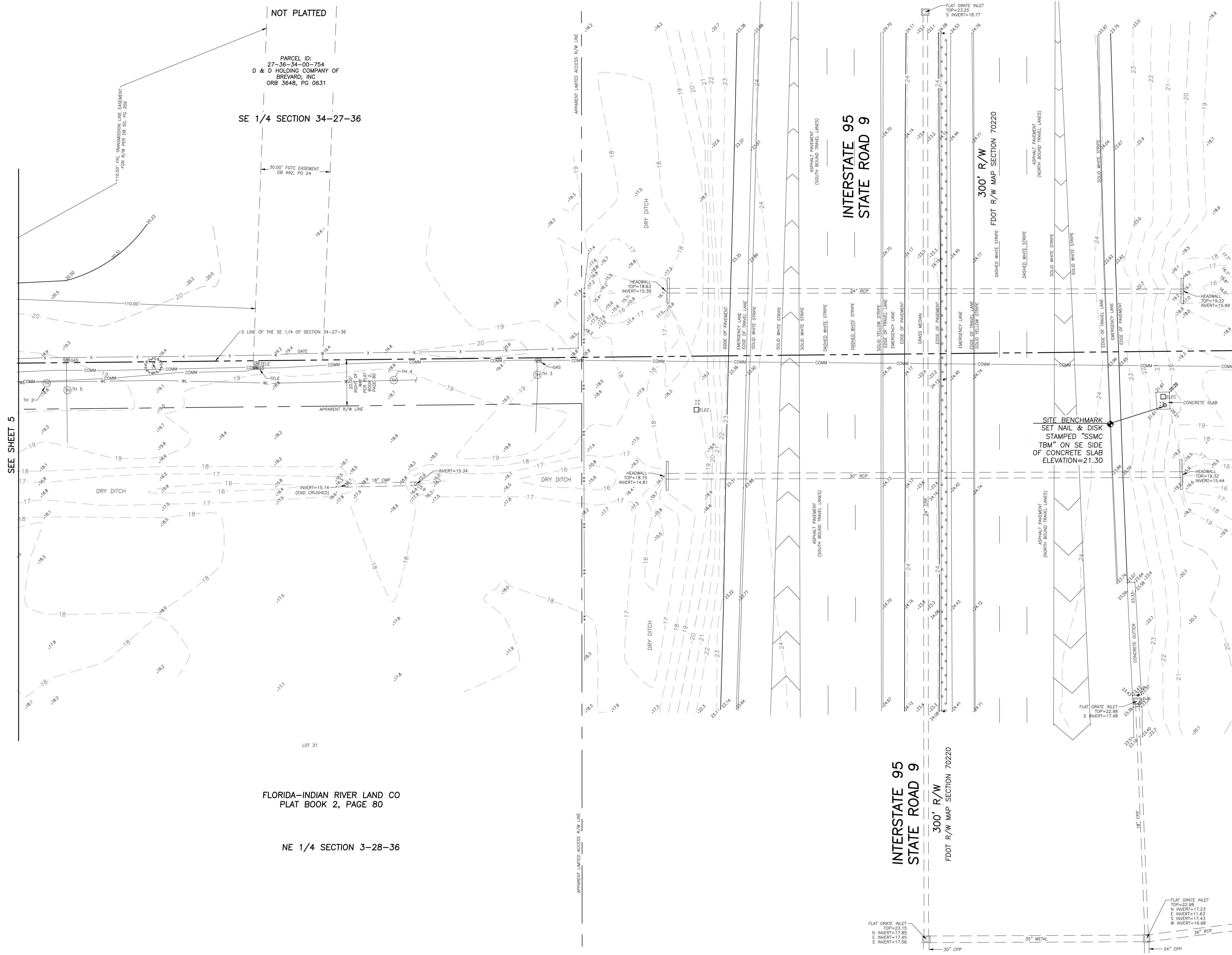
Topographic Survey
M-1 Canal Flow Restoration,
Brevard County, Florida

Project:
 Field Date: November, 21, 2018
 Drawn By: SMF
 Scale: 1" = 20'

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER
5 OF 17

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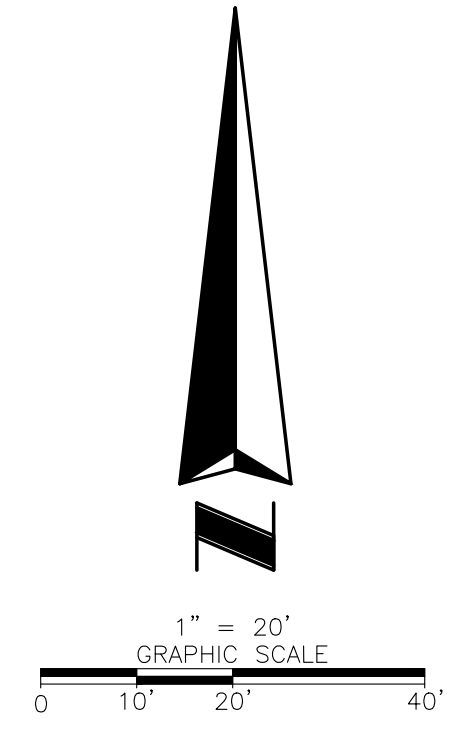
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PARCEL ID:
27-36-34-00-754
D & D HOLDING COMPANY OF
BREVARD, INC
ORB 3648, PG 0631

SE 1/4 SECTION 34-27-36

FLORIDA-INDIAN RIVER LAND CO
PLAT BOOK 2, PAGE 80

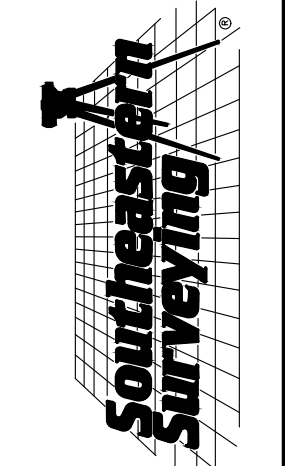
NE 1/4 SECTION 3-28-36



SEE SHEET 7

SEE SHEET 5

SHEET NUMBER 6 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



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AND MAPPING CORPORATION**
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(407) 292-8990
e-mail: info@seasmapping.com
certification Number: LB2108

REVISION DATE	REVISION	BY
12/05/2018	ADD EASEMENTS SHEET 4, 5, & 6	SMF
01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DIRT VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DIRT VENTURES PARCEL	EM

Topographic Survey
M-1 Canal Flow Restoration,
Brevard County, Florida

Project:
Field Date: November, 21 2018
Scale: 1" = 20'
Drawn By: SMF

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

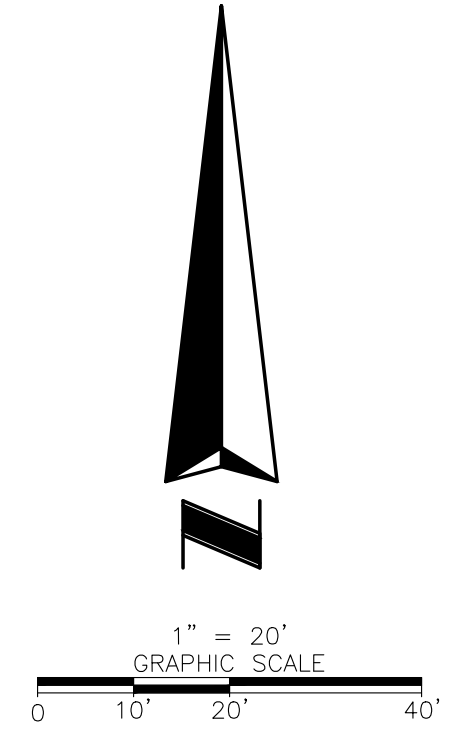
DRAWING NUMBER
52783016
SHEET
NUMBER
6 OF 17

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SEE SHEET 6

INTERSTATE 95
STATE ROAD 9
300' R/W

PDOT R/W MAP SECTION 70220
APPARENT LIMITED ACCESS R/W LINE



SEE SHEET 11

SEE SHEET 8

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER

7 OF 17

Topographic Survey
M-1 Canal Flow Restoration,
Brevard County, Florida

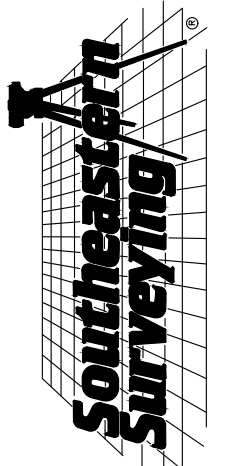
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Drawn By: SMF

Field Date: November, 21, 2018

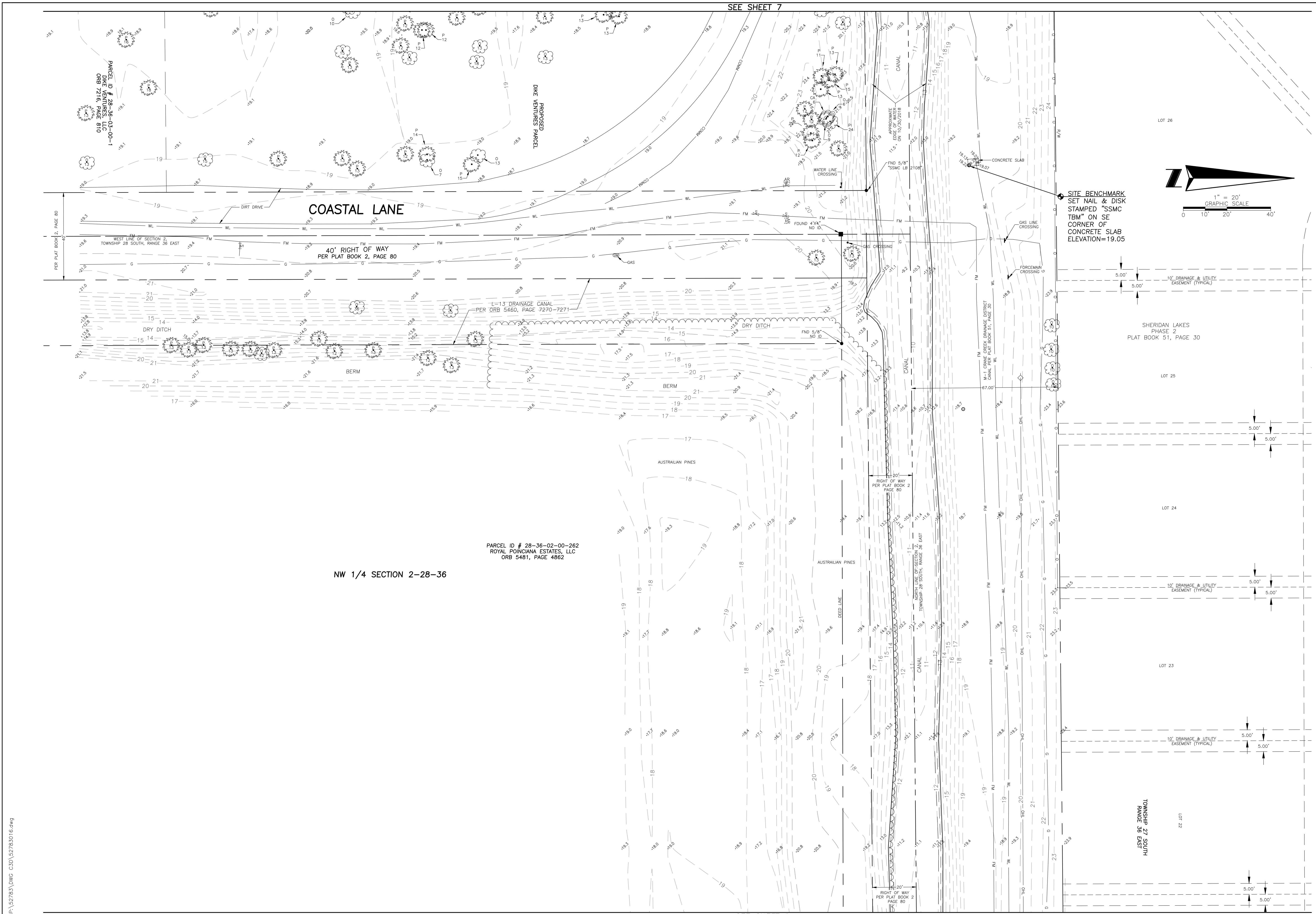
REVISION DATE:	REVISION:	BY:
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01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DIKE VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DIKE VENTURES PARCEL	EM

SOUTHEASTERN SURVEYING
AND MAPPING CORPORATION
6500 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@southeasternsurveying.com
Certification Number: LB2108



SHEET NUMBER 7 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17

SEE SHEET 7



PARCEL ID # 28-36-03-00-1
DINE VENTURES, LLC
ORB 7216

PROPOSED
DINE VENTURES PARCEL

COASTAL LANE

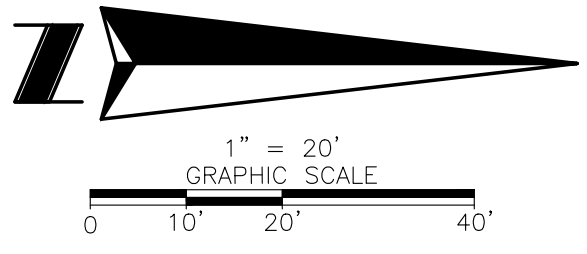
40' RIGHT OF WAY
PER PLAT BOOK 2, PAGE 80

PARCEL ID # 28-36-02-00-262
ROYAL POINCIANA ESTATES, LLC
ORB 5481, PAGE 4862

NW 1/4 SECTION 2-28-36

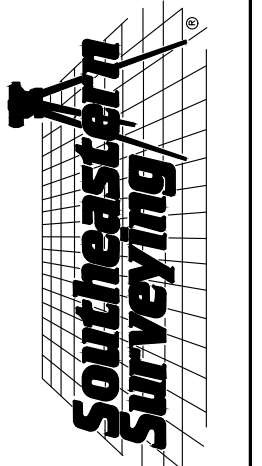
RIGHT OF WAY
PER PLAT BOOK 2
PAGE 80

SITE BENCHMARK
SET NAIL & DISK
STAMPED "SSMC
TBM" ON SE
CORNER OF
CONCRETE SLAB
ELEVATION=19.05



SHERIDAN LAKES
PHASE 2
PLAT BOOK 51, PAGE 30

SHEET NUMBER 8 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



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AND MAPPING CORPORATION**
6800 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@seasmapping.com
Certification Number: LB2108

BY	REVISION	REVISION DATE	REVISION DESCRIPTION
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SMF	ADDITIONAL TOPO	01/09/2019	
SMF	CHANGE BORDER SIZE	02/12/2019	
EM	ADDED PROPOSED DINE VENTURES PARCEL	8/16/2019	
EM	ADDED PROPOSED DINE VENTURES PARCEL	8/16/2019	

Project: **Topographic Survey**
M-1 Canal Flow Restoration,
Brevard County, Florida
Drawn By: SMF
Field Date: November, 21, 2018
Scale: 1" = 20'

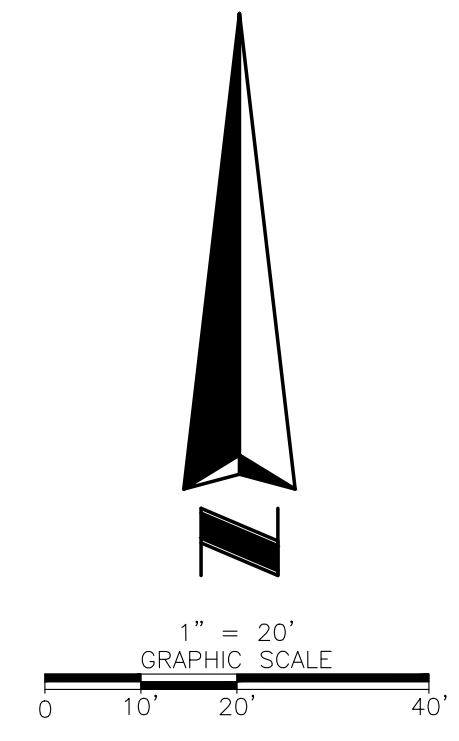
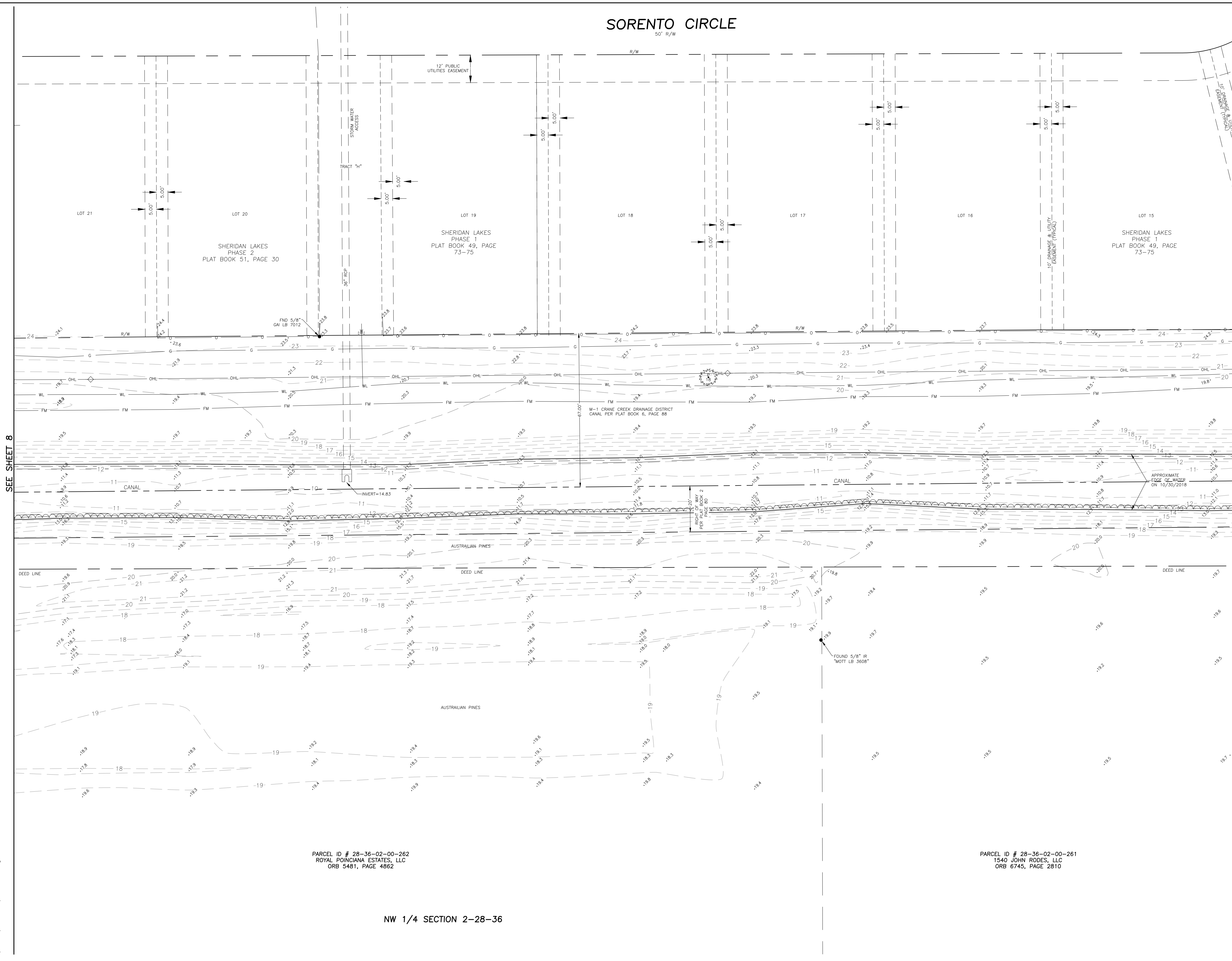
SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER
8 OF 17

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SEE SHEET 9

SORENTO CIRCLE
50' R/W



SEE SHEET 8

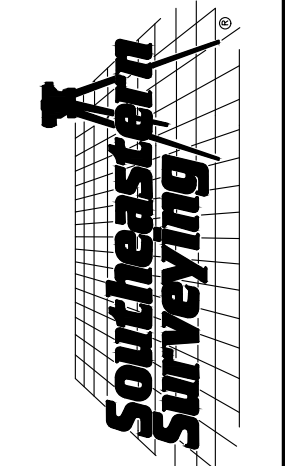
SEE SHEET 10

PARCEL ID # 28-36-02-00-262
ROYAL POINCIANA ESTATES, LLC
ORB 5481, PAGE 4862

PARCEL ID # 28-36-02-00-261
1540 JOHN RODES, LLC
ORB 6745, PAGE 2810

NW 1/4 SECTION 2-28-36

SHEET NUMBER 9 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



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Orlando, Florida 32810-4350
(407) 292-8890
e-mail: info@southeasternsurveying.com
Certification Number: LR2208

REVISION DATE	REVISION	BY
12/02/2018	ADD EASEMENTS SHEET 4, 5 & 6	SMF
01/09/2019	ADDITIONAL TOPO	SMF
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8/16/2019	ADDED PROPOSED DIKE VENTURES PARCEL	EM

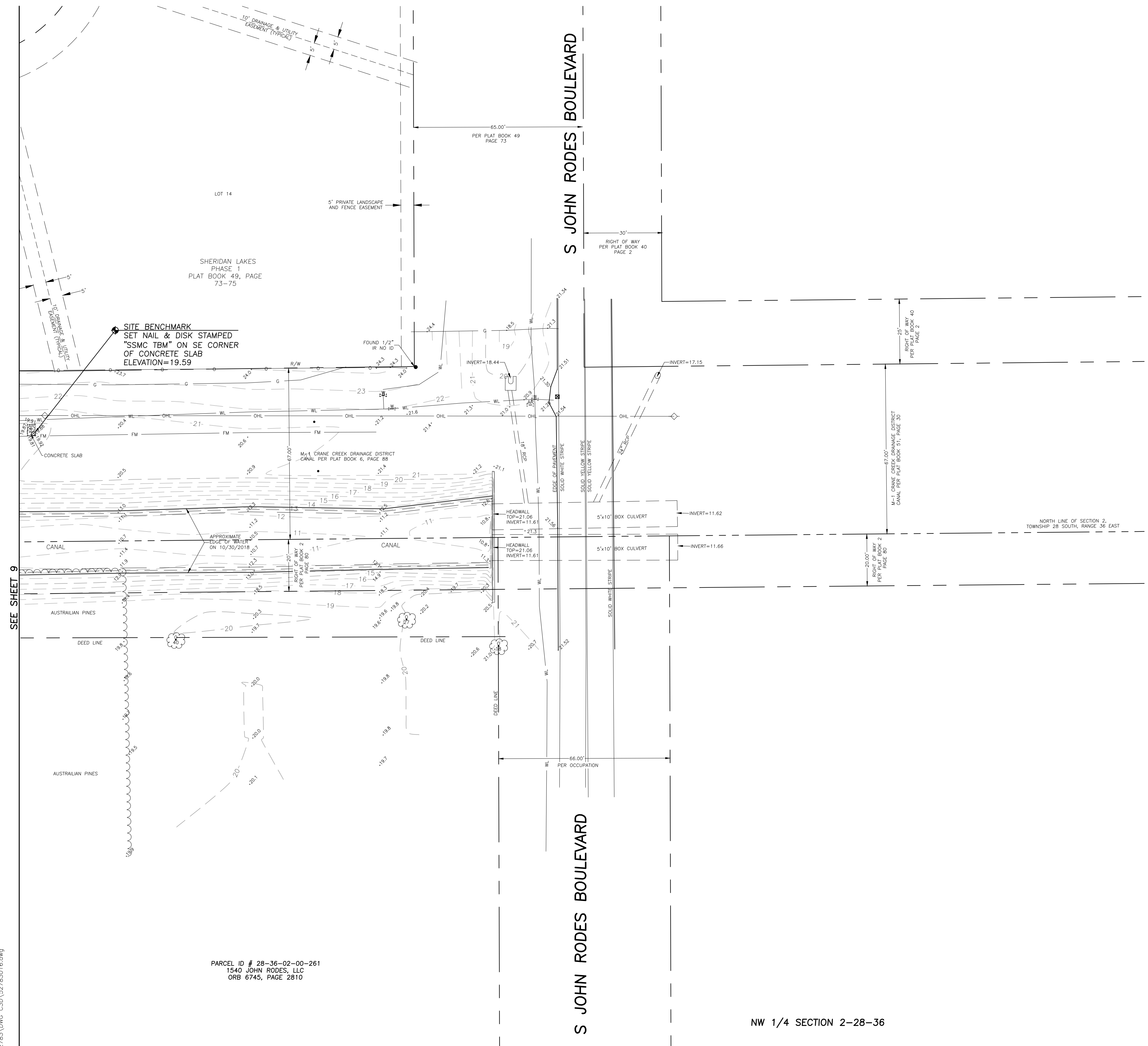
Topographic Survey
Project: **M-1 Canal Flow Restoration, Brevard County, Florida**
Field Date: November, 21, 2018
Drawn By: SMF
Scale: 1" = 20'

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER
9 OF 17

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SHERIDAN LAKES
PHASE 1
PLAT BOOK 49, PAGE
73-75

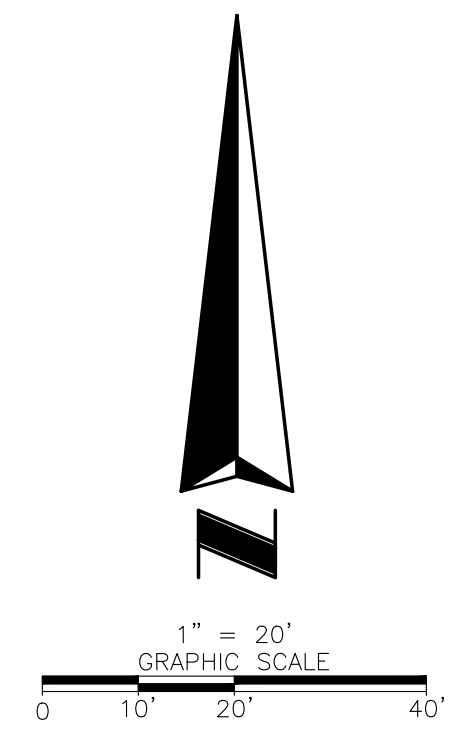
SITE BENCHMARK
SET NAIL & DISK STAMPED
"SSMC TBM" ON SE CORNER
OF CONCRETE SLAB
ELEVATION=19.59

PARCEL ID # 28-36-02-00-261
1540 JOHN RODES, LLC
ORB 6745, PAGE 2810

S JOHN RODES BOULEVARD

S JOHN RODES BOULEVARD

NW 1/4 SECTION 2-28-36



SEE SHEET 9

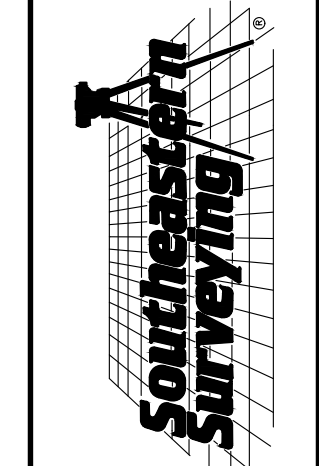
SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET
NUMBER
10 OF 17

Project: **Topographic Survey**
M-1 Canal Flow Restoration,
Brevard County, Florida
Field Date: November, 21, 2018
Drawn By: SMF
Scale: 1" = 20'

REVISION DATE	REVISION	BY
12/02/2018	ADD EASEMENTS SHEET 4, 5 & 6	SMF
01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DIKE VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DIKE VENTURES PARCEL	EM

**SOUTHEASTERN SURVEYING
AND MAPPING CORPORATION**
6500 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@southeasternsurveying.com
Certification Number: LB2108

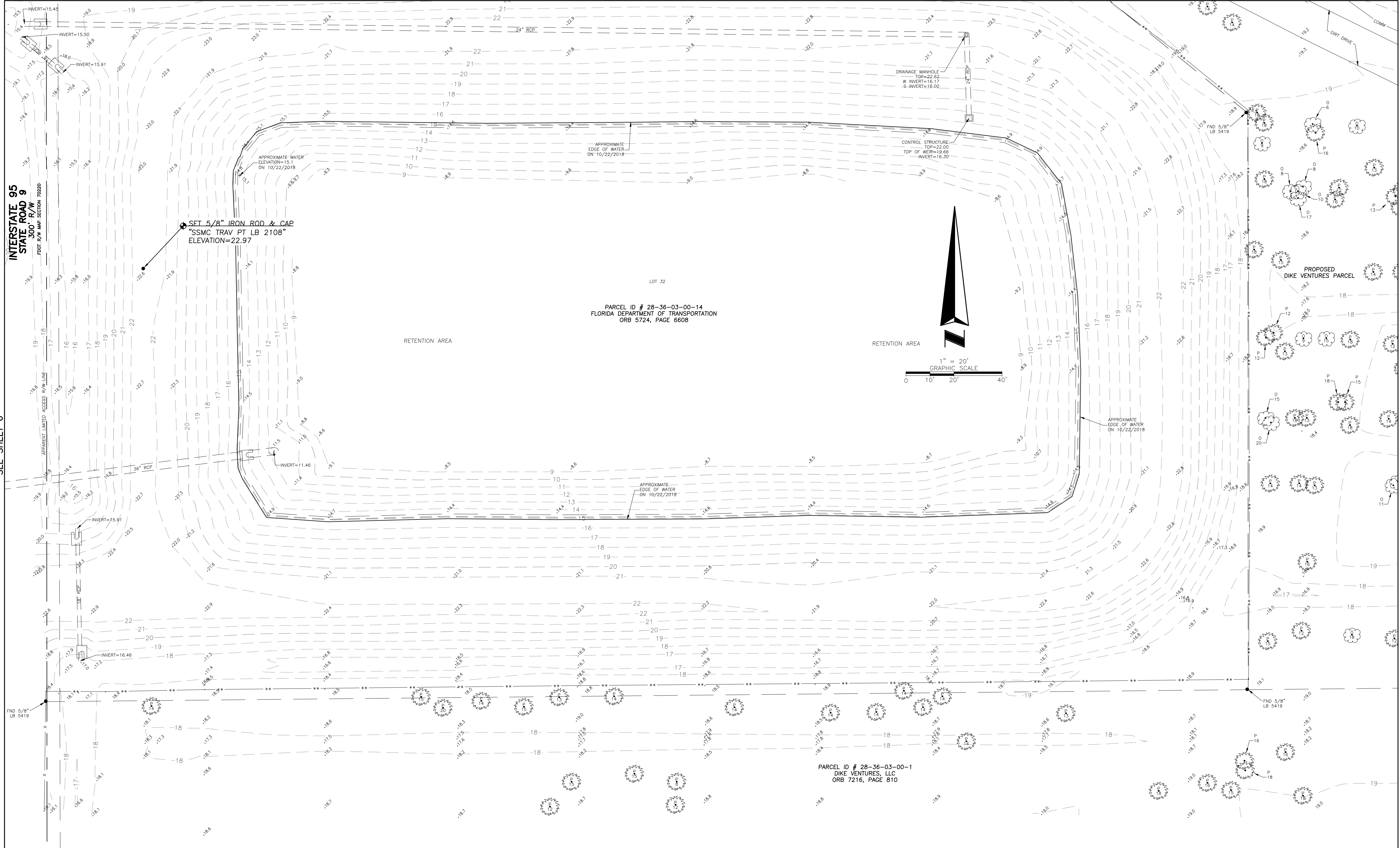


SHEET NUMBER 10 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17

SEE SHEET 7

INTERSTATE 95
STATE ROAD 9
300' R/W
FRONT R/W MAP SECTION 70220

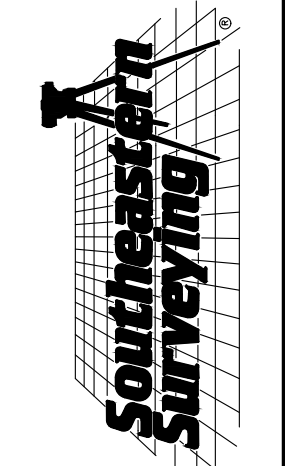
SEE SHEET 6



SEE SHEET 8

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SHEET NUMBER 11 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



SOUTHEASTERN SURVEYING AND MAPPING CORPORATION
 6500 All American Boulevard
 Orlando, Florida 32810-4350
 (407) 292-8990
 e-mail: info@seasmapping.com
 Certification Number: LB2108

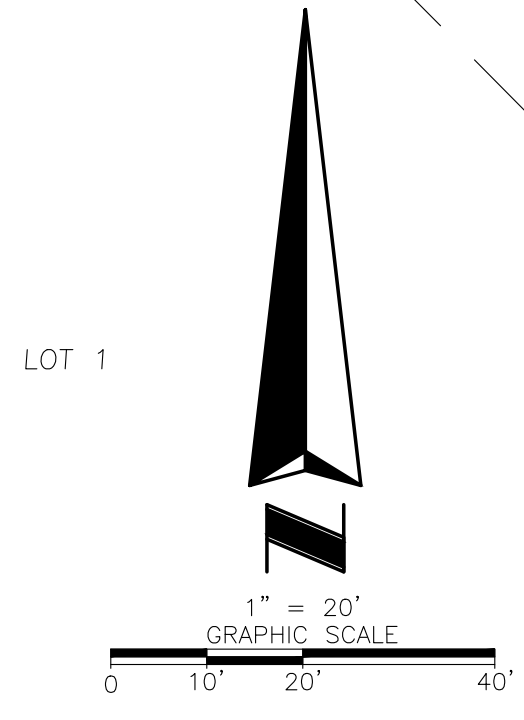
BY	REVISION	DATE	DESCRIPTION
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SMF	ADDITIONAL TOPO	01/09/2019	
SMF	CHANGE BORDER SIZE	02/12/2019	
EM	ADDED PROPOSED DIKE VENTURES PARCEL	8/16/2019	
EM	ADDED PROPOSED DIKE VENTURES PARCEL	8/16/2019	

Topographic Survey
M-1 Canal Flow Restoration,
Brevard County, Florida
 Project:
 Drawn By: SMF
 Scale: 1" = 20'
 Field Date: November, 21, 2018

SEE SHEET 1 FOR NOTES,
 LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
 SHEET NUMBER
11 OF 17

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LATERAL CANAL
35' RIGHT OF WAY
PLAT BOOK 19, PAGE 74
50' RIGHT OF WAY
ROAD PLAT BOOK 1, PAGE 82 &
OFFICIAL RECORDS BOOK 660, PAGE 583

LOT 1
BLOCK A
WOODLAND MANOR
PLAT BOOK 19, PAGE 74

EVANS ROAD
RIGHT OF WAY VARIES
ROAD PLAT BOOK 1, PAGE 82

OFFICIAL RECORDS
BOOK 2252, PAGE 873

SITE BENCHMARK
FOUND RAILROAD SPIKE IN
SE FACE OF 48" OAK TREE
ELEVATION=28.27

OWNER: CITY OF MELBOURNE
PARCEL ID: 28-37-05-00-268
OFFICIAL RECORDS BOOK 2422, PAGE 1135.3

M-1 CANAL

M-1 CANAL

EVANS ROAD
100' RIGHT OF WAY
SURVEY BOOK 1, PAGE 103

OFFICIAL RECORDS
BOOK 3244, PAGE 3359

FLORIDA DEPARTMENT OF TRANSPORTATION
WATER RETENTION AREA
(PARCEL 101)
STATE ROAD 500 RIGHT OF WAY MAP
SECTION 70050-2524

LOT 32, SECTION 6,
FLORIDA INDIAN RIVER LAND COMPANY
TOWNSHIP 28 SOUTH RANGE 37 EAST
PLAT BOOK 1, PAGE 164

SEE SHEET 17

SEE SHEET 13

SHEET NUMBER 12 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17

Southeastern Surveying

**SOUTHEASTERN SURVEYING
AND MAPPING CORPORATION**

6500 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@seasurveying.com
certification Number: LR2108

REVISION	DATE	DESCRIPTION	BY	CHK	APP
12/09/2018		ADD EASEMENTS SHEET 4, 5, & 6	SMF		
01/09/2019		ADDITIONAL TOPO	SMF		
02/12/2019		CHANGE BORDER SIZE	SMF		
8/16/2019		ADDED PROPOSED DIRT VENTURES PARCEL	EM		
8/16/2019		ADDED PROPOSED DIRT VENTURES PARCEL	EM		

Topographic Survey

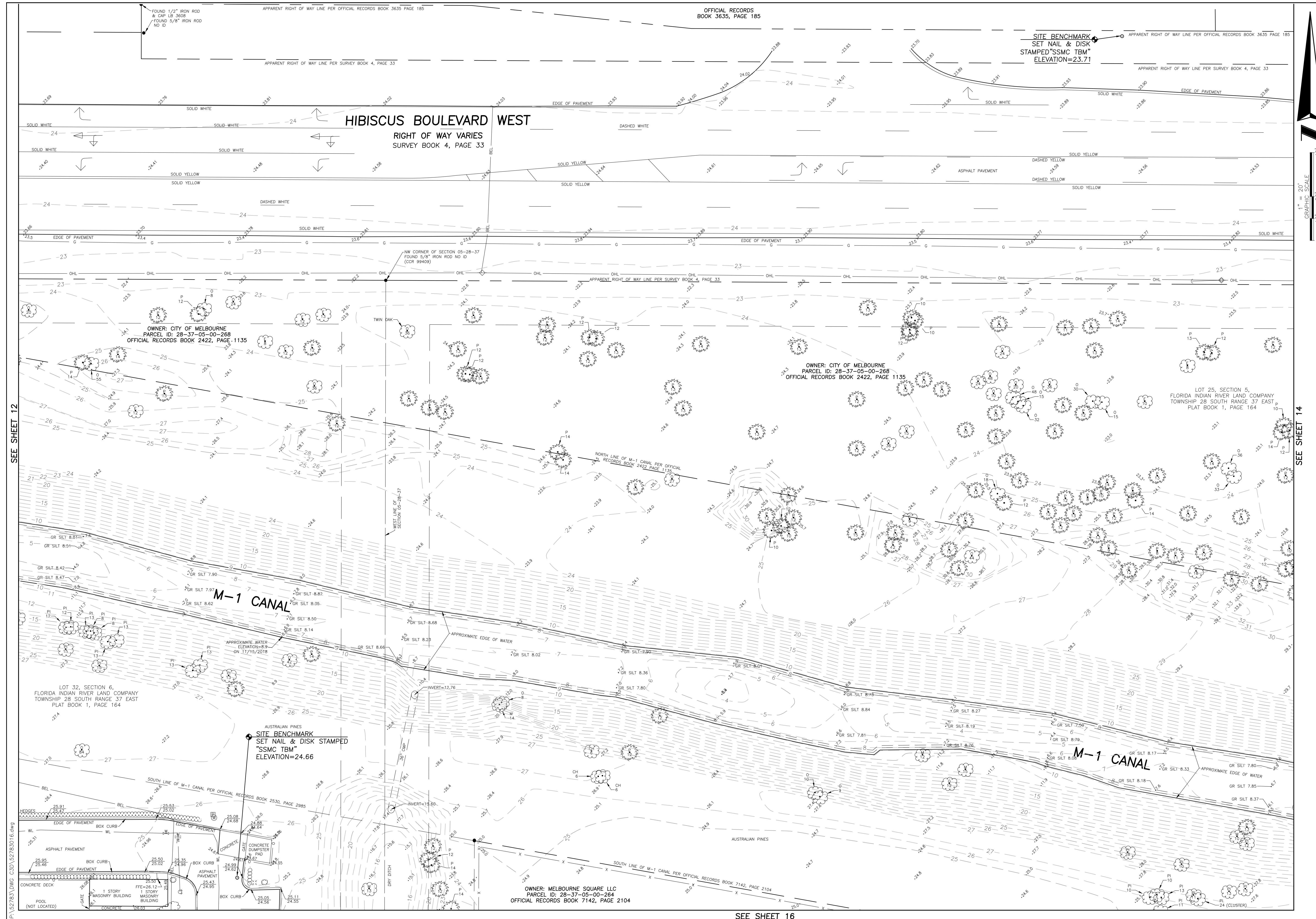
**M-1 Canal Flow Restoration,
Brevard County, Florida**

Project: **M-1 Canal Flow Restoration,
Brevard County, Florida**

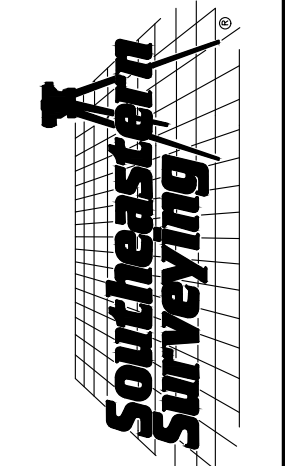
Field Date: November, 21 2018
Drawn By: SMF
Scale: 1" = 20'

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET NUMBER
12 OF 17



SHEET NUMBER 13 OF 17
NOT VALID WITHOUT SHEETS 1 THROUGH 17



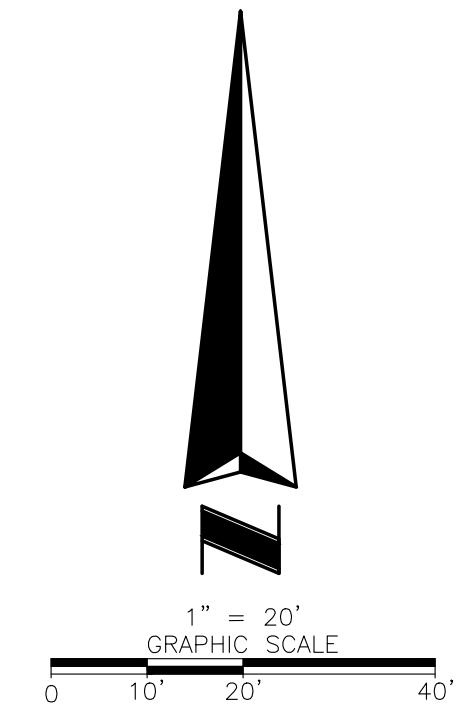
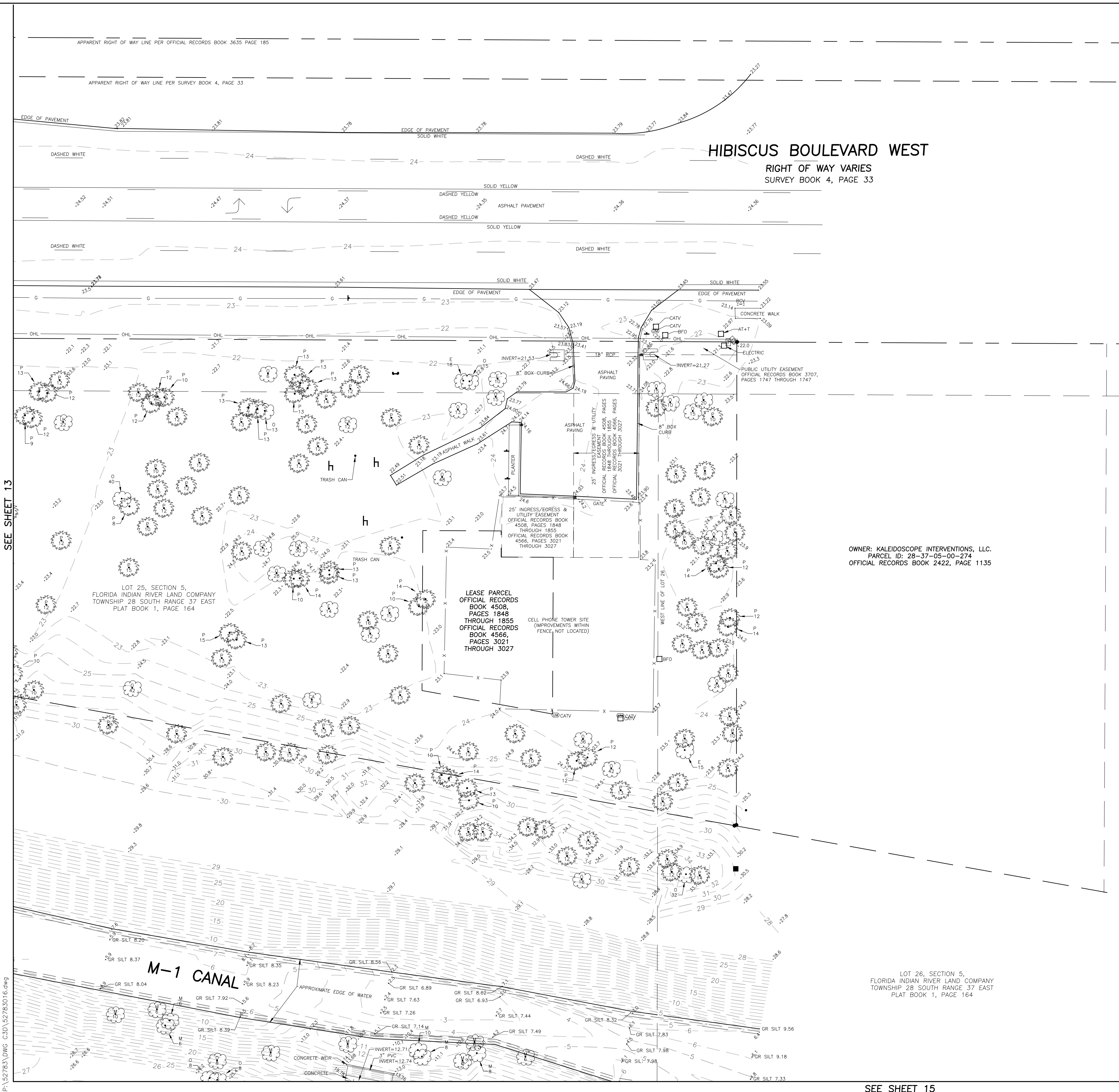
SOUTHEASTERN SURVEYING AND MAPPING CORPORATION
6800 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8980
e-mail: info@seasmapping.com
Certification Number: LB2108

REVISION DATE	REVISION	BY
12/05/2018	ADD EASEMENTS SHEET 4, 5 & 6	SMF
01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DIRT VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DIRT VENTURES PARCEL	EM

Topographic Survey
M-1 Canal Flow Restoration, Brevard County, Florida
Project:
Field Date: November, 21 2018
Scale: 1" = 20'
Drawn By: SMF

SEE SHEET 1 FOR NOTES, LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET NUMBER
13 OF 17



HIBISCUS BOULEVARD WEST
 RIGHT OF WAY VARIES
 SURVEY BOOK 4, PAGE 33

OWNER: KALEIDOSCOPE INTERVENTIONS, LLC.
 PARCEL ID: 28-37-05-00-274
 OFFICIAL RECORDS BOOK 2422, PAGE 1135

LEASE PARCEL
 OFFICIAL RECORDS
 BOOK 4508,
 PAGES 1848
 THROUGH 1855
 OFFICIAL RECORDS
 BOOK 4566,
 PAGES 3021
 THROUGH 3027

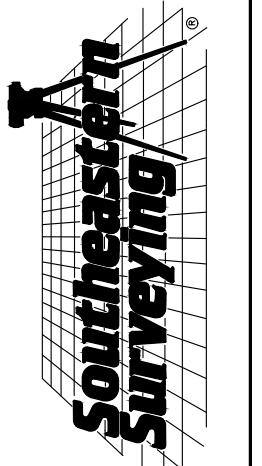
LOT 26, SECTION 5,
 FLORIDA INDIAN RIVER LAND COMPANY
 TOWNSHIP 28 SOUTH RANGE 37 EAST
 PLAT BOOK 1, PAGE 164

M-1 CANAL

SEE SHEET 13

SEE SHEET 15

SHEET NUMBER 14 OF 17
 NOT VALID WITHOUT SHEETS
 1 THROUGH 17



**SOUTHEASTERN SURVEYING
 AND MAPPING CORPORATION**
 6500 All American Boulevard
 Orlando, Florida 32810-4350
 (407) 292-8990
 e-mail: info@seasurveying.com
 Certification Number: LB2108

REVISION DATE	REVISION	BY
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01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DHE VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DHE VENTURES PARCEL	EM

Project: **Topographic Survey**
M-1 Canal Flow Restoration,
Brevard County, Florida
 Drawn By: SMF
 Scale: 1" = 20'
 Field Date: November, 21 2018

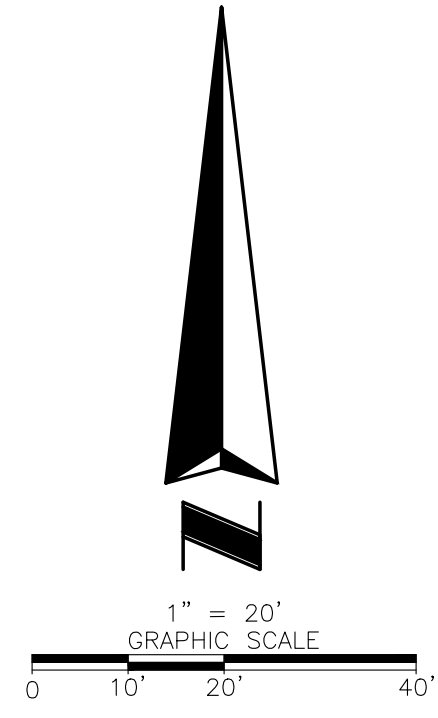
SEE SHEET 1 FOR NOTES,
 LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
 SHEET
 NUMBER
14 OF 17

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SEE SHEET 16

SEE SHEET 14



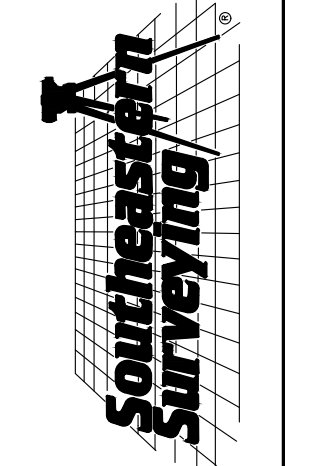
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LEGEND AND DESCRIPTION.

DRAWING NUMBER
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SHEET
NUMBER
15 OF 17

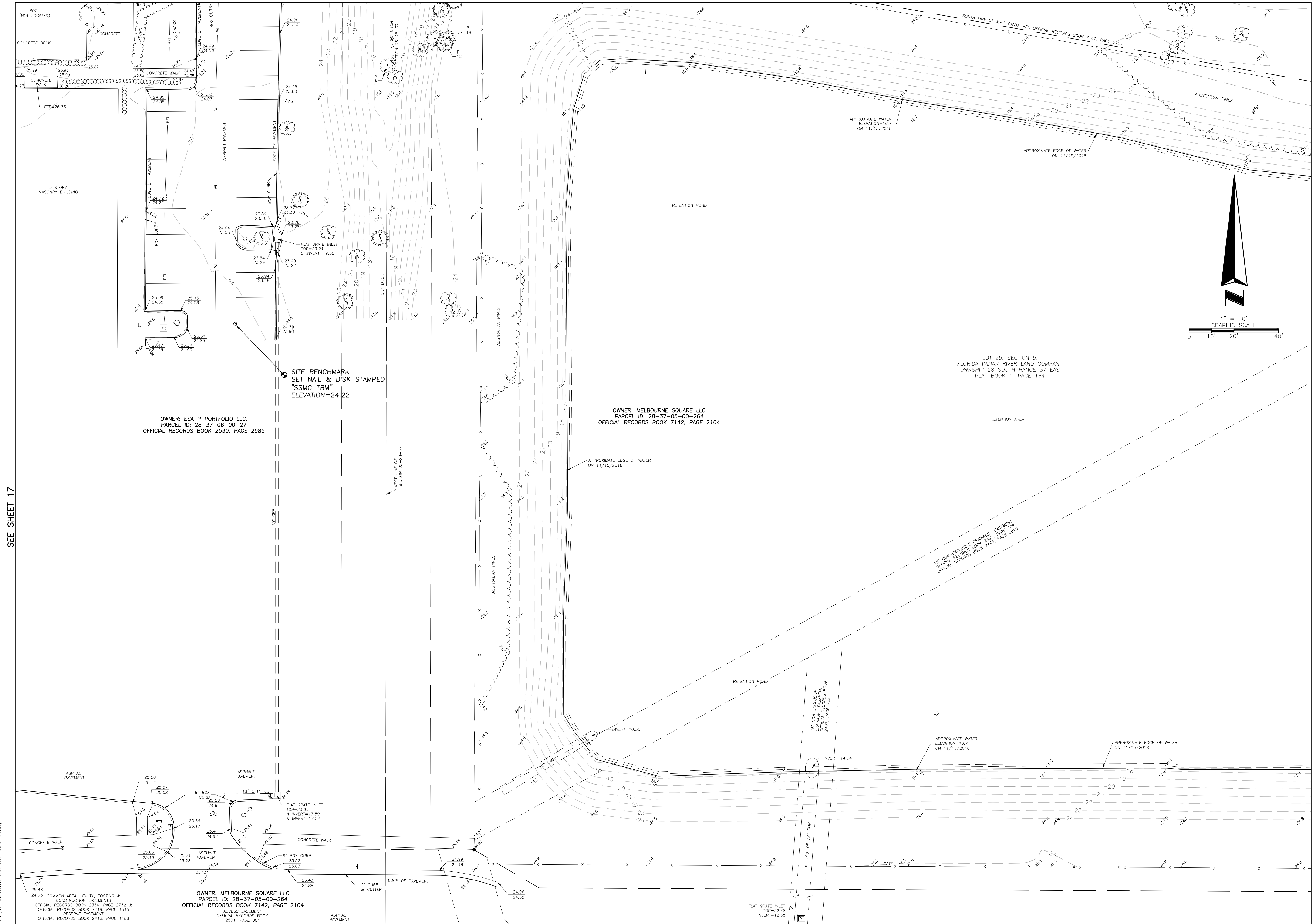
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M-1 Canal Flow Restoration,
Brevard County, Florida
Field Date: November, 21, 2018
Drawn By: SMF
Scale: 1" = 20'

REVISION DATE	REVISION	BY
12/02/2018	ADD EASEMENTS SHEET 4, 5 & 6	SMF
01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DIKE VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DIKE VENTURES PARCEL	EM

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AND MAPPING CORPORATION**
6500 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@southeasternsurveying.com
Certification Number: LR2208



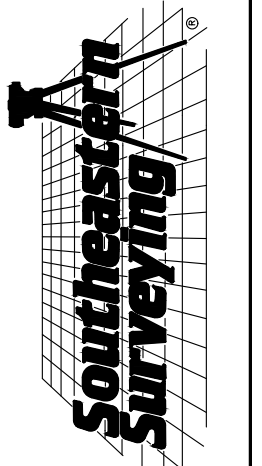
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1 THROUGH 17



SEE SHEET 17

SEE SHEET 15

SHEET NUMBER 16 OF 17
NOT VALID WITHOUT SHEETS
1 THROUGH 17



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6500 All American Boulevard
Orlando, Florida 32810-4350
(407) 292-8990
e-mail: info@seasurveying.com
certification Number: LR2108

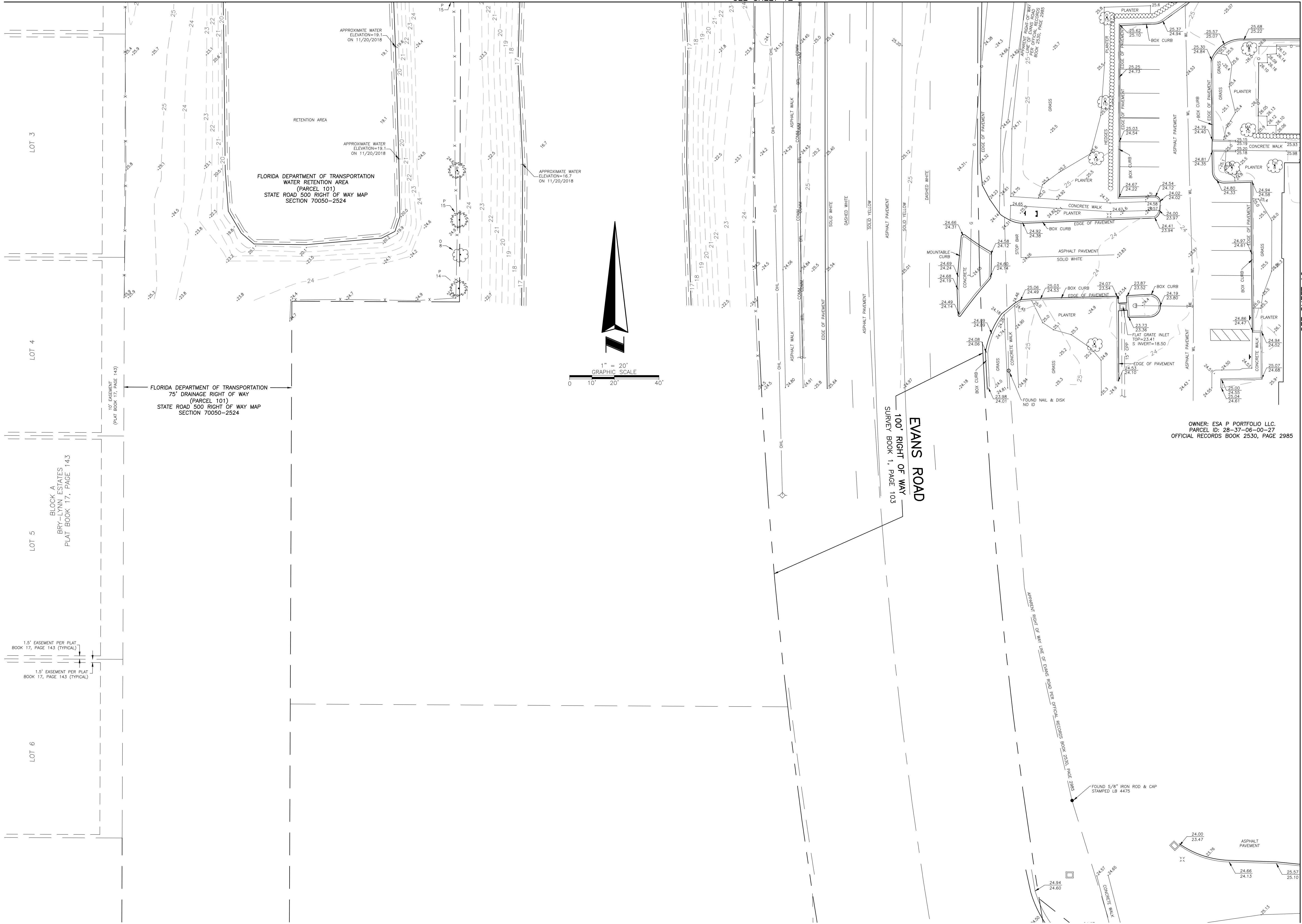
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SMF	ADDITIONAL TOPO	01/09/2019	
SMF	CHANGE BORDER SIZE	02/12/2019	
EM	ADDED PROPOSED DIKE VENTURES PARCEL	8/16/2019	
EM	ADDED PROPOSED DIKE VENTURES PARCEL	8/16/2019	

Topographic Survey
Project: **M-1 Canal Flow Restoration, Brevard County, Florida**
Field Date: November, 21 2018
Scale: 1" = 20'
Drawn By: SMF

SEE SHEET 1 FOR NOTES,
LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
SHEET NUMBER
16 OF 17

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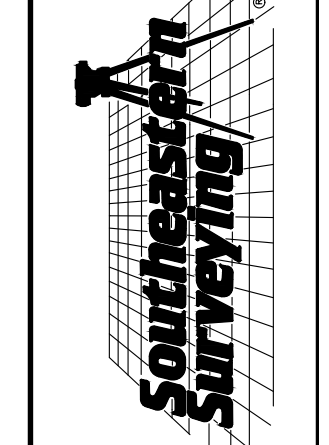


SEE SHEET 12

SEE SHEET 16

OWNER: ESA P PORTFOLIO LLC.
 PARCEL ID: 28-37-06-00-27
 OFFICIAL RECORDS BOOK 2530, PAGE 2985

SHEET NUMBER 17 OF 17
 NOT VALID WITHOUT SHEETS
 1 THROUGH 17



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 AND MAPPING CORPORATION**
 6500 All American Boulevard
 Orlando, Florida 32810-4350
 (407) 292-8990
 e-mail: info@seasurveying.com
 Certification Number: LB2108

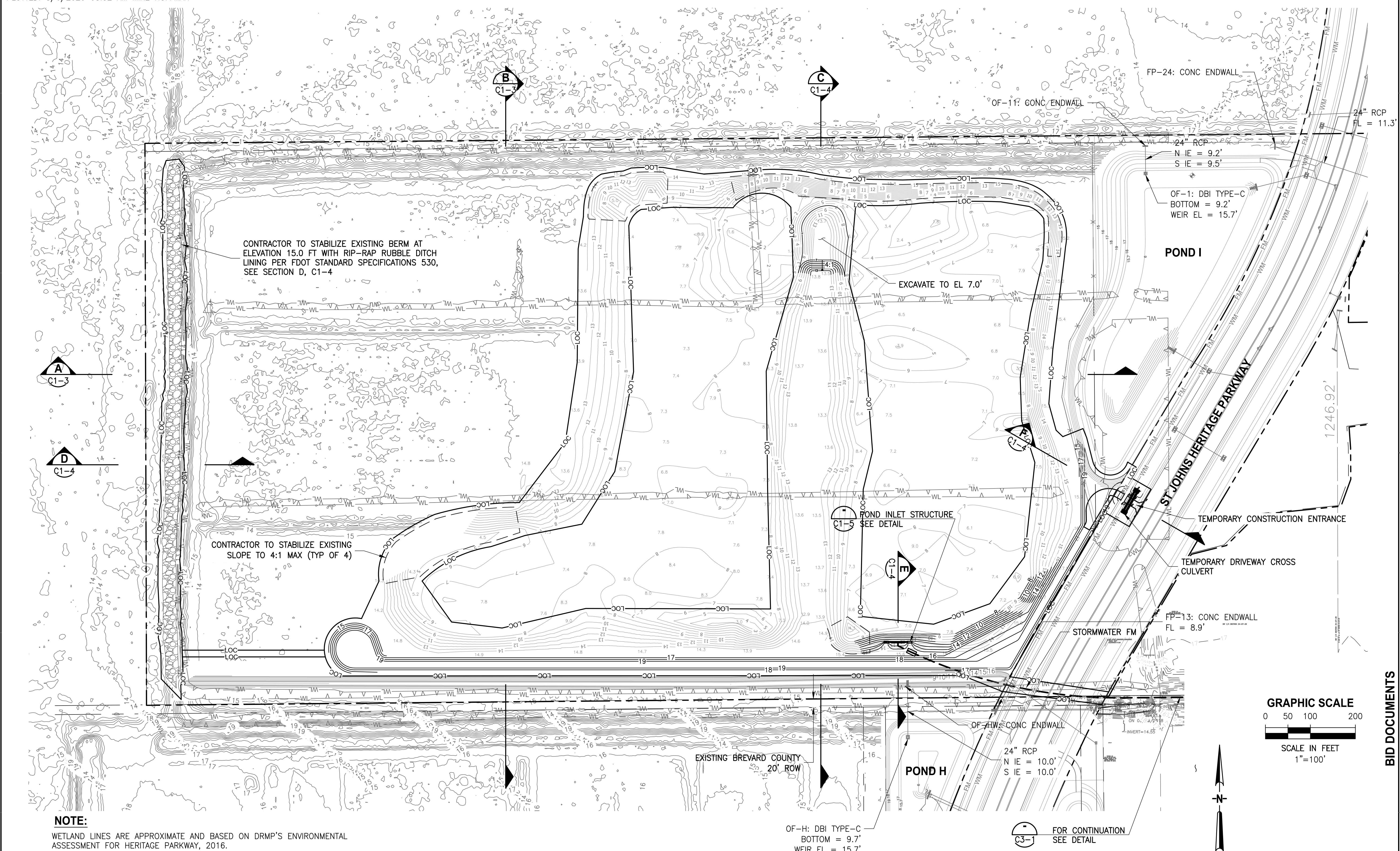
REVISION DATE	REVISION	BY
12/05/2018	ADD EASEMENTS SHEET 4, 5 & 6	SMF
01/09/2019	ADDITIONAL TOPO	SMF
02/12/2019	CHANGE BORDER SIZE	SMF
8/16/2019	ADDED PROPOSED DKE VENTURES PARCEL	EM
8/16/2019	ADDED PROPOSED DKE VENTURES PARCEL	EM

Project: **Topographic Survey**
M-1 Canal Flow Restoration,
Brevard County, Florida
 Scale: 1" = 20'
 Drawn By: SMF
 Field Date: November, 21 2018

SEE SHEET 1 FOR NOTES,
 LEGEND AND DESCRIPTION.

DRAWING NUMBER
52783016
 SHEET
 NUMBER
17 OF 17

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 8/6/2020 8:19 AM MHOFFMAN



CONTRACTOR TO STABILIZE EXISTING BERM AT ELEVATION 15.0 FT WITH RIP-RAP RUBBLE DITCH LINING PER FDOT STANDARD SPECIFICATIONS 530, SEE SECTION D, C1-4

CONTRACTOR TO STABILIZE EXISTING SLOPE TO 4:1 MAX (TYP OF 4)

EXCAVATE TO EL 7.0'

POND INLET STRUCTURE SEE DETAIL

POND H

FP-24: CONC ENDWALL

OF-1: CONC ENDWALL

24" RCP
 N IE = 9.2'
 S IE = 9.5'

OF-1: DBI TYPE-C
 BOTTOM = 9.2'
 WEIR EL = 15.7'

POND I

ST JOHN'S HERITAGE PARKWAY

TEMPORARY CONSTRUCTION ENTRANCE

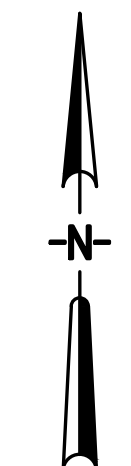
TEMPORARY DRIVEWAY CROSS CULVERT

FP-13: CONC ENDWALL
 FL = 8.9'

STORMWATER FM

GRAPHIC SCALE
 0 50 100 200

SCALE IN FEET
 1"=100'



NOTE:

WETLAND LINES ARE APPROXIMATE AND BASED ON DRMP'S ENVIRONMENTAL ASSESSMENT FOR HERITAGE PARKWAY, 2016.

OF-H: DBI TYPE-C
 BOTTOM = 9.7'
 WEIR EL = 15.7'

FOR CONTINUATION
 SEE DETAIL
 C3-1

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**STORMWATER TREATMENT AREA
 OVERALL GRADING PLAN**

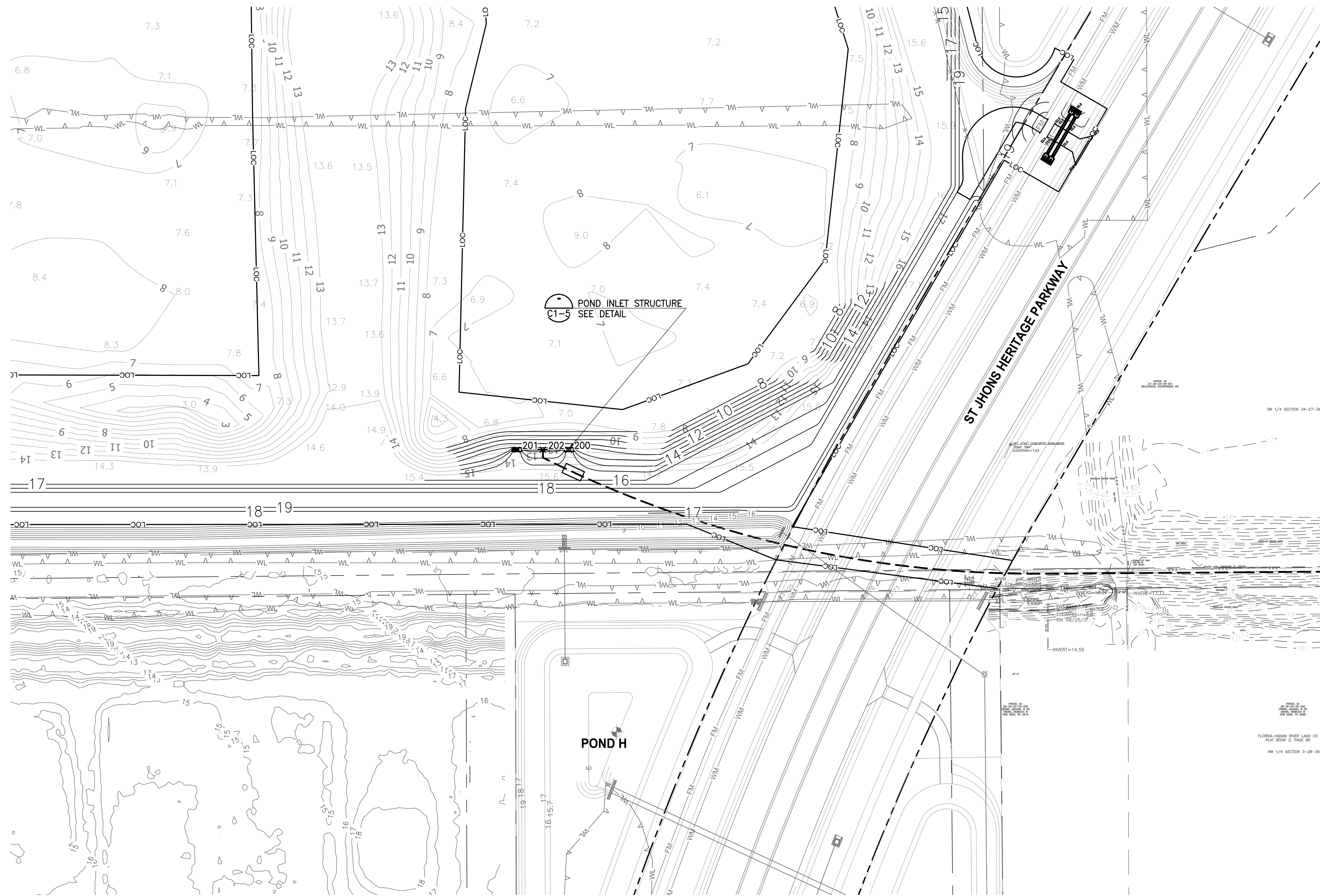
CERTIFICATE OF AUTHORIZATION #1841
APPROVED BY
A. GOODDEN
P.E. # 60097

PROJECT NO: 19750-066-01	DATE: AUG 2020
INDEX NO:	DWG NO: C1-1

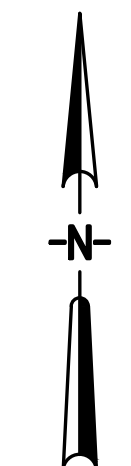
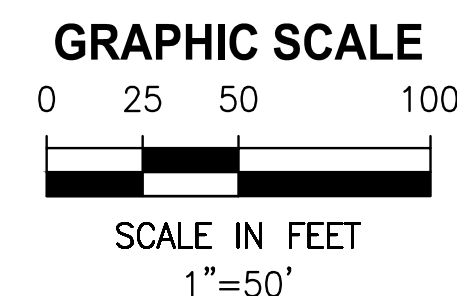
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 8/6/2020 8:22 AM MHOFFMAN



GRADING COORDINATE TABLE		
POINT	NORTHING	EASTING
200	1363894.32	747917.36
201	1363894.35	747865.69
202	1363894.35	747891.56



BID DOCUMENTS
 B
 C
 D
 E
 F

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

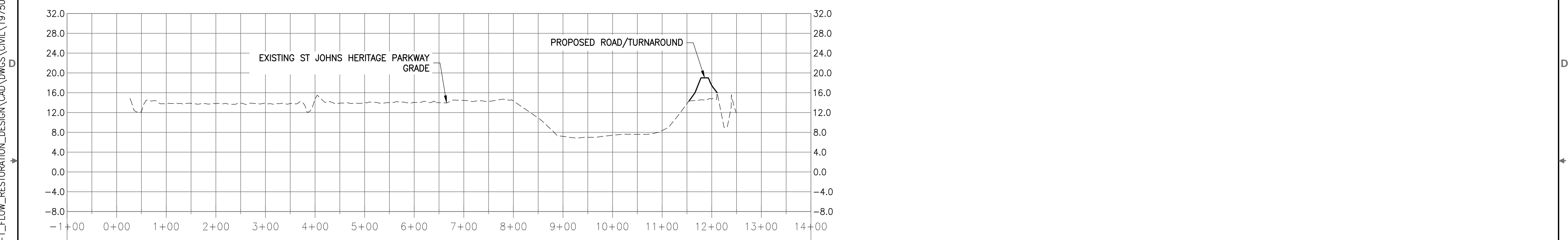
STORMWATER TREATMENT AREA
INLET GRADING PLAN

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY A. GOODDEN P.E. # 60097	
PROJECT NO: 19750-066-01	DATE: AUG 2020
INDEX NO:	DWG NO: C1-2

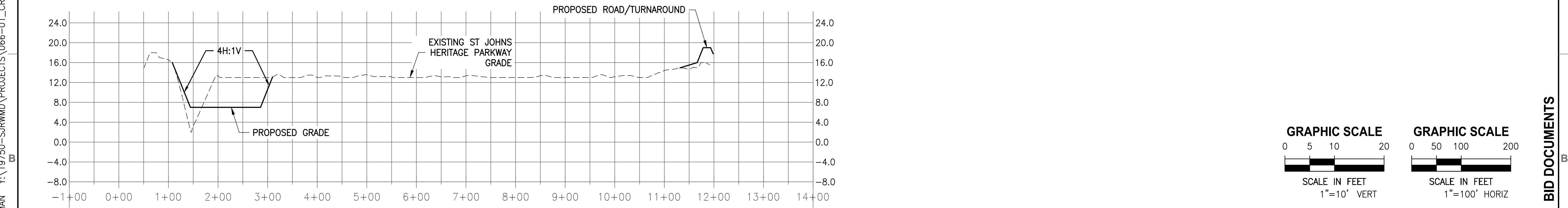
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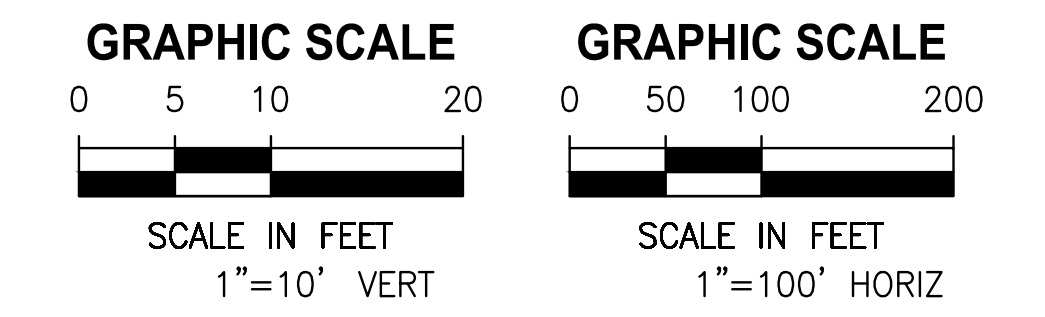
SECTION A
 1"=100' H
 1"=10' V



SECTION B
 1"=100' H
 1"=10' V



SECTION C
 1"=100' H
 1"=10' V



DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

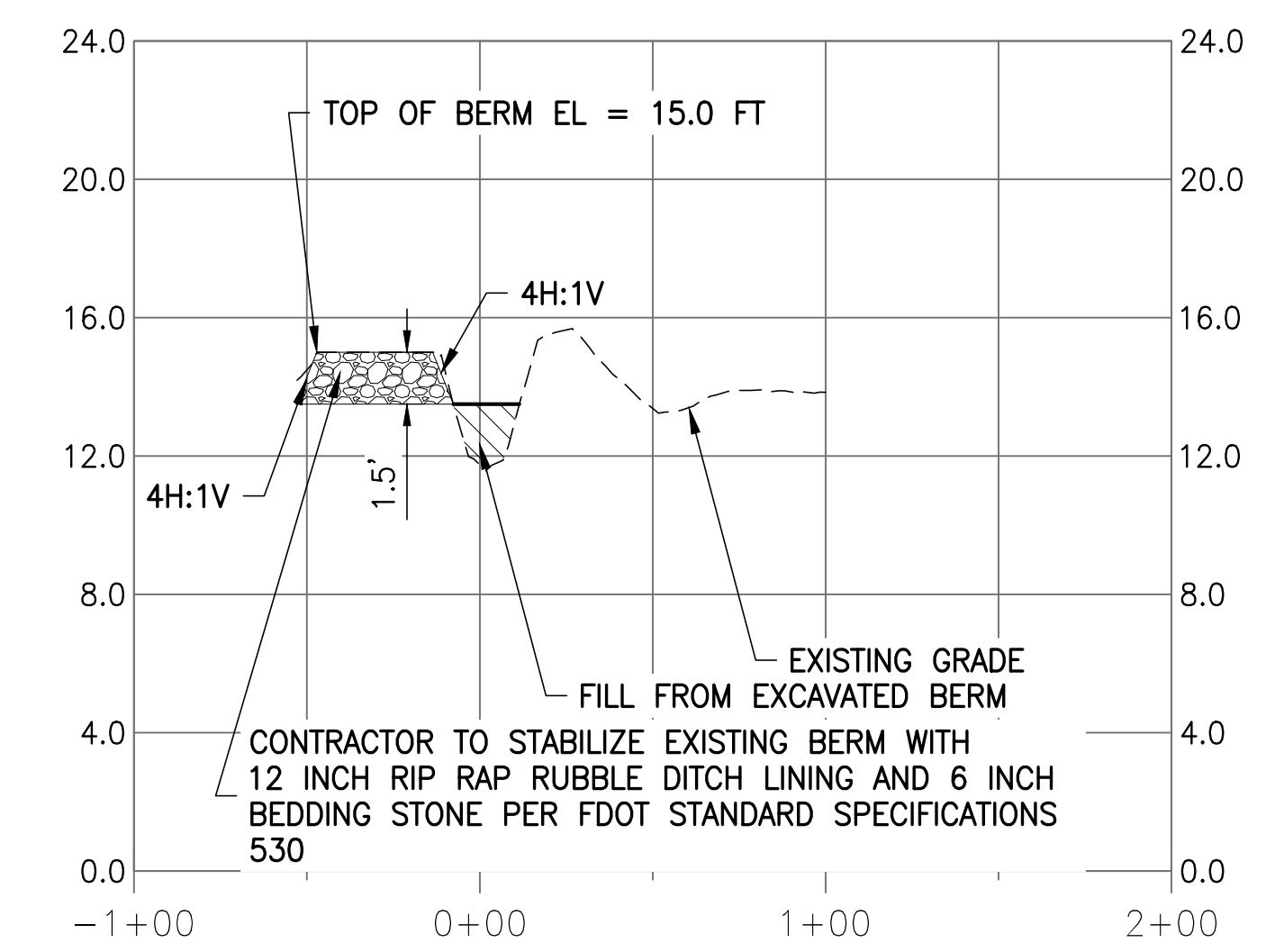
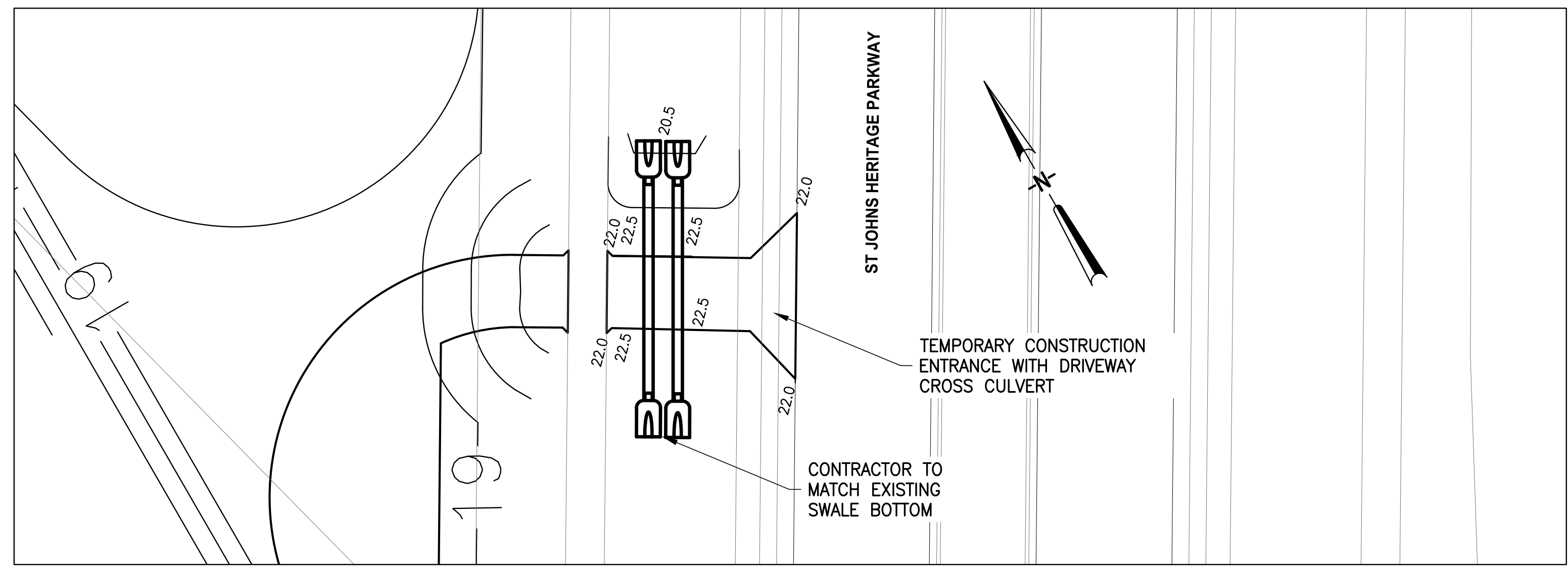
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 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

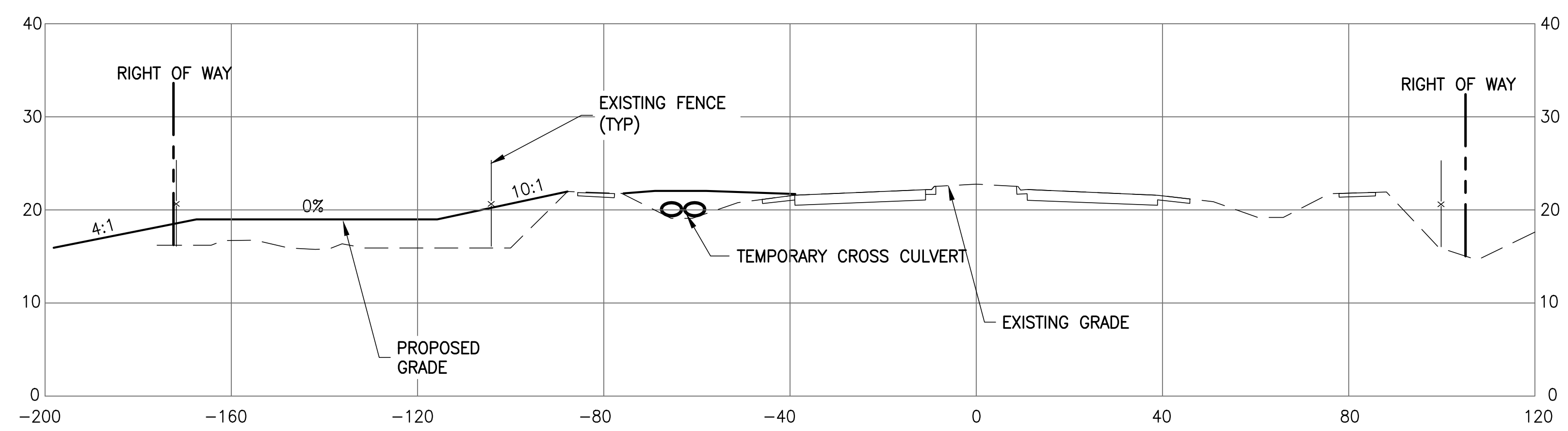
**STORMWATER TREATMENT AREA
 SECTIONS**

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APPROVED BY A. GOODDEN P.E. # 60097	INDEX NO:	DWG NO: C1-3

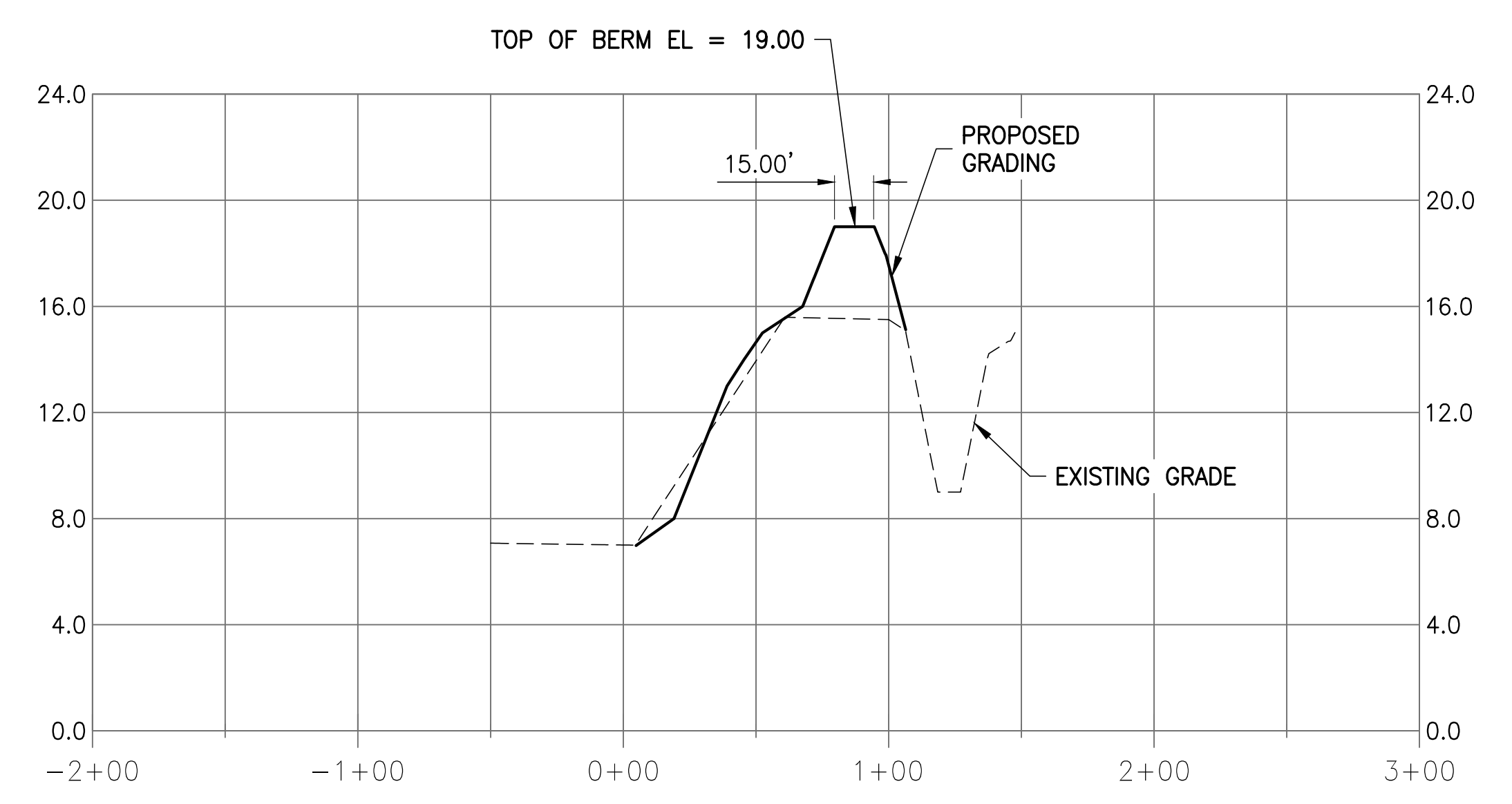
BID DOCUMENTS



SECTION D
 1"=100' H C1-1, C1-3
 1"=10' V



SECTION F
 1"=20' H C1-4
 1"=10' V



SECTION E
 1"=100' H C1-1, C1-3
 1"=10' V

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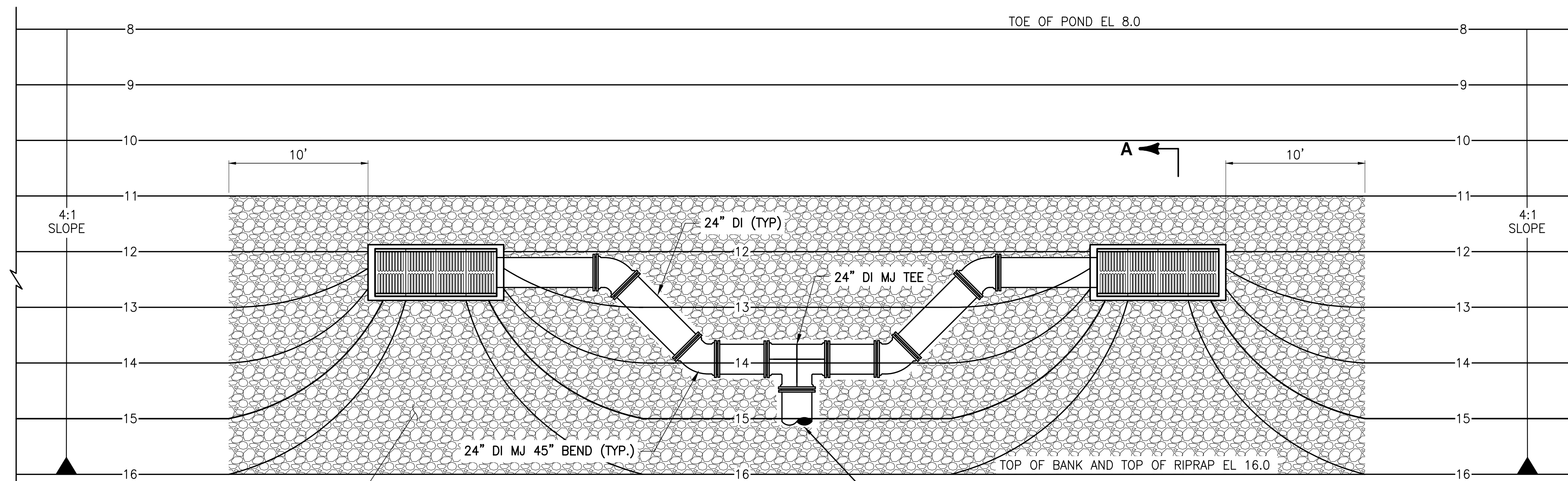
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DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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 CERTIFICATE OF AUTHORIZATION #1841
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 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**STORMWATER TREATMENT
 AREA SECTIONS**

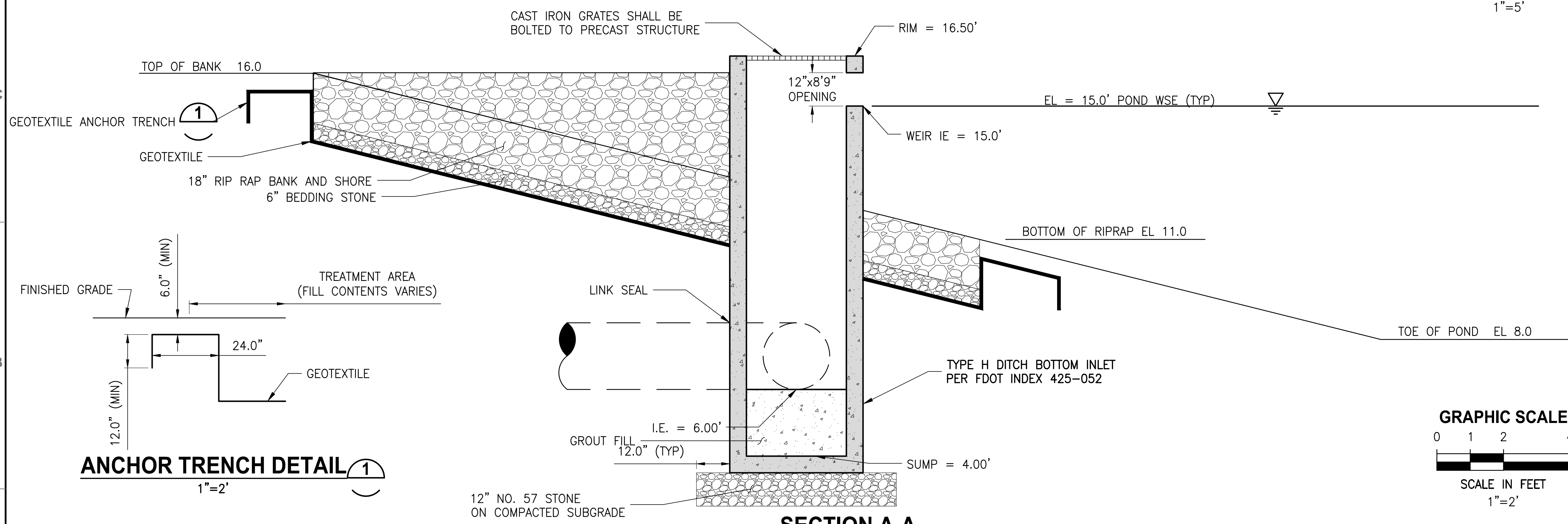
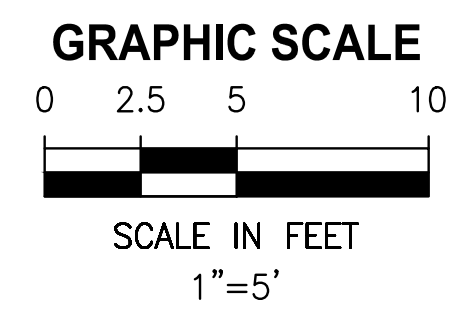
CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY A. GOODDEN P.E. # 60097	PROJECT NO: 19750-066-01 INDEX NO:	DATE: AUG 2020 DWG NO: C1-4
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18" (MIN) RIP RAP (BANK AND SHORE)
OVER 6" (MIN) BEDDING STONE PER
FDOT SPECIFICATION 530 AND GEOTEXTILE
TYPE D-2 PER FDOT SPECIFICATION 985

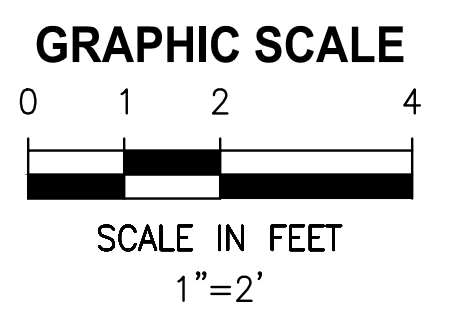
FOR CONTINUATION
SEE DWG C3-1

PLAN VIEW
1"=5'



12" NO. 57 STONE
ON COMPACTED SUBGRADE

SECTION A-A
1"=2'



ANCHOR TRENCH DETAIL
1"=2'

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

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CERTIFICATE OF AUTHORIZATION #1841
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CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

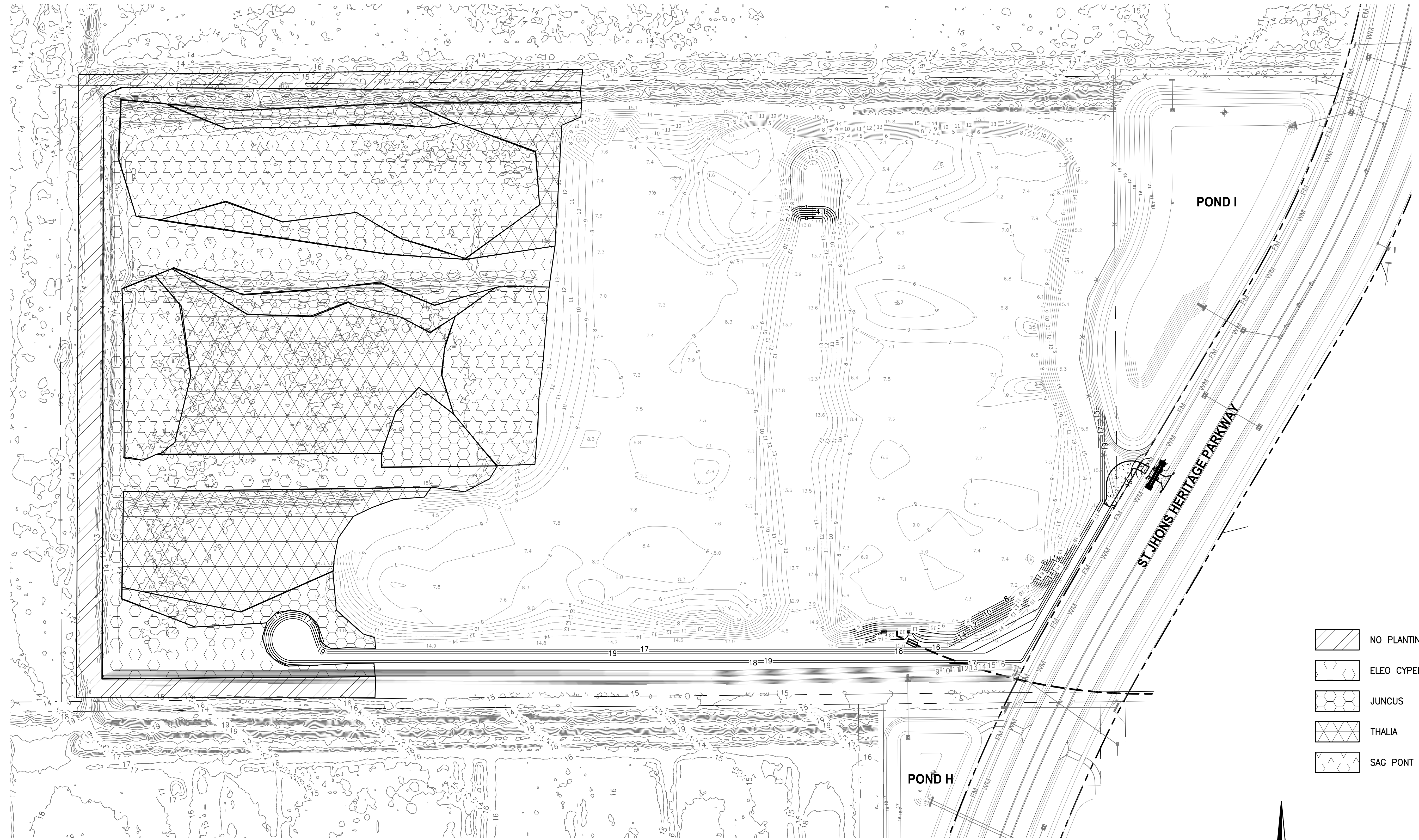
STORMWATER TREATMENT AREA
INLET DETAILS


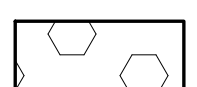
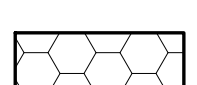


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APPROVED BY A. GOODDEN P.E. # 60097	INDEX NO:	DWG NO: C1-5

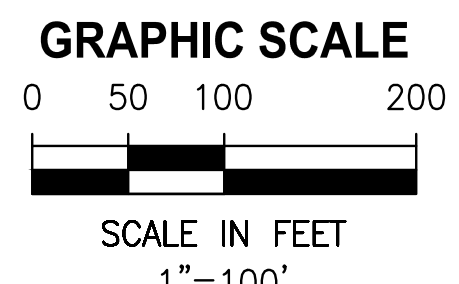
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 6/25/2020 4:21 PM WHOFFMAN



-  NO PLANTING
-  ELEO CYPERUS
-  JUNCUS
-  THALIA
-  SAG PONT SCHOENO



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

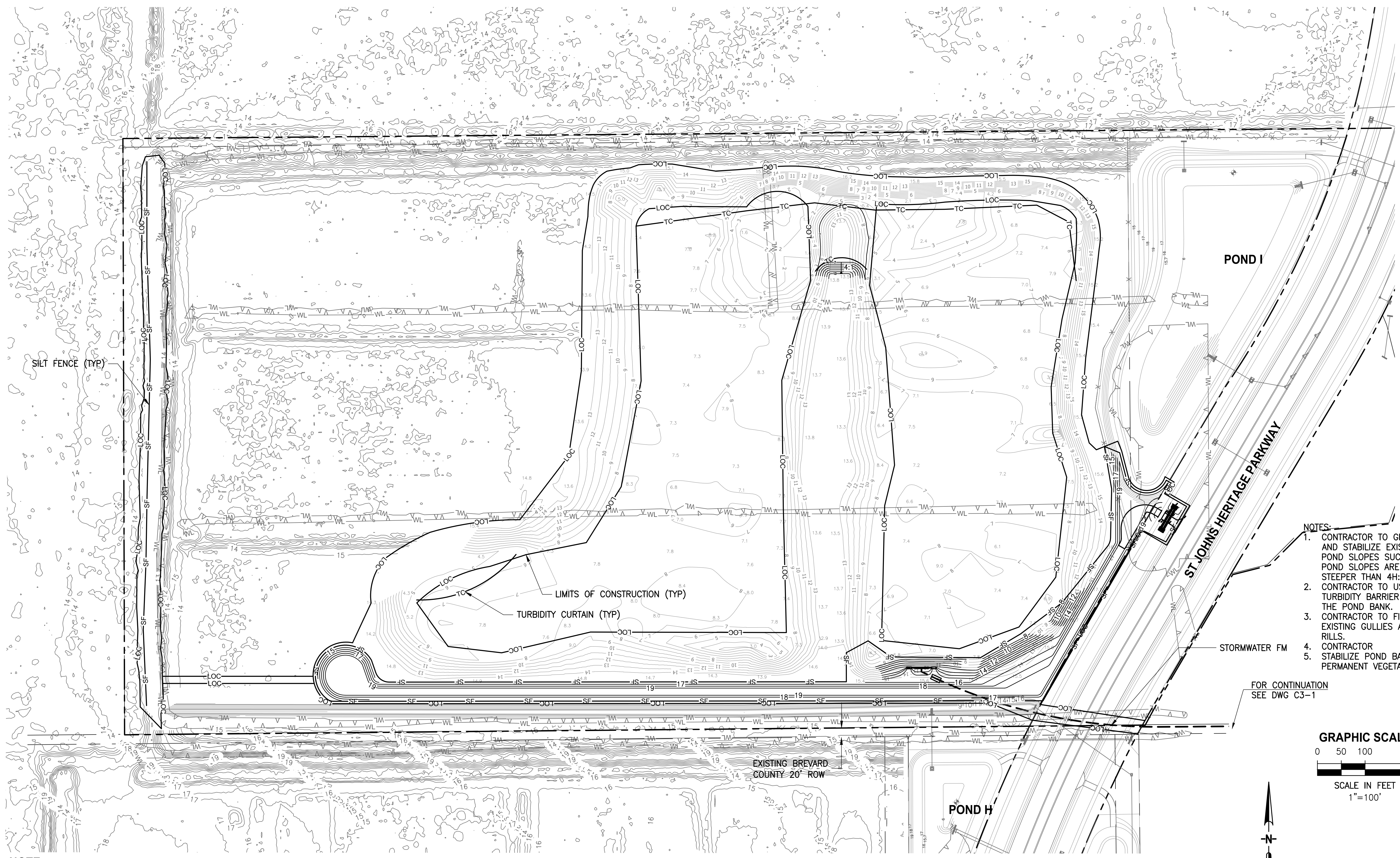
CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

STORMWATER TREATMENT AREA
WETLAND PLANTING PLAN

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY A. GOODDEN P.E. # 60097	
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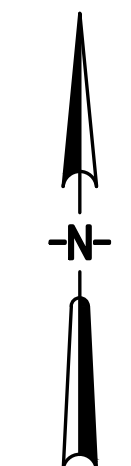
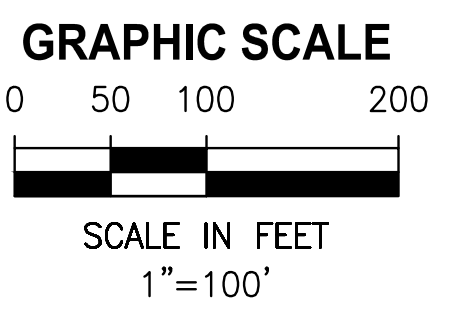
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 8/6/2020 10:48 AM MHOFFMAN



- NOTES:**
1. CONTRACTOR TO GRADE AND STABILIZE EXISTING POND SLOPES SUCH THAT POND SLOPES ARE NO STEEPER THAN 4H:1V.
 2. CONTRACTOR TO USE TURBIDITY BARRIER ALONG THE POND BANK.
 3. CONTRACTOR TO FILL ALL EXISTING GULLIES AND RILLS.
 4. CONTRACTOR TO STABILIZE POND BANK WITH PERMANENT VEGETATION

FOR CONTINUATION
 SEE DWG C3-1



NOTE:
 WETLAND LINES ARE APPROXIMATE AND BASED ON DRMP'S ENVIRONMENTAL ASSESSMENT FOR HERITAGE PARKWAY, 2016.

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPR.

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**STORMWATER TREATMENT AREA
 EROSION CONTROL PLAN**

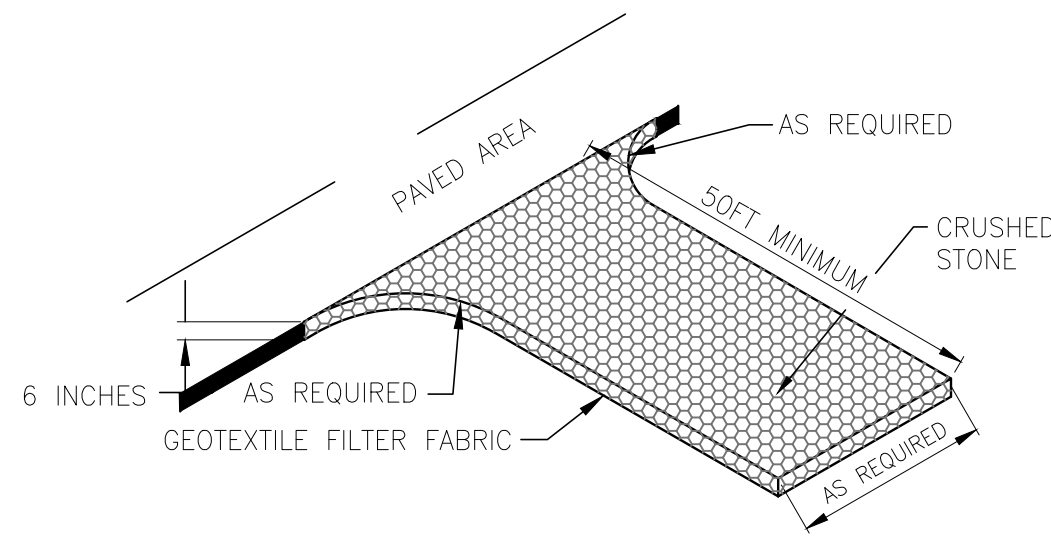
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 APPROVED BY
 A. GOODDEN
 P.E. # 60097

PROJECT NO:	DATE:
19750-066-01	AUG 2020
INDEX NO:	DWG NO:
	EC1-1

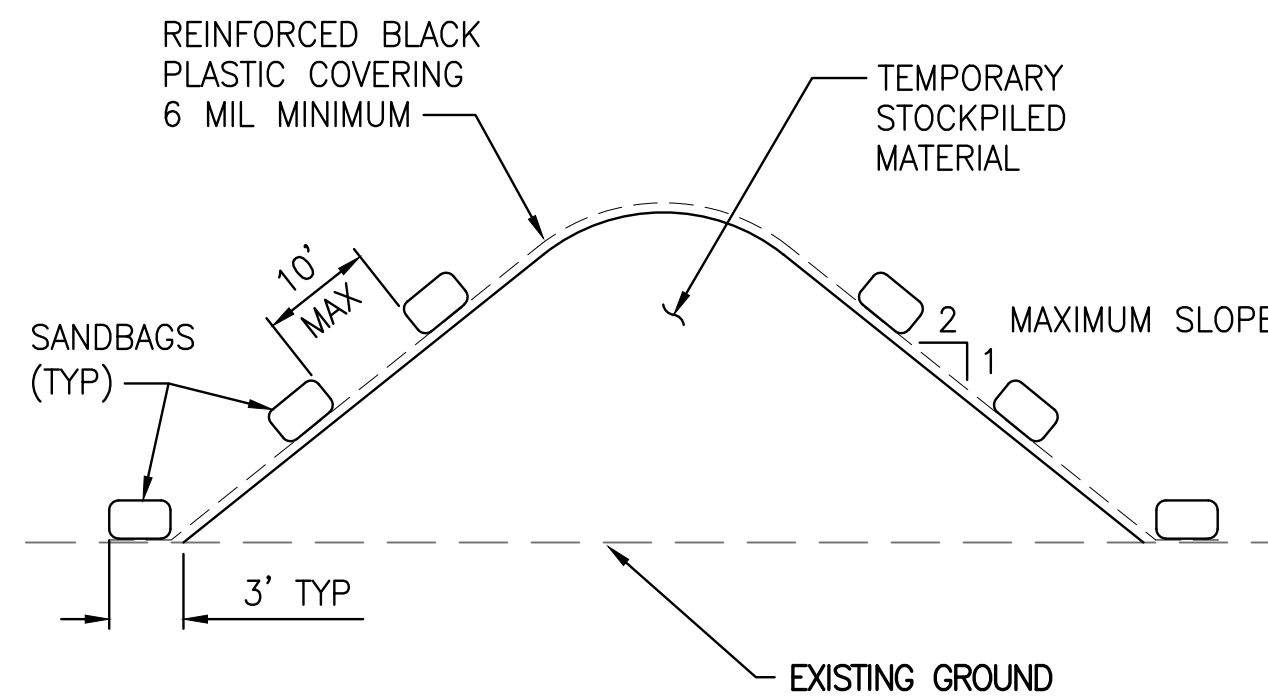
BID DOCUMENTS

SEDIMENT AND EROSION CONTROL NOTES

1. THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
2. BEST MANAGEMENT PRACTICES IN ADDITION TO THE ONES SHOWN ON THE PLAN SHEETS MUST BE PROVIDED IN ORDER TO PREVENT SILT FROM LEAVING THE PROJECT SITE DUE TO UNSEEN CONDITIONS AND ACCIDENTS.
3. CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
4. NECESSARY REPAIRS TO BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.
5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE, AFTER THE FILTER BARRIERS, AND OR SILT FENCES ARE NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
6. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR SHOULD BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
7. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
8. THE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND SWALES AS WELL AS PROVIDE MEASURES TO PREVENT SILTATION OF STORMWATER TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL UTILIZE WHATEVER MEANS NECESSARY TO MANAGE STORMWATER SUCH THAT IMPACT TO CONSTRUCTION IS MINIMIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING PROVIDING EQUIPMENT, LABOR, FILL, ETC. NECESSARY TO REMEDIATE AND/OR RESTORE ALL AREAS IMPACTED BY EROSION, RUNOFF, AND STORMWATER.
9. FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL" AVAILABLE AT [HTTP://WWW.FDOT.GOV/ROADWAY/DRAINAGE/FILES/EROSION-SEDIMENT-CONTROL.PDF](http://www.fdot.gov/roadway/drainage/files/erosion-sediment-control.pdf) AND "FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL" AVAILABLE AT [HTTPS://WWW.DEP.STATE.FL.US/WATER/NONPOINT/DOCS/EROSION/EROSION-INSPECTORS-MANUAL.PDF](https://www.dep.state.fl.us/water/nonpoint/docs/erosion/erosion-inspectors-manual.pdf).
10. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL DOWNSTREAM AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAILS (THIS SHEET) FOR TYPICAL CONSTRUCTION.
11. SOD SHALL BE PLACED IN AREAS WHICH REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITIES ARE MAINTAINED.
12. ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE OUTFALL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS TO THE RECEIVING OUTFALLS.
13. ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
14. THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
15. THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRES, RELATIVE TO COMPLIANCE OF NWFMD AND FDEP FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
16. THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS AND SPECIFICATIONS AND THE NWFMD AND FDEP RULES AND REGULATIONS.
17. EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL WETLAND AREAS AND PRESERVATION EASEMENTS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION.
18. THESE PLANS INCLUDING THE POLLUTION PREVENTION PLAN INDICATE THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES REQUIRED FOR THIS PROJECT. CONTRACTOR AS REQUIRED TO INSURE CONFORMANCE TO STATE AND FEDERAL WATER QUALITY STANDARDS AND MAY NEED TO INSTALL ADDITIONAL CONTROLS TO CONFORM TO AGENCIES REQUIREMENTS. IF A WATER QUALITY VIOLATION OCCURS, THE CONTRACTOR SHALL BE WHOLLY RESPONSIBLE FOR ALL DAMAGE AND ALL COSTS WHICH MAY RESULT INCLUDING LEGAL FEES, CONSULTANT FEES, CONSTRUCTION COSTS, AND FINES.



STABILIZED CONSTRUCTION ENTRANCE
NTS



- NOTES:**
1. ALL SEAMS SHALL BE TAPED OR WEIGHTED DOWN FULL LENGTH. ALL SEAMS SHALL HAVE A MINIMUM 12" OVERLAP.
 2. SEAMS PARALLEL TO THE SLOPE CONTOUR SHALL HAVE THE UPHILL SHEET OVERLAP THE DOWN HILL SHEET.
 3. NO SURFACE RUN-OFF SHALL BE ALLOWED TO RUN UNDER THE PLASTIC COVERING.
 4. DRAINAGE FROM AREAS COVER BY REINFORCED PLASTIC SHEETING SHALL BE CONTROLLED SUCH THAT NO DISCHARGE OCCURS DIRECTLY ONTO UNCONTROLLED DISTURBED AREAS OF THE CONSTRUCTION SITE.

TEMPORARY STOCKPILE COVERING
NTS

STORMWATER POLLUTION PREVENTION PLAN

INSPECTIONS MUST OCCUR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER

INSPECTOR: _____ FDEP NPDES STORMWATER IDENTIFICATION NUMBER: _____

LOCATION	RAIN DATA	TYPE OF CONTROL (SEE BELOW)	DATE INSTALLED / MODIFIED	CURRENT CONDITION (SEE BELOW)	CORRECTIVE ACTION / OTHER REMARKS

CONDITION CODE:
G = GOOD M = MARGINAL, NEEDS MAINTENANCE OR REPLACEMENT SOON P = POOR, NEEDS IMMEDIATE MAINTENANCE OR REPLACEMENT
C = NEEDS TO BE CLEARED O = OTHER

CONTROL TYPE CODES			
1. SILT FENCE	10. STORM DRAIN INLET PROTECTION	19. REINFORCED SOIL RETAINING SYSTEM	28. TREE PROTECTION
2. EARTH DIKES	11. VEGETATIVE BUFFER STRIP	20. GABION	29. DETENTION POND
3. STRUCTURAL DIVISION	12. VEGETATIVE PRESERVATION AREA	21. SEDIMENT BASIN	30. RETENTION POND
4. SWALE	13. RETENTION POND	22. TEMPORARY SEED / SOD	31. WASTE DISPOSAL / HOUSEKEEPING
5. SEDIMENT TRAP	14. CONSTRUCTION ENTRANCE STABILIZATION	23. PERMANENT SEED / SOD	32. DAM
6. CHECK DAM	15. PERIMETER DITCH	24. MULCH	33. SAND BAG
8. PIPE SLOPE DRAIN	16. CURB AND GUTTER	25. HAY BALES	34. OTHER
9. LEVEL SPREADERS	17. PAVED ROAD SURFACE	26. GEOTEXTILE	
	18. ROCK OUTLET PROTECTION	27. RIP-RAP	

INSPECTOR INFORMATION:

NAME: _____ QUALIFICATION _____ DATE _____

THE ABOVE SIGNATURE ALSO SHALL CERTIFY THAT THIS FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES IF THERE ARE NOT ANY INCIDENTS OF NON-COMPLIANCE IDENTIFIED ABOVE.

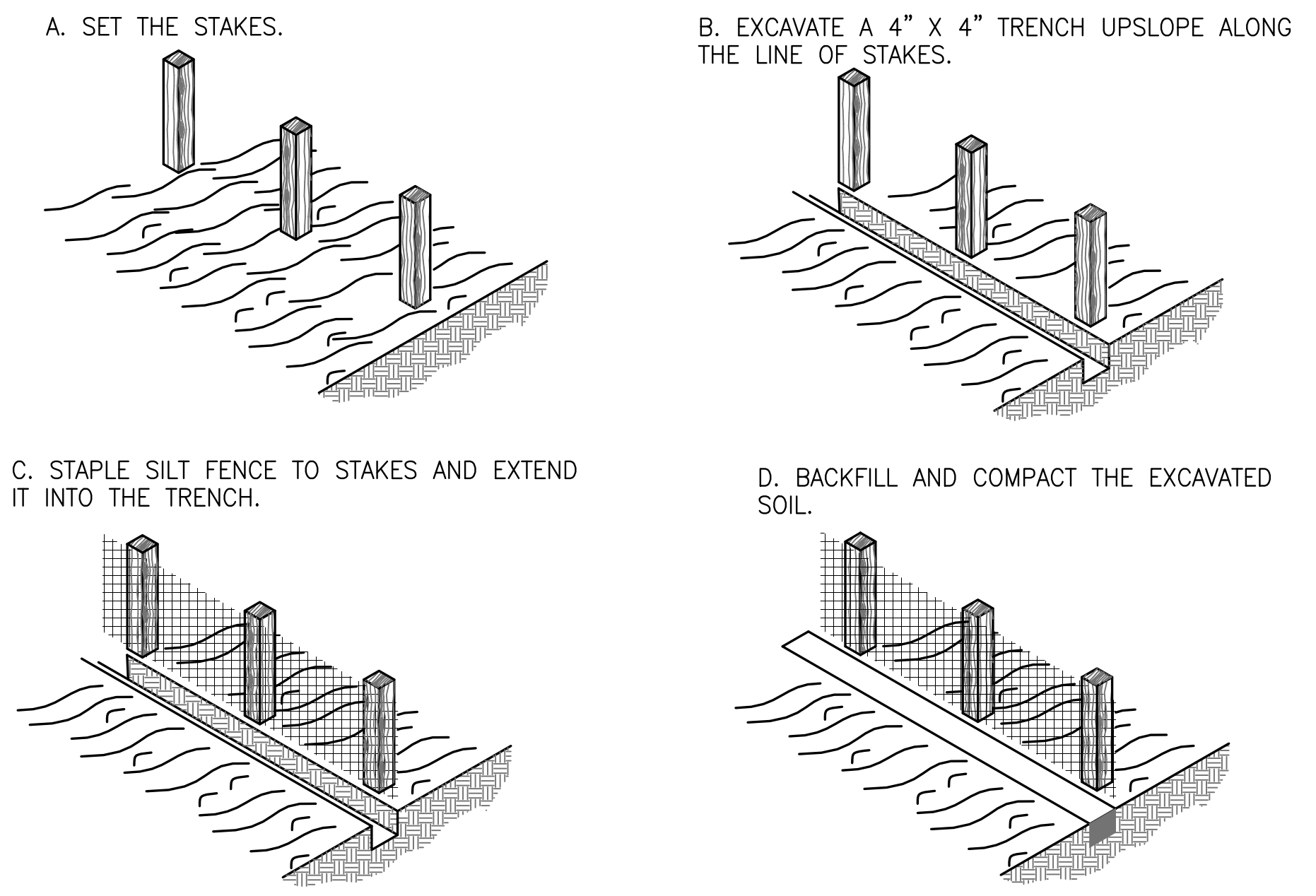
I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

NAME (RESPONSIBLE AUTHORITY) _____ DATE _____

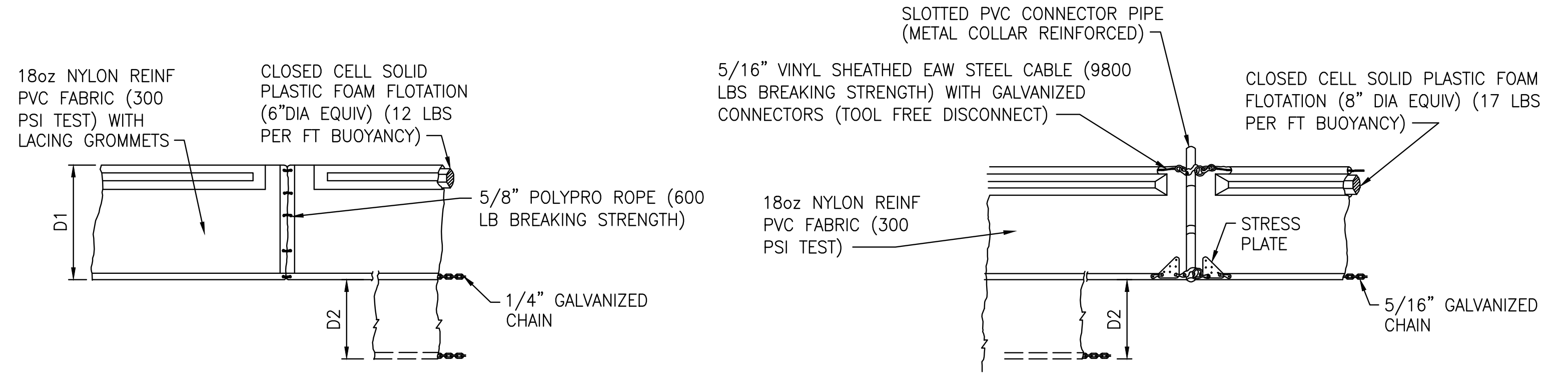
SAVED: 6/2/2020 9:35 AM L HABERMAN Y:\19750-SURWMD\PROJECTS\066-01-CRANE CREEK M-1-CRANE CREEK M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\ENV\19750-066-01-EC1-3.DWG

BID DOCUMENTS

DESIGNED <u>A GOODDEN</u>	JonesEdmunds <small>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</small>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	EROSION CONTROL DETAILS	CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
DRAWN <u>D HAUBRICH</u>				APPROVED BY _____	INDEX NO:	DWG NO: EC1-3
CHECKED <u>R KOLLER</u>				A. GOODDEN	P.E. # 60097	
LTR.	DATE	REVISIONS	BY	APPRD.		

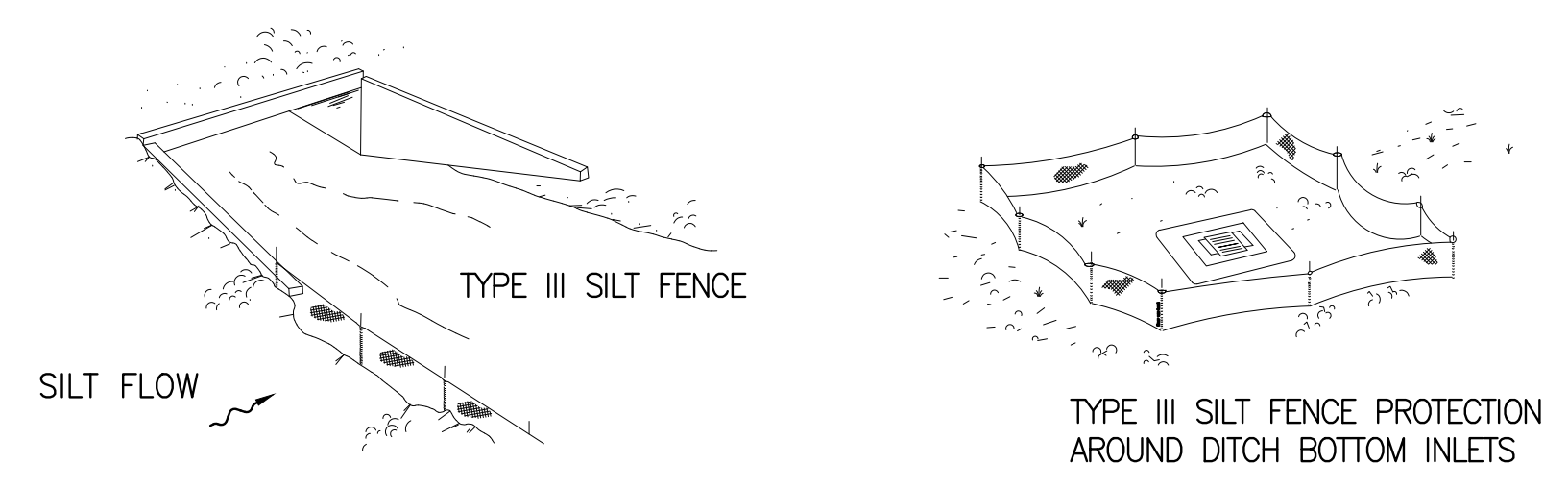
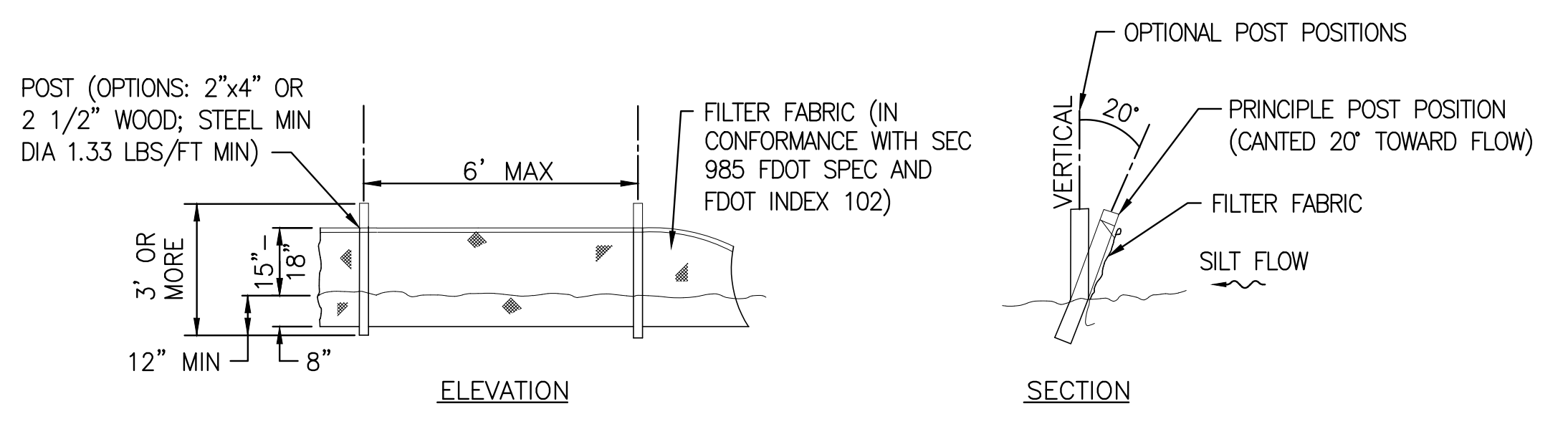


CONSTRUCTION OF A SILT FENCE DETAIL 1
 NTS



TYPE 1 D1 = 5' STD (SINGLE PANEL FOR DEPTHS 5' OR LESS)
 D2 = 5' STD (ADDITIONAL PANEL FOR DEPTHS 5')
TYPE 2
 CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALL FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.
 NOTICE: COMPONENTS OF TYPES 1 AND 2 MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES 1 AND 2 SHALL BE AS APPROVED BY THE ENGINEER.

TYPICAL FLOATING TURBIDITY BARRIER DETAIL



TYPE III SILT FENCE
 NOTES:
 A. DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
 B. WHEN JOINING BUTT ENDS OF SILT FENCE FABRIC; JOIN FABRIC ENDS, WRAP AROUND A POST 360-DEGREES, AND SET POST.

FDOT INDEX NUMBER 102 SILT FENCE DETAIL 3
 NTS

Y:\19750-SURV\PROJECTS\066-01_CRANE_CREEK_M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\ENV\19750-066-01-EC1-4.DWG
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BID DOCUMENTS

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

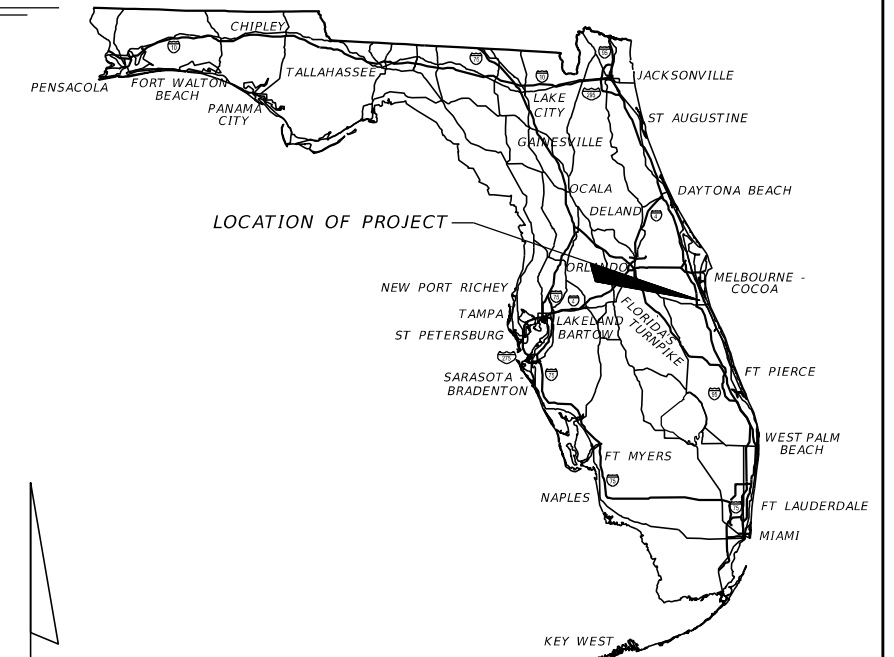
EROSION CONTROL DETAILS

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY A. GOODDEN P.E. # 60097	PROJECT NO: 19750-066-01	DATE: AUG 2020
	INDEX NO:	DWG NO: EC1-4

SAINT JOHNS RIVER WATER MANAGEMENT DISTRICT

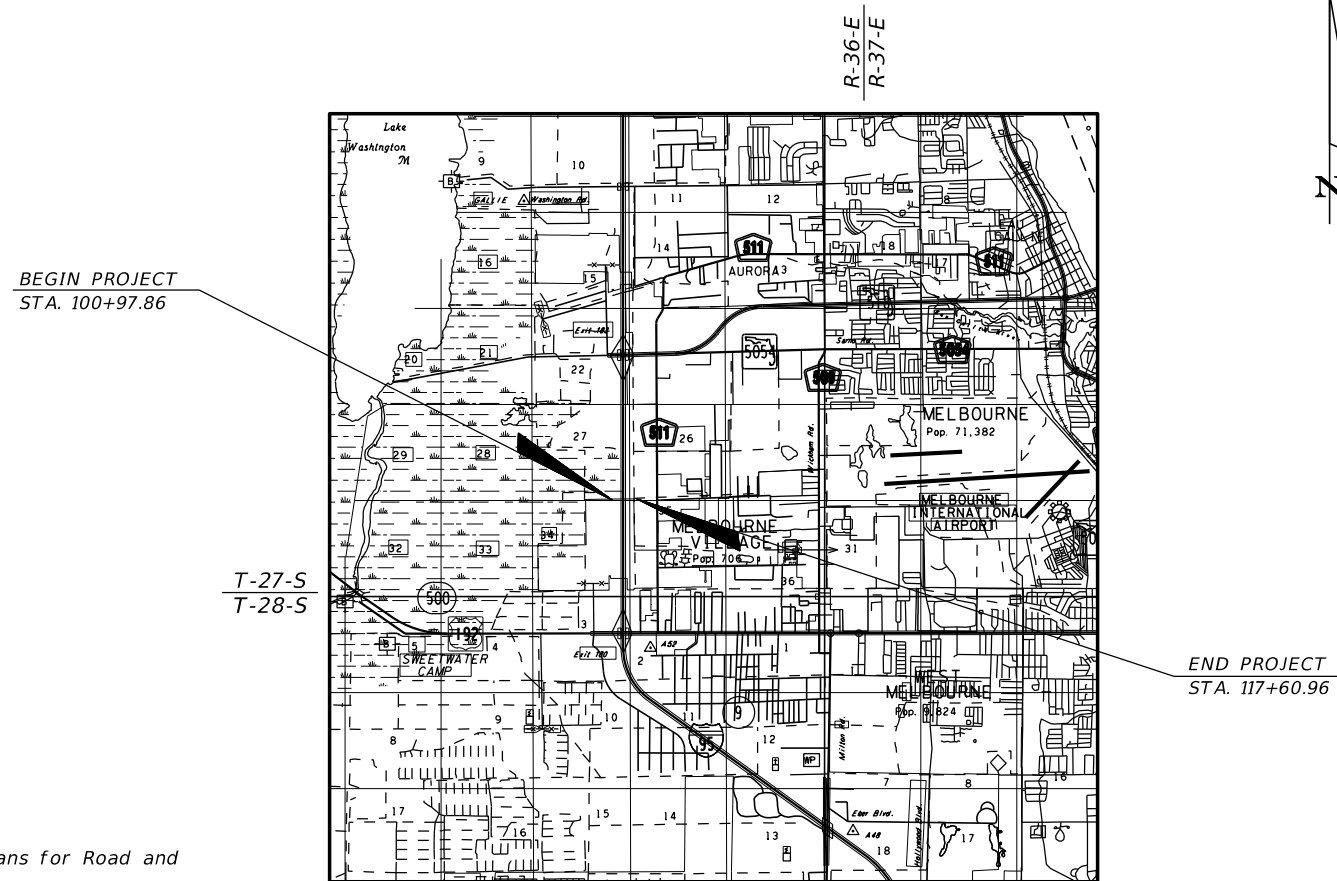
UTILITY PLANS

CRANE CREEK M-1 CANAL
FLOW RESTORATION



INDEX OF UTILITY PLANS

SHEET NO.	SHEET DESCRIPTION
C2-1	KEY SHEET
C2-2	GENERAL NOTES
C2-3 - C2-6	UTILITY PLAN
C2-7 - C2-10	UTILITY PROFILE
C2-11	SUMMARY OF VERIFIED UTILITIES



UTILITY PLANS

ENGINEER OF RECORD:
CLINTON C. SMITH, P.E. NO. 67711
HANSON PROFESSIONAL SERVICES INC.
8075 GATE PARKWAY WEST, SUITE 204
JACKSONVILLE, FL 32216-3685
(904) 737-0090

GOVERNING STANDARD PLANS:

Florida Department of Transportation, FY2019-20 Standard Plans for Road and Bridge Construction and applicable Interim Revisions (IRs).

Standard Plans for Road Construction and associated IRs are available at the following website: <http://www.fdot.gov/design/standardplans>

APPLICABLE IRs:

Standard Plans for Bridge Construction are included in the Structures Plans Component

GOVERNING STANDARD SPECIFICATIONS:

Florida Department of Transportation, July 2020 Standard Specifications for Road and Bridge Construction at the following website: <http://www.fdot.gov/programmanagement/Implemented/SpecBooks>

July 2017 FDOT Utility Accommodation Manual

BID DOCUMENTS

SHEET NO.

C2-1

NOTICE: THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

GENERAL NOTES

1. BENCHMARK ELEVATIONS SHOWN ON THE PLANS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS (INCLUDING THOSE DESIGNATED Vv, Vh, AND Vvh) ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATE ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.
3. UTILITY/AGENCY OWNERS:

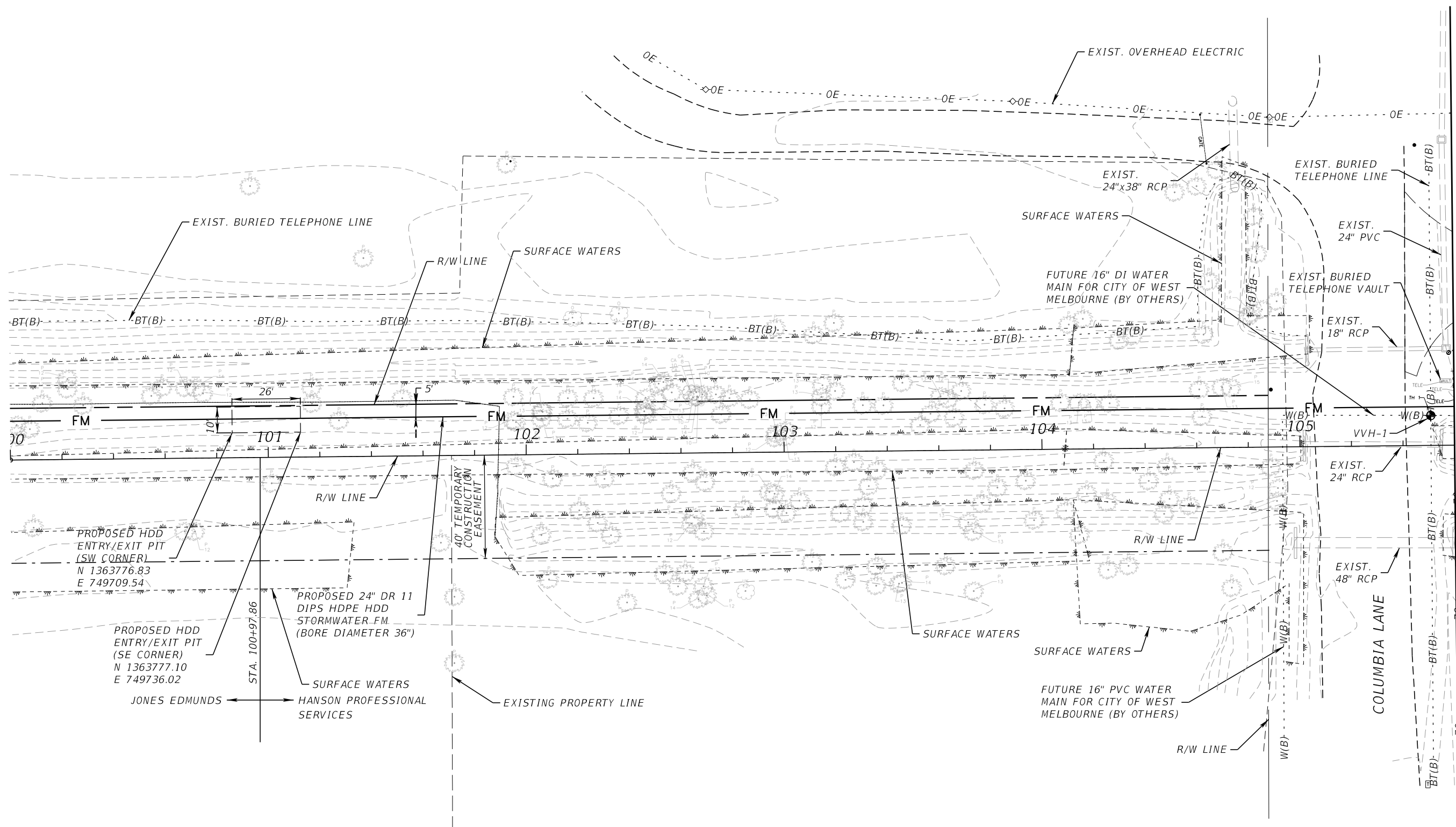
<u>COMPANY</u>	<u>TELEPHONE NUMBER</u>
BREVARD COUNTY PUBLIC WORKS - TRAFFIC SIGNALS & FIBER	(321) 633-2077
FLORIDA CITY GAS - GAS	(321) 638-3424
FLA GAS TRANS. - MELBOURNE - GAS PIPELINE	(407) 838-7171
FLORIDA POWER & LIGHT - BREVARD - ELECTRIC	(386) 586-6403
LEVEL 3 COMMUNICATIONS - FIBER OPTIC	(877) 366-8344 x2
CITY OF MELBOURNE UTILITIES ADMINISTRATION - WATER DISTRIBUTION	(321) 608-5106
CITY OF MELBOURNE UTILITIES ADMINISTRATION - WASTEWATER RE-USE	(321) 608-5106
CITY OF MELBOURNE UTILITIES ADMINISTRATION - SEWAGE COLLECTION	(321) 608-5106
CENTURYLINK (FORMERLY QWEST COMMUNICATIONS) - FIBER OPTIC	(303) 992-9931
AT&T DISTRIBUTION - TELEPHONE	(561) 997-0240
UNITI FIBER LLC - FIBER OPTIC	(251) 259-0807
BRIGHT HOUSE NETWORKS, LLC BREVARD - FIBER OPTIC	(321) 757-6451
CITY OF WEST MELBOURNE - WATER	(321) 837-7771
CITY OF WEST MELBOURNE - SEWER	(321) 984-0485
CROWN CASTLE FIBER	(786) 610-7059

4. SPECIAL EVENT DAYS FOR THIS PROJECT INCLUDE: TBD
5. NO ACCESS WILL BE ALLOWED (PARKING, ETC.) IN LAROW.
6. ITS LINES IN AREA - MUST CONTACT D5 DISTRICT TRAFFIC OPERATIONS - JIM MILLER AT 386-943-5322 FOR ITS INFORMATION. CONTRACTOR IS RESPONSIBLE TO NOTIFY FDOT IMMEDIATELY IF ITS IS COMPROMISED.

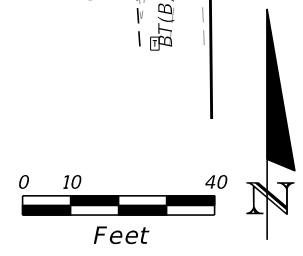
ENVIRONMENTAL RESOURCE REQUIREMENTS

1. THE USE OF DRILLING FLUIDS SHALL NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF STATE GROUND WATER QUALITY CRITERIA OR STANDARDS, AS DEFINED IN CHAPTER 62-520, F.A.C.
2. AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF ANY DIRECTIONAL DRILLING ACTIVITIES, CONTRACTOR SHALL PROVIDE ALL-HOURS TELEPHONE CONTACT INFORMATION OF ALL CONTRACTORS RESPONSIBLE FOR DRILLING AND FOR CONTAINMENT AND CLEANUP IN THE EVENT OF A DRILLING FLUID FRAC-OUT OR SPILL.
3. THE CONTRACTOR SHALL AT ALL TIMES DURING DIRECTIONAL DRILLING ACTIVITIES, MAINTAIN APPROPRIATE EQUIPMENT AND MATERIALS IN A READILY-ACCESSIBLE LOCATION AND CONDITION, TO EFFECTIVELY CONTAIN AND CLEAN UP A DRILLING FLUID FRAC-OUT OR SPILL.
4. THE CONTRACTOR SHALL AT ALL TIMES DURING DIRECTIONAL DRILLING ACTIVITIES, ENSURE THAT APPROPRIATELY-TRAINED PERSONNEL MONITOR DOWNHOLE EQUIPMENT POSITION, DRILLING FLUID CIRCULATION AND PRESSURES, AND ACTIVELY MONITOR THE ENTIRE UTILITY LINE ROUTE FOR SURFACE FRAC-OUT OF DRILLING FLUIDS.
5. ALL DRILLING ACTIVITIES SHALL BE DISCONTINUED AND THE DRILLING FLUID OR SLURRY SHALL BE CONTAINED USING APPROPRIATE METHODS AS SOON AS POSSIBLE. IN THE EVENT OF A DRILLING FLUID FRAC-OUT OR SPILL, REMOVAL OF DRILLING FLUID OR SLURRY FROM WETLANDS AND OTHER SURFACE WATERS SHALL BE INITIATED AND COMPLETED IN THE MOST EXPEDITIOUS MANNER PRACTICAL. REMOVED DRILLING FLUID SHALL BE CONTAINED OR DISPOSED OF IN AN APPROPRIATE UPLAND LOCATION. ANY FRAC-OUT OR SPILL OF DRILLING FLUID INTO WETLANDS OR OTHER SURFACE WATERS SHALL BE REPORTED TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION WITHIN 24 HOURS FOLLOWING DETECTION OF THE SPILL OR FRAC-OUT.
6. CONTRACTOR SHALL STABILIZE AND REPLANT ALL DISTURBED / CLEARED PORTIONS OF THE TEMPORARY CONSTRUCTION EASEMENT AREA. REPLANT AT 8-FOOT ON CENTER WITH 15-GALLON WAX MYRTLE (MYRICA CERIFERA), OR OWNER APPROVED EQUIVALENT, WITH MINIMUM PLANT HEIGHT OF 10-FEET AT THE TIME OF PLANTING.

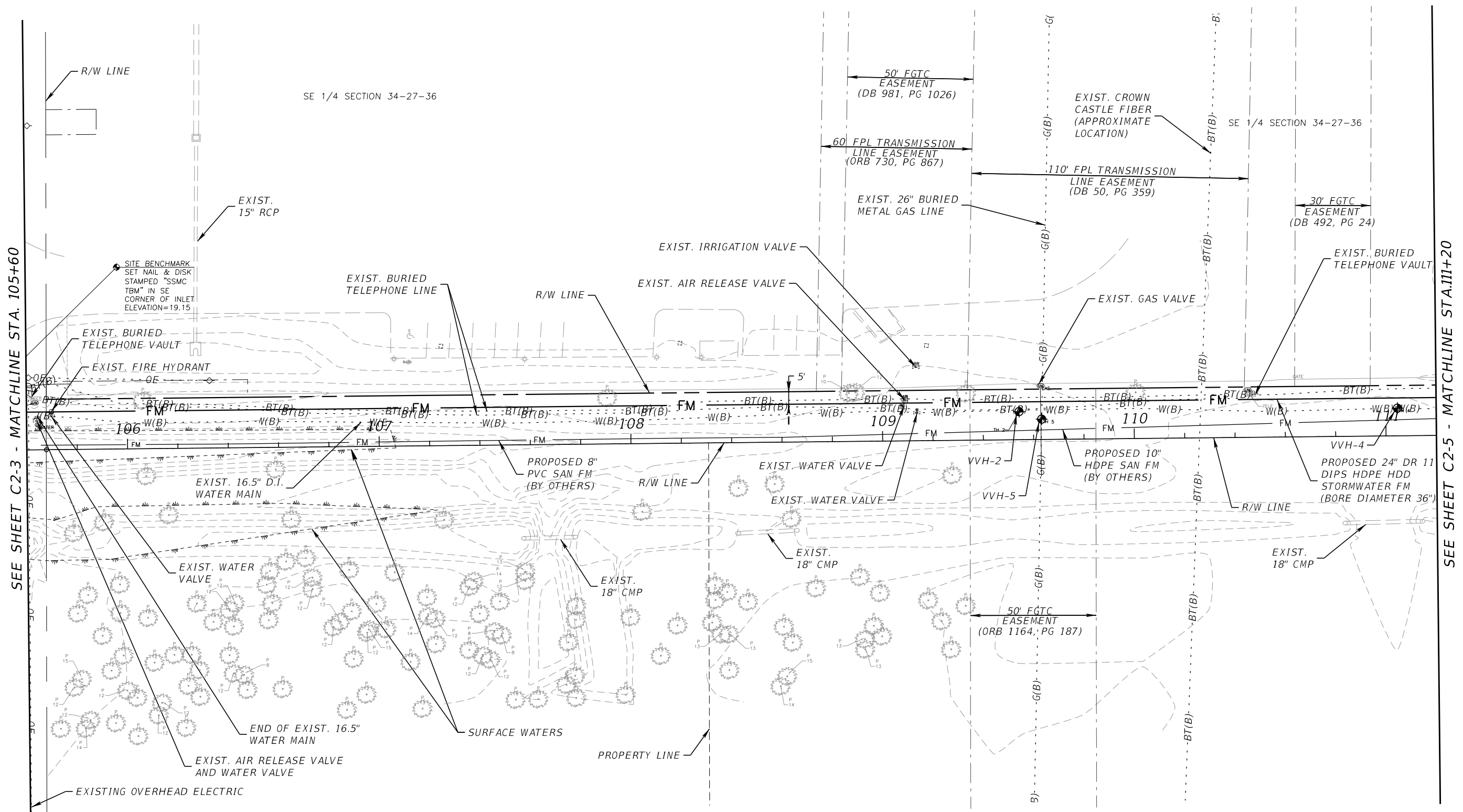
REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		GENERAL NOTES	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		BREVARD			C2-2



SEE SHEET C2-4 - MATCHLINE STA. 105+60

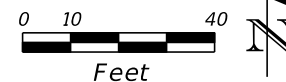


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DATE	DESCRIPTION	DATE	DESCRIPTION		BREVARD			



SEE SHEET C2-3 - MATCHLINE STA. 105+60

SEE SHEET C2-5 - MATCHLINE STA. 111+20



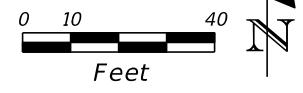
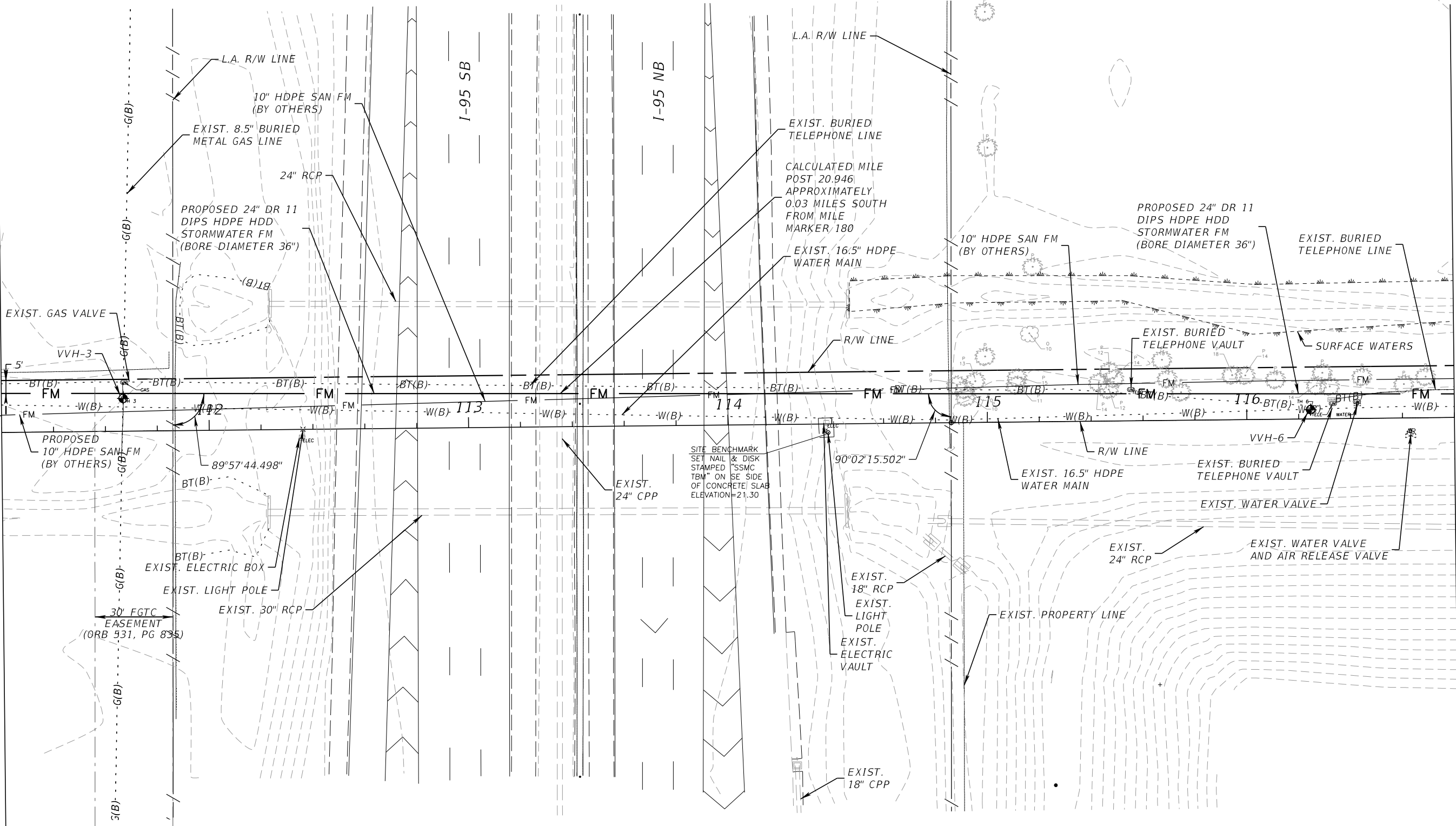
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DATE	DESCRIPTION	DATE	DESCRIPTION			

UTILITY PLAN

300' FDOT RIGHT-OF-WAY

SEE SHEET C2-4 - MATCHLINE STA. 111+20

SEE SHEET C2-6 - MATCHLINE STA. 116+80



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

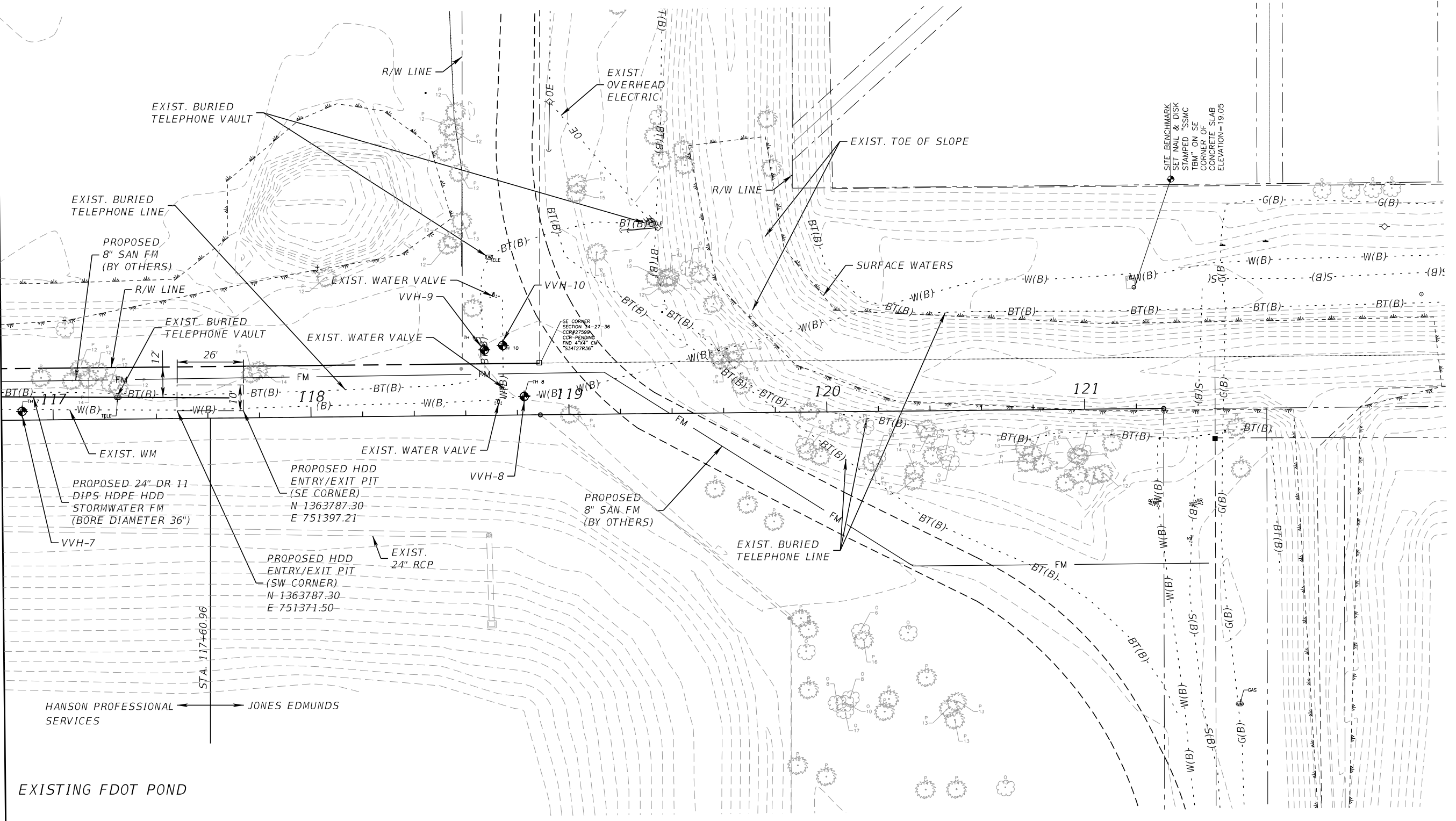
CLINTON C. SMITH, P.E.
 P.E. LICENSE NUMBER 67711
 HANSON PROFESSIONAL SERVICES INC.
 8075 GATE PARKWAY WEST, SUITE 204
 JACKSONVILLE, FL 32216-3685
 CERTIFICATE OF AUTHORIZATION 00007961

	COUNTY	
	BREVARD	

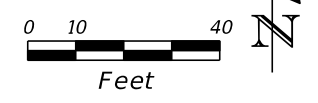
UTILITY PLAN

SHEET NO.
 C2-5

SEE SHEET C2-5 - MATCHLINE STA. 116+80



HANSON PROFESSIONAL SERVICES JONES EDMUNDS SERVICES



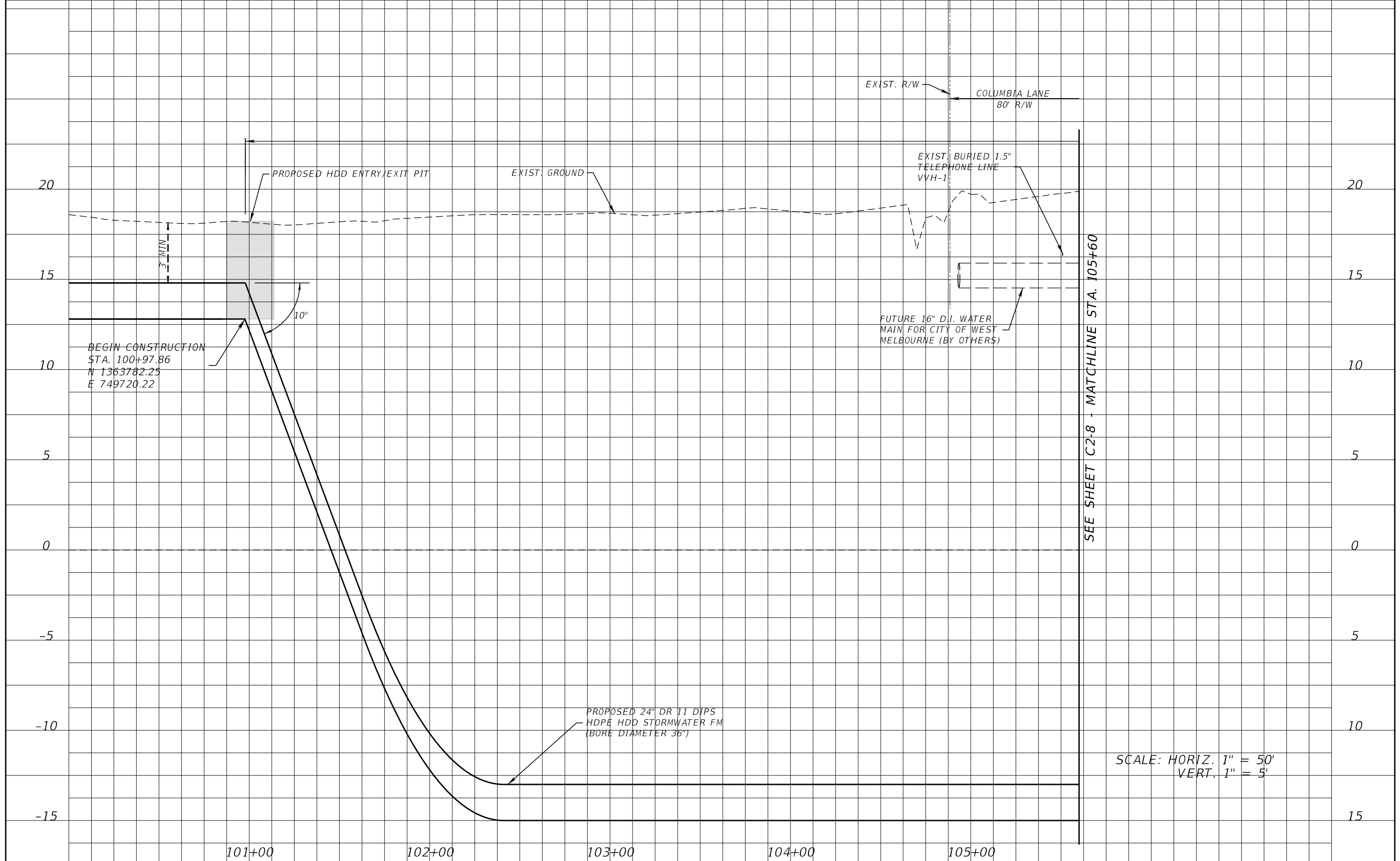
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DATE	DESCRIPTION	DATE	DESCRIPTION

CLINTON C. SMITH, P.E.
P.E. LICENSE NUMBER 67711
HANSON PROFESSIONAL SERVICES INC.
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	BREVARD	

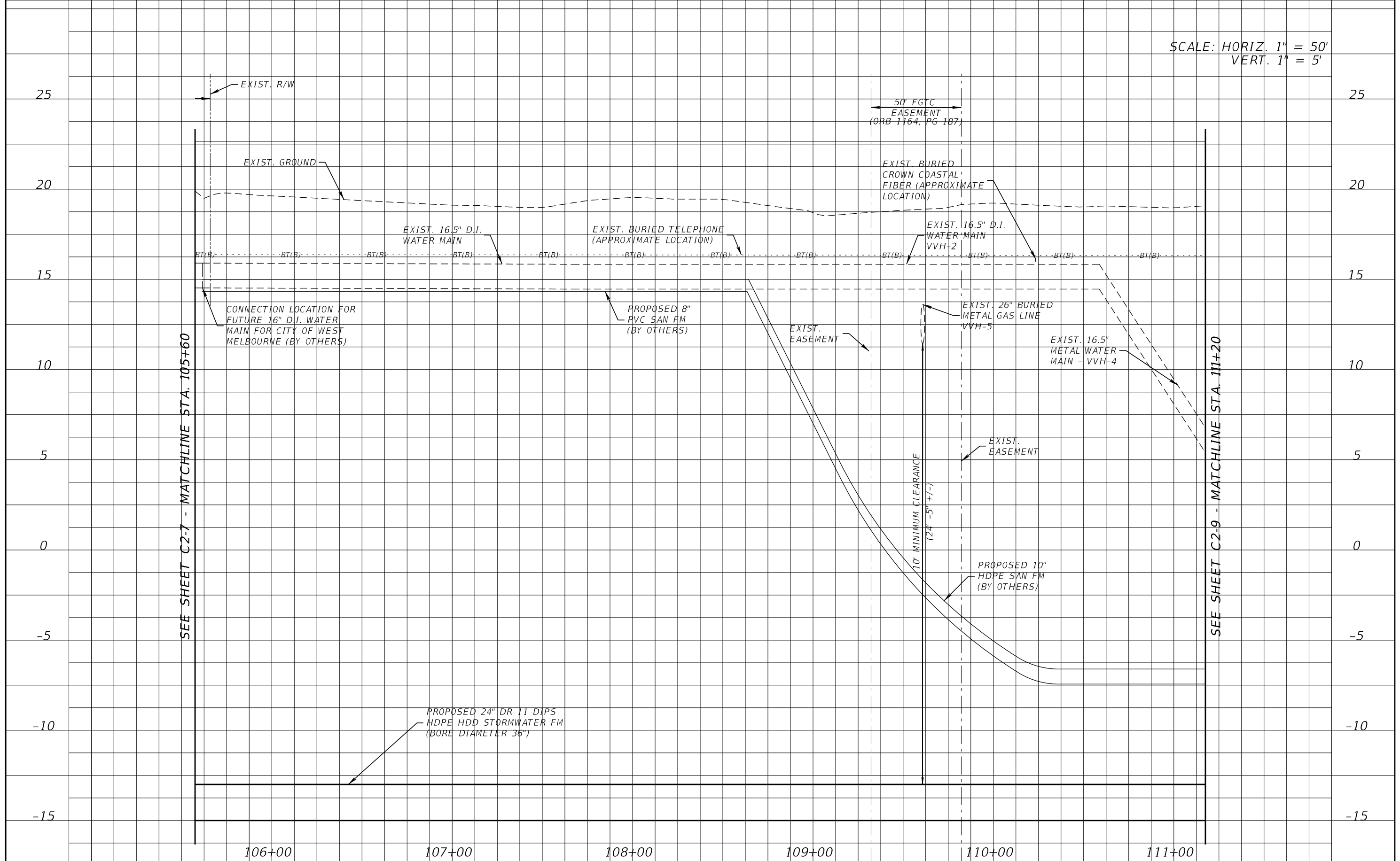
UTILITY PLAN

SHEET NO.
C2-6



REVISIONS		DESCRIPTION		CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY BREVARD	SHEET NO. C2-7
DATE	DESCRIPTION	DATE	DESCRIPTION			

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



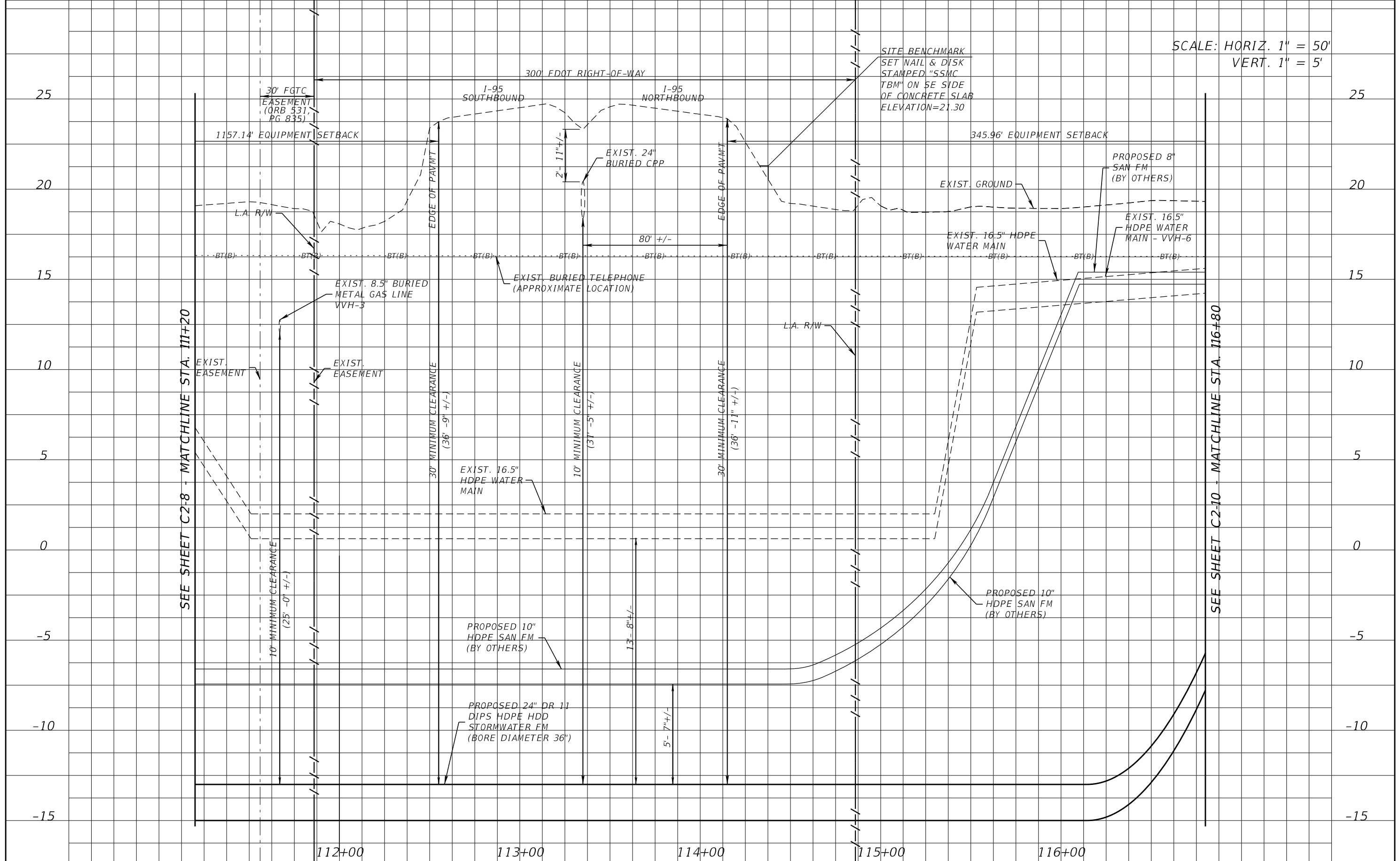
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

CLINTON C. SMITH, P.E.
P.E. LICENSE NUMBER 67711
HANSON PROFESSIONAL SERVICES INC.
8075 GATE PARKWAY WEST, SUITE 204
JACKSONVILLE, FL 32216-3685
CERTIFICATE OF AUTHORIZATION 00007961

	COUNTY	
	BREVARD	

UTILITY PROFILES		SHEET NO.
		C2-8

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



SEE SHEET C2-8 - MATCHLINE STA. 113+20

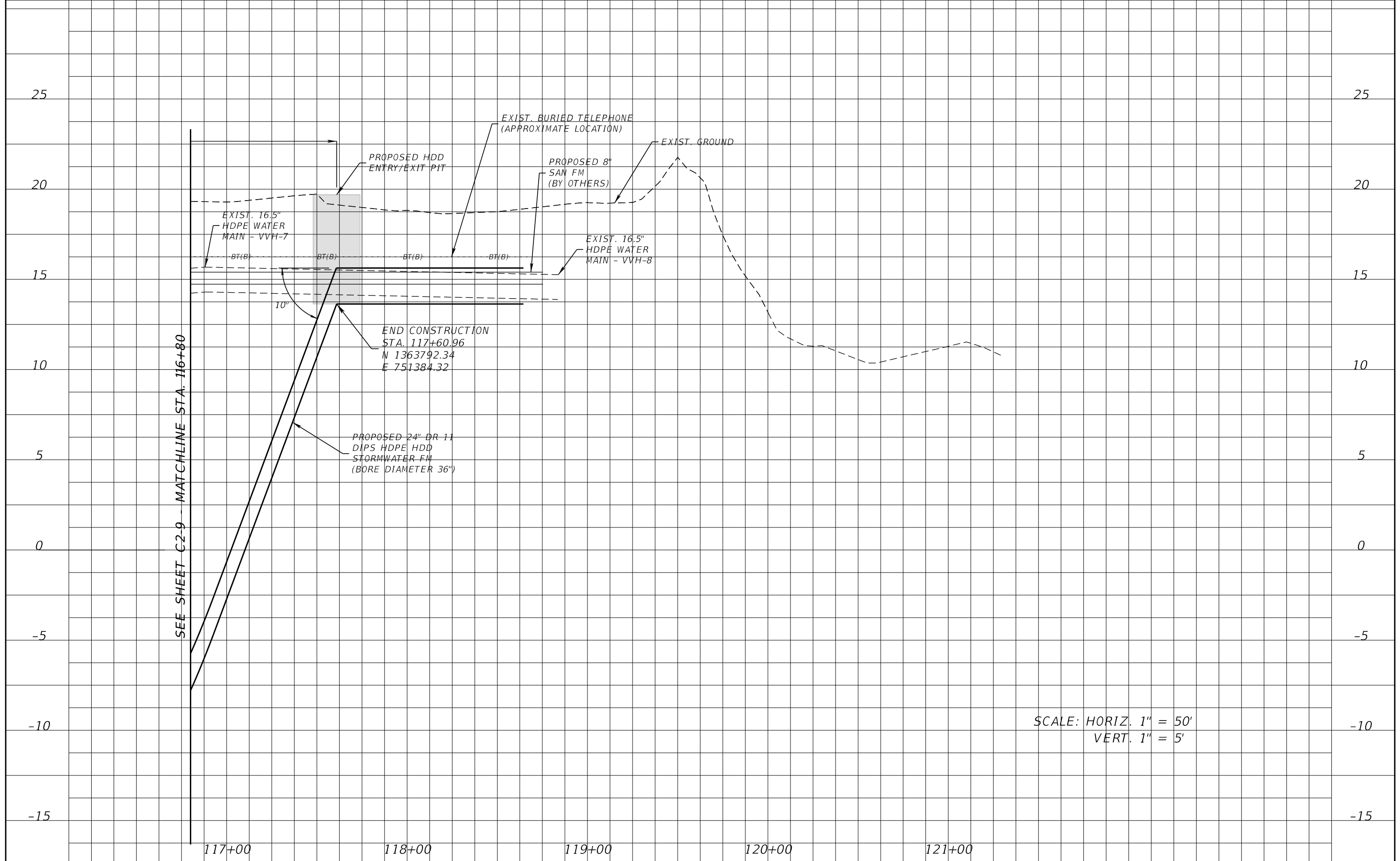
SEE SHEET C2-10 - MATCHLINE STA. 116+80

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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HANSON PROFESSIONAL SERVICES INC.
8075 GATE PARKWAY WEST, SUITE 204
JACKSONVILLE, FL 32216-3685
CERTIFICATE OF AUTHORIZATION 00007961

	COUNTY	
	BREVARD	

UTILITY PROFILES		SHEET NO.
		C2-9



SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'

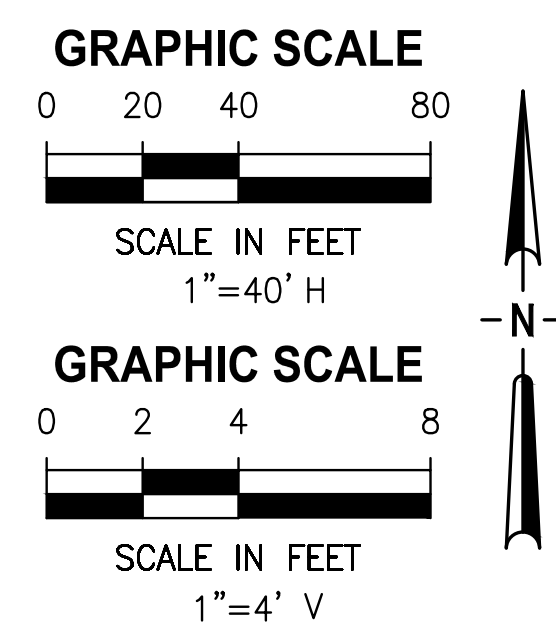
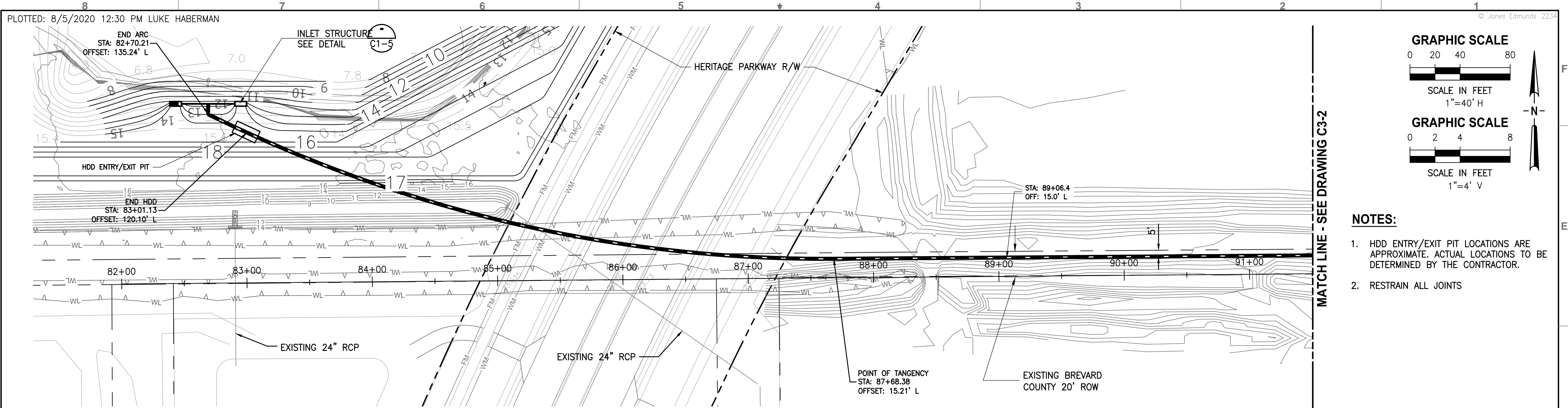
REVISIONS				CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961	COUNTY		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		BREVARD		
							UTILTY PROFILES
							C2-10

SUMMARY OF VERIFIED UTILITIES

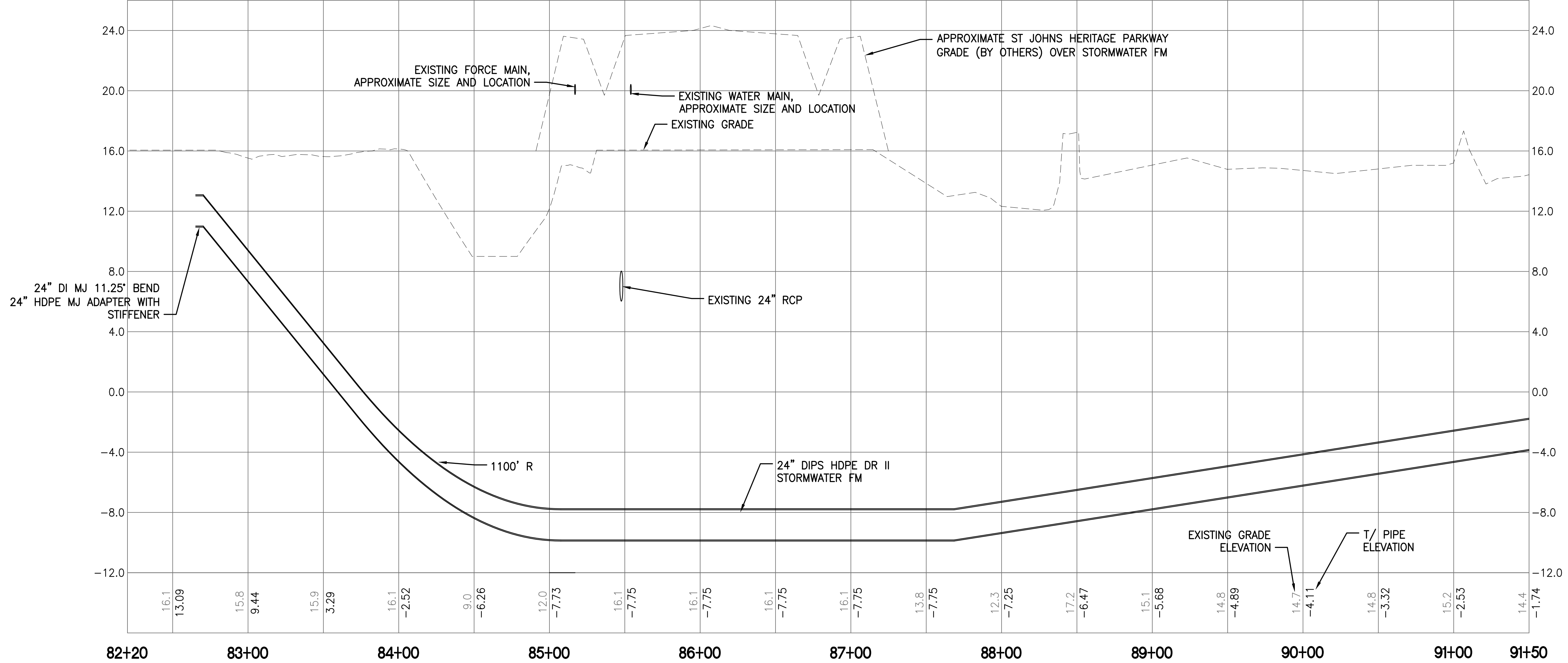
Vvh #	UTILITY DESCRIPTION (Owner, Type)	SIZE	MATERIALS	B and/or C			EXISTING GROUND ELEVATION	TOP ELEVATION	COMMENTS
				STATION	OFFSET	LT/RT			
VVH-1	BT, AT&T	1.5"	DBC	105+50.90	11.57	LT	19.69	16.44	
VVH-2	WM, BREVARD COUNTY	16.5"	DIP	109+54.36	11.15	LT	18.82	15.82	
VVH-3	GM, ENERGY TRANSFER	8.5"	MET	111+66.92	12.62	LT	19.01	12.76	
VVH-4	WM, BREVARD COUNTY	16.5"	MET	111+04.71	10.96	LT	18.88	9.13	
VVH-5	GM, ENERGY TRANSFER	26"	MET	109+63.32	8.05	LT	18.86	13.61	
VVH-6	WM, BREVARD COUNTY	16.5"	HDPE	116+24.59	3.59	LT	18.38	14.88	
VVH-7	WM, BREVARD COUNTY	16.5"	HDPE	116+88.03	3.35	LT	18.78	15.68	
VVH-8	WM, BREVARD COUNTY	16.5"	HDPE	118+83.85	7.13	LT	19.01	15.26	
VVH-9	BT, AT&T	1"	DBC	118+67.49	25.38	LT	19.00	16.25	
VVH-10	WM, BREVARD COUNTY	16.5"	HDPE	118+74.66	27.03	LT	19.02	14.87	

<p align="center">REVISIONS</p> <table border="1"> <thead> <tr> <th>DATE</th> <th>DESCRIPTION</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				DATE	DESCRIPTION	DATE	DESCRIPTION					<p>CLINTON C. SMITH, P.E. P.E. LICENSE NUMBER 67711 HANSON PROFESSIONAL SERVICES INC. 8075 GATE PARKWAY WEST, SUITE 204 JACKSONVILLE, FL 32216-3685 CERTIFICATE OF AUTHORIZATION 00007961</p>		<p align="center">COUNTY BREVARD</p>		<p align="center">SUMMARY OF VERIFIED UTILITIES</p>		<p align="center">SHEET NO. C2-11</p>
DATE	DESCRIPTION	DATE	DESCRIPTION															

PLOTTED: 8/5/2020 12:30 PM LUKE HABERMAN
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- NOTES:**
- HDD ENTRY/EXIT PIT LOCATIONS ARE APPROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED BY THE CONTRACTOR.
 - RESTRAIN ALL JOINTS



DESIGNED	D. YOUNG			
DRAWN	D. HAUBRICH			
CHECKED	R. KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

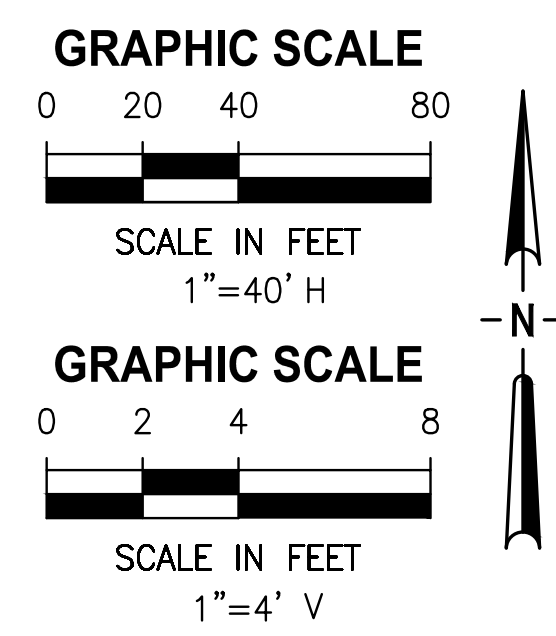
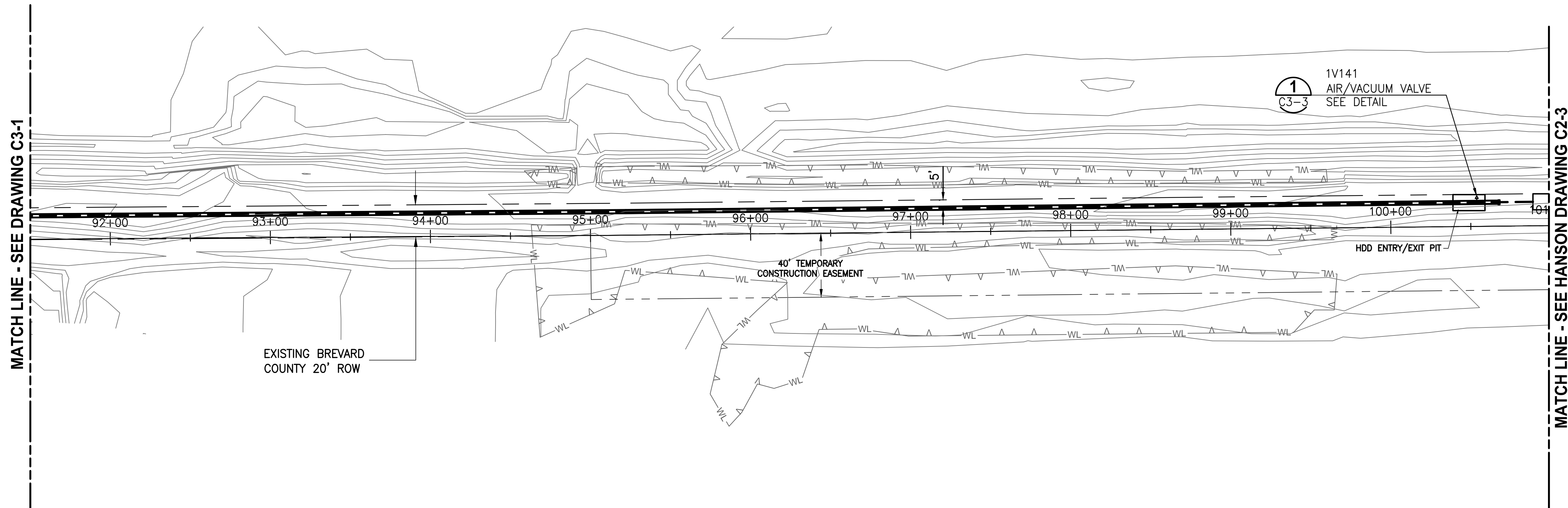
JonesEdmunds
CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

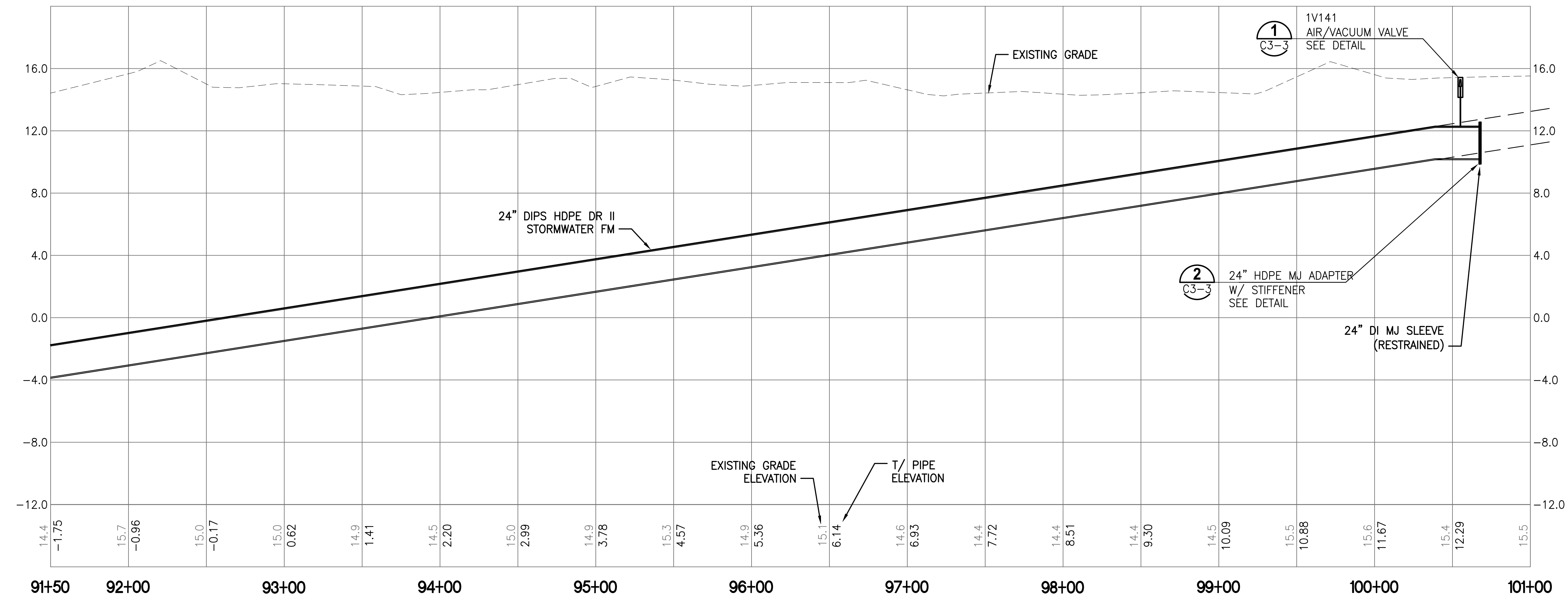
**STORMWATER FORCE MAIN
 PLAN & PROFILE**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY D. YOUNG P.E. # 44204	INDEX NO:	DWG NO: C3-1

BID DOCUMENTS



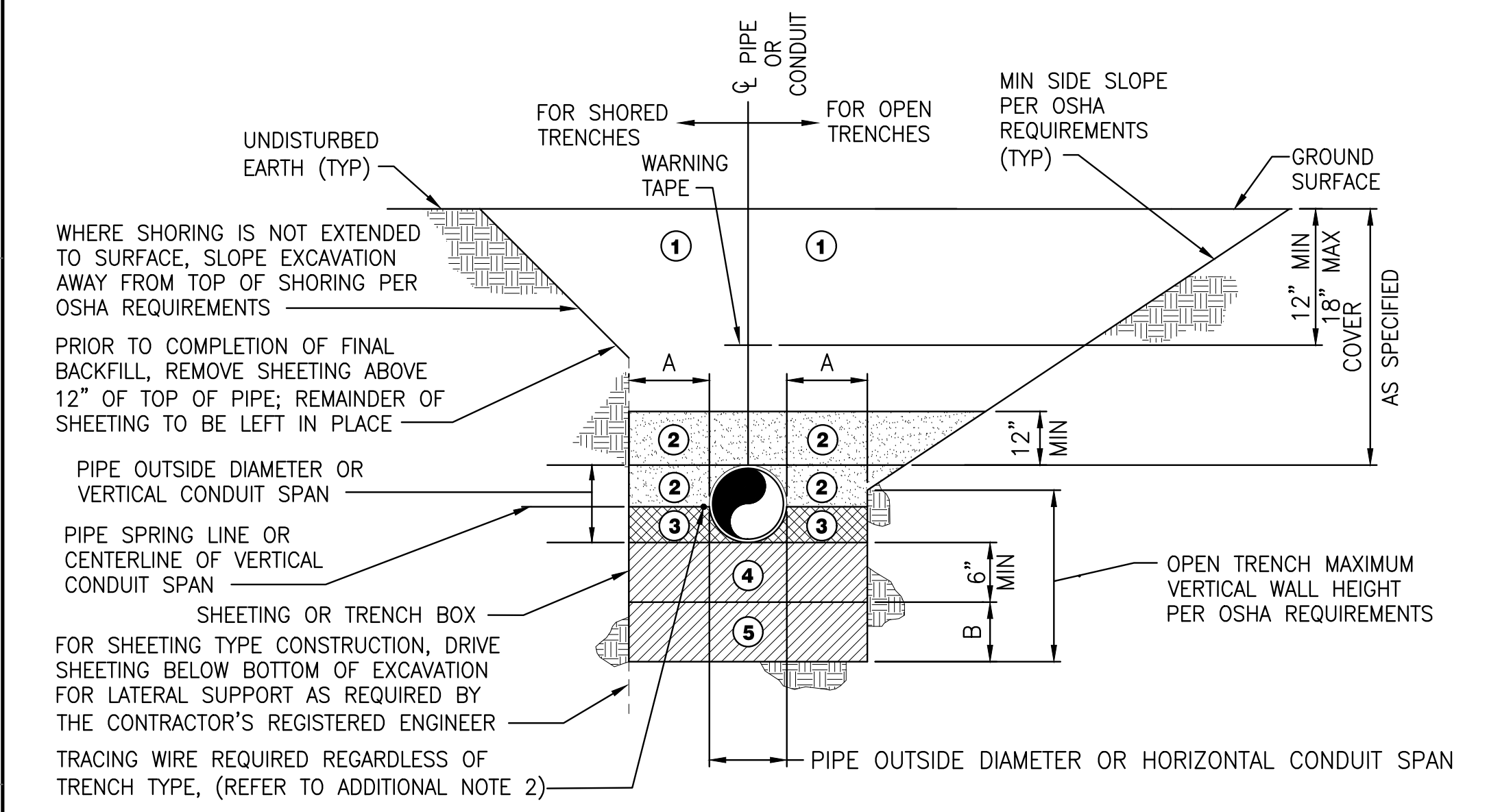
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 2. RESTRAIN ALL JOINTS



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BID DOCUMENTS

DESIGNED	D. YOUNG	 CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT		STORMWATER FORCE MAIN PLAN & PROFILE			CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY	PROJECT NO: 19750-066-01	DATE: AUG 2020
DRAWN	D. HAUBRICH		D. YOUNG P.E. # 44204			INDEX NO: C3-2				
CHECKED	R. KOLLER									
LTR.	DATE	REVISIONS	BY	APPRD.						



NOMINAL PIPE DIAMETER OR HORIZONTAL CONDUIT SPAN (INCHES)	ADDITIONAL EXCAVATION DEPTH (1)	
	A (INCHES)	B (INCHES)
LESS THAN 24	12	12
24 AND GREATER	18	18

ZONE NO.	ZONE NAME	MATERIAL	COMPACTION
①	FINAL BACKFILL	AS SPECIFIED	AT LEAST 95% MODIFIED PROCTOR MAXIMUM DRY DENSITY ASTM D-1557 (98% WHEN UNDER PAVEMENT)
②	INITIAL BACKFILL		
③	HAUNCHING		
④	BEDDING		
⑤	FOUNDATION		

(1) REQUIRED WHERE UNSUITABLE MATERIAL IS ENCOUNTERED.

TRENCH ZONE NOTES:

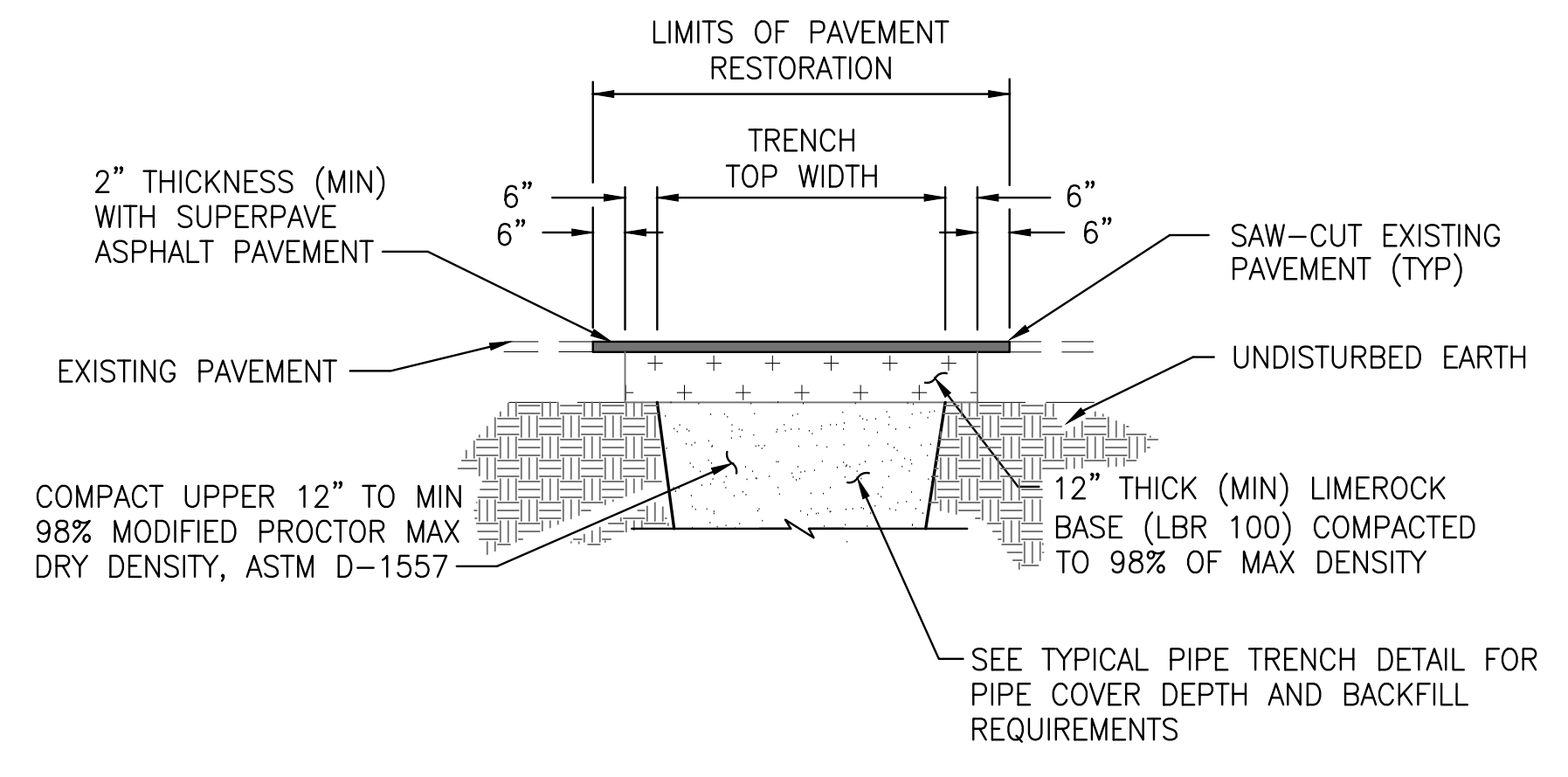
- FINAL BACKFILL SHALL BE INSTALLED IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT. REFER TO ADDITIONAL NOTE 3.
 - INITIAL BACKFILL SHALL BE INSTALLED IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT. ALL LIFTS SHALL BE COMPACTED BY HAND TAMPING OR AN APPROVED METHOD OF MECHANICAL TAMPING. REFER TO ADDITIONAL NOTE 3.
 - HAUNCHING SHALL BE IN COMPLETELY DEWATERED TRENCHES IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT. ALL LIFTS SHALL BE COMPACTED BY HAND TAMPING. HAUNCHING SHALL BE BROUGHT UP EQUALLY ON BOTH SIDES OF THE PIPE.
 - BEDDING SHALL BE INSTALLED IN COMPLETELY DEWATERED TRENCHES IN LIFTS NOT EXCEEDING 6 INCHES, LOOSE MEASUREMENT, AND SHALL BE COMPACTED BY HAND OR MECHANICAL TAMPING. PROPERLY SHAPED BELL HOLES SHALL BE EXCAVATED IN THE BEDDING TO PERMIT ASSEMBLY OF THE PIPE. REFER TO ADDITIONAL NOTE 3.
- NATIVE, UNDISTURBED MATERIAL IN COMPLETELY DEWATERED TRENCHES MEETING THE COMPACTION AND MATERIAL REQUIREMENTS FOR COMPACTED BEDDING MATERIAL NEED NOT BE REPLACED OR REWORKED, EXCEPT FOR SHAPING OF THE BELL HOLES, AND WHERE REFILL IS REQUIRED.
- FOUNDATION SHALL BE REQUIRED WHERE UNSUITABLE MATERIAL IS ENCOUNTERED. FOUNDATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS FOR BEDDING. REFER TO ADDITIONAL NOTE 3.

ADDITIONAL NOTES:

- FOR TRENCHES IN VEHICULAR TRAFFIC AREAS OR BENEATH SURFACE IMPROVEMENTS (EG, SLABS, ASPHALT, ETC.) SEE CONTRACT SPECIFICATIONS FOR ADDITIONAL COMPACTION REQUIREMENTS. SEE DRAWINGS FOR SURFACE IMPROVEMENT AND /OR RESTORATION DETAILS WHERE APPLICABLE.
- TRACING WIRE SHALL BE INSTALLED ON THE SIDE OF THE PIPE AND ATTACHED TO THE PIPE EVERY 10' W/ A NYLON WIRE TIE. IF THE WIRE IS DAMAGED OR NEEDS TO BE EXTENDED A 3M WATERPROOF TYPE UF SPLICE SHALL BE INSTALLED TO REPAIR THE WIRE. THE ENDS OF THE TRACING WIRE SHALL BE BROUGHT UP IN EVERY VALVE BOX ON THE LINE AND AT THE HYDRANT VALVES. THERE SHALL BE A MINIMUM COIL OF 3' LEFT UNDER THE VALVE BOX COVER. THE WIRE SHALL BE TESTED TO VERIFY CONDUCTIVITY.
- ALTERNATIVE LIFT THICKNESSES, NOT EXCEEDING 12 INCHES LOOSE MEASUREMENT, ARE ACCEPTABLE IN TRENCH ZONES 1, 2, 4, AND 5 PROVIDED 1) THE LIFT THICKNESS DOES NOT EXCEED THE MAXIMUM VALUE RECOMMENDED IN WRITING BY THE APPLICABLE PIPE MANUFACTURER AND 2) FIELD TEST RESULTS CONFIRM THAT THE SPECIFIED COMPACTION REQUIREMENTS ARE BEING MET.

TYPICAL UTILITY TRENCH DETAIL

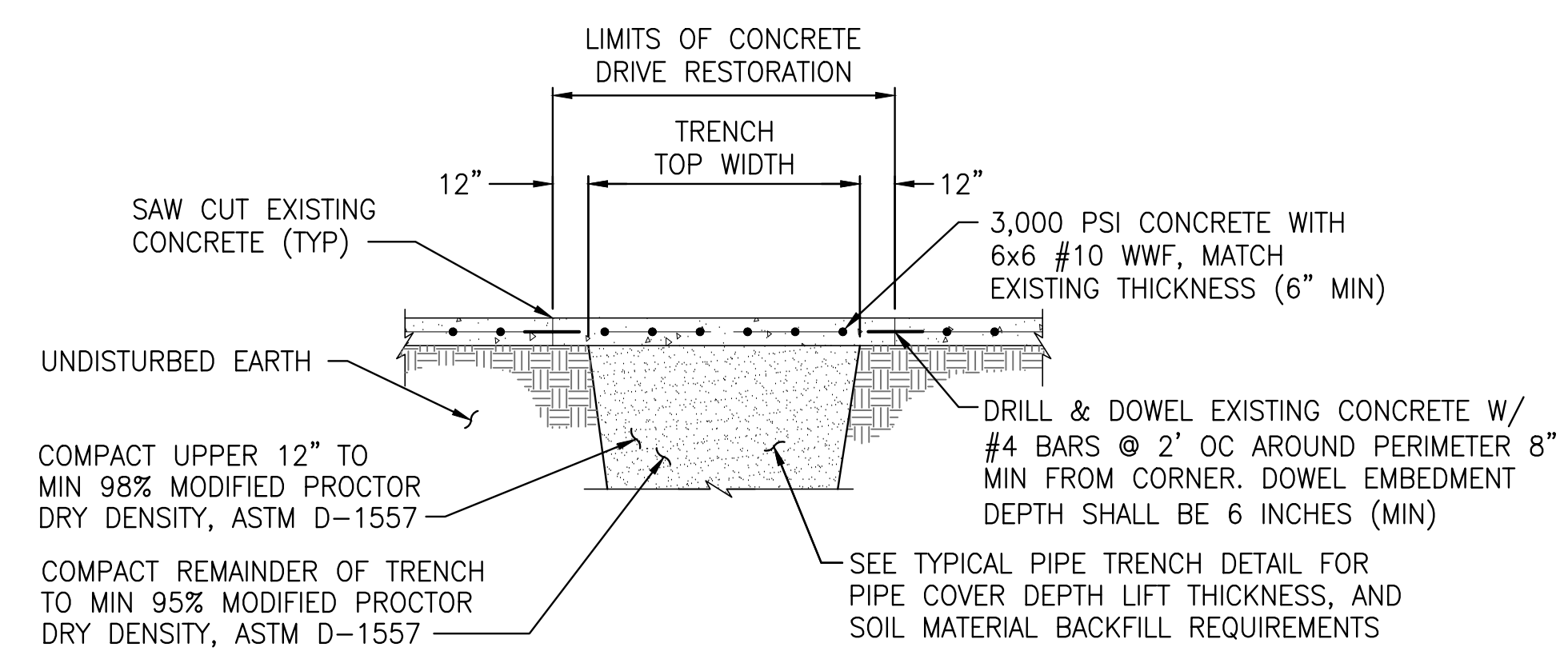
NTS



NOTE:
 ASPHALT PAVEMENT RESTORATION DETAIL APPLIES TO COUNTY ROADS, DRIVEWAYS, PRIVATE ROADS, DRIVES, MISCELLANEOUS PATCHES, AND SIMILAR RESTORATION.

TYPICAL ASPHALT PAVEMENT RESTORATION DETAIL

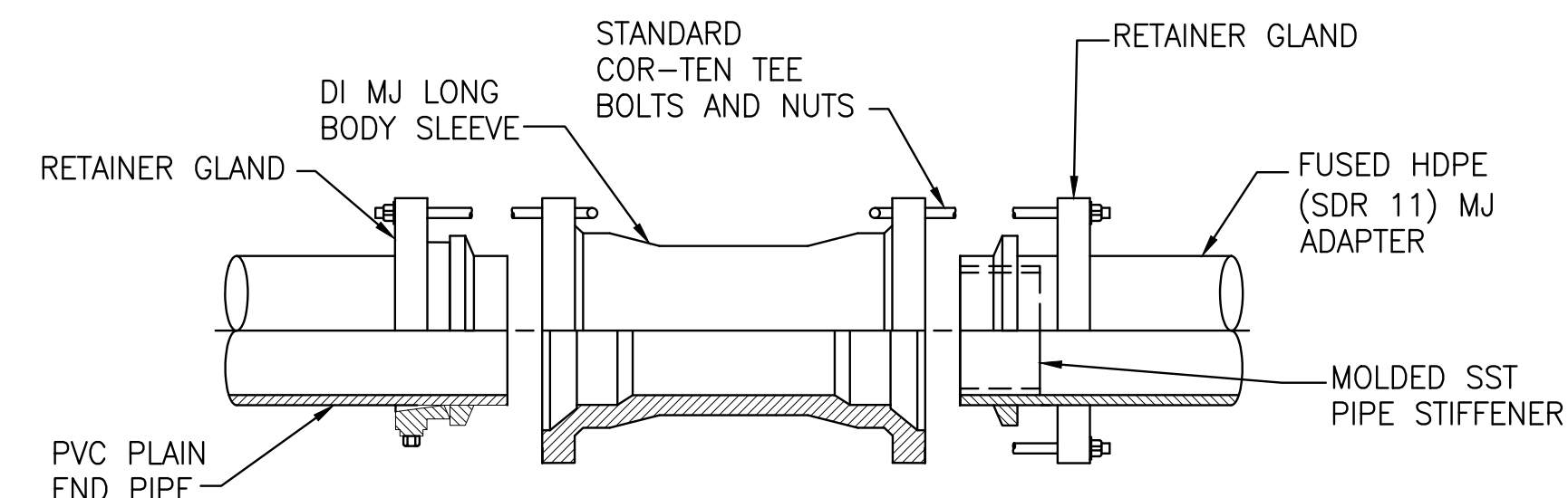
NTS



- NOTES:**
- DRILL AND DOWEL 1 LOCATION EACH SIDE FOR CURB REPAIR.
 - MATCH EXISTING GRADE AND FINISH.

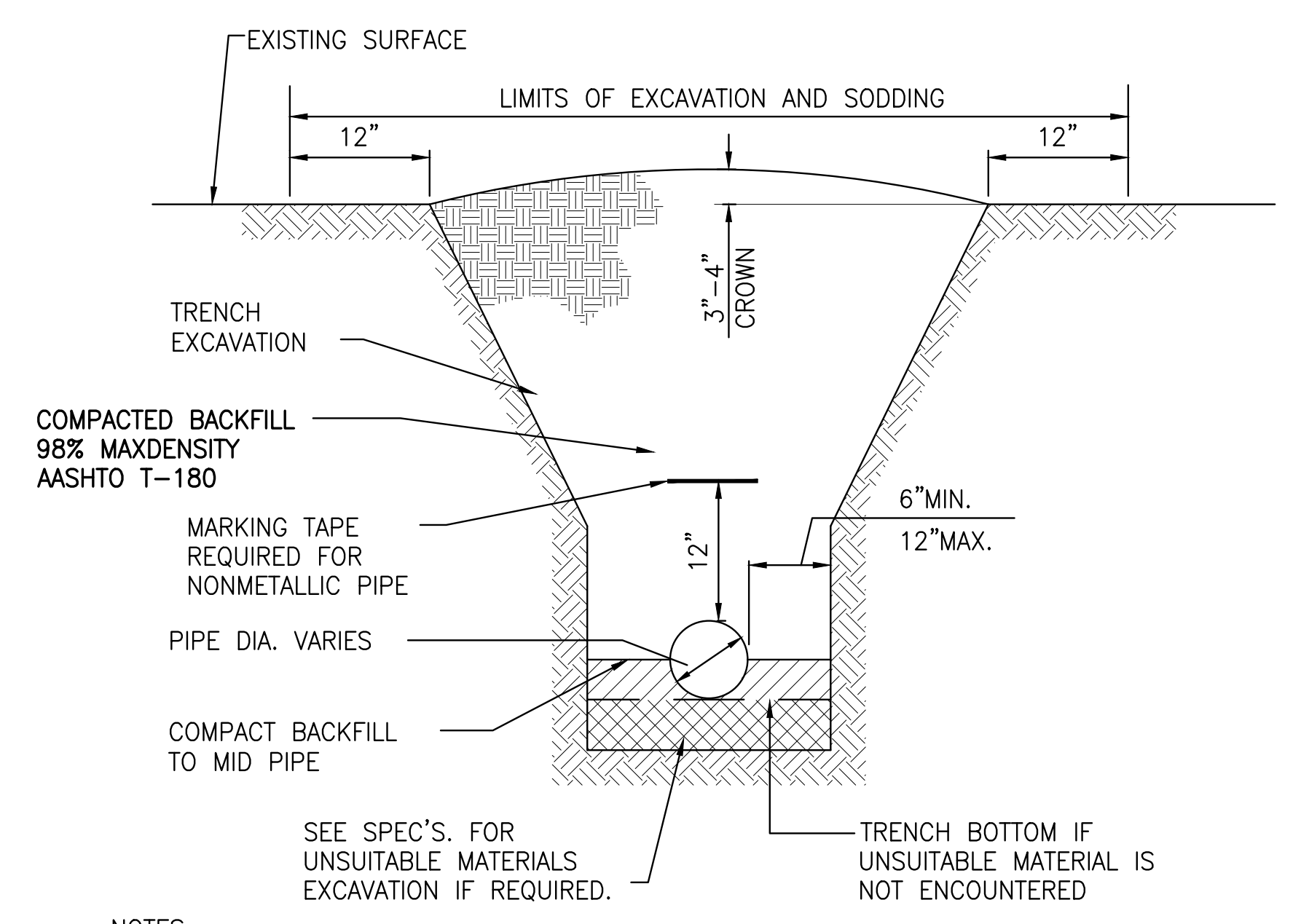
TYPICAL CONCRETE DRIVEWAY RESTORATION DETAIL

NTS



HDPE MJ ADAPTER W/ STIFFENER PIPE MATERIAL TRANSITION FITTING DETAIL 2

NTS

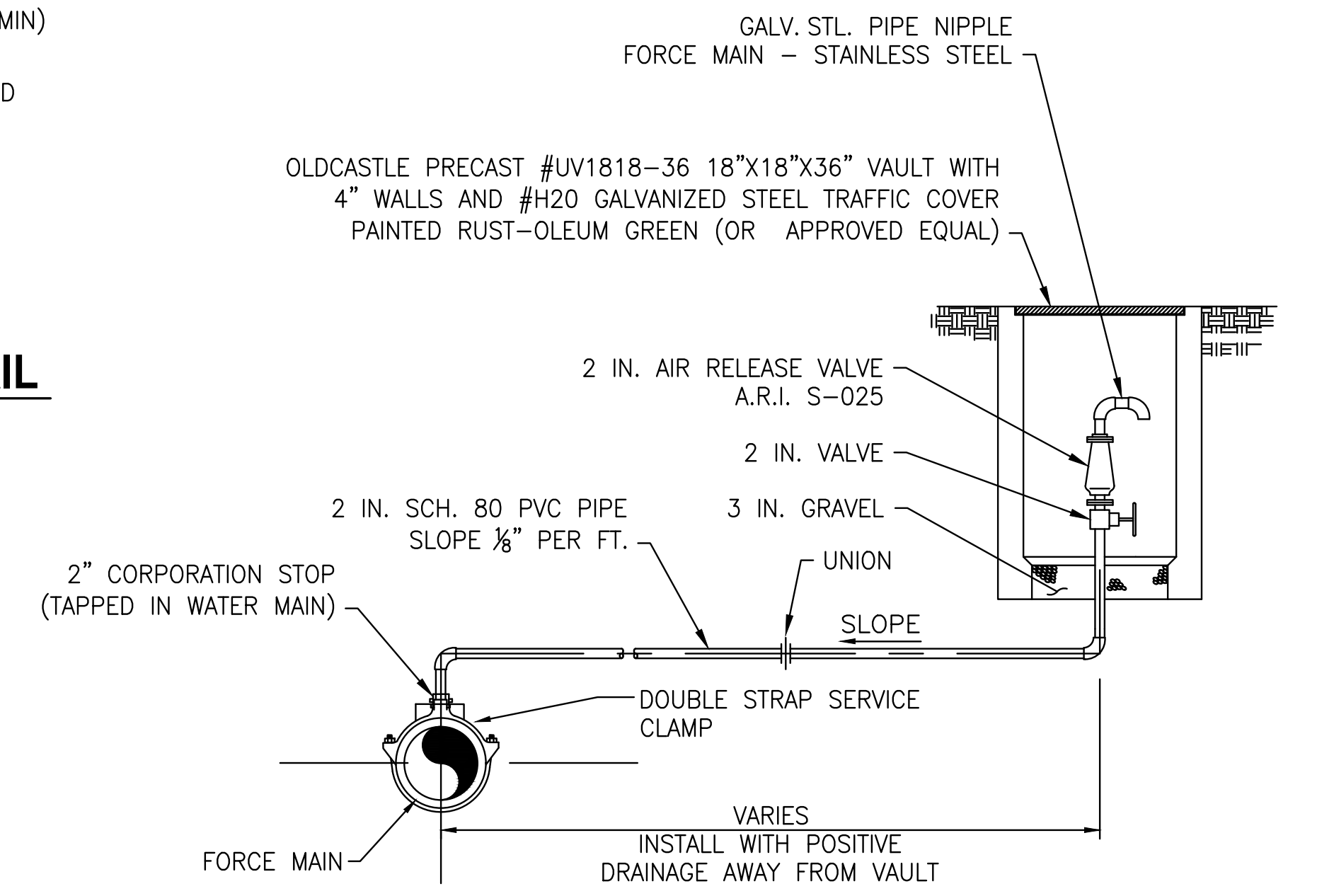


NOTES:

- DEWATERING SHALL CONTINUE UNTIL BACKFILL IS COMPACTED AT LEAST 2 FEET ABOVE PIPE.
- SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
- CONTRACTOR SHALL SLOPE TRENCH IN ACCORDANCE WITH OSHA STANDARDS SHOW IN ABOVE TABLE B-1.

TYPICAL TRENCH IN UNPAVED AREAS DETAIL

NTS



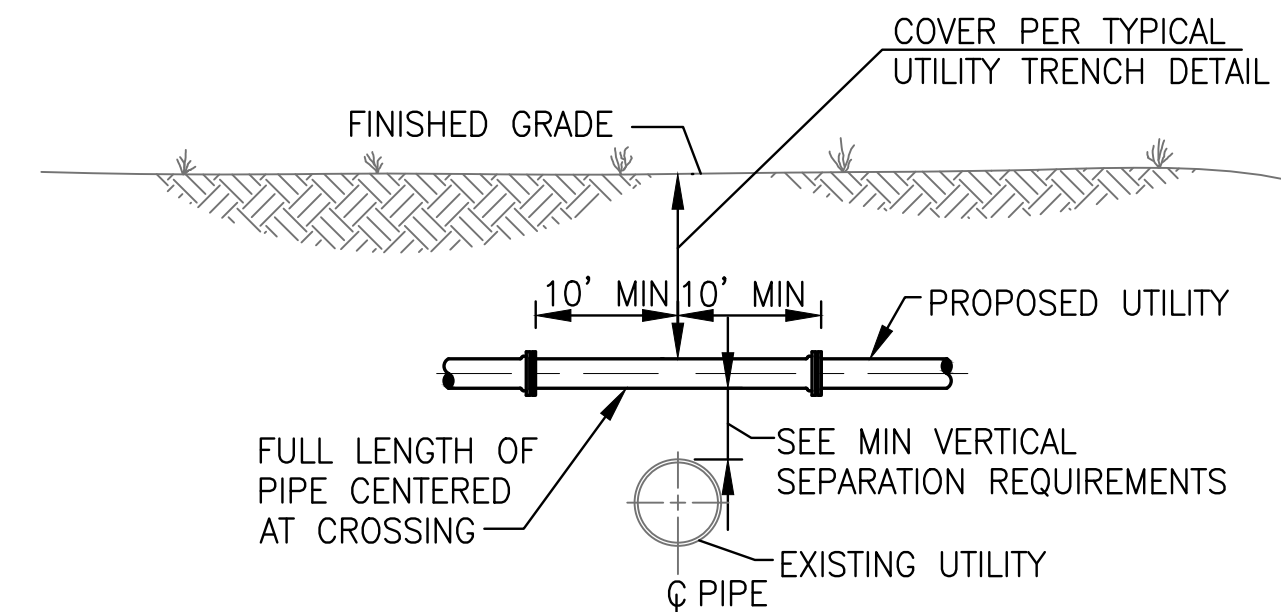
OFFSET AIR RELEASE VALVE DETAIL 1

NTS

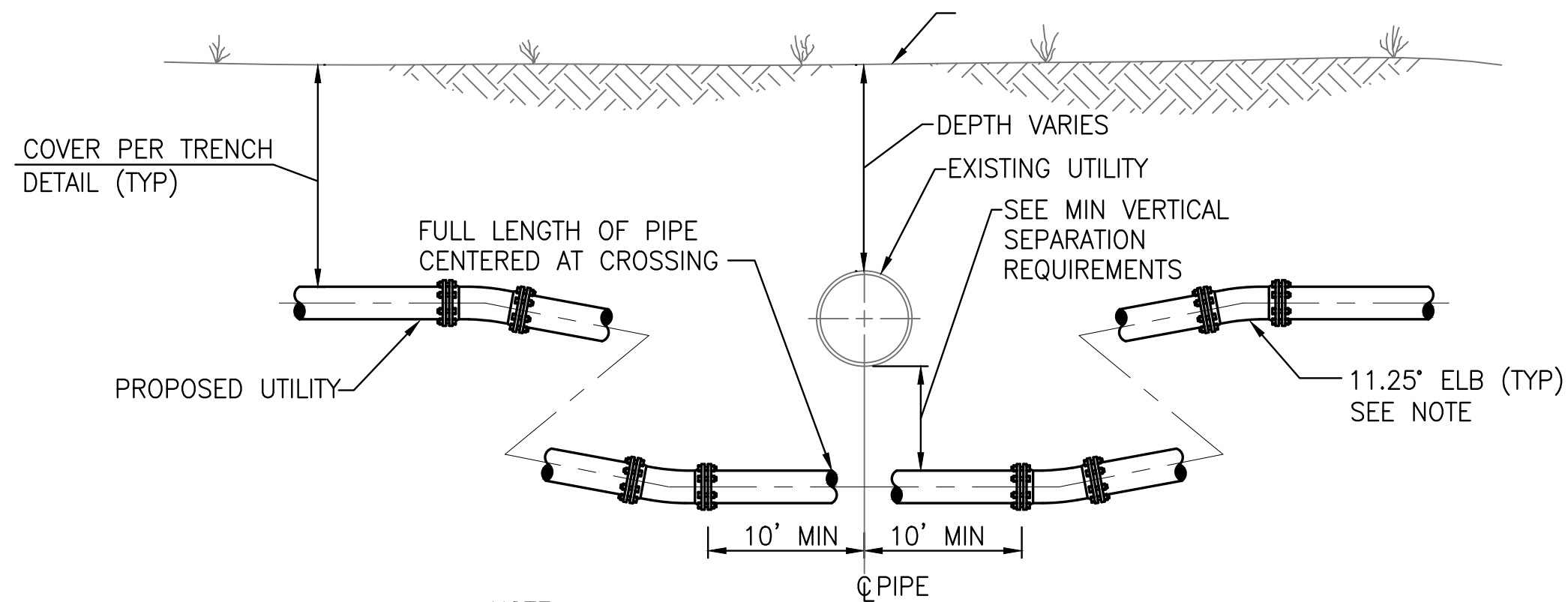
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BID DOCUMENTS

DESIGNED D YOUNG DRAWN D HAUBRICH CHECKED R KOLLER						CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT		STORMWATER FORCE MAIN DETAILS		CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY D. YOUNG P.E. # 44204		PROJECT NO: 19750-066-01		DATE: AUG 2020	
LTR. DATE REVISIONS BY APPR.										INDEX NO: C3-3					

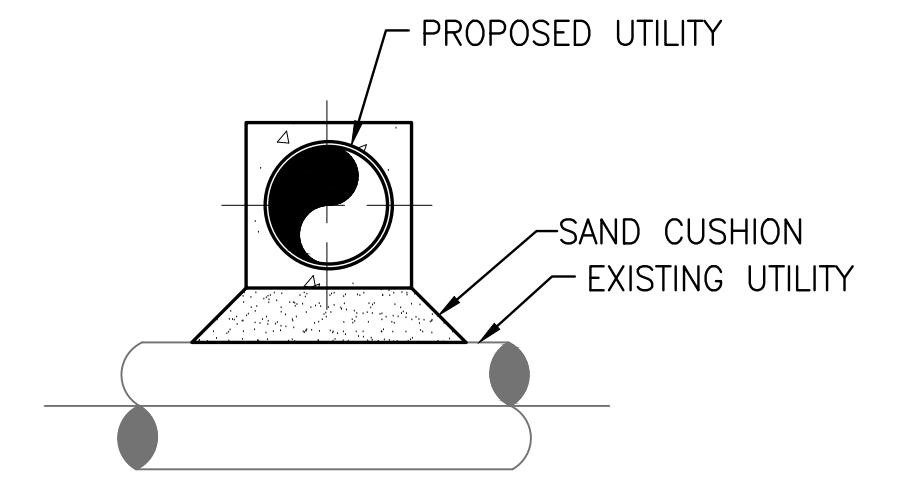


OPTION 1 (SUFFICIENT COVER AND SEPARATION AVAILABLE)

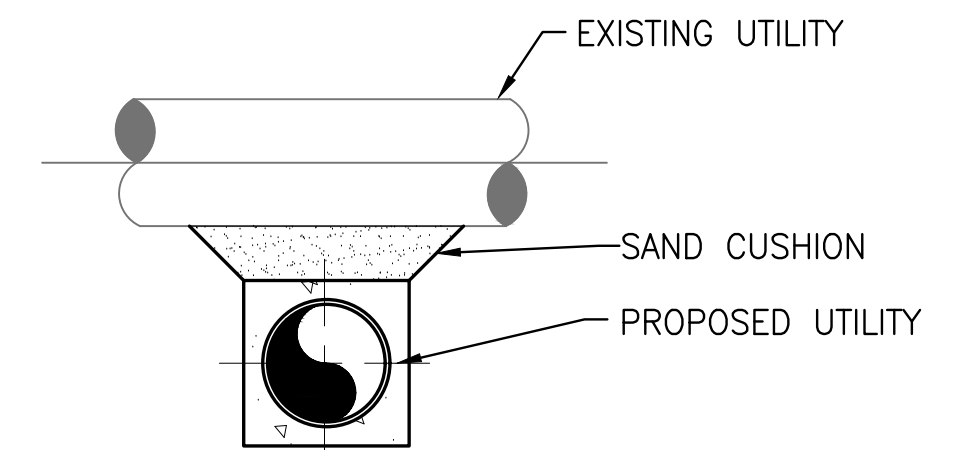


NOTE:
WITH APPROVAL OF ENGINEER, CONTRACTOR MAY DEFLECT PIPE AS SPECIFIED INSTEAD OF USING FITTINGS.

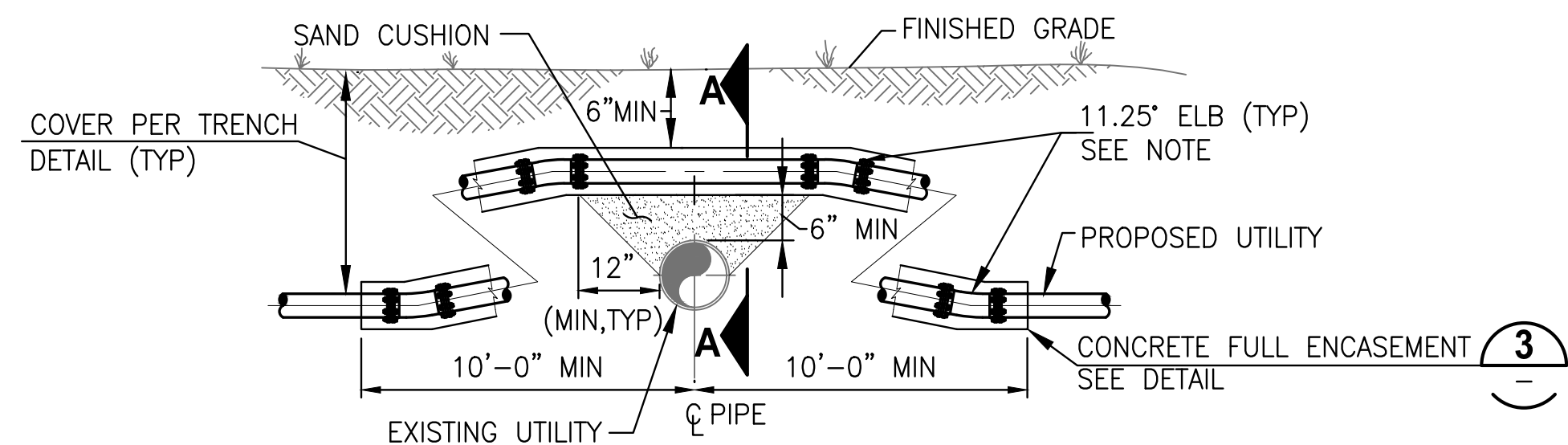
OPTION 2 (SUFFICIENT SEPARATION AVAILABLE)



SECTION A-A

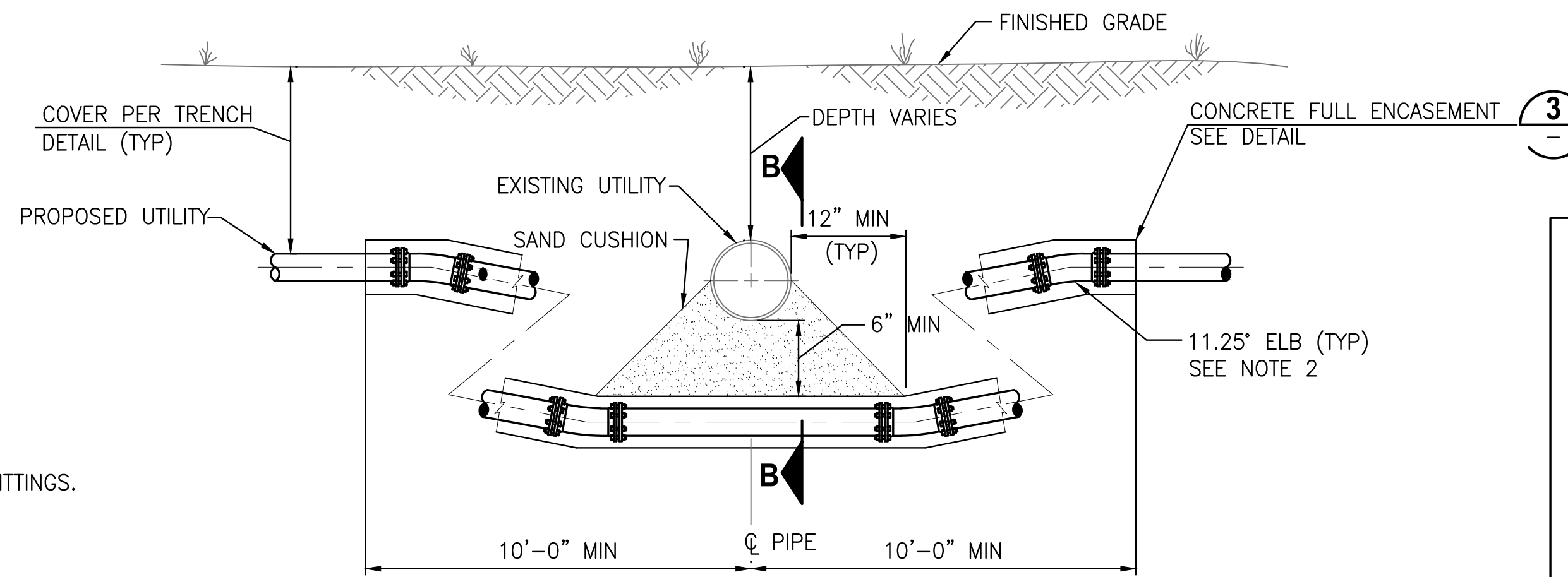


SECTION B-B



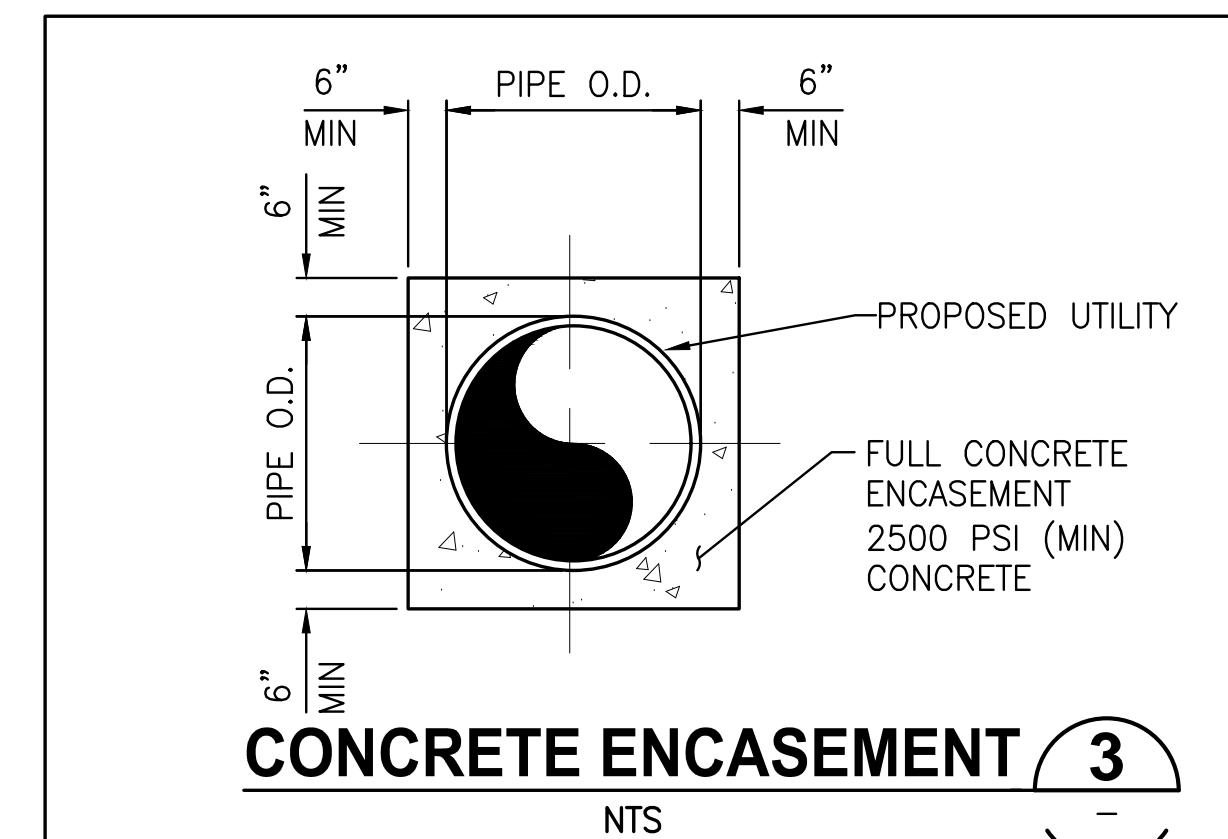
NOTE:
WITH APPROVAL OF ENGINEER, CONTRACTOR MAY DEFLECT PIPE AS SPECIFIED INSTEAD OF USING FITTINGS.

ALTERNATE OPTION 1 (SUFFICIENT COVER OR SEPARATION NOT AVAILABLE)



NOTES:
1. FOR PROPOSED WATER MAINS, THIS OPTION IS ONLY ALLOWED WITH APPROVAL OF THE ENGINEER AND FDEP ON A CASE BY CASE BASIS.
2. WITH APPROVAL OF ENGINEER, CONTRACTOR MAY DEFLECT PIPE AS SPECIFIED INSTEAD OF USING FITTINGS.

ALTERNATE OPTION 2 (SUFFICIENT SEPARATION NOT AVAILABLE)



CONCRETE ENCASEMENT 3
NTS

PROPOSED UTILITY	EXISTING UTILITY						COMMENTS
	POTABLE WATER	GRAVITY SANITARY SEWER	SEWAGE FORCE MAIN	STORM	RECLAIMED WATER	ELECTRIC TELECOMMUNICATIONS	
POTABLE WATER	1'-0"	1'-6"	1'-6"	1'-0"	1'-0"	1'-0"	SEE NOTE 1
GRAVITY SANITARY SEWER	1'-6"	1'-0"	1'-0"	1'-6"	1'-6"	1'-0"	
SEWAGE FORCE MAIN	1'-6"	1'-0"	1'-0"	1'-0"	1'-6"	1'-0"	SEE NOTE 2
STORM	1'-0"	1'-6"	1'-0"	1'-0"	1'-0"	1'-0"	
RECLAIMED WATER	1'-0"	1'-6"	1'-6"	1'-0"	1'-0"	1'-0"	SEE NOTE 2
ELECTRIC TELECOMMUNICATIONS	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	1'-0"	

NOTE:
1. ONLY OPTION 1 CONSTRUCTION IS ALLOWED WITHOUT APPROVAL OF ENGINEER.

MINIMUM VERTICAL SEPARATION REQUIREMENTS



PROPOSED UTILITY	MINIMUM HORIZONTAL SEPARATION EXISTING UTILITY					
	POTABLE WATER	GRAVITY SANITARY SEWER	SEWAGE FORCE MAIN	STORM	RECLAIMED WATER	ELECTRIC TELECOMMUNICATIONS
POTABLE WATER	1'-0"	10'-0"	10'-0"	3'-0"	3'-0"	3'-0"
GRAVITY SANITARY SEWER	10'-0"	1'-0"	1'-0"	3'-0"	3'-0"	3'-0"
SEWAGE FORCE MAIN	10'-0"	1'-0"	1'-0"	3'-0"	3'-0"	3'-0"
STORM	3'-0"	3'-0"	3'-0"	1'-0"	3'-0"	3'-0"
RECLAIMED WATER	3'-0"	3'-0"	3'-0"	3'-0"	1'-0"	3'-0"
ELECTRIC TELECOMMUNICATIONS	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	2'-0"

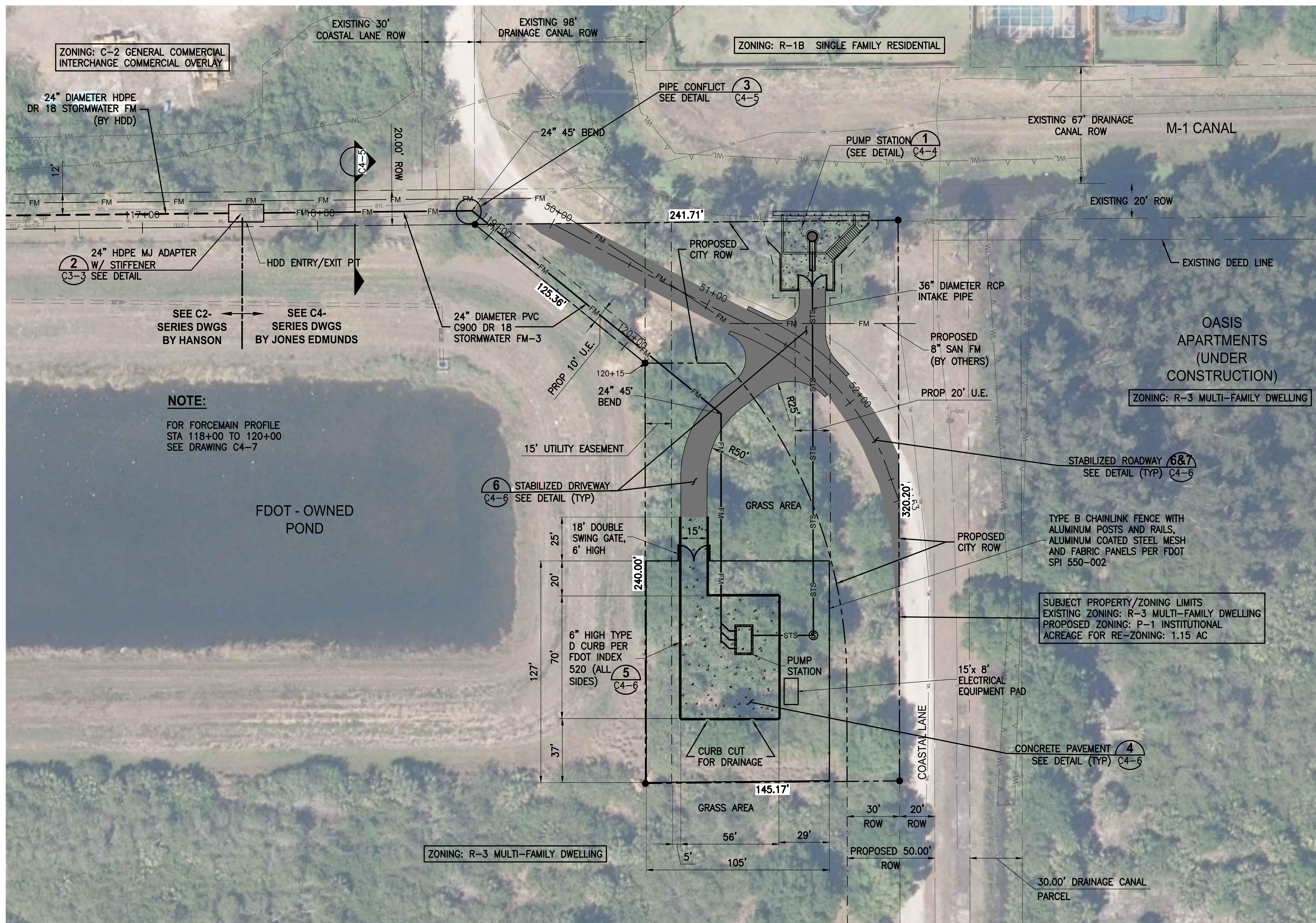
NOTE:
UTILITIES SHALL NOT BE INSTALLED WITHIN THE DRIP LINE OF TREES WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER.



DESIGNED	D. YOUNG	<p>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</p>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	STORMWATER FORCE MAIN DETAILS	CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
DRAWN	D. HAUBRICH				APPROVED BY	19750-066-01	AUG 2020
CHECKED	R. KOLLER				D. YOUNG	INDEX NO:	DWG NO:
LTR.	DATE	REVISIONS	BY	APPRD.	P.E. # 44204		C3-4

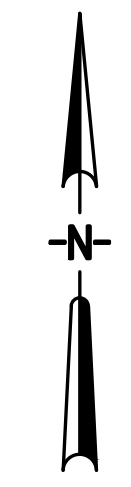
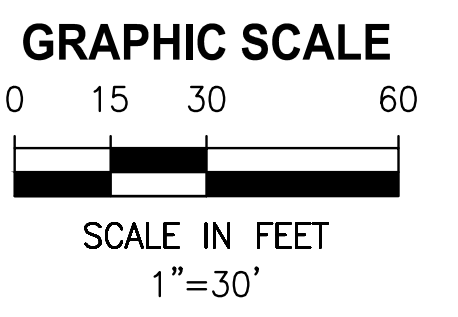
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BID DOCUMENTS



NOTE:
FOR FORCEMAIN PROFILE
STA 118+00 TO 120+00
SEE DRAWING C4-7

- PROJECT INFORMATION:**
- NO BUILDINGS
 - NO AUDIBLE ALARMS
 - EQUIPMENT PANELS UNDER 8 FEET OF HEIGHT
 - 6 FOOT FENCING, WITH FABRIC PANEL
 - EXISTING ROAD WITHIN SUBJECT PROPERTY TO BE STABILIZED AND COMPACTED



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DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER
DATE	REVISIONS

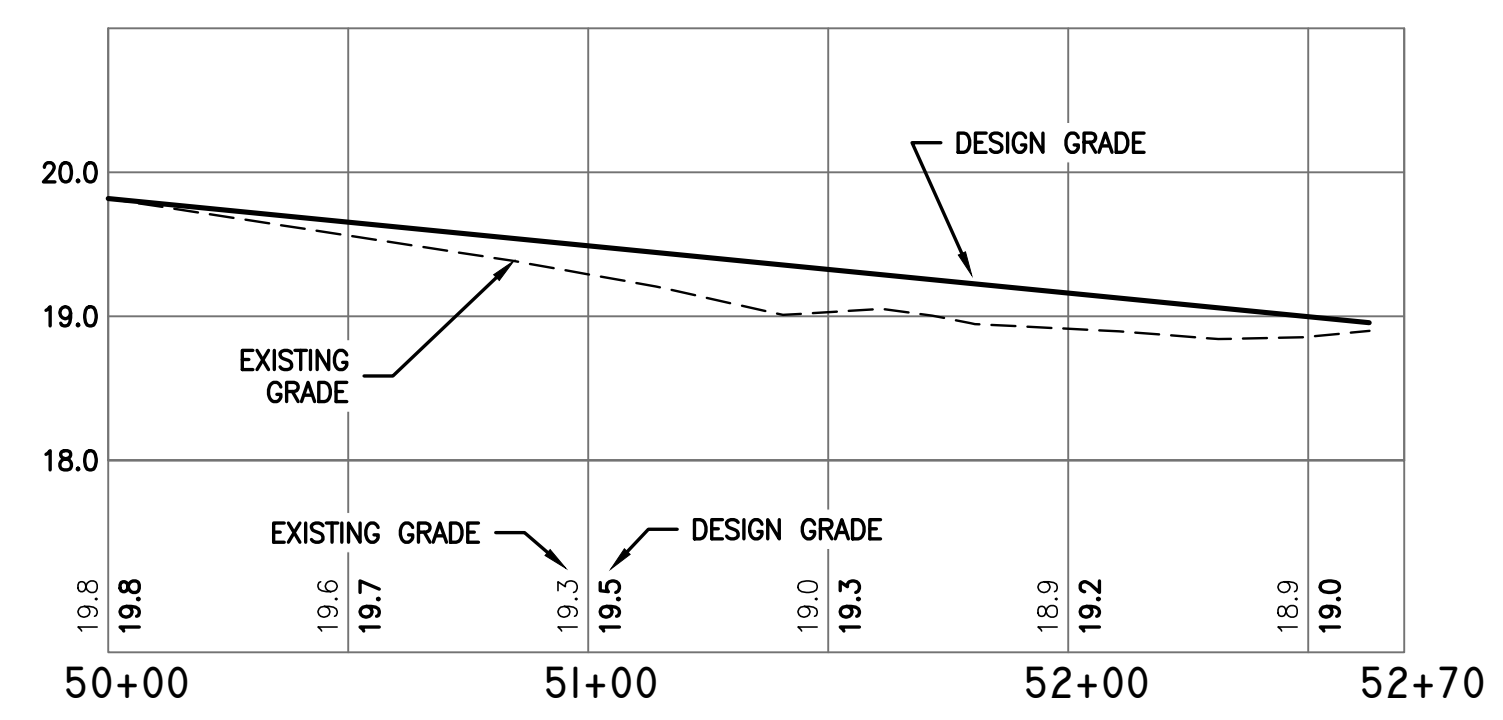
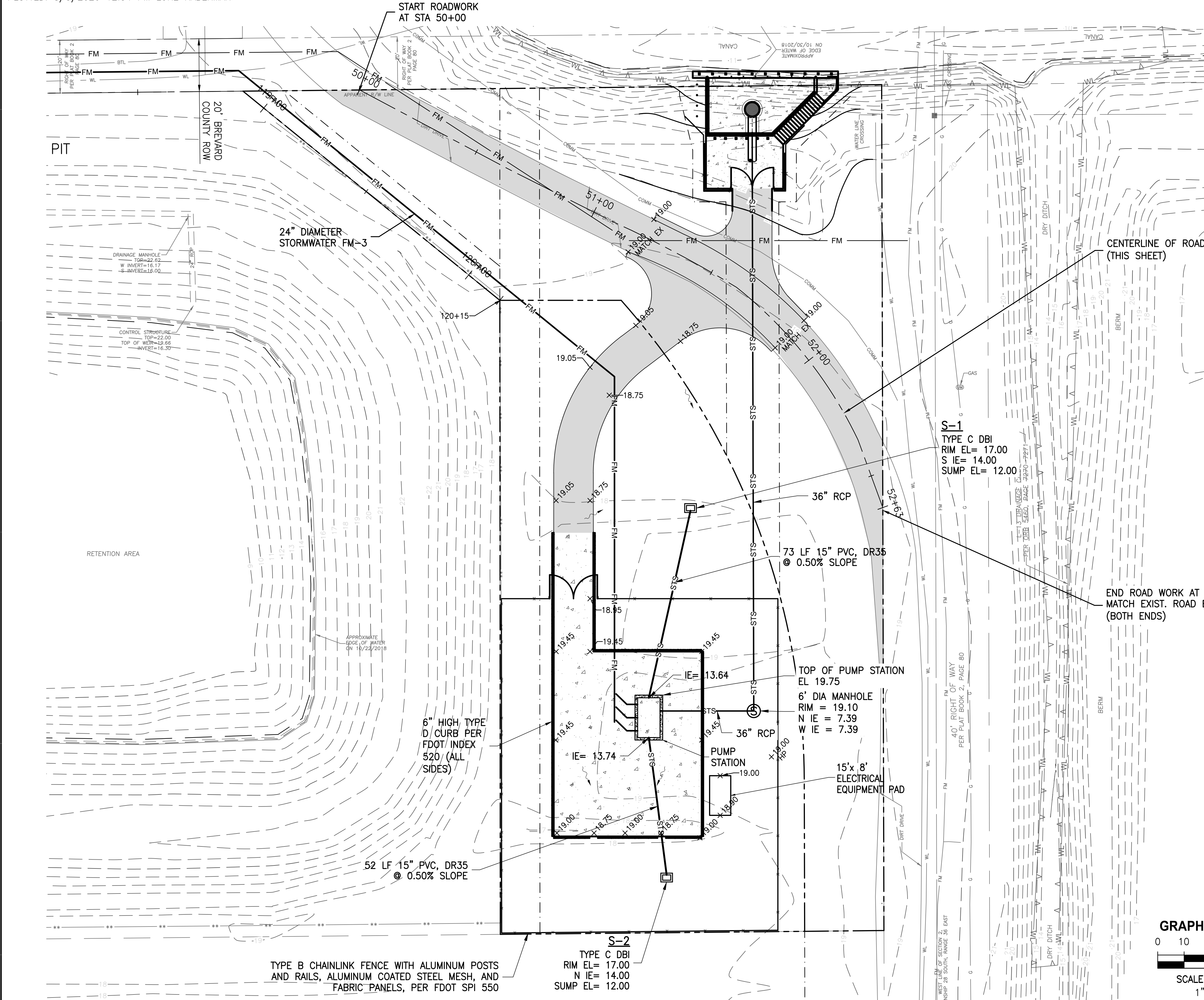
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 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

PUMP STATION SITE PLAN

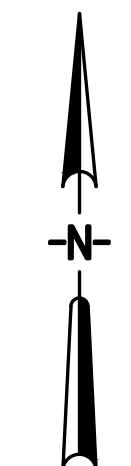
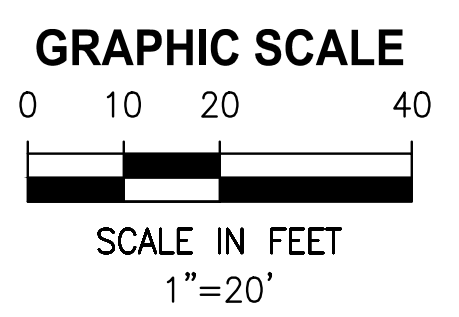
CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY W. NICKEL	INDEX NO:	DWG NO: C4-1
P.E. # 68638		

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ROAD PROFILE

1"=40' HORIZ
1"=1' VERT



LTR.	DATE	REVISIONS	BY	APPRD.
B	02/06/20	REVISED ROAD PROFILE PER COWM	RK	RK
A	12/20/19	REVISED PER COWM	RK	RK

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER


 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

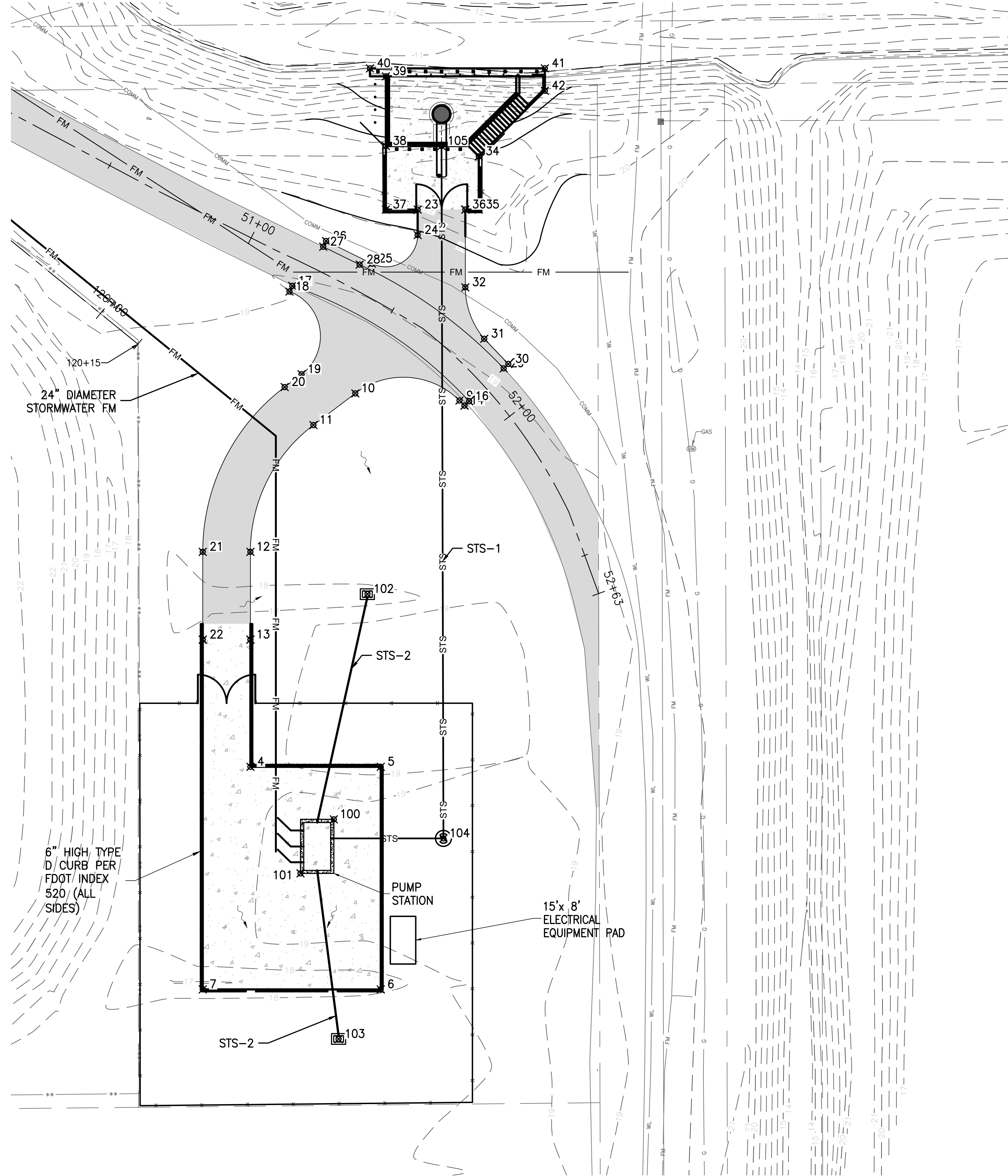
PUMP STATION GRADING PLAN

CERTIFICATE OF AUTHORIZATION #1841	
APPROVED BY	
W. NICKEL	
P.E. # 68638	

PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	C4-2

BID DOCUMENTS

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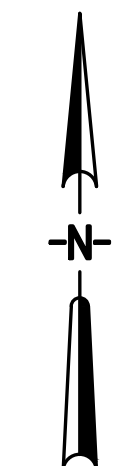
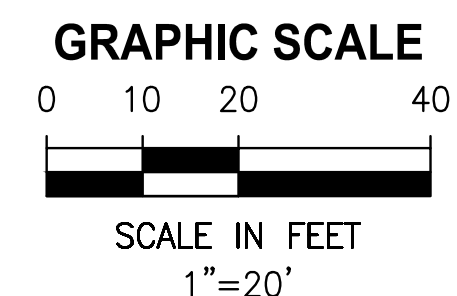


PAVING COORDINATE TABLE		
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6	1363503.63	751685.93
7	1363503.64	751629.93
8	1363687.22	751712.27
9	1363688.81	751710.69
10	1363691.06	751677.92
11	1363681.09	751664.74
12	1363641.22	751644.93
13	1363613.63	751644.93
14	1363687.22	751712.27
15	1363688.60	751713.72
16	1363688.60	751713.72
17	1363724.88	751658.09
18	1363723.08	751657.21
19	1363697.07	751661.01
20	1363693.05	751655.69

PAVING COORDINATE TABLE		
POINT	NORTHING	EASTING
21	1363641.22	751629.93
22	1363613.63	751629.93
23	1363748.84	751697.53
24	1363740.85	751697.53
25	1363731.87	751683.12
26	1363738.97	751668.70
27	1363737.17	751667.82
28	1363731.54	751679.28
29	1363698.92	751724.60
30	1363700.30	751726.05
31	1363708.22	751718.47
32	1363724.40	751712.53
33	1363748.84	751712.53
34	1363765.59	751716.76
35	1363748.84	751716.76
36	1363748.84	751712.53
37	1363748.84	751687.53
38	1363768.84	751687.53
39	1363790.75	751687.53
40	1363793.25	751682.53

PAVING COORDINATE TABLE		
POINT	NORTHING	EASTING
41	1363793.25	751737.53
42	1363786.24	751737.53
100	1363557.11	751671.17

GRADING COORDINATE TABLE		
POINT	NORTHING	EASTING
100	1363557.11	751671.17
101	1363540.13	751660.68
102	1363627.95	751681.74
103	1363488.02	751672.66
104	1363551.13	751705.64
105	1363768.84	751705.04



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.
A	12/20/19	REVISED PER COWM	RK	RK

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

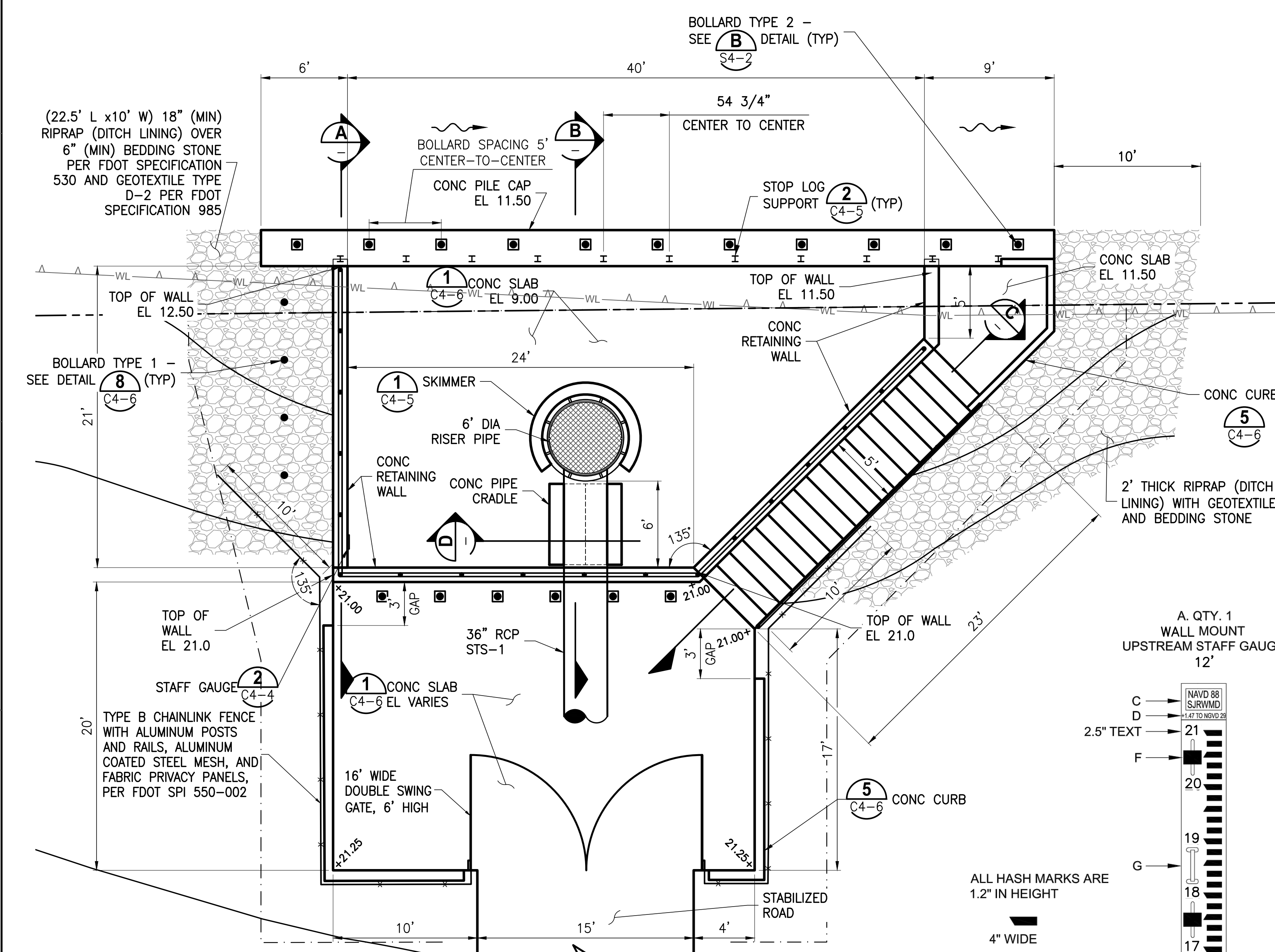
CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

PUMP STATION GEOMETRIC CONTROL PLAN

CERTIFICATE OF AUTHORIZATION #1841	
APPROVED BY	
W. NICKEL	
P.E. # 68638	

PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	C4-3

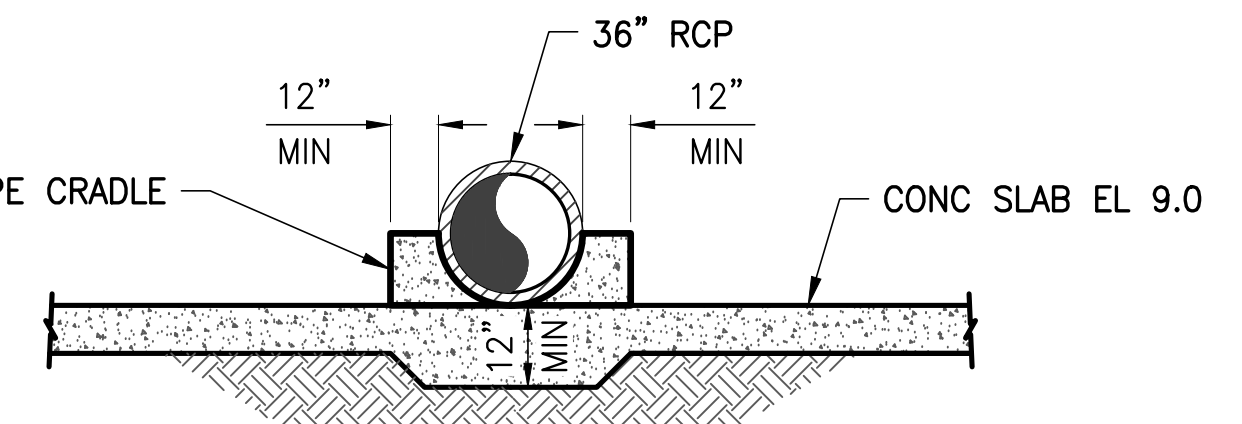


NOTE:
SEE STRUCTURAL DRAWINGS FOR ADDITIONAL DIMENSIONS AND DETAILS.

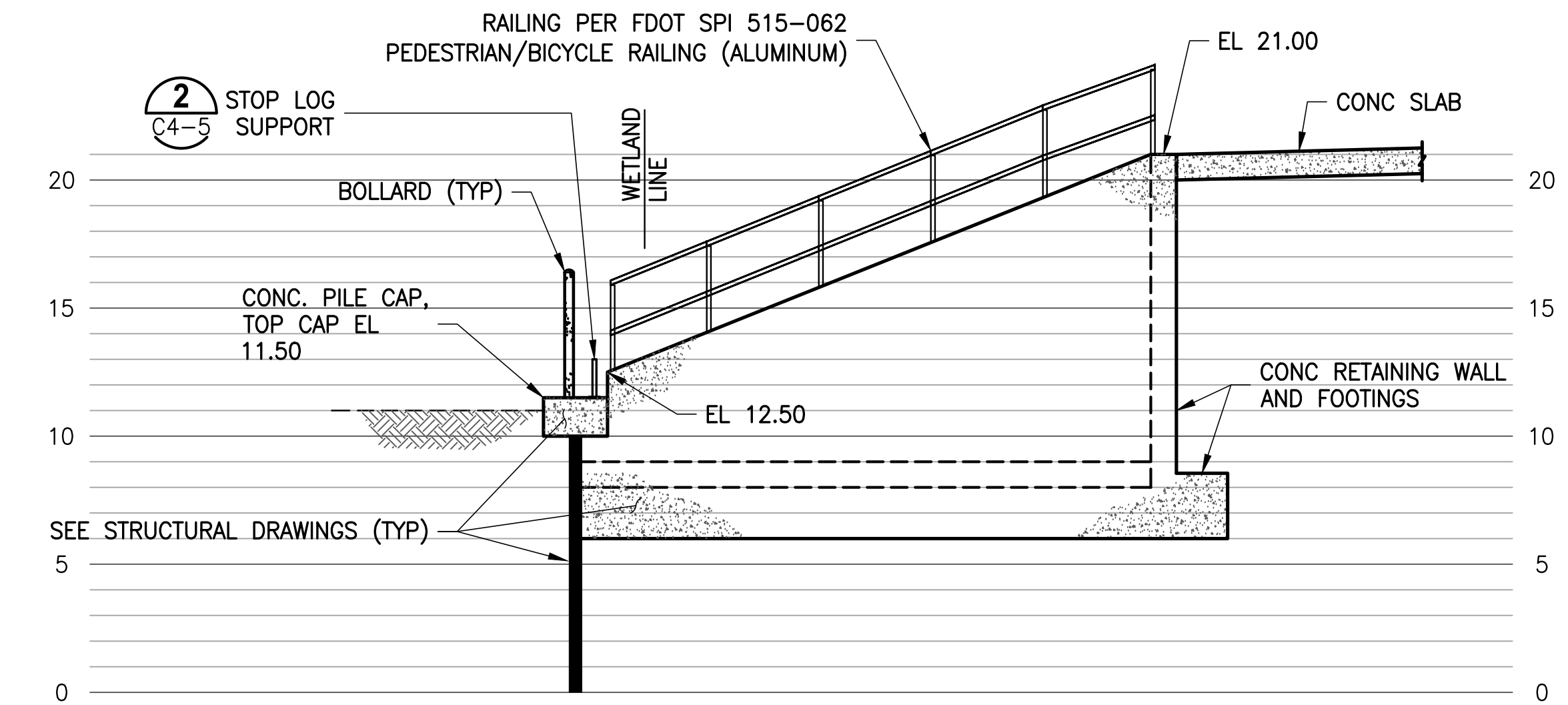
DETAIL 1
1"=5'

- NOTES:**
- STAFF GAUGES AND GATE POSITION GUIDES: 2"x10" (1.5"x9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
 - TITLE PLAQUE INSERT: WHITE WITH RED LETTERING
 - NGVD OFFSET = +1.47
 - STAFF GAUGE SPLICE LINES
 - ALL SLOTS ARE 0.89"x7.31" AND ARE SUPPLIED WITH SS WASHERS 1/4"x3"x4". THRU HOLES ARE 5/8" DIAMETER. PROVIDE SS CONCRETE ANCHORS OR SS HEX HEAD THRU-BOLT 3/8"x4".
 - 8" SS CLEAT MOUNTED WITH THREADED INSERTS.
- ALL HARDWARE SHALL BE STAINLESS STEEL.
 - ELEVATIONS MARKED IN REFERENCE TO NAVD88.

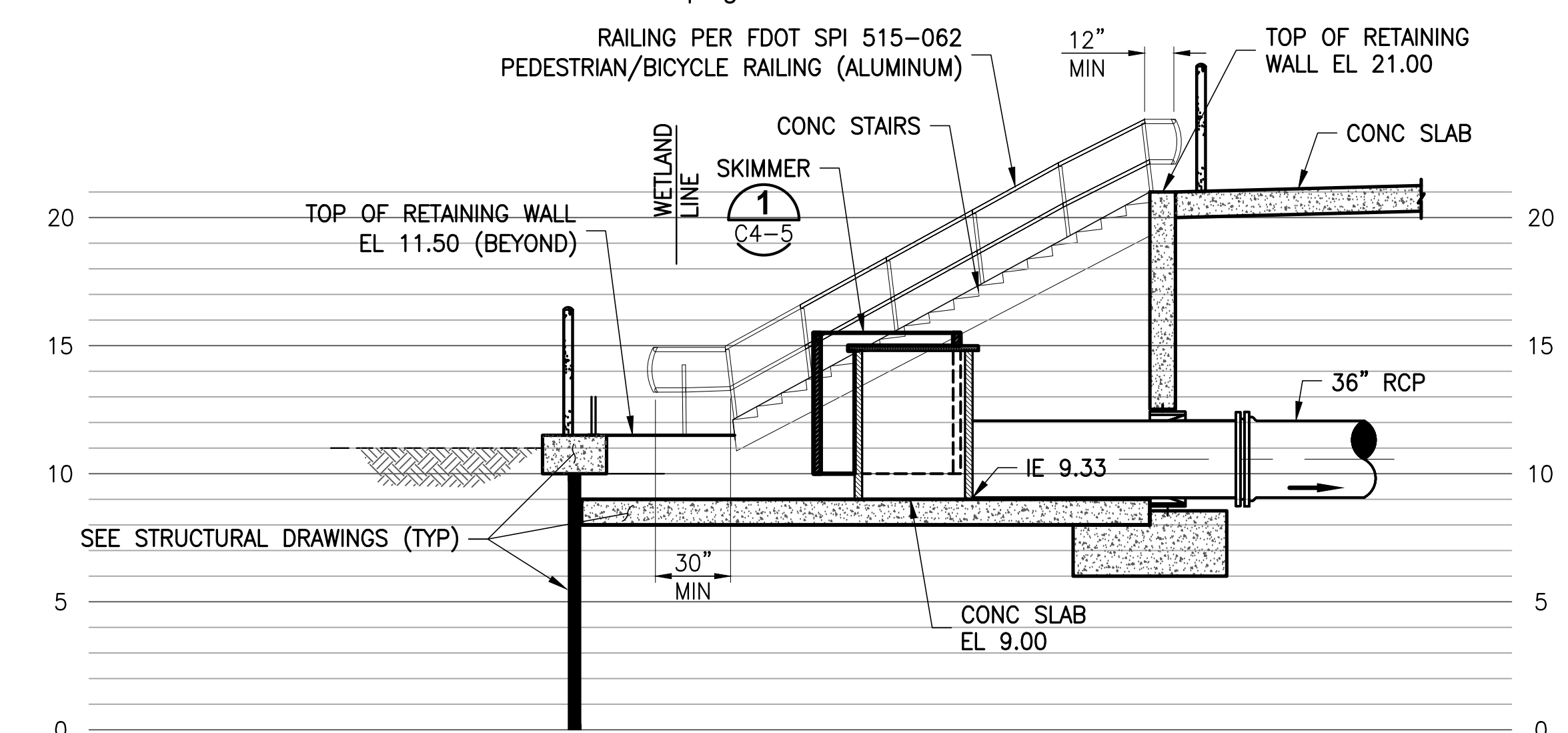
STAFF GAUGE DETAIL 2
NTS



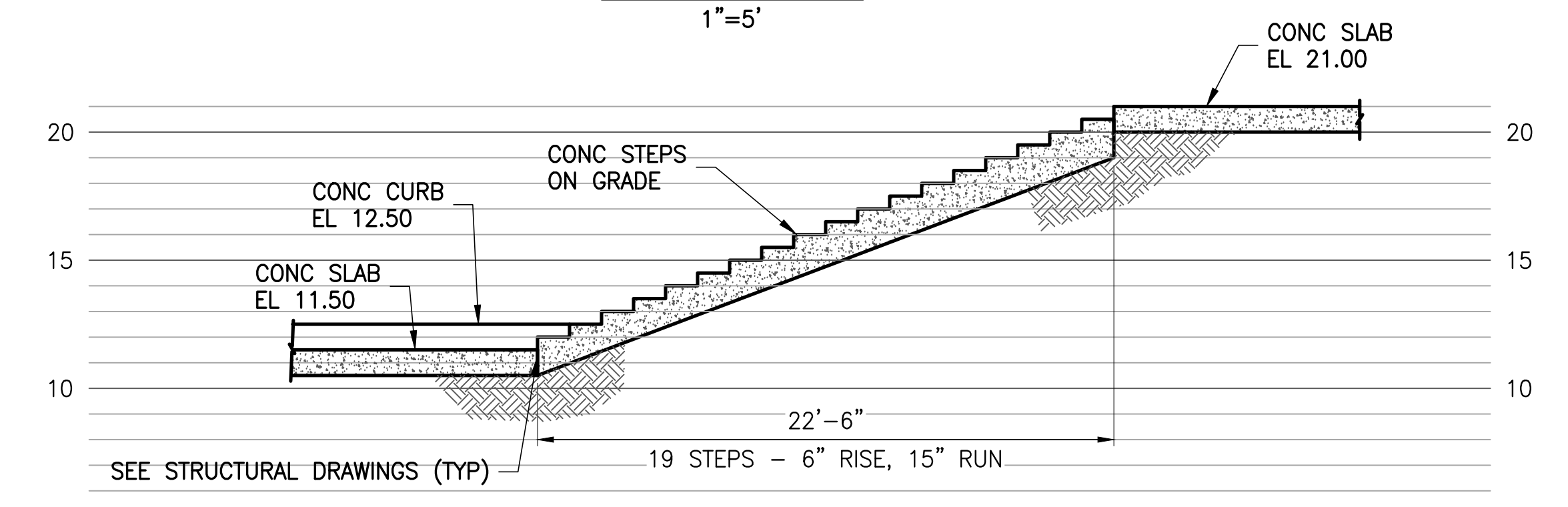
SECTION D-D
NTS



SECTION A-A
1"=5'



SECTION B-B
1"=5'



SECTION C-C
1"=5'

BID DOCUMENTS

SAVED: 7/31/2020 3:23 PM WHOFFMAN Y:\19750-SJRWMD\PROJECTS\066-01-CRANE_CREEK_M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\CIVIL\19750-066-01-C4-4.DWG

DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.
A	12/20/19	REVISED PER COWM	RK	RK

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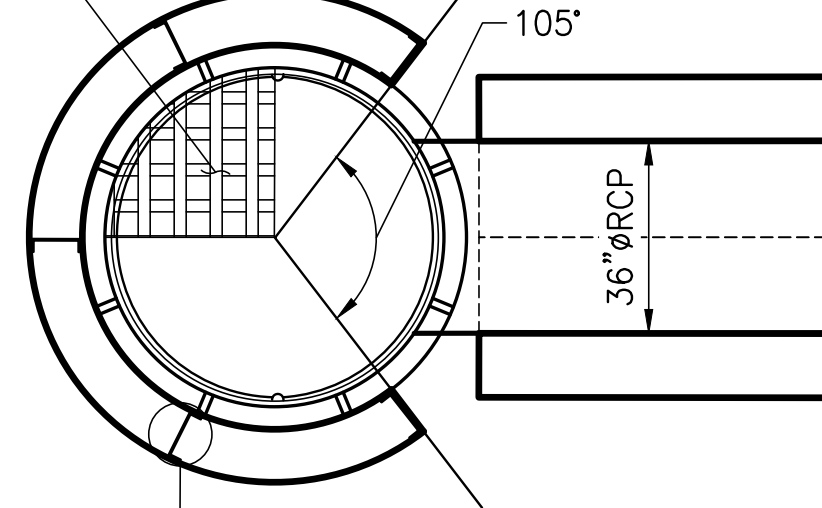
**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**PUMP STATION INTAKE PLAN
 & SECTIONS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY W. NICKEL	INDEX NO:	DWG NO: C4-4
P.E. # 68638		

GALVANIZED STEEL BAR GRATING,
 WELDED, 1-1/2" X 3/16" BARS,
 1-3/16" X 4" SPACING (PARTIALLY
 SHOWN)

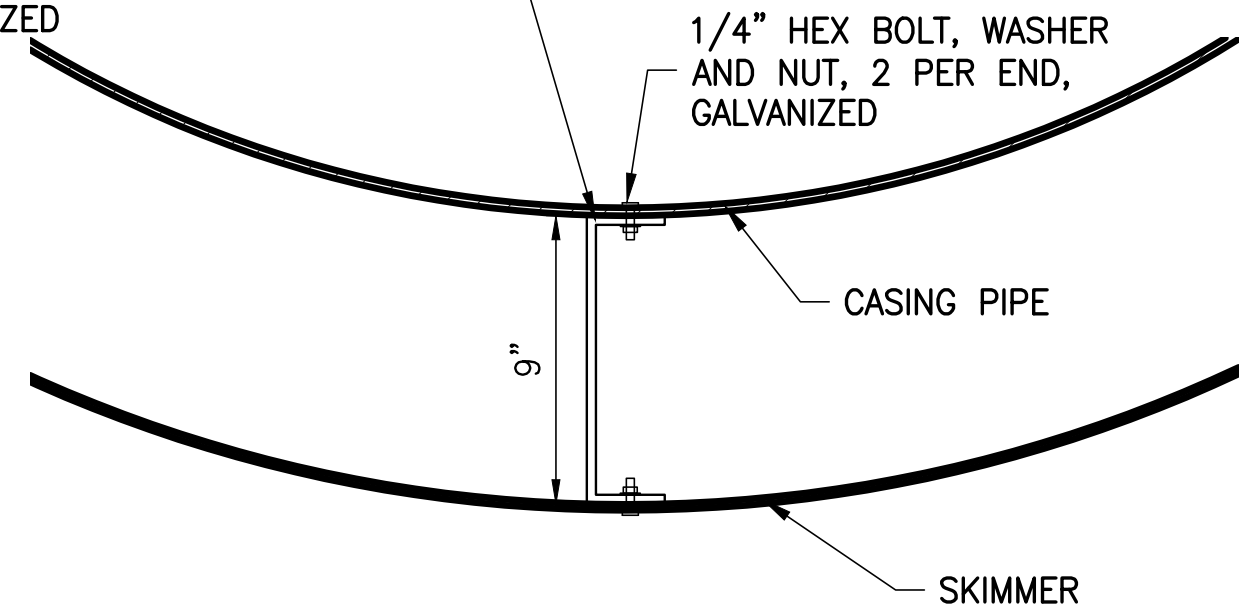
GALVANIZED 3/16" A36
 STEEL SKIMMER



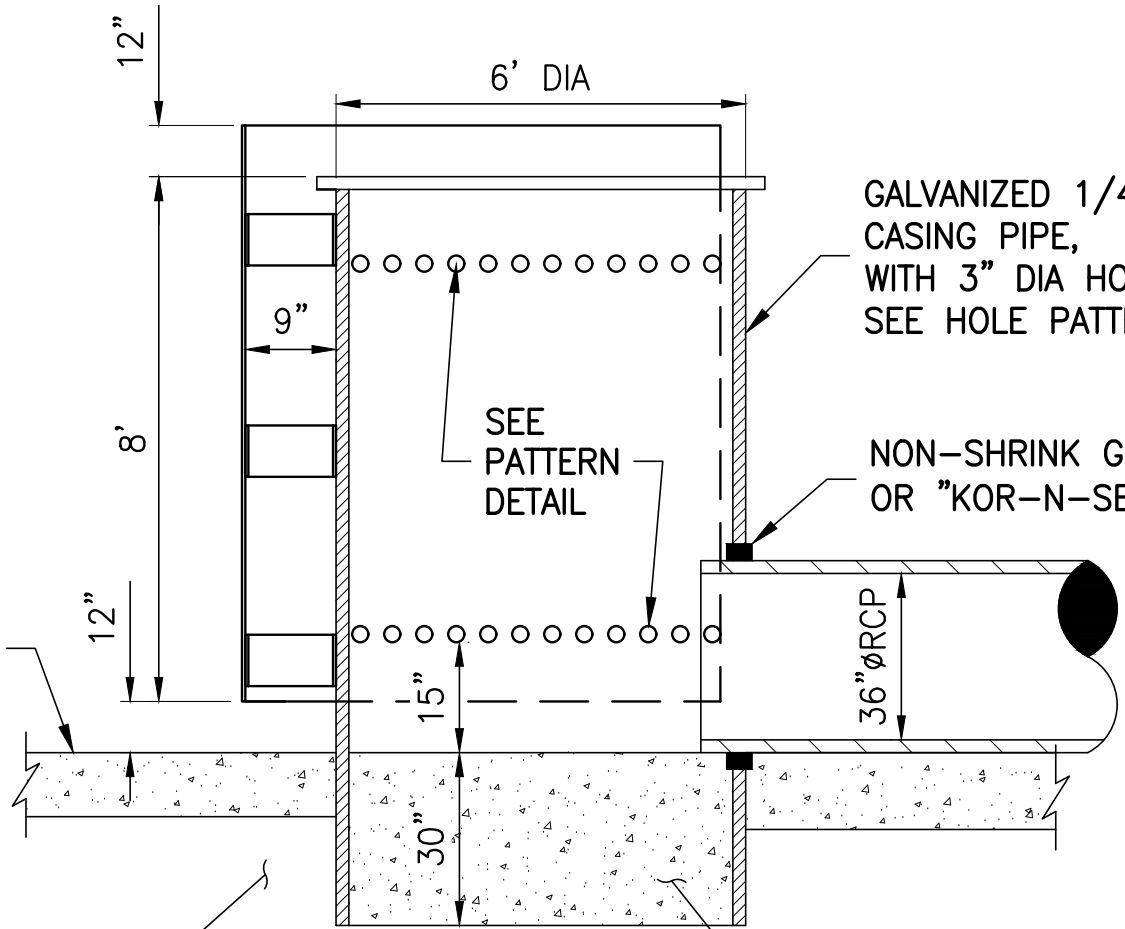
PLAN

(5) GROUPS OF (3)
 C9 X 13.4 A36 STEEL
 CHANNELS, EQUALLY SPACED,
 GALVANIZED

1/4" HEX BOLT, WASHER
 AND NUT, 2 PER END,
 GALVANIZED



PLAN VIEW DETAIL



ELEVATION

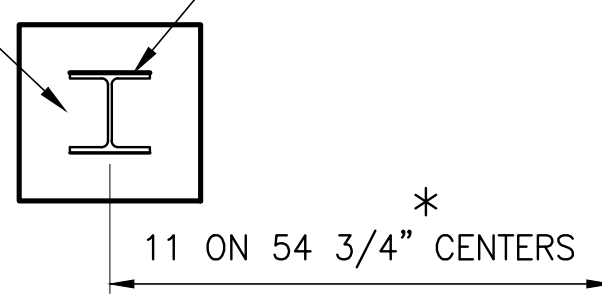
SKIMMER DETAIL 1

NTS

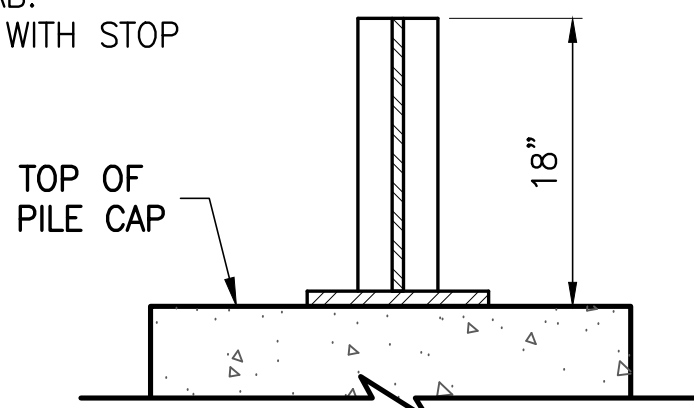
C4-4

SEE STRUCTURAL DRAWINGS
 FOR ADDITIONAL DETAILS

W5x16



PLAN



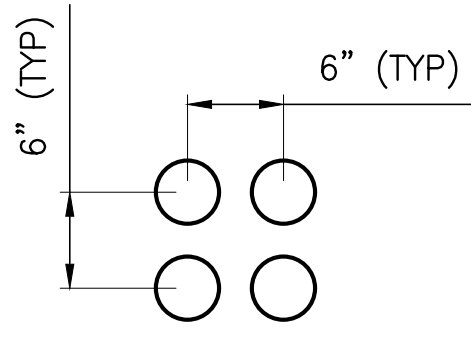
ELEVATION

STOP LOG SUPPORT DETAIL 2

NTS

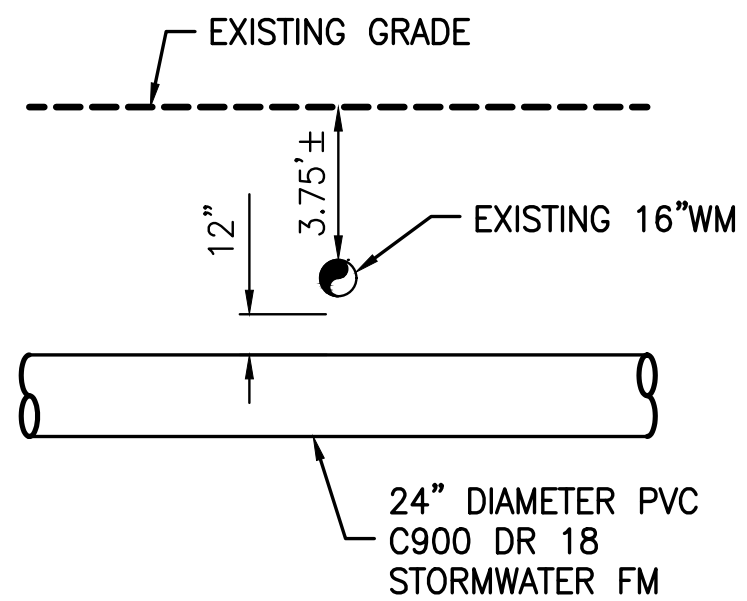
C4-4

NOTE:
 * DIMENSIONS BASED ON 3 1/2" THICK
 STOP LOGS BY PLASTI FAB.
 COORDINATE DIMENSIONS WITH STOP
 LOG PROVIDER.



HOLE PATTERN

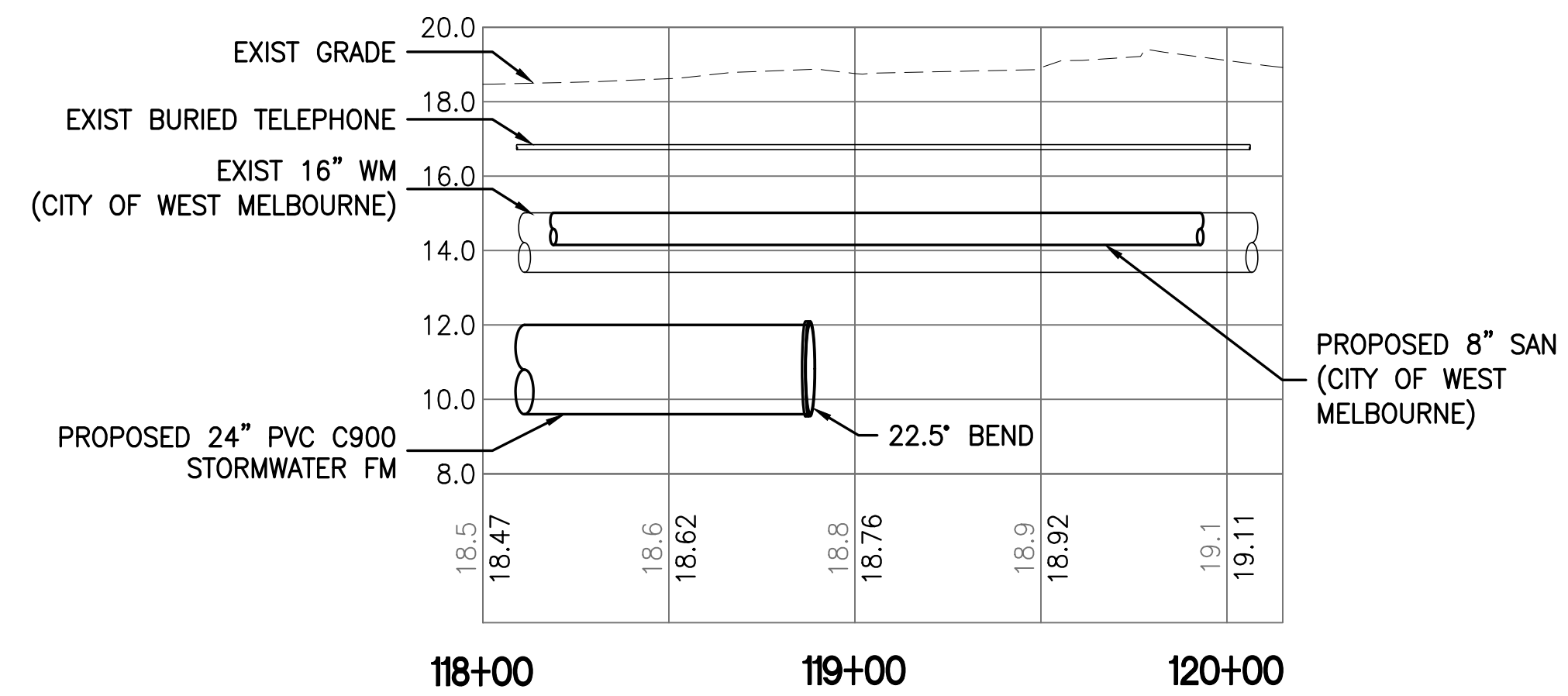
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PIPE CONFLICT DETAIL 3

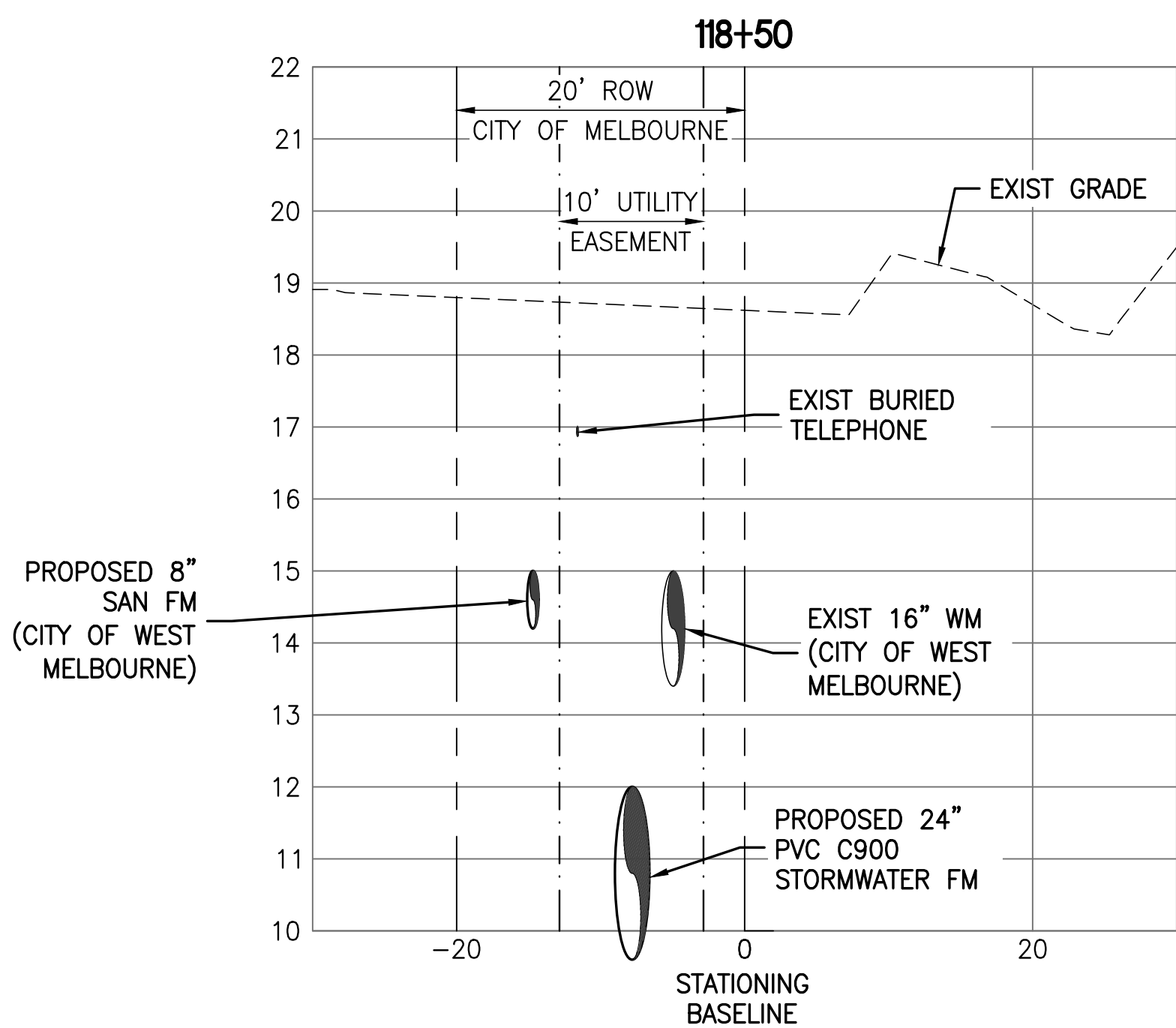
NTS

C4-1



FORCEMAIN PROFILE

1"=40' HORIZ
 1"=4' VERT



SECTION 118+50

1"=10' HORIZ
 1"=2' VERT

SAVED: 7/31/2020 7:43 AM MHOFFMAN Y:\19750-SURWMD\PROJECTS\066-01_CRANE_CREEK_M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\CIVIL\19750-066-01-C4-5.DWG

LTR.	DATE	REVISIONS	BY	APPRD.
A	10/12/19	REVISED PER COWM	RK	RK

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

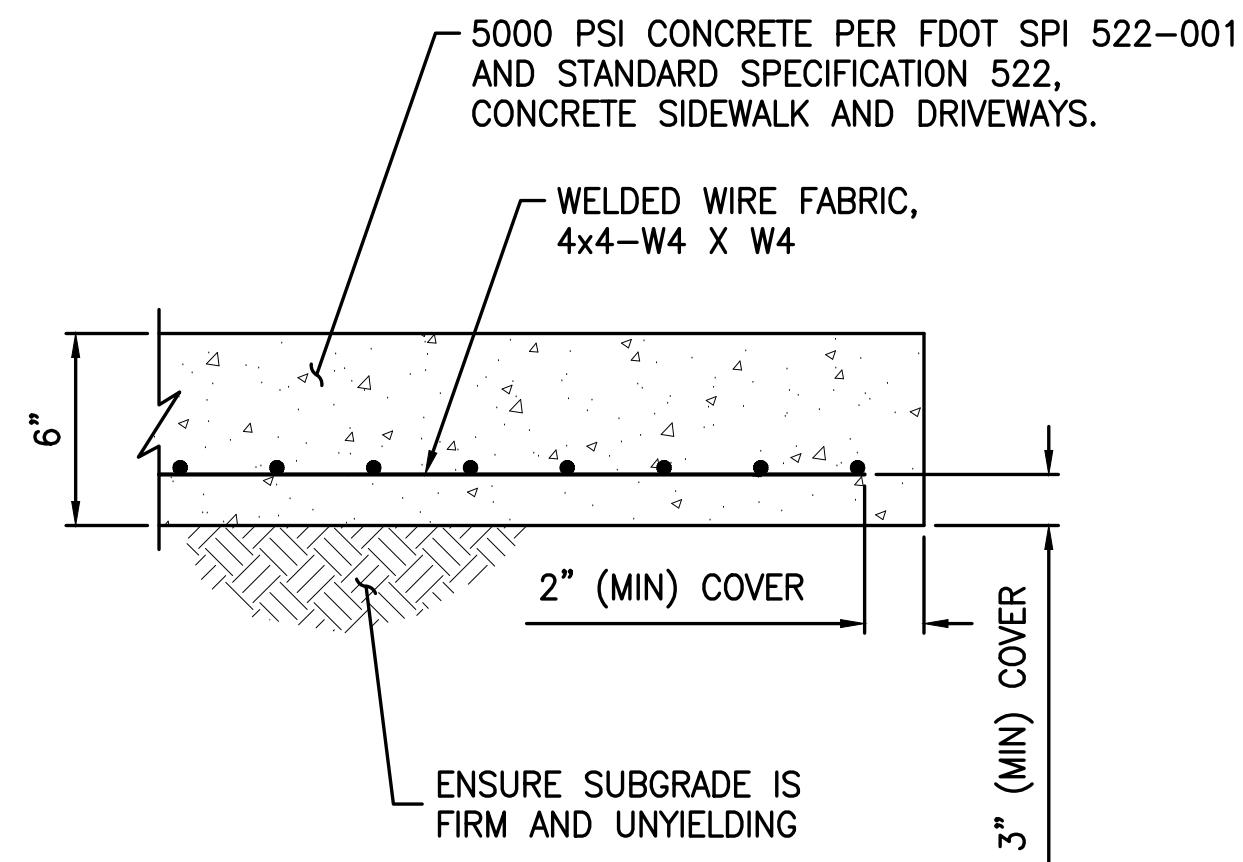
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CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

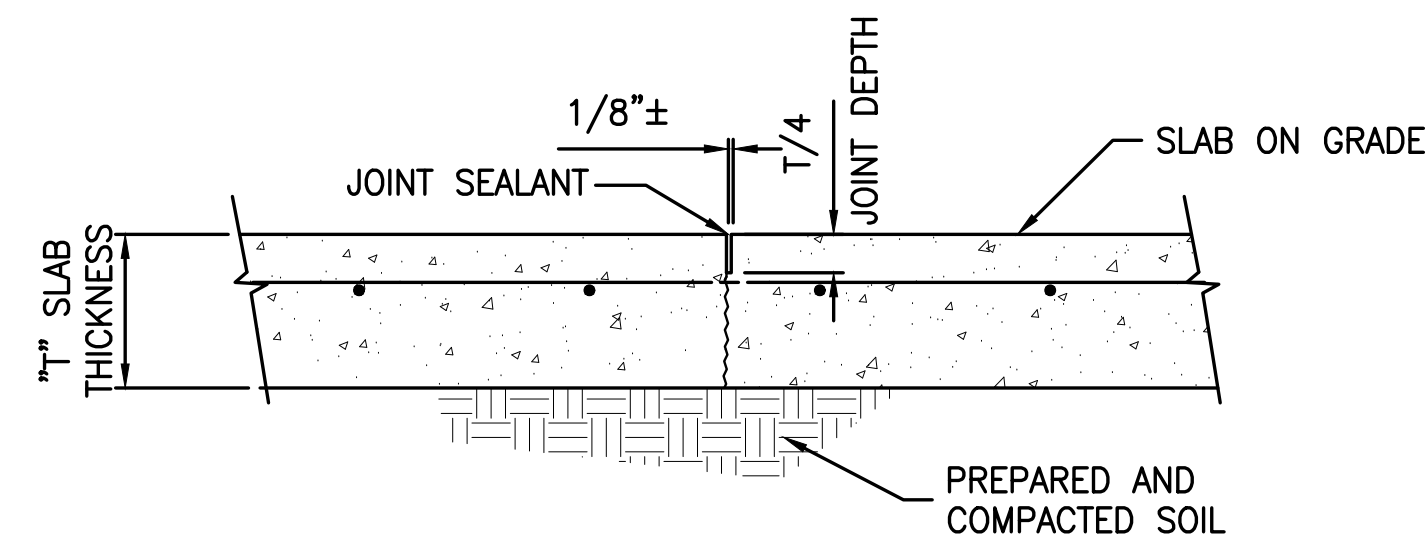
CIVIL DETAILS

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY W. NICKEL	INDEX NO:	DWG NO: C4-5
P.E. # 68638		

BID DOCUMENTS

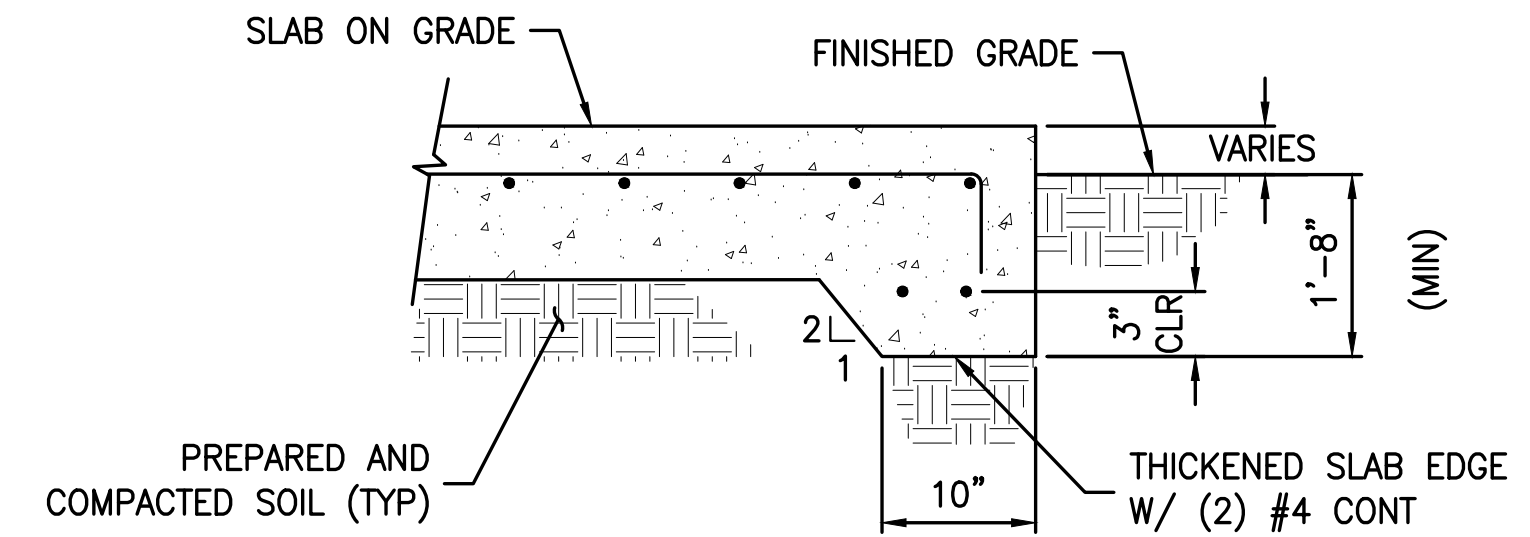


TYPICAL CONCRETE SLAB DETAIL (1)
NTS

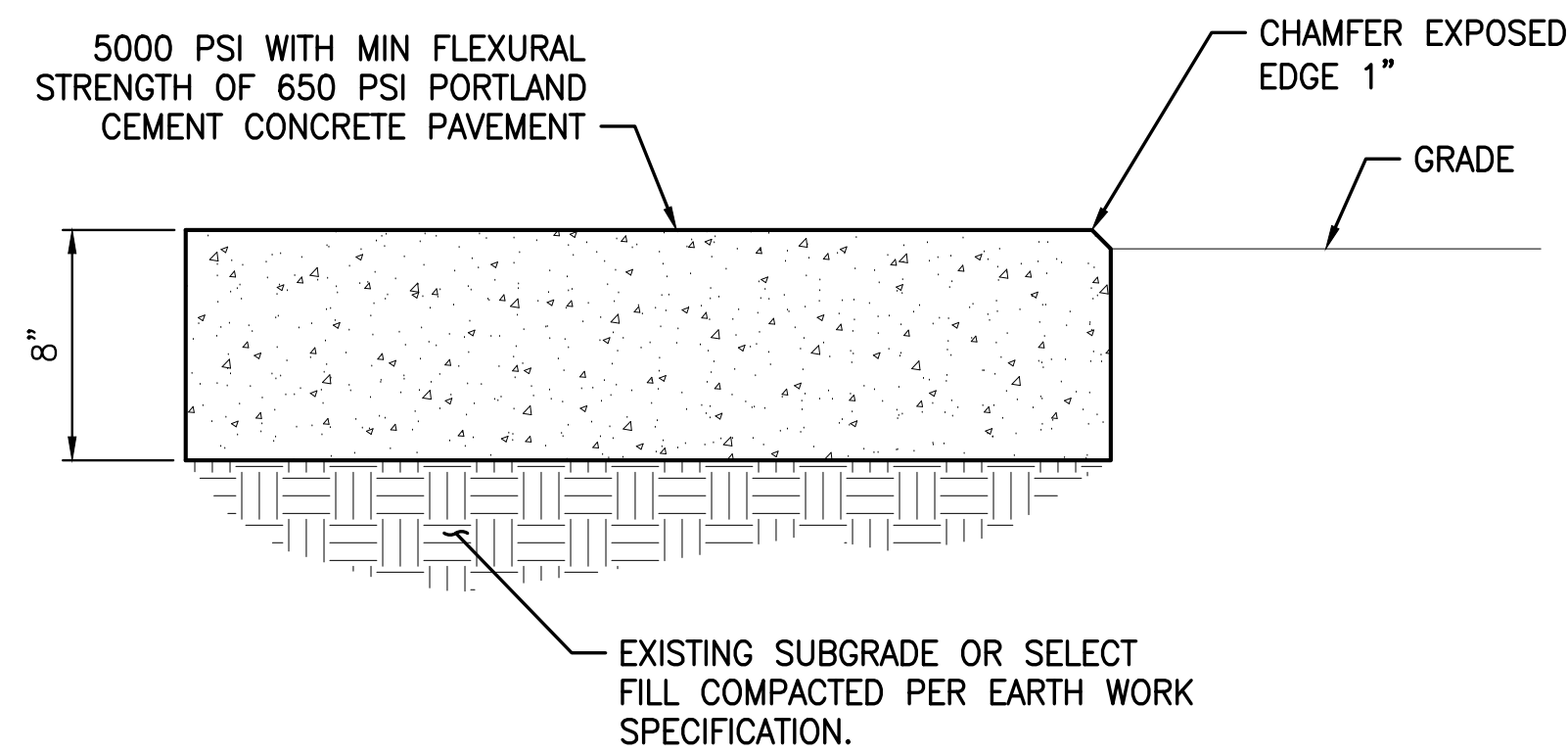


NOTE:
SAW-CUT JOINTS SHALL BE PERFORMED WITHIN 4 TO 8 HOURS AFTER CONCRETE PLACEMENT.

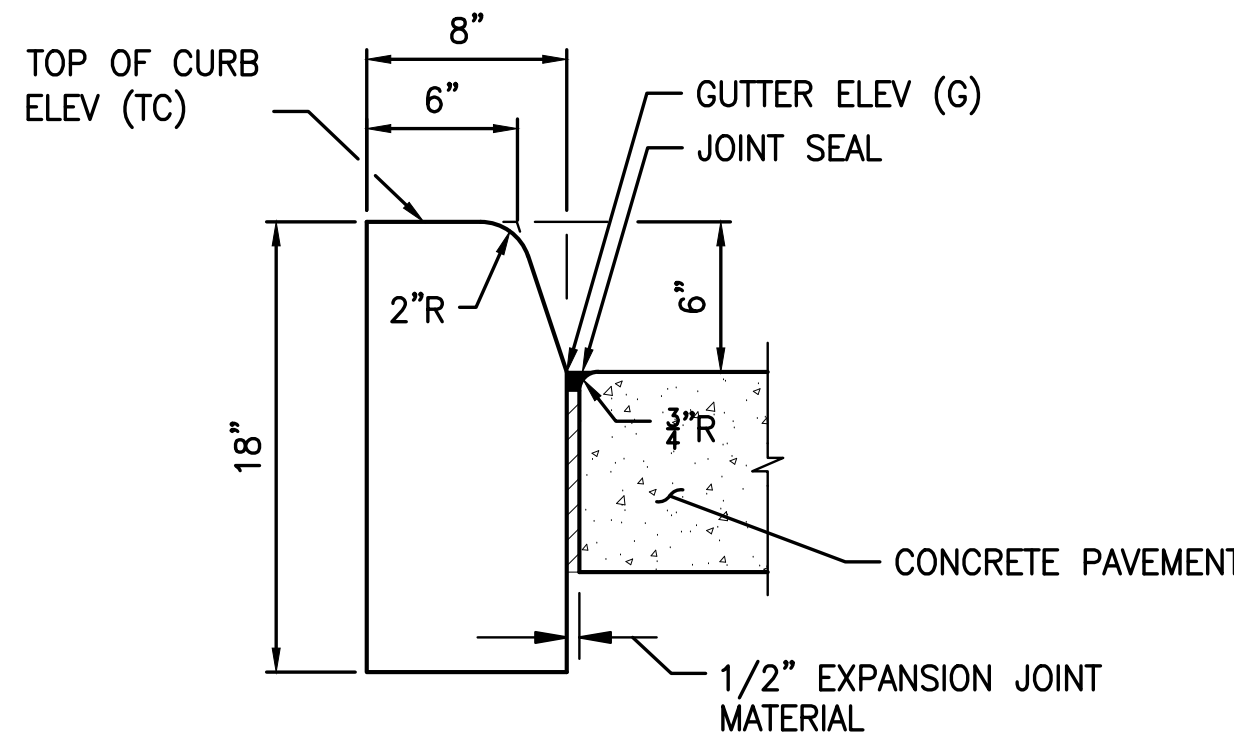
SAW-CUT CONTRACTION JOINT (SCJ) DETAIL (2)
NTS



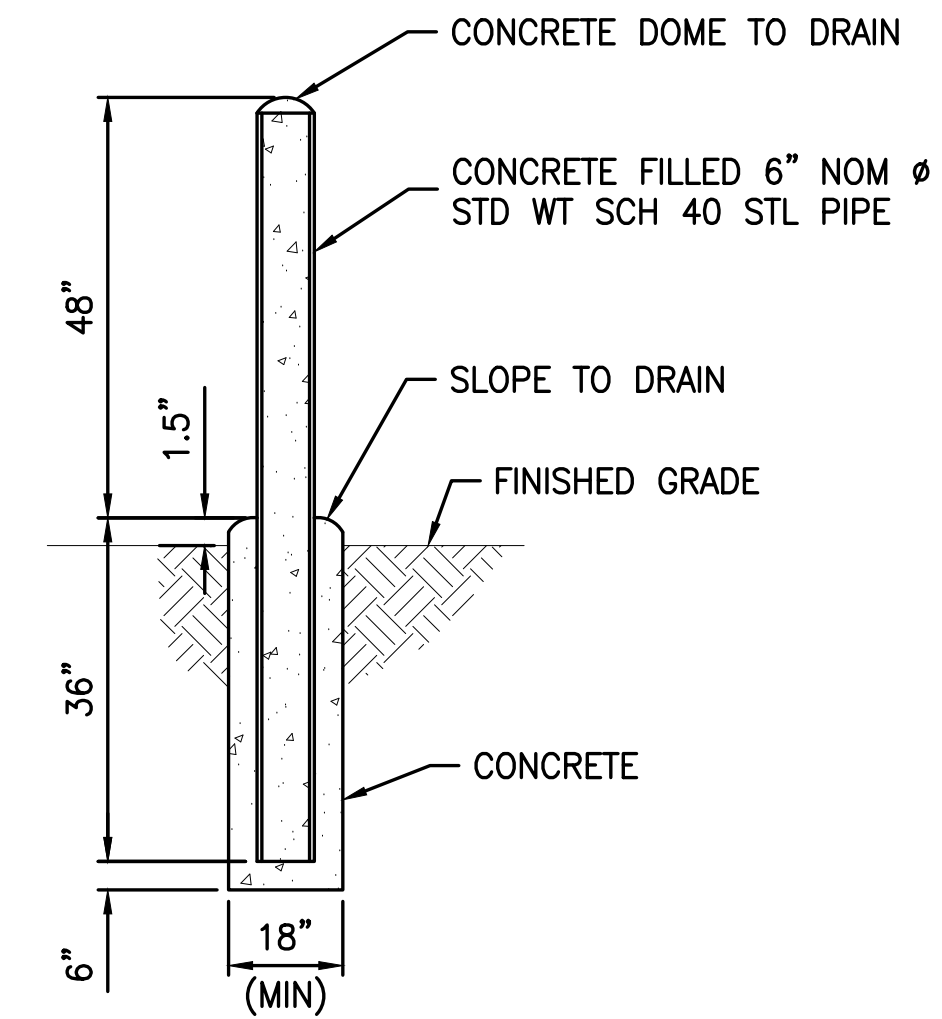
THICKENED SLAB EDGE (TS) DETAIL (3)
NTS



CONCRETE PAVEMENT DETAIL (4)
NTS

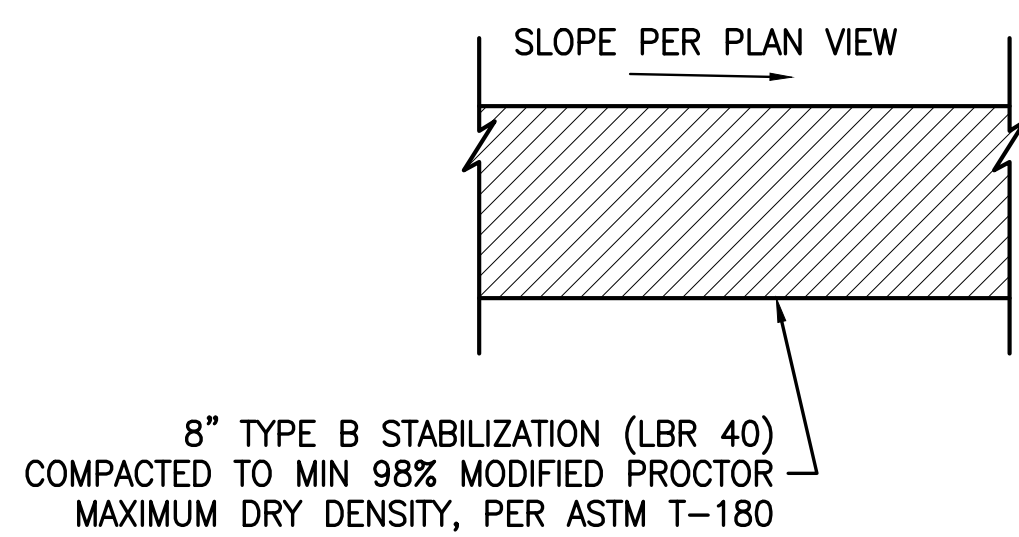


FDOT TYPE D CURB DETAIL (5)
NTS

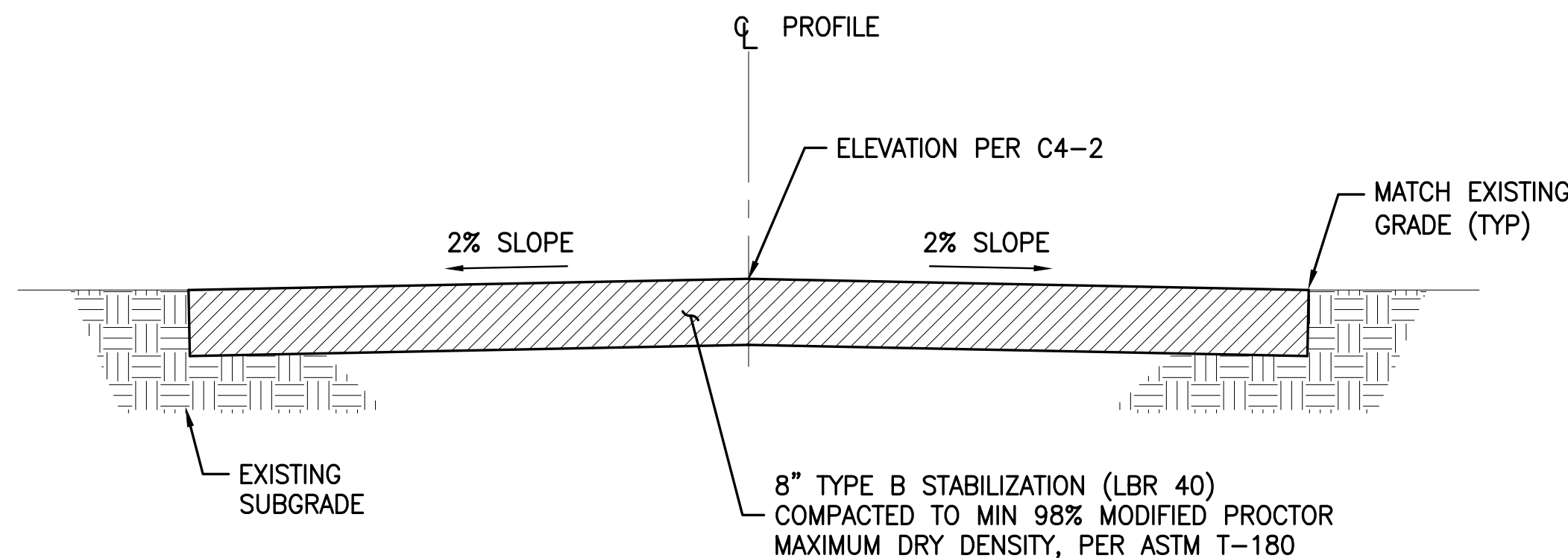


NOTES:
A. ACTUAL INSTALLATION LOCATION OF EACH BOLLARD SHALL BE AS SHOWN ON THE DRAWINGS OR AS DIRECTED IN THE FIELD.
B. PAINT ALL PIPING MATERIALS OSHA SAFETY YELLOW.

BOLLARD DETAIL (8)
NTS



STABILIZED ROAD DETAIL (6)
NTS



TYPICAL STABILIZED ROAD SECTION (7)
NTS

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BID DOCUMENTS

DESIGNED	W NICKEL		
DRAWN	D HAUBRICH		
CHECKED	R KOLLER		
LTR.	DATE	REVISIONS	BY

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**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

CIVIL DETAILS

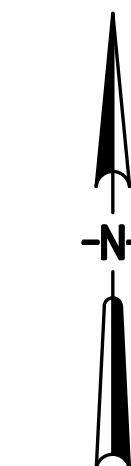
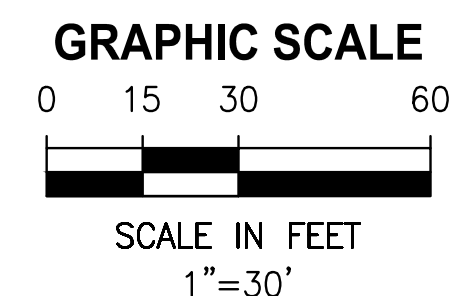
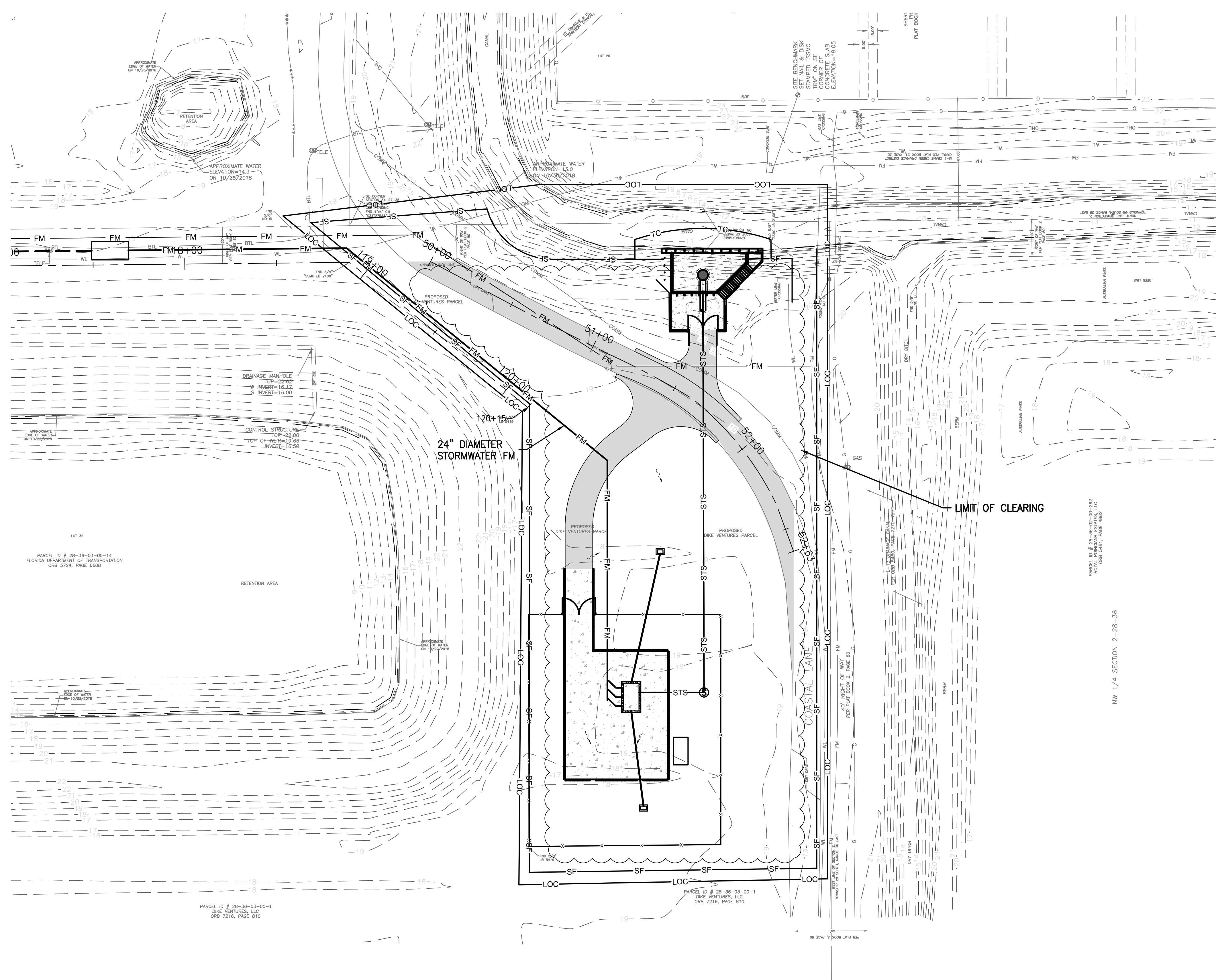
CERTIFICATE OF AUTHORIZATION #1841
APPROVED BY
W. NICKEL
P.E. # 68638

PROJECT NO:	DATE:
19750-066-01	AUG 2020
INDEX NO:	DWG NO:
	C4-6

GENERAL NOTES:

- CONTRACTOR IS RESPONSIBLE TO RESTORE COASTAL LANE TO IT'S ORIGINAL CONDITION.

Y:\19750-SURMWD\PROJECTS\066-01_CRANE_CREEK_M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\ENV\19750-066-01-EC4-1.DWG
 7/30/2020 8:42 AM MHOFFMAN



BID DOCUMENTS
 B
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LTR.	DATE	REVISIONS	BY	APPRD.
A	12/20/19	REVISED PER COWM	RK	RK

DESIGNED	A GOODDEN
DRAWN	D HAUBRICH
CHECKED	R KOLLER

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CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

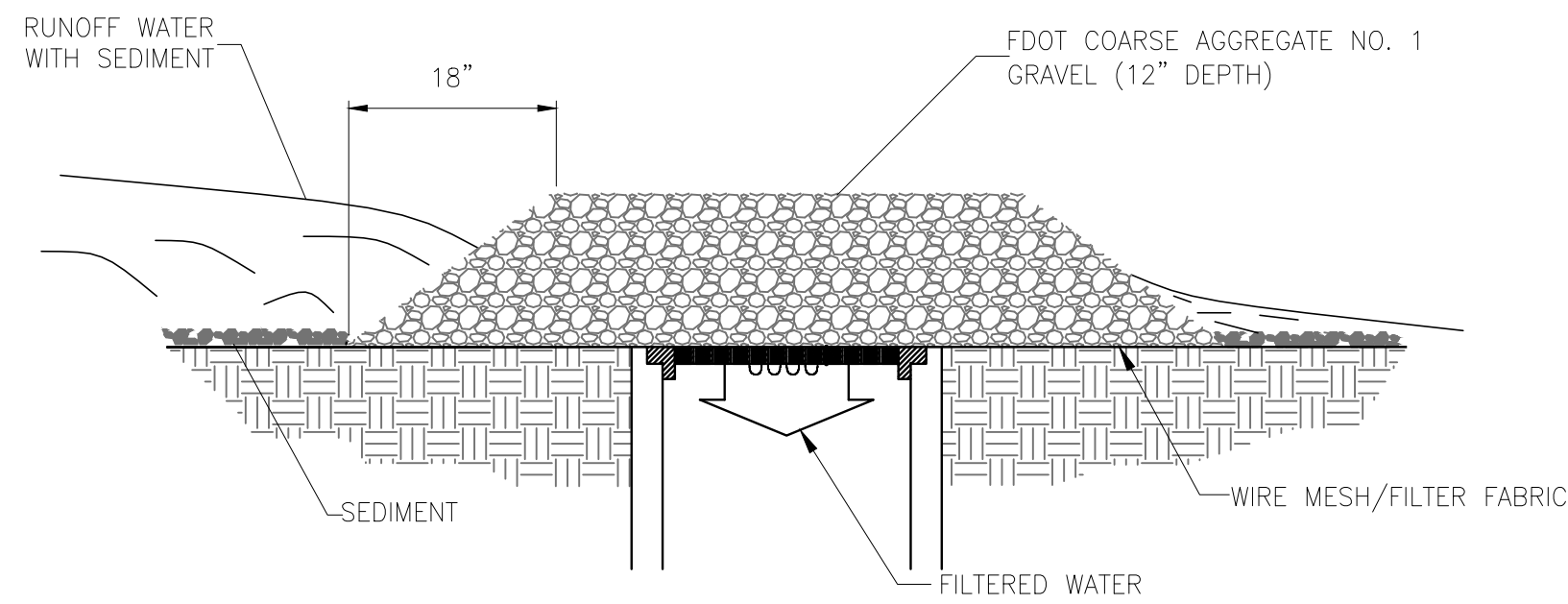
PUMP STATION EROSION CONTROL
PLAN

CERTIFICATE OF AUTHORIZATION #1841	
APPROVED BY	
A. GOODDEN	
P.E. # 60097	

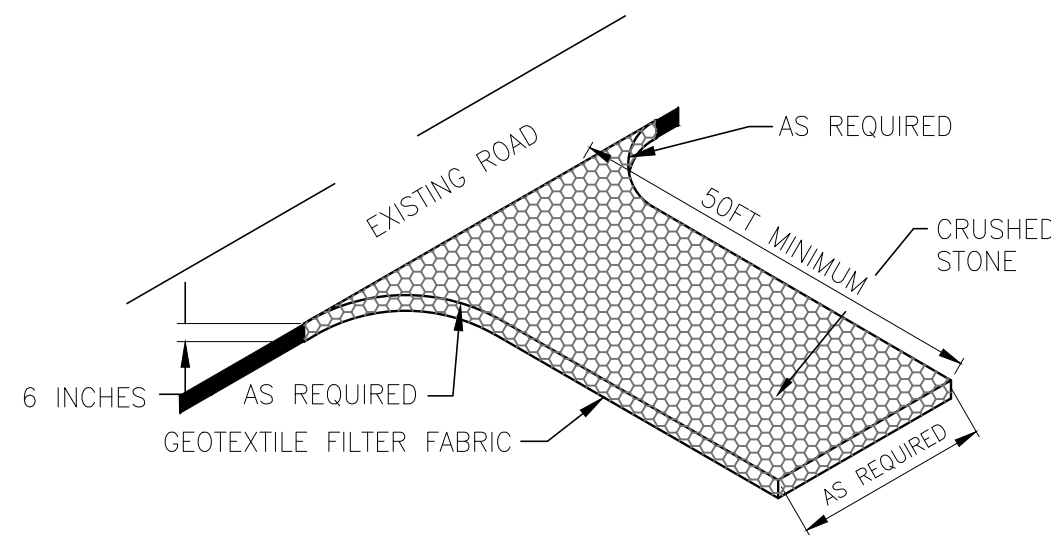
PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	EC4-1

SEDIMENT AND EROSION CONTROL NOTES

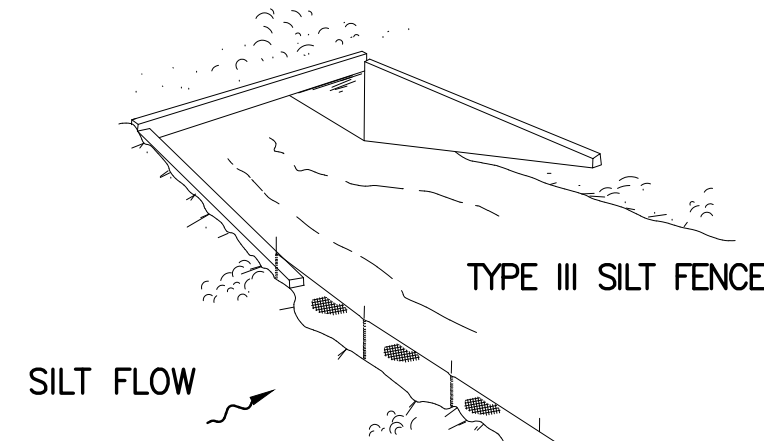
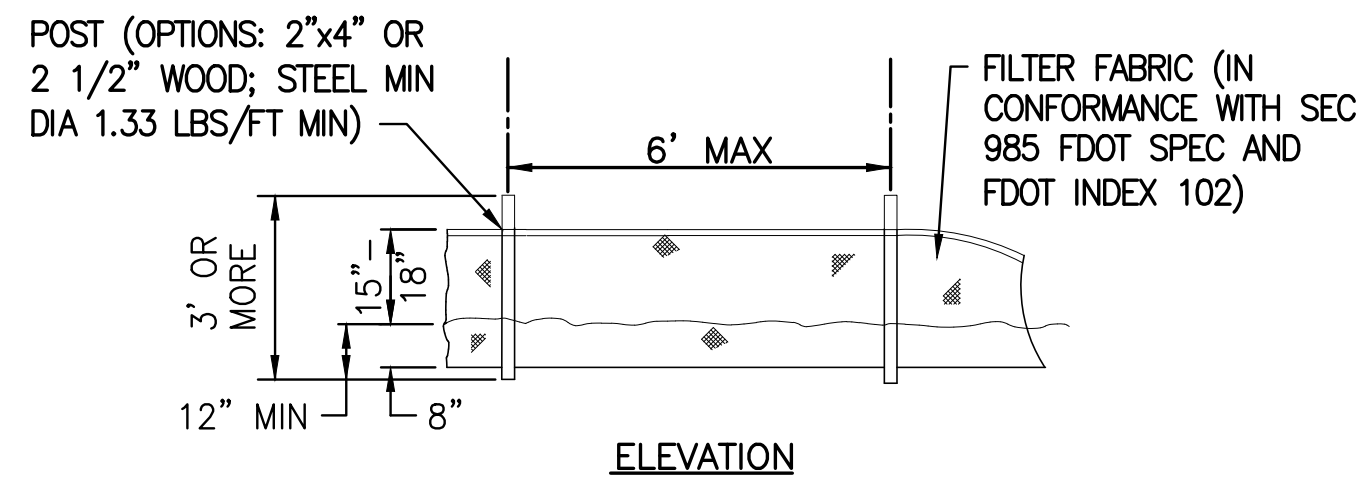
- THE SITE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED.
- BEST MANAGEMENT PRACTICES IN ADDITION TO THE ONES SHOWN ON THE PLAN SHEETS MUST BE PROVIDED IN ORDER TO PREVENT SILT FROM LEAVING THE PROJECT SITE DUE TO UNSEEN CONDITIONS AND ACCIDENTS.
- CONTRACTOR SHALL INSURE THAT ALL DRAINAGE STRUCTURES, PIPES, ETC. ARE CLEANED OUT AND WORKING PROPERLY AT TIME OF ACCEPTANCE.
- WIRE MESH SHALL BE LAID OVER THE DROP INLET SO THAT THE WIRE EXTENDS A MINIMUM 12" BEYOND EACH SIDE OF THE INLET STRUCTURE. HARDWARE CLOTH OR COMPARABLE WIRE MESH WITH 3/8" OPENINGS SHALL BE USED. IF MORE THAN ONE STRIP OF MESH IS NECESSARY, THE STRIPS SHALL BE OVERLAPPED.
- FDOT NO.1 COARSE AGGREGATE SHALL BE PLACED OVER THE WIRE MESH AS INDICATED ON SEDIMENT FILTER DETAIL (SEE DETAIL THIS SHEET). THE DEPTH OF STONE SHALL BE AT LEAST 12" OVER THE ENTIRE INLET OPENING. THE STONE SHALL EXTEND BEYOND THE INLET OPENING AT LEAST 18" ON ALL SIDES.
- IF THE STONE FILTER BECOMES CLOGGED WITH SEDIMENT SO THAT IT NO LONGER ADEQUATELY PERFORMS ITS FUNCTION, THE STONES MUST BE PULLED AWAY FROM THE INLET, CLEANED AND REPLACED.
- THE FILTER BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED TO A MINIMUM DEPTH OF 4". THE EXCAVATED SOIL SHALL BE BACKFILLED AND COMPACTED AGAINST THE FILTER BARRIER.
- NECESSARY REPAIRS TO BARRIERS SHALL BE ACCOMPLISHED PROMPTLY.
- ANY SEDIMENT DEPOSITS REMAINING IN PLACE, AFTER THE FILTER BARRIERS, AND OR SILT FENCES ARE NO LONGER REQUIRED, SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
- SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR SHOULD BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED IMMEDIATELY.
- THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- THE CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND SWALES AS WELL AS PROVIDE MEASURES TO PREVENT SILTATION OF STORMWATER TREATMENT SYSTEMS AND CONTROL STRUCTURES DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL MANAGE STORMWATER SUCH THAT IMPACT TO CONSTRUCTION IS MINIMIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK, INCLUDING PROVIDING EQUIPMENT, LABOR, FILL, ETC. NECESSARY TO REMEDIATE AND/OR RESTORE ALL AREAS IMPACTED BY EROSION, RUNOFF, AND STORMWATER.
- FOR ADDITIONAL INFORMATION ON SEDIMENT AND EROSION CONTROL REFER TO "EROSION AND SEDIMENT CONTROL DESIGNER AND REVIEWER MANUAL" AVAILABLE AT [HTTP://WWW.FDOT.GOV/ROADWAY/DRAINAGE/FILES/EROSION-SEDIMENT-CONTROL.PDF](http://www.fdot.gov/roadway/drainage/files/erosion-sediment-control.pdf) AND "FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL" AVAILABLE AT [HTTPS://WWW.DEP.STATE.FL.US/WATER/NONPOINT/DOCS/EROSION/EROSION-INSPECTORS-MANUAL.PDF](https://www.dep.state.fl.us/water/nonpoint/docs/erosion/erosion-inspectors-manual.pdf).
- EROSION AND SEDIMENT CONTROL BARRIERS SHALL BE PLACED ADJACENT TO ALL DOWNSTREAM AREAS WHERE THERE IS POTENTIAL FOR DOWNSTREAM WATER QUALITY DEGRADATION. SEE DETAILS (THIS SHEET) FOR TYPICAL CONSTRUCTION.
- SOD SHALL BE PLACED IN AREAS WHICH REQUIRE IMMEDIATE EROSION PROTECTION TO ENSURE WATER QUALITIES ARE MAINTAINED.
- ANY DISCHARGE FROM DEWATERING ACTIVITY SHALL BE FILTERED AND CONVEYED TO THE M-1 CANAL IN A MANNER WHICH PREVENTS EROSION AND TRANSPORTATION OF SUSPENDED SOLIDS IN THE M-1 CANAL.
- ALL DEWATERING, EROSION, AND SEDIMENT CONTROL SHALL REMAIN IN PLACE UNTIL AFTER COMPLETION OF CONSTRUCTION, AND REMOVED ONLY WHEN AREAS HAVE BEEN STABILIZED.
- THIS PLAN INDICATES THE MINIMUM EROSION AND SEDIMENT MEASURES REQUIRED FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL APPLICABLE RULES, REGULATIONS AND WATER QUALITY GUIDELINES AND MAY NEED TO INSTALL ADDITIONAL CONTROLS.
- THE CONTRACTOR SHALL BE REQUIRED TO RESPOND TO ALL WATER MANAGEMENT DISTRICT INQUIRES, RELATIVE TO COMPLIANCE OF NFWFMD AND FDEP FOR EROSION AND SEDIMENTATION CONTROL. THE COST OF THIS COMPLIANCE SHALL BE PART OF THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR FOLLOWING THE BEST EROSION AND SEDIMENT CONTROL PRACTICES AS OUTLINED IN THE PLANS AND SPECIFICATIONS AND THE SJRWMD AND FDEP RULES AND REGULATIONS.



GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER DETAIL (Sd2)
NTS



STABILIZED CONSTRUCTION ENTRANCE (Co)
NTS



TYPE III SILT FENCE

- NOTES:
- DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
 - WHEN JOINING BUTT ENDS OF SILT FENCE FABRIC; JOIN FABRIC ENDS, WRAP AROUND A POST 360-DEGREES, AND SET POST.

TYPICAL SILT FENCE (Sd1)
NTS

STORMWATER POLLUTION PREVENTION PLAN

INSPECTIONS MUST OCCUR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER

INSPECTOR: _____ FDEP NPDES STORMWATER IDENTIFICATION NUMBER: _____

LOCATION	RAIN DATA	TYPE OF CONTROL (SEE BELOW)	DATE INSTALLED / MODIFIED	CURRENT CONDITION (SEE BELOW)	CORRECTIVE ACTION / OTHER REMARKS

CONDITION CODE:
G = GOOD M = MARGINAL, NEEDS MAINTENANCE OR REPLACEMENT SOON P = POOR, NEEDS IMMEDIATE MAINTENANCE OR REPLACEMENT
C = NEEDS TO BE CLEARED O = OTHER

CONTROL TYPE CODES

1. SILT FENCE	10. STORM DRAIN INLET PROTECTION	19. REINFORCED SOIL RETAINING SYSTEM	28. TREE PROTECTION
2. EARTH DIKES	11. VEGETATIVE BUFFER STRIP	20. GABION	29. DETENTION POND
3. STRUCTURAL DIVISION	12. VEGETATIVE PRESERVATION AREA	21. SEDIMENT BASIN	30. RETENTION POND
4. SWALE	13. RETENTION POND	22. TEMPORARY SEED / SOD	31. WASTE DISPOSAL / HOUSEKEEPING
5. SEDIMENT TRAP	14. CONSTRUCTION ENTRANCE STABILIZATION	23. PERMANENT SEED / SOD	32. DAM
6. CHECK DAM	15. PERIMETER DITCH	24. MULCH	33. SAND BAG
8. PIPE SLOPE DRAIN	16. CURB AND GUTTER	25. WATTLES	34. OTHER
9. LEVEL SPREADERS	17. PAVED ROAD SURFACE	26. GEOTEXTILE	
9. LEVEL SPREADERS	18. ROCK OUTLET PROTECTION	27. RIP-RAP	

INSPECTOR INFORMATION:

NAME: _____ QUALIFICATION: _____ DATE: _____
THE ABOVE SIGNATURE ALSO SHALL CERTIFY THAT THIS FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES IF THERE ARE NOT ANY INCIDENTS OF NON-COMPLIANCE IDENTIFIED ABOVE.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

NAME (RESPONSIBLE AUTHORITY) _____ DATE _____

SAVED: 6/2/2020 4:49 PM LHABERMAN Y:\19750-SJRWMD\PROJECTS\066-01-CRANE CREEK M-1_FLOW_RESTORATION\DESIGN\CAD\DWGS\ENV\19750-066-01-EC4-3.DWG

BID DOCUMENTS

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPR.
A	12/20/19	REVISED PER COWM	RK	RK

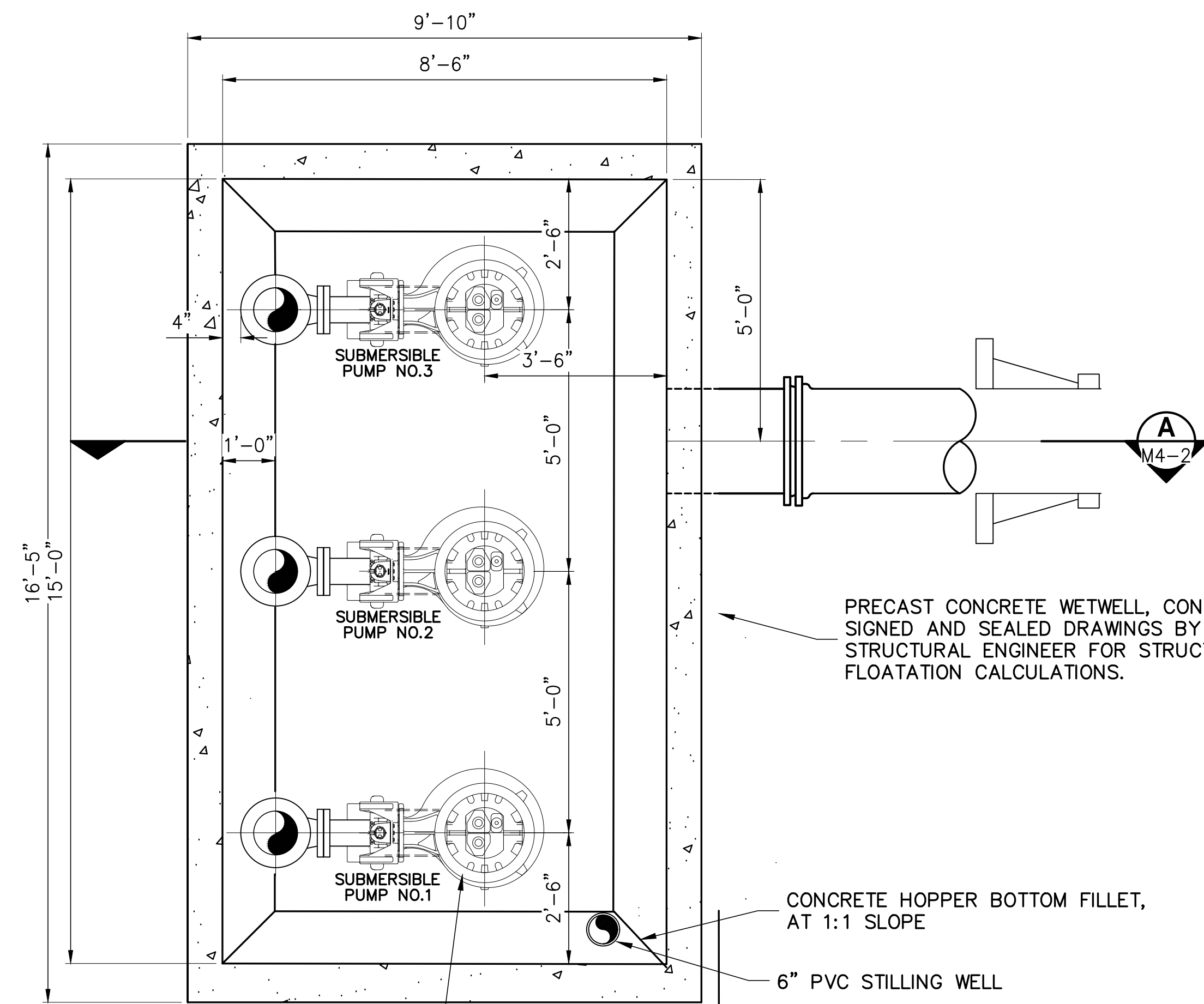
JonesEdmunds

CERTIFICATE OF AUTHORIZATION #1841
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**EROSION CONTROL
NOTES AND DETAILS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	AUG 2020
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		EC4-3

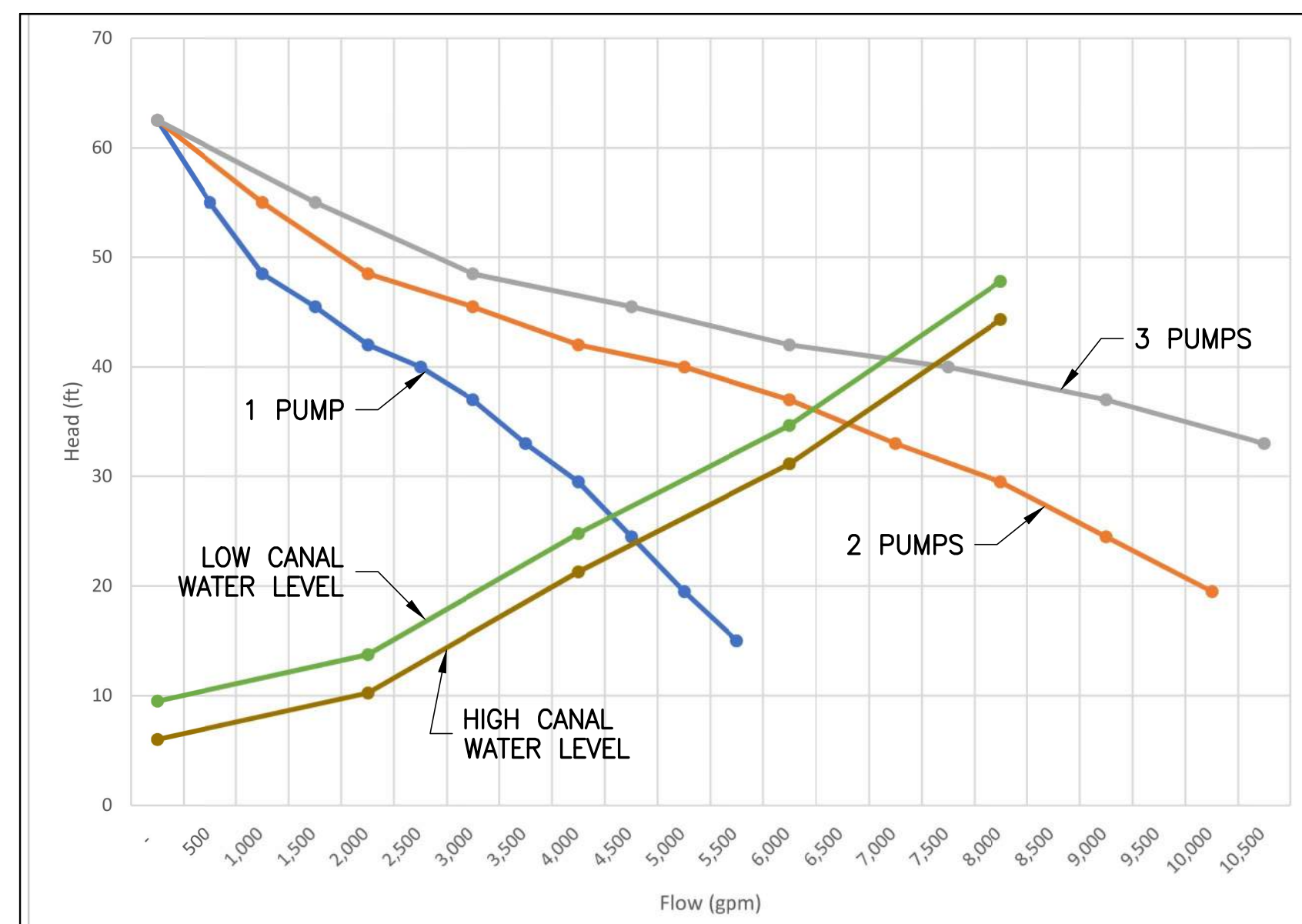
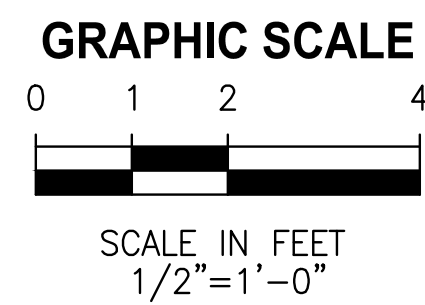


PRECAST CONCRETE WETWELL, CONTRACTOR TO SUBMIT SIGNED AND SEALED DRAWINGS BY A LICENSED STRUCTURAL ENGINEER FOR STRUCTURAL DESIGN AND FLOATATION CALCULATIONS.

CONCRETE HOPPER BOTTOM FILLET, AT 1:1 SLOPE
6" PVC STILLING WELL

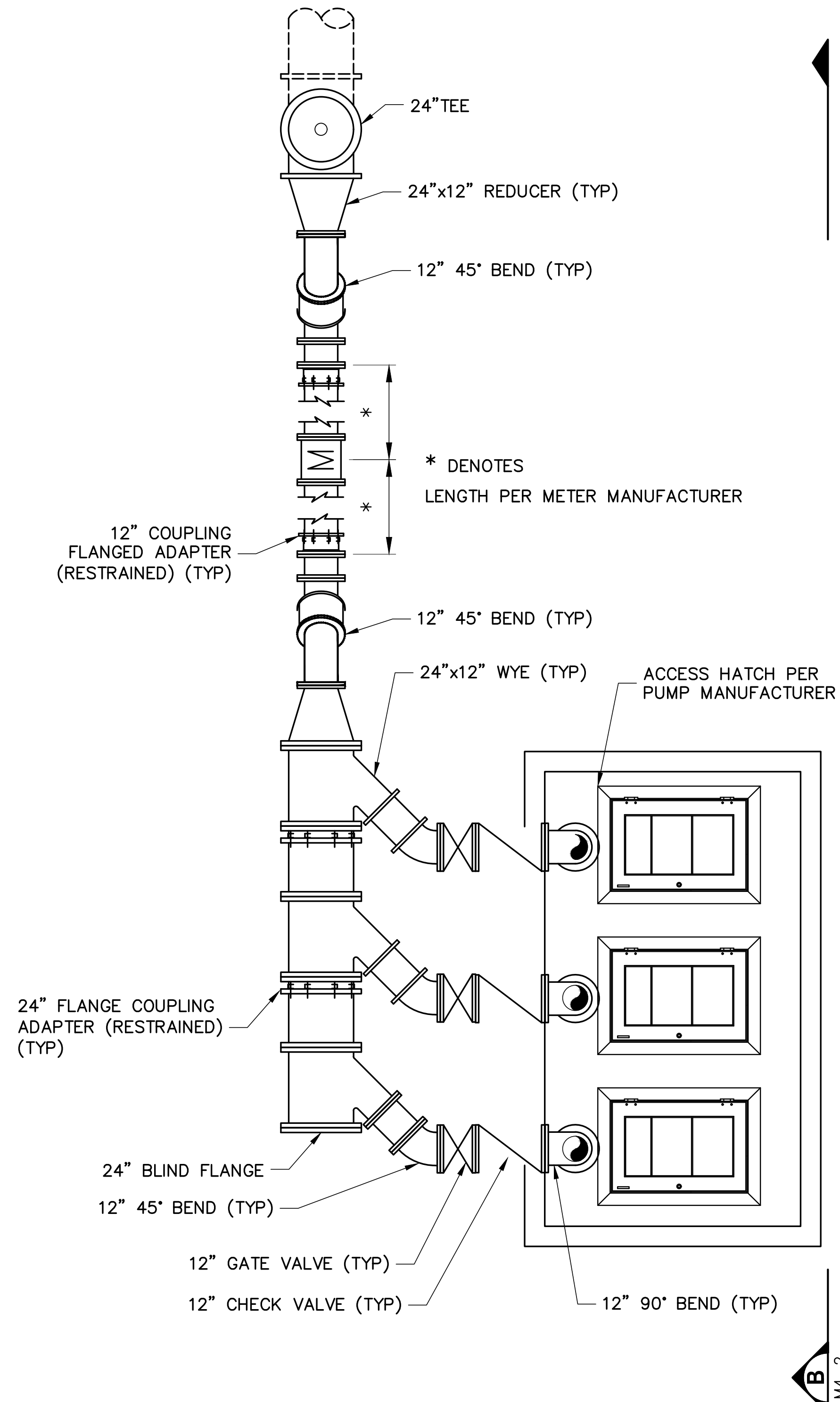
PUMP, SEE BELOW (3 TYP.)

LOWER PLAN 1



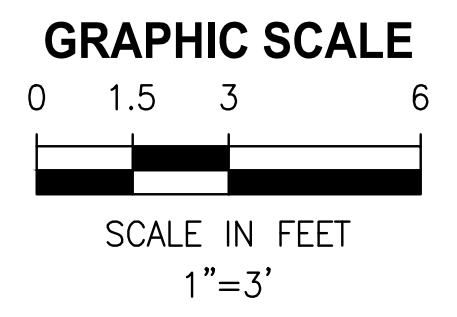
PUMP AND SYSTEM CURVES

BASIS OF DESIGN
HYDROMATIC S12LXP
12.38 IN. IMPELLER
40 HP



* DENOTES LENGTH PER METER MANUFACTURER

ACCESS HATCH PER PUMP MANUFACTURER



UPPER PLAN 1

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BID DOCUMENTS

DESIGNED	D. YOUNG			
DRAWN	D. HAUBRICH			
CHECKED	R. KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

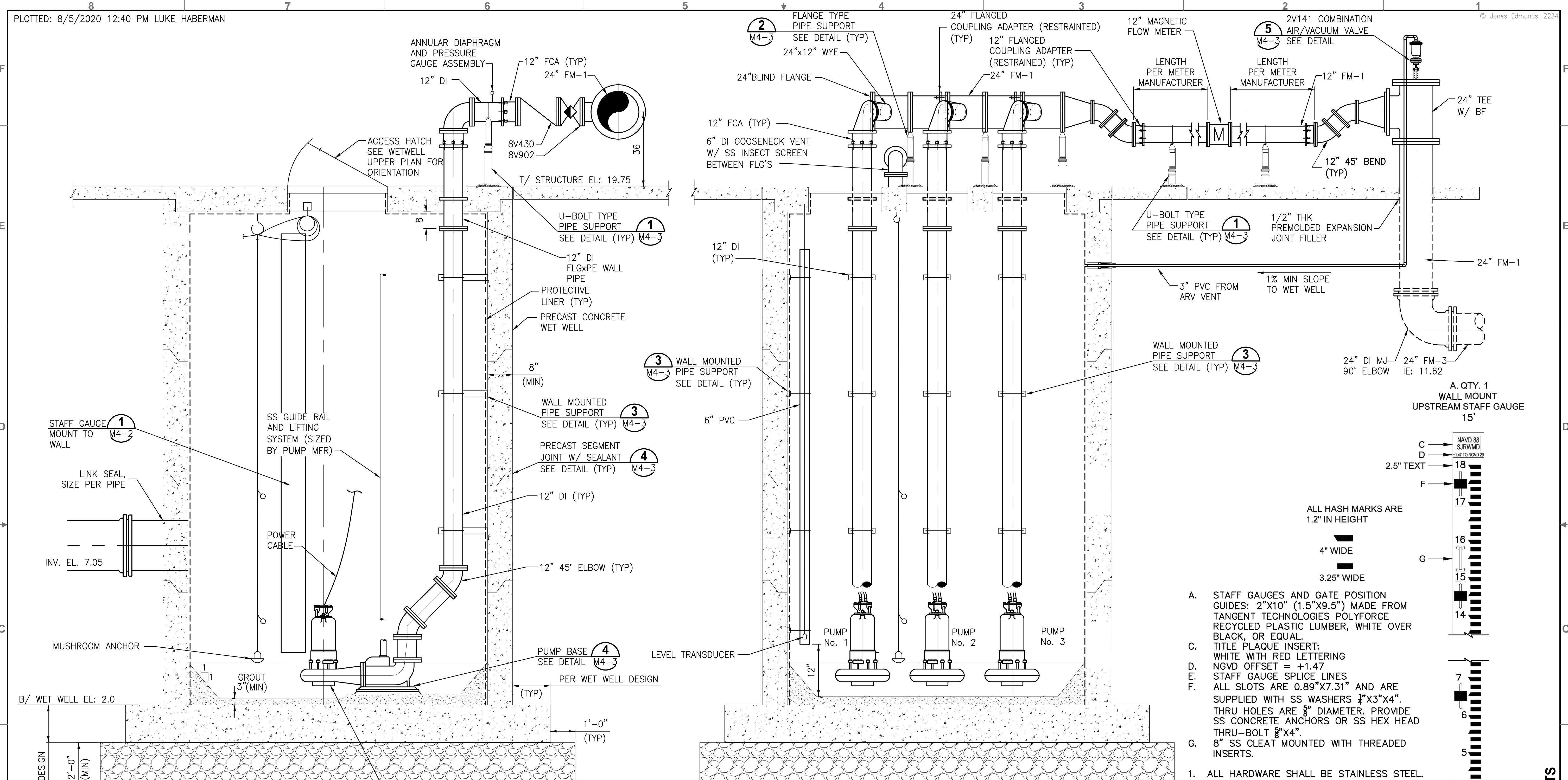
JonesEdmunds
CERTIFICATE OF AUTHORIZATION #1841
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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

PUMP STATION PLAN

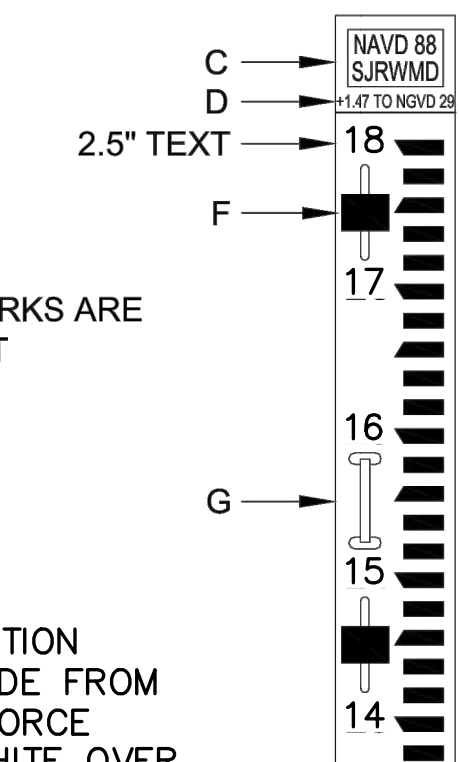
CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY D. YOUNG P.E. # 44204	INDEX NO:	DWG NO: M4-1

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1. U-BOLT TYPE PIPE SUPPORT SEE DETAIL (TYP) M4-3
2. FLANGE TYPE PIPE SUPPORT SEE DETAIL (TYP) M4-3
3. WALL MOUNTED PIPE SUPPORT SEE DETAIL (TYP) M4-3
4. PUMP BASE SEE DETAIL M4-3
5. 2V141 COMBINATION AIR/VACUUM VALVE SEE DETAIL

A. QTY. 1
WALL MOUNT
UPSTREAM STAFF GAUGE
15'



- A. STAFF GAUGES AND GATE POSITION GUIDES: 2"x10" (1.5"x9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
 - C. TITLE PLAQUE INSERT: WHITE WITH RED LETTERING
NGVD OFFSET = +1.47
 - D. STAFF GAUGE SPLICE LINES
 - F. ALL SLOTS ARE 0.89"x7.31" AND ARE SUPPLIED WITH SS WASHERS 1/2"x3"x4". THRU HOLES ARE 5/8" DIAMETER. PROVIDE SS CONCRETE ANCHORS OR SS HEX HEAD THRU-BOLT 3/8"x4".
 - G. 8" SS CLEAT MOUNTED WITH THREADED INSERTS.
1. ALL HARDWARE SHALL BE STAINLESS STEEL.
2. ELEVATIONS MARKED IN REFERENCE TO NAVD88.

STAFF GAUGE DETAIL 1
N.T.S.

PUMP LEVEL CONTROL

FUNCTION	CONTROLLED BY	ELEVATION
HIGH LEVEL ALARM - ALL PUMPS ON	FLOAT	14.25
LAG - LAG PUMP ON	TRANSDUCER	14.00
LAG PUMP ON	TRANSDUCER	13.25
LEAD PUMP ON	TRANSDUCER	11.50
ALL PUMPS OFF	TRANSDUCER	11.25
LOW LEVEL ALARM - ALL PUMPS OFF	FLOAT	11.00

SECTION A
N.T.S.

SECTION B
N.T.S.

BID DOCUMENTS

DESIGNED	D. YOUNG
DRAWN	D. HAUBRICH
CHECKED	R. KOLLER

LTR.	DATE	REVISIONS	BY	APPRD.

JonesEdmunds

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8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

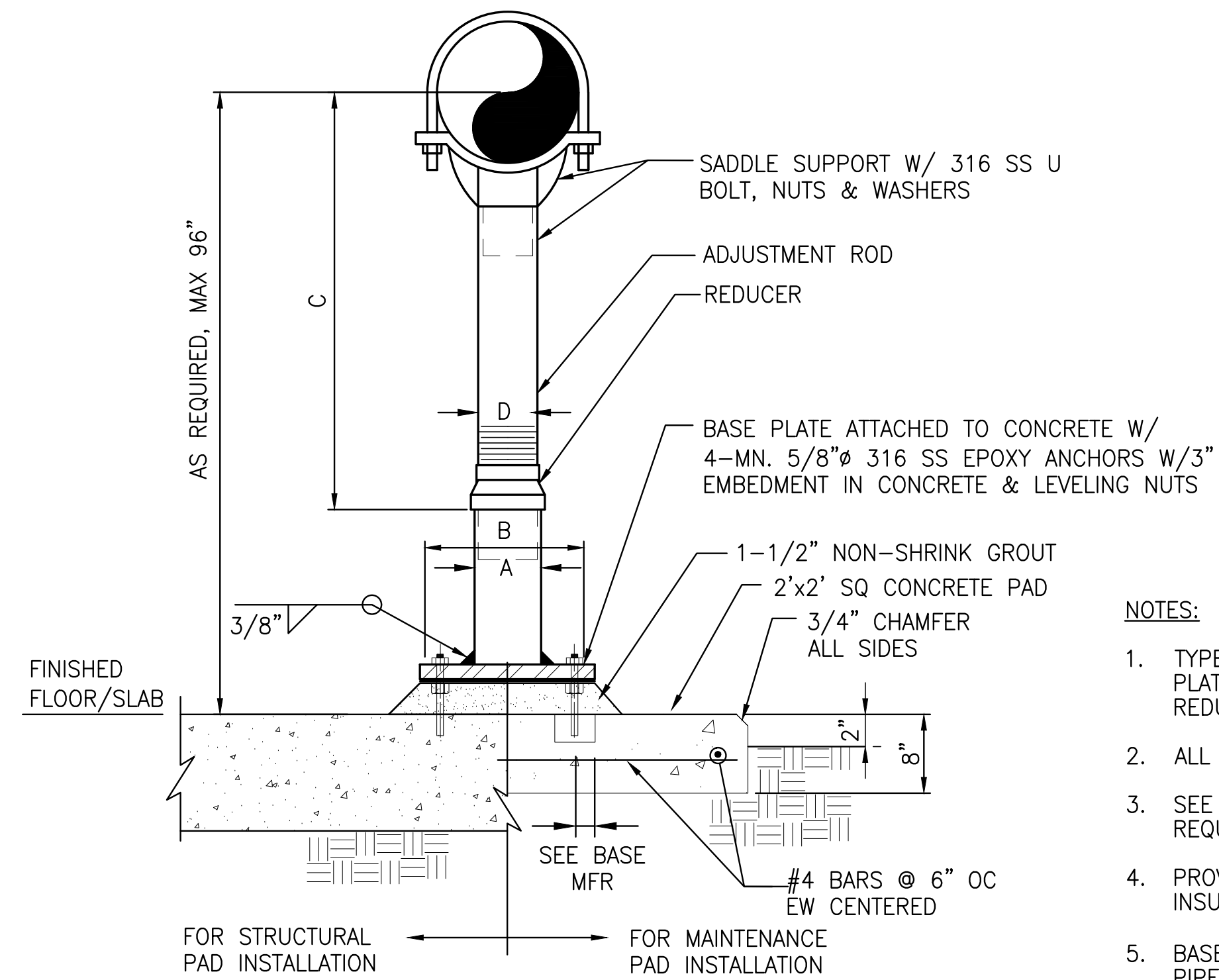
CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

PUMP STATION SECTIONS

CERTIFICATE OF AUTHORIZATION #1841		PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY: D. YOUNG		INDEX NO:	DWG NO: M4-2
P.E. # 44204			

**PIPE SUPPORT
 DIMENSION TABLE**

PIPE SIZE	A	B	C		D
			MIN	MAX	
INCHES					
4	4	9	9 1/4	14	3
5	4	9	10	14 3/4	3
6	4	9	10 1/2	15 1/4	3
8	4	9	11 3/4	16 1/2	3
10	4	9	13 1/2	18 1/4	3
12	4	9	15	19 3/4	3
14	4	11	16 1/4	20 3/4	3
16	4	11	17 3/4	22 1/4	3
18	6	13 1/2	19 1/2	24	4
20	6	13 1/2	21	25 1/2	4
24	6	13 1/2	23 3/4	28 1/4	4



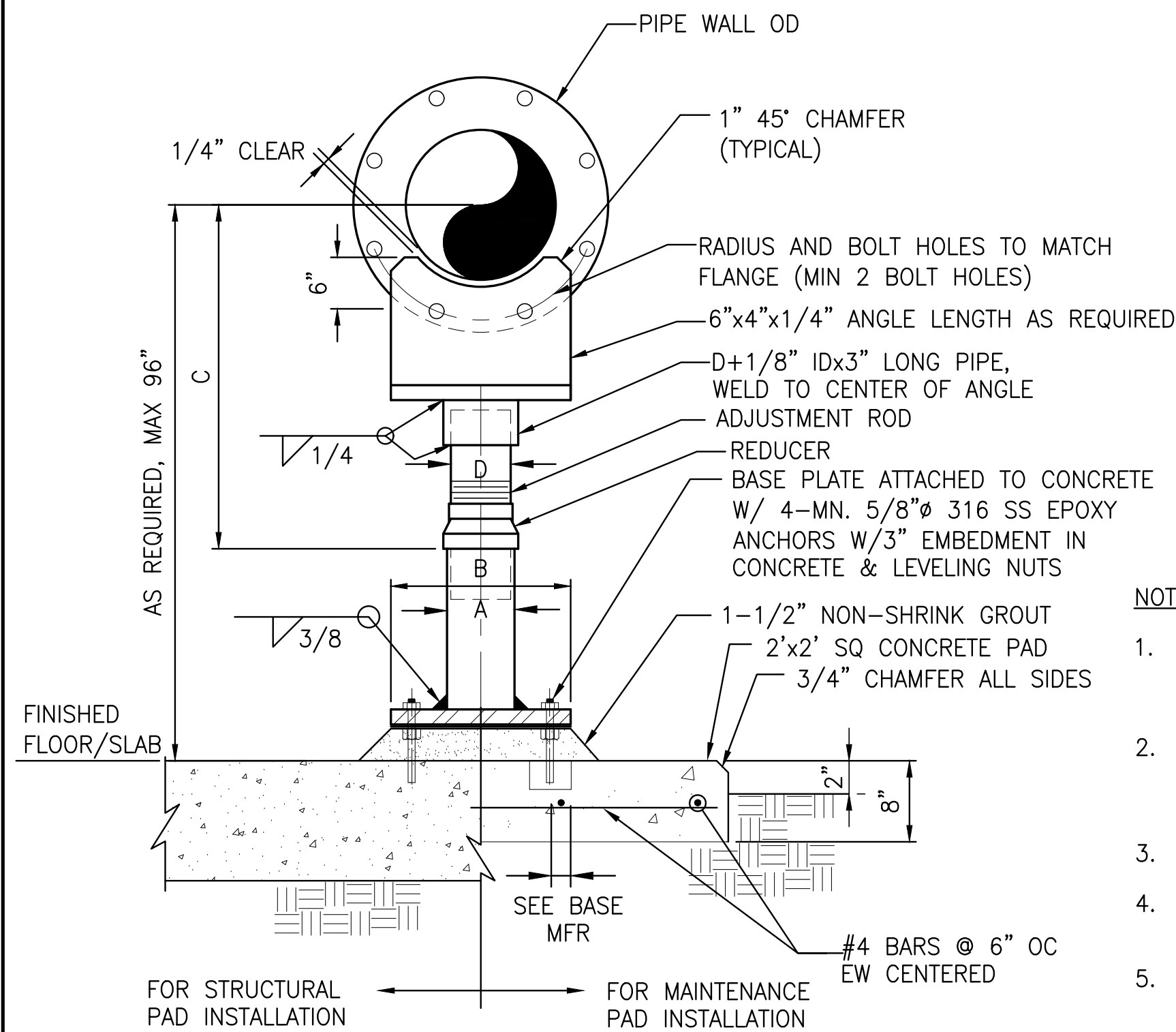
PIPE SUPPORT - U-BOLT TYPE 1
 NTS

NOTES:

- TYPE 1 PIPE SUPPORT: PIPE SADDLE, ADJUSTMENT ROD, BASE PLATE, ETC. SHALL BE HOT DIP GALVANIZED CARBON STEEL. REDUCER SHALL BE CAST IRON.
- ALL HARDWARE SHALL BE 316 SS.
- SEE PLANS AND SECTIONS FOR PIPE CENTERLINE ELEVATION REQUIREMENTS.
- PROVIDE RIGID INSULATION PROTECTION SHIELD WHERE PIPING IS INSULATED.
- BASE PLATES SHALL BE SQUARE AND BE 3/8-INCH THICK FOR PIPE SIZES THROUGH 10-INCH. FOR ALL LARGER PIPES BEING SUPPORTED, THE BASE PLATES SHALL BE 1/2-INCH THICK.

**PIPE SUPPORT
 DIMENSION TABLE**

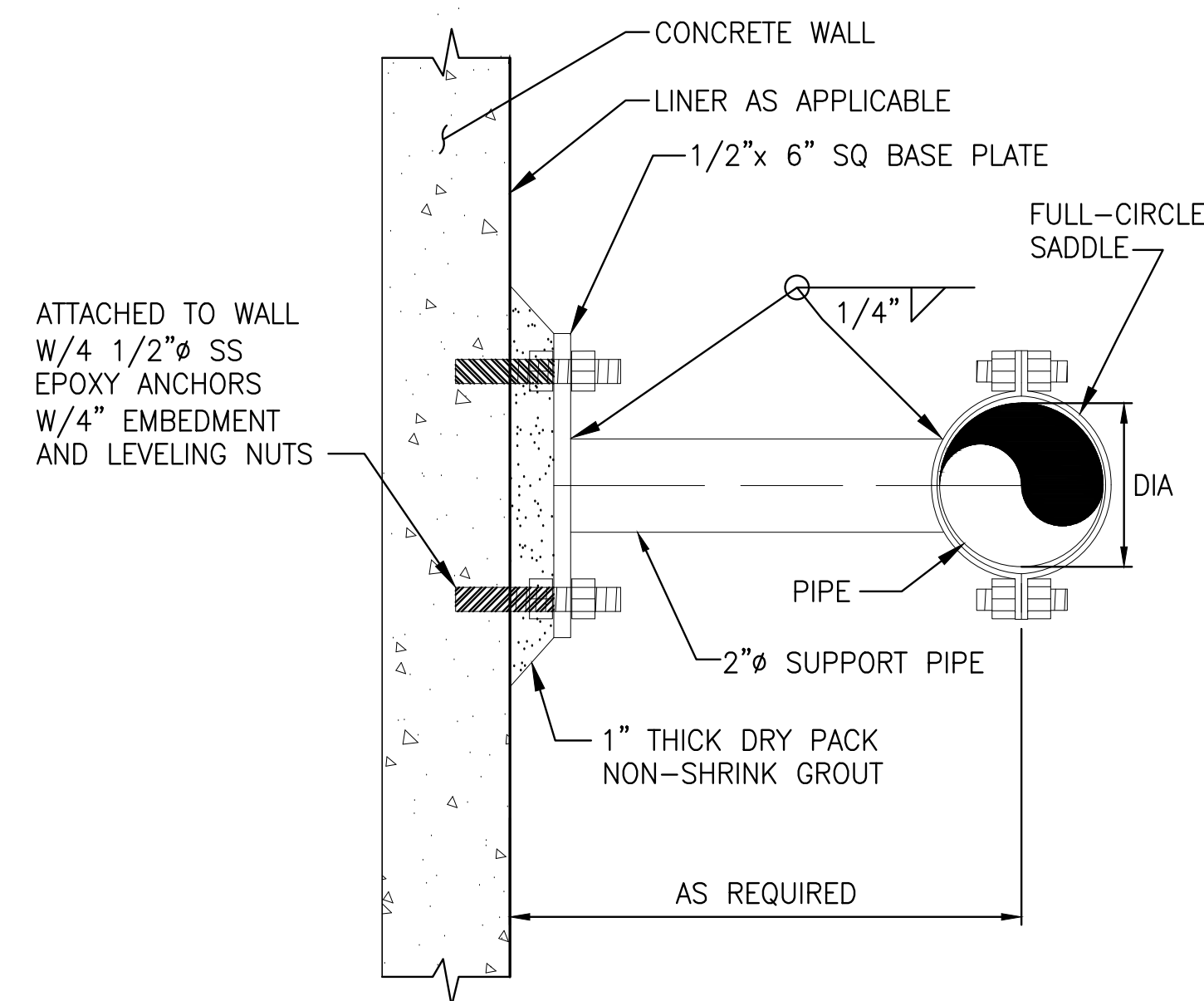
PIPE SIZE	A	B	C		D
			MIN	MAX	
INCHES					
4	4	9	9 1/4	14	3
5	4	9	10	14 3/4	3
6	4	9	10 1/2	15 1/4	3
8	4	9	11 3/4	16 1/2	3
10	4	9	13 1/2	18 1/4	3
12	4	9	15	19 3/4	3
14	4	11	16 1/4	20 3/4	3
16	4	11	17 3/4	22 1/4	3
18	6	13 1/2	19 1/2	24	4
20	6	13 1/2	21	25 1/2	4
24	6	13 1/2	23 3/4	28 1/4	4



FLANGE TYPE PIPE SUPPORT DETAIL 2
 NTS

NOTES:

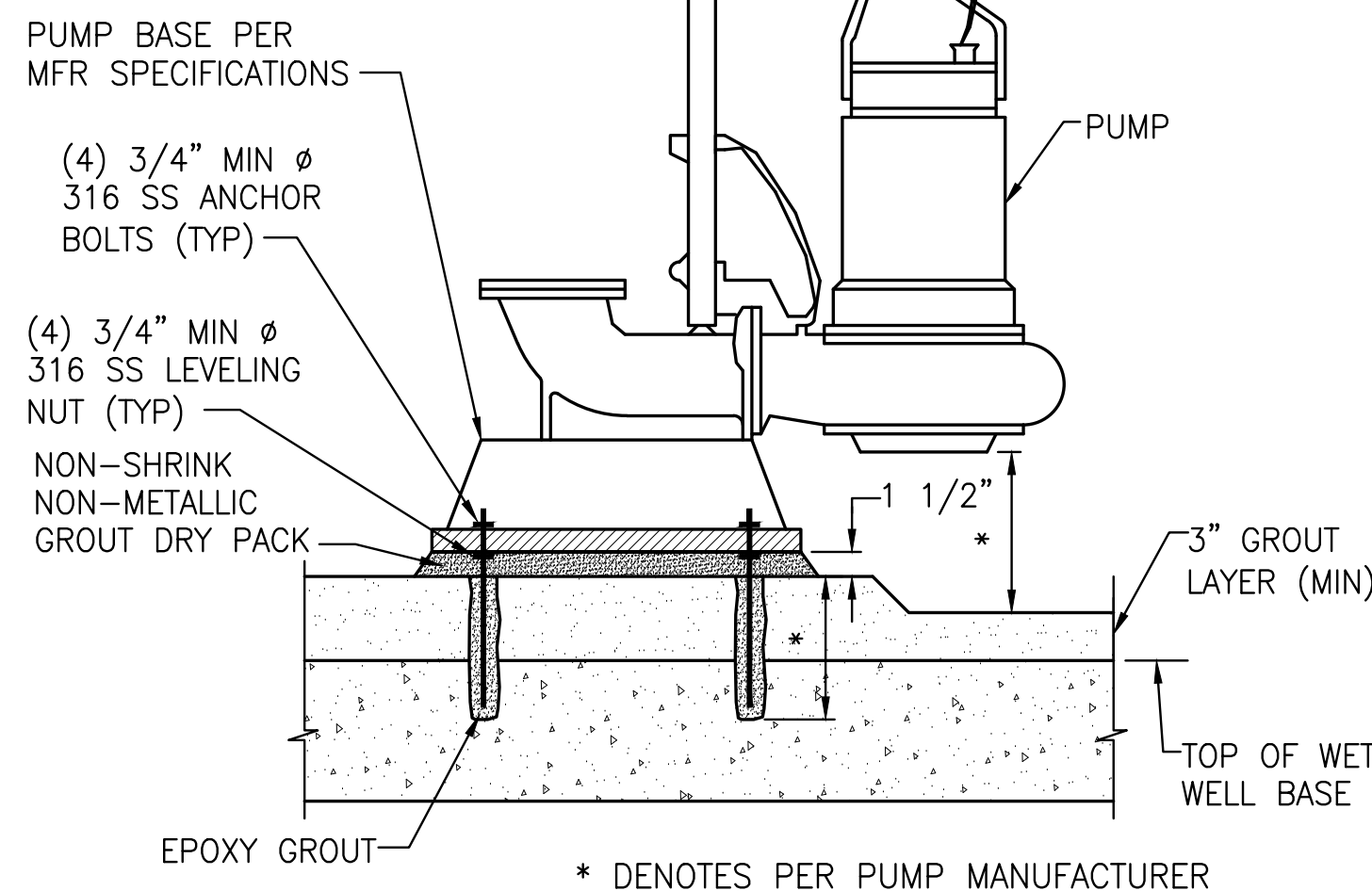
- TYPE 1 PIPE SUPPORT: PLATE, PIPE SADDLE, ADJUSTMENT ROD, BASE PLATE, ETC. SHALL BE HOT DIP GALVANIZED CARBON STEEL. REDUCER SHALL BE CAST IRON.
- HOT DIP GALVANIZE ENTIRE PIPE SUPPORT AND STEEL BASE PLATE AFTER FABRICATION (EXCEPT FOR STAINLESS STEEL FASTENING HARDWARE).
- ALL HARDWARE SHALL BE 316 SS.
- SEE PLANS AND SECTIONS FOR PIPE CENTERLINE ELEVATION REQUIREMENTS.
- PROVIDE RIGID INSULATION PROTECTION SHIELD WHERE PIPING IS INSULATED.
- BASE PLATES SHALL BE SQUARE AND BE 3/8-INCH THICK FOR PIPE SIZES THROUGH 10-INCH. FOR ALL LARGER PIPES BEING SUPPORTED, THE BASE PLATES SHALL BE 1/2-INCH THICK.



NOTES:

- ALL HARDWARE, PLATE, SADDLE, PIPE SUPPORT, ETC. SHALL BE 316 SERIES SS.
- SUPPORT PIPE SHALL BE SCH 40.

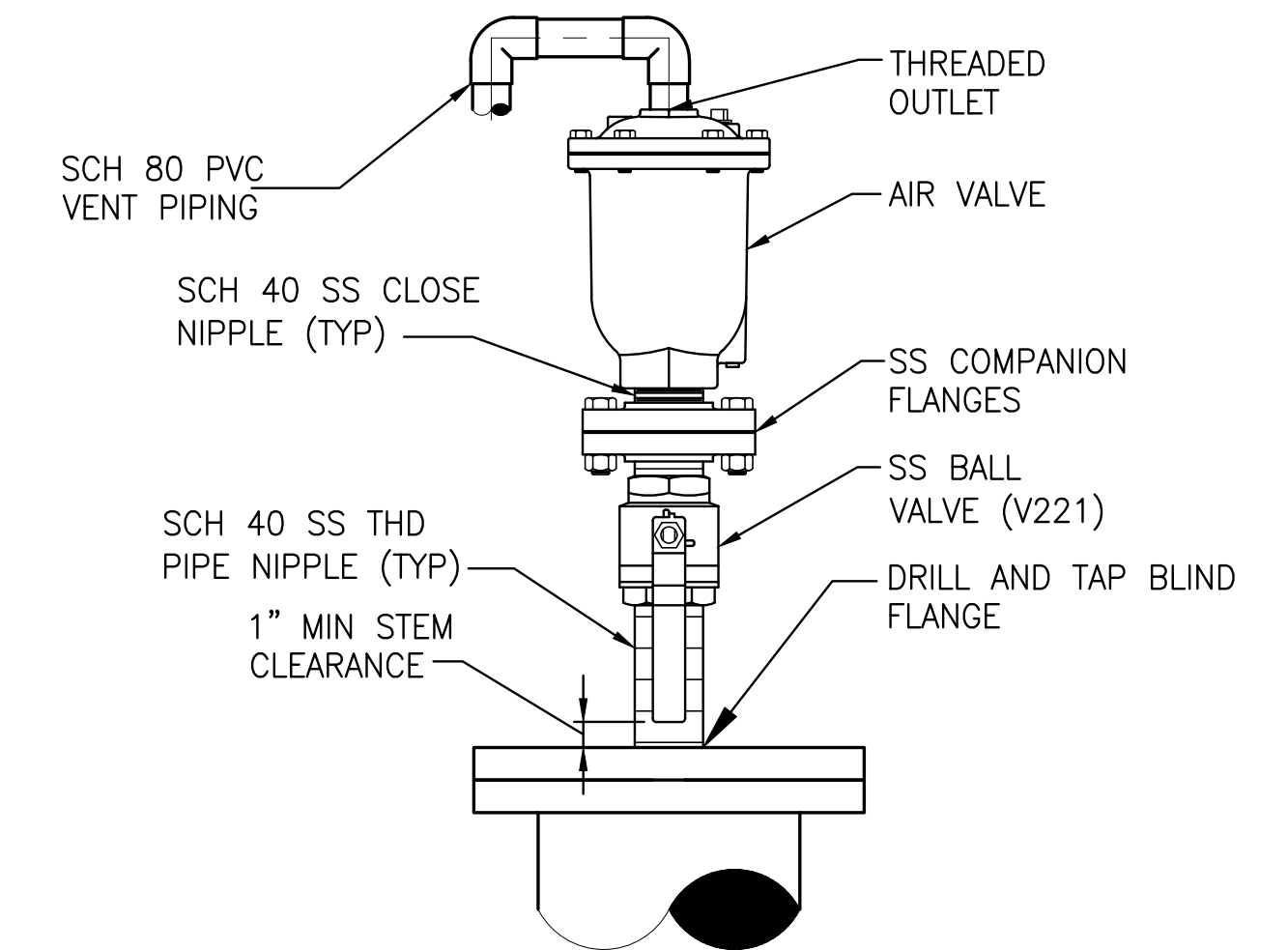
PIPE SUPPORT - WALL MOUNTED 3
 NTS



NOTE:

- FORM BENCH AS DIRECTED BY PUMP MANUFACTURER.

PUMP BASE DETAIL 4
 NTS



NOTES:

- SEE DRAWINGS FOR AIR VALVE TYPE AND INLET DIAMETER.
- BALL VALVE AND NIPPLES SHALL HAVE THE SAME DIAMETER AS THE AIR VALVE INLET.
- VERIFY SIZE OF VALVE PRIOR TO ORDERING ANCILLARY PARTS, DRILLING OR TAPPING.
- VENT PIPING SHALL BE DRAINED TO WET WELL AS SHOWN ON THE PLANS.

FLANGE MOUNTED AIR VALVE 5
 NTS

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 7/30/2020 10:58 AM MHOFFMAN

DESIGNED	D YOUNG
DRAWN	D HAUBRICH
CHECKED	R KOLLER

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

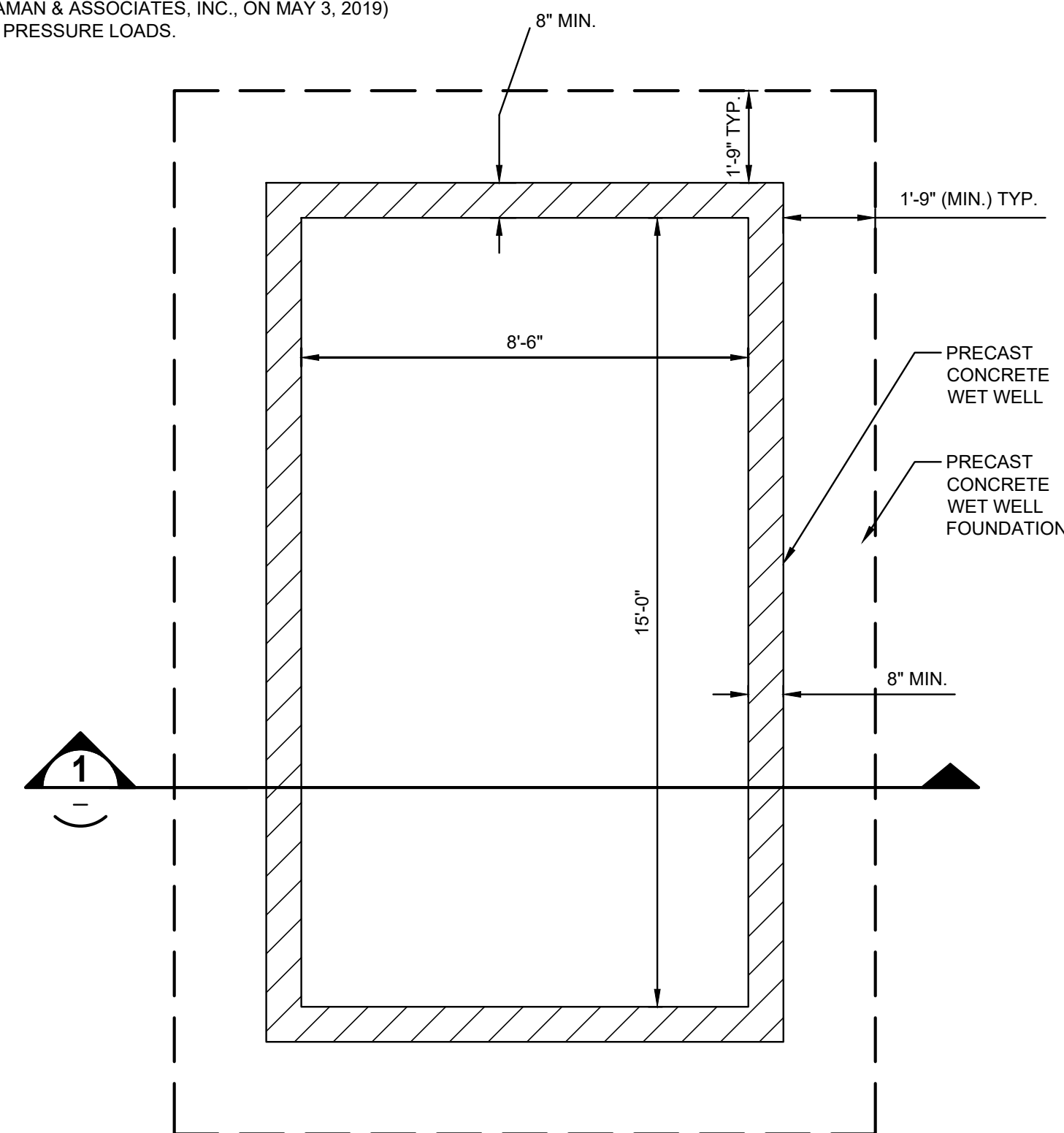
**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

PUMP STATION DETAILS

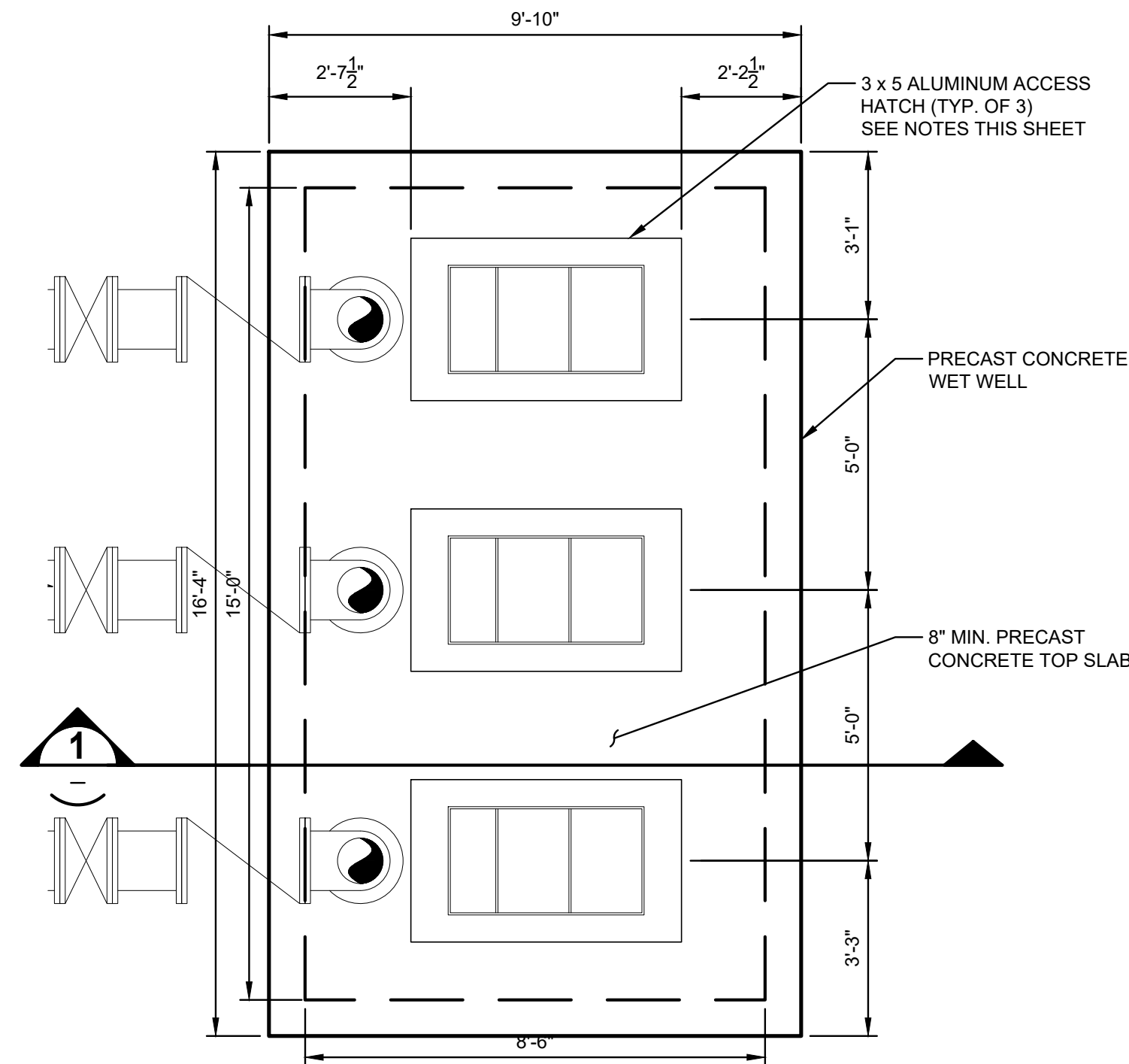
CERTIFICATE OF AUTHORIZATION #1841
APPROVED BY
D. YOUNG
P.E. # 44204

PROJECT NO:	DATE:
19750-066-01	AUG 2020
INDEX NO:	DWG NO:
	M4-3

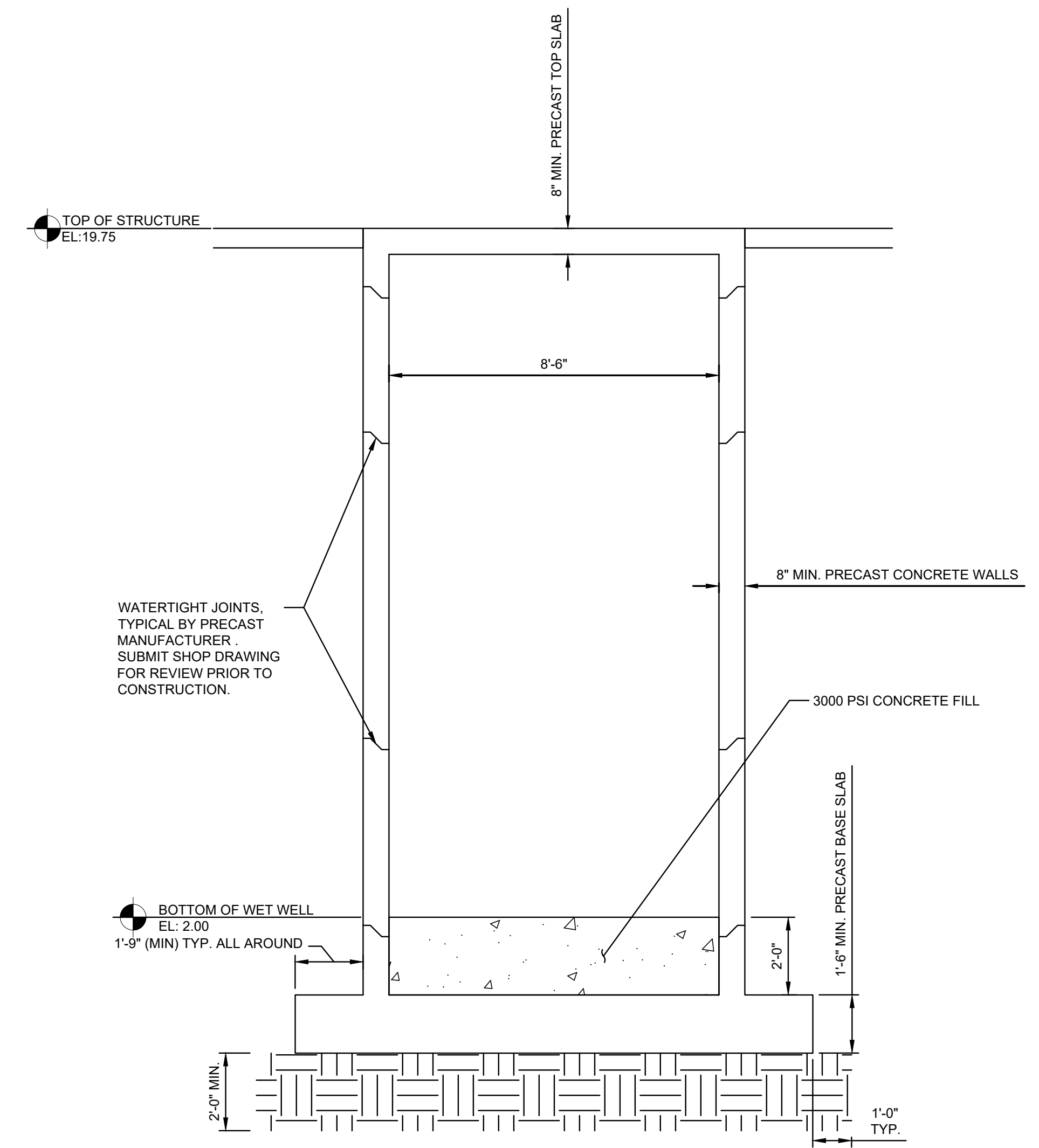
- NOTES:
- SEE SHEET G7 FOR GENERAL NOTES AND OTHER INFORMATION.
 - COORDINATE LOCATION OF ALL MECHANICAL EQUIPMENT AND PIPING WITH MECHANICAL DRAWINGS PRIOR TO CONSTRUCTION.
 - PRECAST STRUCTURE SHALL BE DESIGNED FOR A WATER TABLE AT TOP OF STRUCTURE AND A MINIMUM SAFETY OF FACTOR RESISTING BUOYANCY OF 1.20. INCLUDE BUOYANT WEIGHT OF SOIL OVER TOE IN CALCULATIONS.
 - LIVE LOAD ON TOP SLAB = 200 PSF AND ON HATCHES = 300 PSF. TOP SLAB SHALL HAVE OPENINGS FOR HATCHES COORDINATED PRIOR TO CONSTRUCTION.
 - UNDER THE PRECAST SLAB ON GRADE FOUNDATION, COMPACT SUBGRADE TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557) FOR A DEPTH OF 2 FEET. COMPACT MAXIMUM LIFTS OF 1 FOOT.
 - ALUMINUM ACCESS HATCHES SHALL BE DESIGNED FOR 300 PSF LIVE LOAD. CONTRACTOR TO VERIFY SIZE AND LOCATION MEETS REQUIREMENTS OF PUMP INSTALLATION AND MAINTENANCE PRIOR TO PURCHASE AND CONSTRUCTION.
 - REFER TO GEOTECHNICAL REPORT (PROJECT NO. 18-23-5319 COMPLETED BY ARDAMAN & ASSOCIATES, INC. ON MAY 3, 2019) FOR LATERAL EARTH PRESSURE LOADS.



PUMP STATION BASE PLAN A
 $\frac{3}{8}'' = 1'-0''$
 S4-1



PUMP STATION TOP PLAN B
 $\frac{3}{8}'' = 1'-0''$
 S4-1



SECTION 1
 $\frac{3}{8}'' = 1'-0''$
 S4-1

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 7/31/2020 2:38 PM JGALLER

LTR.	DATE	REVISIONS	BY	APPRD.	CHECKED

DESIGNED M THUE
 DRAWN J GALLER
 CHECKED D CRAPPS

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 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

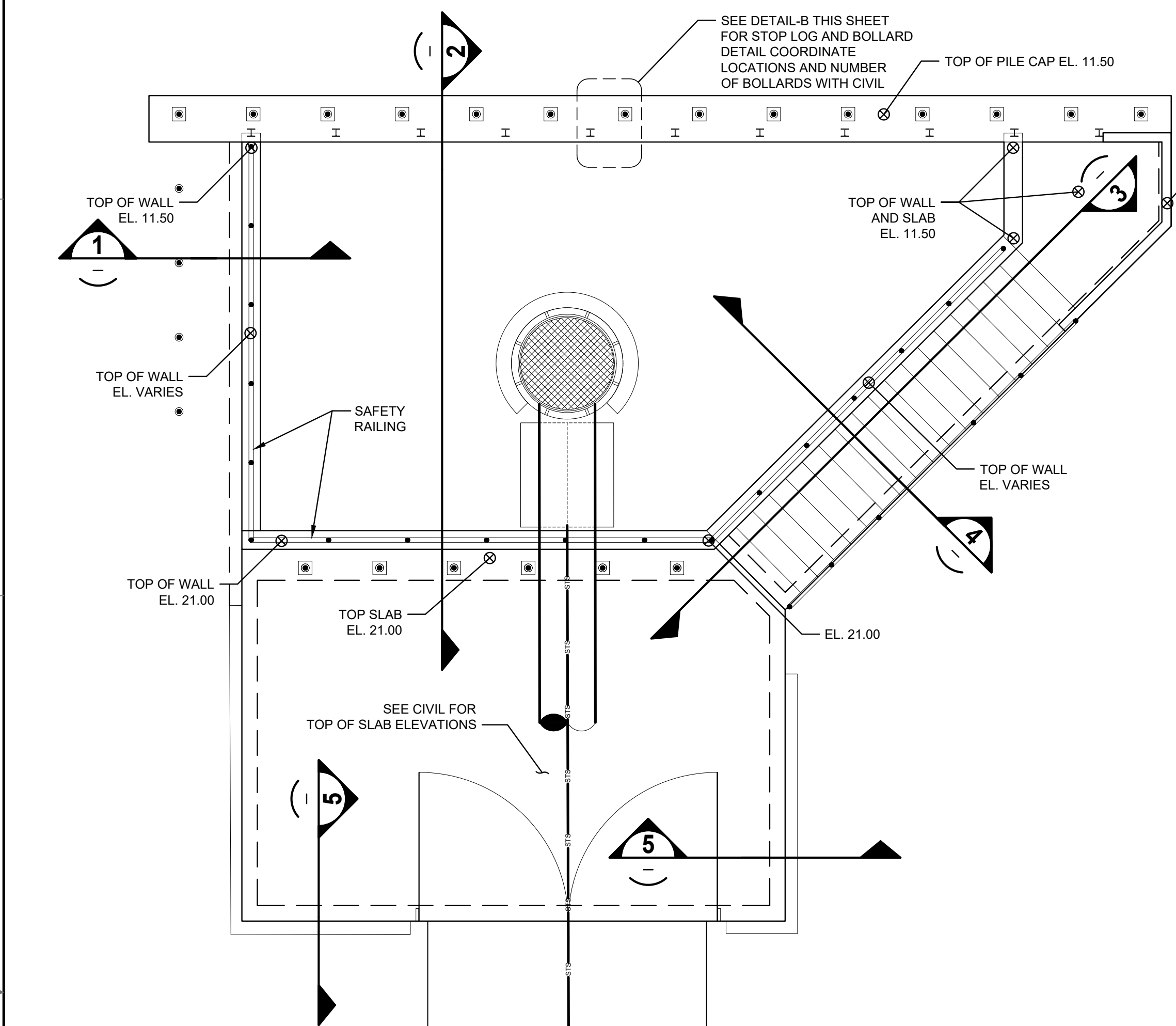
CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

PUMP STATION PLAN

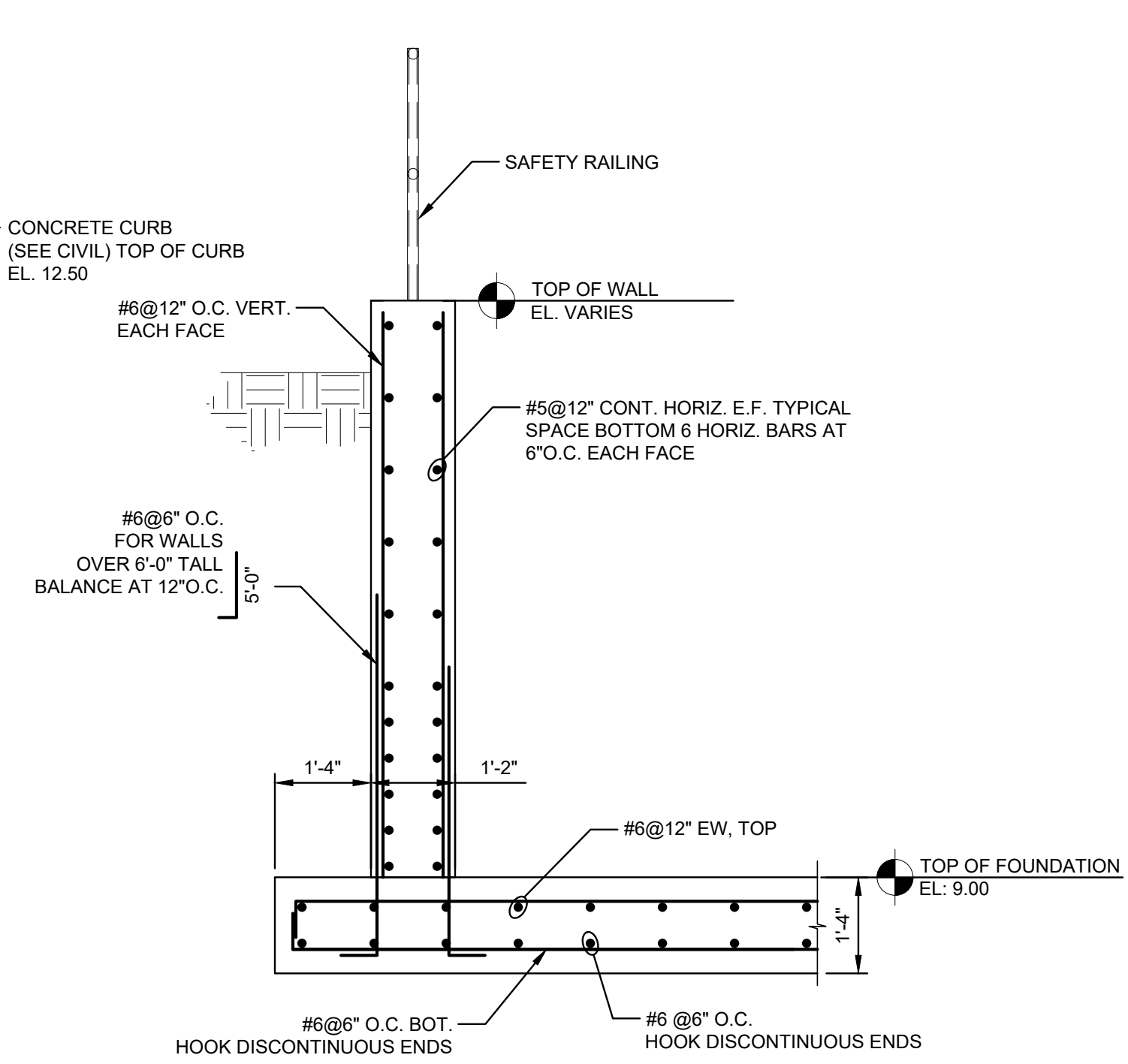


CERTIFICATE OF AUTHORIZATION #1841
 APPROVED BY
 MONRAD R. THUE
 P.E. # 32071

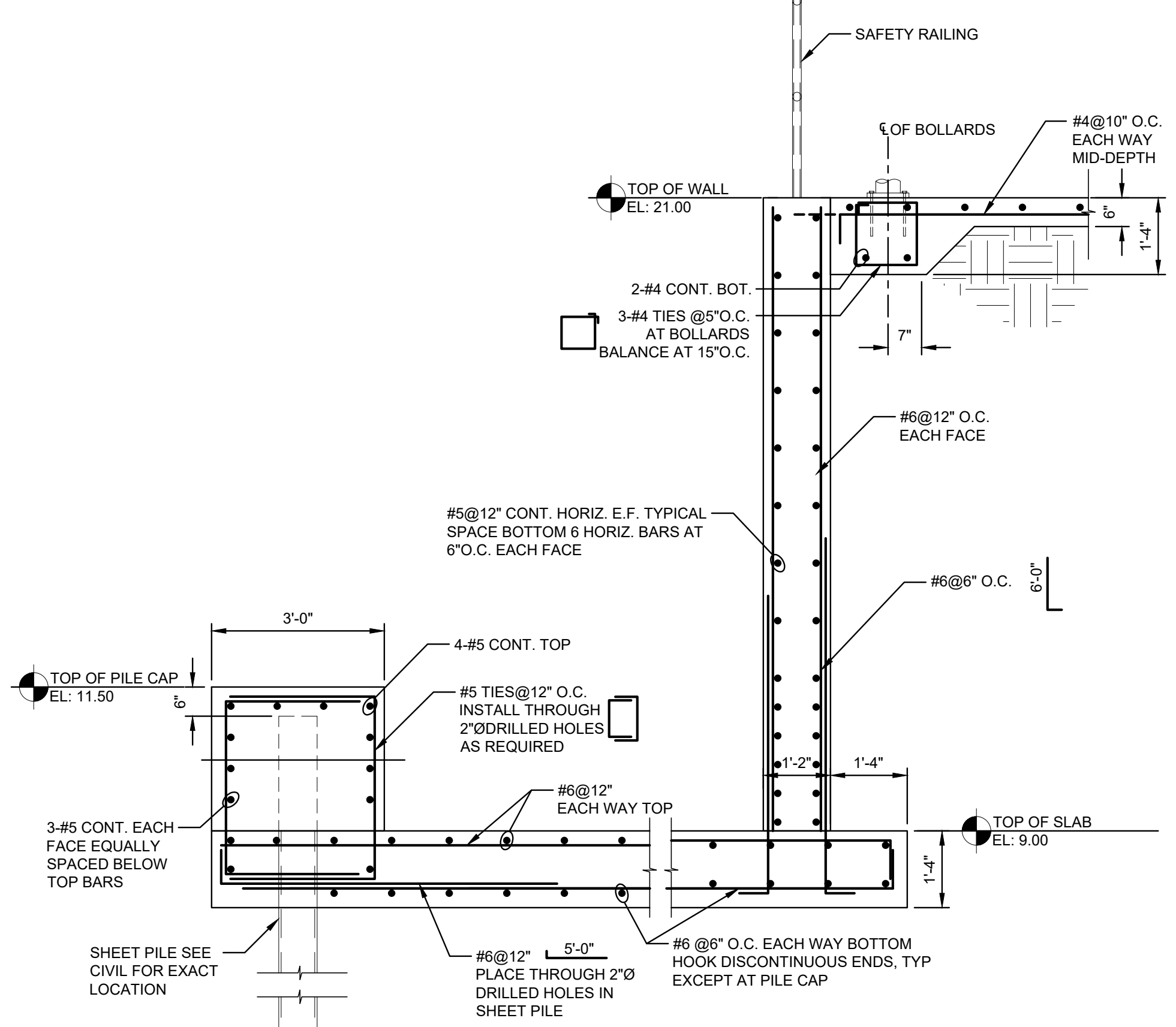
PROJECT NO: 19750-066-01	DATE: JUN 2020
INDEX NO:	DWG NO: S4-1



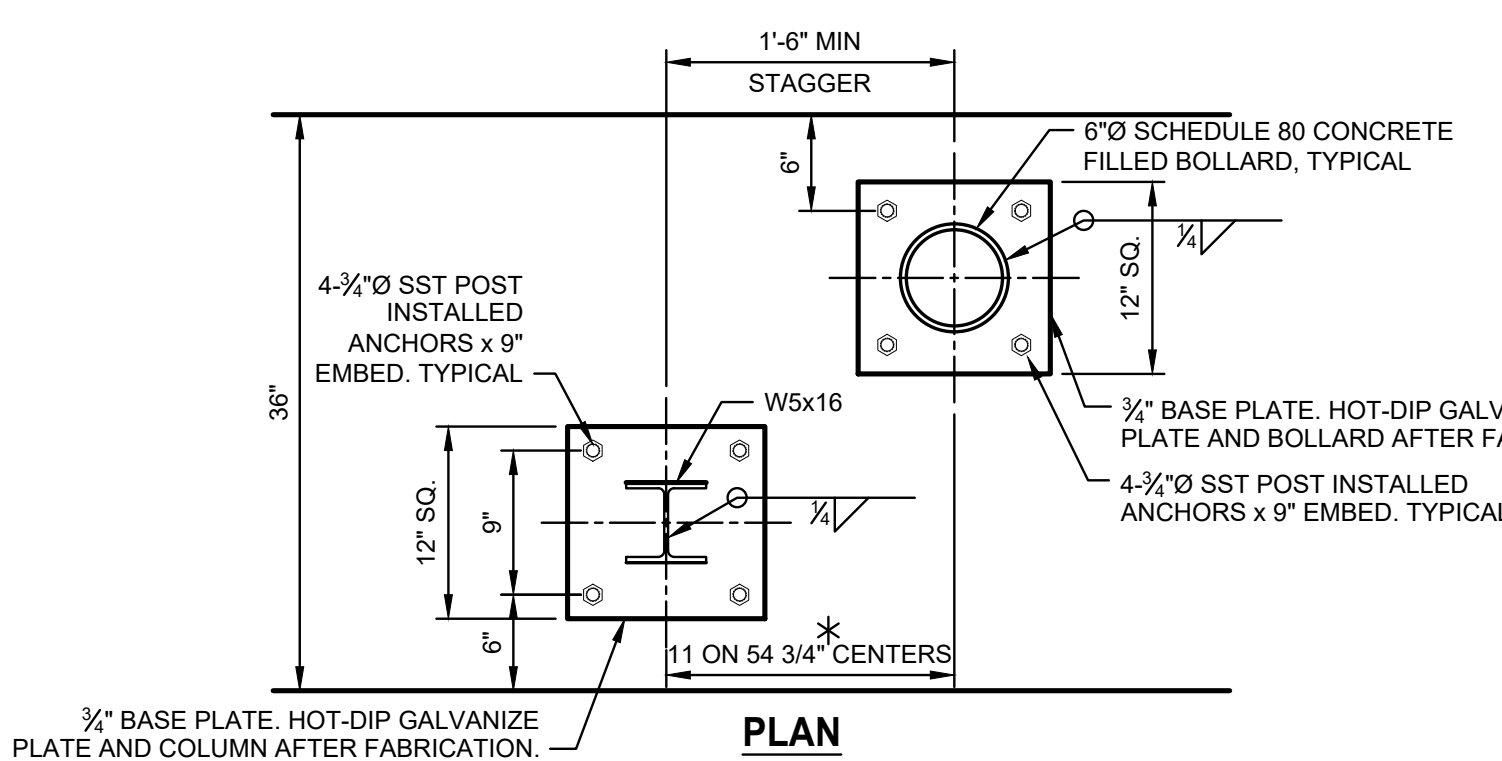
PUMP INTAKE TOP PLAN
 1/8" = 1'-0"
 A S4-2



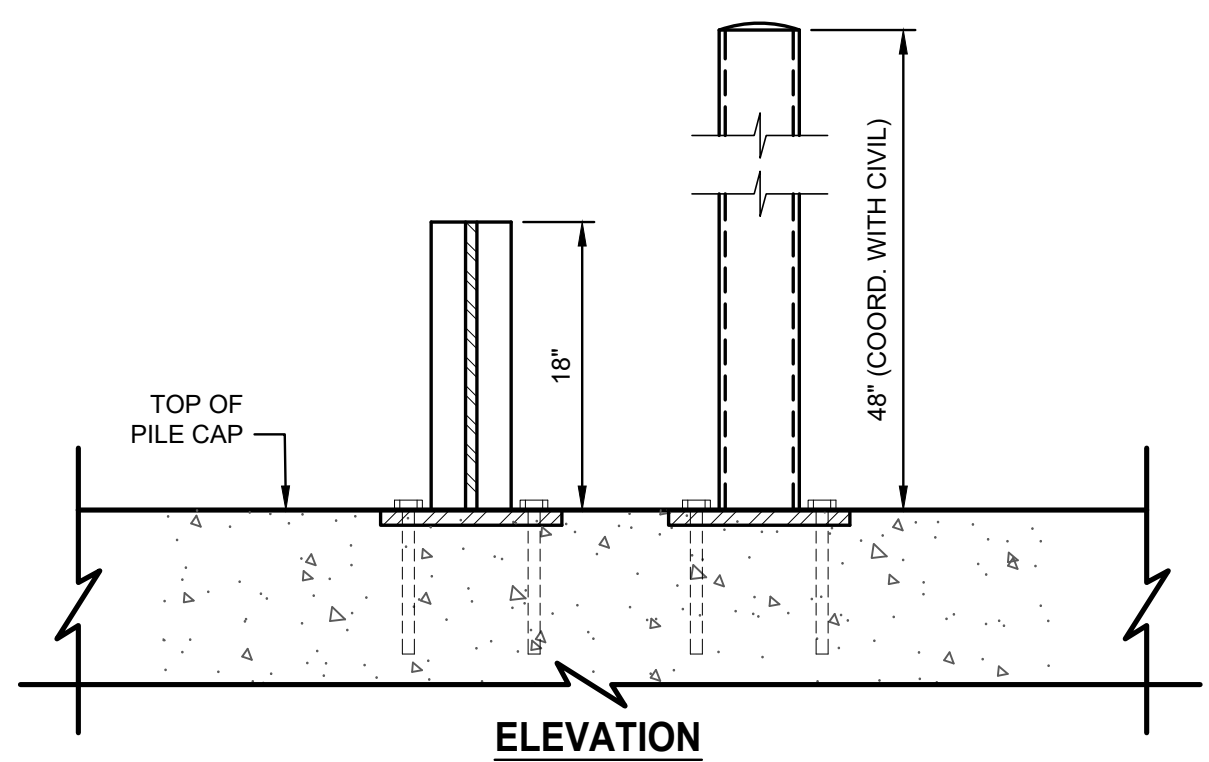
SECTION 1
 1/2" = 1'-0"
 S4-2



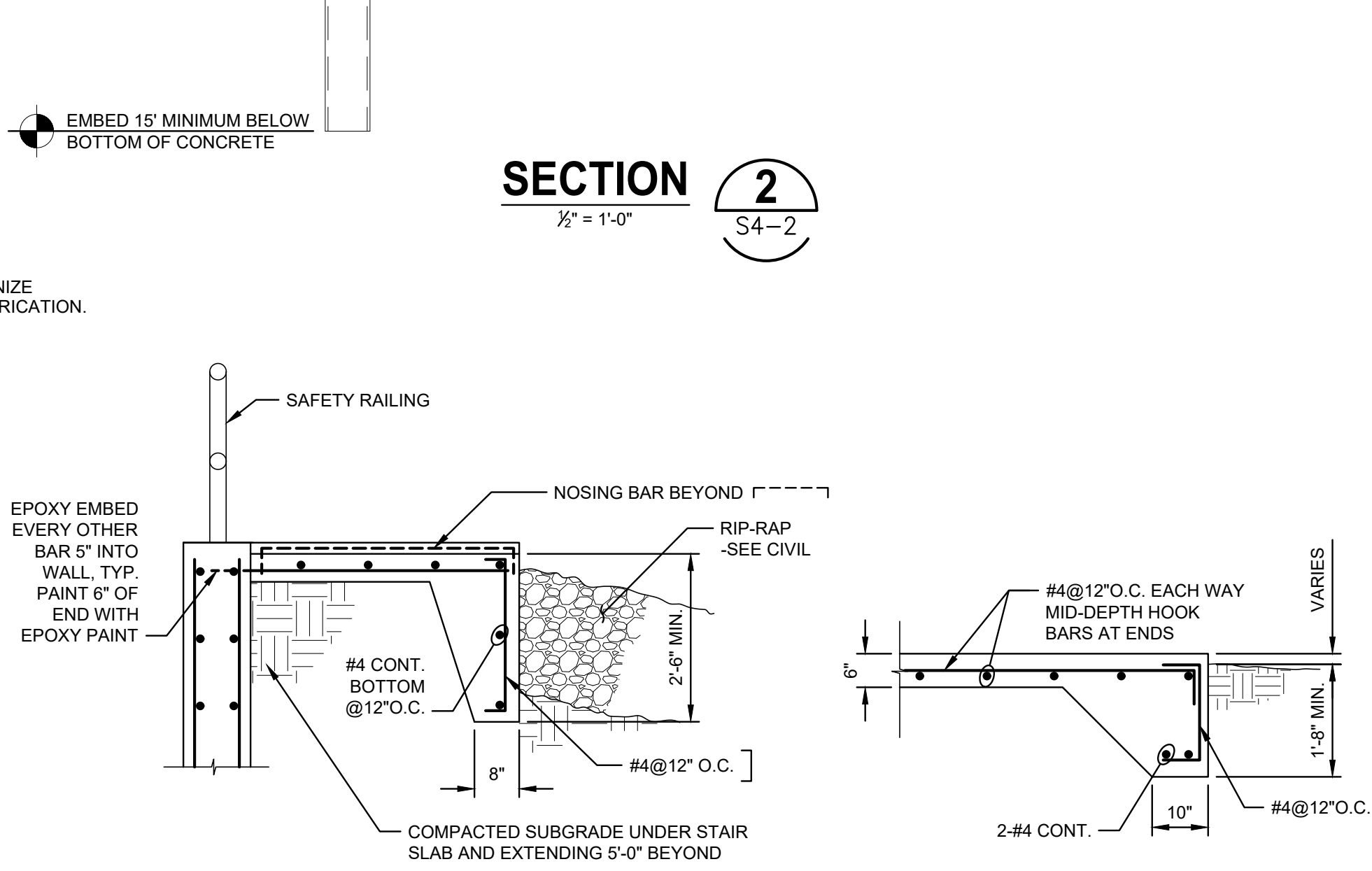
SECTION 2
 1/2" = 1'-0"
 S4-2



PLAN

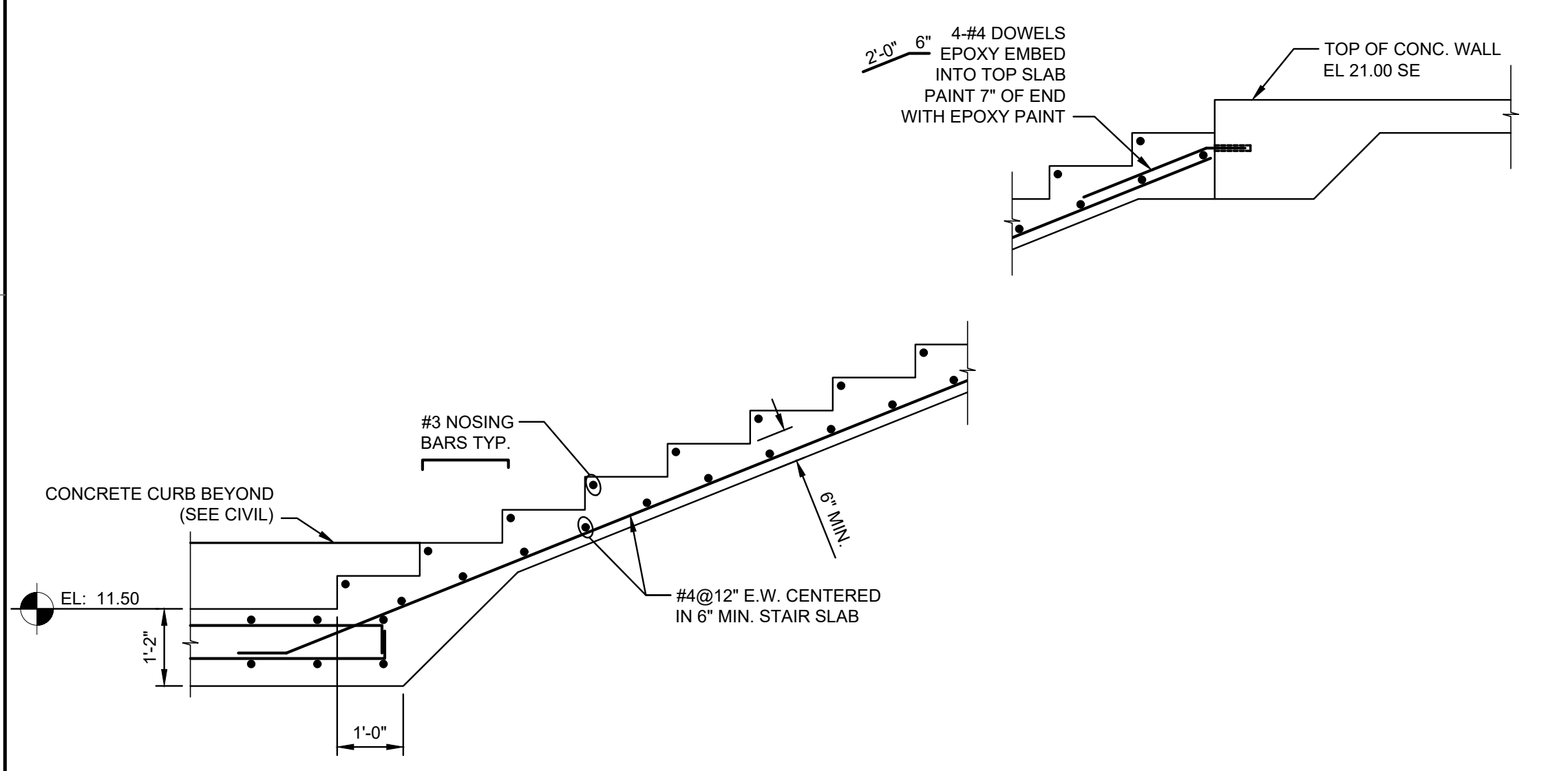


STOP LOG AND BOLLARD SUPPORT DETAIL
 NTS
 B S4-2



SECTION 4
 1/2" = 1'-0"
 S4-2

SECTION 5
 1/2" = 1'-0"
 S4-2



SECTION 3
 1/2" = 1'-0"
 S4-2

NOTE:
 *DIMENSIONS BASED ON 3 1/2" THICK STOP LOGS BY PLASTI FAB. COORDINATE DIMENSIONS WITH STOP LOG PROVIDER.
 SEE CIVIL FOR FURTHER DETAILS.



DESIGNED	M THUE			
DRAWN	J GALLER			
CHECKED	D CRAPPS			
LTR.	DATE	REVISIONS	BY	APPRD.

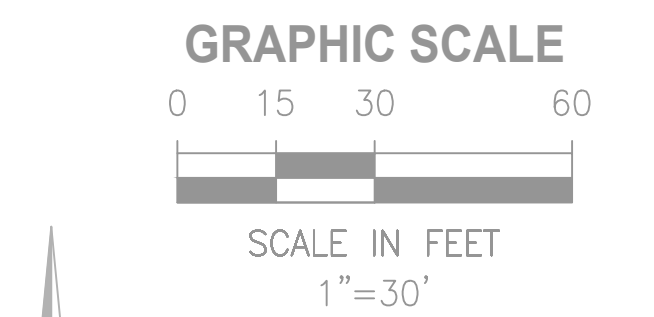
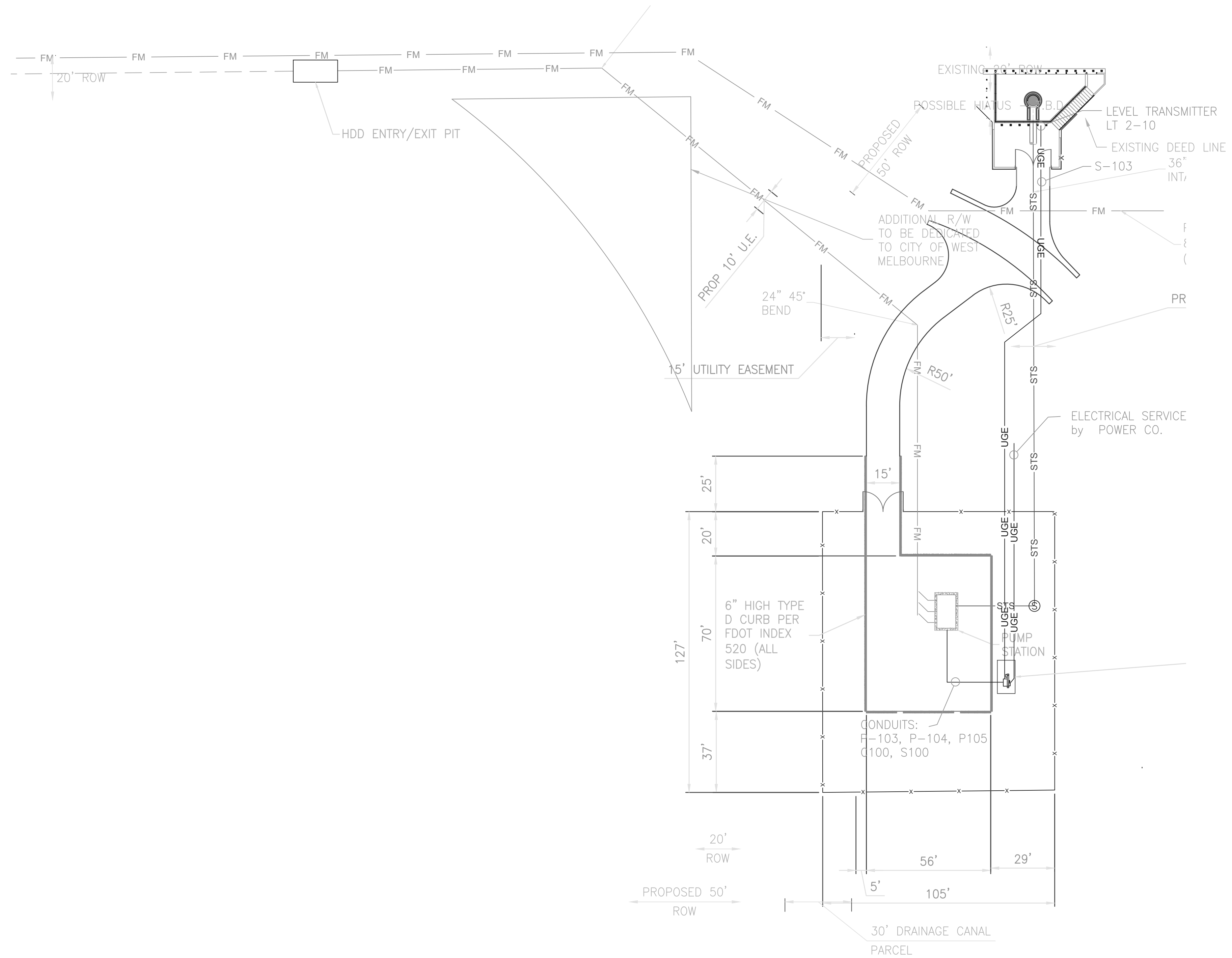
JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**PUMP STATION
 SECTIONS AND DETAILS**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: JUN 2020
APPROVED BY MONRAD R. THUE P.E. # 32071	INDEX NO:	DWG NO: S4-2

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 7/31/2020 2:38 PM JGALLER



SAVED: 6/11/2020 1:54 PM HAL D:\ISSUE 06-19-2020\E4-1.DWG

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED HAL DIETRICK
 DRAWN HAL DIETRICK
 CHECKED MICHAEL CLARK

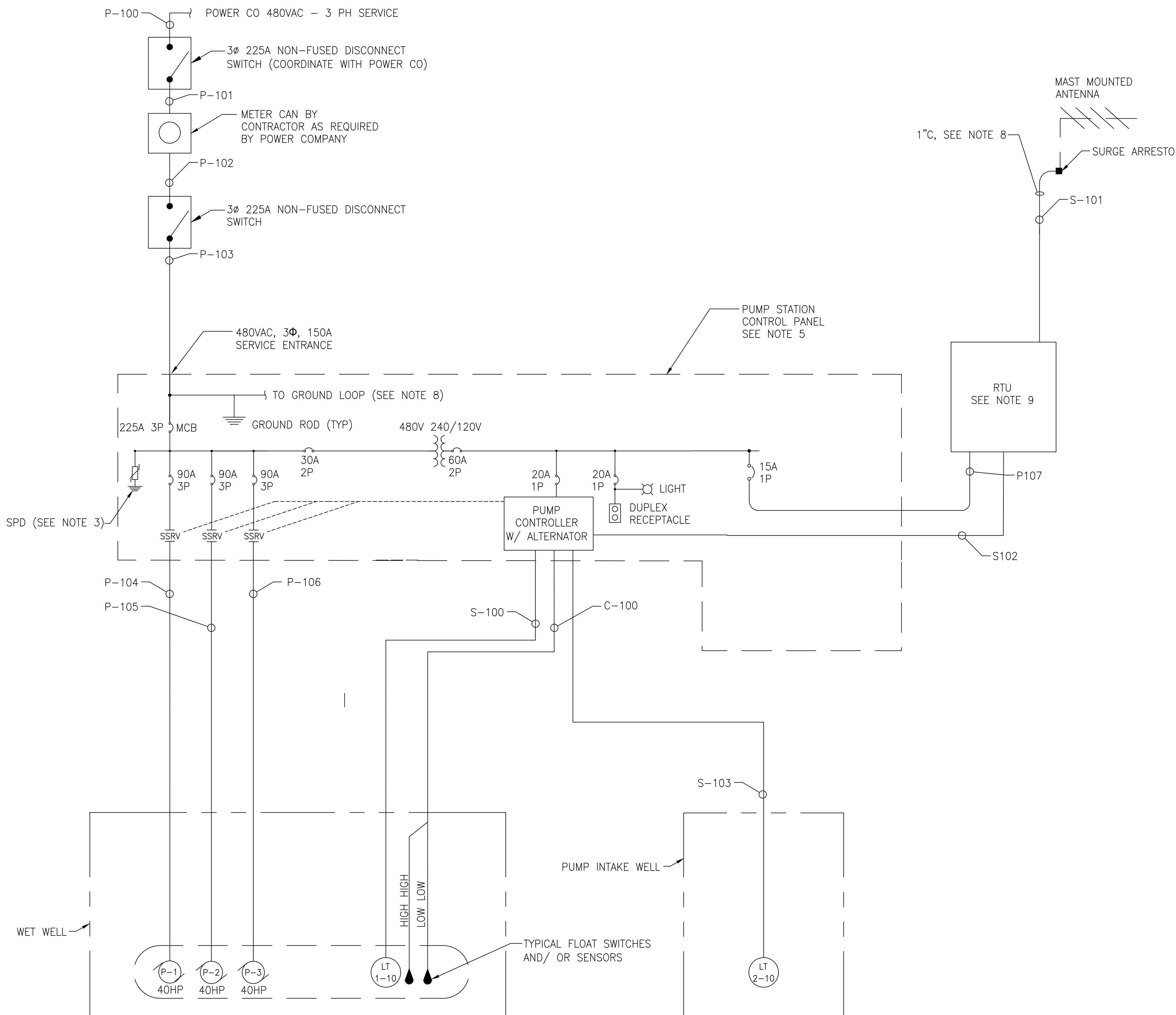
JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

PUMP STATION ELECTRICAL SITE PLAN

EPC Source, inc.
 Certificate of Authorization No. 33652
 HAL DIETRICK
 P.E. # 76416

PROJECT NO: 19750-066-01	DATE: JUN 2020
INDEX NO:	DWG NO: E4-1



PUMP STATION NOTES

1. PANEL LOCATION IS AS SHOWN ON THE PLANS.
2. CONDUCTORS EXITING CONTROL PANEL SHALL BE TYPE THWN INSULATED COPPER. INTERNAL CONTROL PANEL WIRING SHALL BE TYPE MTW OR AS REQUIRED BY THE MANUFACTURER.
3. PROVIDE A SURGE PROTECTION DEVICE (SPD) ON THE LOAD SIDE OF THE MAIN CIRCUIT BREAKER. SPD SHALL BE AN ADVANCED PROTECTION TECHNOLOGIES TE/4XT, PQ PROTECTION PQC100, OR APPROVED EQUAL.
4. THE PUMP CONTROL PANEL ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL FITTED WITH A 3 POINT LOCKABLE LATCH AND DEAD FRONT PANEL.
5. ALL CONNECTIONS TO THE THE PANEL SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: (SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS)
 - A. THERMAL MAGNETIC CIRCUIT BREAKERS INDICATED.
 - B. MULTI-STAGE PUMP CONTROL SYSTEM (SEE SPECIFICATION)
 - C. CONTROL POWER TRANSFORMERS, AS REQUIRED.
 - D. SURGE PROTECTION DEVICE.
 - E. RUN TIME METER FOR EACH PUMP.
 - F. HAND-OFF-AUTO SELECTOR SWITCH FOR EACH PUMP.
 - G. GREEN PUMP STOP, RED PUMP RUN LIGHTS FOR EACH PUMP.
 - H. ALARM STROBE AND HORN WITH SILENCE SWITCH.
 - I. SEAL FAILURE RELAY WITH INDICATING LIGHT FOR EACH PUMP.
 - J. CONTROL SYSTEM SHALL BE 120 VOLT.
 - K. TYPE GFCI 20 AMP, 125 VOLT DUPLEX RECEPTACLE.
 - L. SUBMERSIBLE LEVEL TRANSMITTER CONTROL.
6. THE CONTROL PANEL INTEGRATED INTERRUPT RATING SHALL BE EQUAL TO THE AVAILABLE FAULT CIRCUIT CURRENT AT THE POINT OF INSTALLATION WITH A MINIMUM OF 22,000 RMS SYMMETRICAL AMPS.
7. GROUND ALL ENCLOSURES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE LIGHTNING PROTECTION AND A MINIMUM OF 5 GROUND RODS IN A HALO AROUND THE EQUIPMENT AREA TO PROVIDE A GROUND RESISTANCE OF NOT GREATER THAN 3 OHMS.
8. PROVIDE ANTENNA, COAXIAL CABLE, ANTENNA MAST AND ALL APPURTENANCES AS APPROVED BY THE DISTRICT AND CONFORMING TO THEIR STANDARDS. SECURE CABLE TO THE ANTENNA MAST WITH STAINLESS STEEL CABLE TIES.
9. CONTRACTOR SHALL PROVIDE THE TELEMETRY SYSTEM RTU AND ALL REQUIRED SCADA EQUIPMENT. THE TELEMETRY SYSTEM SHALL BE AS APPROVED BY THE DISTRICT AND SHALL CONFORM TO THEIR STANDARDS.

D:\ISSUE 06-19-2020\E4-2.DWG
 10:52 PM HAL DIETRICK
 6/9/2020

DESIGNED	HAL DIETRICK			
DRAWN	HAL DIETRICK			
CHECKED	MICHAEL CLARK			
LTR.	DATE	REVISIONS	BY	APPRD.

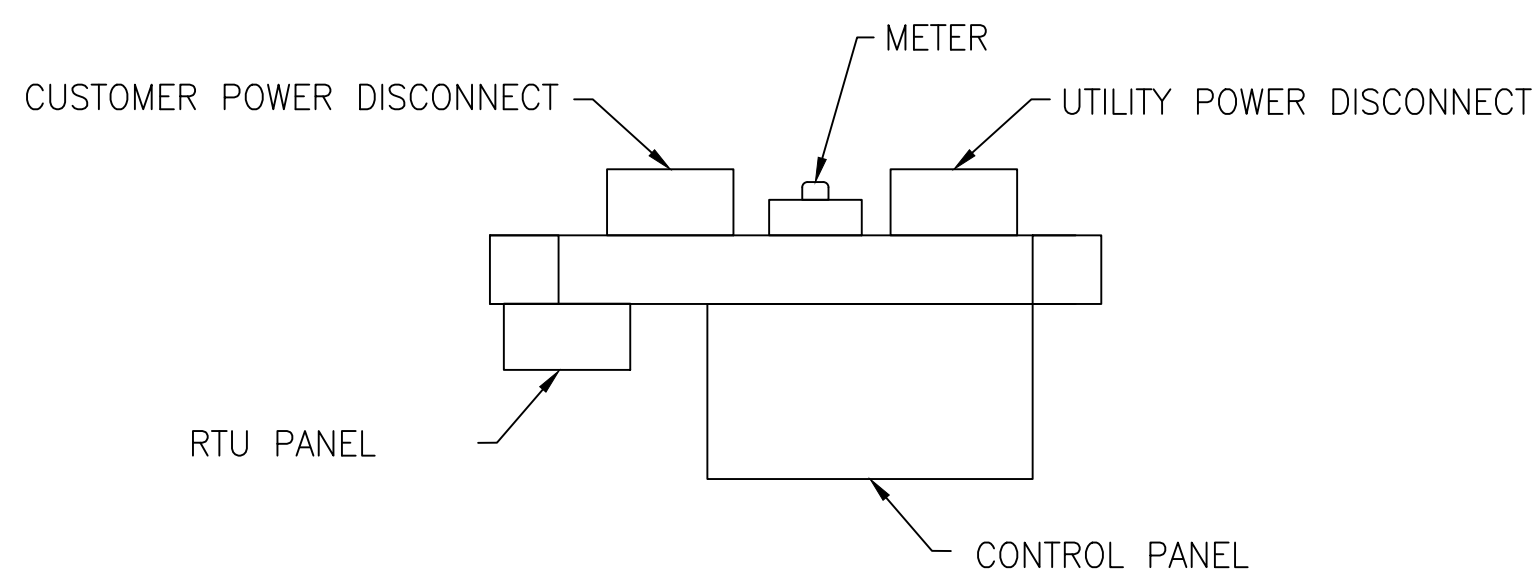
JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

PUMP STATION ONE LINE DIAGRAM

EPC Source, inc.
 Certificate of Authorization No. 33652
 HAL DIETRICK
 P.E. # 76416

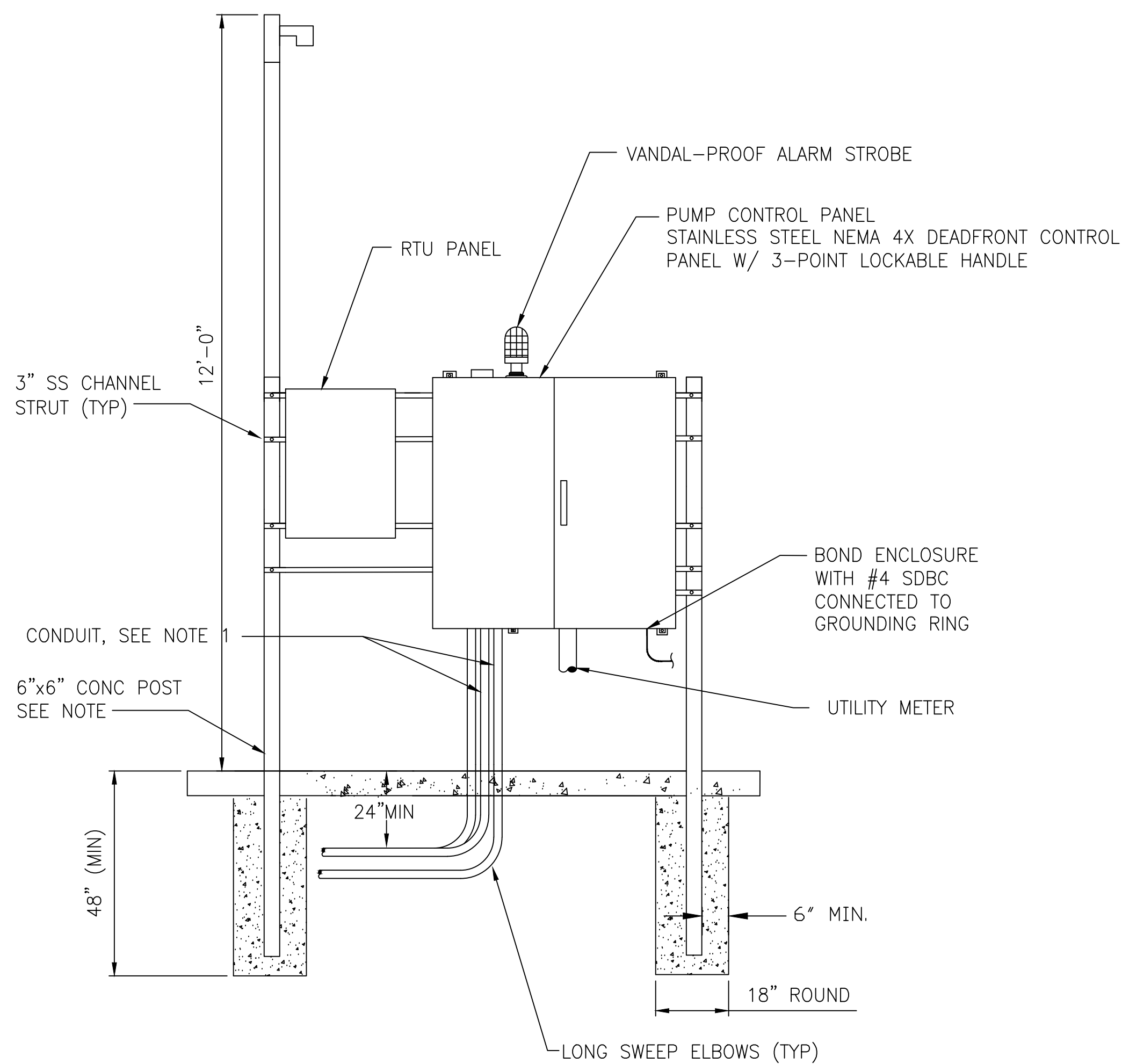
PROJECT NO:	DATE:
19750-066-01	JUN 2020
INDEX NO:	DWG NO:
	E4-2



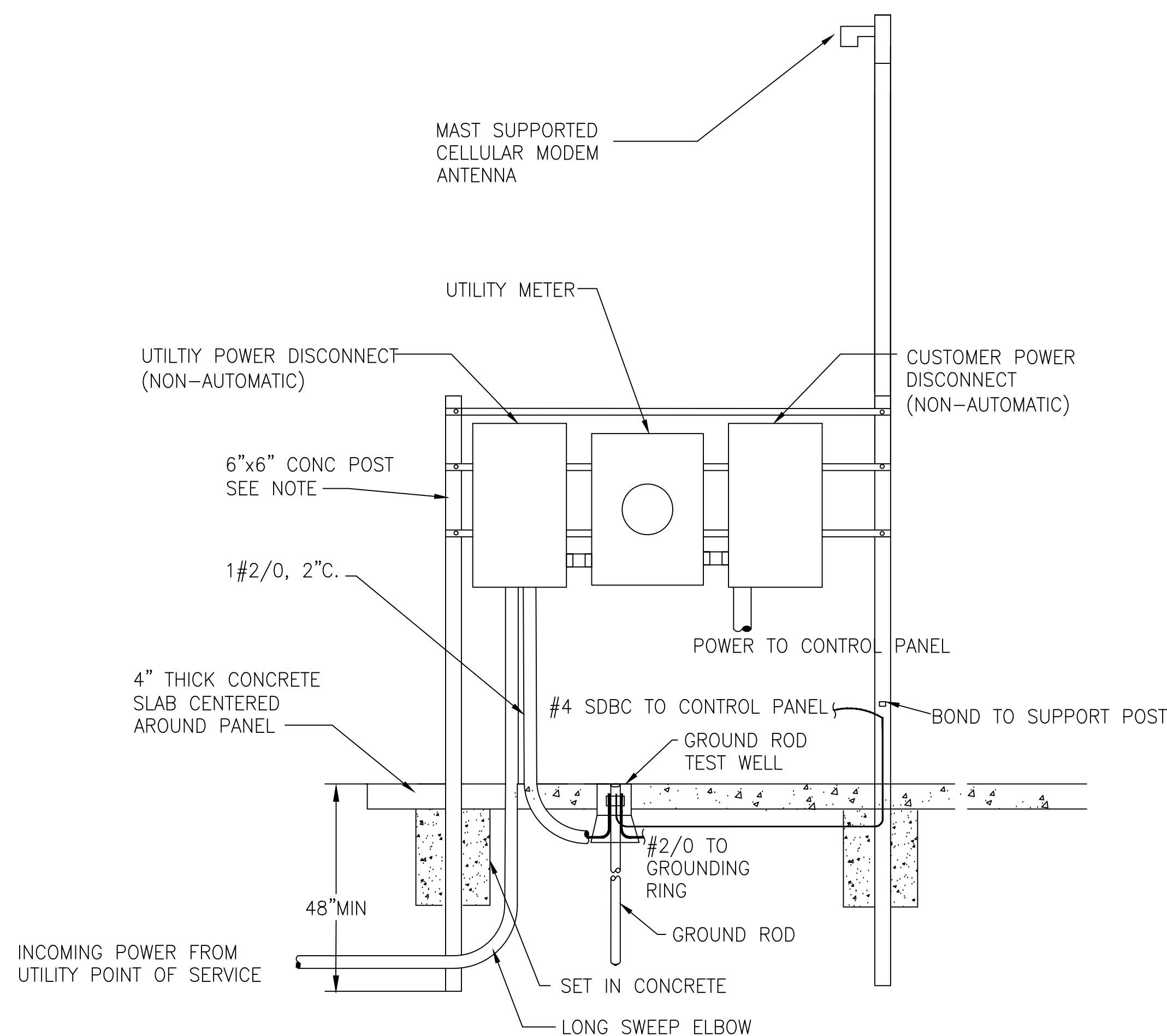
PLAN VIEW

NOTES:

1. PUMP MOTOR CONDUIT SHALL BE SIZED TO MAX 40% CONDUIT FILL. MINIMUM CONDUIT SIZE SHALL BE 2 1/2". ABOVE GROUND CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL DOWN TO BELOW THE FIRST ELBOW BELOW GRADE. UNDERGROUND CONDUITS BETWEEN THE JUNCTION BOX AND WETWELL SHALL BE SCHEDULE 80 PVC ENCASED WITH A MINIMUM OF 2" OF CONCRETE. REFER TO NEC 501.10(A)(1)(a) AND THE EXCEPTION FOR THE INSTALLATION OF THESE CONDUITS. ANALOG SIGNAL CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL ABOVE AND BELOW GRADE. ALL OTHER UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC.
2. INSTALL AN ELECTRICAL GROUNDING SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS WELL AS LOCAL CODES AND ORDINANCES. INSTALL AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, AUTOMATIC TRANSFER SWITCH, AND ANTENNA MANUAL DISCONNECT SWITCH, AND METAL FENCE.
3. THE STATION NAME, PCU I.D. NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
4. ALL MOUNTING HARDWARE & BRACKETS SHALL BE 316 STAINLESS STEEL.
5. COAT PORTIONS OF ALUMINUM IN CONTACT WITH CONCRETE WITH COAL TAR EPOXY.



FRONT VIEW



REAR VIEW

ELECTRICAL SERVICE AND CONTROL PANEL DETAIL 1
NTS

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6/9/2020 10:58 PM HAL DIETRICK

DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK
DATE	
REVISIONS	
BY	
APPRD.	

JonesEdmunds
CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

PUMP STATION ELECTRICAL DETAILS

EPC Source, inc.
 Certificate of Authorization No. 33652
 HAL DIETRICK
 P.E. # 76416

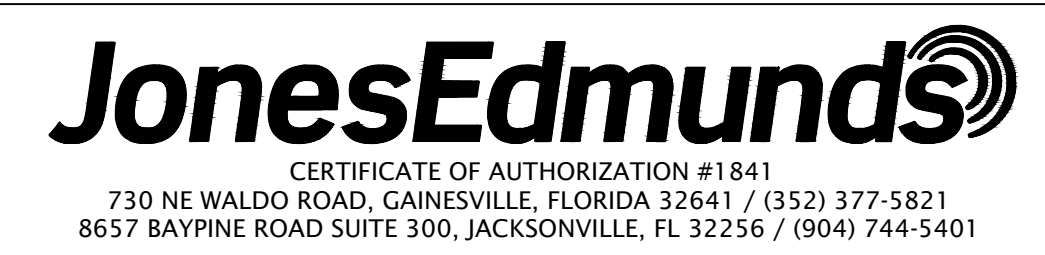
PROJECT NO:	19750-066-01	DATE:	JUN 2020
INDEX NO:		DWG NO:	E4-3

POWER AND CONTROL WIRING SCHEDULE

CIRCUIT NUMBER	FROM	TO	HP	VOLTS	QARC	WIRE DATA		CONDUIT	REMARKS
						POWER OR CONTROL	GROUNDING (G) NEUTRAL (N)		
P100	INCOMING SERVICE	SERVICE DISC.		480		-	-	3"	BY POWER COMPANY
P101	SERVICE DISC.	METER		480		4-3/0	1-1	3"	
P102	METER	CUSTOMER DISCONNECT		480		3-3/0	1-1	3"	
P103	CUSTOMER DISCONNECT	PUMP CONTROL PANEL		480		3-3/0	1-1	3"	
P104	PUMP CONTROL PANEL	PUMP 1		480		4-6(+)	1-10	2"	P1 POWER (INCLUDE OTHER CONDUCTERS AS PER MOTOR MPR02)
P105	PUMP CONTROL PANEL	PUMP 2		480		4-6(+)	1-10	2"	P2 POWER (INCLUDE OTHER CONDUCTERS AS PER MOTOR MPR02)
P106	PUMP CONTROL PANEL	PUMP 3		480		4-6(+)	1-10	2"	P3 POWER (INCLUDE OTHER CONDUCTERS AS PER MOTOR MPR02)
P107	PUMP CONTROL PANEL	RTU		120		2-12	1-12	1"	
P200	INCOMING SERVICE	SERVICE DISC.		480		4-8(+)	1-10	1"	ROUTE TO UTILITY POLE
P201	SERVICE DISC.	METER		480		4-8(+)	1-10	1"	
P202	METER	CUSTOMER DISCONNECT SWITCH		480		4-8(+)	1-10	1"	
P203	CUSTOMER DISCONNECT SWITCH	WEIR CONTROL PANEL		480		4-8(+)	1-10	1"	
P204	WEIR CONTROL PANEL	AIR COMPRESSOR 1		480		4-10(+)	1-10	1"	
P205	WEIR CONTROL PANEL	AIR COMPRESSOR 2		480		4-10(+)	1-10	1"	
P206	WEIR CONTROL PANEL	RTU		120		2-12	1-12	1"	
C100	PUMP CONTROL PANEL	WETWELL		120		6-12	1-12	1"	FLOAT
C200	WEIR CONTROL PANEL	AIR COMPRESSOR 1		120		6-12	1-12	1"	
C201	WEIR CONTROL PANEL	AIR COMPRESSOR 2		120		6-12	1-12	1"	
C202	WEIR CONTROL PANEL	MECHANICAL VALVE PANEL		120		6-12	1-12	1"	
C203	WEIR CONTROL PANEL	MECHANICAL VALVE PANEL		120		6-12	1-12	1"	
S100	PUMP CONTROL PANEL	LT 1-10		4/20		1 / TSP		3/4"	ANALOG SIGNAL LEVEL
S101	PUMP CONTROL PANEL	ANTENNA		-		CFWE		3/4"	AS REQD BY MFR
S102	PUMP CONTROL PANEL	RTU		-		SEE REMARKS		3/4"	AS REQD BY MFR
S103	PUMP CONTROL PANEL	LT 2-10		4/20		1 / TSP		3/4"	ANALOG SIGNAL LEVEL
S200	WEIR CONTROL PANEL	MECHANICAL VALVE PANEL							
S201	PUMP CONTROL PANEL	ANTENNA		-		CFWE		3/4"	AS REQD BY MFR
S202	PUMP CONTROL PANEL	RTU		-		SEE REMARKS		3/4"	AS REQD BY MFR
S203	MECHANICAL VALVE PANEL	IT-1		4/20		CFWE		3/4"	ANALOG FROM LT
S204	MECHANICAL VALVE PANEL	IT-2		4/20		CFWE		3/4"	ANALOG FROM LT
S205	MECHANICAL VALVE PANEL	LT 2-10		4/20		CFWE		3/4"	ANALOG FROM LT
S206	MECHANICAL VALVE PANEL	LT 2-11		4/20		CFWE		3/4"	ANALOG FROM LT

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DESIGNED	HAL DIETRICK			
DRAWN	HAL DIETRICK			
CHECKED	MICHAEL CLARK			
LTR.	DATE	REVISIONS	BY	APPRD.

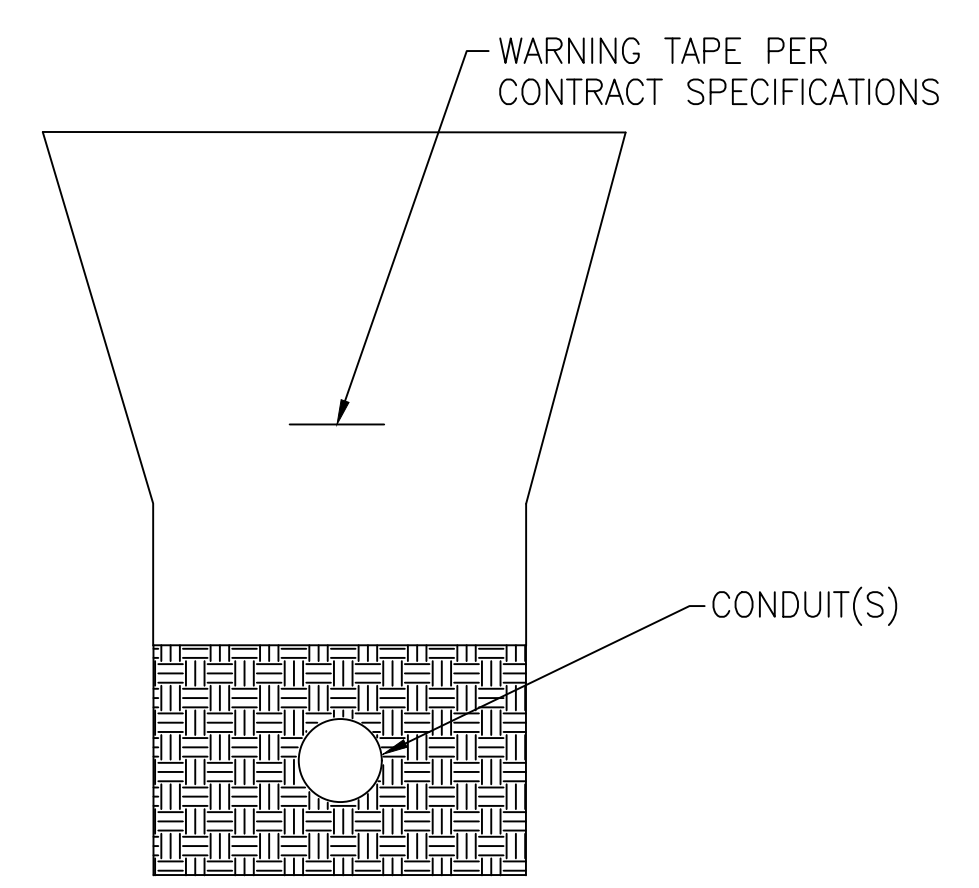


**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

POWER CONTROL WIRING SCHEDULE

EPC Source, inc.
 Certificate of Authorization No. 33652
 HAL DIETRICK
 P.E. # 76416

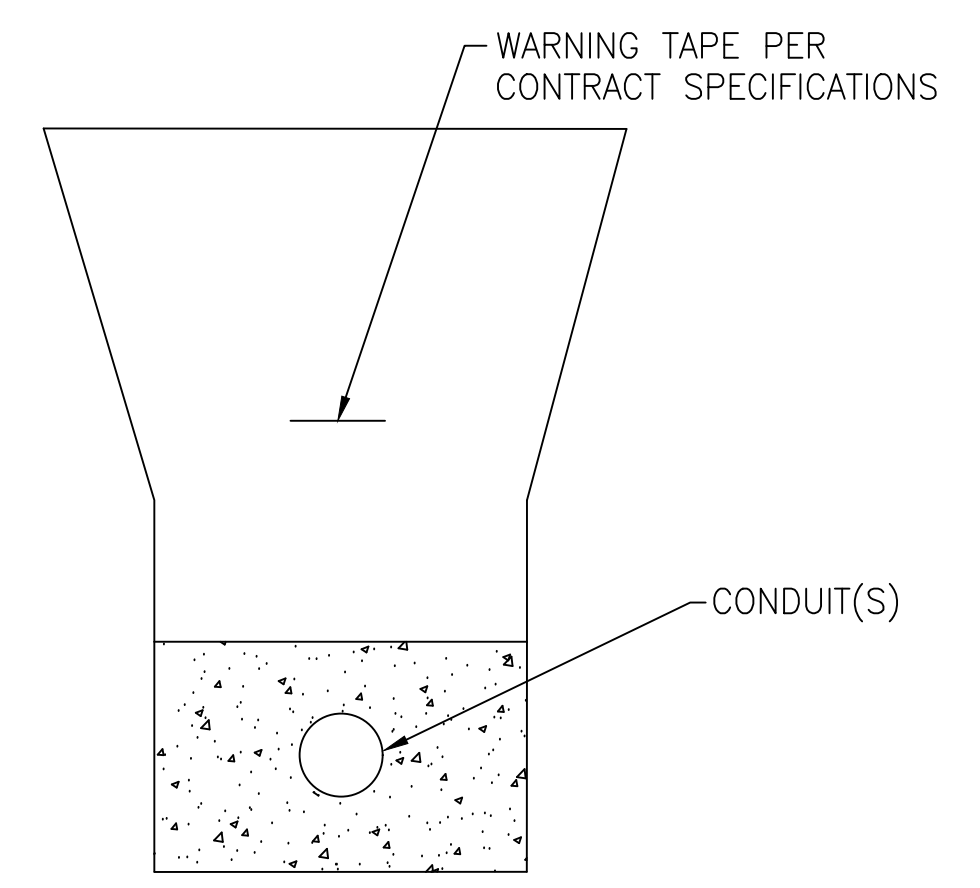
PROJECT NO:	19750-066-01	DATE:	JUN 2020
INDEX NO:		DWG NO:	E4-4



(TYPICAL ALL UNPAVED AREAS)

UNDERGROUND TRENCH DETAIL

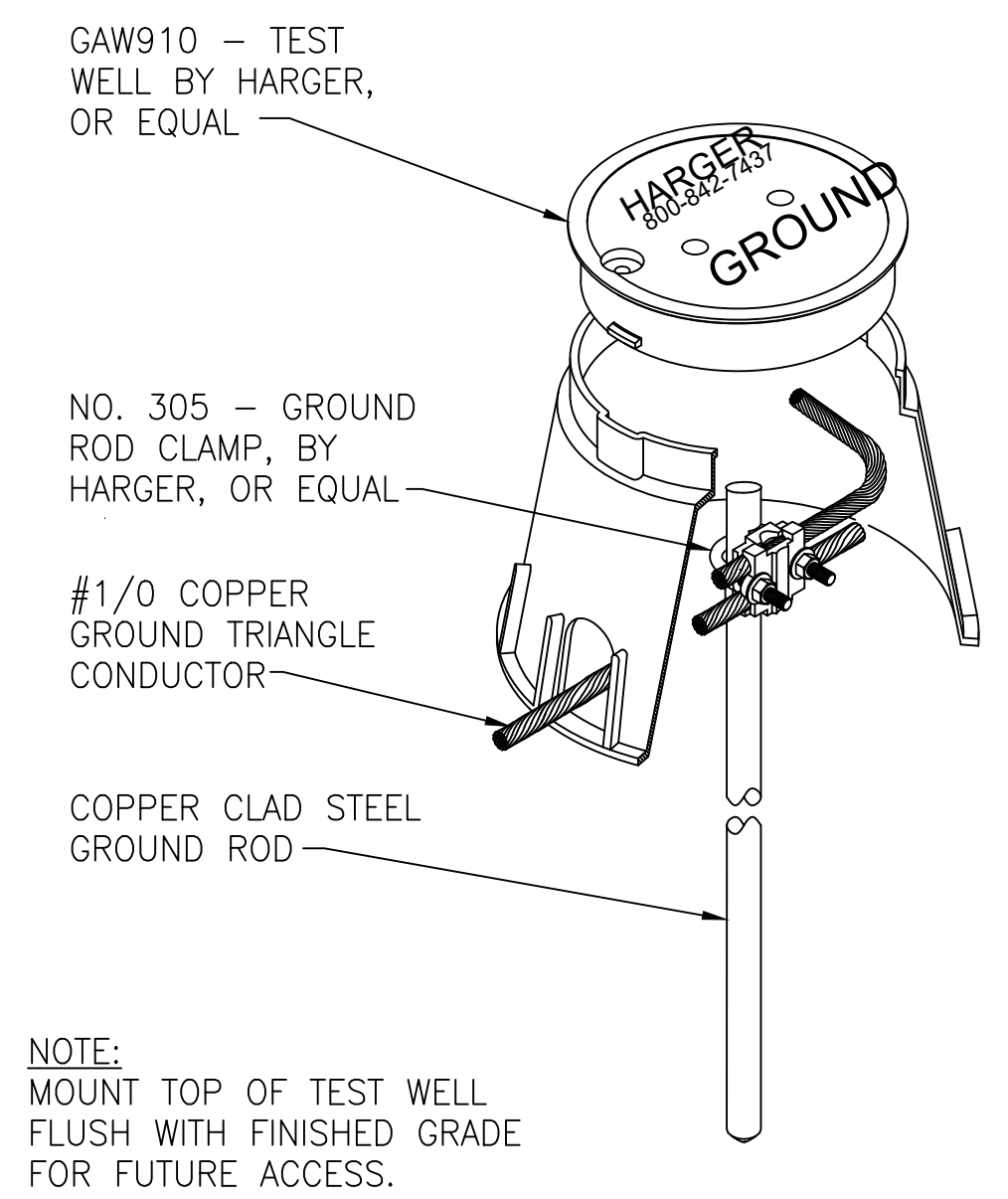
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(TYPICAL ALL PAVED AREAS)

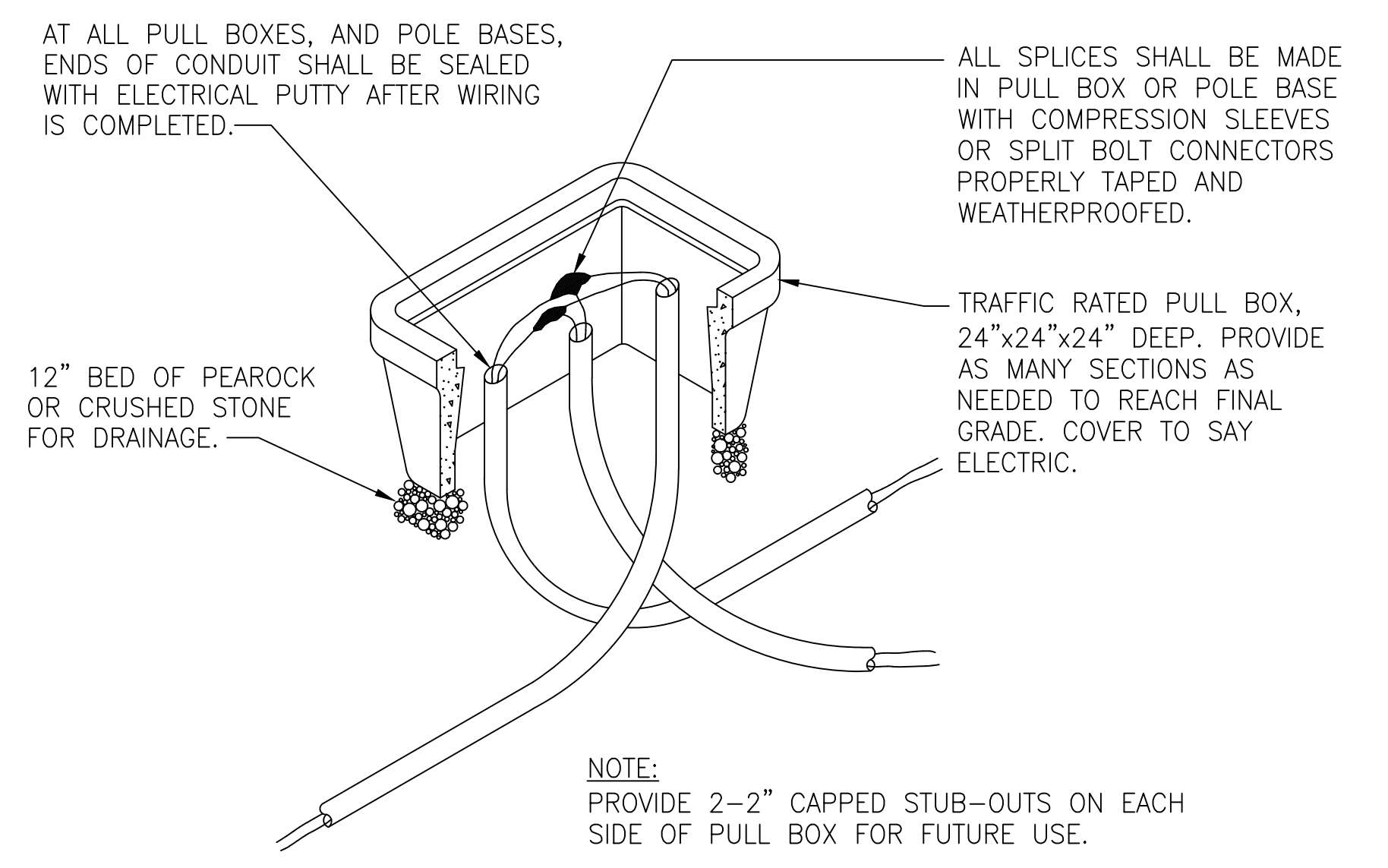
UNDERGROUND TRENCH DETAIL

NTS



GROUND ROD TEST WELL DETAIL 4

NTS



PULLBOX DETAIL 6

NTS

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REV.	DATE	REVISIONS	BY	APPRD.

DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK

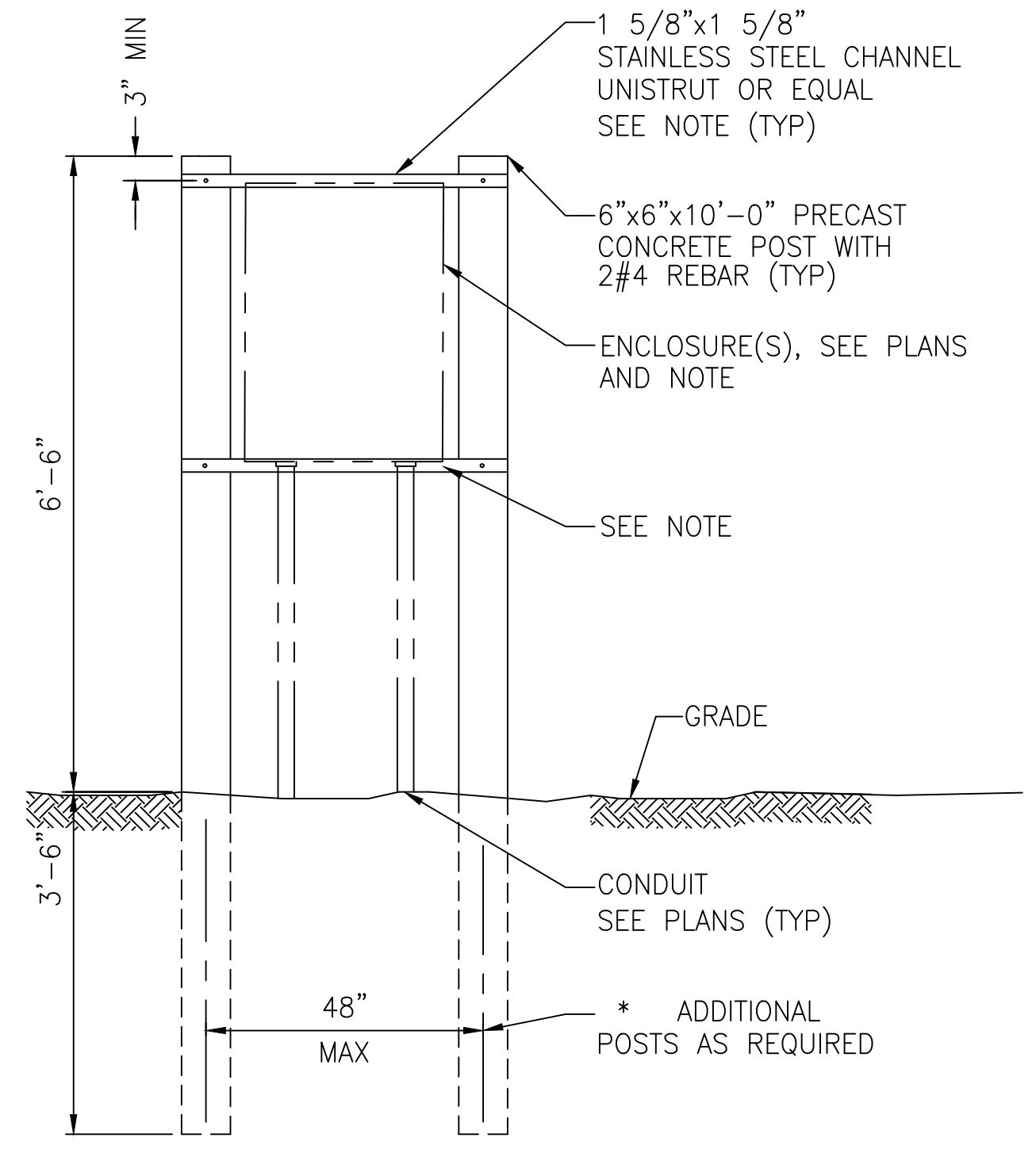
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 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

ELECTRICAL DETAILS

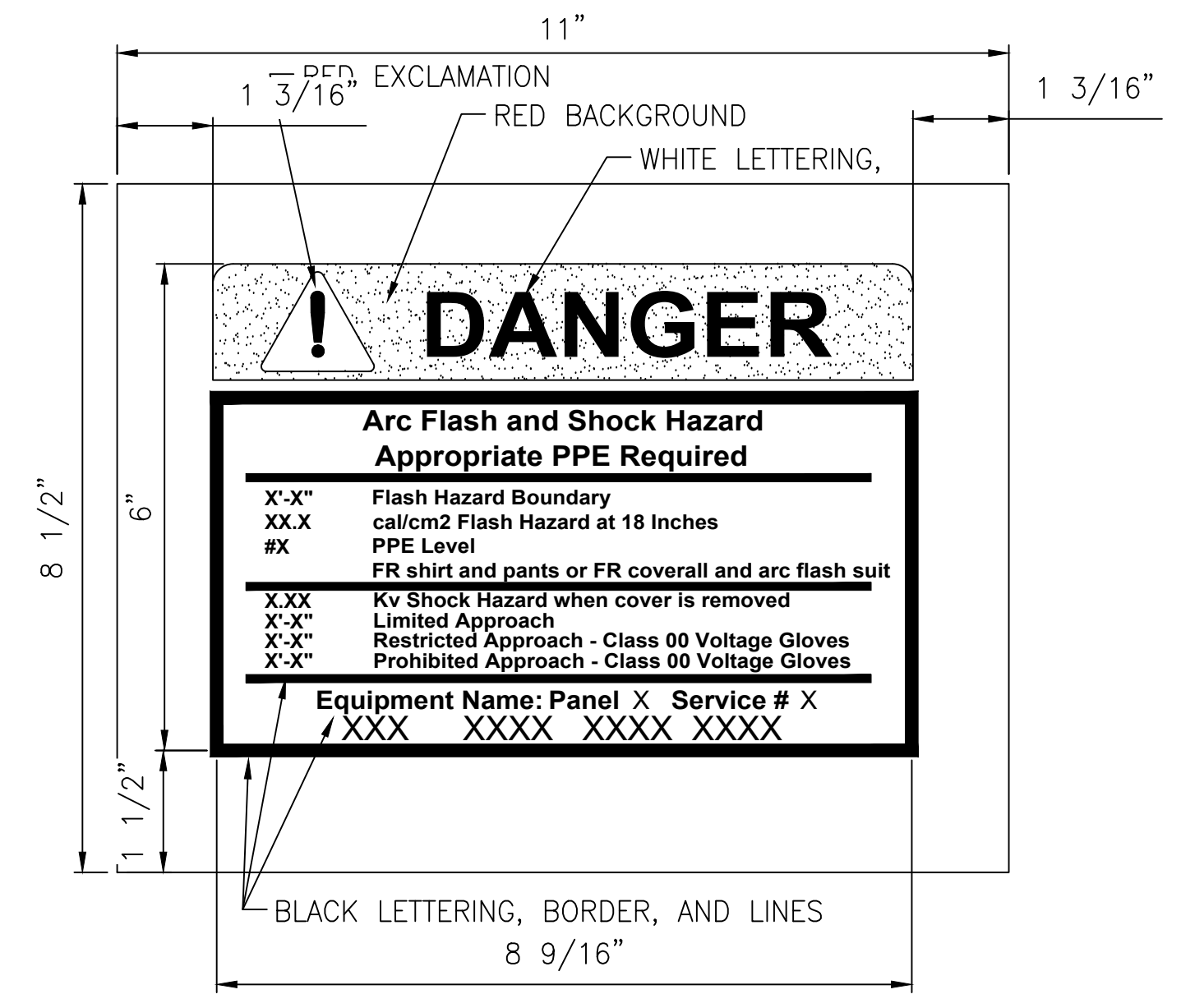
EPC Source, inc.
 Certificate of Authorization No. 33652
 HAL DIETRICK
 P.E. # 76416

PROJECT NO:	19750-066-01	DATE:	JUN 2020
INDEX NO:		DWG NO:	E4-5



NOTE:
 SECURE CHANNELS TO POST(S) AND ENCLOSURE(S)
 TO CHANNELS WITH STAINLESS STEEL HARDWARE.

TYPICAL EQUIPMENT MOUNTING ON CONCRETE POST(S) DETAIL
 NTS



- NOTES:
1. THE EXCLAMATION POINT AND ASSOCIATED BACKGROUND SHALL BE RED IN COLOR.
 2. THE WORD "DANGER" AND THE TRIANGLE SHALL BE WHITE IN COLOR.
 3. ALL OTHER LETTERING, NUMBERING, AND LINEWORK SHALL BE BLACK IN COLOR.

ARC FLASH WARNING LABEL DETAIL
 NTS

XREF: 6/9/2020 11:03 PM HAL D:\ISSUE 06-19-2020\E4-6.DWG

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DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK
DATE	
REVISIONS	
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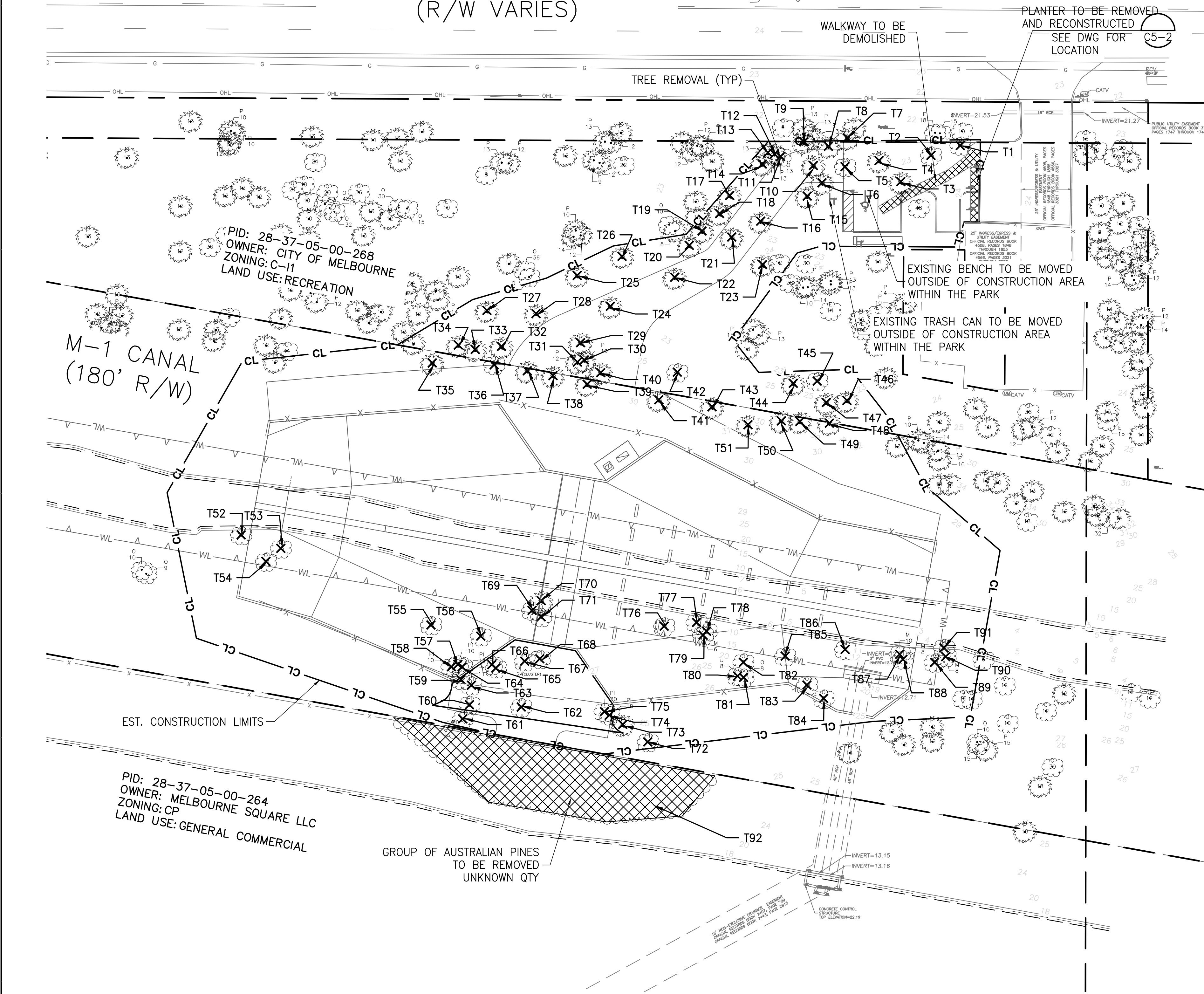
**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

ELECTRICAL DETAILS

EPC Source, inc.
 Certificate of Authorization No. 33652
 HAL DIETRICK
 P.E. # 76416

PROJECT NO:	19750-066-01	DATE:	JUN 2020
INDEX NO:		DWG NO:	E4-5

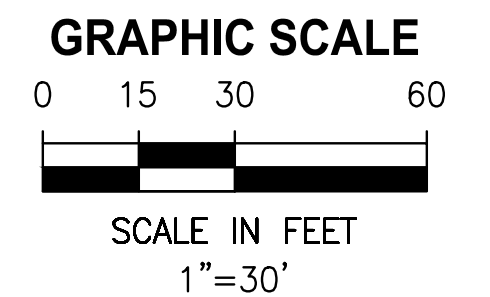
HIBISCUS BOULEVARD WEST (R/W VARIES)



TREE REMOVAL DATA			
NO.	SPECIES	DBH (IN)	JURISDICTION
T1	O	15	MELBOURNE
T2	O	13	MELBOURNE
T3	P	12	MELBOURNE
T4	P	14	MELBOURNE
T5	CA	12	MELBOURNE
T6	P	12	MELBOURNE
T7	P	12	MELBOURNE
T8	P	14	MELBOURNE
T9	P	13	MELBOURNE
T10	P	13	MELBOURNE
T11	O	13	MELBOURNE
T12	P	13	MELBOURNE
T13	P	13	MELBOURNE
T14	P	13	MELBOURNE
T15	P	13	MELBOURNE
T16	P	13	MELBOURNE
T17	P	12	MELBOURNE
T18	P	12	MELBOURNE
T19	P	12	MELBOURNE
T20	P	10	MELBOURNE
T21	P	12	MELBOURNE
T22	P	15	MELBOURNE
T23	P	13	MELBOURNE
T24	P	12	MELBOURNE
T25	P	12	MELBOURNE
T26	P	12	MELBOURNE
T27	P	12	MELBOURNE
T28	P	14	MELBOURNE
T29	P	10	MELBOURNE
T30	P	10	MELBOURNE
T31	P	12	MELBOURNE
T32	P	12	MELBOURNE
T33	P	11	MELBOURNE
T34	P	8	MELBOURNE
T35	P	12	BREVARD
T36	O	18	BREVARD
T37	P	10	BREVARD
T38	P	10	BREVARD
T39	P	10	BREVARD
T40	P	10	MELBOURNE
T41	P	10	BREVARD
T42	O	42	MELBOURNE
T43	P	12	BREVARD
T44	P	13	MELBOURNE
T45	CA	6	MELBOURNE
T46	P	13	MELBOURNE
T47	P	13	MELBOURNE
T48	P	10	BREVARD
T49	P	15	BREVARD
T50	P	10	BREVARD
T51	P	13	BREVARD

TREE REMOVAL DATA			
NO.	SPECIES	DBH (IN)	JURISDICTION
T52	M	12	BREVARD
T53	M	15	BREVARD
T54	O	12	BREVARD
T55	PI	28	BREVARD
T56	PI	10	BREVARD
T57	PI	10	BREVARD
T58	PI	10	BREVARD
T59	PI	11	BREVARD
T60	PI	6	BREVARD
T61	PI	10	BREVARD
T62	PI	28	BREVARD
T63	PI	9	BREVARD
T64	PI	13	BREVARD
T65	PI	24 (CLUSTER)	BREVARD
T66	PI	11	BREVARD
T67	PI	13	BREVARD
T68	PI	13	BREVARD
T69	M	10	BREVARD
T70	P	13	BREVARD
T71	PI	12	BREVARD
T72	PI	15	BREVARD
T73	P	12	BREVARD
T74	PI	18	BREVARD
T75	PI	20	BREVARD
T76	M	10	BREVARD
T77	M	6	BREVARD
T78	M	6	BREVARD
T79	M	6	BREVARD
T80	O	8	BREVARD
T81	O	8	BREVARD
T82	O	8	BREVARD
T83	O	10	BREVARD
T84	O	6	BREVARD
T85	M	6	BREVARD
T86	M	8	BREVARD
T87	M	10	BREVARD
T88	M	8	BREVARD
T89	M	8	BREVARD
T90	M	8	BREVARD
T91	M	9	BREVARD

TREE REMOVAL DBH (IN) / TREE QTY SUMMARY			
SPECIES	BREVARD	MELBOURNE	TOTAL
CA (CAMPHOR)	0 / 0	18 / 2	18 / 2
M (MANGROVE)	122 / 14	0 / 0	122 / 14
O (OAK)	70 / 7	83 / 4	153 / 11
P (PALM)	137 / 12	415 / 34	552 / 46
PI (PINE)	237 / 18	0 / 0	237 / 18



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 7/30/2020 2:02 PM WHOFFMAN

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

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 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
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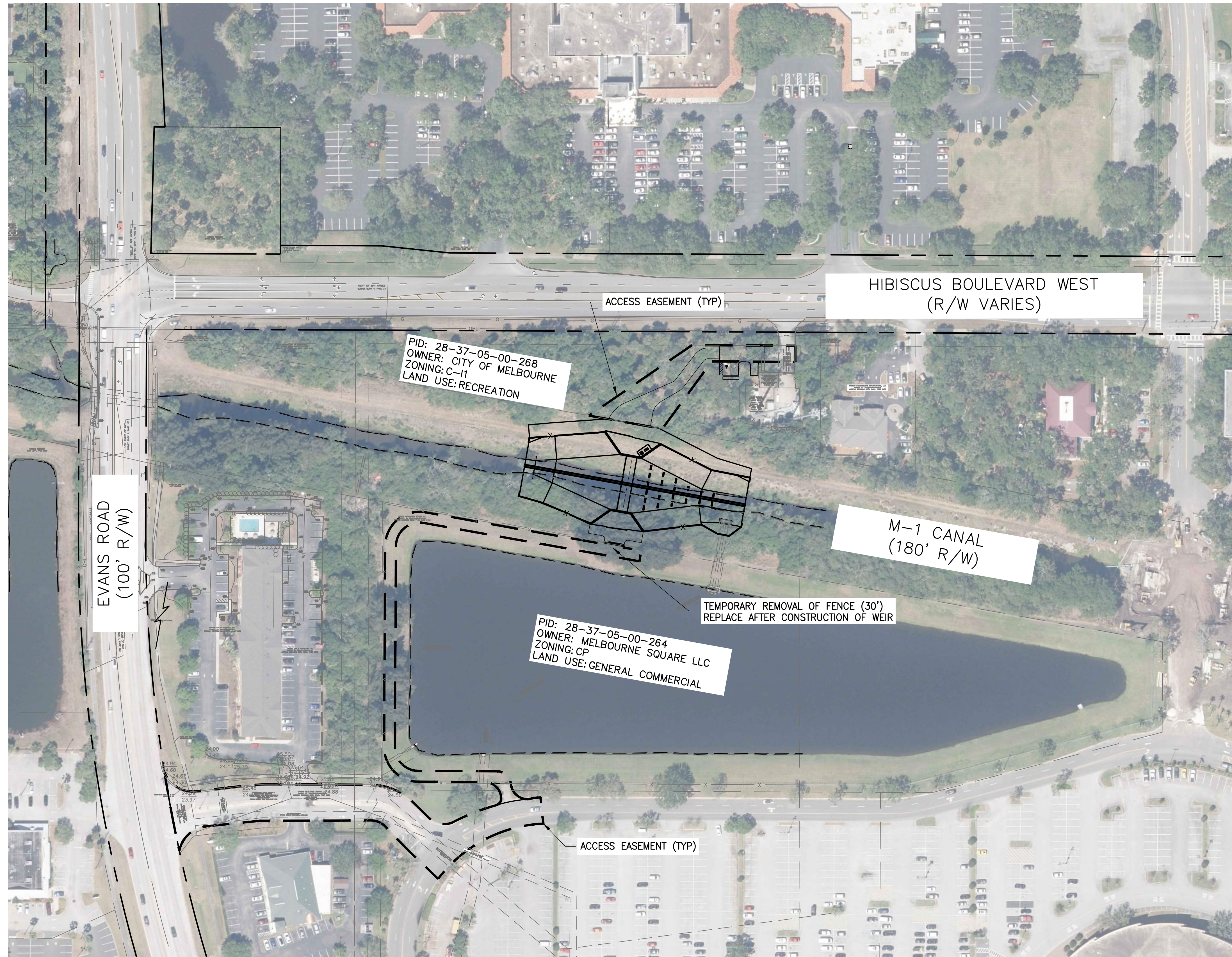
**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

WEIR TREE REMOVAL AND DEMO PLAN

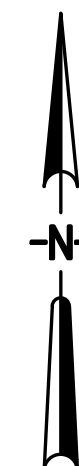
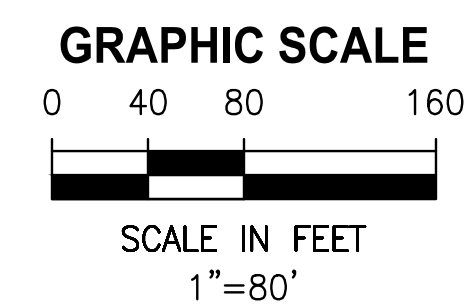
CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY: W. NICKEL	INDEX NO:	DWG NO: D5-1
P.E. # 68638		

BID DOCUMENTS

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 6/24/2020 1:27 PM WHOFFMAN




NOTE:
 CONTRACTOR TO VIDEO CONDITION OF EXISTING ROADWAYS /
 FACILITIES PRIOR TO CONSTRUCTION AND PROVIDE A COPY OF THE
 VIDEO TO THE OWNER. CONTRACTOR SHALL RESTORE ANY AREAS
 DAMAGED TO THEIR PRE-CONSTRUCTION CONDITION.



BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER


 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
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CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

WEIR ACCESS PLAN

CERTIFICATE OF AUTHORIZATION #1841	
APPROVED BY	
W. NICKEL	
P.E. # 68638	

PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	C5-1

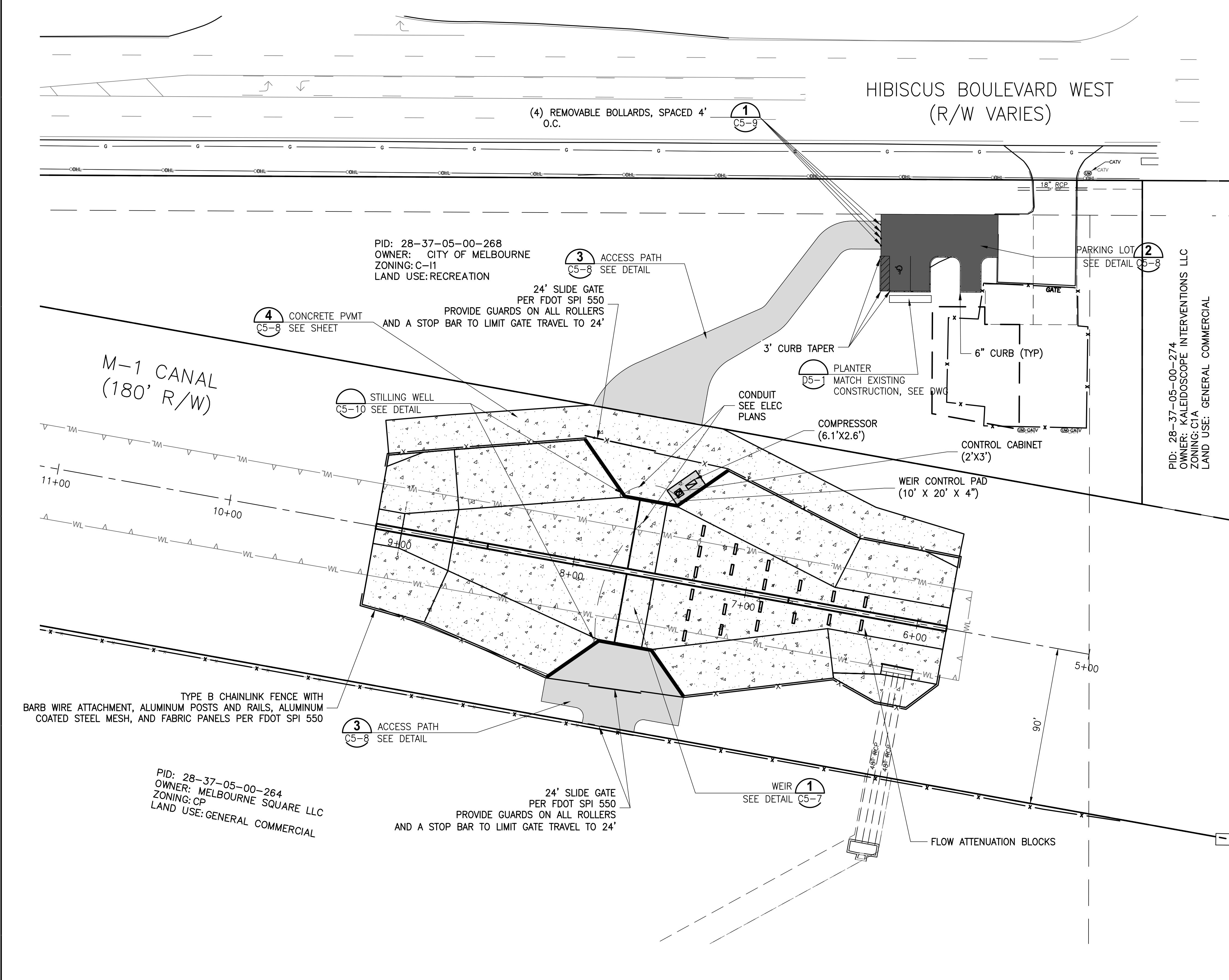
HIBISCUS BOULEVARD WEST
(R/W VARIES)

28-37-05-00-268 SITE DATA		
DESC	AREA	PERCENT OF SITE
PROPERTY AREA	2.24 AC	100%
NEW PAVEMENT/ CONCRETE	0.06 AC	3%
NEW GRASSPAVE (10% IMP)	0.10 AC	4%
TOTAL NEW IMPERVIOUS	0.07 AC	3%

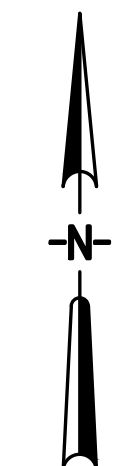
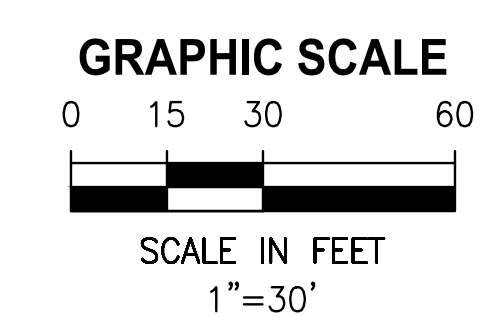
NOTES:

1. ACCESSING PARKING STRIPES, ACCESSIBLE AISLE STRIPING, AND UNIVERSAL ACCESSIBLE SYMBOL PER FDOT SPI 711-001,
2. ALL OTHER PARKING STRIPES TO BE 6" WHITE.
3. HANDICAP PARKING SIGN PER FDOT INDEX 700-102, MOUNTED PER FDOT SPI 700-010
4. THE CONTRACTOR SHALL RELOCATE THE PLANTERS, TRASH CANS, AND BENCHES NOTED ON DRAWING D5-1 TO A LOCATION OUTSIDE THE CONSTRUCTION AREA AS DIRECTED BY THE CITY OF MELBOURNE.
5. THE CONTRACTOR SHALL INCLUDE IN THEIR BID CONSTRUCTION OF 50 LINEAR FEET OF NEW 5-FOOT WIDE CONCRETE SIDEWALK IN ACCORDANCE WITH FDOT INDEX 522-001, FROM THE NEW PARKING AREA ALONG A ROUTE AND LOCATION TO BE SPECIFIED BY THE CITY OF MELBOURNE. CONTRACTOR SHALL COORDINATE WITH THE CITY AND DOCUMENT THE AGREED UPON SIDEWALK ROUTING WITH THE CITY AND DISTRICT BEFORE CONSTRUCTION.
6. CONTRACTOR SHALL ADD 10 TREES APPROXIMATELY 15-FEET TALL. TYPE AND LOCATION TO BE DETERMINED BY THE CITY.

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 7/30/2020 2:06 PM WHOFFMAN



PID: 28-37-05-00-274
 OWNER: KALEIDOSCOPE INTERVENTIONS LLC
 ZONING: C1A
 LAND USE: GENERAL COMMERCIAL



DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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 CERTIFICATE OF AUTHORIZATION #1841
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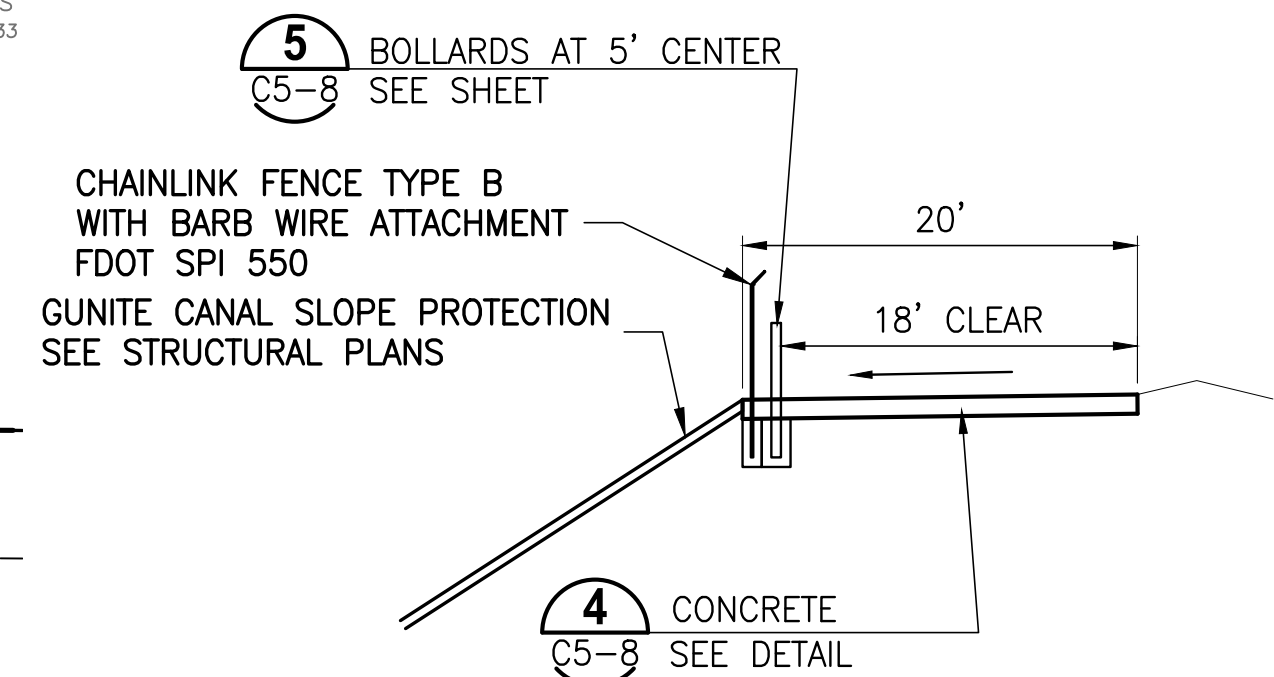
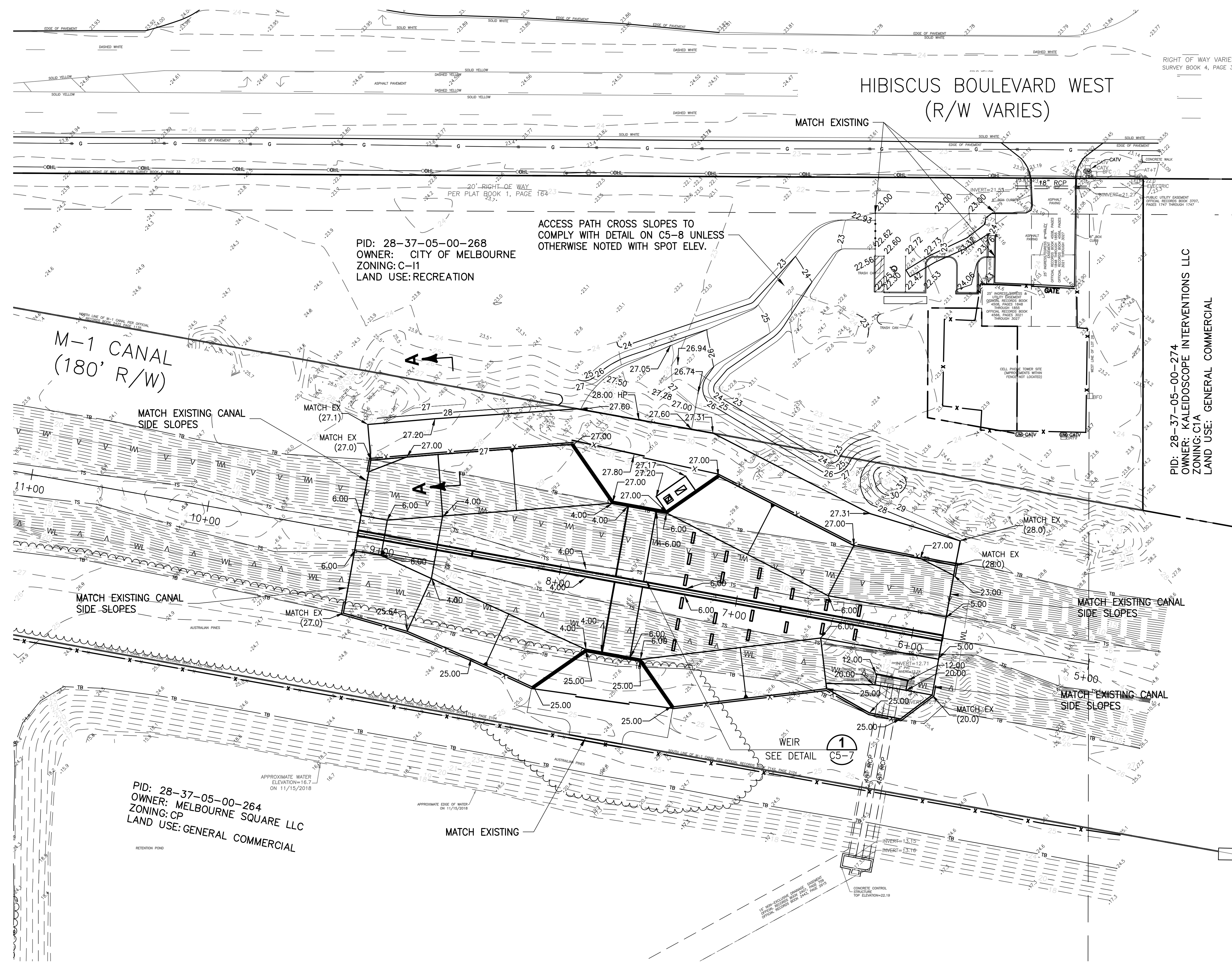
**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

WEIR SITE PLAN

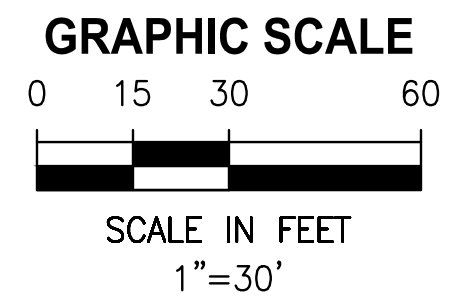
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APPROVED BY	
W. NICKEL	
P.E. # 68638	

PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	C5-2

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SECTION A-A
N.T.S.



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BID DOCUMENTS
 AUG 2020

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

JonesEdmunds

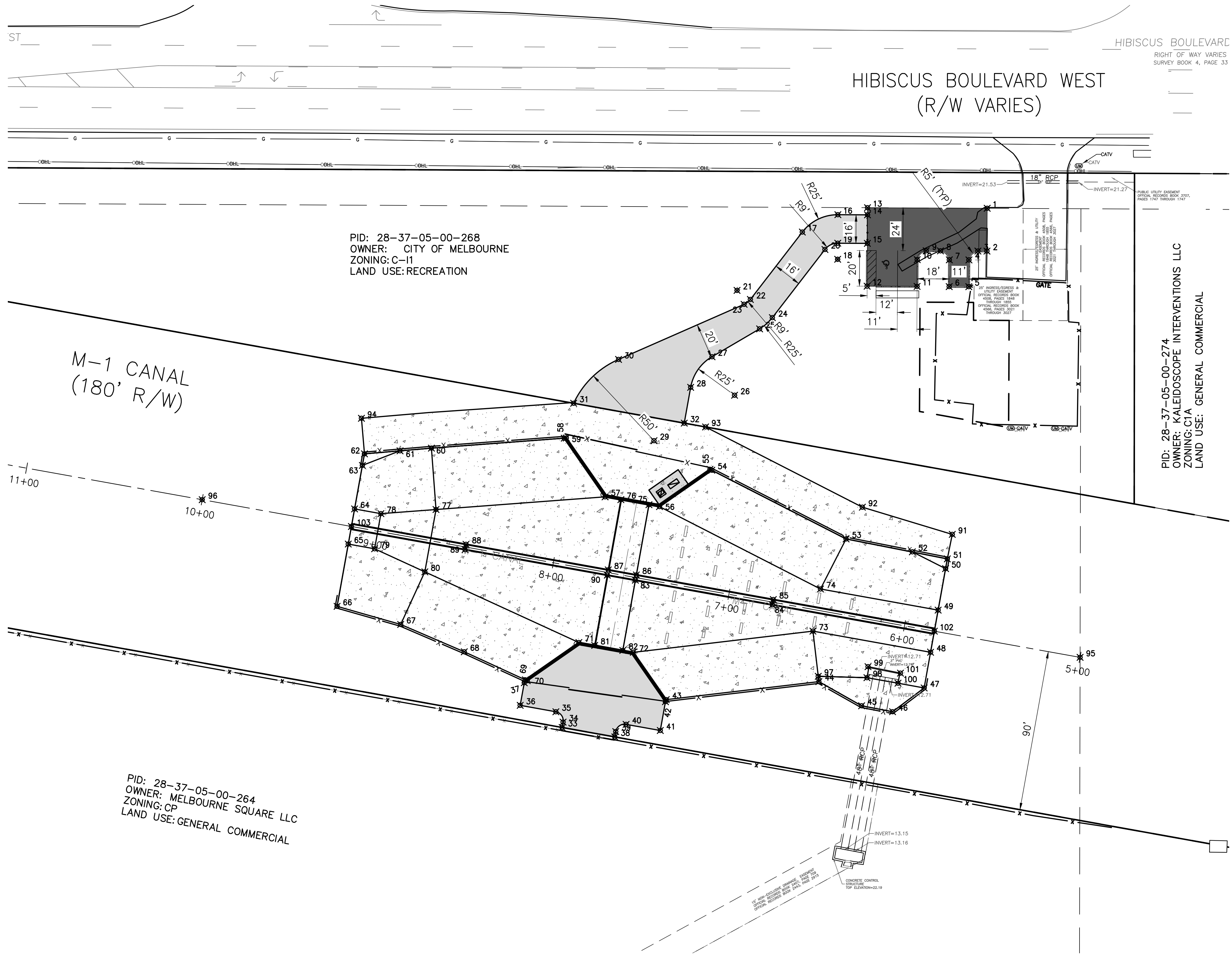
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CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

WEIR GRADING PLAN

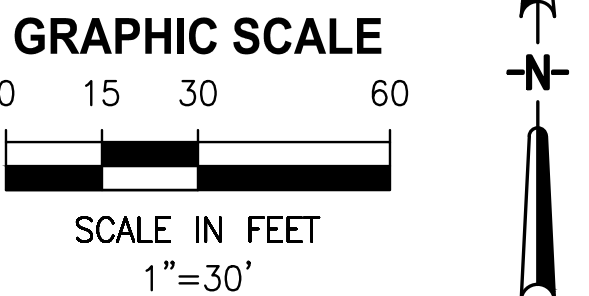
CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY W. NICKEL P.E. # 68638	
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PROJECT NO: 19750-066-01	DATE: AUG 2020
INDEX NO:	DWG NO: C5-3



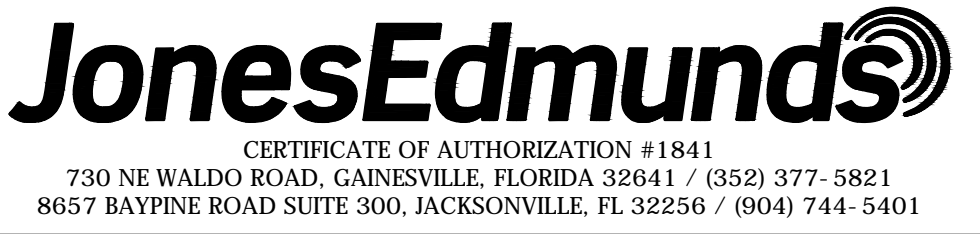
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POINT	NORTHING	EASTING
1	1363864.94	768501.07
2	1363840.94	768500.96
3	1363840.96	768495.87
4	1363835.99	768490.85
5	1363820.99	768490.77
6	1363821.04	768479.77
7	1363836.04	768479.85
8	1363841.07	768474.87
9	1363841.10	768466.87
10	1363836.13	768461.85
11	1363821.13	768461.77
12	1363821.27	768433.77
13	1363865.27	768433.99
14	1363861.27	768433.97
15	1363845.27	768433.89
16	1363861.35	768417.38
17	1363851.62	768397.46
18	1363836.35	768417.26
19	1363845.35	768417.30
20	1363841.85	768410.13
21	1363818.91	768360.86
22	1363813.84	768368.32
23	1363811.10	768364.81
24	1363803.64	768380.65
25	1363797.34	768373.50
26	1363760.13	768359.47
27	1363781.70	768346.82
28	1363764.55	768334.86
29	1363734.67	768314.30
30	1363780.21	768294.44
31	1363755.63	768269.26
32	1363744.50	768331.26
33	1363573.91	768262.80
34	1363576.92	768263.33
35	1363582.72	768259.29
36	1363586.31	768239.29
37	1363598.98	768241.57
38	1363568.61	768292.32
39	1363571.61	768292.86
40	1363575.65	768298.66
41	1363572.21	768317.83
42	1363588.36	768320.73
43	1363589.50	768321.15
44	1363599.61	768406.73
45	1363586.05	768430.67
46	1363582.75	768448.04
47	1363596.06	768465.73
48	1363616.07	768469.34
49	1363639.69	768473.58
50	1363662.95	768477.76
51	1363668.42	768478.74
52	1363672.35	768459.13

COORDINATE TABLE		
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54	1363718.10	768346.69
55	1363718.62	768345.68
56	1363697.72	768317.38
57	1363703.20	768286.86
58	1363736.08	768264.00
59	1363736.16	768265.15
60	1363730.48	768189.53
61	1363728.98	768171.93
62	1363727.29	768152.00
63	1363720.80	768150.83
64	1363696.41	768146.45
65	1363676.72	768142.92
66	1363641.82	768136.65
67	1363631.65	768172.30
68	1363616.33	768207.96
69	1363600.62	768242.17
70	1363600.14	768243.23
71	1363621.50	768272.19
72	1363616.02	768302.71
73	1363627.91	768403.39
74	1363651.54	768407.63
75	1363698.78	768311.47
76	1363701.61	768295.72
77	1363696.08	768192.11
78	1363693.76	768161.22
79	1363674.07	768157.68
80	1363661.15	768185.84
81	1363619.91	768281.05
82	1363617.08	768296.80
83	1363656.45	768303.87
84	1363642.67	768380.64
85	1363645.62	768381.17
86	1363659.41	768304.40
87	1363662.24	768288.65
88	1363676.55	768208.93
89	1363673.60	768208.40
90	1363659.28	768288.12
91	1363682.14	768481.49
92	1363697.38	768431.09
93	1363742.35	768343.20
94	1363747.22	768150.30
95	1363613.21	768553.15
96	1363701.59	768061.02
97	1363602.59	768406.38
98	1363601.81	768433.67
99	1363607.98	768434.27
100	1363598.73	768451.07
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102	1363627.88	768471.46
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DESIGNED W NICKEL
 DRAWN D HAUBRICH
 CHECKED R KOLLER



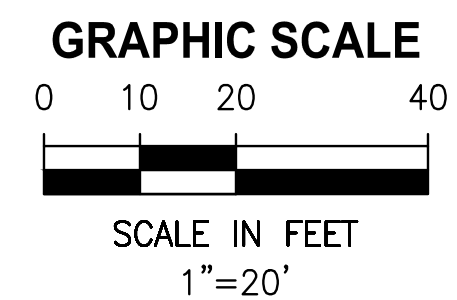
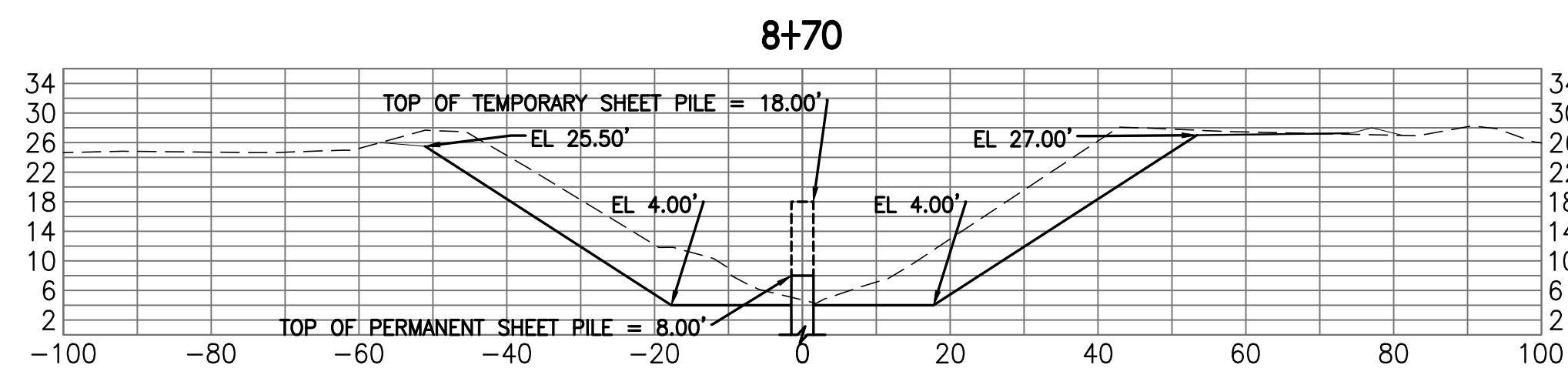
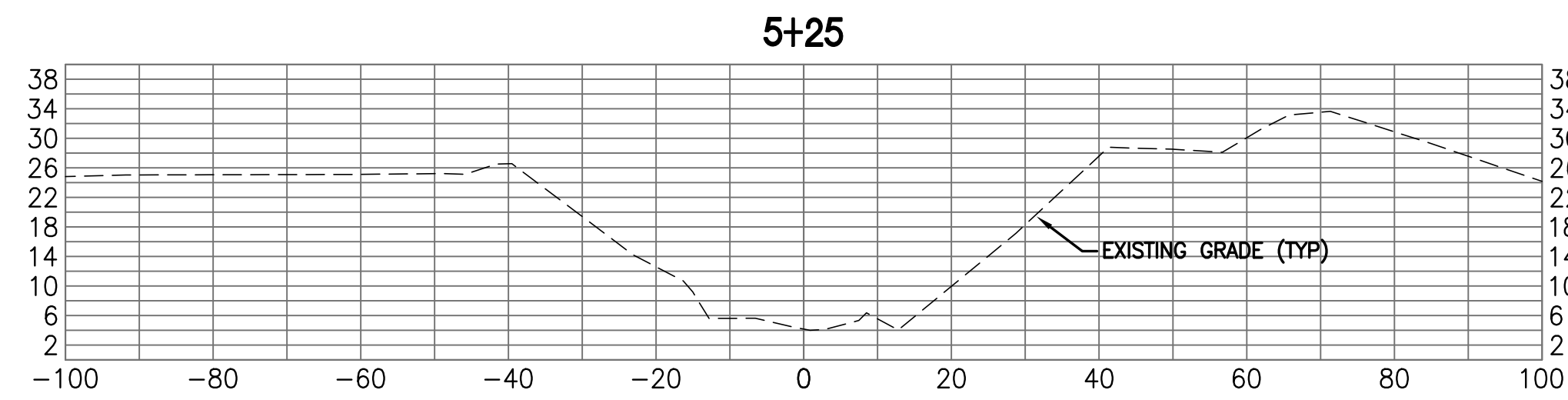
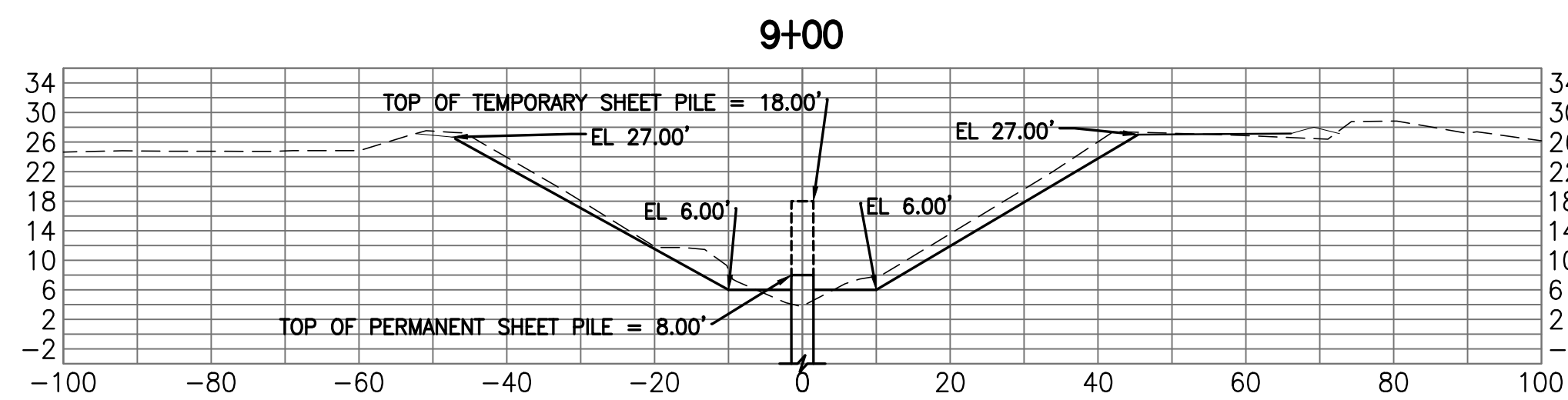
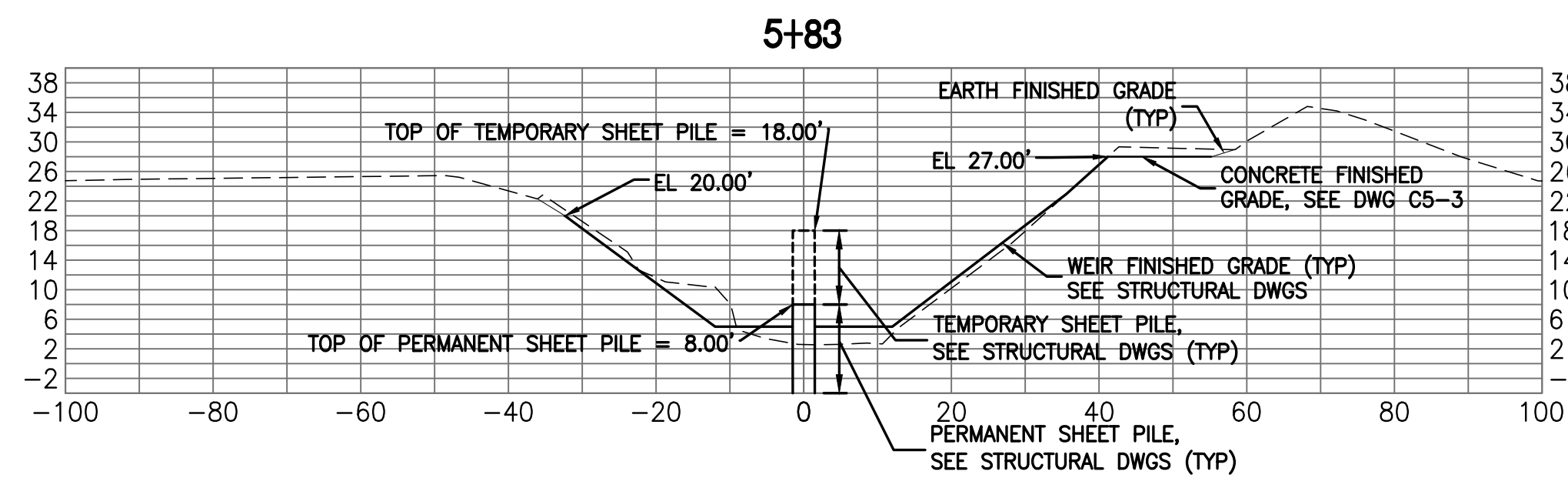
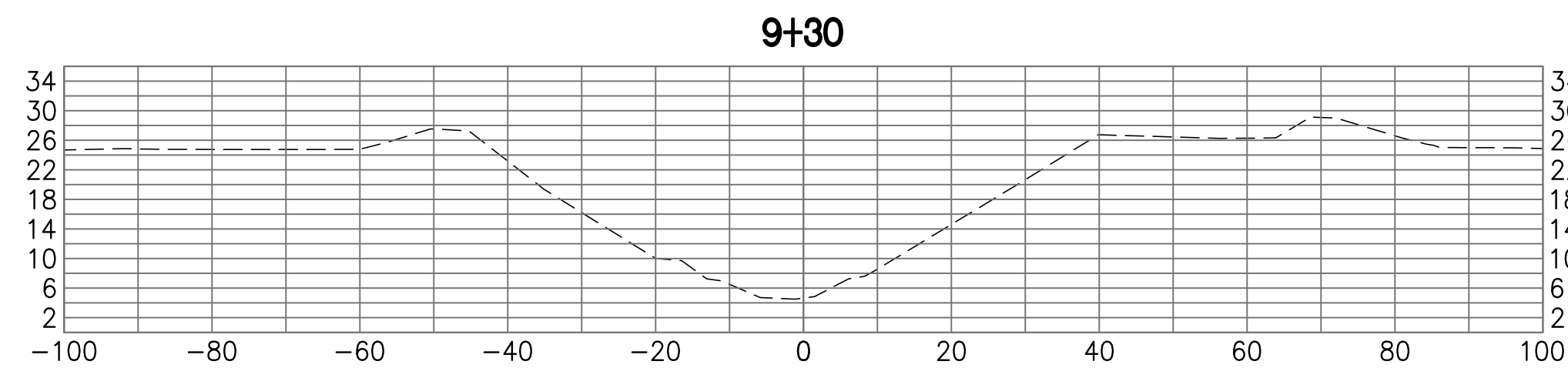
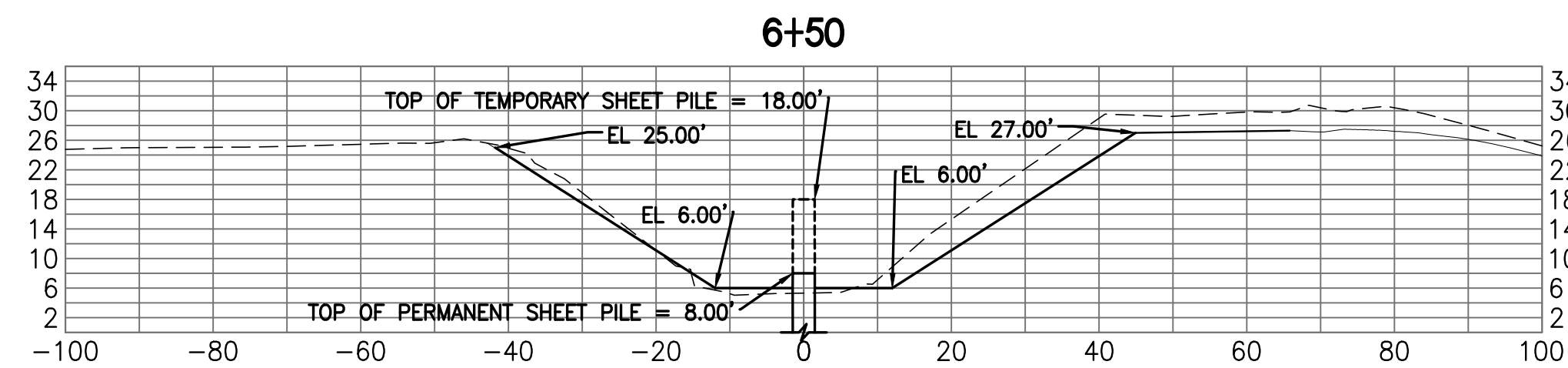
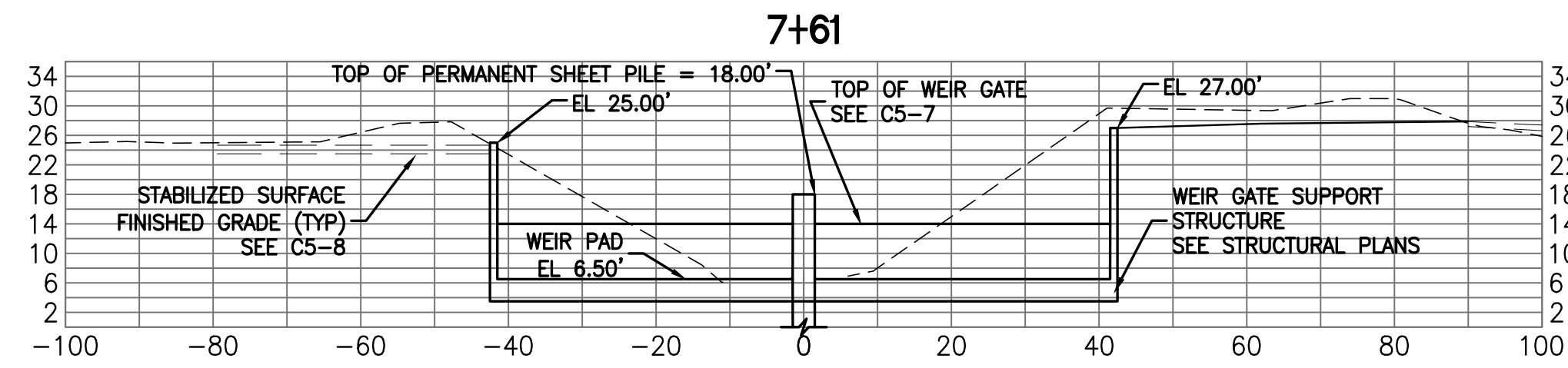
CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

WEIR GEOMETRIC CONTROL TABLE

CERTIFICATE OF AUTHORIZATION #1841
 APPROVED BY
 W. NICKEL
 P.E. # 68638

PROJECT NO:
 19750-066-01
 DATE:
 AUG 2020
 INDEX NO:
 DWG NO:
 C5-4

BID DOCUMENTS



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BID DOCUMENTS

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

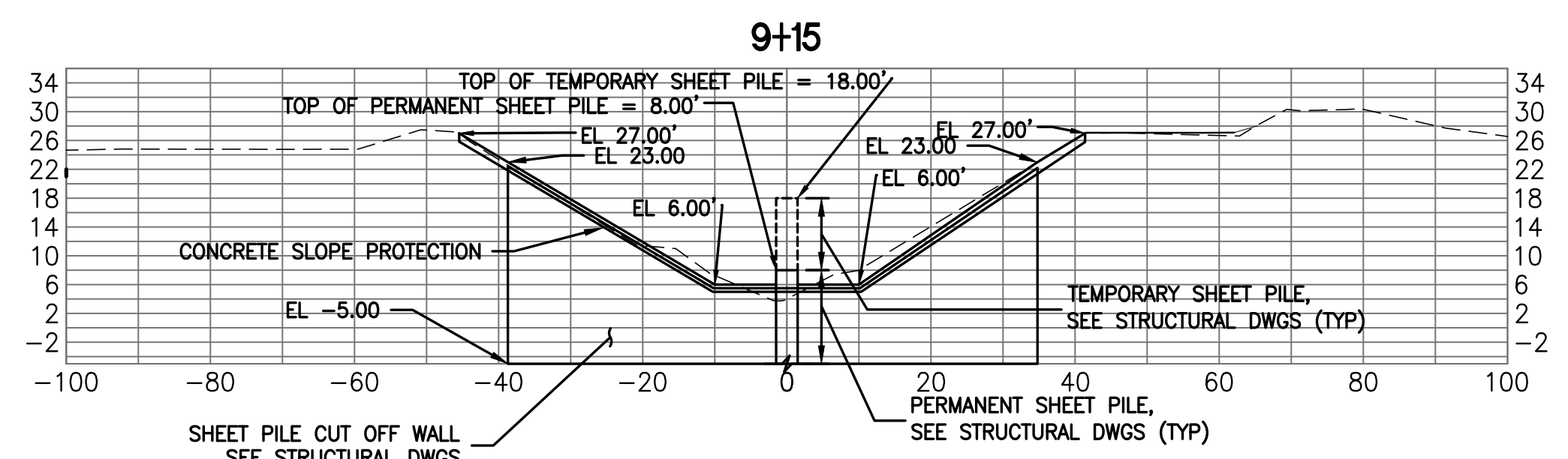
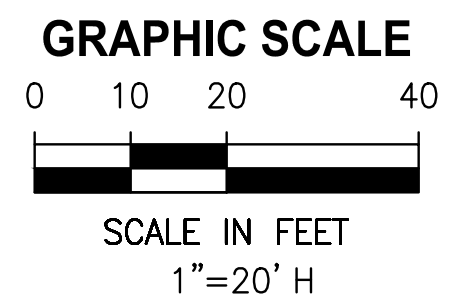
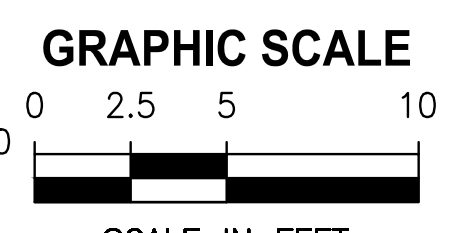
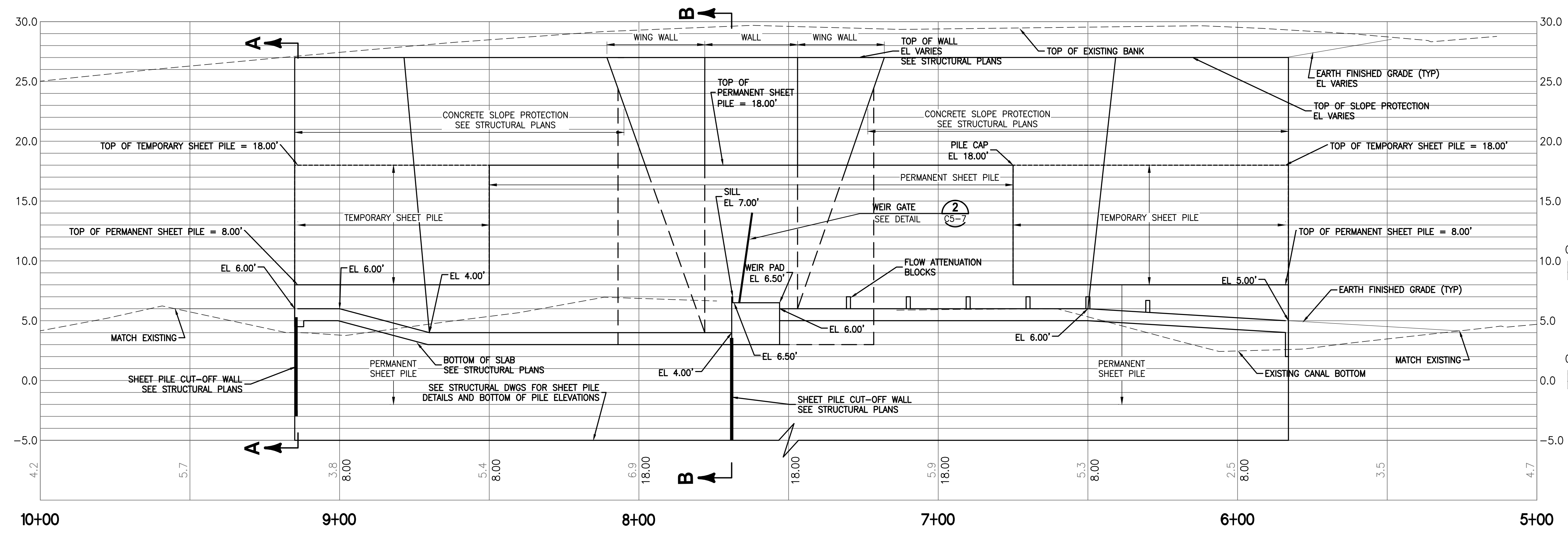
JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

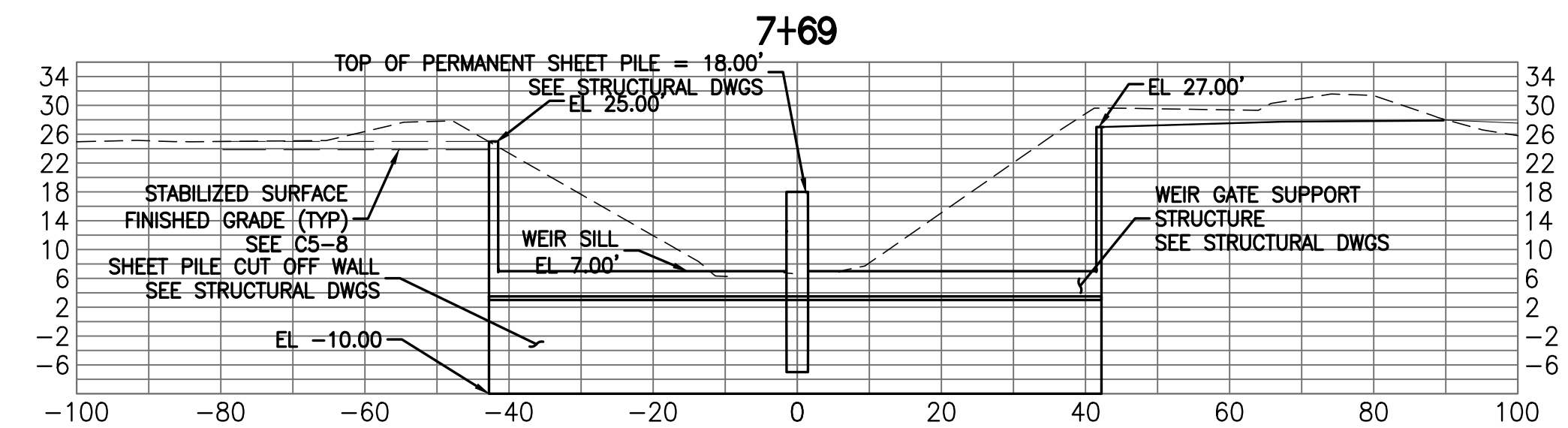
WEIR CROSS SECTIONS

CERTIFICATE OF AUTHORIZATION #1841	
APPROVED BY	
W. NICKEL	
P.E. # 68638	

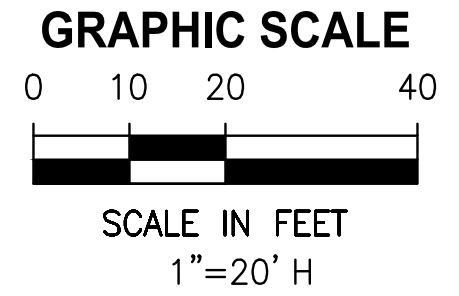
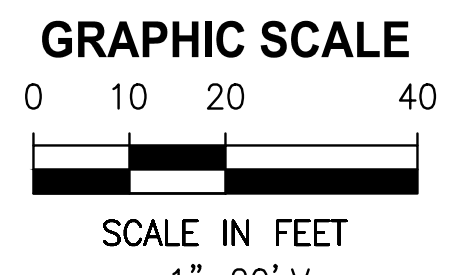
PROJECT NO:	19750-066-01	DATE:	AUG 2020
INDEX NO:		DWG NO:	C5-5



SECTION A-A



SECTION B-B



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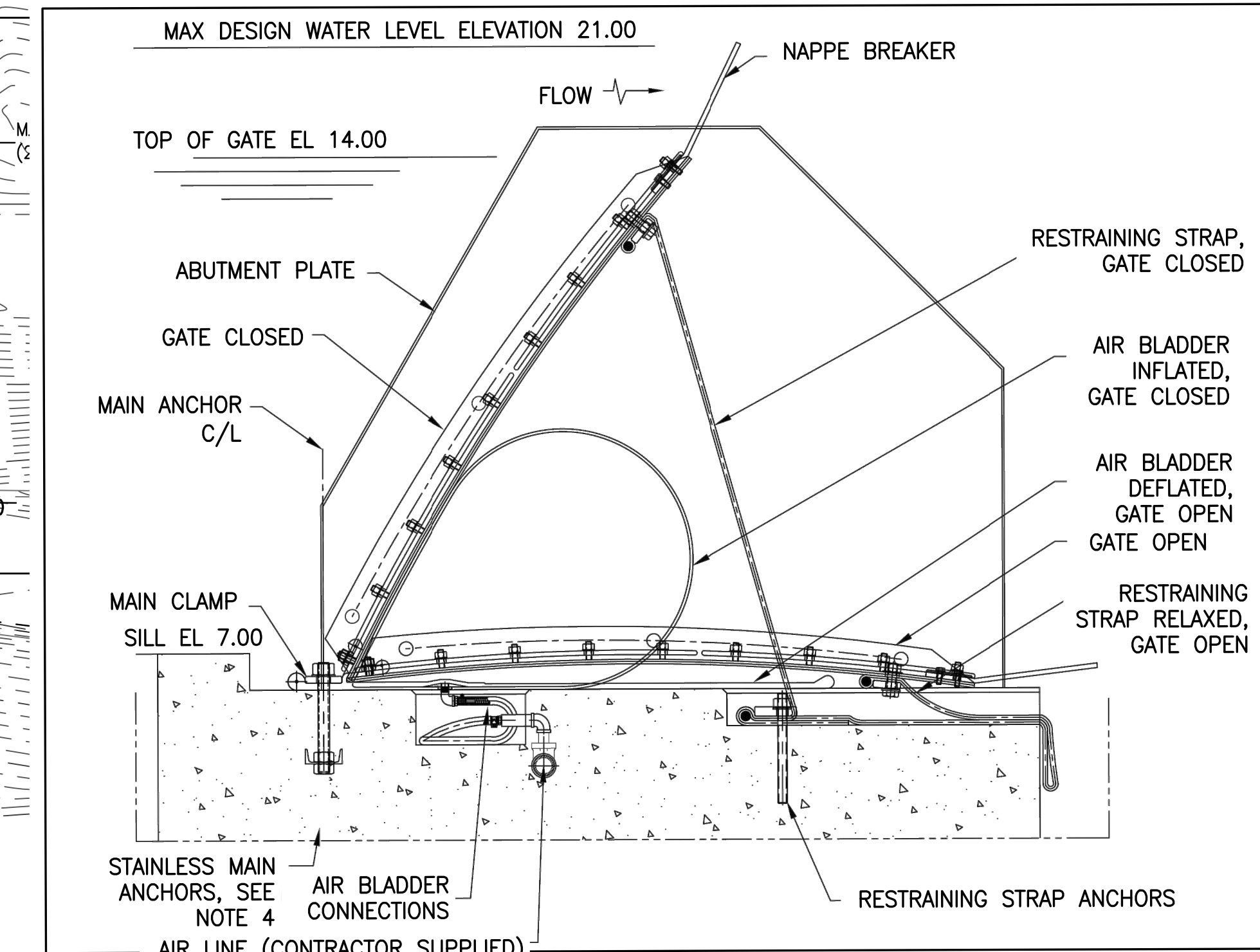
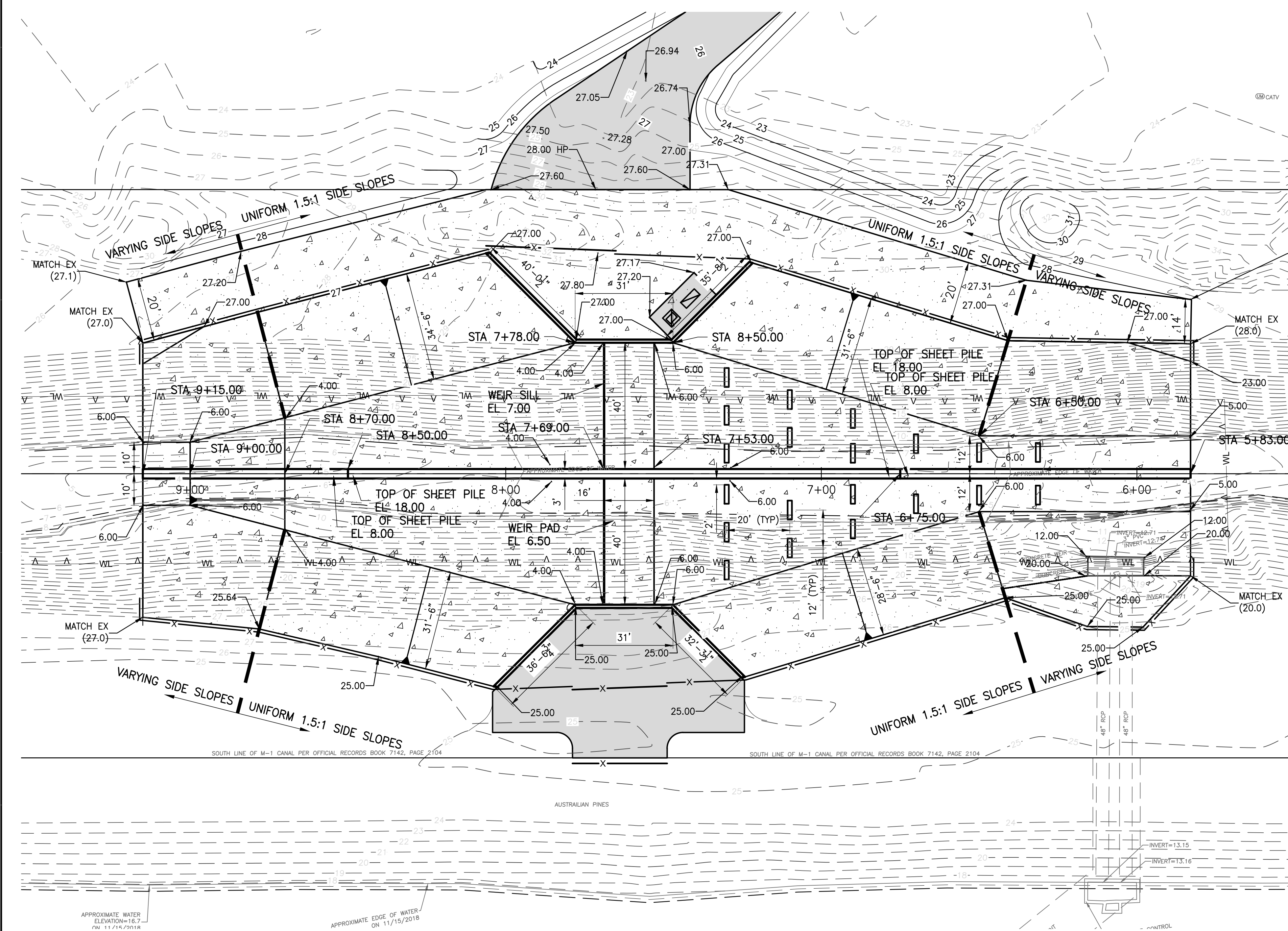
DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

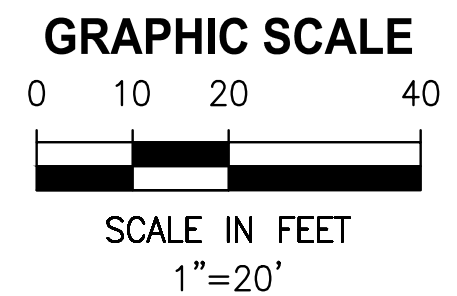
WEIR PROFILE

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY W. NICKEL	INDEX NO:	DWG NO: C5-6
P.E. # 68638		



DETAIL 2
N.T.S. C5-7

DETAIL 1
1"=20' C5-7



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BID DOCUMENTS
 A
 B
 C
 D
 E
 F

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	W NICKEL
DRAWN	D HAUBRICH
CHECKED	R KOLLER

JonesEdmunds

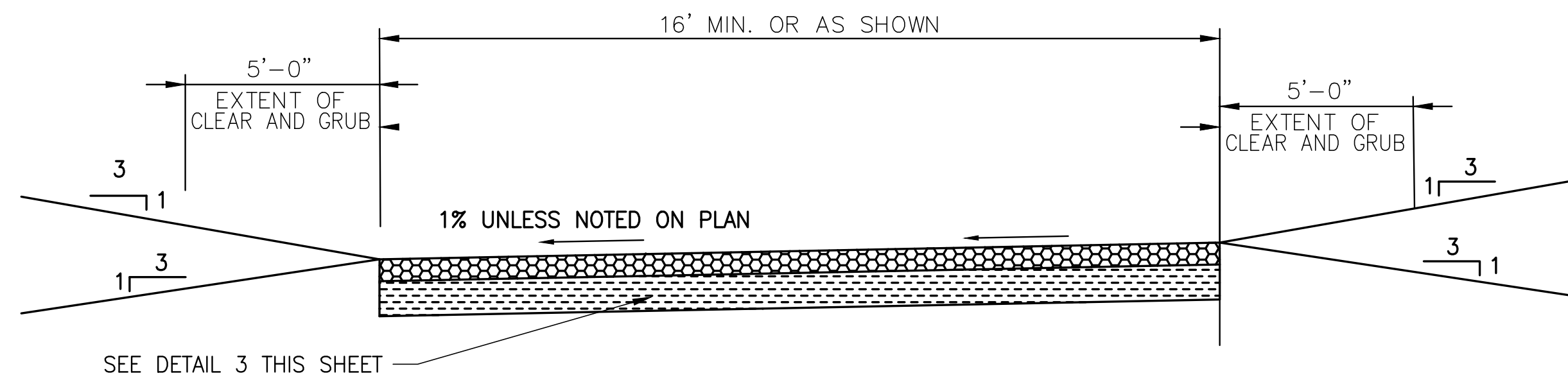
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 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

WEIR DETAILS

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY W. NICKEL P.E. # 68638	
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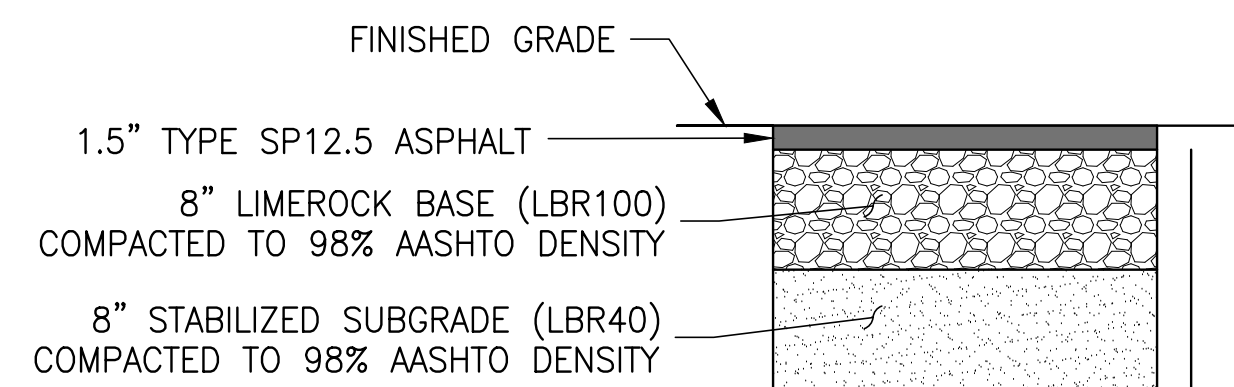
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INDEX NO:		DWG NO:	C5-7



TYPICAL ACCESS PATH SECTION

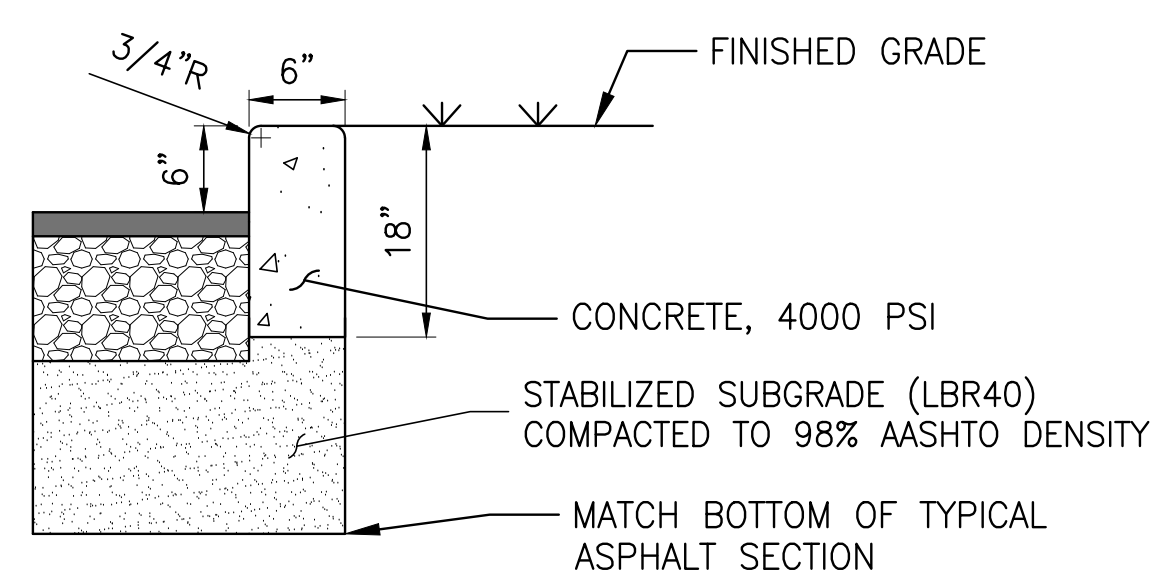
N.T.S.

DETAIL 1
C5-2



TYPICAL ASPHALT SECTION

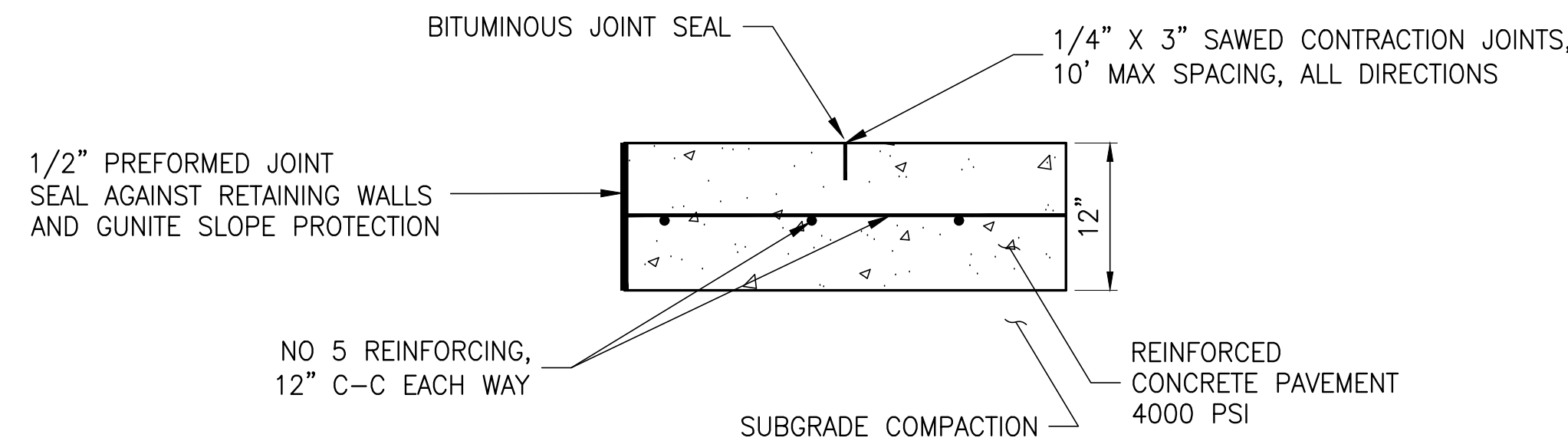
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TYPICAL CURB SECTION

N.T.S.

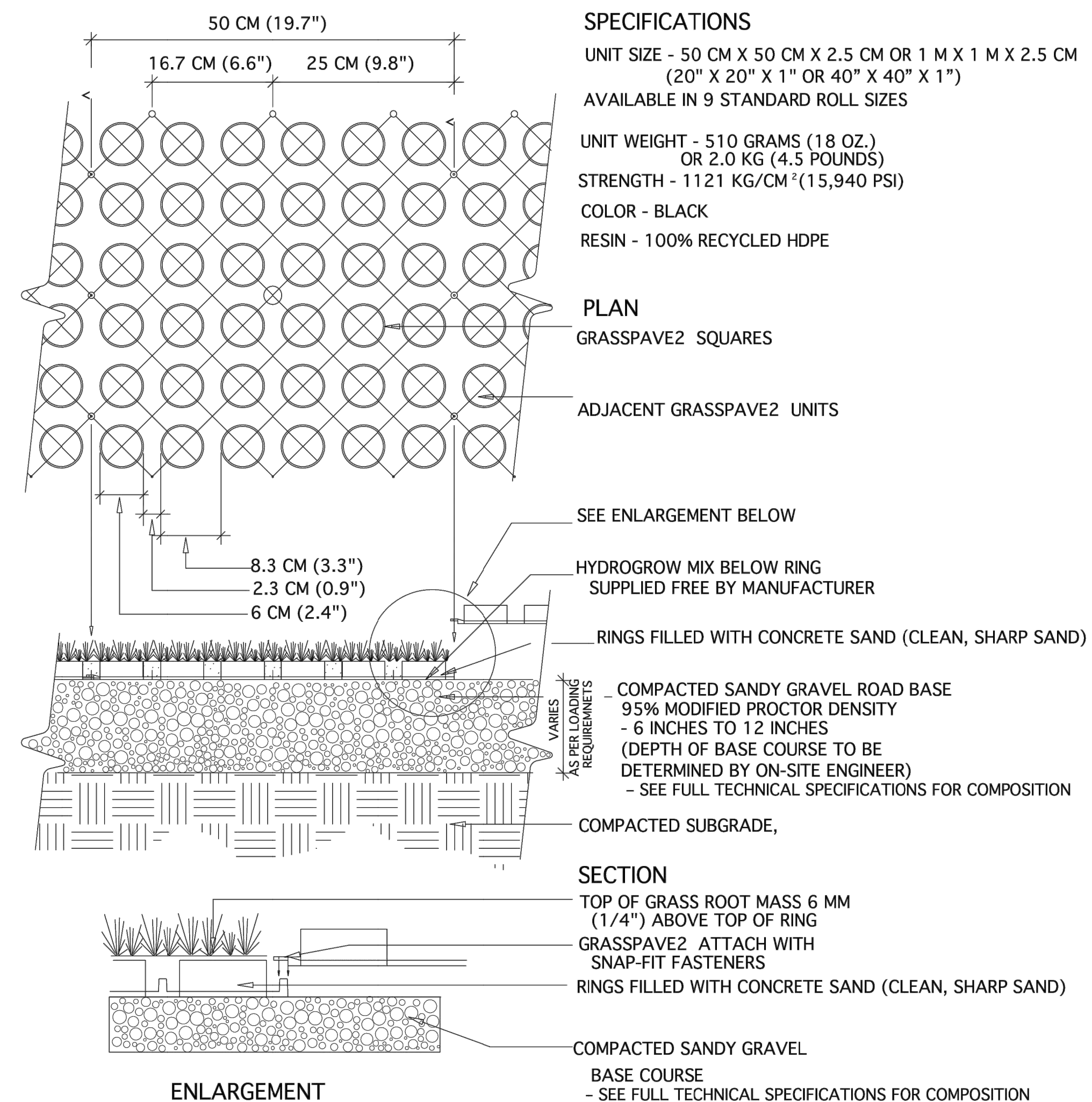
DETAIL 2
C5-2



TYPICAL REINFORCED CONCRETE

N.T.S.

DETAIL 4
C5-2



SPECIFICATIONS

- UNIT SIZE - 50 CM X 50 CM X 2.5 CM OR 1 M X 1 M X 2.5 CM (20" X 20" X 1" OR 40" X 40" X 1")
- AVAILABLE IN 9 STANDARD ROLL SIZES
- UNIT WEIGHT - 510 GRAMS (18 OZ.) OR 2.0 KG (4.5 POUNDS)
- STRENGTH - 1121 KG/CM² (15,940 PSI)
- COLOR - BLACK
- RESIN - 100% RECYCLED HDPE

PLAN

GRASSPAVE2 SQUARES

ADJACENT GRASSPAVE2 UNITS

SEE ENLARGEMENT BELOW

HYDROGROW MIX BELOW RING SUPPLIED FREE BY MANUFACTURER

RINGS FILLED WITH CONCRETE SAND (CLEAN, SHARP SAND)

COMPACTED SANDY GRAVEL ROAD BASE

95% MODIFIED PROCTOR DENSITY - 6 INCHES TO 12 INCHES (DEPTH OF BASE COURSE TO BE DETERMINED BY ON-SITE ENGINEER) - SEE FULL TECHNICAL SPECIFICATIONS FOR COMPOSITION

COMPACTED SUBGRADE,

SECTION

TOP OF GRASS ROOT MASS 6 MM (1/4") ABOVE TOP OF RING
GRASSPAVE2 ATTACH WITH SNAP-FIT FASTENERS
RINGS FILLED WITH CONCRETE SAND (CLEAN, SHARP SAND)

COMPACTED SANDY GRAVEL

BASE COURSE - SEE FULL TECHNICAL SPECIFICATIONS FOR COMPOSITION

ENLARGEMENT

NOTE: GRASS/PLANT TYPES SHALL BE SPECIFIED BY A LANDSCAPE ARCHITECT OR LANDSCAPE DESIGNER.

TYPICAL GRASSPAVE2 DETAIL

1
1 OF 1

NOT TO SCALE

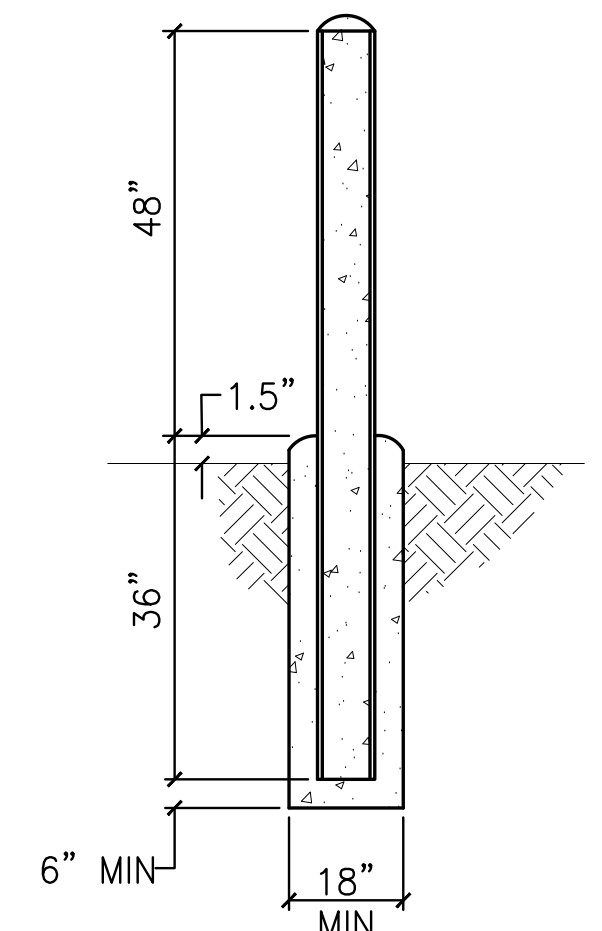


Invisible Structures, Inc.
GPDET18.DWG

GRASSPAVE PRODUCT IS THE BASIS OF THE DESIGN. CONTRACTOR MAY USE THIS OR APPROVED EQUAL THROUGH FORMAL SUBMITTAL AND APPROVAL PROCESS

16265 E. 33RD DR., SUITE 20
AURORA, COLORADO 80011
800-233-1510 OR 303-233-8383
FAX: 800-233-1522 OR
303-233-8282
www.invisiblestructures.com
rev. 1/18

DETAIL 3
C5-2



NOTES:

- A. ACTUAL INSTALLATION LOCATION OF EACH BOLLARD SHALL BE AS SHOWN ON THE DRAWINGS OR AS DIRECTED IN THE FIELD.
- B. PAINT ALL PIPING MATERIALS OSHA SAFETY YELLOW.
- C. FOR CHAIN GATE, PROVIDE 3/4" HIGH-TEST CHAIN FOR GATE - 1,500 LBS WORKING LOAD LIMIT.

TYPE I BOLLARD DETAIL

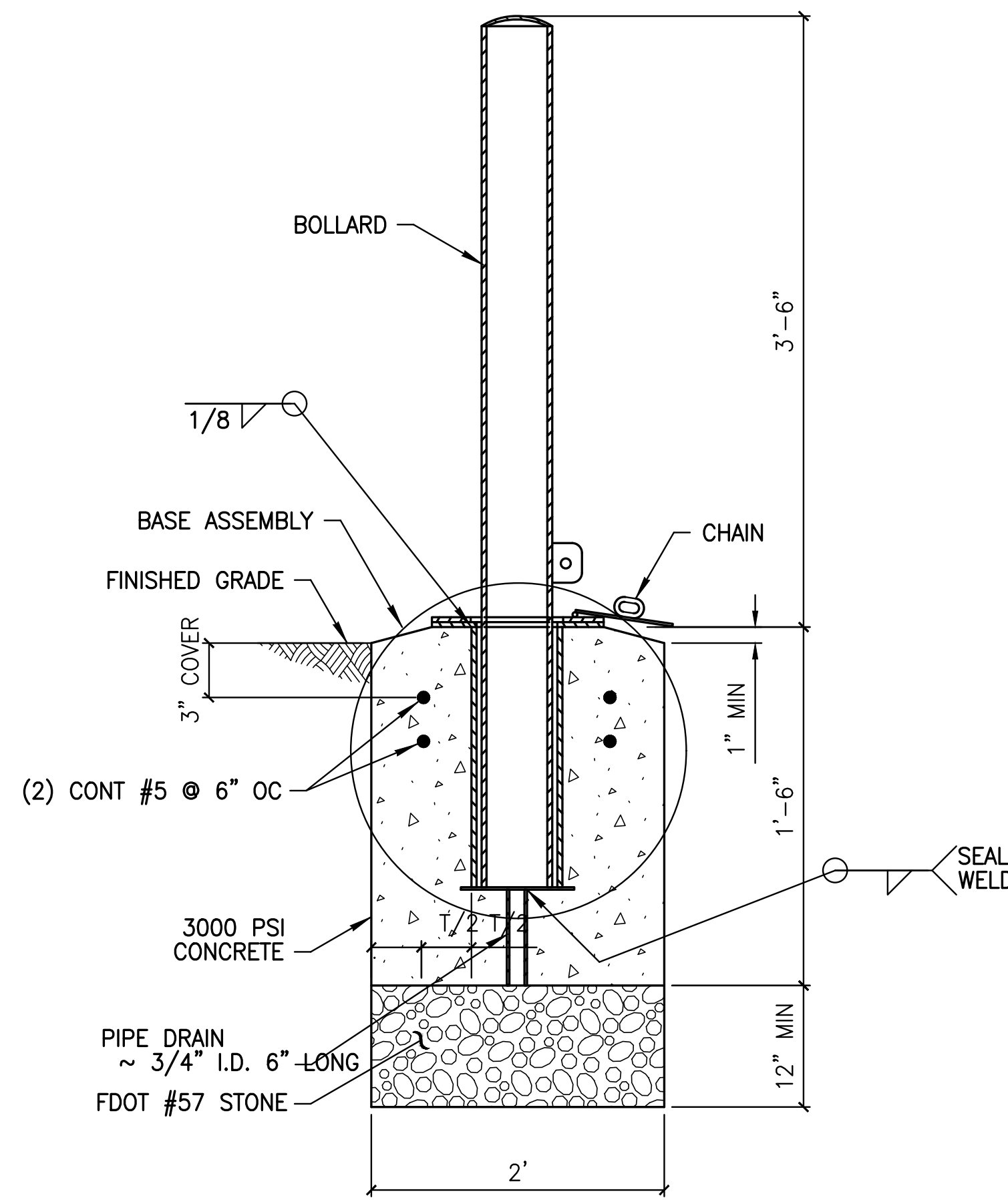
NTS

DETAIL 5
C5-3

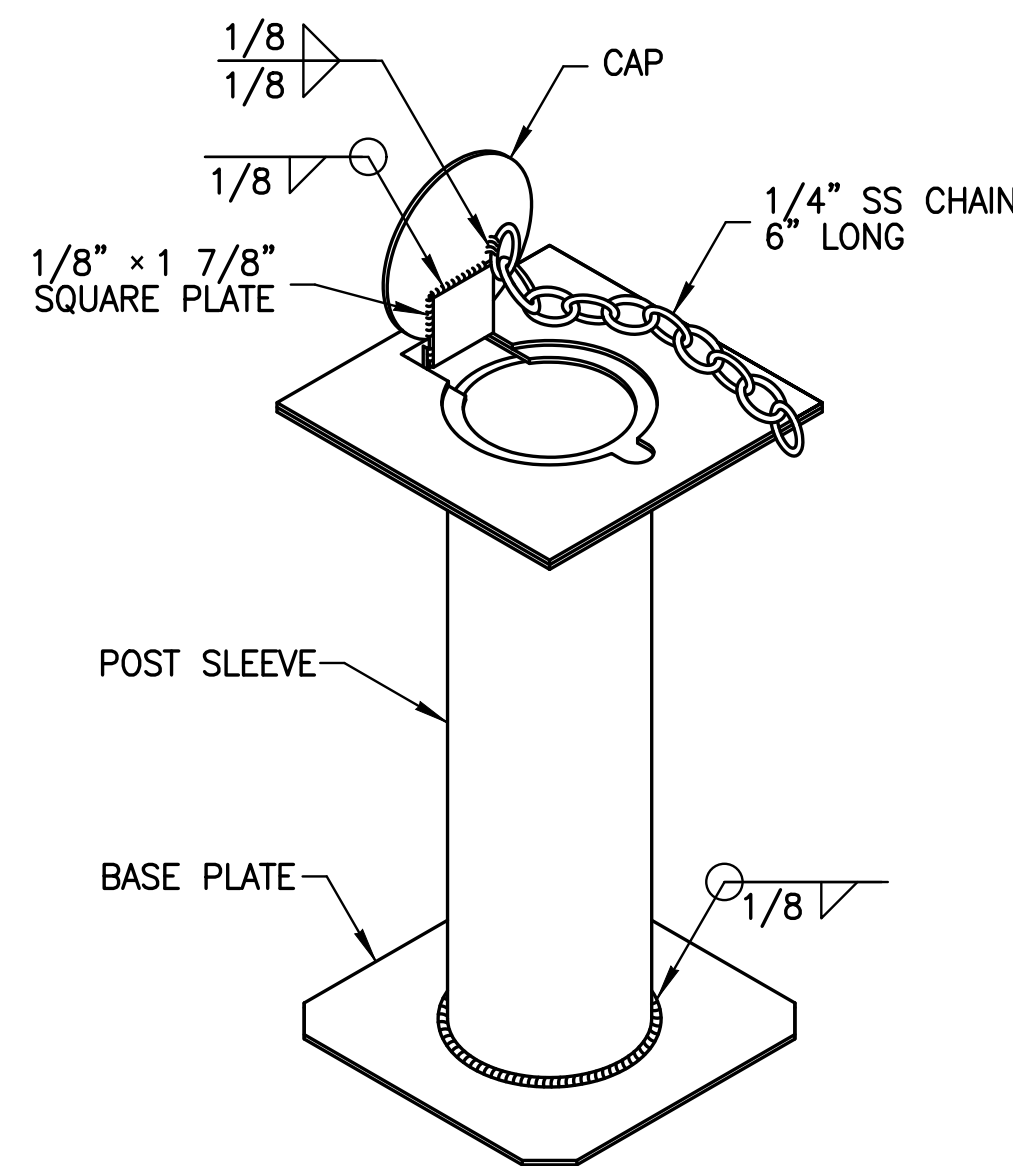
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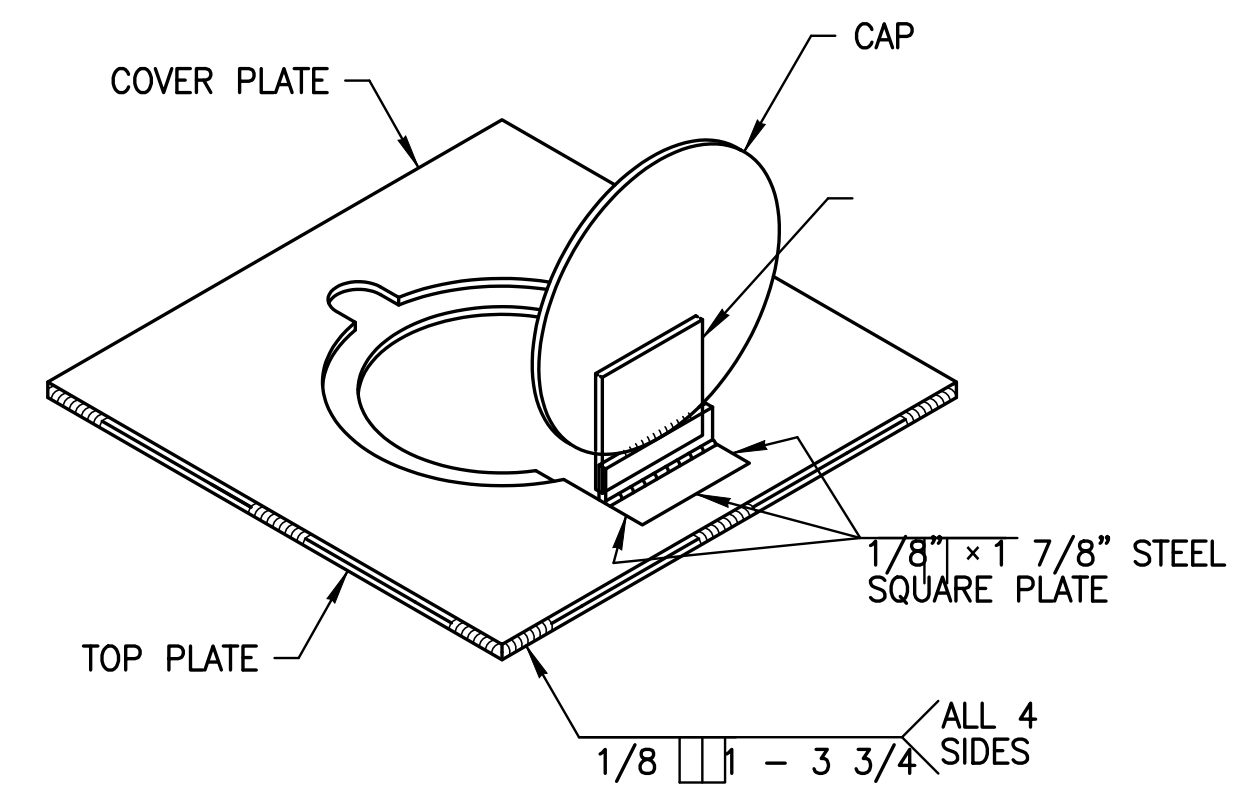
				DESIGNED <u>W NICKEL</u>	JonesEdmunds <small>CERTIFICATE OF AUTHORIZATION #1841 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401</small>	CRANE CREEK M-1 CANAL FLOW RESTORATION ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT	ACCESS DETAILS	CERTIFICATE OF AUTHORIZATION #1841		PROJECT NO: 19750-066-01	DATE: AUG 2020
				DRAWN <u>D HAUBRICH</u>				APPROVED BY		INDEX NO:	DWG NO: C5-8
				CHECKED <u>R KOLLER</u>				W. NICKEL		P.E. # 68638	
LTR.	DATE	REVISIONS	BY	APPRD.							



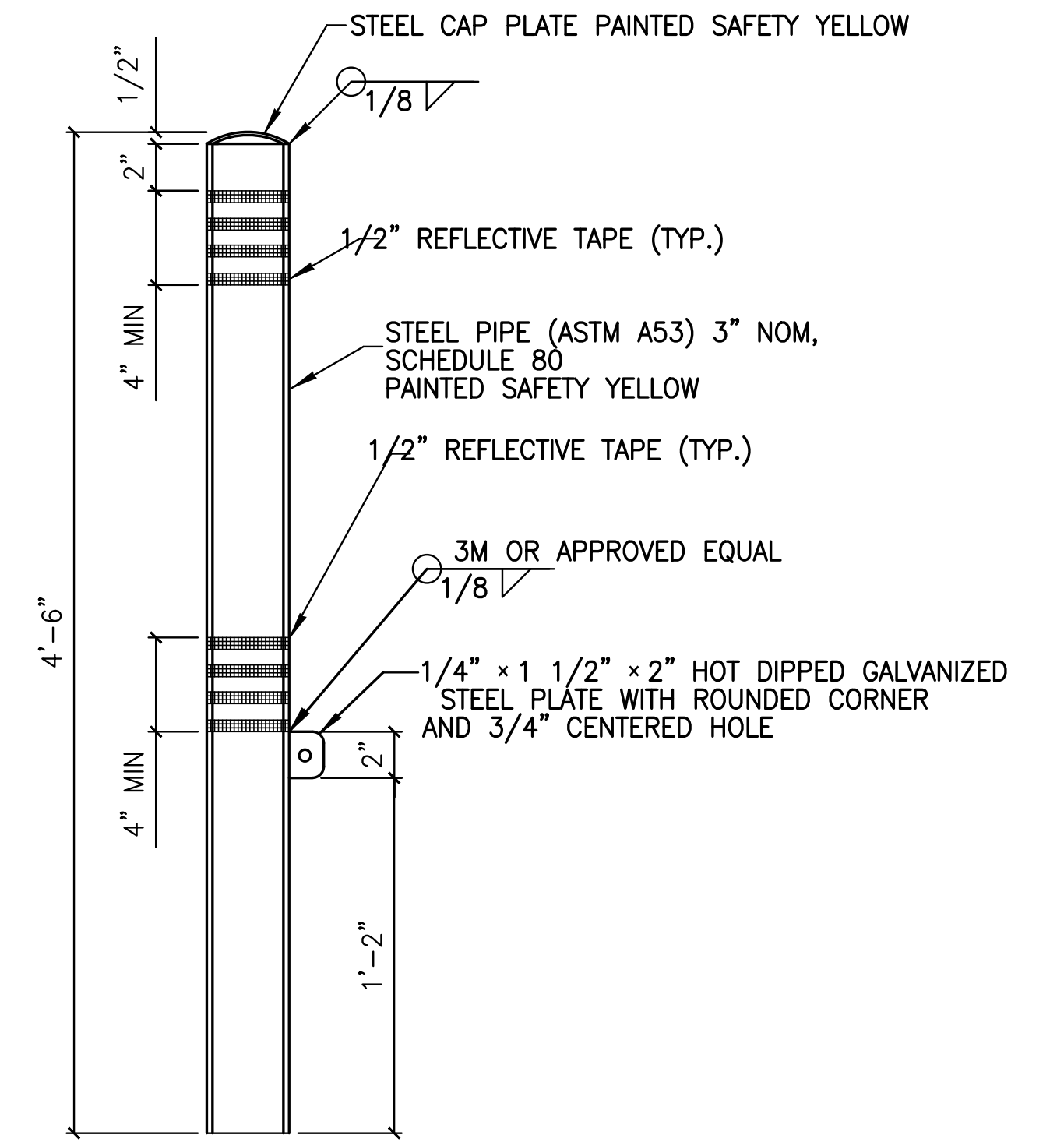
SECTION 1-1



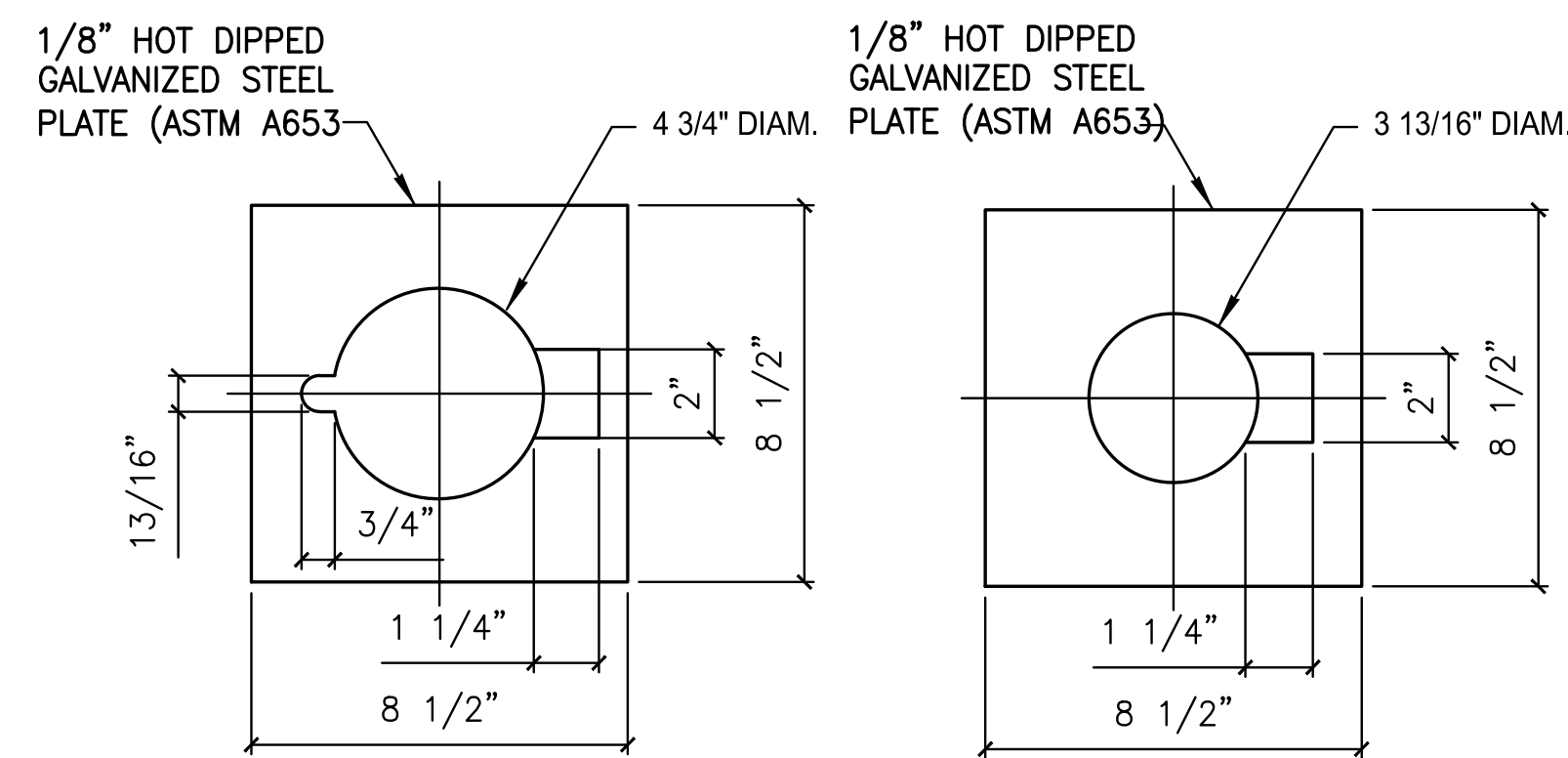
BASE ASSEMBLY



POST

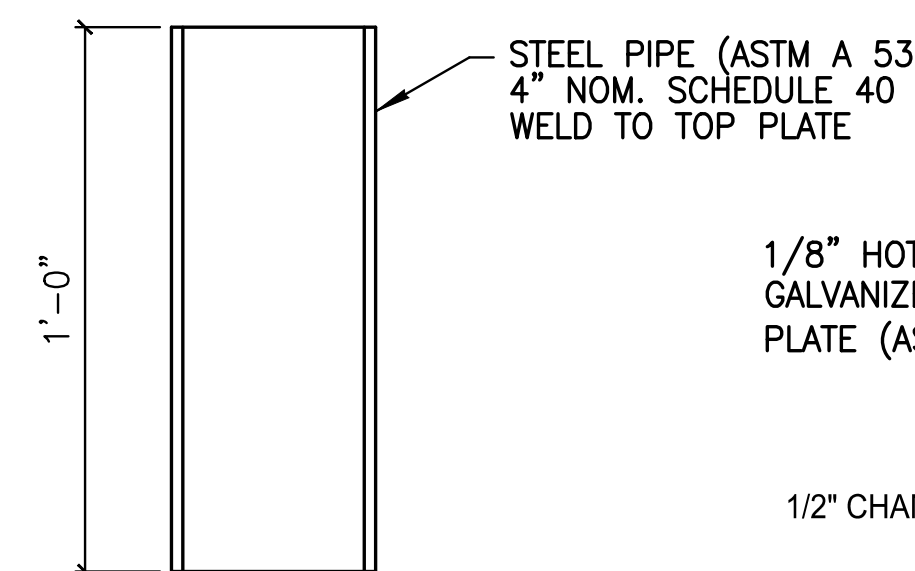


- REMOVABLE BOLLARD NOTES:**
- A. ALL STEEL SHALL BE HOT DIPPED GALVANIZED PER ASTM A 123
 - B. ALL PIPE SHALL COMPLY WITH ASTM A 53 GRADE 50 STEEL
 - C. ALL PLATES SHALL COMPLY WITH ASTM A 36
 - D. GALVANIZED SURFACES SHALL BE DELIVERED PREPARED FOR PAINTING. BOLLARD SHALL BE PAINTED SAFETY YELLOW

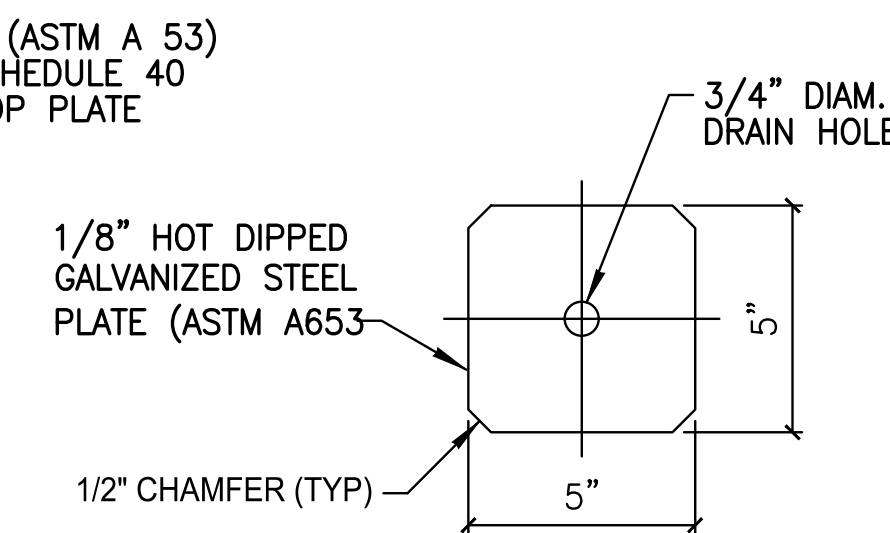


COVER PLATE

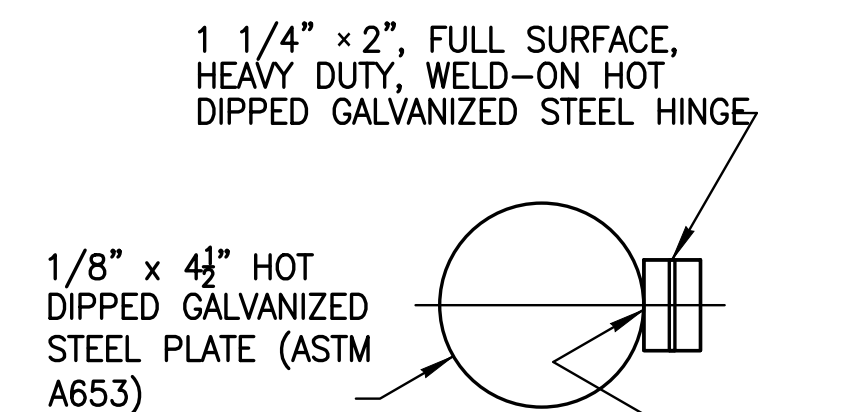
TOP PLATE



POST SLEEVE



BASE PLATE



CAP AND HINGE

REMOVABLE BOLLARD DETAIL 1
NTS C5-2

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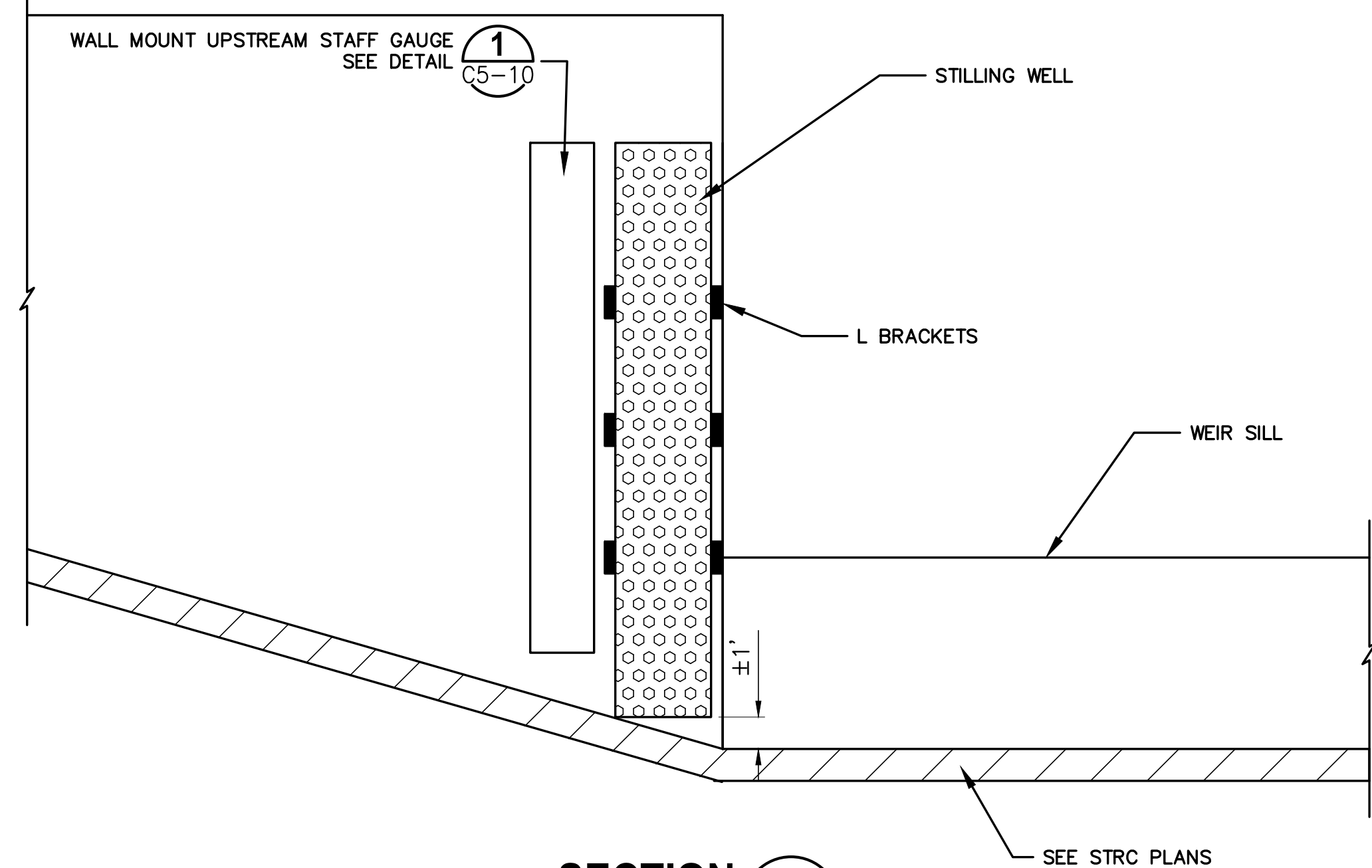
DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

JonesEdmunds
 CERTIFICATE OF AUTHORIZATION #1841
 730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
 8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

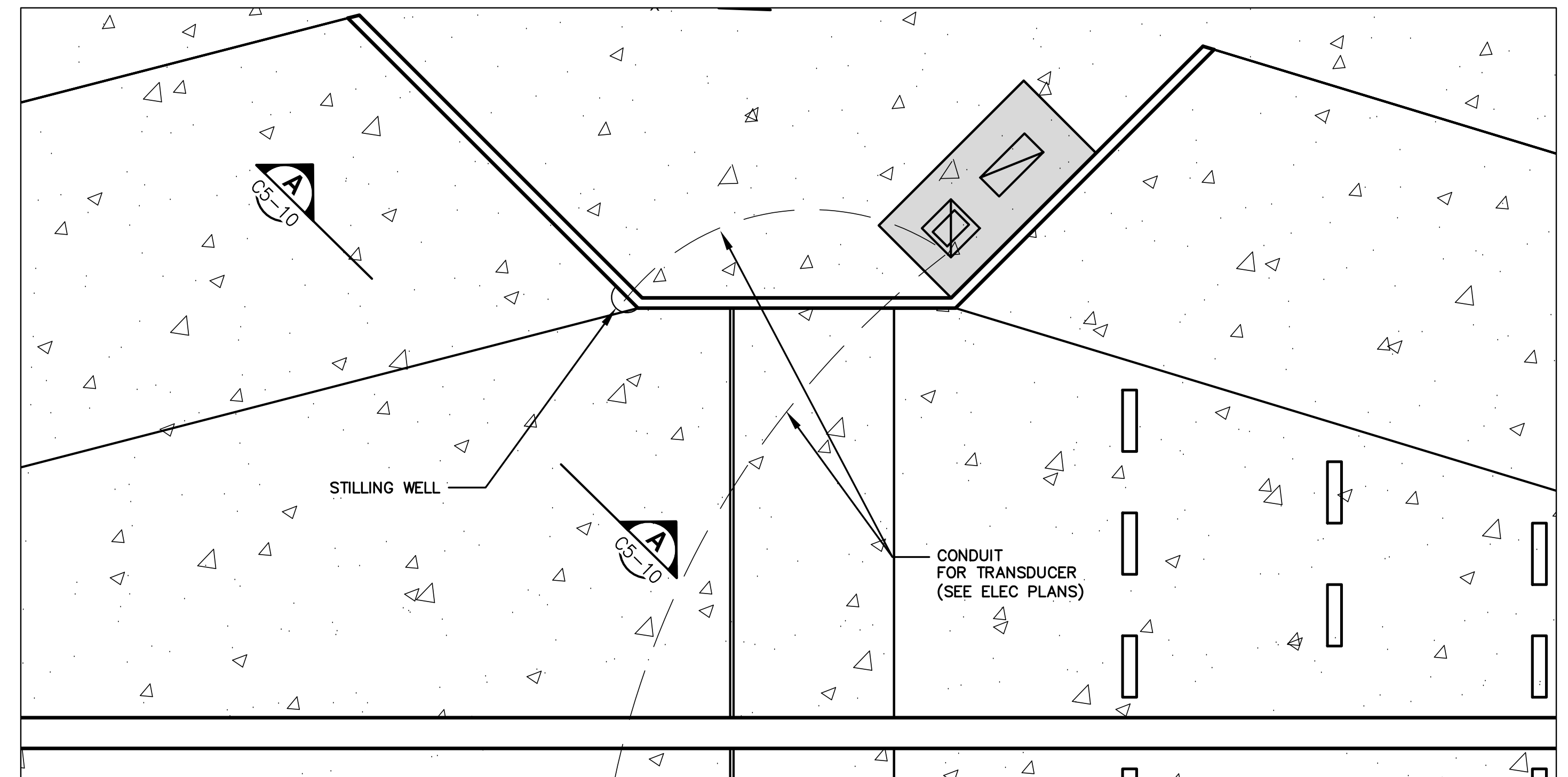
**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

ACCESS DETAILS

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	AUG 2020
W. NICKEL	INDEX NO:	DWG NO:
P.E. # 68638		C5-9



SECTION A-A
NTS C5-10

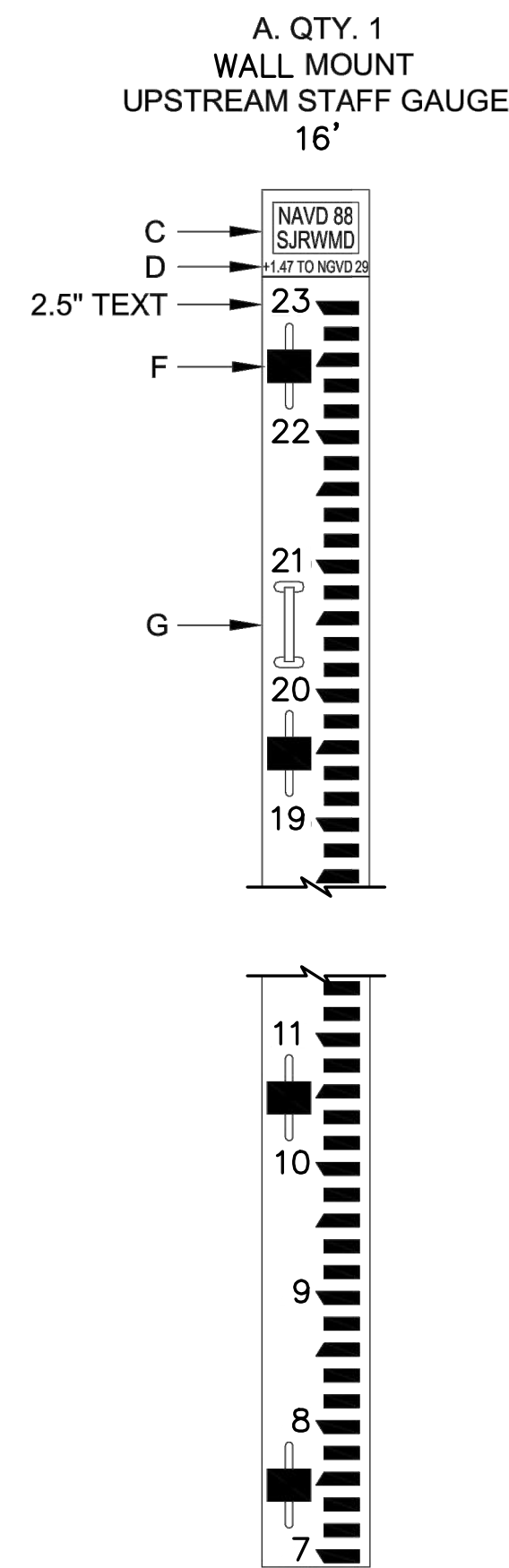


PLAN VIEW
1"=10'

ALL HASH MARKS ARE
1.2" IN HEIGHT

4" WIDE

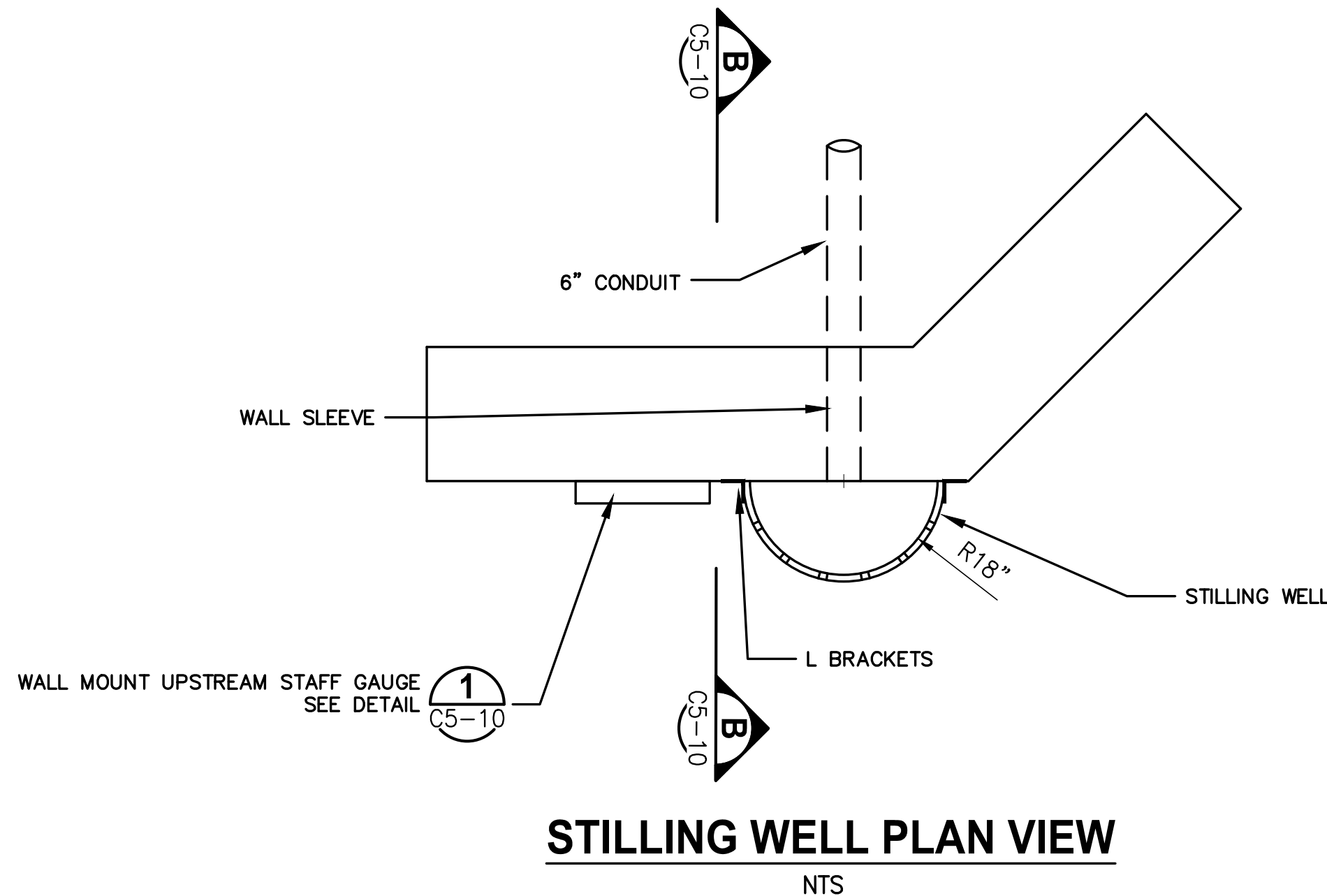
3.25" WIDE



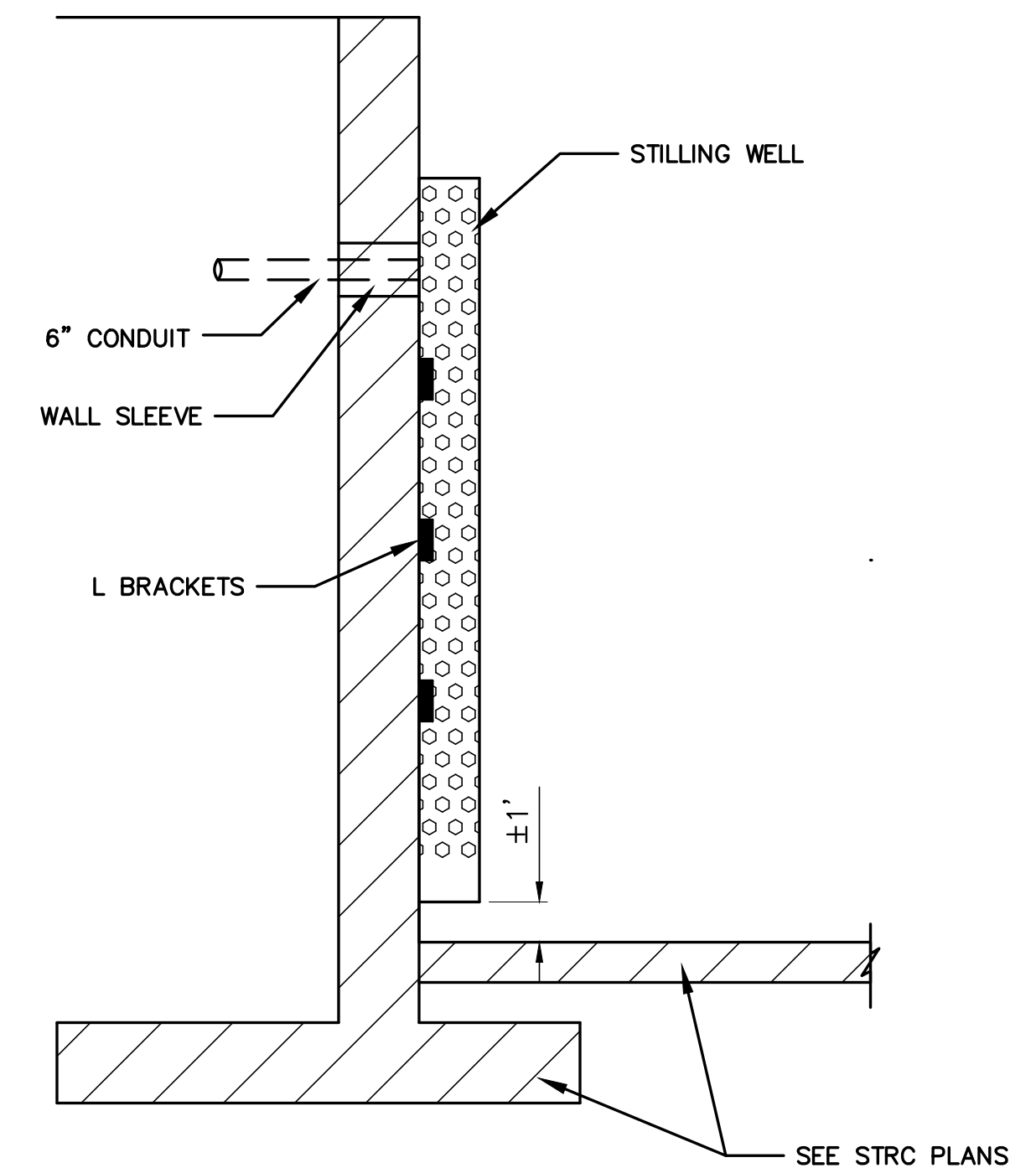
STAFF GAUGE DETAIL
NTS C5-10

NOTES:

- A. STAFF GAUGES AND GATE POSITION GUIDES: 2"x10" (1.5"x9.5") MADE FROM TANGENT TECHNOLOGIES POLYFORCE RECYCLED PLASTIC LUMBER, WHITE OVER BLACK, OR EQUAL.
 - C. TITLE PLAQUE INSERT: WHITE WITH RED LETTERING
 - D. NGVD OFFSET = +1.47
 - E. STAFF GAUGE SPLICE LINES
 - F. ALL SLOTS ARE 0.89"x7.31" AND ARE SUPPLIED WITH SS WASHERS 1/4"x3"x4". THRU HOLES ARE 5/8" DIAMETER. PROVIDE SS CONCRETE ANCHORS OR SS HEX HEAD THRU-BOLT 5/8"x4".
 - G. 8" SS CLEAT MOUNTED WITH THREADED INSERTS.
1. ALL HARDWARE SHALL BE STAINLESS STEEL.
 2. ELEVATIONS MARKED IN REFERENCE TO NAVD88.



STILLING WELL PLAN VIEW
NTS



SECTION B-B
NTS C5-10

SAVED: 7/31/2020 3:24 PM WHOFFMAN Y:\19750-SJRWMD\PROJECTS\066-01_CRANE_CREEK_M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\CIVIL\19750-066-01-C5-10.DWG

BID DOCUMENTS

DESIGNED	W NICKEL			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

JonesEdmunds

CERTIFICATE OF AUTHORIZATION #1841
730 NE WALDO ROAD, GAINESVILLE, FLORIDA 32641 / (352) 377-5821
8657 BAYLINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

WEIR STILLING WELL DETAILS

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO: 19750-066-01	DATE: AUG 2020
APPROVED BY W. NICKEL	INDEX NO:	DWG NO: C5-10
P.E. # 68638		

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 Y:\19750-SJRWMD\PROJECTS\066-01-CRANE CREEK M-1_FLOW_RESTORATION_DESIGN\CAD\DWGS\ENV\19750-066-01-EC5-2.DWG
 7/30/2020 2:12 PM WHOFFMAN

SITE DESCRIPTION		GENERAL		CONTRACTOR REQUIREMENTS		SPILL PREVENTION		MAINTENANCE/INSPECTION PROCEDURES																					
<p>PROJECT NAME(S) AND LOCATION: CRANE CREEK M-1 CANAL FLOW RESTORATION, WEIR COUNTY: SECTIONS 03, TOWNSHIP 28S; RANGE 37E</p> <p>PROPERTY OWNER AND PERMISSIONS:</p> <p>THE WEIR CONSTRUCTION INVOLVES 3 PROPERTIES: 1) CITY OF MELBOURNE, MONOPOLE PARK-EASEMENT TO SJRWMD 2) BREVARD COUNTY, M-1 CANAL, RIGHT-OF-WAY, RIGHT-OF-WAY PERMIT. 3) MELBOURNE SQUARE MALL - EASEMENT TO SJRWMD.</p> <p>DESCRIPTION:</p> <p>THIS PROJECT WILL CONSIST OF: THE CONSTRUCTION OF A NEW ACCESS DRIVEWAY, SHEETPILE, CONCRETE CANAL IMPROVEMENT, CONCRETE WEIR FOUNDATION, PNEUMATIC WEIR AND CONTROL SYSTEM, AND ASSOCIATED GRADING.</p> <p>SOIL DISTURBING ACTIVITIES WILL INCLUDE: CLEARING, GRUBBING; INSTALLING STABILIZED CONSTRUCTION ENTRANCE, PERIMETER, AND OTHER EROSION AND SEDIMENT CONTROLS; GRADING; EXCAVATION FOR CHANNEL IMPROVEMENTS, CONSTRUCTION OF ACCESS DRIVEWAY.</p> <p>SOILS: SEE GEOTECHNICAL REPORT FOR SOILS DATA.</p> <p>SITE MAPS: SEE ATTACHED GRADING PLAN FOR PRE & POST DEVELOPMENT GRADES, AREAS OF SOILS, DISTURBANCE, LOCATION OF SURFACE WATERS, WETLANDS, PROTECTED AREAS, MAJOR STRUCTURAL AND NONSTRUCTURAL CONTROLS AND STORM WATER DISCHARGE POINTS.</p> <p>SEE ATTACHED EROSION & TURBIDITY CONTROL PLAN FOR LOCATION OF TEMPORARY STABILIZATION PRACTICES, AND TURBIDITY BARRIERS.</p> <p>SEE GENERAL NOTES AND SPECIFICATIONS FOR REQUIREMENTS FOR TEMPORARY AND PERMANENT STABILIZATION.</p> <p>SITE AREA: TOTAL AREA OF SITE - 1.5 ACRES TOTAL AREA TO BE DISTURBED - 1.10 ACRES</p> <p>NAME OF RECEIVING WATERS: M-1 CANAL. TURBIDITY STANDARD < 29 NTU ABOVE BACKGROUND, UNLESS OTHERWISE SPECIFIED IN FDEP OR USACE PERMITS.</p> <p>FLOW 2.33 YR 8 HR PEAK HOURLY FLOW RATE 385 CFS AT 17.5 FT 100 YR 8 HR PEAK FLOW RATE = 596 CFS AT EL 19.6 FT 100 YR 24 HR PEAK FLOW RATE = 708 CFS AT EL 21.0 FT</p>		<p>SEQUENCE OF MAJOR ACTIVITIES</p> <table border="0"> <tr> <td>1. SUBMIT DETAILED PLAN TO MAIN FLOW, CONSTRUCT WEIR, AND CONTROL EROSION AND TURBIDITY.</td> <td>11. CONSTRUCT 1/2 WEIR FOUNDATION AND CONCRETE CHANNEL.</td> </tr> <tr> <td>2. COMPLETE AND SUBMIT NOTICE OF INTENT (NOI) TO FDEP.</td> <td>12. INSTALL WEIR PANEL.</td> </tr> <tr> <td>3. INSPECT AND DOCUMENT CONDITION OF MONOPOLE PARK, M-1 CANAL, MELBOURNE SQUARE MALL PROPERTY.</td> <td>13. DIVERT M-1 THROUGH COMPLETED WORK OF 1/2 CHANNEL.</td> </tr> <tr> <td>4. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND PERIMETER CONTROLS.</td> <td>14. CONSTRUCT SECOND 1/2 WEIR FOUNDATION AND CONCRETE CHANNEL.</td> </tr> <tr> <td>5. 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DIVERT M-1 CANAL.		<p>7. TURBIDITY BARRIER SHALL BE USED TO MINIMIZE TURBIDITY CAUSED BY EROSION DURING EXCAVATION ALONG THE BANK OF THE M-1 CANAL. TURBIDITY CURTAIN SHALL BE INSTALLED PARALLEL TO THE FLOW OF MOVING WATER IN ACCORDANCE WITH MANUFACTURERS INSTALLATION INSTRUCTIONS.</p> <p>8. DEWATER AS NEEDED DIRECTING WATER TO DOWNSTREAM STABILIZED SECTIONS OF THE CANAL. TURBIDITY CONTROLS MEASURES SUCH AS JUTE BAFFLES WITH POLYACRYLAMIDE MAY BE USED.</p> <p>9. TEMPORARY REGRASSING: IF, AFTER 14 DAYS FROM SEEDING, THE TEMPORARY GRASSED AREAS HAVE NOT MAINTAINED A MINIMUM OF 75 PERCENT GOOD GRASS COVER, THE AREA WILL BE REWORKED AND ADDITIONAL SEED APPLIED SUFFICIENT TO ESTABLISH THE DESIRED VEGETATIVE COVER.</p> <p>10. MAINTENANCE: ALL FEATURES OF THE PROJECT DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENT SHALL BE MAINTAINED DURING THE LIFE OF THE CONSTRUCTION SO AS TO FUNCTION AS THEY WERE ORIGINALLY DESIGNED AND CONSTRUCTED.</p> <p>11. PERMANENT EROSION CONTROL: THE EROSION CONTROL FACILITIES OF THE PROJECT SHOULD BE DESIGNED TO MINIMIZE THE IMPACT ON THE OFFSITE FACILITIES.</p> <p>12. PERMANENT SODDING: ALL AREAS WHICH HAVE BEEN DISTURBED BY CONSTRUCTION WILL BE SODDED.</p> <p>STRUCTURAL PRACTICES</p> <p>1. TEMPORARY CHANNEL DIVERSION: TEMPORARY CHANNEL DIVERSION SHALL BE USED TO DIVERT M-1 CANAL AROUND THE ACTIVE WORK ZONE.</p>		<p>MATERIAL MANAGEMENT PRACTICES</p> <p>THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.</p> <p>GOOD HOUSEKEEPING</p> <p>THE FOLLOWING GOOD HOUSEKEEPING PRACTICES WILL BE FOLLOWED ONSITE DURING THE CONSTRUCTION PROJECT.</p> <p>AN EFFORT WILL BE MADE TO STORE ONLY ENOUGH PRODUCT REQUIRED TO DO THE JOB.</p> <p>ALL MATERIALS STORED ONSITE WILL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS AND, IF POSSIBLE, UNDER A ROOF OR OTHER ENCLOSURE.</p> <p>PRODUCTS WILL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURER'S LABEL.</p> <p>SUBSTANCES WILL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.</p> <p>WHENEVER POSSIBLE, ALL OF A PRODUCT WILL BE USED UP BEFORE DISPOSING OF THE CONTAINER.</p> <p>MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL WILL BE FOLLOWED.</p> <p>HAZARDOUS PRODUCTS</p> <p>THESE PRACTICES ARE USED TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.</p> <p>PRODUCTS WILL BE KEPT IN ORIGINAL CONTAINERS UNLESS THEY ARE NOT RESEALABLE.</p> <p>ORIGINAL LABELS AND MATERIAL SAFETY DATA WILL BE RETAINED; THEY CONTAIN IMPORTANT PRODUCT INFORMATION.</p> <p>IF SURPLUS PRODUCT MUST BE DISPOSED OF MANUFACTURER'S OR LOCAL AND STATE RECOMMENDED METHODS FOR PROPER DISPOSAL WILL BE FOLLOWED.</p> <p>PRODUCT SPECIFIC PRACTICES</p> <p>THE FOLLOWING PRODUCT SPECIFIC PRACTICES WILL BE FOLLOWED ONSITE:</p> <p>PETROLEUM PRODUCTS</p> <p>ALL ONSITE VEHICLES WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE. PETROLEUM PRODUCTS WILL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED. ANY ASPHALT SUBSTANCES USED ONSITE WILL BE APPLIED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.</p> <p>FERTILIZERS</p> <p>FERTILIZERS USED WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER WILL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. STORAGE WILL BE IN A COVERED AREA. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER WILL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.</p> <p>PAINTS</p> <p>ALL CONTAINERS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURERS' INSTRUCTIONS OR STATE AND LOCAL REGULATIONS.</p> <p>CONCRETE TRUCKS</p> <p>CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER TO DITCHES, PONDS OR OTHER WATERWAYS. WASHWATER SHALL BE COLLECTED IN A TEMPORARY SETTLING POND.</p>		<p>EROSION AND SEDIMENT CONTROL INSPECTION AND MAINTENANCE PRACTICES</p> <p>THE FOLLOWING ARE INSPECTION AND MAINTENANCE PRACTICES THAT WILL BE USED TO MAINTAIN EROSION AND SEDIMENT CONTROLS.</p> <p>NO MORE THAN 0.5 ACRES OF THE SITE WILL BE CLEARED AT ONE TIME WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.</p> <p>ALL CONTROL MEASURES WILL BE INSPECTED BY A CERTIFIED SUPERINTENDENT, THE PERSON RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATION OR SOMEONE APPOINTED BY THE SUPERINTENDENT, AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF ANY STORM EVENT OF 1/2" OR GREATER.</p> <p>ALL TURBIDITY CONTROL MEASURES WILL BE MAINTAINED IN GOOD WORKING ORDER; IF A REPAIR IS NECESSARY, IT WILL BE INITIATED WITHIN 24 HOURS OF REPORT.</p> <p>BUILT UP SEDIMENT WILL BE REMOVED FROM SILT FENCE WHEN IT HAS REACHED ONE-THIRD THE HEIGHT OF THE FENCE.</p> <p>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 IN THE GROUND.</p> <p>CONSTRUCTION ENTRANCES WILL BE INSPECTED FOR DEPTH OF CRUSHED STONE BED AND FILTER FABRIC CONDITION. THE BED SHALL HAVE A 6" THICKNESS AND THE FILTER FABRIC SHALL BE FREE OF TEARS AND FIRMLY SECURE. ENTRANCES SHALL BE REMOVED PRIOR TO CONSTRUCTION OF DRIVEWAYS.</p> <p>THE SEDIMENT BASINS WILL 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.</p> <p>DIVERSION DIKES/SWALES WILL BE INSPECTED AND ANY BREACHES PROMPTLY REPAIRED.</p> <p>TEMPORARY AND PERMANENT SEEDING AND PLANTING WILL BE INSPECTED FOR BARE SPOTS, WASHOUTS, AND HEALTHY GROWTH.</p> <p>A MAINTENANCE INSPECTION REPORT WILL BE MADE AFTER EACH INSPECTION. COPY OF THE REPORT FORM TO BE COMPLETED BY THE INSPECTOR IS ATTACHED. THE REPORTS WILL BE KEPT ON SITE DURING CONSTRUCTION AND AVAILABLE UPON REQUEST TO THE OWNER, ENGINEER OR ANY FEDERAL, STATE, AND LOCAL AGENCY APPROVING SEDIMENT AND EROSION PLANS, OR STORM WATER MANAGEMENT PLANS. THE REPORTS SHALL BE MADE AND RETAINED AS PART OF THE STORM WATER POLLUTION PREVENTION PLAN FOR AT LEAST THREE YEARS FROM THE DATE THAT THE SITE IS FINALLY STABILIZED AND THE NOTICE OF TERMINATION IS SUBMITTED. THE REPORTS SHALL IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE.</p> <p>THE SITE SUPERINTENDENT WILL SELECT UP TO THREE CERTIFIED INDIVIDUALS WHO WILL BE RESPONSIBLE FOR INSPECTIONS, MAINTENANCE AND REPAIR ACTIVITIES, AND FILLING OUT THE INSPECTION AND MAINTENANCE REPORT.</p> <p>PERSONNEL SELECTED FOR INSPECTION AND MAINTENANCE RESPONSIBILITIES WILL RECEIVE TRAINING FROM THE SITE SUPERINTENDENT AND MUST ENFORCE THE FDEP NPDES SWPPP FOR THIS PROJECT. THEY WILL BE TRAINED IN ALL THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE EROSION AND SEDIMENT CONTROLS USED ONSITE IN GOOD WORKING ORDER.</p>	
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<p>CONTROLS</p> <p>THIS PLAN UTILIZES BEST MANAGEMENT PRACTICES TO CONTROL EROSION AND TURBIDITY CAUSED BY STORM WATER RUN OFF, AN EROSION & TURBIDITY PLAN HAS BEEN PREPARED TO INSTRUCT THE CONTRACTOR ON PLACEMENT OF THESE CONTROLS. IT IS THE CONTRACTORS RESPONSIBILITY TO INSTALL AND MAINTAIN THE CONTROLS AS PER PLAN AS WELL AS ENSURING THE PLAN IS PROVIDING THE PROPER PROTECTION AS REQUIRED BY FEDERAL, STATE, AND LOCAL LAWS. REFER TO 'CONTRACTORS REQUIREMENTS' FOR A VERBAL DESCRIPTION OF THE CONTROLS THAT MAY BE IMPLEMENTED.</p> <p>CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS</p> <p>IN AN EFFORT TO ENSURE COMPLIANCE WITH FEDERAL, STATE, AND LOCAL LAWS REGARDING EROSION AND TURBIDITY CONTROLS, THE FOLLOWING PERMITS HAVE BEEN OBTAINED.</p> <p>FDEP ERP PERMIT # 0384808-001-EI U.S.A.C.E. PERMIT # SAJ-2019-04646</p>		<p>STABILIZATION PRACTICES</p> <p>1. FILTER FABRIC BARRIER: FILTER FABRIC BARRIERS CAN BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WITH THE FOLLOWING LIMITATIONS: A. WHERE THE MAXIMUM SLOPE BEHIND THE BARRIER IS 33 PERCENT. B. IN MINOR SWALES OR DITCH LINES WHERE THE MAXIMUM CONTRIBUTING DRAINAGE AREA IS NO GREATER THAN 2.0 ACRES.</p> <p>2. BRUSH BARRIER WITH FILTER FABRIC: BRUSH BARRIER MAY BE USED BELOW DISTURBED AREAS SUBJECT TO SHEET AND RILL EROSION WHERE ENOUGH RESIDUE MATERIAL IS AVAILABLE ON SITE.</p> <p>3. LEVEL SPREADER: A LEVEL SPREADER MAY BE USED WHERE SEDIMENT-FREE STORM RUNOFF IS INTERCEPTED AND DIVERTED AWAY FROM THE GRADED AREAS ONTO UNDISTURBED STABILIZED AREAS. THIS PRACTICE APPLIES ONLY IN THOSE SITUATIONS WHERE THE SPREADER CAN BE CONSTRUCTED ON UNDISTURBED SOIL AND THE AREA BELOW THE LEVEL UP IS STABILIZED. THE WATER SHOULD NOT BE ALLOWED TO RECONCENTRATE AFTER RELEASE.</p> <p>4. 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.</p> <p>5. EXPOSED AREA LIMITATION: THE SURFACE AREA OF OPEN, ERODIBLE SOIL EXPOSED BY CLEARING GRUBBING OPERATIONS OR EXCAVATION AND FILLING OPERATIONS SHALL NOT EXCEED 2.0 ACRES. THIS REQUIREMENT MAY BE WAIVED BY THE OWNER WITH A DETAILED EROSION CONTROL PLAN PREPARED BY THE CONTRACTOR. THE DETAILED PLAN MUST INCLUDE A SCHEDULE, DESCRIPTION OF CONSTRUCTION MEANS AND METHODS AND EROSION CONTROL MANAGEMENT PRACTICES WHICH DEMONSTRATES THAT OPENING OF ADDITIONAL AREA WILL NOT SIGNIFICANTLY AFFECT OFF-SITE DEPOSIT OF SEDIMENTS.</p> <p>6. TEMPORARY SEEDING: AREAS OPENED BY CONSTRUCTION OPERATIONS AND THAT ARE NOT ANTICIPATED TO BE RE-EXCAVATED OR DRESSED AND RECEIVE FINAL GRASSING TREATMENT WITHIN 21 DAYS SHALL BE SEEDDED WITH A QUICK GROWING GRASS SPECIES WHICH WILL PROVIDE AN EARLY COVER DURING THE SEASON IN WHICH IT IS PLANTED AND WILL NOT LATER COMPETE WITH THE PERMANENT GRASSING.</p>		<p>SPILL CONTROL PRACTICES</p> <p>IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES WILL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP:</p> <p>MANUFACTURERS' RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED ON SITE AND SITE PERSONNEL WILL BE MADE AWARE OF THE METHODS AND POSTED LOCATION.</p> <p>MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREA ONSITE. EQUIPMENT AND MATERIALS WILL INCLUDE, BUT NOT BE LIMITED TO BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, LIQUID ABSORBENT (I.E. KITTY LITTER OR EQUAL), SAND SAWDUST, AND PLASTIC AND METAL TRASH CONTAINERS SPECIFICALLY FOR THIS PURPOSE.</p> <p>ALL SPILLS WILL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY.</p> <p>THE SPILL AREA WILL BE KEPT WELL VENTILATED AND PERSONNEL WILL WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FROM CONTACT WITH A HAZARDOUS SUBSTANCE.</p> <p>SPILL OF TOXIC OR HAZARDOUS MATERIAL WILL BE REPORTED IMMEDIATELY TO THE OWNER.</p> <p>THE SPILL PREVENTION PLAN WILL BE ADJUSTED TO INCLUDE MEASURES TO PREVENT THIS TYPE OF SPILL FROM REOCCURRING AND HOW TO CLEAN UP THE SPILL IF THERE IS ANOTHER ONE. A DESCRIPTION OF THE SPILL, WHAT CAUSED IT, AND THE CLEANUP MEASURES WILL ALSO BE INCLUDED.</p> <p>THE SITE SUPERINTENDENT RESPONSIBLE FOR THE DAY-TO-DAY SITE OPERATIONS, WILL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR. HE/SHE WILL DESIGNATE AT LEAST ONE OTHER SITE PERSONNEL WHO WILL RECEIVE SPILL PREVENTION AND CLEANUP TRAINING. THESE INDIVIDUALS WILL EACH BECOME RESPONSIBLE FOR A PARTICULAR PHASE OF PREVENTION AND CLEANUP, THE NAMES OF RESPONSIBLE SPILL PERSONNEL WILL BE POSTED IN THE MATERIAL STORAGE AREA AND IF APPLICABLE, IN THE OFFICE TRAILER ONSITE.</p>		<p>OTHER CONTROLS</p> <p>WASTE DISPOSAL</p> <p>WASTE MATERIALS</p> <p>ALL WASTE MATERIALS EXCEPT LAND CLEARING DEBRIS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER. THE DUMPSTER WILL MEET ALL LOCAL AND STATE SOLID WASTE MANAGEMENT REGULATIONS. THE DUMPSTER WILL BE EMPTIED AS NEEDED AND THE TRASH WILL BE HAULED TO A STATE APPROVED LANDFILL. ALL PERSONNEL WILL BE INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL. NOTICES STATING THESE PRACTICES WILL BE POSTED AT THE CONSTRUCTION SITE BY THE CONSTRUCTION SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES THE DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED.</p> <p>HAZARDOUS WASTE</p> <p>ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN THE MANNER SPECIFIED BY LOCAL OR STATE REGULATION OR BY THE MANUFACTURER. SITE PERSONNEL WILL BE INSTRUCTED IN THESE PRACTICES AND THE SITE SUPERINTENDENT, THE INDIVIDUAL WHO MANAGES DAY-TO-DAY SITE OPERATIONS, WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED.</p> <p>SANITARY WASTE</p> <p>ALL SANITARY WASTE WILL BE COLLECTED FROM THE PORTABLE UNITS AS NEEDED TO PREVENT POSSIBLE SPILLAGE. THE WASTE WILL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL WASTE DISPOSAL REGULATIONS FOR SANITARY SEWER OR SEPTIC SYSTEMS.</p> <p>OFFSITE VEHICLE TRACKING</p> <p>A STABILIZED CONSTRUCTION ENTRANCE WILL BE PROVIDED TO HELP REDUCE VEHICLE TRACKING OF SEDIMENTS. DUMP TRUCKS HAULING MATERIAL FROM THE CONSTRUCTION SITE WILL BE COVERED WITH A TARP.</p>		<p>NON-STORM WATER DISCHARGES</p> <p>IT IS EXPECTED THAT THE FOLLOWING NON-STORM WATER DISCHARGES WILL OCCUR FROM THE SITE DURING THE CONSTRUCTION PERIOD.</p> <p>UNCONTAMINATED GROUNDWATER (FROM DEWATERING EXCAVATION).</p> <p>ALL NON-STORM WATER DISCHARGES WILL BE DIRECTED TO THE SEDIMENT BASIN OR OTHER APPROPRIATE AREA PRIOR TO DISCHARGE TO EXISTING DITCHES OR WETLANDS.</p>																					
<p>POLLUTION PREVENTION PLAN CERTIFICATION</p> <p>I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED, BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.</p> <p>SIGNED: _____</p> <p>TITLE: _____</p> <p>DATE: _____</p>		<p>INVENTORY FOR POLLUTION PREVENTION PLAN</p> <p>THE MATERIAL OR SUBSTANCES LISTED BELOW ARE EXPECTED TO BE PRESENT ONSITE DURING CONSTRUCTION:</p> <table border="0"> <tr> <td>CONCRETE</td> <td>FERTILIZERS</td> <td>WOOD</td> </tr> <tr> <td>DETERGENTS</td> <td>PETROLEUM BASED PRODUCTS</td> <td></td> </tr> <tr> <td></td> <td>CLEANING SOLVENTS</td> <td></td> </tr> <tr> <td></td> <td>PAINTS</td> <td></td> </tr> </table>		CONCRETE	FERTILIZERS	WOOD	DETERGENTS	PETROLEUM BASED PRODUCTS			CLEANING SOLVENTS			PAINTS		<p>CONTRACTORS CERTIFICATION</p> <p>I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY FROM THE SITE IDENTIFIED AS PART OF THIS CERTIFICATION.</p> <table border="0"> <tr> <td>SIGNATURE</td> <td>BUSINESS NAME & ADDRESS OF CONTRACTOR, ALL SUBS</td> <td>RESPONSIBLE FOR/DUTIES GENERAL CONTRACTOR</td> </tr> <tr> <td></td> <td></td> <td>SUBCONTRACTOR</td> </tr> </table>		SIGNATURE	BUSINESS NAME & ADDRESS OF CONTRACTOR, ALL SUBS	RESPONSIBLE FOR/DUTIES GENERAL CONTRACTOR			SUBCONTRACTOR						
CONCRETE	FERTILIZERS	WOOD																											
DETERGENTS	PETROLEUM BASED PRODUCTS																												
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	PAINTS																												
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		SUBCONTRACTOR																											

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

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CERTIFICATE OF AUTHORIZATION #1841
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**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**WEIR STORMWATER POLLUTION
 PREVENTION NOTES**

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	AUG 2020
A. GOODDEN	INDEX NO:	DWG NO:
P.E. # 60097		EC5-2

BID DOCUMENTS

STORMWATER POLLUTION PREVENTION PLAN

INSPECTIONS MUST OCCUR AT LEAST ONCE A WEEK AND WITHIN 24 HOURS OF THE END OF A STORM EVENT THAT IS 0.50 INCHES OR GREATER

INSPECTOR: _____ FDEP NPDES STORMWATER IDENTIFICATION NUMBER: _____

LOCATION	RAIN DATA	TYPE OF CONTROL (SEE BELOW)	DATE INSTALLED / MODIFIED	CURRENT CONDITION (SEE BELOW)	CORRECTIVE ACTION / OTHER REMARKS

CONDITION CODE:
 G = GOOD M = MARGINAL, NEEDS MAINTENANCE OR REPLACEMENT SOON
 C = NEEDS TO BE CLEARED O = OTHER P = POOR, NEEDS IMMEDIATE MAINTENANCE OR REPLACEMENT

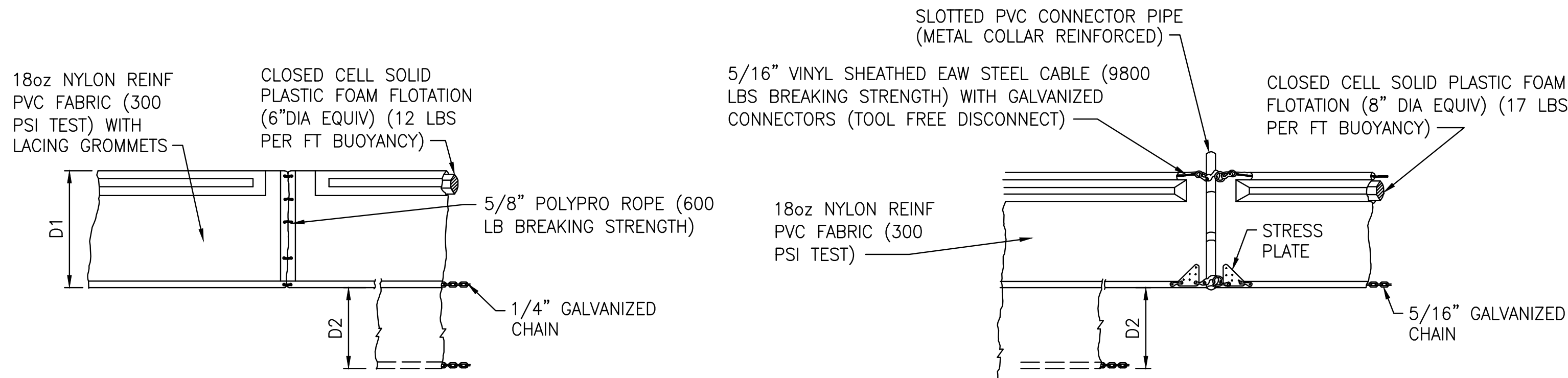
CONTROL TYPE CODES

1. SILT FENCE	10. STORM DRAIN INLET PROTECTION	19. REINFORCED SOIL RETAINING SYSTEM	28. TREE PROTECTION
2. EARTH DIKES	11. VEGETATIVE BUFFER STRIP	20. GABION	29. DETENTION POND
3. STRUCTURAL DIVISION	12. VEGETATIVE PRESERVATION AREA	21. SEDIMENT BASIN	30. RETENTION POND
4. SWALE	13. RETENTION POND	22. TEMPORARY SEED / SOD	31. WASTE DISPOSAL / HOUSEKEEPING
5. SEDIMENT TRAP	14. CONSTRUCTION ENTRANCE STABILIZATION	23. PERMANENT SEED / SOD	32. DAM
6. CHECK DAM	15. PERIMETER DITCH	24. MULCH	33. SAND BAG
8. PIPE SLOPE DRAIN	16. CURB AND GUTTER	25. WATTLES	34. OTHER
9. LEVEL SPREADERS	17. PAVED ROAD SURFACE	26. GEOTEXTILE	
9. LEVEL SPREADERS	18. ROCK OUTLET PROTECTION	27. RIP-RAP	

INSPECTOR INFORMATION:
 NAME: _____ QUALIFICATION _____ DATE _____
 THE ABOVE SIGNATURE ALSO SHALL CERTIFY THAT THIS FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND THE STATE OF FLORIDA GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES IF THERE ARE NOT ANY INCIDENTS OF NON-COMPLIANCE IDENTIFIED ABOVE.

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHERED AND EVALUATED THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

NAME (RESPONSIBLE AUTHORITY) _____ DATE _____



TYPE 1
 D1 = 5' STD (SINGLE PANEL FOR DEPTHS 5' OR LESS)
 D2 = 5' STD (ADDITIONAL PANEL FOR DEPTHS 5')

TYPE 2

CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET. TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALL FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

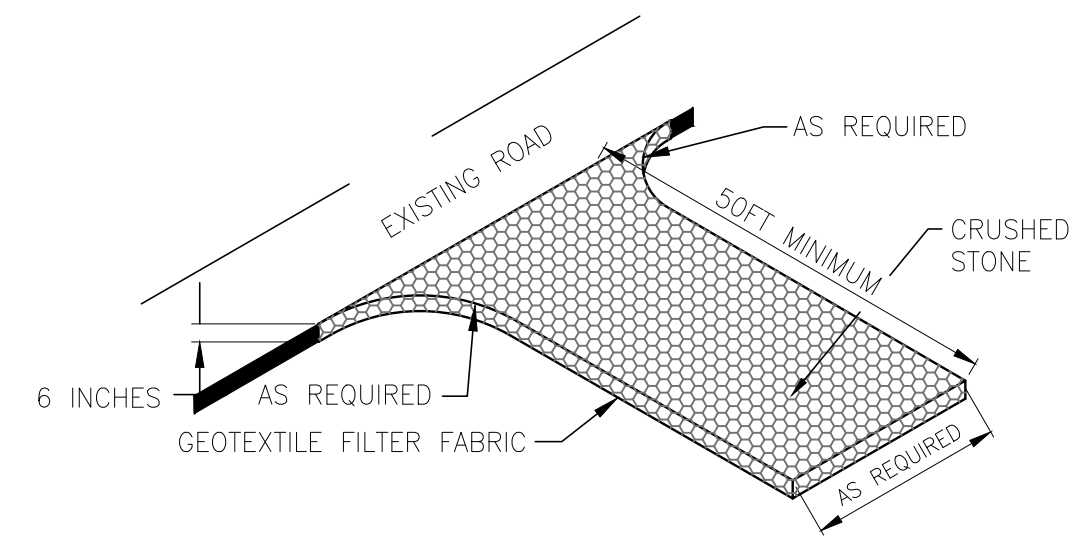
NOTICE: COMPONENTS OF TYPES 1 AND 2 MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES 1 AND 2 SHALL BE AS APPROVED BY THE ENGINEER.

TYPICAL FLOATING TURBIDITY BARRIER DETAIL

CITY OF MELBOURNE EROSION & SEDIMENTATION CONTROL NOTES

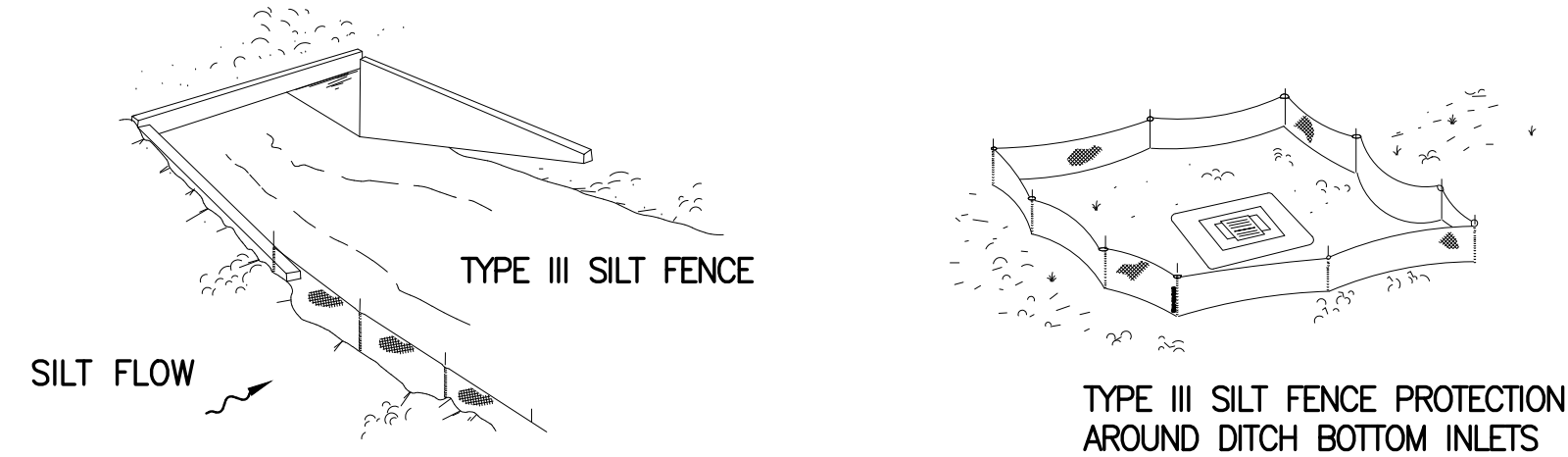
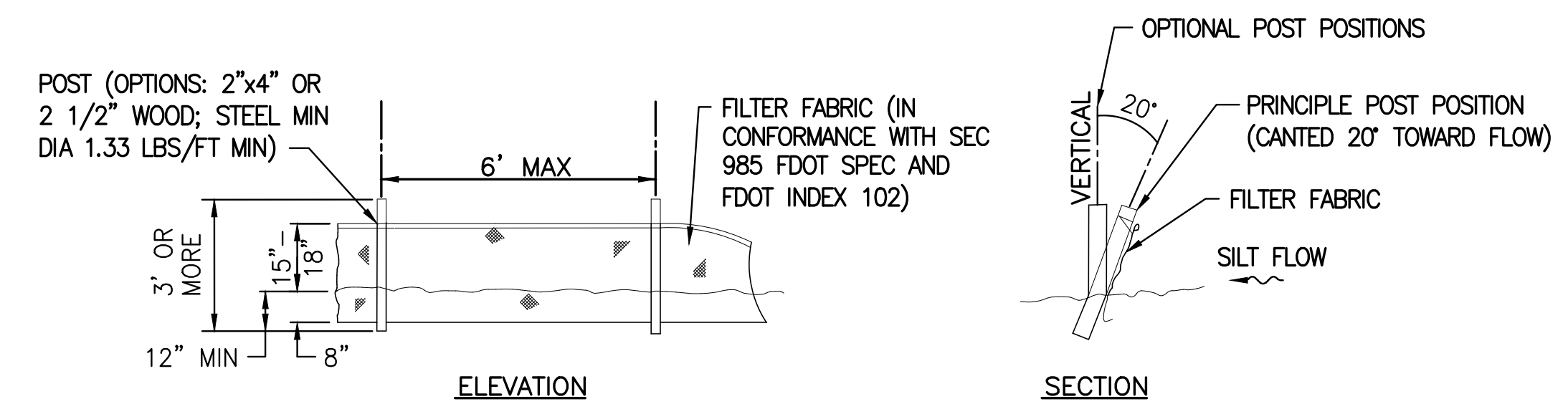
THE FOLLOWING PRINCIPLES ARE TO BE ADDED VERBATIM TO CONSTRUCTION DRAWINGS AS MINIMUM MEASURES TO BE INSTALLED FOR ANY LAND DISTURBING ACTIVITY:

- A. THE LAND-DISTURBING ACTIVITY SHALL CONFORM TO EXISTING TOPOGRAPHY AND SOIL TYPE SO AS TO CREATE THE LOWEST PRACTICAL EROSION POTENTIAL.
- B. LAND-DISTURBING ACTIVITIES SHALL BE CONDUCTED IN A MANNER MINIMIZING EROSION.
- C. THE DISTURBED AREA AND THE DURATION OF EXPOSURE TO EROSION ELEMENTS SHALL BE KEPT TO A PRACTICABLE MINIMUM.
- D. EROSION CONTROL MUST BE STRICTLY MAINTAINED DURING CUT AND FILL OPERATIONS.
- E. DISTURBED SOIL SHALL BE STABILIZED AS QUICKLY AS PRACTICABLE.
- F. WHENEVER FEASIBLE, NATURAL VEGETATION SHALL BE RETAINED, PROTECTED AND SUPPLEMENTED.
- G. TEMPORARY VEGETATION OR MULCHING SHALL BE EMPLOYED TO PROTECT EXPOSED CRITICAL AREAS DURING DEVELOPMENT.
- H. PERMANENT VEGETATION AND STRUCTURAL EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS PRACTICABLE.
- I. ADEQUATE PROVISIONS MUST BE PROVIDED TO MINIMIZE DAMAGE FROM SURFACE WATER TO THE CUT FACE OF EXCAVATIONS OR THE SLOPING SURFACE OF FILLS.
- J. TO THE EXTENT NECESSARY, SEDIMENT IN RUNOFF WATER MUST BE TRAPPED BY THE USE OF DEBRIS BASINS, SEDIMENT BASINS, SILT TRAPS OR SIMILAR MEASURES UNTIL THE DISTURBED AREA IS STABILIZED.
- K. CUTS AND FILLS MUST BE CONSTRUCTED IN SUCH A MANNER THAT EROSION AND RUNOFF FROM THE SITE DOES NOT ENDANGER ADJOINING PROPERTY.
- L. FILLS MAY NOT ENCROACH UPON NATURAL WATERCOURSES OR CONSTRUCTED CHANNELS IN A MANNER SO AS TO ADVERSELY AFFECT OTHER PROPERTY OWNERS WITHOUT ADEQUATE PROVISIONS FOR AN EQUIVALENT ALTERNATE SYSTEM WITH A POSITIVE OUTFALL.
- M. ALL R.O.W.'S, WATERWAYS, STREETS AND SIDEWALKS SHALL BE BUFFERED BY A TWENTY (20) FOOT WIDE STRIP OF GRASS OR OTHER SUITABLE MEANS.
- N. GRADING EQUIPMENT MUST CROSS FLOWING STREAMS BY MEANS OF BRIDGES OR CULVERTS EXCEPT WHEN SUCH METHODS ARE NOT FEASIBLE AND PROVIDED IN ANY CASE, THAT SUCH CROSSINGS ARE KEPT TO A MINIMUM AND SEDIMENTATION CONTROL DEVICES ARE PROVIDED.



STABILIZED CONSTRUCTION ENTRANCE

NTS



TYPE III SILT FENCE

- NOTES:
- A. DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.
 - B. WHEN JOINING BUTT ENDS OF SILT FENCE FABRIC; JOIN FABRIC ENDS, WRAP AROUND A POST 360-DEGREES, AND SET POST.

TYPICAL SILT FENCE

NTS

Sd1

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BID DOCUMENTS

DESIGNED	A GOODDEN			
DRAWN	D HAUBRICH			
CHECKED	R KOLLER			
LTR.	DATE	REVISIONS	BY	APPRD.

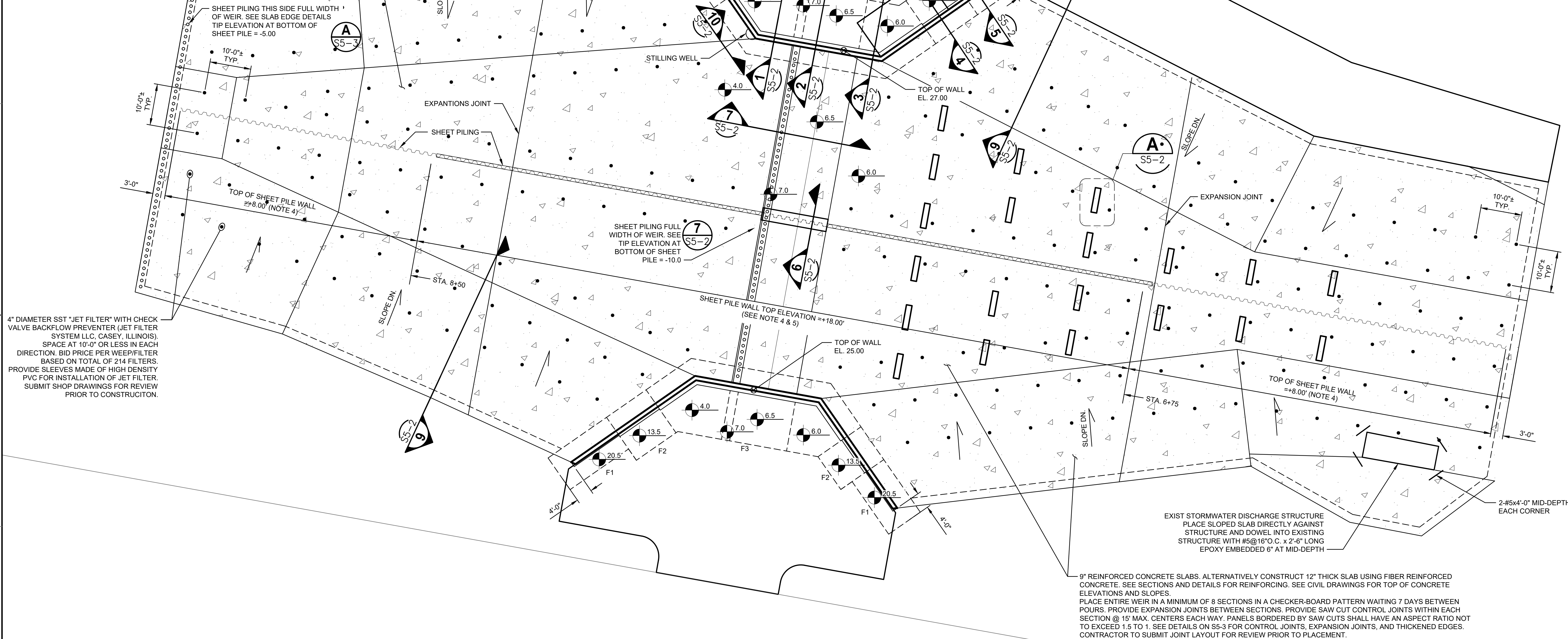
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**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

**WEIR EROSION CONTROL
 NOTES AND DETAILS**

CERTIFICATE OF AUTHORIZATION #1841 APPROVED BY A. GOODDEN P.E. # 60097	PROJECT NO: 19750-066-01 INDEX NO:	DATE: AUG 2020 DWG NO: EC5-3
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9" REINFORCED CONCRETE SLABS. ALTERNATIVELY CONSTRUCT 12" THICK SLAB USING FIBER REINFORCED CONCRETE. SEE SECTIONS AND DETAILS FOR REINFORCING. SEE CIVIL DRAWINGS FOR TOP OF CONCRETE ELEVATIONS AND SLOPES. PLACE ENTIRE WEIR IN A MINIMUM OF 8 SECTIONS IN A CHECKER-BOARD PATTERN WAITING 7 DAYS BETWEEN POURS. PROVIDE EXPANSION JOINTS BETWEEN SECTIONS. PROVIDE SAW CUT CONTROL JOINTS WITHIN EACH SECTION @ 15' MAX. CENTERS EACH WAY. PANELS BORDERED BY SAW CUTS SHALL HAVE AN ASPECT RATIO NOT TO EXCEED 1.5 TO 1. SEE DETAILS ON S5-3 FOR CONTROL JOINTS, EXPANSION JOINTS, AND THICKENED EDGES. CONTRACTOR TO SUBMIT JOINT LAYOUT FOR REVIEW PRIOR TO PLACEMENT.



4" DIAMETER SST "JET FILTER" WITH CHECK VALVE BACKFLOW PREVENTER (JET FILTER SYSTEM LLC, CASEY, ILLINOIS). SPACE AT 10'-0" OR LESS IN EACH DIRECTION. BID PRICE PER WEIR FILTER BASED ON TOTAL OF 214 FILTERS. PROVIDE SLEEVES MADE OF HIGH DENSITY PVC FOR INSTALLATION OF JET FILTER. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO CONSTRUCTION.

EXIST STORMWATER DISCHARGE STRUCTURE PLACE SLOPED SLAB DIRECTLY AGAINST STRUCTURE AND DOWEL INTO EXISTING STRUCTURE WITH #5@16" O.C. x 2'-6" LONG EPOXY EMBEDDED 6" AT MID-DEPTH

9" REINFORCED CONCRETE SLABS. ALTERNATIVELY CONSTRUCT 12" THICK SLAB USING FIBER REINFORCED CONCRETE. SEE SECTIONS AND DETAILS FOR REINFORCING. SEE CIVIL DRAWINGS FOR TOP OF CONCRETE ELEVATIONS AND SLOPES. PLACE ENTIRE WEIR IN A MINIMUM OF 8 SECTIONS IN A CHECKER-BOARD PATTERN WAITING 7 DAYS BETWEEN POURS. PROVIDE EXPANSION JOINTS BETWEEN SECTIONS. PROVIDE SAW CUT CONTROL JOINTS WITHIN EACH SECTION @ 15' MAX. CENTERS EACH WAY. PANELS BORDERED BY SAW CUTS SHALL HAVE AN ASPECT RATIO NOT TO EXCEED 1.5 TO 1. SEE DETAILS ON S5-3 FOR CONTROL JOINTS, EXPANSION JOINTS, AND THICKENED EDGES. CONTRACTOR TO SUBMIT JOINT LAYOUT FOR REVIEW PRIOR TO PLACEMENT.

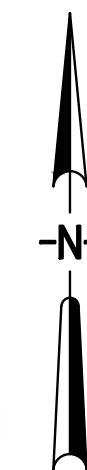
PLAN
1/4" = 1'-0"

PLAN NOTES:

1. SEE CIVIL DRAWINGS FOR ALL PLAN DIMENSIONS, SLOPES, AND TO COORDINATE TOP OF SLAB AND WALL ELEVATIONS.
2. SEE SECTIONS AND DETAILS FOR FOUNDATION SIZES AND REINFORCING.
3. SEE FOUNDATION NOTES ON G7 FOR INFORMATION ON FOUNDATION AND SLAB BEARING SURFACES.
4. SHEET PILE CAN EXTEND TO +18.00' DURING CONSTRUCTION AT CONTRACTOR'S OPTION. FINAL ELEVATION OF +8.00' SHALL BE ACHIEVED BY CUTTING OFF SHEET PILE OR ADDITIONAL DRILLING.
5. MINIMUM BOTTOM OF SHEET PILE TIP ELEVATION TO BE 25'-0" BELOW BOTTOM OF SLAB.



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5590 SW 64th Street, Suite B
Gainesville, Florida 32608
Phone: (352) 377-3233 Fax: (352) 377-0335



LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	M THUE
DRAWN	J GALLER
CHECKED	D CRAPPS

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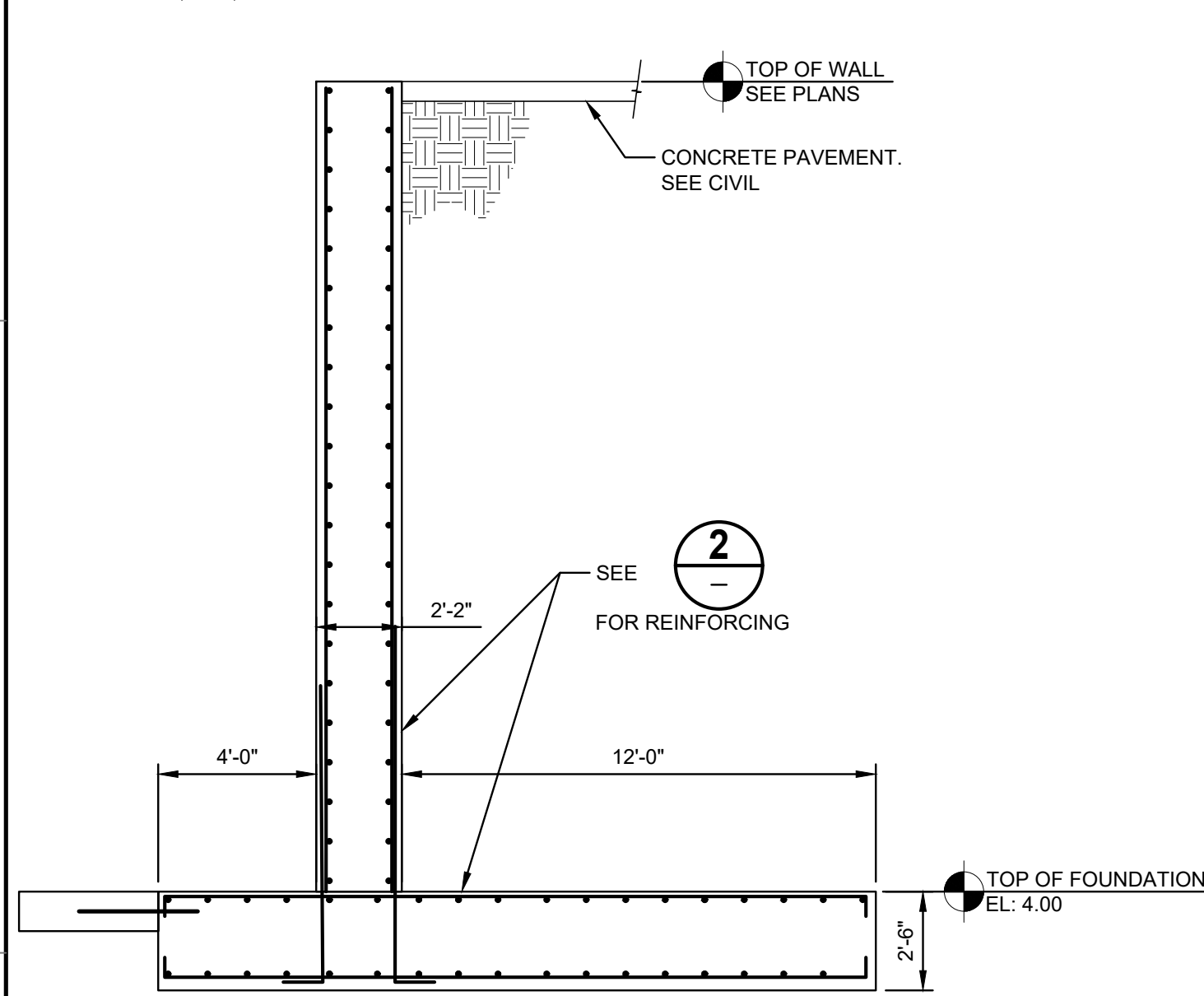
**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

WEIR PLAN

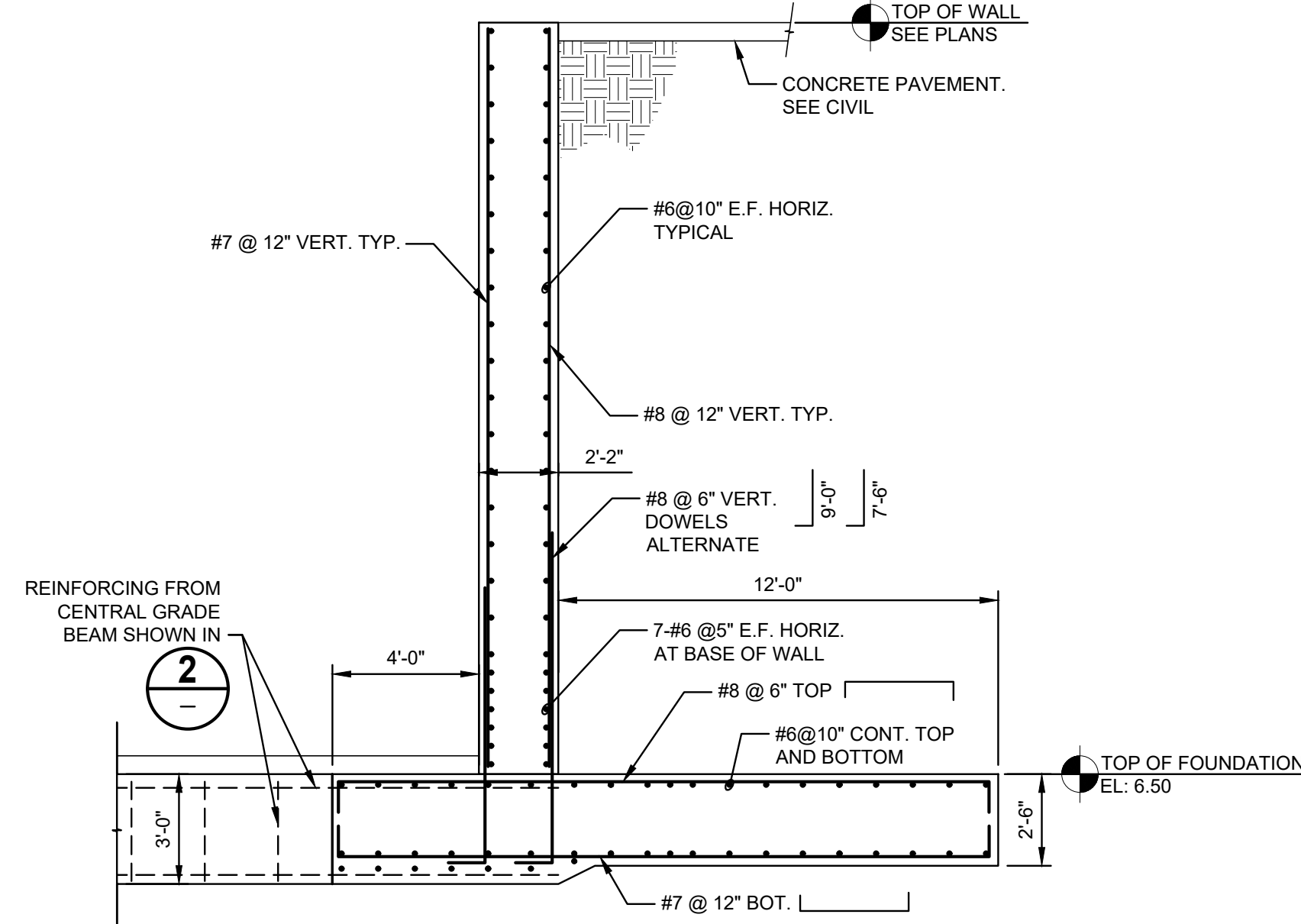
CERTIFICATE OF AUTHORIZATION #1841
APPROVED BY
MONRAD R. THUE
P.E. # 32071

PROJECT NO:	DATE:
19750-066-01	JUN 2020
INDEX NO:	DWG NO:
	S5-1

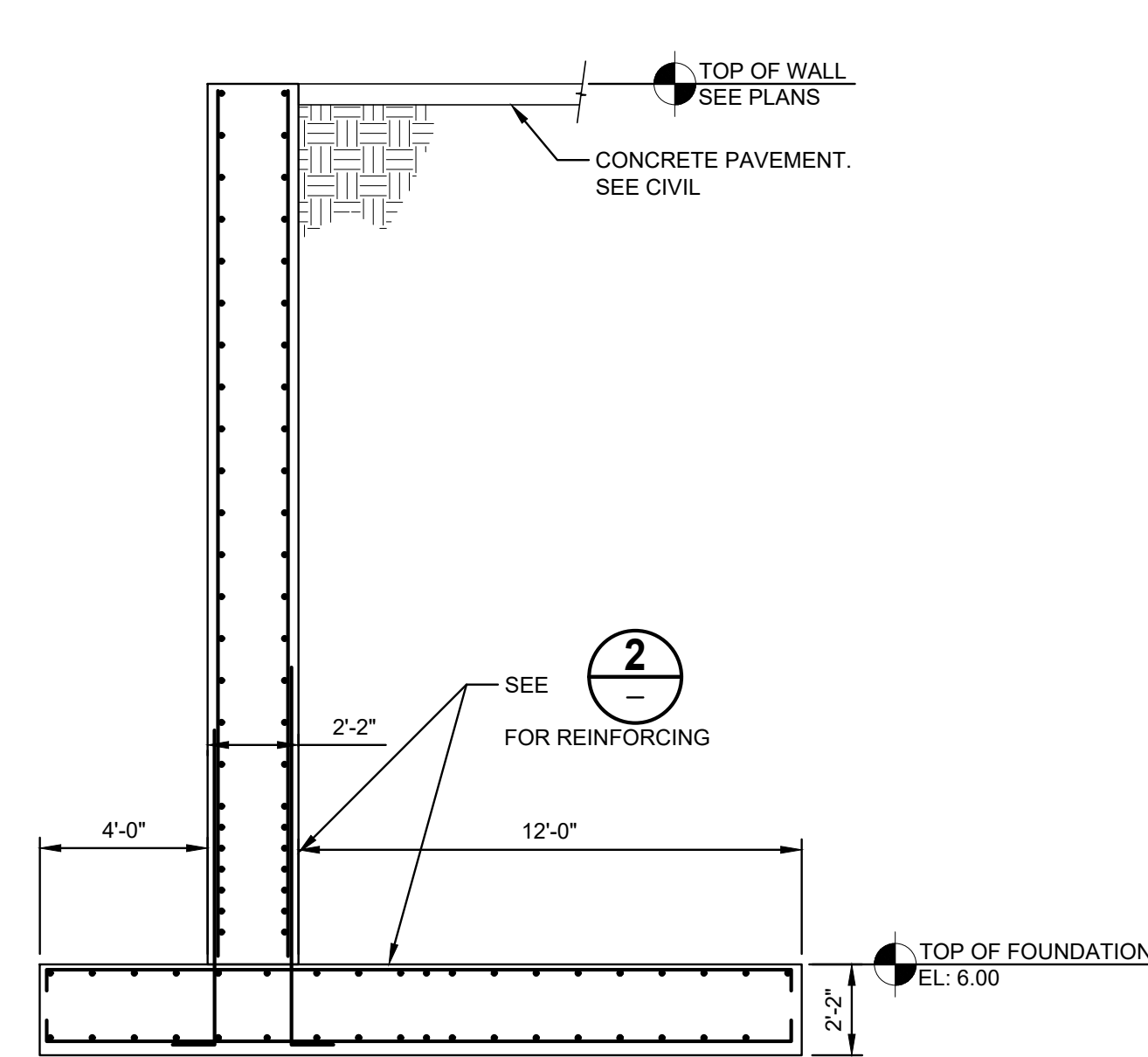
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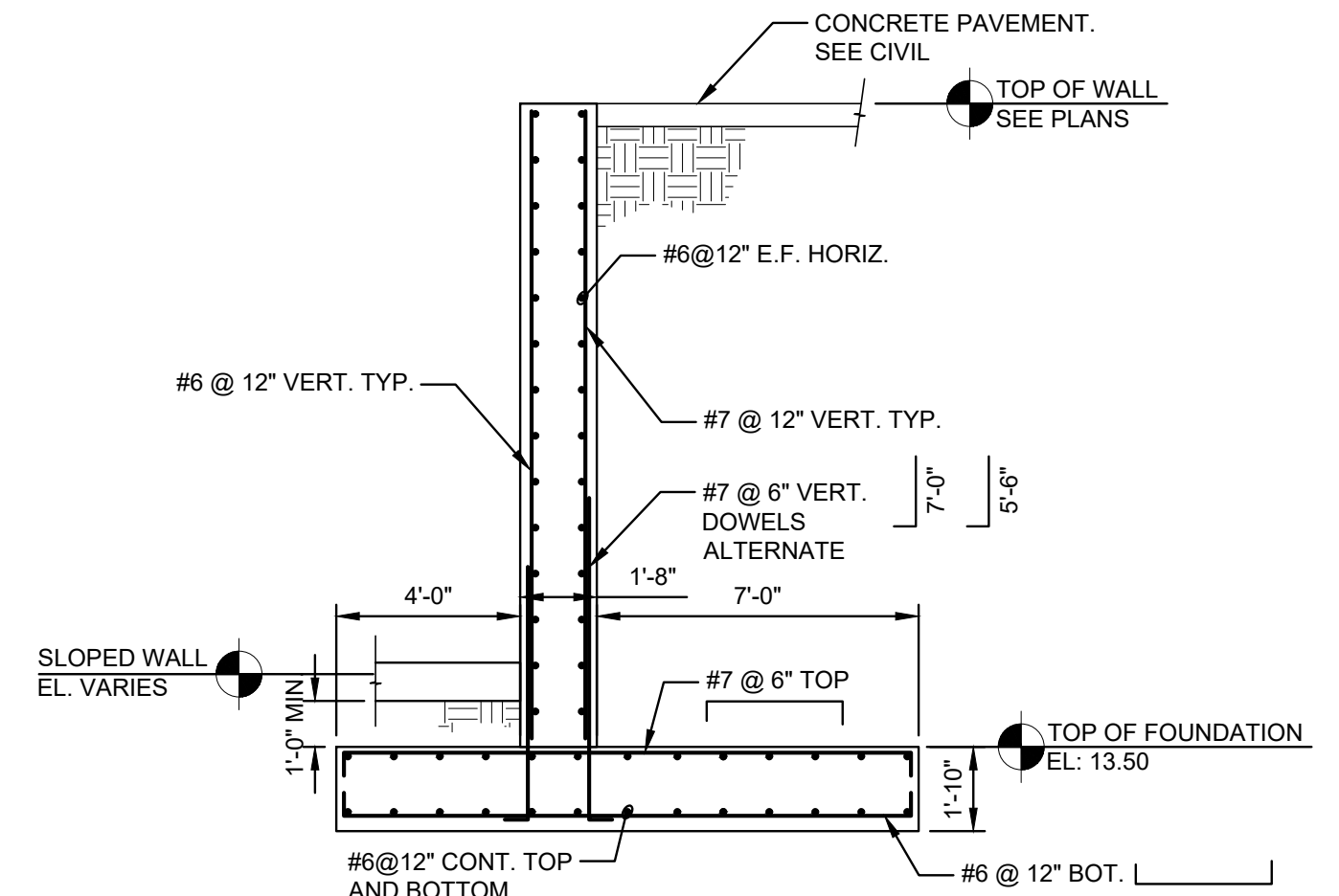
WALL SECTION 1
1/4" = 1'-0"
S5-2



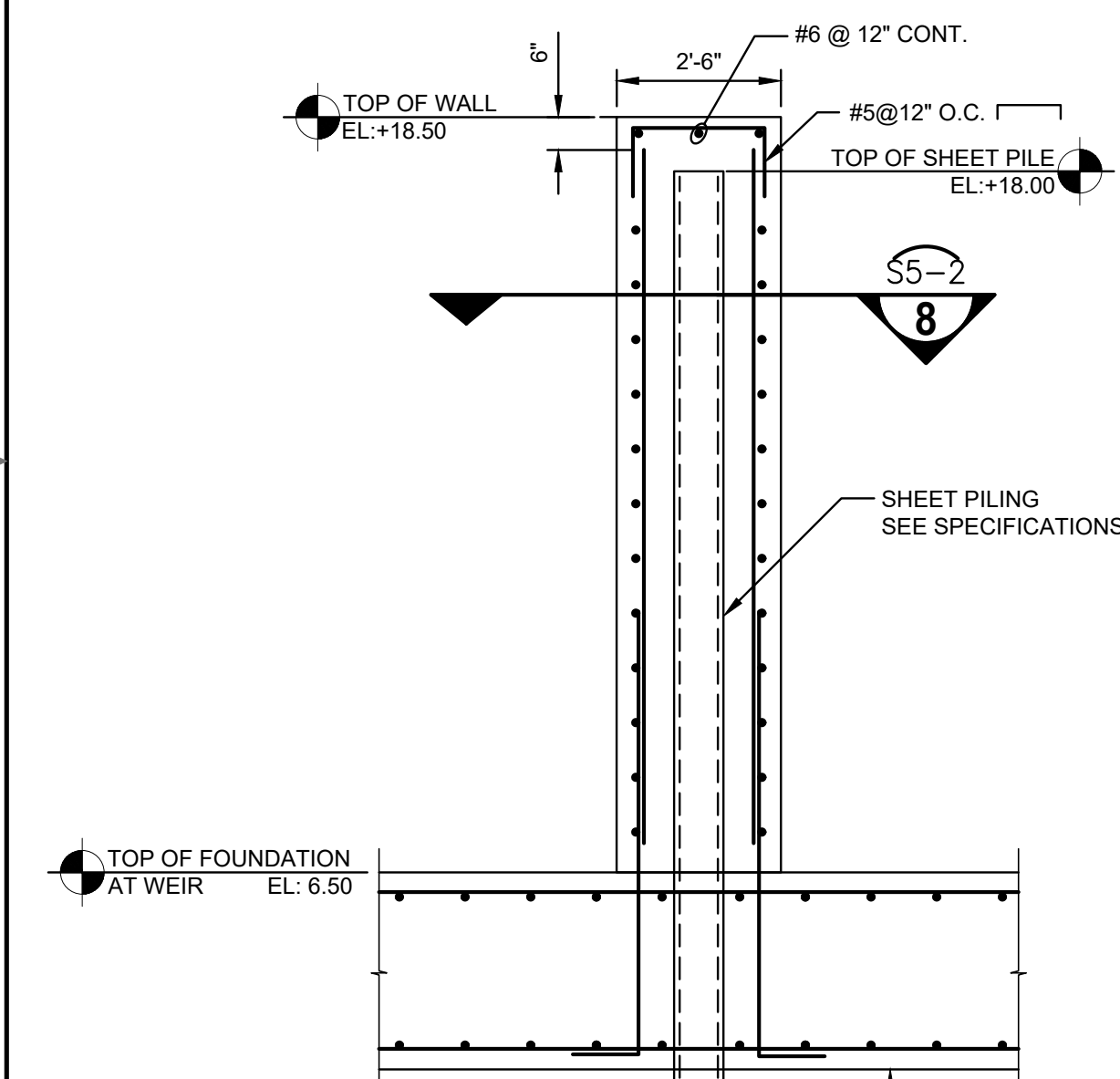
WALL SECTION 2
1/4" = 1'-0"
S5-2



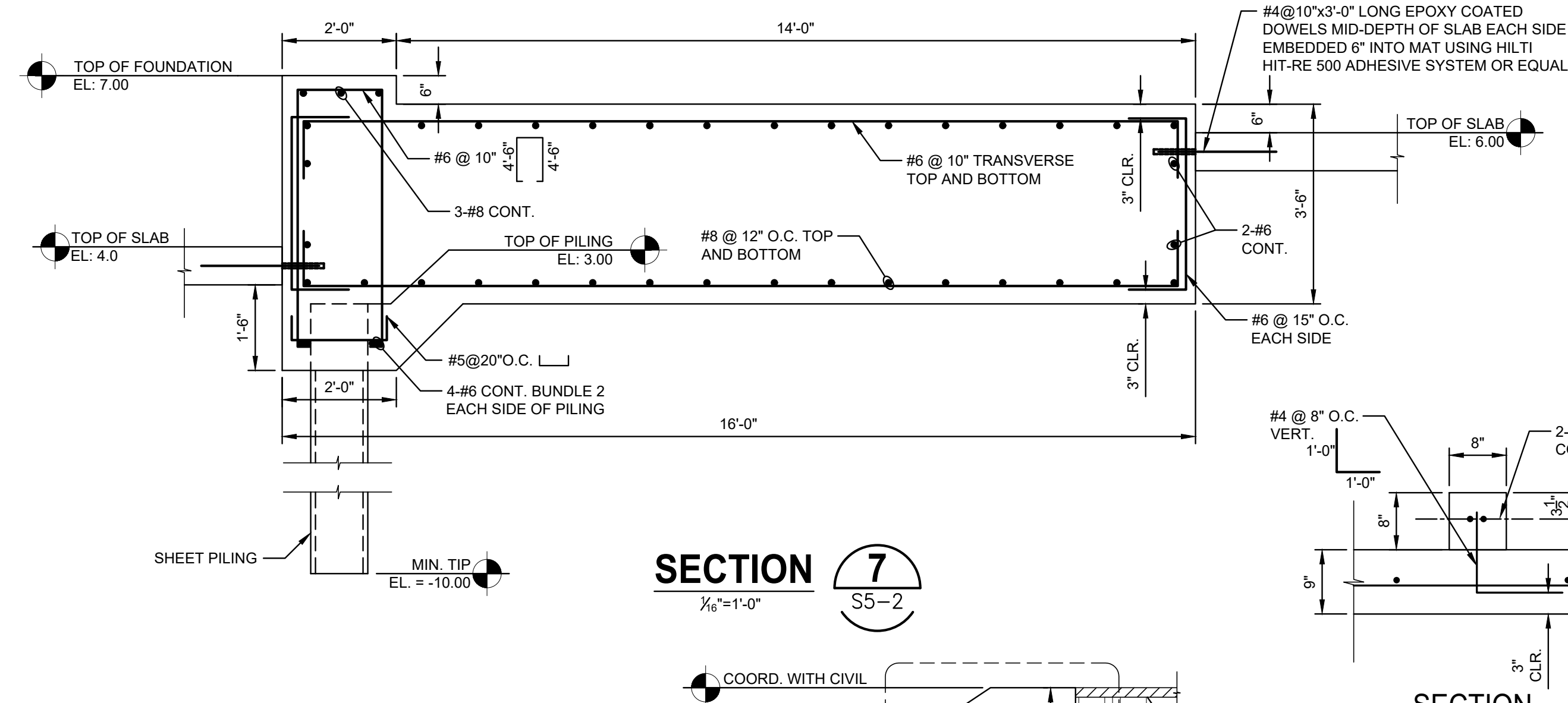
WALL SECTION 3
1/4" = 1'-0"
S5-2



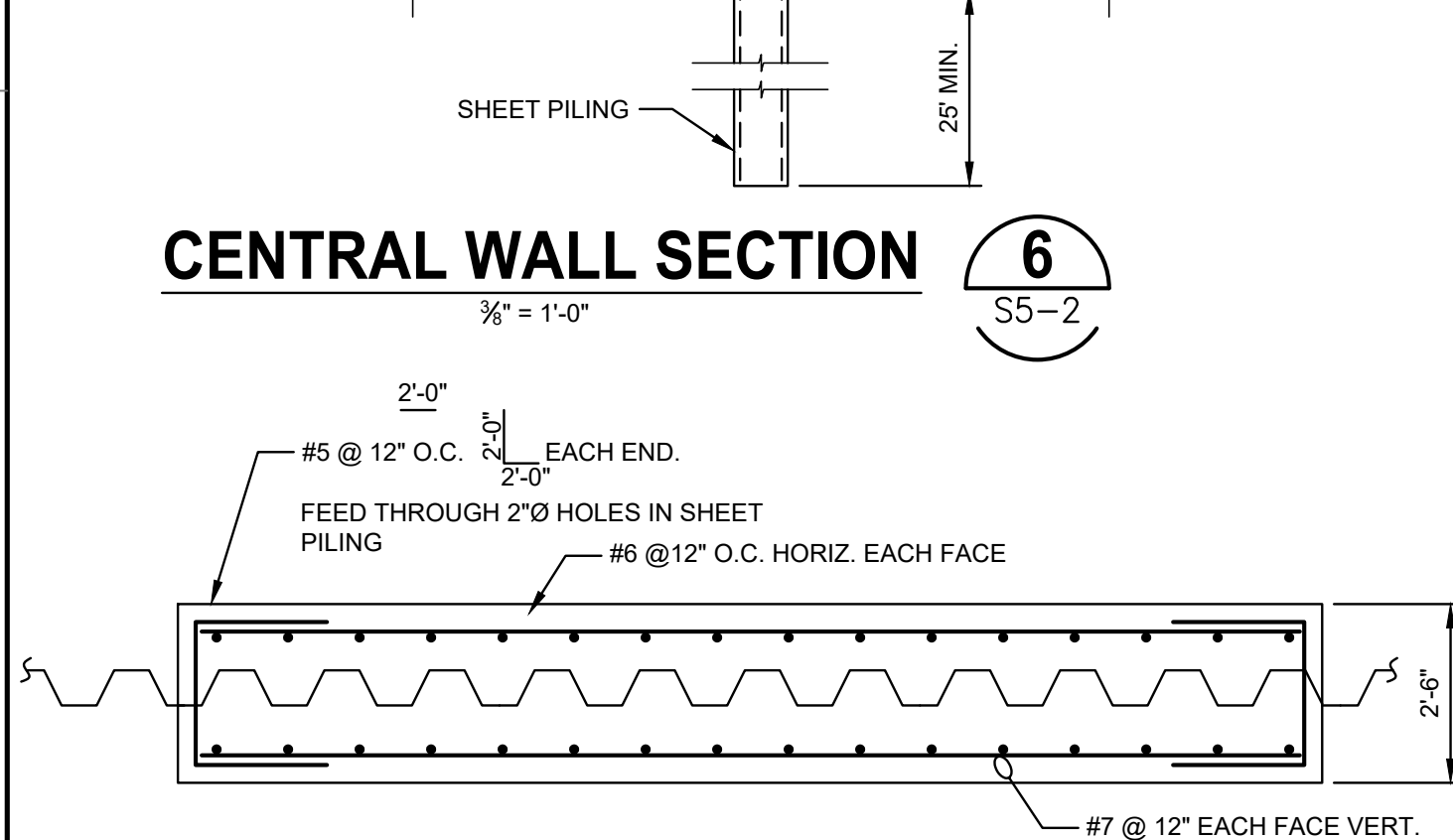
WALL SECTION 4
1/4" = 1'-0"
S5-2



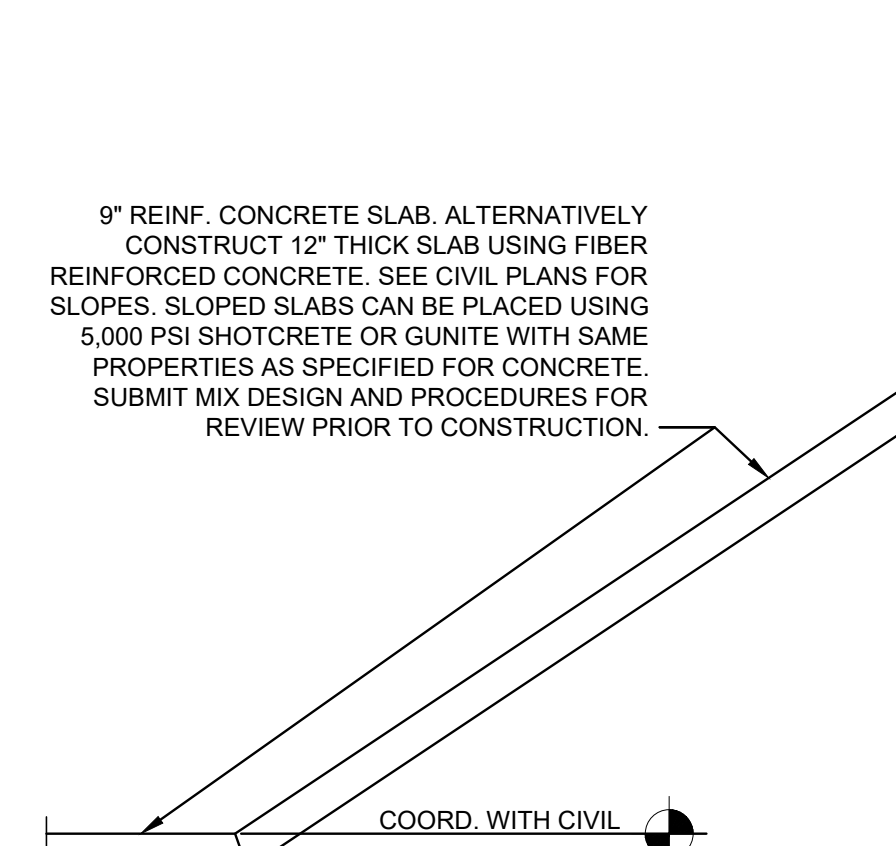
CENTRAL WALL SECTION 6
3/8" = 1'-0"
S5-2



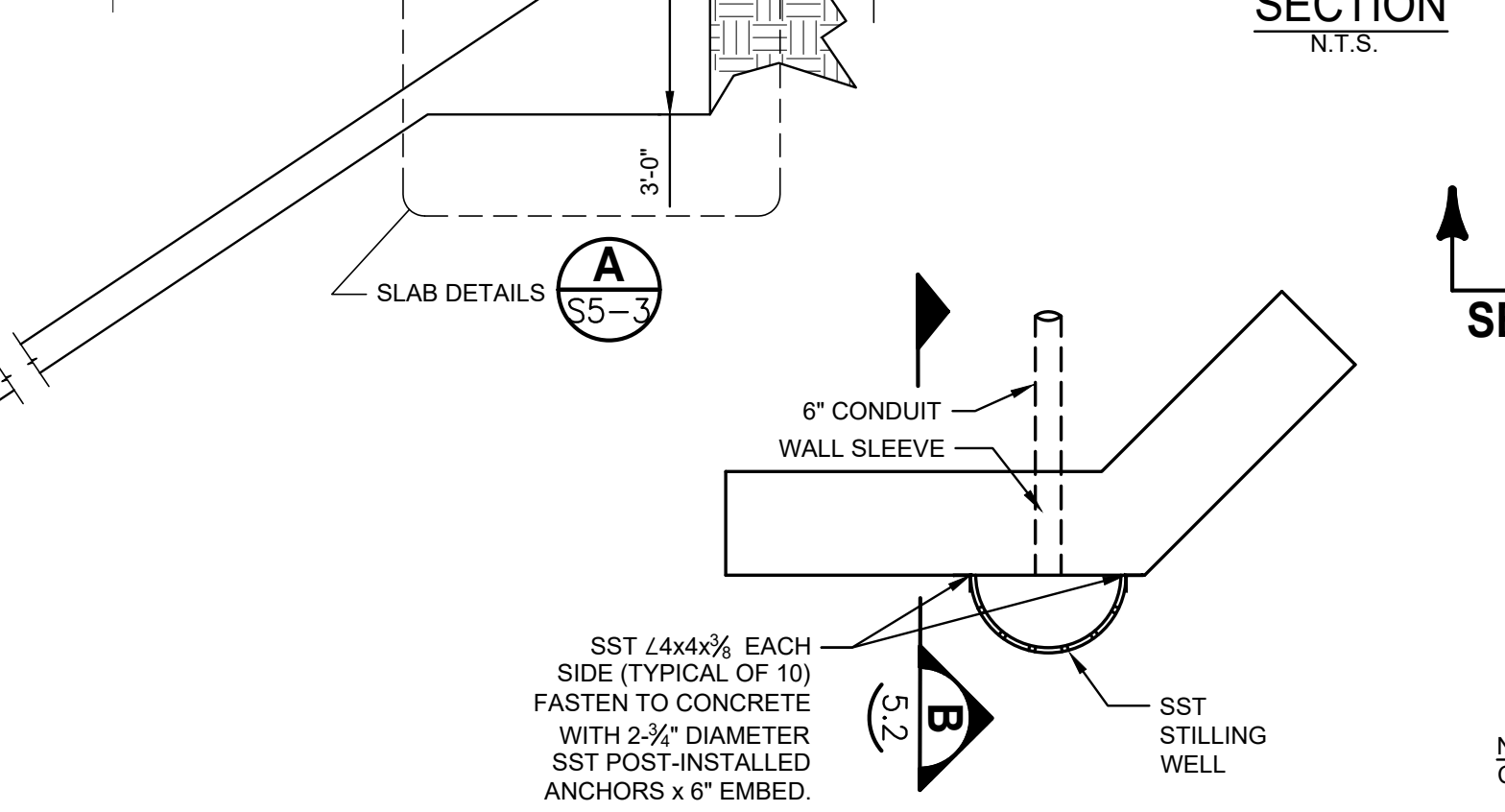
SECTION 7
1/8" = 1'-0"
S5-2



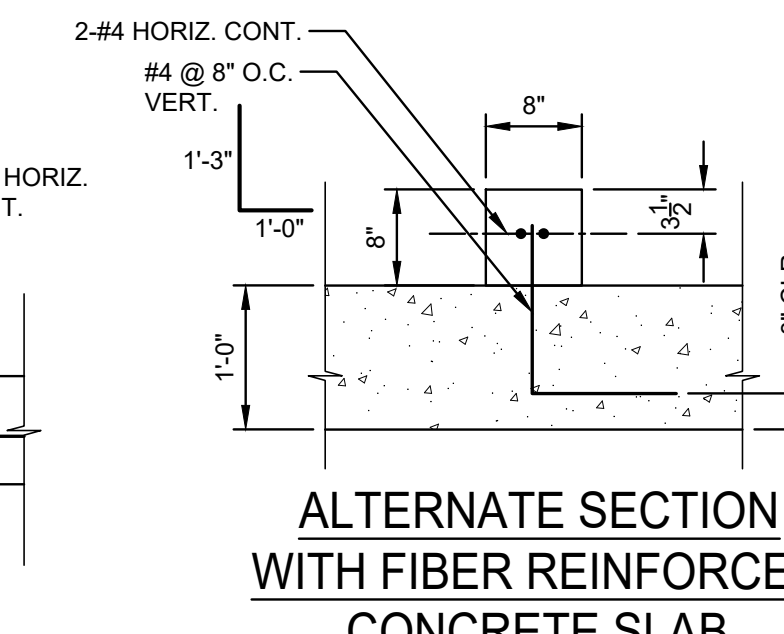
SECTION 8
3/8" = 1'-0"
S5-2



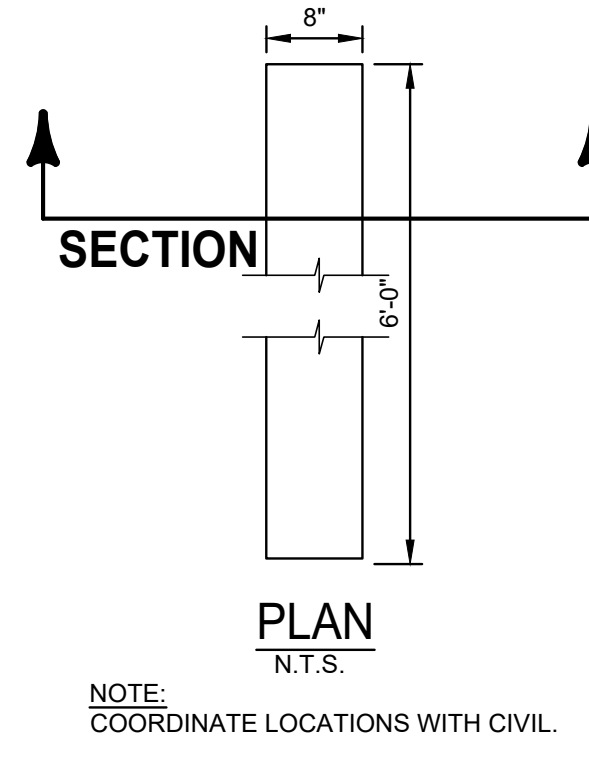
SECTION 9
1/4" = 1'-0"
S5-2



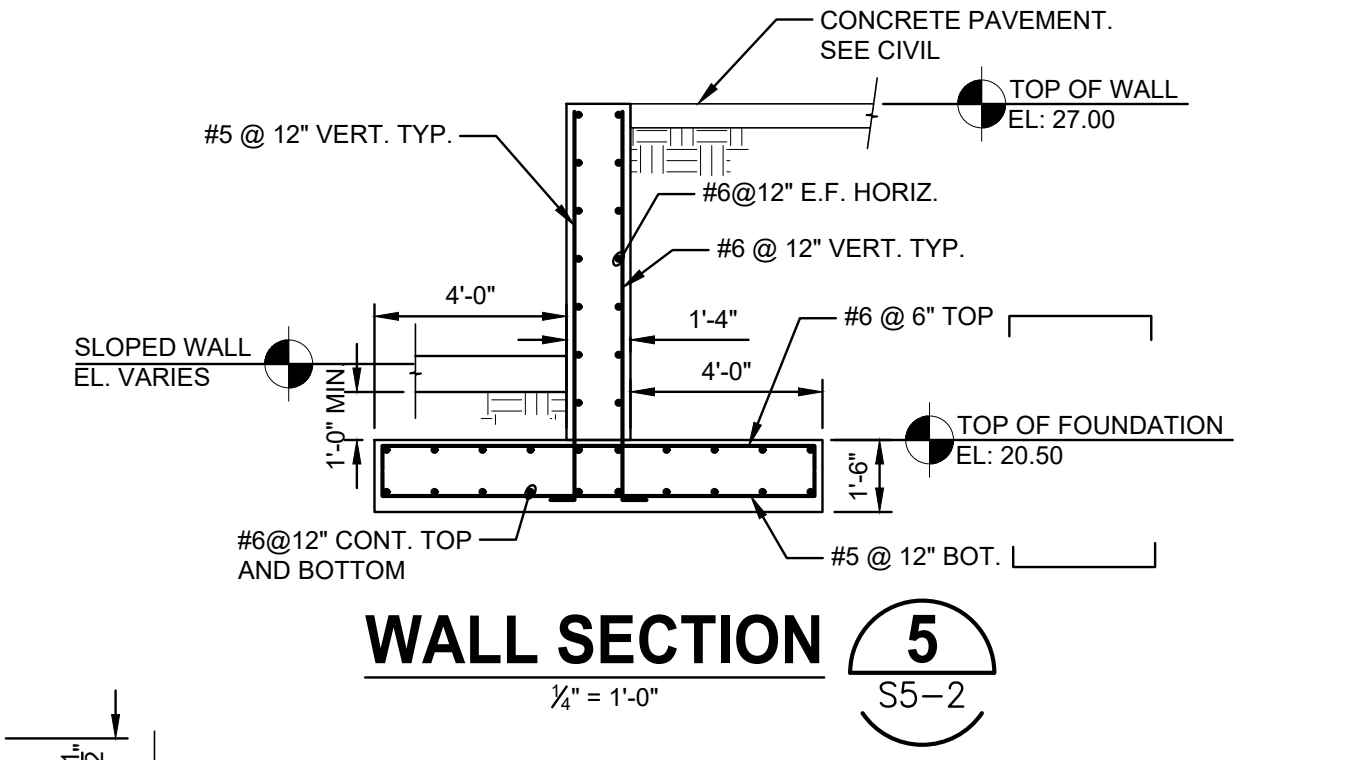
SECTION 10
N.T.S.
S5-2



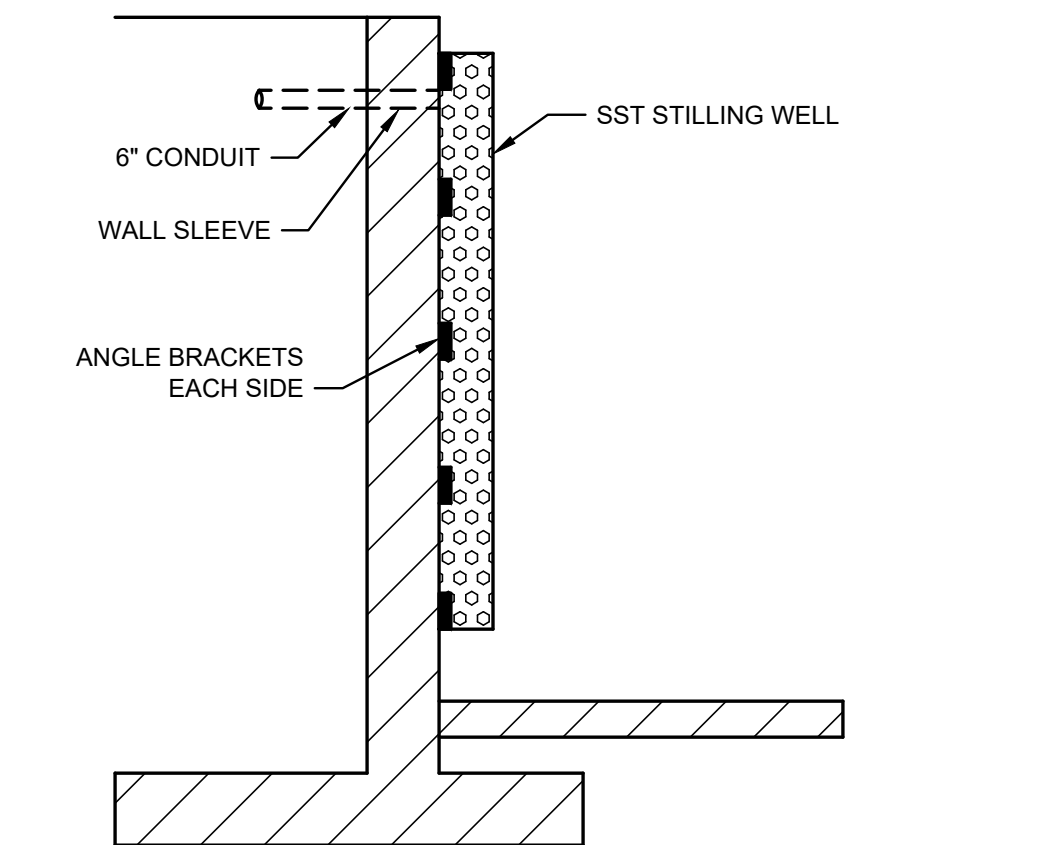
ALTERNATE SECTION WITH FIBER REINFORCED CONCRETE SLAB
N.T.S.



BAFFLE DETAIL A
3/4" = 1'-0"
S5-2



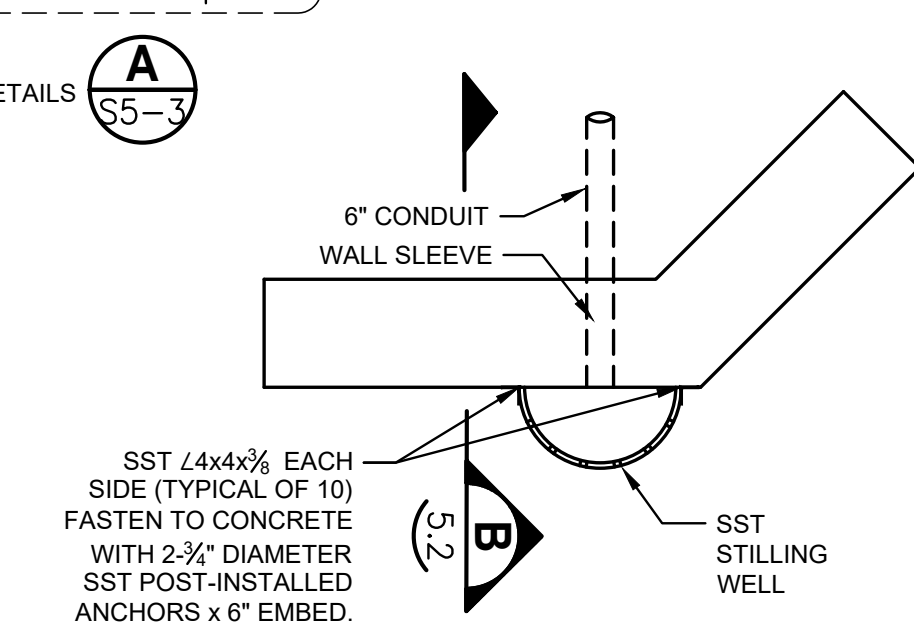
WALL SECTION 5
1/4" = 1'-0"
S5-2



SECTION B
3/4" = 1'-0"
S5-2

9" REINF. CONCRETE SLAB. ALTERNATIVELY CONSTRUCT 12" THICK SLAB USING FIBER REINFORCED CONCRETE. SEE CIVIL PLANS FOR SLOPES. SLOPED SLABS CAN BE PLACED USING 5,000 PSI SHOTCRETE OR GUNITE WITH SAME PROPERTIES AS SPECIFIED FOR CONCRETE. SUBMIT MIX DESIGN AND PROCEDURES FOR REVIEW PRIOR TO CONSTRUCTION.

SLAB DETAILS A
S5-3



SST STILLING WELL
N.T.S.

NOTE: COORDINATE LOCATIONS WITH CIVIL.



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LTR.	DATE	REVISIONS	BY	APPRD.	CHECKED

DESIGNED	M THUE
DRAWN	J GALLER
CHECKED	D CRAPPS

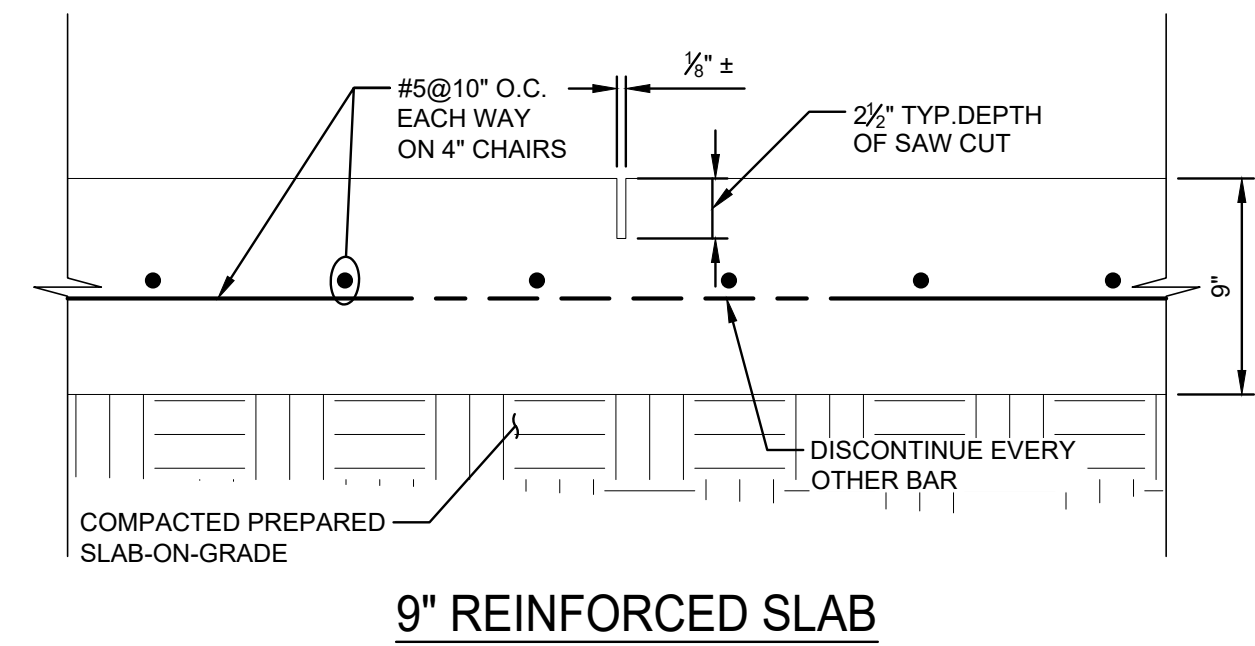
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CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

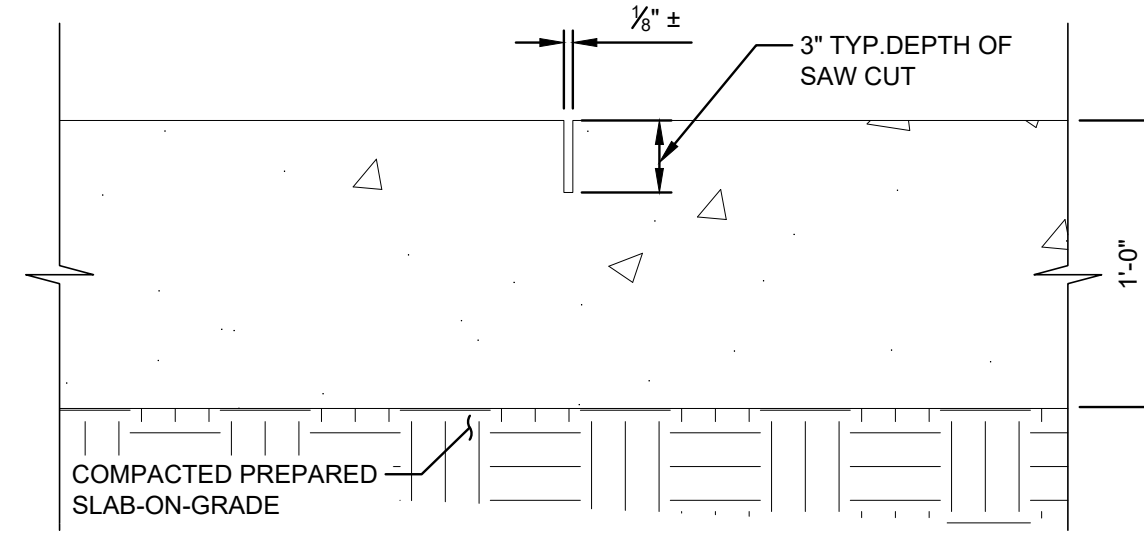
WEIR SECTIONS AND DETAILS

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	JUN 2020
MONRAD R. THUE	INDEX NO:	DWG NO:
P.E. # 32071		S5-2

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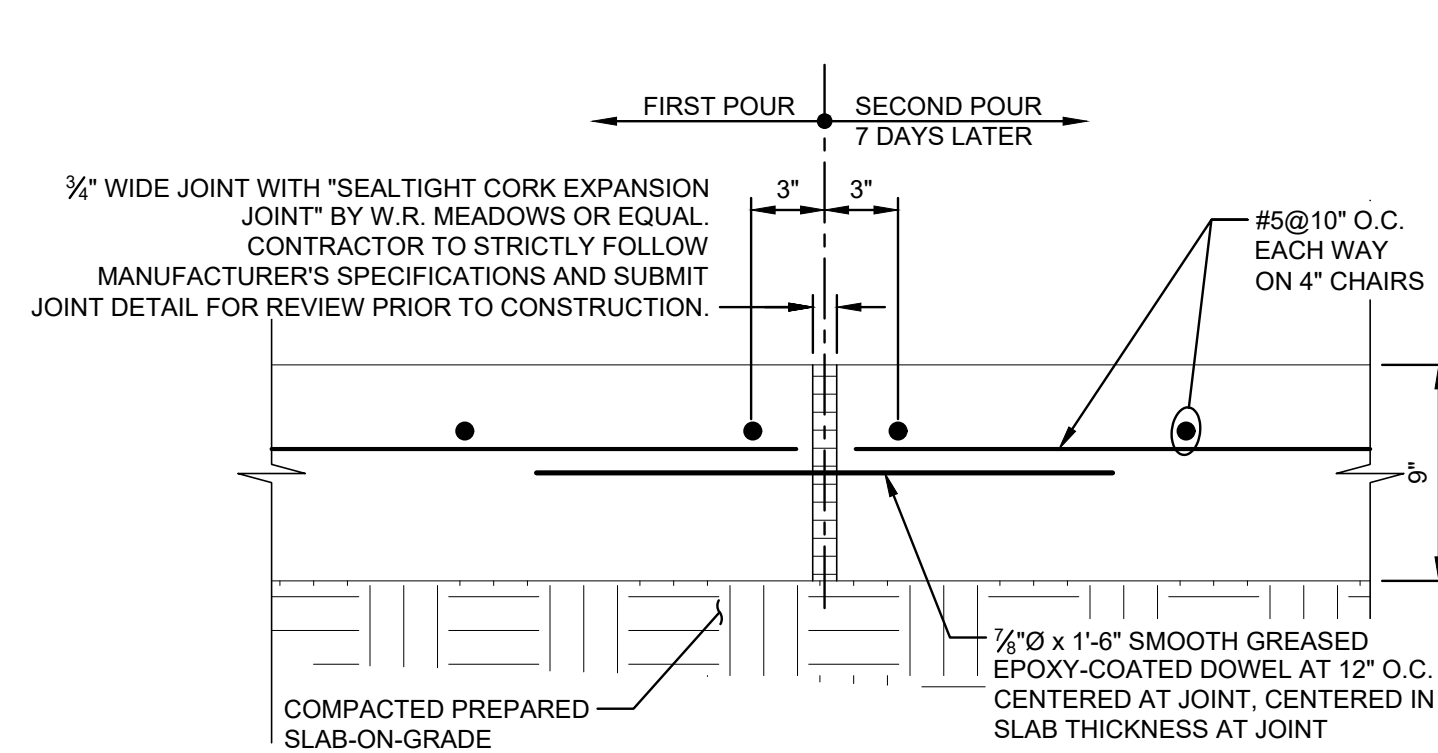
9" REINFORCED SLAB



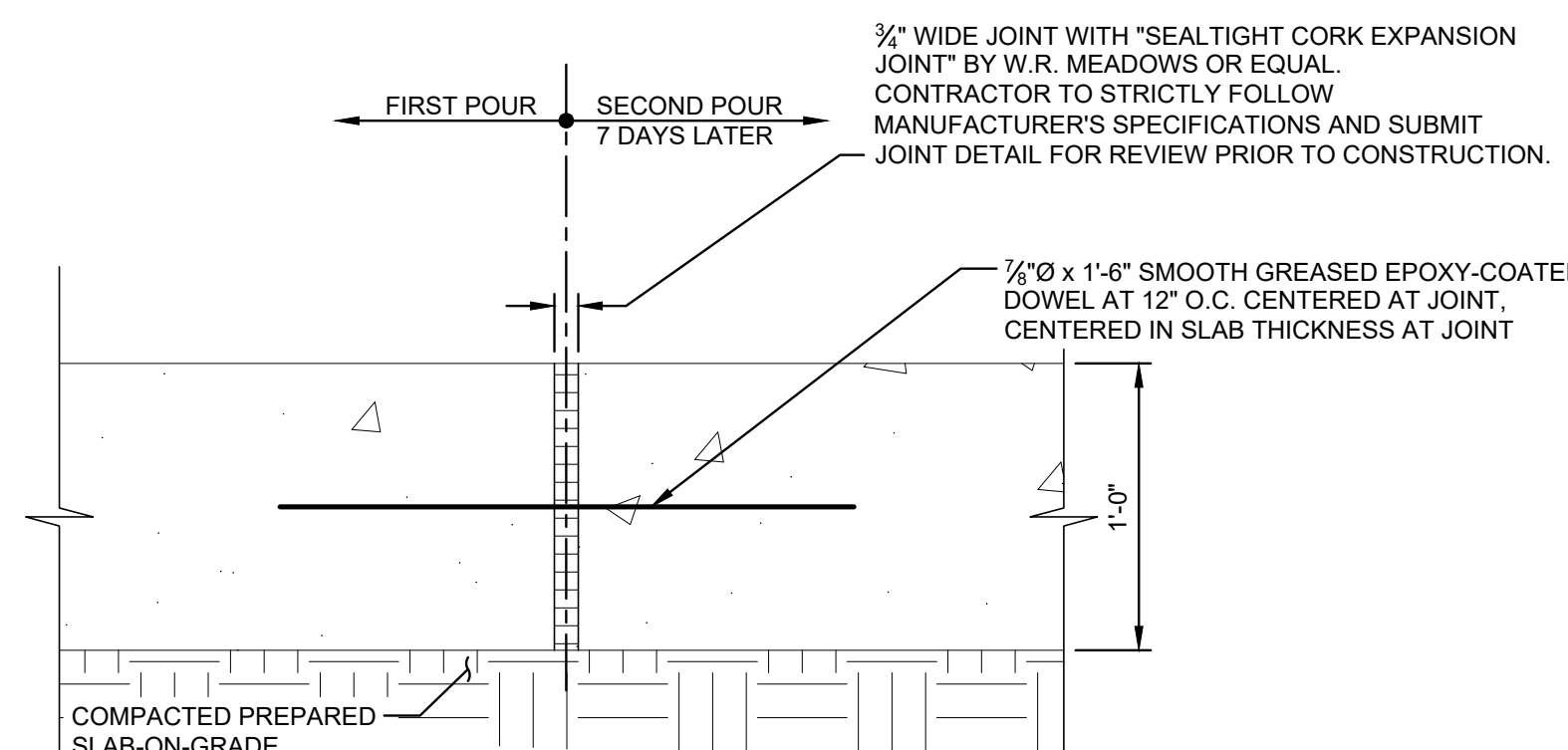
12" FIBER REINFORCED SLAB

NOTES:
1. SAW CUT AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PREVENT DISLODGE-
MENT OF AGGREGATES. COMPLETE WITHIN 8 HOURS AFTER PLACEMENT.

**SAW CUT CONTROL JOINTS
@ 15' MAX. CENTERS BETWEEN CONSTRUCTION JOINTS**

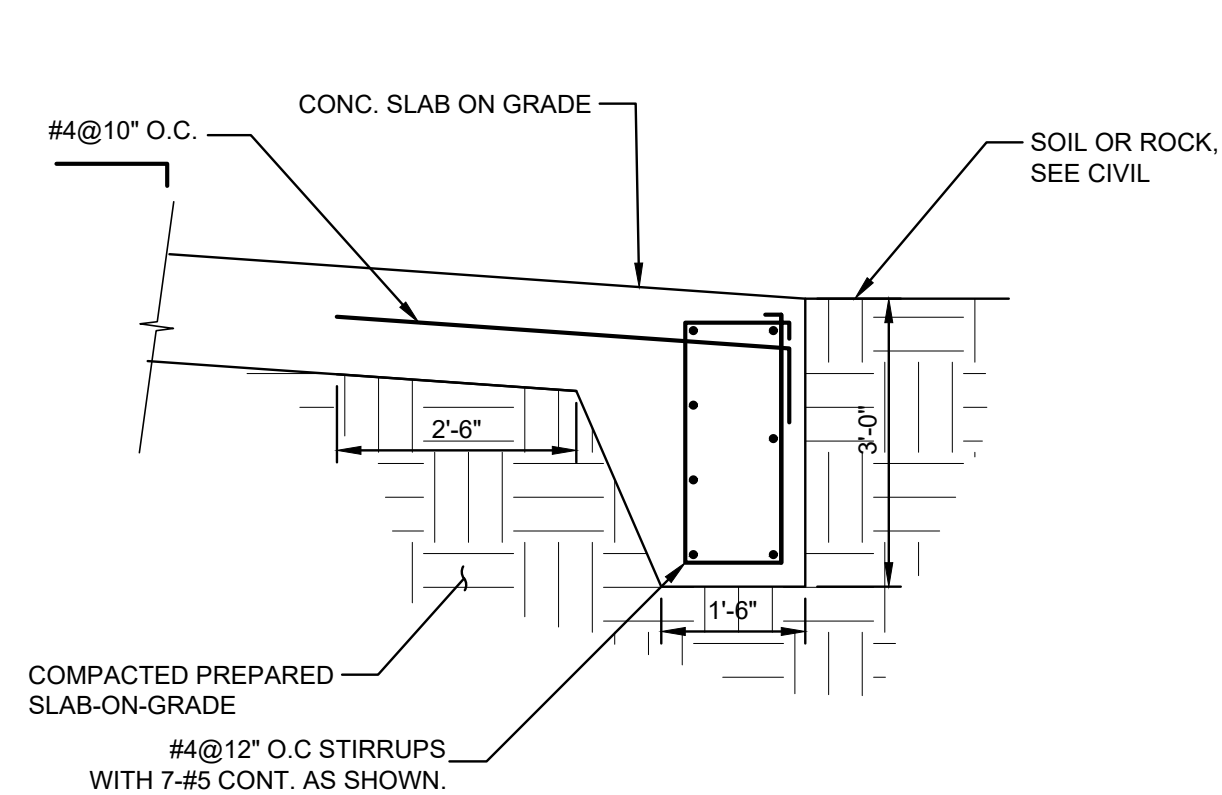


9" REINFORCED SLAB

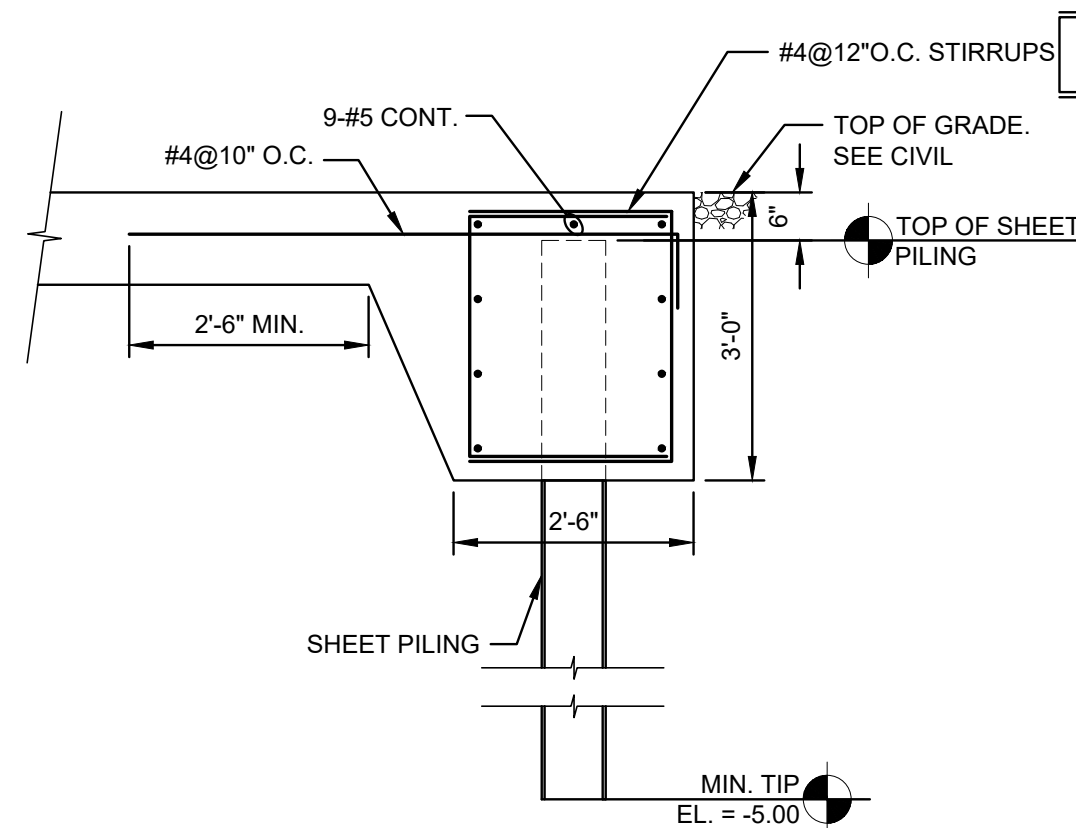


12" FIBER REINFORCED SLAB

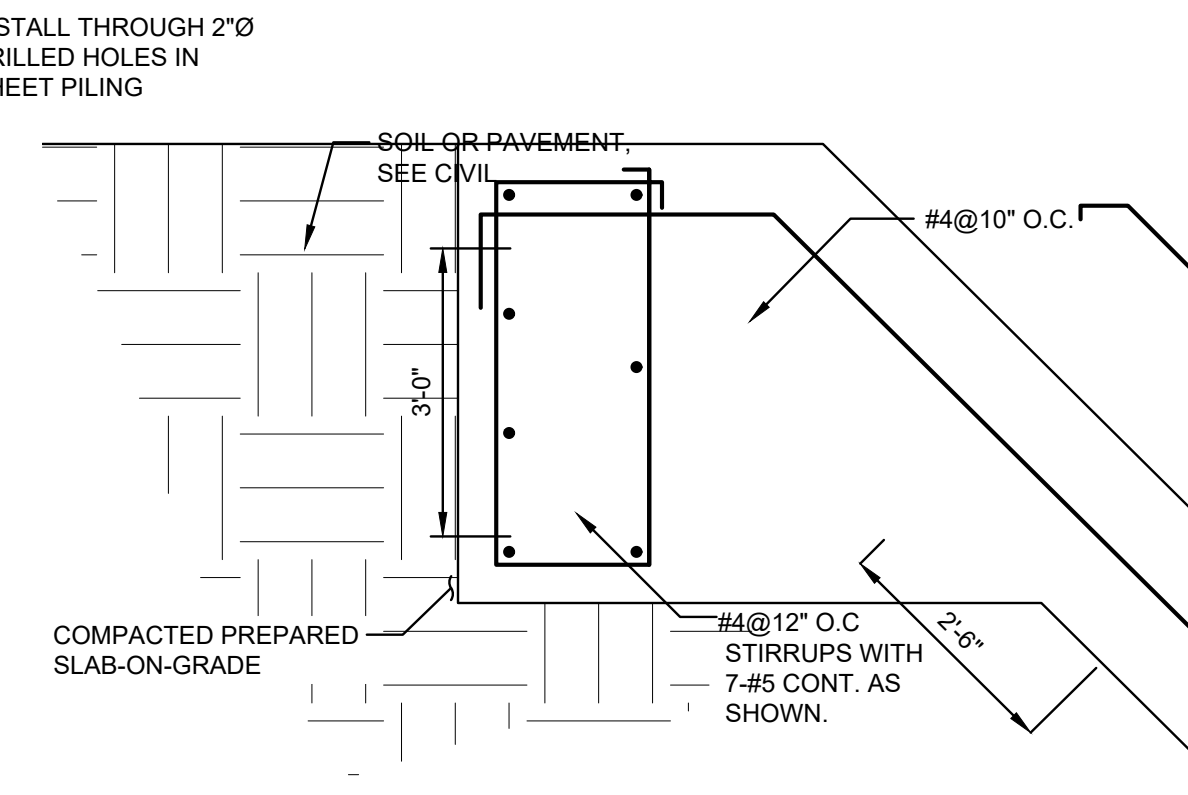
EXPANSION JOINTS



EDGE OF SLAB AT BASE

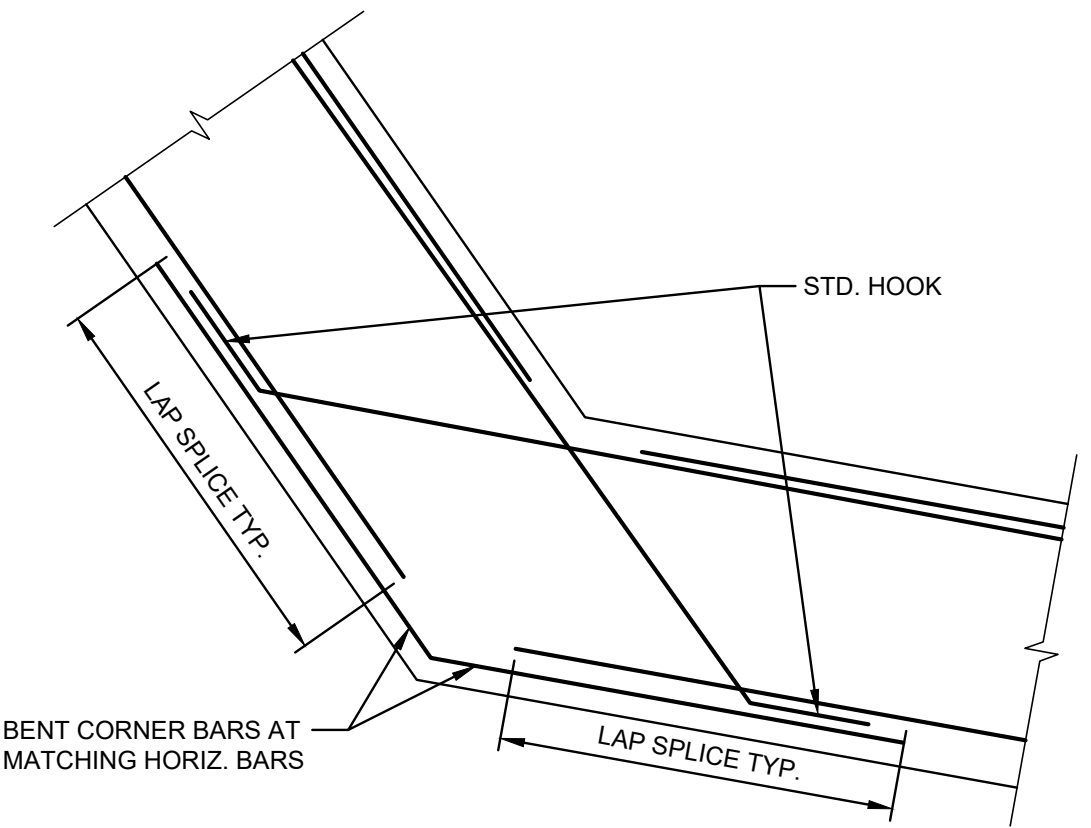


EDGE OF SLAB AT SHEET PILING



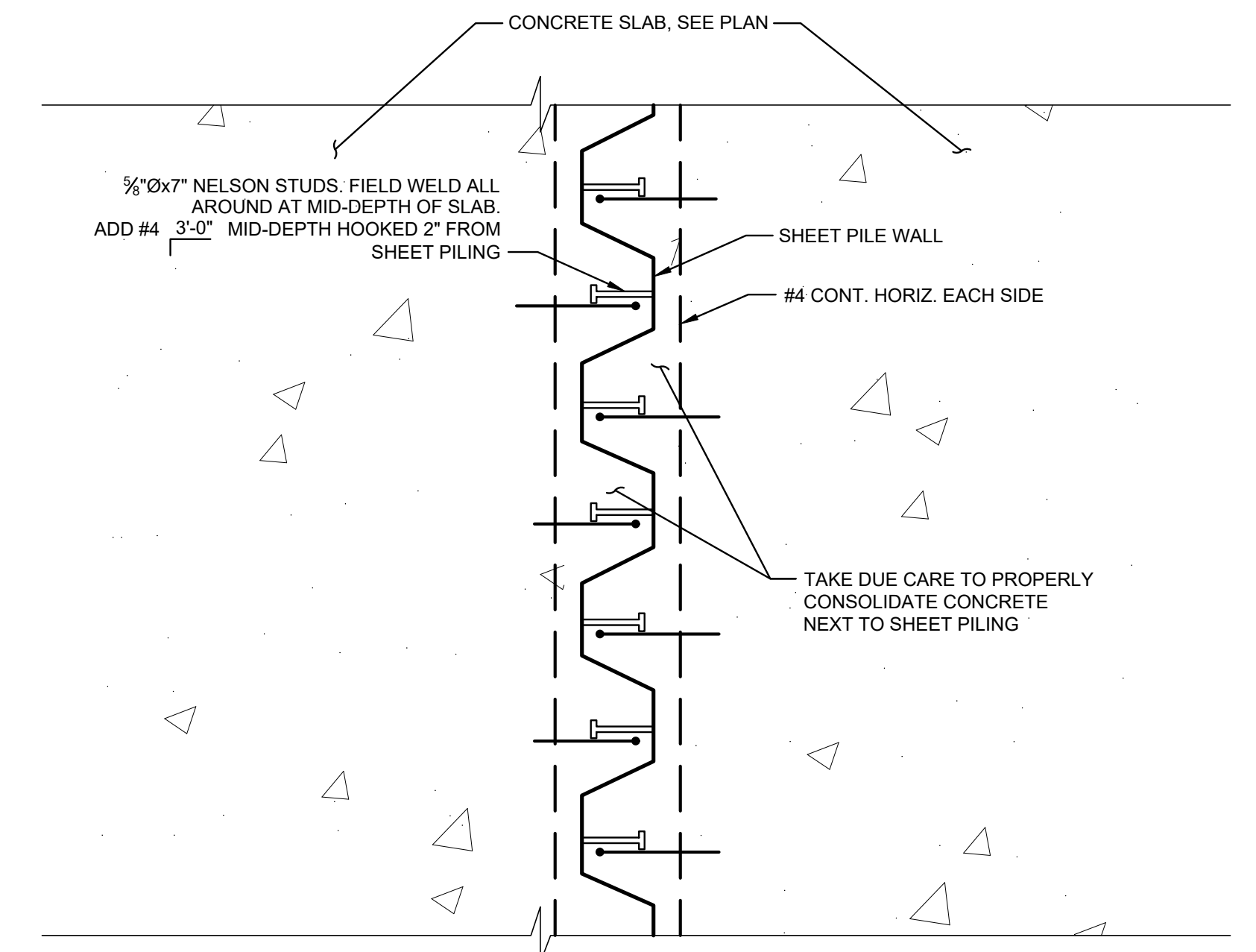
EDGE OF SLAB AT TOP

SLAB DETAILS A
N.T.S.



NOTE: VERT. REINF. NOT SHOWN

CONCRETE WALL REINFORCEMENT AT CORNERS B
N.T.S. S5-3



CONCRETE SLAB AT SHEET PILE WALL C
N.T.S. S5-3



Engineering & Consulting, Inc.
5590 SW 64th Street, Suite B
Gainesville, Florida 32608
Phone: (352) 377-3233 Fax: (352) 377-0335

LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	M THUE
DRAWN	J GALLER
CHECKED	D CRAPPS

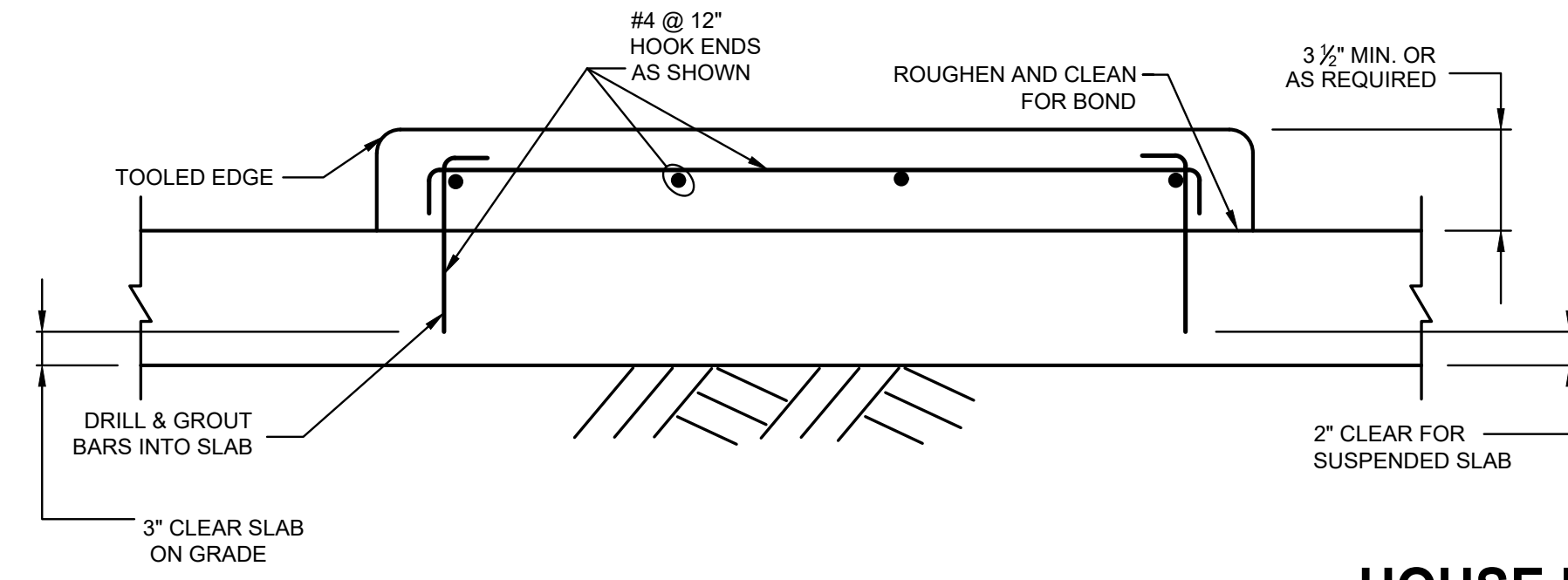
JonesEdmunds
CERTIFICATE OF AUTHORIZATION #1841
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8657 BAYPINE ROAD SUITE 300, JACKSONVILLE, FL 32256 / (904) 744-5401

**CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

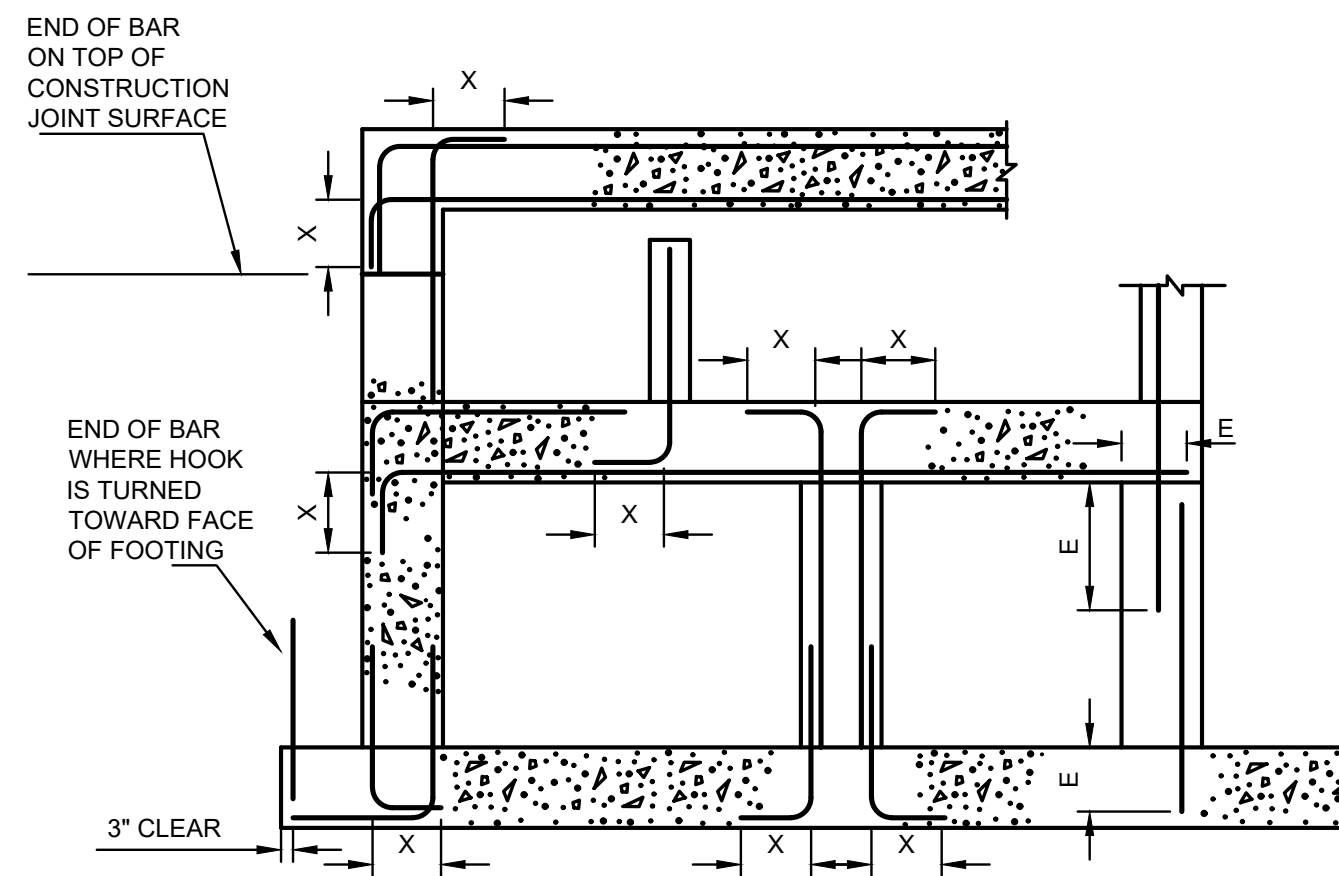
WEIR SECTIONS AND DETAILS

CERTIFICATE OF AUTHORIZATION #1841	PROJECT NO:	DATE:
APPROVED BY	19750-066-01	JUN 2020
MONRAD R. THUE	INDEX NO:	DWG NO:
P.E. # 32071		S5-3

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HOUSE KEEPING PAD A
N.T.S. S5-4



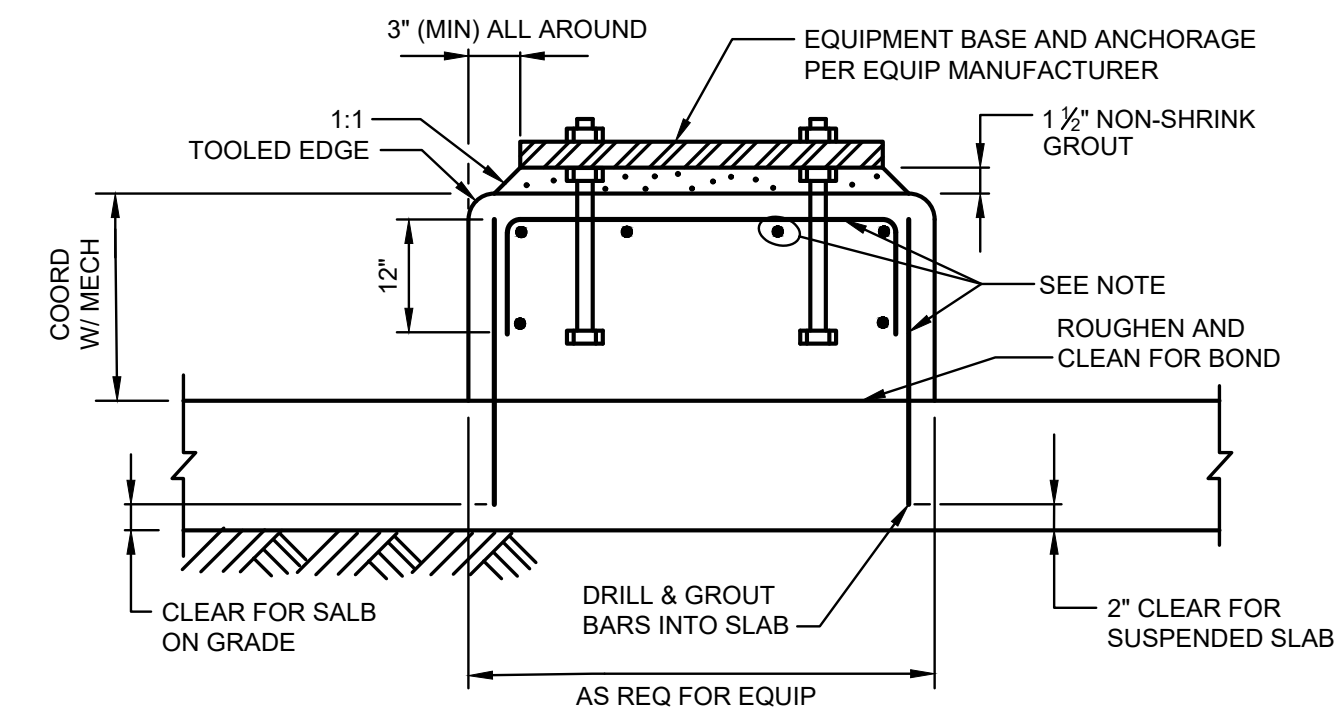
CONCRETE DESIGN STRENGTH = 4,000 PSI
GRADE 60 REINFORCING STEEL

BAR SIZE	LAP SLICE LENGTH										
	#4	#5	#6	#7	#8	#9	#10	#11			
TOP BAR*	2'-0"	3'-5"	4'-1"	5'-10"	7'-4"	7'-10"	8'-8"	10'-5"			
OTHER BAR	1'-7"	2'-7"	3'-3"	4'-6"	5'-8"	6'-1"	6'-9"	8'-1"			
BAR SIZE	EMBEDMENT LENGTH										
	#4	#5	#6	#7	#8	#9	#10	#11			
TOP BAR*	1'-7"	2'-7"	3'-2"	4'-6"	5'-2"	5'-10"	6'-7"	7'-3"			
OTHER BAR	1'-7"	2'-0"	2'-5"	3'-6"	4'-0"	4'-6"	5'-1"	5'-7"			

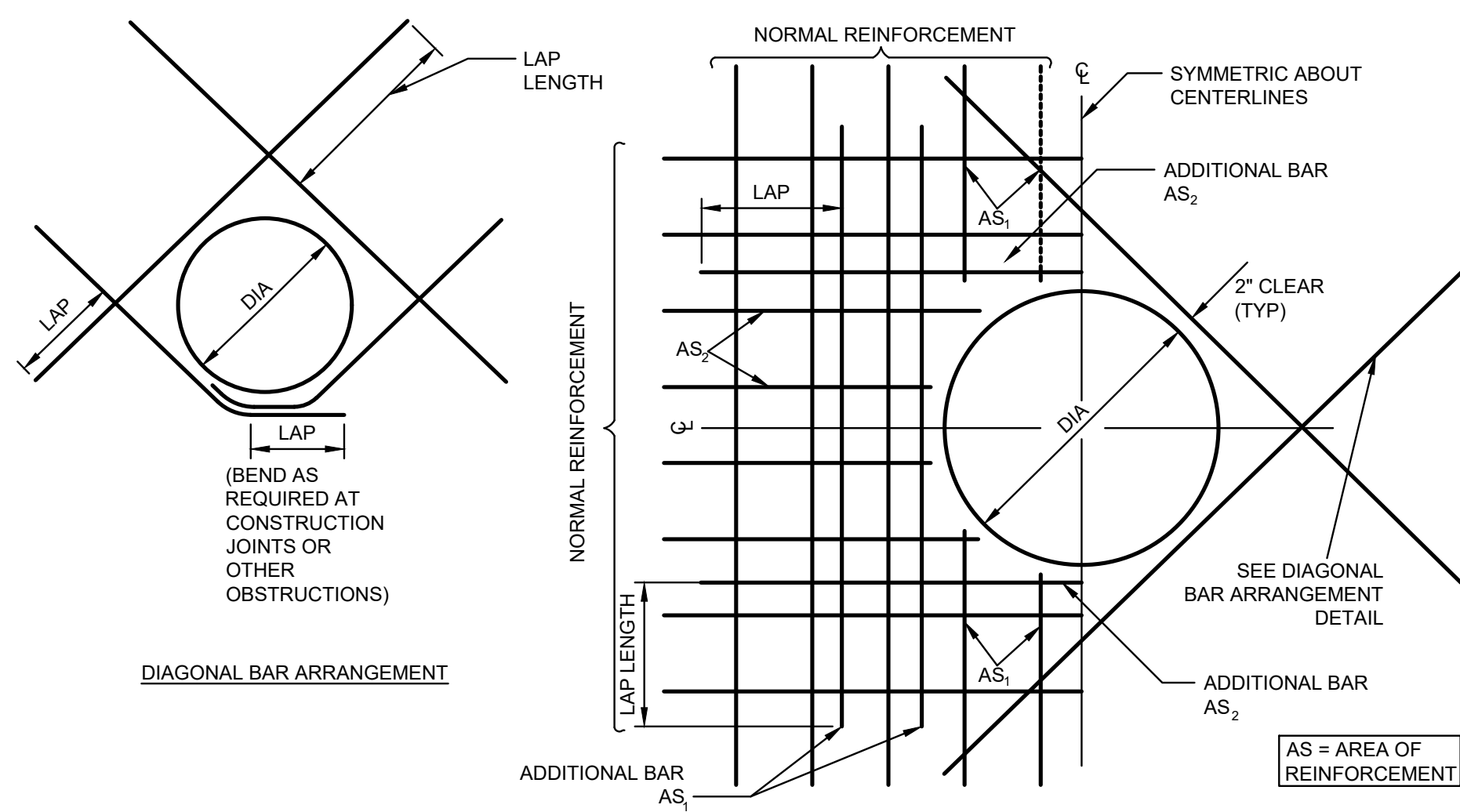
* TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.

- NOTE:**
- CONTINUOUS WATERSTOP, AS SPECIFIED, SHALL BE INSTALLED IN ALL CONSTRUCTION JOINTS IN WALLS OF WATER HOLDING BASINS AND CHANNELS, EXCEPT WHERE INDICATED OTHERWISE.
 - WHEN BARS OF DIFFERENT SIZES ARE LAP SPICED, LAP LENGTH SHALL BE THE LARGER OF:
EMBEDMENT LENGTH OF LARGER BARS
LAP LENGTH OF SMALLER BAR
 - UNLESS NOTED, BARS SHALL EXTEND AN EMBEDMENT LENGTH "E" INTO ANOTHER MEMBER OR ACROSS A CONSTRUCTION JOINT UNLESS SHOWN TO SPLICE WITH OTHER BARS OR TO EXTEND TO THE FAR FACE OF THE MEMBER AND END WITH A STANDARD HOOK AS DESIGNATED BY "X" N

STANDARD 90 BAR HOOKS, EMBEDMENT LENGTHS, AND LAP LENGTHS
N.T.S. S5-4

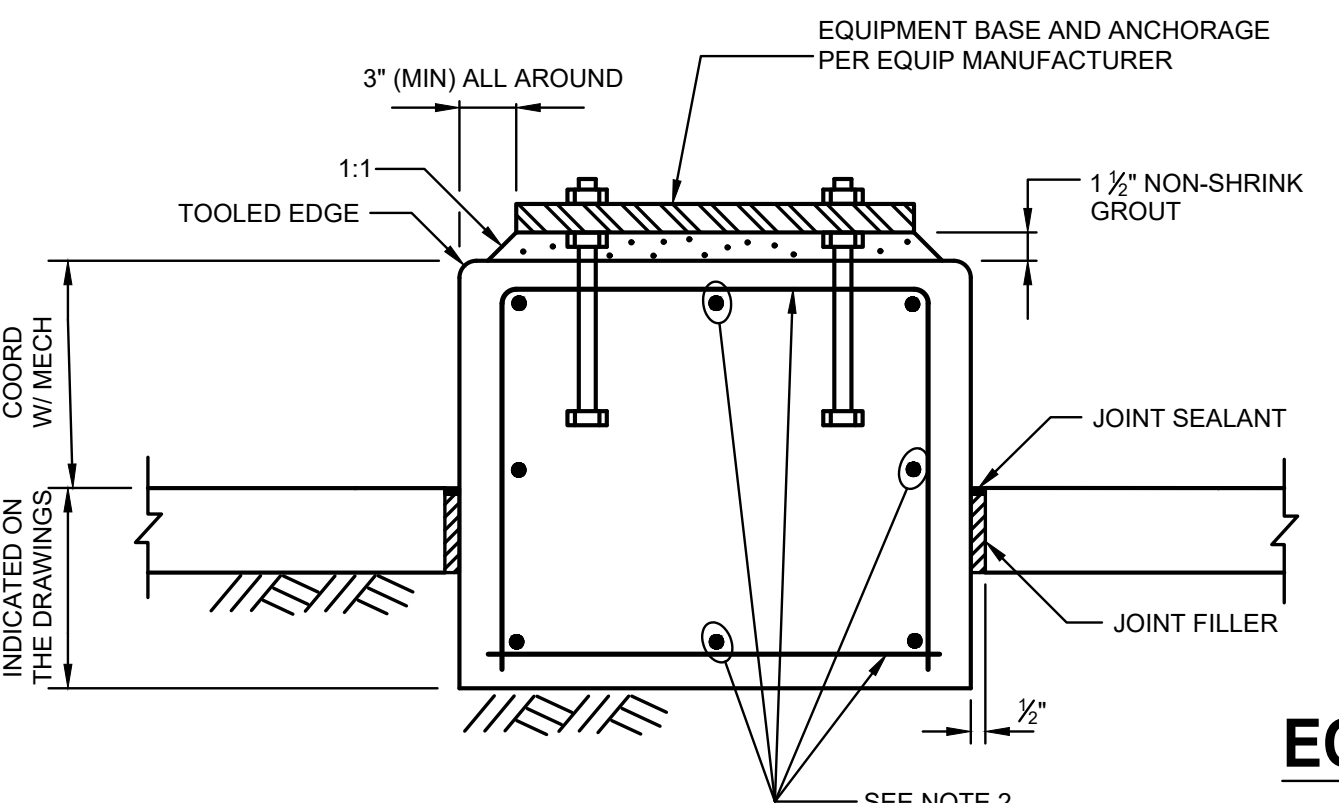


EQUIPMENT BASE B
N.T.S. S5-4

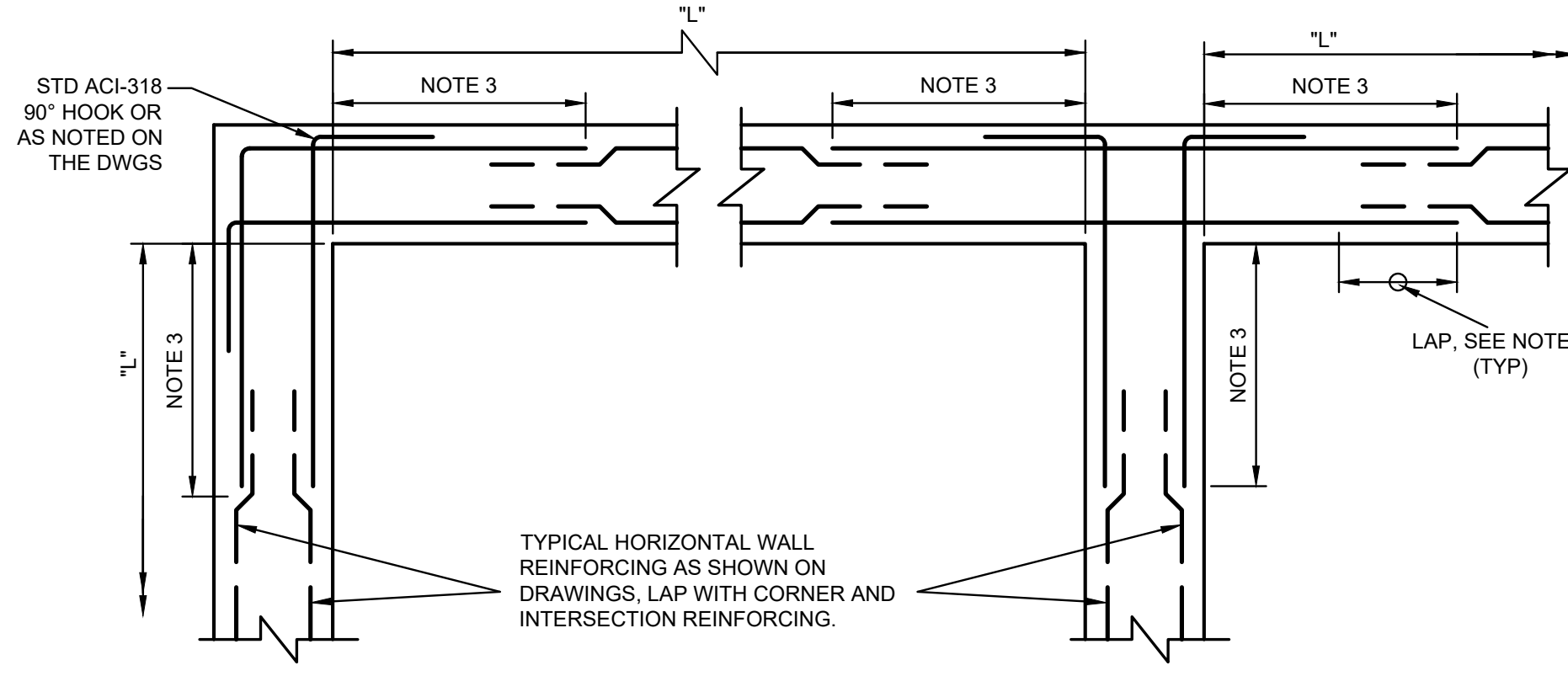


- NOTE:**
- THIS DETAIL TO BE USED AT ALL CIRCULAR OPENINGS EXCEPT WHEN OTHER DETAILING IS INDICATED ON THE DRAWINGS.
 - CUT TYPICAL REINFORCEMENT 2" CLEAR OF OPENING.
 - CUT TYPICAL REINFORCEMENT AT OPENINGS:
A. AS₁ AND AS₂ = 1/2 AREA OF TOTAL CUT PARS TO BE ADDED ON EACH SIDE OF OPENING.
 - DIAGONAL AND ADDITIONAL BARS AS₁ AND AS₂ TO BE PLACED:
A. AT CENTERLINE OF WALLS OR SLABS WHERE ONE LAYER OF REINFORCEMENT IS PROVIDED.
B. AT EACH FACE OF WALLS OR SLABS WHERE TWO LAYERS REINFORCEMENT ARE PROVIDED.
 - UNLESS OTHERWISE NOTED, SIZE OF DIAGONAL BARS SHALL BE THE SIZE OF THE LARGEST NORMAL REINFORCING BAR CUT.
 - INCREASE SIZE OF ADDITIONAL BARS AS NEEDED TO FIT WITHIN A DISTANCE OF 2X /SLAB THICKNESS FROM OPENING, PROVIDE 2" MIN CLEAR BETWEEN BARS.
 - WHERE A SLAB OR INTERSECTING WALL CONNECTS WITHIN ON WALL THICKNESS OF THE OPENING, ADDITIONAL BARS ON THAT SIDE OF THE OPENING MAY BE OMITTED.
 - WHEN THE LAP LENGTH OF THE ADDITIONAL BARS CANNOT BE ACHIEVED DUE TO AN ADJACENT WALL OR SLAB, ADDITIONAL CORNER BARS OR SLAB DOWELS, RESPECTIVELY, MATCHING THE CUT BARS, ARE TO BE INCLUDED IN THE ADJACENT WALL OR SLAB TO LAP WITH THE ADDITIONAL BARS.

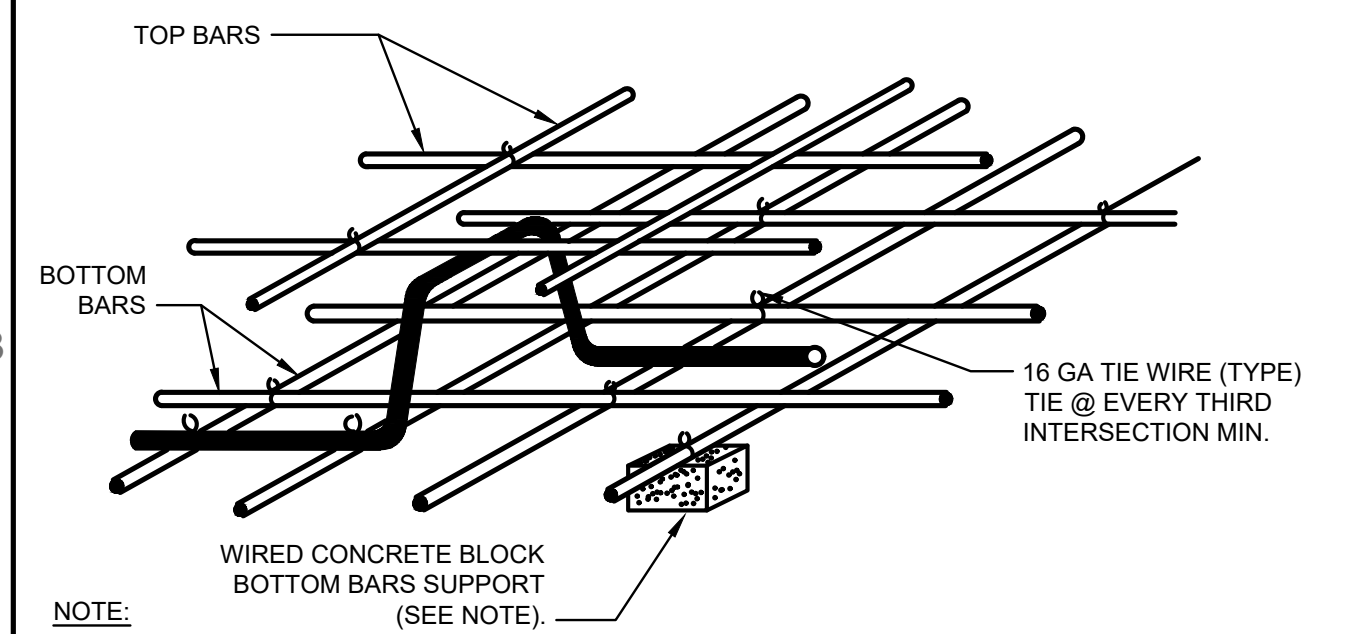
ADDITIONAL REINFORCEMENT AT CIRCULAR OPENINGS
N.T.S. S5-4



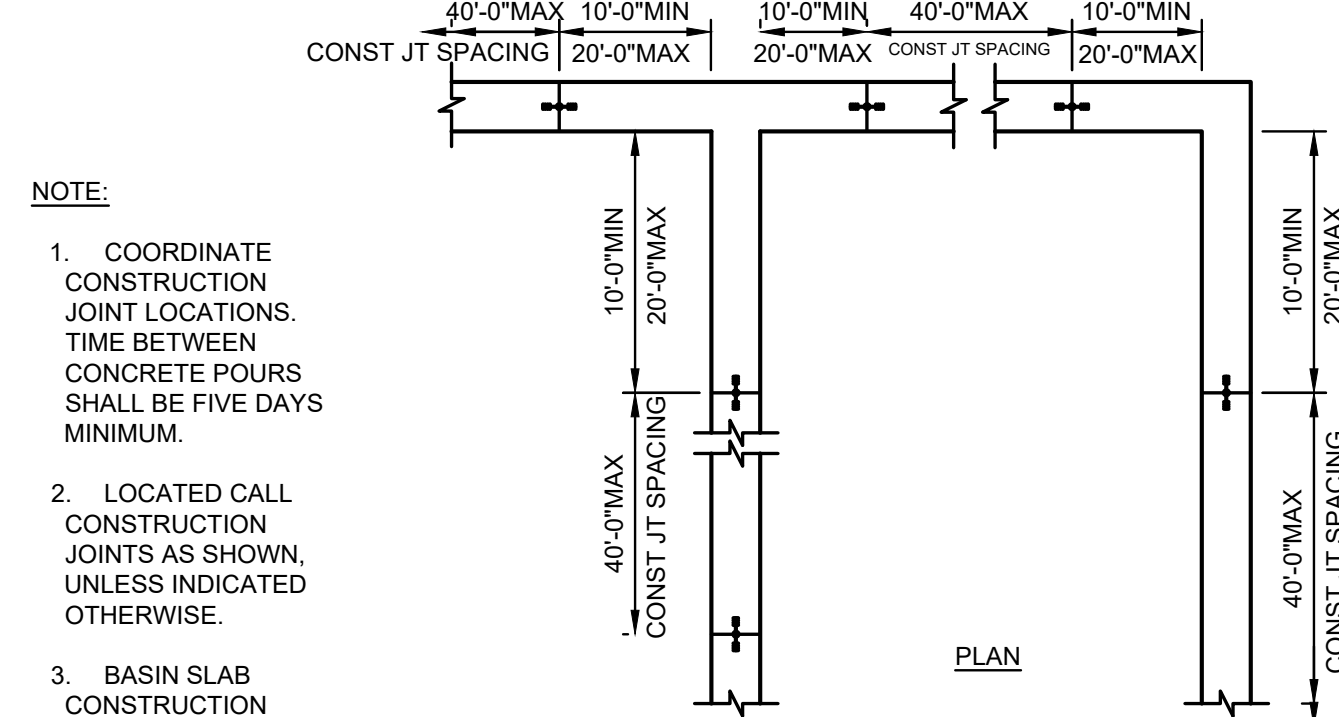
EQUIPMENT BASE ON GRADE WITH SEPARATING JOINT C
N.T.S. S5-4



HORIZONTAL REINFORCEMENT AT WALL INTERSECTIONS
N.T.S. S5-4



REINFORCING SUPPORT D
N.T.S. S5-4



WALL CONSTRUCTION JOINT SPACING (CONST JT) E
N.T.S. S5-4

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CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

SECTIONS AND DETAILS



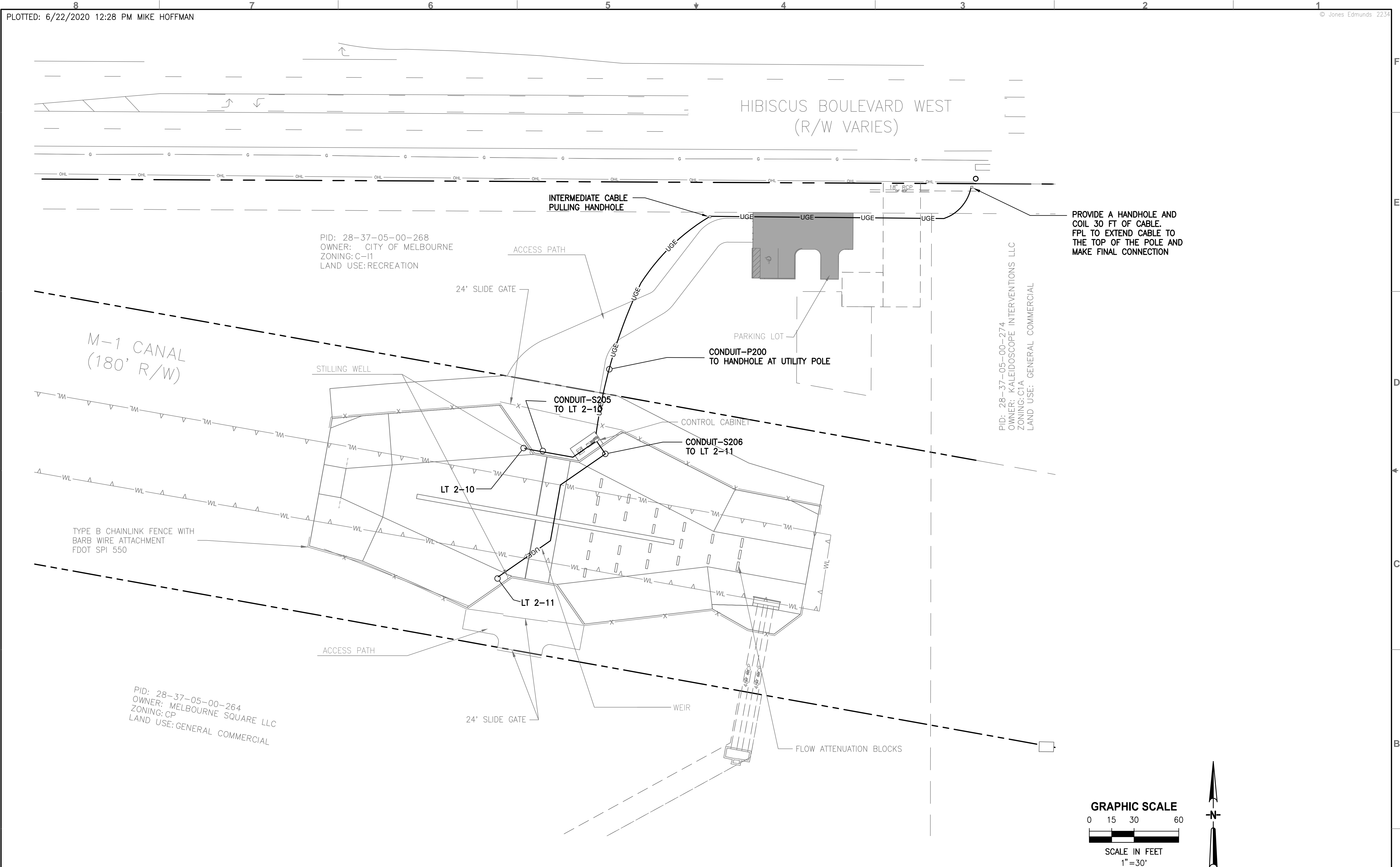
5590 SW 64th Street, Suite B
Gainesville, Florida 32608
Phone: (352) 377-3233 Fax: (352) 377-0335
CERTIFICATE OF AUTHORIZATION #1841

APPROVED BY	PROJECT NO:	DATE:
MONRAD R. THUE	19750-066-01	JUN 2020
P.E. # 32071	INDEX NO:	DWG NO:
		S5-4

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					D. CRAPPS

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LTR.	DATE	REVISIONS	BY	APPRD.

DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK

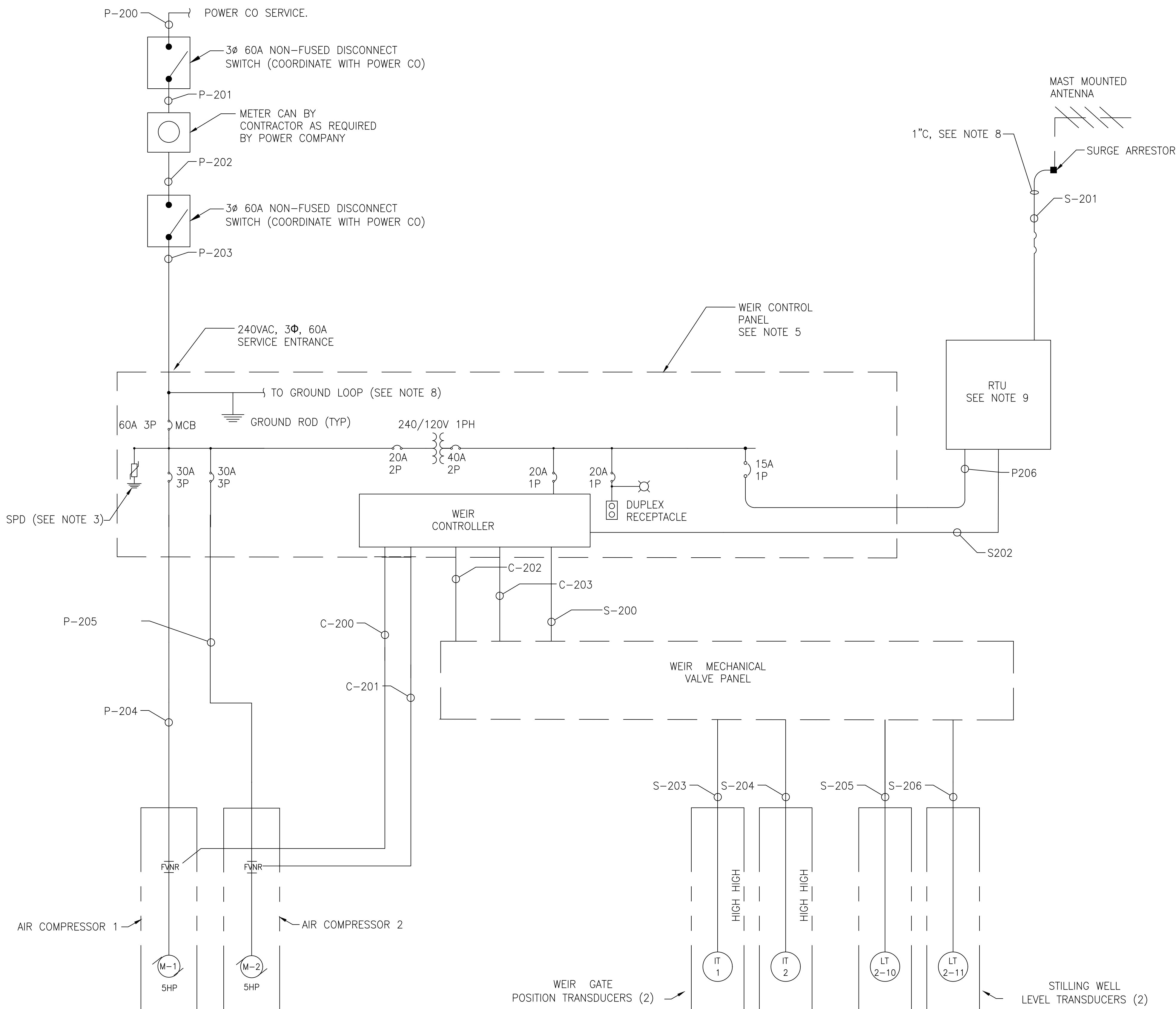
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**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

WEIR SITE PLAN

EPC Source, inc.
 Certificate of Authorization No. 33652
 HAL DIETRICK
 P.E. # 76416

PROJECT NO:	19750-066-01	DATE:	JUN 2020
INDEX NO:		DWG NO:	E5-1



WEIR STATION NOTES

1. PANEL LOCATION IS AS SHOWN ON THE PLANS.
2. CONDUCTORS EXITING CONTROL PANEL SHALL BE TYPE THWN INSULATED COPPER. INTERNAL CONTROL PANEL WIRING SHALL BE TYPE MTW OR AS REQUIRED BY THE MANUFACTURER.
3. PROVIDE A SURGE PROTECTION DEVICE (SPD) ON THE LOAD SIDE OF THE MAIN CIRCUIT BREAKER. SPD SHALL BE AN ADVANCED PROTECTION TECHNOLOGIES TE/4XT, PQ PROTECTION PQC100, OR APPROVED EQUAL.
4. THE WEIR CONTROL PANEL ENCLOSURE SHALL BE NEMA 4X STAINLESS STEEL FITTED WITH A 3 POINT LOCKABLE LATCH AND DEAD FRONT PANEL.
5. ALL CONNECTIONS TO THE THE PANEL SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING: (SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS)
 - A. THERMAL MAGNETIC CIRCUIT BREAKERS INDICATED.
 - B. MULTI-STAGE PUMP CONTROL SYSTEM (SEE SPECIFICATION)
 - C. CONTROL POWER TRANSFORMERS, AS REQUIRED.
 - D. SURGE PROTECTION DEVICE.
 - E. RUN TIME METER FOR EACH PUMP.
 - F. HAND-OFF-AUTO SELECTOR SWITCH FOR EACH PUMP.
 - G. GREEN PUMP STOP, RED PUMP RUN LIGHTS FOR EACH PUMP.
 - H. ALARM STROBE AND HORN WITH SILENCE SWITCH.
 - I. SEAL FAILURE RELAY WITH INDICATING LIGHT FOR EACH PUMP.
 - J. CONTROL SYSTEM SHALL BE 120 VOLT.
 - K. TYPE GFCI 20 AMP, 125 VOLT DUPLEX RECEPTACLE.
 - L. SUBMERSIBLE LEVEL TRANSMITTER CONTROL.
6. THE CONTROL PANEL INTEGRATED INTERRUPT RATING SHALL BE EQUAL TO THE AVAILABLE FAULT CIRCUIT CURRENT AT THE POINT OF INSTALLATION WITH A MINIMUM OF 22,000 RMS SYMMETRICAL AMPS.
7. GROUND ALL ENCLOSURES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. PROVIDE LIGHTNING PROTECTION AND A MINIMUM OF 5 GROUND RODS IN A HALO AROUND THE EQUIPMENT AREA TO PROVIDE A GROUND RESISTANCE OF NOT GREATER THAN 3 OHMS.
8. PROVIDE ANTENNA, COAXIAL CABLE, ANTENNA MAST AND ALL APPURTENANCES AS APPROVED BY THE DISTRICT AND CONFORMING TO THEIR STANDARDS. SECURE CABLE TO THE ANTENNA MAST WITH STAINLESS STEEL CABLE TIES.
9. CONTRACTOR SHALL PROVIDE THE TELEMETRY SYSTEM RTU AND ALL REQUIRED SCADA EQUIPMENT. THE TELEMETRY SYSTEM SHALL BE AS APPROVED BY THE DISTRICT AND SHALL CONFORM TO THEIR STANDARDS.

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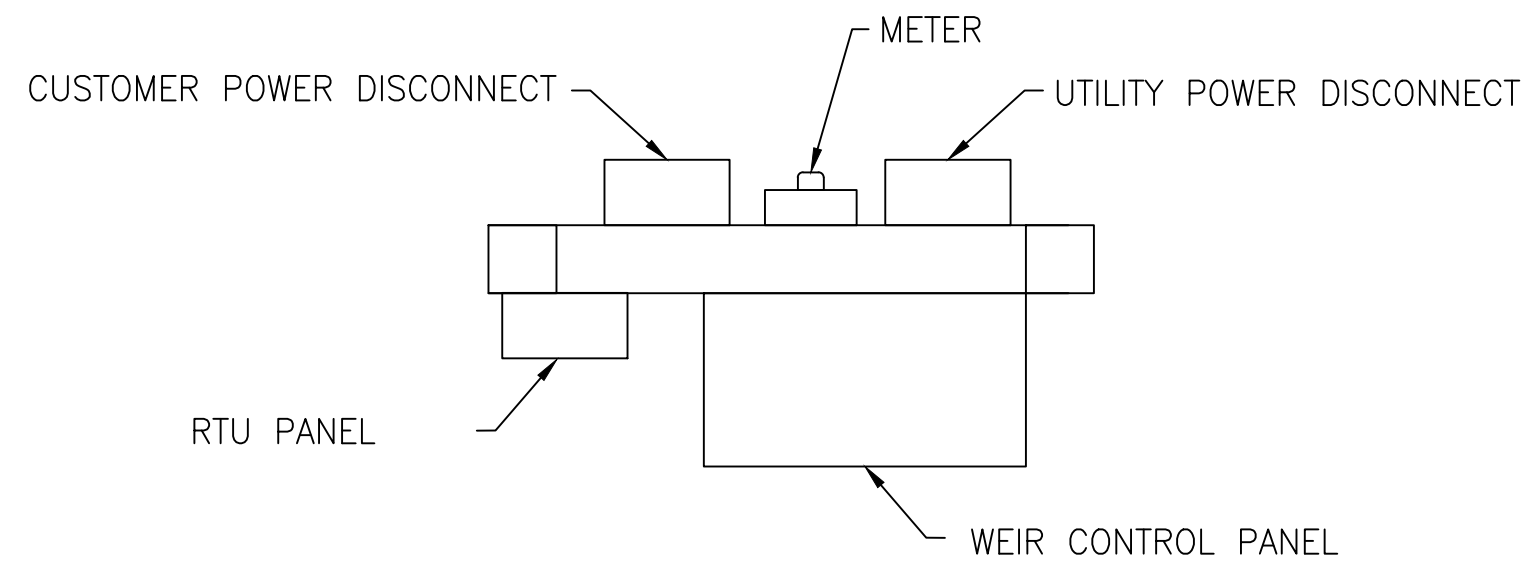
DESIGNED	HAL DIETRICK
DRAWN	HAL DIETRICK
CHECKED	MICHAEL CLARK
BY	
APPRD.	
REVISIONS	
LTR.	
DATE	

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CRANE CREEK M-1 CANAL FLOW RESTORATION
ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT

WEIR STATION ONE LINE DIAGRAM

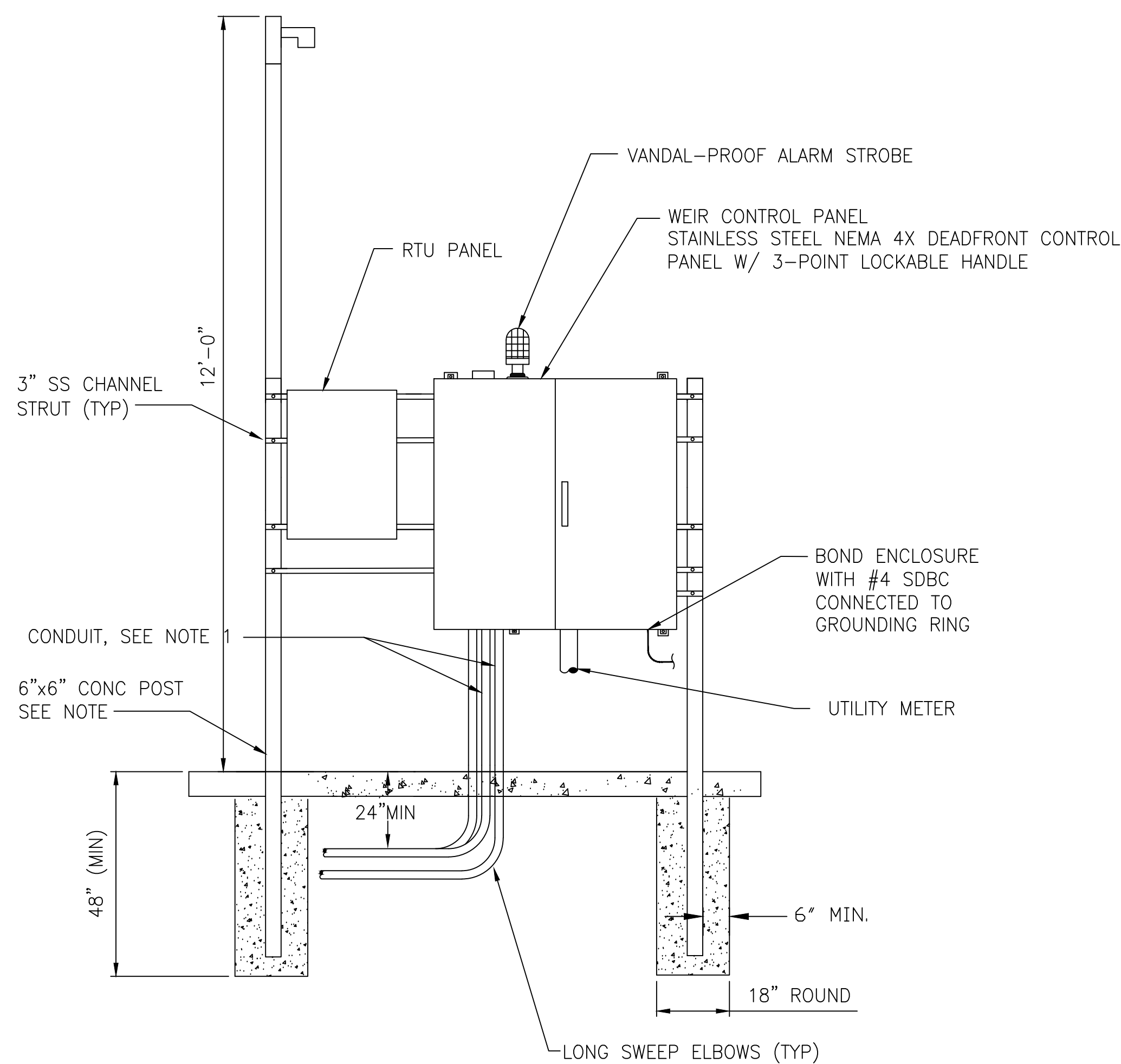
<i>EPC Source, inc.</i> Certificate of Authorization No. 33652 HAL DIETRICK P.E. # 76416		PROJECT NO: 19750-066-01	DATE: JUN 2020
		INDEX NO: 1	DWG NO: E5-2



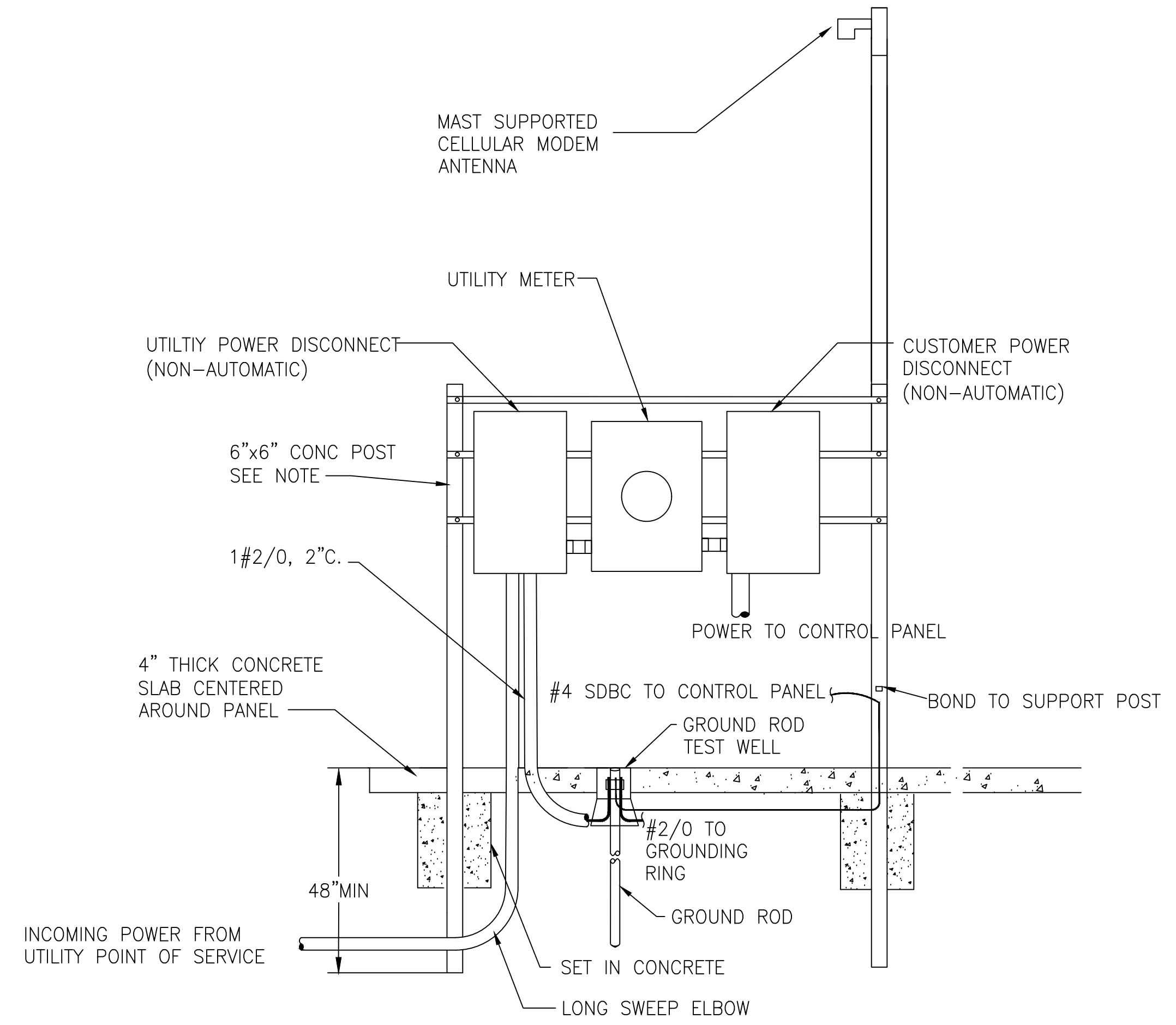
PLAN VIEW

NOTES:

1. MOTOR CONDUIT SHALL BE SIZED TO MAX 40% CONDUIT FILL. MINIMUM CONDUIT SIZE SHALL BE 2 1/2". ABOVE GROUND CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL DOWN TO BELOW THE FIRST ELBOW BELOW GRADE. UNDERGROUND CONDUITS BETWEEN THE JUNCTION BOX AND WETWELL SHALL BE SCHEDULE 80 PVC ENCASED WITH A MINIMUM OF 2" OF CONCRETE. REFER TO NEC 501.10(A)(1)(a) AND THE EXCEPTION FOR THE INSTALLATION OF THESE CONDUITS. ANALOG SIGNAL CONDUITS SHALL BE PVC COATED RIGID GALVANIZED STEEL ABOVE AND BELOW GRADE. ALL OTHER UNDERGROUND CONDUITS SHALL BE SCHEDULE 80 PVC.
2. INSTALL AN ELECTRICAL GROUNDING SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AS WELL AS LOCAL CODES AND ORDINANCES. INSTALL AN UNDERGROUND PERIMETER CABLE GROUNDING SYSTEM WITH CONNECTIONS TO AT LEAST WET WELL COVER, VALVE VAULT COVER, CONTROL PANELS, GENERATOR, UTILITY COMPANY TRANSFORMER, AUTOMATIC TRANSFER SWITCH, AND ANTENNA MANUAL DISCONNECT SWITCH, AND METAL FENCE.
3. THE STATION NAME, PCU I.D. NUMBER, AND ADDRESS SHALL BE AFFIXED TO THE FRONT OF THE METER CABINET.
4. ALL MOUNTING HARDWARE & BRACKETS SHALL BE 316 STAINLESS STEEL.
5. COAT PORTIONS OF ALUMINUM IN CONTACT WITH CONCRETE WITH COAL TAR EPOXY.



FRONT VIEW



REAR VIEW

ELECTRICAL SERVICE AND CONTROL PANEL DETAIL 1

NTS

E-1

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 HAL
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 6/9/2020
 SAVED:

DESIGNED	HAL DIETRICK			
DRAWN	HAL DIETRICK			
CHECKED	MICHAEL CLARK			
LTR.	DATE	REVISIONS	BY	APPRD.

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**CRANE CREEK M-1 CANAL FLOW RESTORATION
 ST. JOHN'S RIVER WATER MANAGEMENT DISTRICT**

WEIR STATION ELECTRICAL DETAILS

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 P.E. # 76416

PROJECT NO:	19750-066-01	DATE:	JUN 2020
INDEX NO:		DWG NO:	E5-3