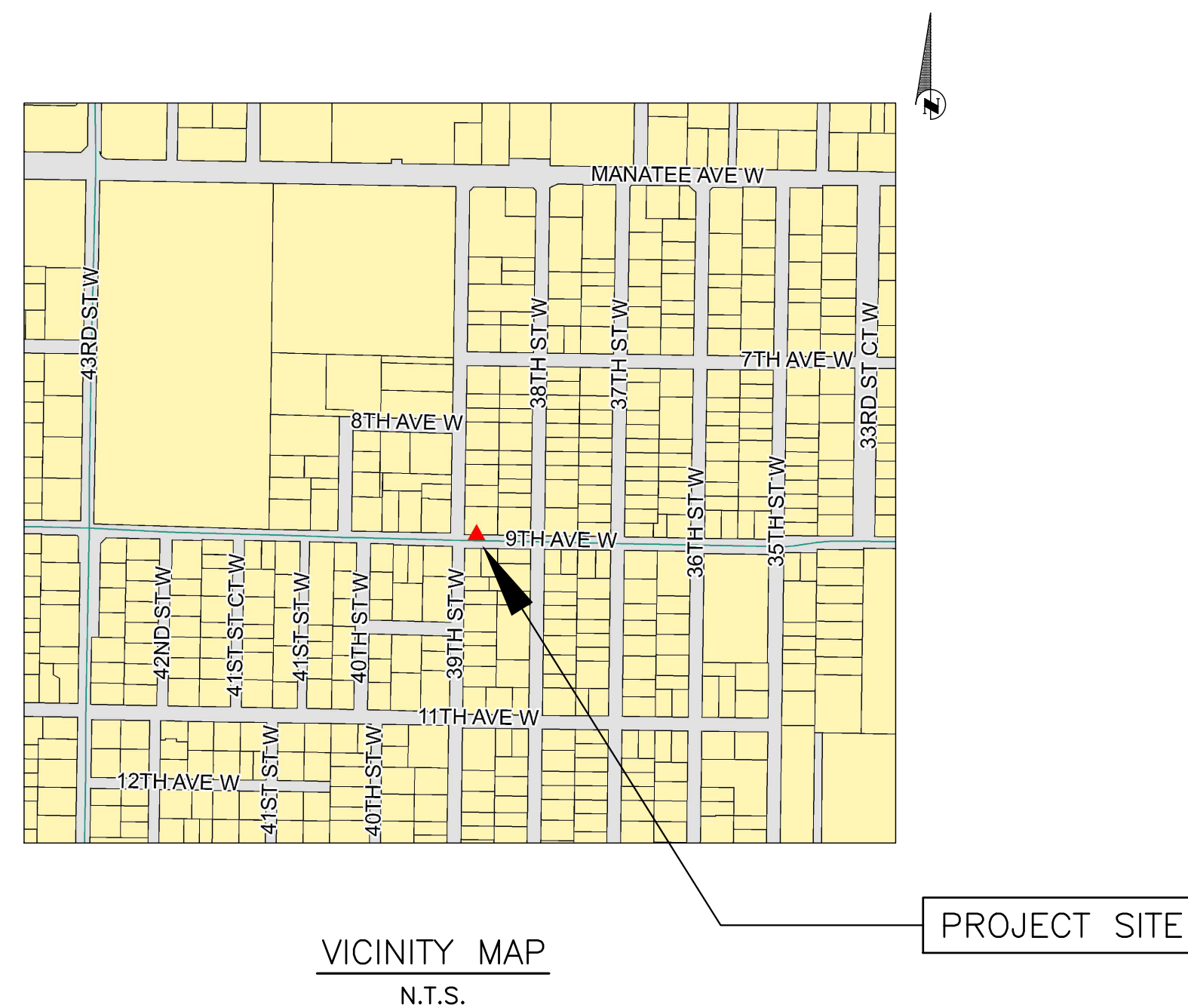




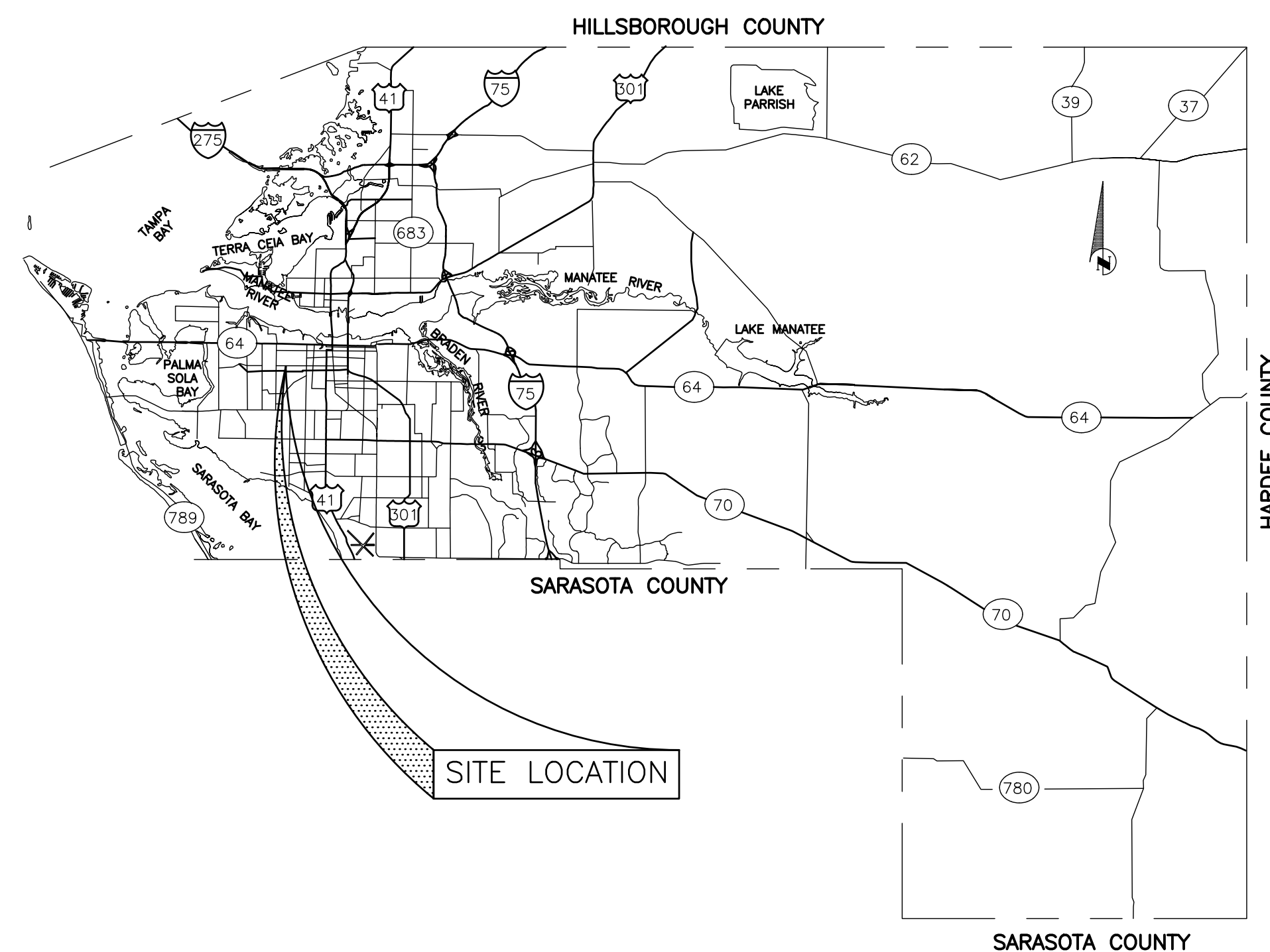
SATELLITE STATION R&R 2-D (RTU 236) REHABILITATION & EMERG. BACKUP PUMP 402-5114880

FEBRUARY 2017



PROJECT DESCRIPTION

FURNISH AND INSTALL A EMERGENCY BACK-UP PUMP AND REHABILITATE SEWAGE LIFT STATIONS TO REDUCE RISK TO PUBLIC HEALTH AND ENVIRONMENTAL POLLUTION. THE WORK SHALL CONSIST OF, BUT NOT LIMITED TO, WET WELL CLEANING, THE REPLACEMENT OF DISCHARGE PIPING, FITTINGS, VALVES, SWING CHECK VALVES, GUIDE RAILS, PIPE BRACINGS, BASE ELLS, AND/OR MOUNTING PLATES. WET WELL LINER MAY NEED TO BE INSTALLED, REPAIRED OR REPLACED. SEE INDIVIDUAL PLAN SHEETS FOR SPECIFIC REHABILITATION AND INSTALLATIONS REQUIREMENTS FOR THE LIFT STATION.



100% PLANS

NO.	INDEX OF SHEETS
1.	COVER
2.	NOTES & LEGEND
3.	EXISTING SITE PLAN
4.	PROPOSED SITE PLAN
5.	REHABILITATION
6.-7.	DETAILS
8.	EROSION CONTROL



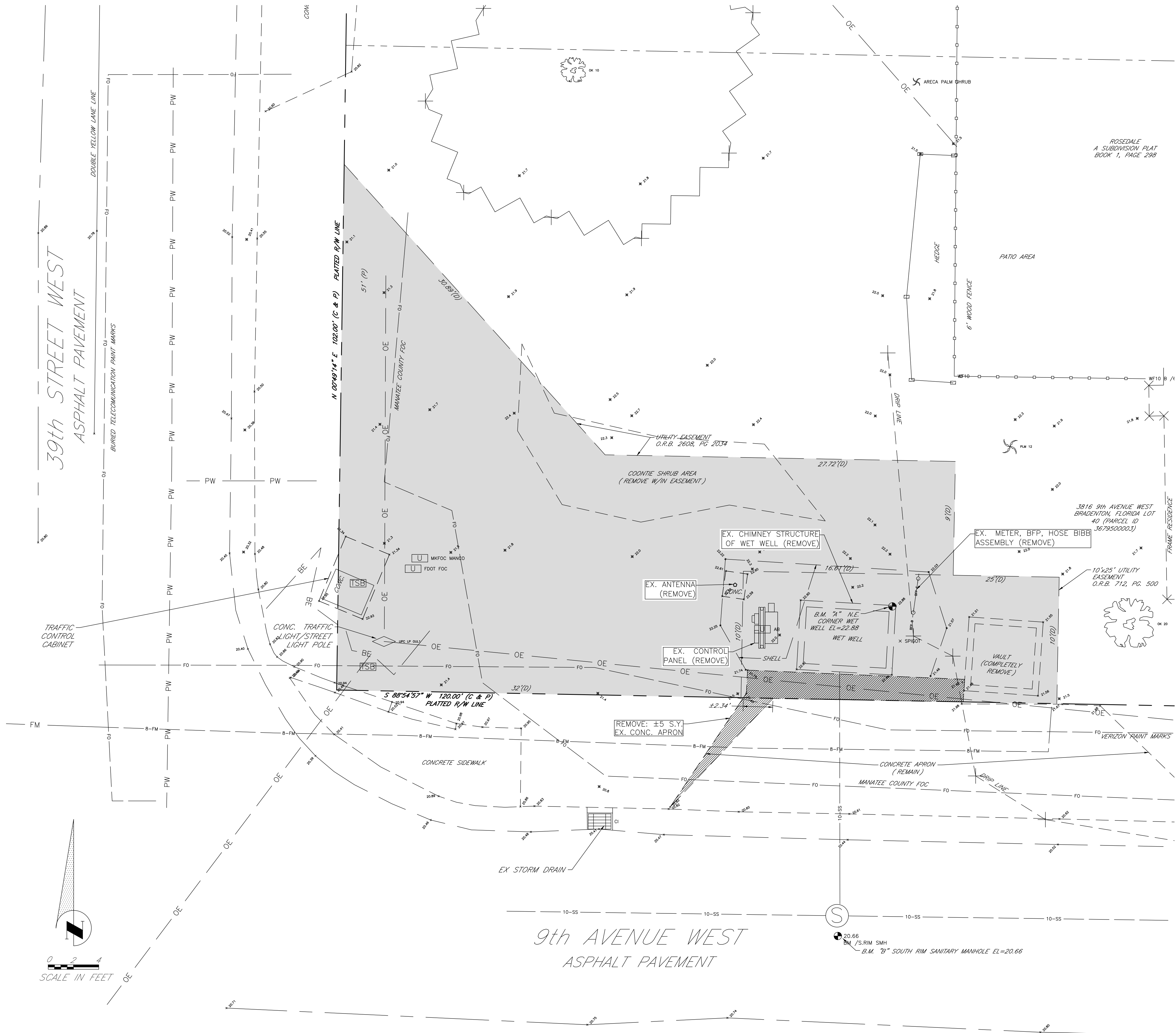
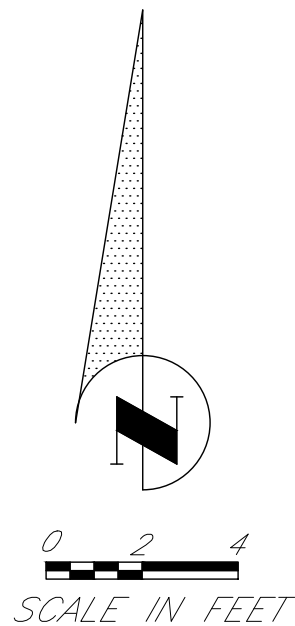
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PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

SATELLITE STATION R&R 2-D (RTU 236)
REHABILITATION & EMERG. BACKUP PUMP
COVER SHEET

NO.	REVISION DESCRIPTION	BY	DATE
1.	COVER		
2.	NOTES & LEGEND		
3.	EXISTING SITE PLAN		
4.	PROPOSED SITE PLAN		
5.	REHABILITATION		
6.-7.	DETAILS		
8.	EROSION CONTROL		
PROJECT #	402-5114880		
SURVEY #	00-43420		
SEC./TWN./RGE	28/34/17		
SCALE	1" = 4'		
	BY	DATE	
SURVEYED	ZNS	10/13	
DESIGNED	JSS	8/16	
DRAWN	JSS	8/16	
CHECKED	-	-	
J. SHEPHERD, P.E.			
FLORIDA LICENSE NO. 60923			
STATE OF FLORIDA			
PROFESSIONAL ENGINEER			
Signed			
SHEET 1 OF 8			



- SURVEYOR'S NOTES:**
1. BEARINGS ARE BASED ON THE NORTH RIGHT OF WAY LINE OF 9th AVENUE WEST HAVING A CALCULATED BEARING OF S 88°54'57\"/>
- BENCH MARKS:**
- BM "A" SQUARE CUT IN N.E. CORNER OF HATCH COVER
EL. = 22.88' NGVD 1929 (EL. = 21.89' NAVD 1988)
- BM "B" SOUTH RIM OF SANITARY SEWER MANHOLE
EL. = 20.66' NGVD 1929 (EL. = 19.67' NAVD 1988)
- NOTE: NGVD 1929 CONVERTED TO NAVD 1988 BY SUBTRACTING 0.99' AS DICTATED BY NGS DATA SHEETS IN THIS AREA.

- CONSTRUCTION NOTES:**
- 1) CONTRACTOR IS RESPONSIBLE FOR ALL FITTINGS REQUIRED TO CONNECT THE PUMP TO THE SUCTION/DISCHARGE PIPING. FITTING SHALL BE INCLUDED IN PUMP COST.
 - 2) CONTRACTOR RESPONSIBLE TO PULL AND TERMINATE REMOTE SENSOR WIRING AT CONTROL PANEL. MANATEE COUNTY PERSONNEL TO MOUNT AND CONNECT TO PANEL. CONTRACTOR TO COORDINATE WITH MANATEE COUNTY PERSONNEL PRIOR TO AND DURING INSTALLATION OF REMOTE SENSOR.
 - 3) CONTRACTOR SHALL COORDINATE WITH PUMP VENDOR TO TEST AND CONFIGURE THE PUMP OPERATION AS SUBMITTED IN THE SHOP DRAWING.
 - 4) CONTRACTOR SHALL HIRE A LICENSED SURVEYOR TO STAKE OUT EXISTING EASEMENTS BOUNDARIES PRIOR TO COMMENCING WORK. ALL EQUIPMENT, PIPING, ETC. SHALL BE WITHIN THE EASEMENTS. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER & MANATEE COUNTY.

SHADED AREA ILLUSTRATES EXTENT OF EXISTING UTILITY EASEMENTS



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

SATELLITE STATION R&R 2-D (RTU 236)

REHABILITATION & EMERG. BACKUP PUMP

EXISTING SITE PLAN

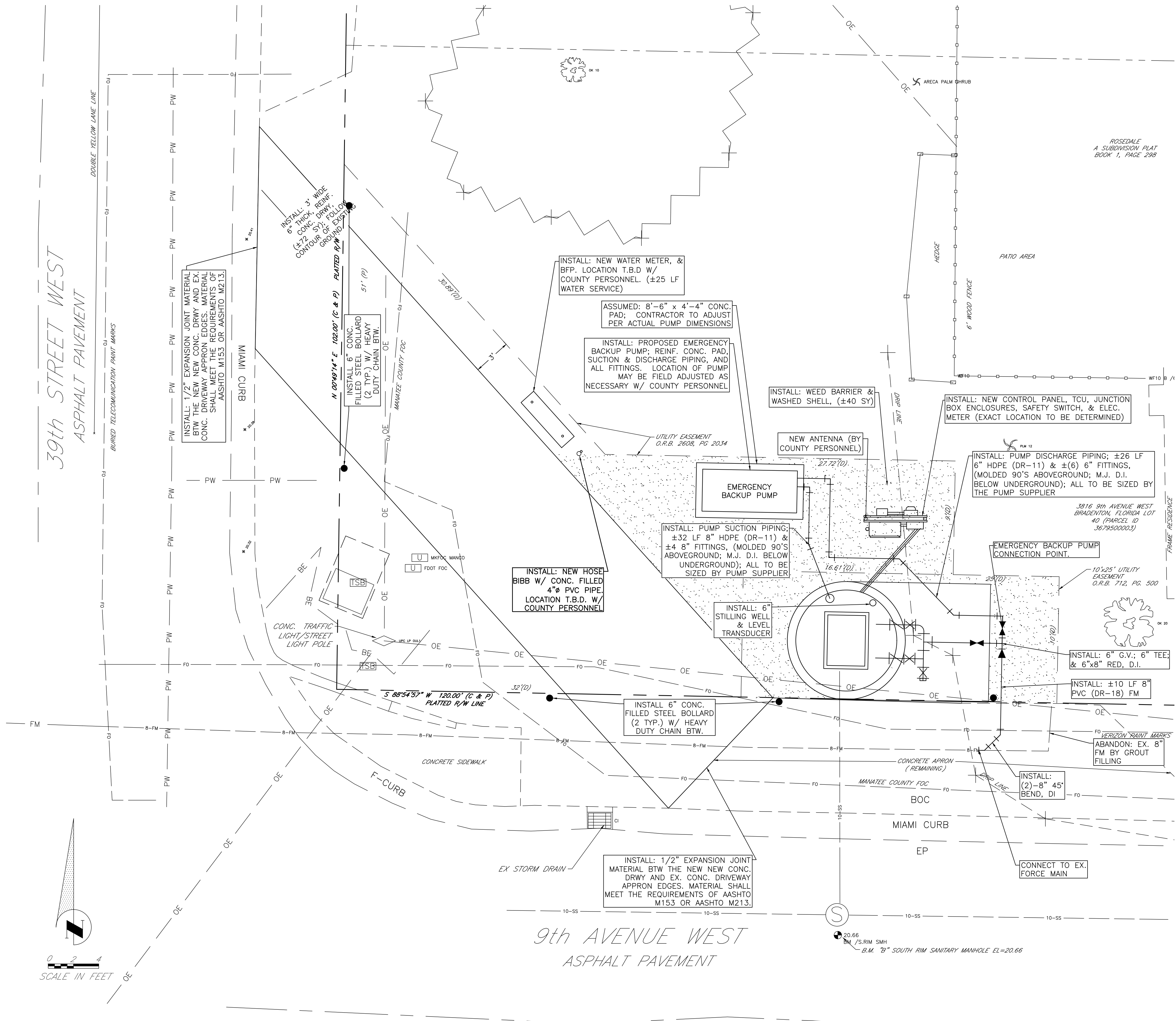
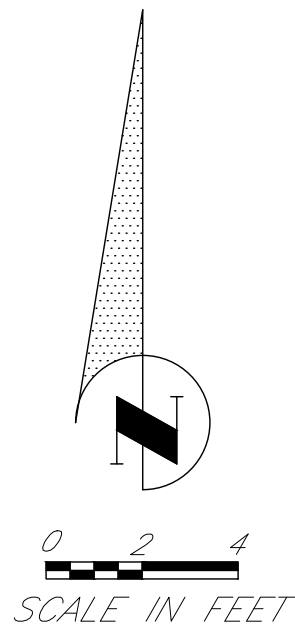
NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	402-5114880
SURVEY #	00-43420
SEC./TWN./RGE	28/34/17
VERT. SCALE	-
HORZ. SCALE	1" = 4'
SURVEYED	BY ZNS DATE 10/13
DESIGNED	JSS 8/16
DRAWN	JSS 8/16
CHECKED	- -

J. SHAW, P.E.
JOHN S. SHAW
LICENSE
No. 60923
STATE OF FLORIDA
PROFESSIONAL ENGINEER

SHEET 3 OF 8

COPYRIGHT 2010 MANATEE COUNTY GOVERNMENT | S:\PWO_Engineering_Share\Util_Eng_Design\PROJ\3-SAN_SWR_Proj\Sun_Swr - LS Upgrades\LS 2-D (R&R - Backup Pump)\DWG\3-Ex_Site_Plan_1/19/2017 9:34 AM Shea Shoun, 1:1, ANSI (full bleed D (34.00 x 22.00 inches)



SURVEYOR'S NOTES:

1. BEARINGS ARE BASED ON THE NORTH RIGHT OF WAY LINE OF 9th AVENUE WEST HAVING A CALCULATED BEARING OF S 88°54'57" W, AND ARE RELATED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, (WEST ZONE) NAD 83/90 DERIVED FROM CONTROL MONUMENT "MANATEE G. STROOP CCORS" (DL7626).
2. THE PROPERTY LIES WITHIN FLOOD ZONE "C" AS SHOWN ON MANATEE COUNTY FLOOD INSURANCE RATE MAP PANEL No. 120153 0326 B, DATED MARCH 15, 1984, F.I.R.M. MAP INDEX REVISED JUNE 30, 1999.
3. ELEVATIONS ARE BASED ON N.G.V.D. 1929 DATUM, MANATEE COUNTY BENCH MARK "SQUID 2009" (PID BBC93), PUBLISHED ELEVATION OF 13.89'.

BENCH MARKS:

- BM "A" SQUARE CUT IN N.E. CORNER OF HATCH COVER
EL. = 22.88' NGVD 1929 (EL. = 21.89' NAVD 1988)
- BM "B" SOUTH RIM OF SANITARY SEWER MANHOLE
EL. = 20.66' NGVD 1929 (EL. = 19.67' NAVD 1988)
- NOTE: NGVD 1929 CONVERTED TO NAVD 1988 BY SUBTRACTING 0.99' AS DICTATED BY NGS DATA SHEETS IN THIS AREA.

CONSTRUCTION NOTES:

- 1) CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE SIZING, FURNISHING, AND INSTALLING AN EMERGENCY BACKUP PUMP; THIS SHALL INCLUDE ALL PIPING AND FITTINGS OF THE SUCTION AND DISCHARGE SIDE OF THE PUMP FROM THE WET WELL AND TO THE 6" GATE VALVE (CONNECTION POINT) TO ENSURE THE MOST EFFICIENT DESIGN.
- 2) CONTRACTOR RESPONSIBLE TO PULL AND TERMINATE REMOTE SENSOR WIRING AT CONTROL PANEL. MANATEE COUNTY PERSONNEL TO MOUNT AND CONNECT TO PANEL. CONTRACTOR TO COORDINATE WITH MANATEE COUNTY PERSONNEL PRIOR TO AND DURING INSTALLATION OF REMOTE SENSOR.
- 3) CONTRACTOR SHALL COORDINATE WITH PUMP VENDOR TO TEST AND CONFIGURE THE PUMP OPERATION AS SUBMITTED IN THE SHOP DRAWING.
- 4) CONTRACTOR SHALL HIRE A LICENSED SURVEYOR TO STAKE OUT EXISTING EASEMENTS BOUNDARIES PRIOR TO COMMENCING WORK. ALL EQUIPMENT, PIPING, ETC. SHALL BE WITHIN THE EASEMENTS. NO WORK SHALL BE PERFORMED ON PRIVATE PROPERTY WITHOUT WRITTEN AUTHORIZATION FROM THE OWNER & MANATEE COUNTY.
- 5) THE SUCTION AND DISCHARGE PIPING SHOWN IS ONE POSSIBILITY FOR INSTALLATION. CONTRACTOR SHALL COORDINATE WITH COUNTY PERSONNEL PRIOR TO INSTALLATION. ALL PIPING AND CONDUIT INSTALLED SHALL BE SHOWN ON THE RECORD DRAWINGS.



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

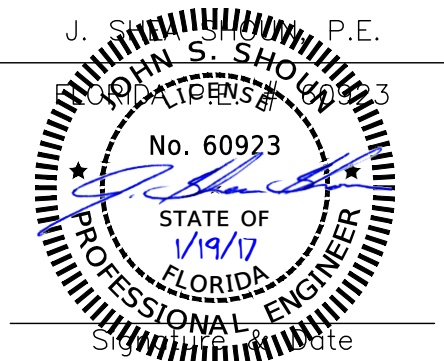
SATELLITE STATION R&R 2-D (RTU 236)
REHABILITATION & EMERG. BACKUP PUMP

PROPOSED SITE PLAN

NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	402-5114880
SURVEY #	00-43420
SEC./TWN./RGE	28/34/17
VERT. SCALE	-
HORZ. SCALE	1" = 4'

SURVEYED	ZNS	10/13
DESIGNED	JSS	8/16
DRAWN	JSS	8/16
CHECKED	-	-



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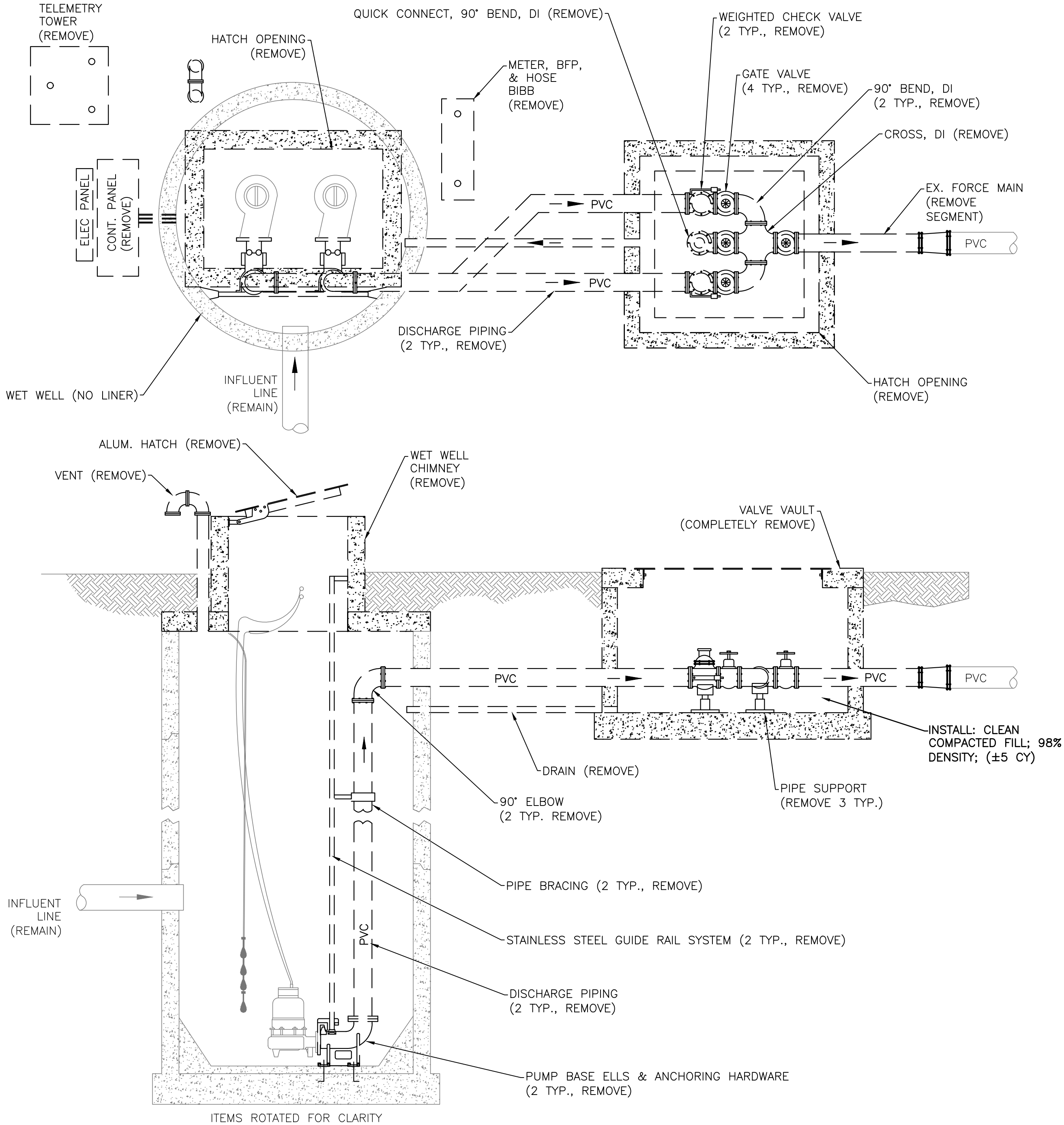
EXISTING

NOTES:

1. THE WET WELL AND VALVE VAULT CONFIGURATION SHOWN ON THESE GRAPHICS IS FOR IDENTIFICATION OF COMPONENTS TO BE REMOVED, RELOCATED, AND/OR INSTALLED. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, CONFIGURATION, ETC. FOR ACCURACY AND COORDINATE ALL INSTALLATIONS WITH COUNTY PERSONNEL.
2. THE CONTRACTOR/BIDDER SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS.
3. THE CONTRACTOR/BIDDER SHALL DETERMINE THE DISCHARGE PIPING ELEVATIONS DURING THE SITE VISITS.
4. REMOVAL AND REINSTALLATION OF THE PUMPS DURING THE REHABILITATION SHALL BE DONE BY MANATEE COUNTY PERSONNEL IN COORDINATION WITH THE CONTRACTOR
5. BY-PASS PUMPING IS THE RESPONSIBILITY OF THE CONTRACTOR.
6. MANATEE COUNTY GOVERNMENT WILL PROVIDE ONE (1) LIFT STATION SHUT-DOWN AT NO COST TO THE CONTRACTOR. ADDITIONAL SHUT-DOWNS WILL COST THE CONTRACTOR \$3,500 EACH, IF NEEDED.
7. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING ANY DAMAGED LANDSCAPING TO EXISTING CONDITIONS.
8. THE WORK AREA IS LIMITED TO THE LIFT STATION SITE.

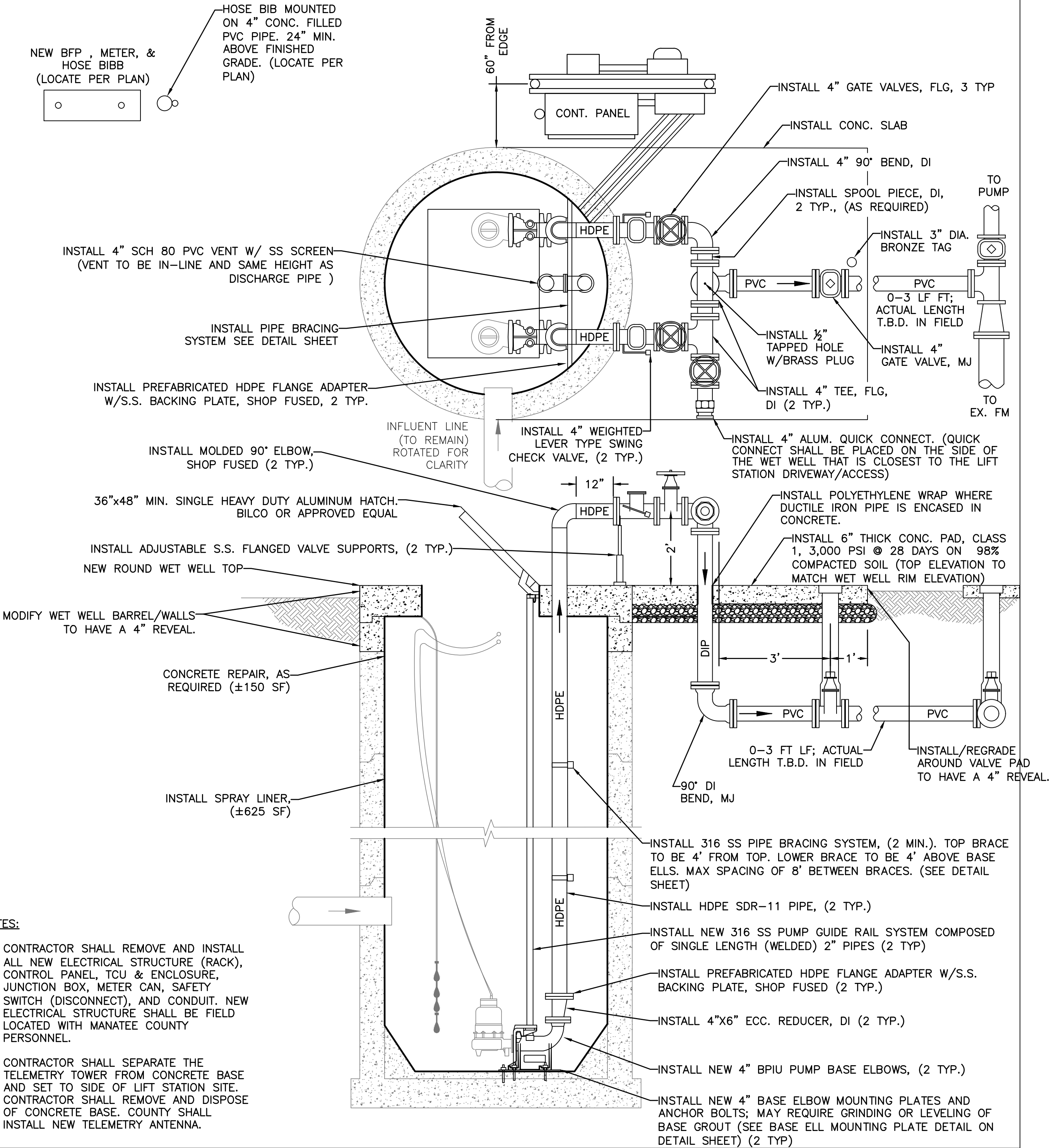
RADIO TELEMETRY UNIT (RTU)	236
L.S. DESIGN CAPACITY GPM/TDH	500 / 45
DISCHARGE PIPING DIAMETER	6"
WET WELL DIAMETER	8'
BOTTOM SLAB ELEVATION	-0.40
TOP ELEVATION	22.90*
VALVE VAULT HATCH ELEVATION	21.50*
INFLUENT INVERT ELEVATION	7.20
INFLUENT PIPE SIZE	10"
FORCE MAIN DIAMETER	8"
WET WELL VENT PIPE	PVC

INFORMATION TAKEN FROM SURVEY PROVIDED BY ZNS*, LIFT STATION DATA FILE (LSINFO.XLS 2016) & RECORD DRAWINGS



PROPOSED

INSTALL FIBERGLASS W.W. LINER	NO
APPLY SPRAY LINER W.W. LINER	YES
INSTALL STILLING WELL	YES
INSTALL GATE VALVE	YES
NEW HDPE PIPING IN W.W.	YES, 6"
NEW BASE ELL	4" BPIU-14
MODIFY TOP OF WET WELL:	YES
RAISE TOP OF VALVE VAULT:	NA
REPLACE WET WELL VENT PIPE	YES
UPGRADE BFP TO STANDARD, US-15	YES
RELOCATE WATER SERVICE/BFP	YES



NOTES:

1. CONTRACTOR SHALL REMOVE AND INSTALL ALL NEW ELECTRICAL STRUCTURE (RACK), CONTROL PANEL, TCU & ENCLOSURE, JUNCTION BOX, METER CAN, SAFETY SWITCH (DISCONNECT), AND CONDUIT. NEW ELECTRICAL STRUCTURE SHALL BE FIELD LOCATED WITH MANATEE COUNTY PERSONNEL.
2. CONTRACTOR SHALL SEPARATE THE TELEMETRY TOWER FROM CONCRETE BASE AND SET TO SIDE OF LIFT STATION SITE. CONTRACTOR SHALL REMOVE AND DISPOSE OF CONCRETE BASE. COUNTY SHALL INSTALL NEW TELEMETRY ANTENNA.

GENERAL NOTES:

1. CONTRACTOR SHALL NOT BACKFILL OVER ELECTROFUSED COUPLINGS UNTIL INSPECTOR HAS VISUALLY CHECKED IT FOR LEAKS DURING PUMP STARTUP OR PRESSURE TEST AS DIRECTED BY THE COUNTY.
2. ALL MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST MANATEE COUNTY PUBLIC WORKS UTILITY STANDARDS.
3. THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL BE NOT MORE THAT 1/4" UNDER A TEN FOOT (10') STRAIGHTEDGE, NOT MORE THAN 1/8" ON A FIVE FOOT (5') TRANSVERSE SECTION. THE EDGE OF THE CONCRETE PAD SHALL BE CAREFULLY FINISHED WITH A EDGING TOOL HAVING A RADIUS OF 1/2".
4. EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE CONC. PAD AND THE WET WELL SHALL BE 1/2" MATERIAL AND SHALL MEET THE REQUIREMENTS OF AASHTO M153 OR AASHTO M213.
5. THE EXTERIOR SURFACES OF THE CONCRETE WET WELL AND VALVE PAD EXPOSED ABOVE GRADE SHALL BE COATED WITH AT LEAST TWO COATS OF H & C SILICONE ACRYLIC CONCRETE STAIN, PATIO GREEN, MANUFACTURED BY FLR PAINTS. THE ABOVE GROUND VALVE ASSEMBLY & PIPING SHALL BE PAINTED, RUSTOLEUM 7538 HUNTER GREEN. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT OVER-SPRAY OF PAINT ONTO THE CONCRETE SLAB.
6. ALL PAINTING SHALL BE INCLUDED IN THE BID ITEM, MISCELLANEOUS WORK.



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

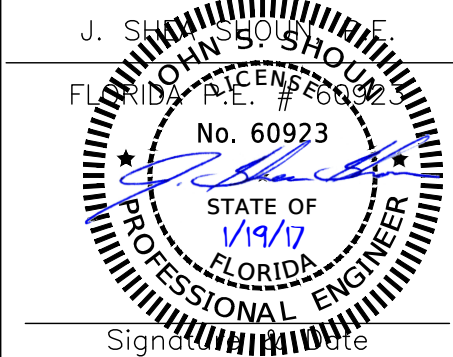
SATELLITE STATION R&R 2-D (RTU 236)
REHABILITATION & EMERG. BACKUP PUMP

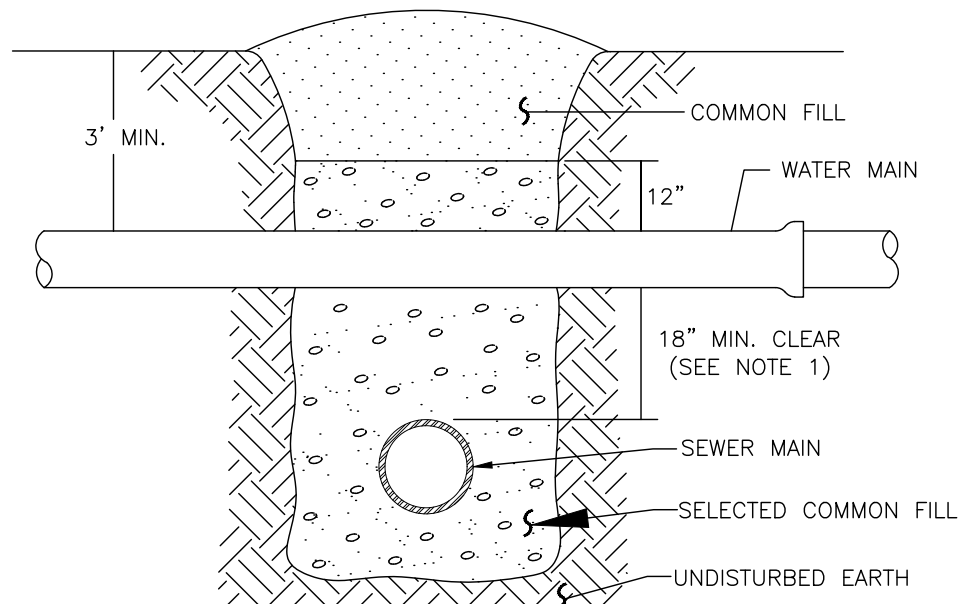
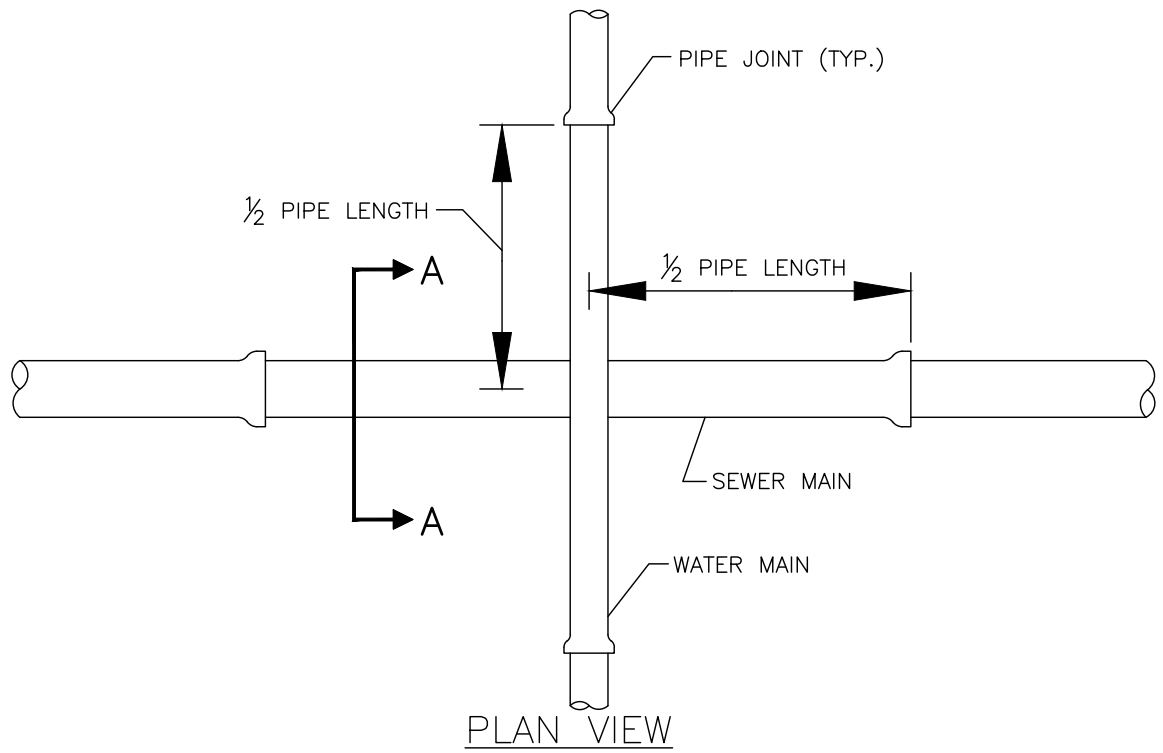
SITE PLAN

REVISION	DESCRIPTION	BY	DATE
NO.			

PROJECT #	402-5114880
SURVEY #	00-43420
SEC./TWN./RGE	28/34/17
VERT. SCALE	-
HORIZ. SCALE	1" = 4'

	BY	DATE
SURVEYED	ZNS	10/13
DESIGNED	JSS	8/16
DRAWN	JSS	8/16
CHECKED	-	-





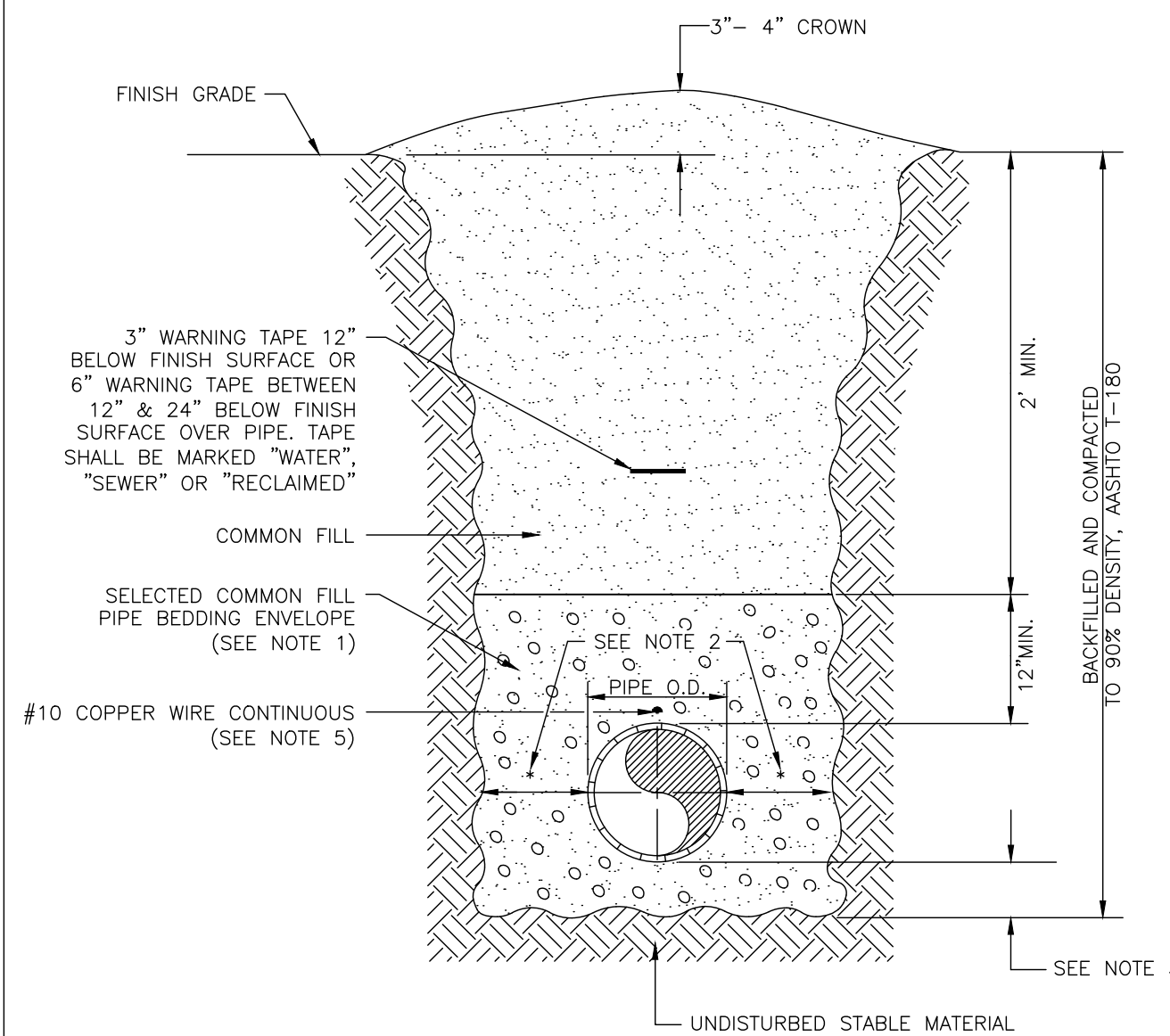
NOTES:

- CLEARANCE MAY BE REDUCED TO 6" FOR GRAVITY SEWER WHERE WATER MAIN IS DUCTILE IRON OR 3" FOR FORCE MAIN WHERE FORCE MAIN IS ENCASED A MINIMUM OF 10' EACH SIDE OF CROSSING.
- WHERE NO ENCASEMENT IS REQUIRED, PIPE SECTIONS SHALL BE FULL-LENGTH AND SHALL BE ADJUSTED HORIZONTALLY SO THAT THE CROSSING IS AT EACH PIPE SECTION'S MIDPOINT REGARDLESS OF THE VERTICAL CLEARANCE.
- REFER TO THE **JACK & BORE CROSSING** DETAIL FOR CASING AND SPACER REQUIREMENTS.

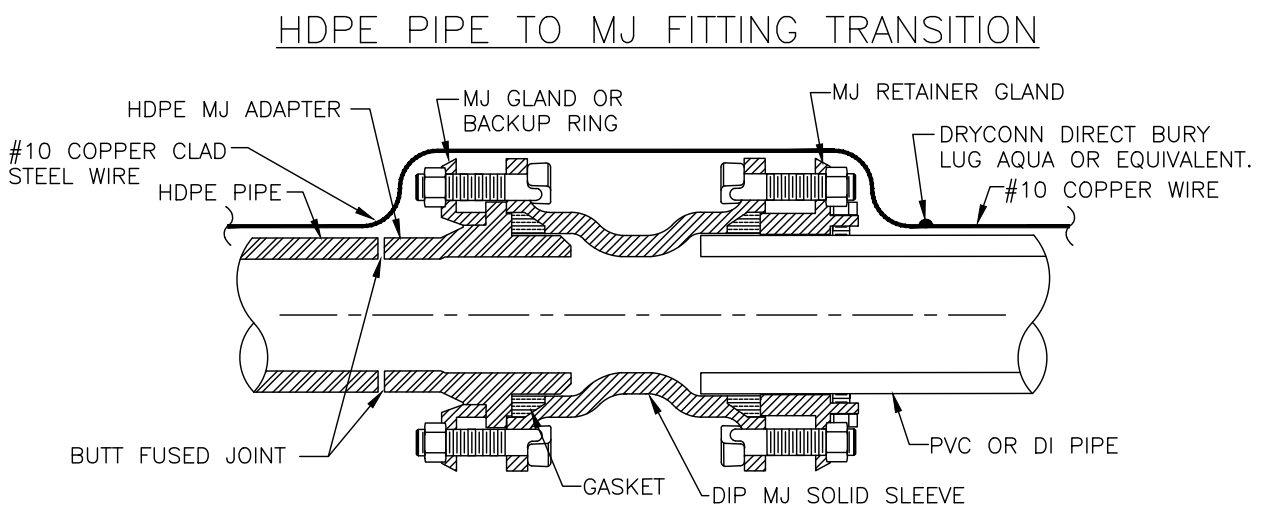
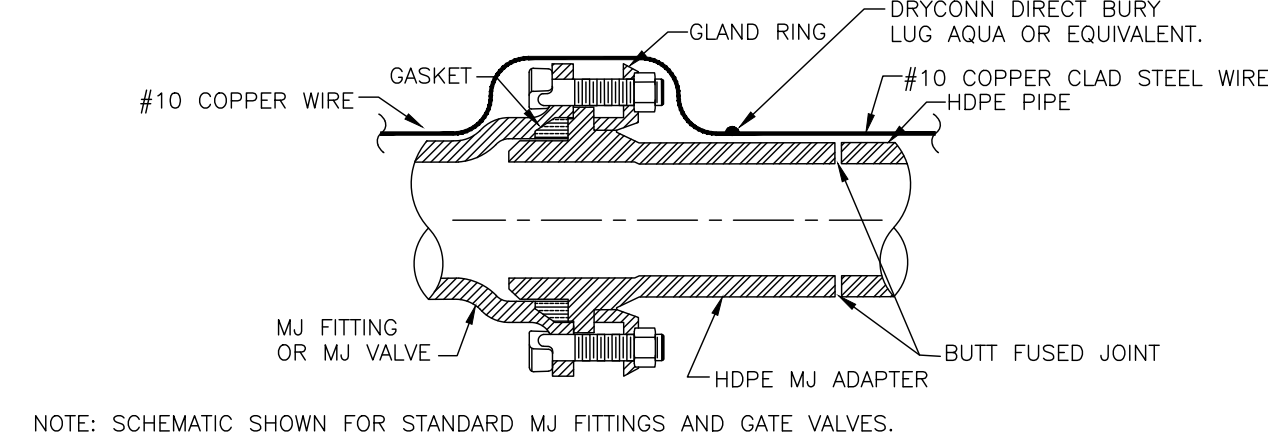
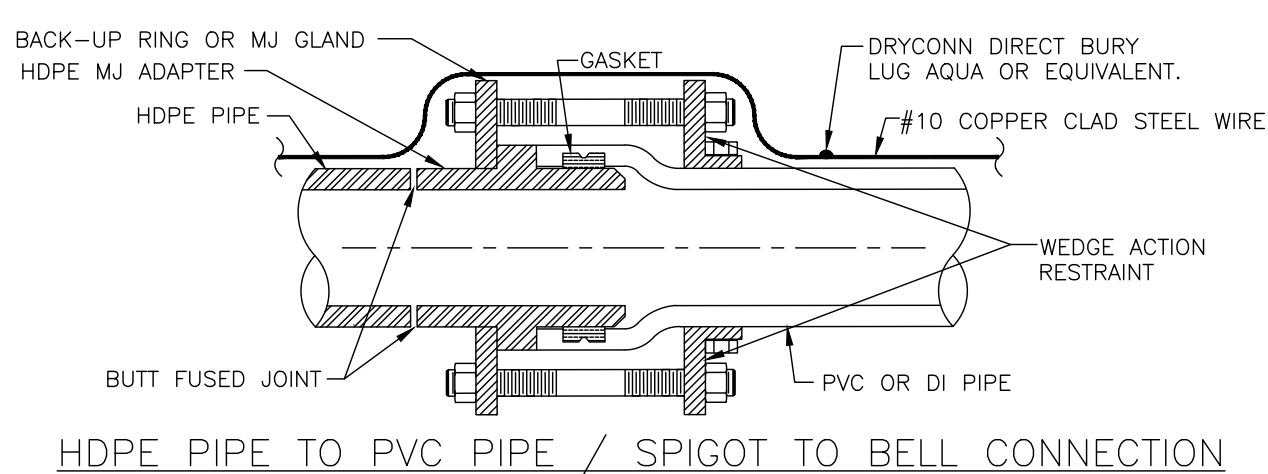
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL NEW WATER & SEWER LINE CROSSING	UG-2
REV. BY	DATE		

NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH UNIMPROVED SURFACE TYPE A-1 PIPE BEDDING	UG-11
REV. BY	DATE		

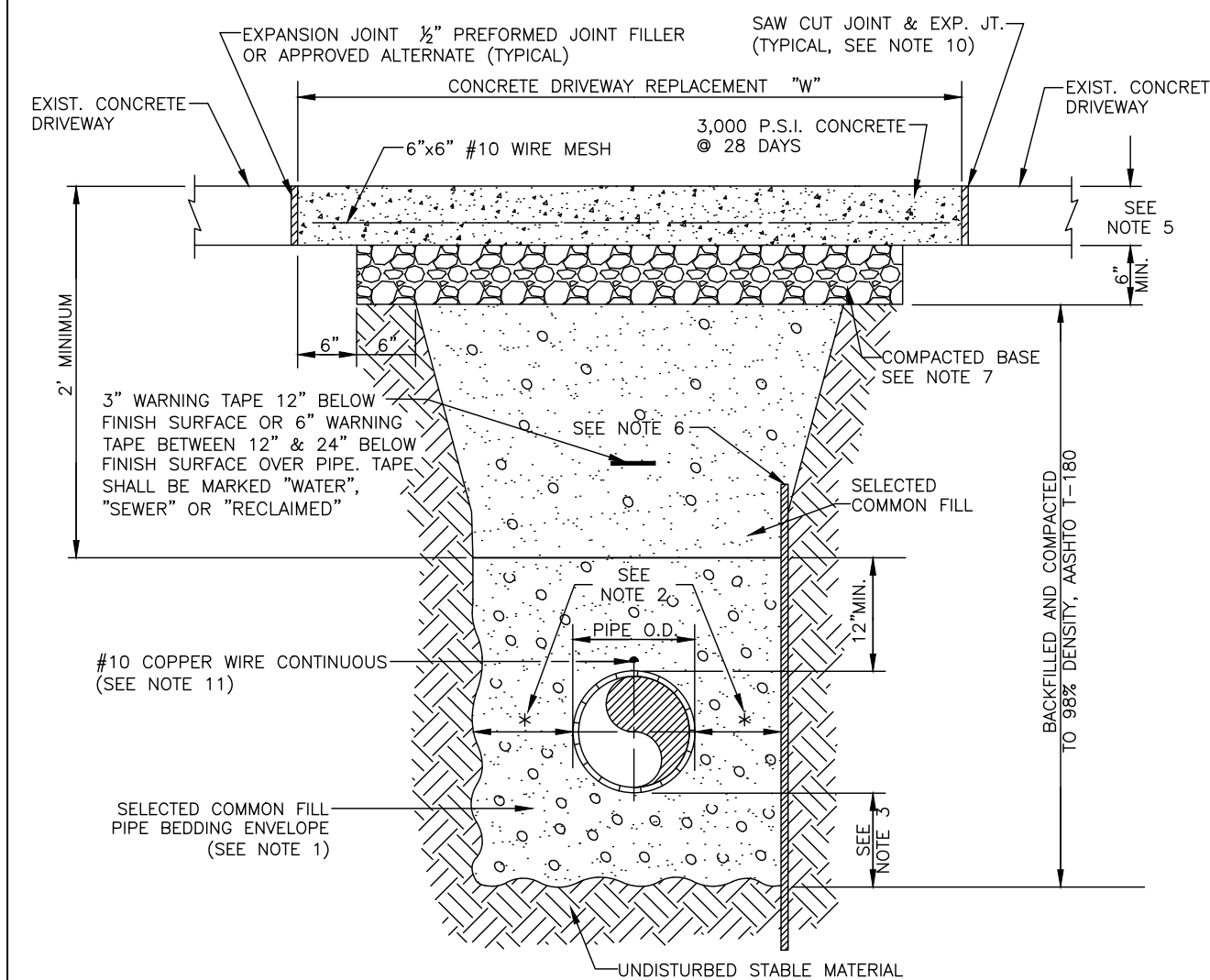


- NOTE: SCHEMATIC SHOWN FOR STANDARD MJ FITTINGS AND GATE VALVES.
- NOTE: ONE #10 GAUGE EXTRA HIGH STRENGTH COPPER CLAD STEEL TRACER WIRE SHALL BE PULLED AND SECURED TO THE PIPE FOR PIPELINES THAT ARE INSTALLED BY TRENCHLESS HORIZONTAL DIRECTIONAL DRILLING METHOD. IN NON-DIRECTIONAL BORE (TRENCHES AND BORE & JACK) APPLICATIONS, A #10 GAUGE SOLID INSULATED COPPER WIRE SHALL BE ATTACHED TO THE PIPE. TRACER WIRES SHALL HAVE A MINIMUM 30-MILS OF POLYETHYLENE INSULATION.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		HDPE TO PVC OR DI PIPE ADAPTER	UG-6
REV. BY	DATE		

NOTES:

- USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
- PROVIDE ADEQUATE CLEARANCE TO PLACE AND COMPACT STAGE 1 BEDDING MATERIAL IN TRENCH AREA BELOW PIPE SPRINGLINE. PIPE EMBEDMENT MUST BE COMPACTED OUT TO THE TRENCH WALL OR 2.5 TIMES THE PIPE OD, WHICHEVER IS LESS.
- TYPICALLY 4" TO 6".
- PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
- SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE.
- BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
- DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
- IF THE DRIVEWAY IS 12" OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (3/4" WIDE AND 1/2" DEEP) AFTER THE CONCRETE HAS SET.
- IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
- TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH CONCRETE DRIVEWAY SURFACE TYPE A-1 PIPE BEDDING	UG-14
REV. BY	DATE		

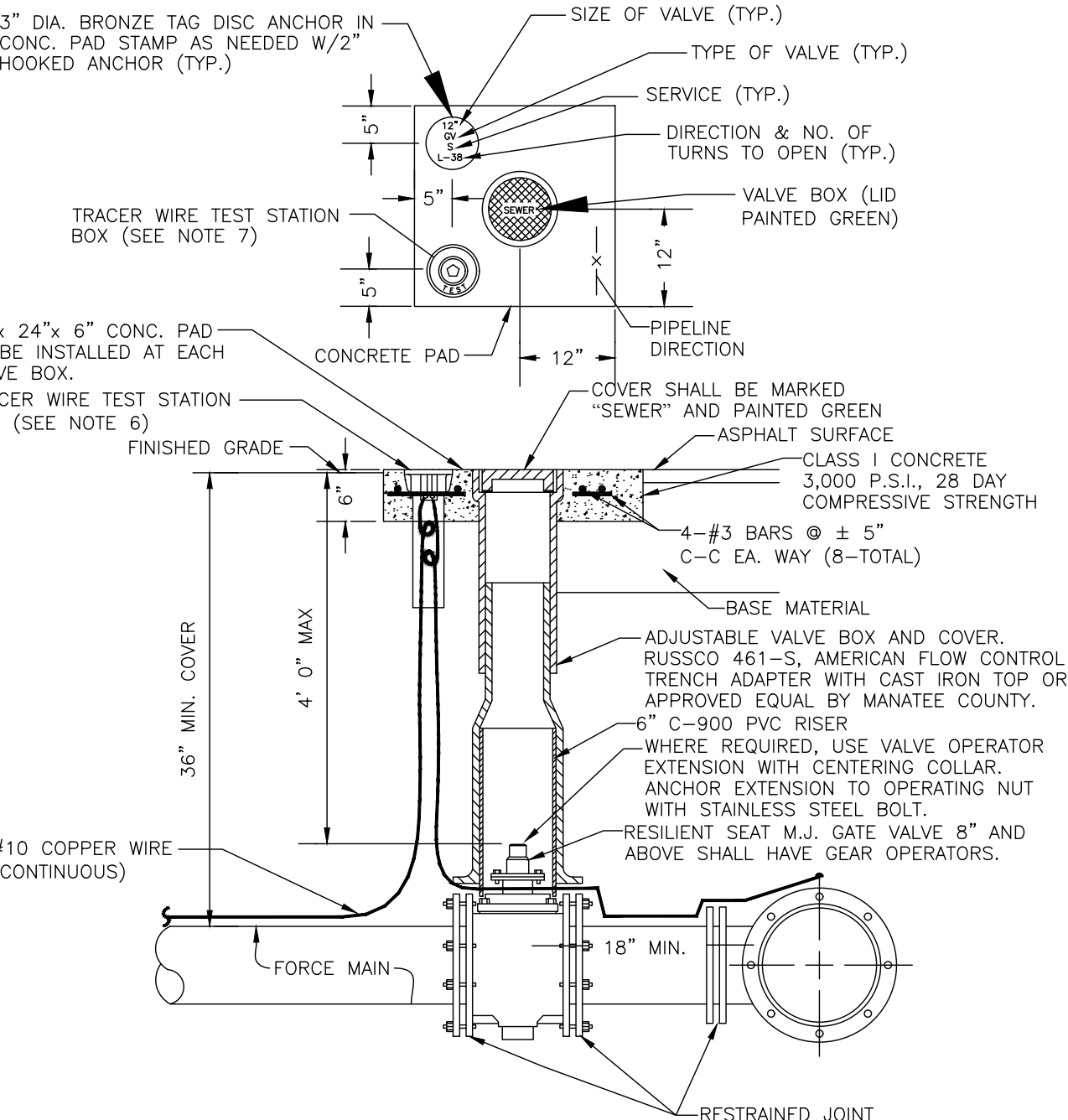
REQUIRED LENGTH OF RESTRAINED JOINT PIPE
FOR DR-18 PVC PIPE

MAIN PIPE SIZE	HORIZ. BENDS			TEES								REDUCERS				PLUGS & VALVES					
	90°	45°	22.5°	SIZE				LENGTH				SIZE					LENGTH				
24				X24	69	X20	132	X16	140	X12	38	X10	64	X20	64	X16	117	X12	158	214	
20		78	32	16	X20	141	X16	101	X12	53	X10	24	X8	1	X16	65	X12	115	X10	149	184
16		66	27	13	X16	111	X12	67	X10	41	X8	12	X6	1	X12	64	X10	77	X8	111	151
12		52	22	10	X12	80	X10	56	X8	31	X6	1	X4	1	X10	58	X8	62	X6	81	118
10		44	18	9	X10	63	X8	43	X6	7	X4	1	X2	1	X8	53	X6	41	X4	86	100
8		37	15	7	X8	49	X6	18	X4	1	X2	1	X1	1	X6	35	X4	20	X2	60	83
6		29	12	6	X6	29	X4	1	X2	1	X1	1	X0	1	X4	33	X2	1	X1	1	63
4		21	8	4	X4	12	X2	1	X1	1	X0	1	X0	1	X2	3	X1	1	X0	1	45

NOTES:

- RESTRAIN 11.25' BENDS 50% OF LENGTH FOR 22.5° BENDS.
- ALL VALVES AND FITTINGS SHALL BE RESTRAINED TO THE CONNECTING SECTIONS OF PIPE.
- ALL ISOLATION VALVES MUST BE PROPERLY ANCHORED OR RESTRAINED TO RESIST A 180 PSI TEST PRESSURE IN EITHER DIRECTION.
- PIPE SIZES ARE GIVEN IN INCHES.
- RESTRAINED PIPE LENGTHS ARE GIVEN IN FEET.
- LENGTHS SHOWN ARE FOR A TEST PRESSURE OF 180 PSI.
- THE RESTRAINED LENGTHS SHOWN IN THESE TABLES ARE BASED ON SOIL CLASSIFICATION SP WITH AWWA TYPE 3 TRENCH CONDITIONS, 180 PSI TEST PRESSURE, 3 FEET OF COVER AND 1.5 FACTOR OF SAFETY. ACTUAL BURY CONDITIONS MUST BE DETERMINED BY THE ENGINEER OF RECORD AND THE RESTRAINED LENGTHS MODIFIED ACCORDINGLY.
- RESTRAINED LENGTHS TO BE APPLIED TO PIPELINES PER DETAIL **RESTRAINED LENGTHS FOR PIPE**.

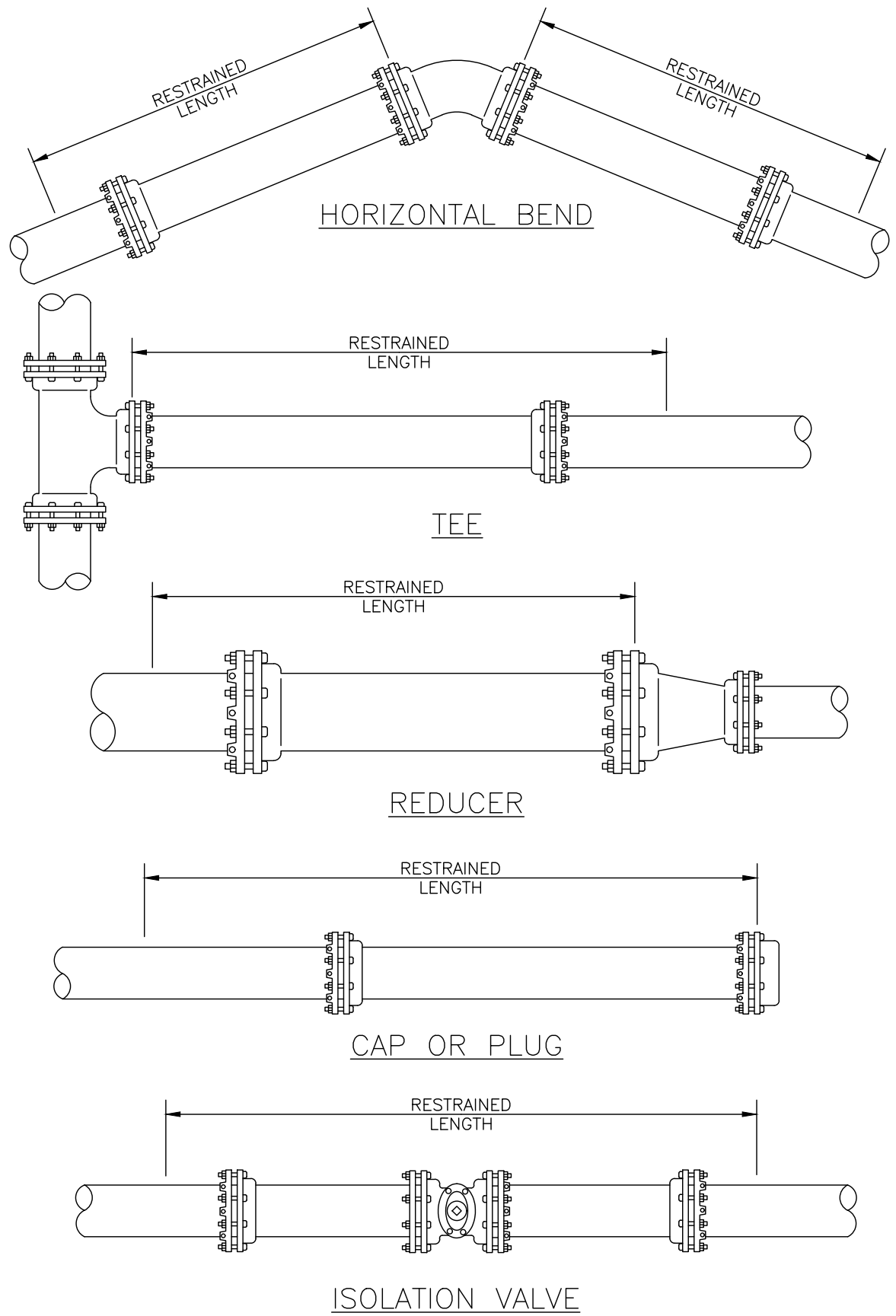
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PVC PIPE	UG-8
REV. BY	DATE		



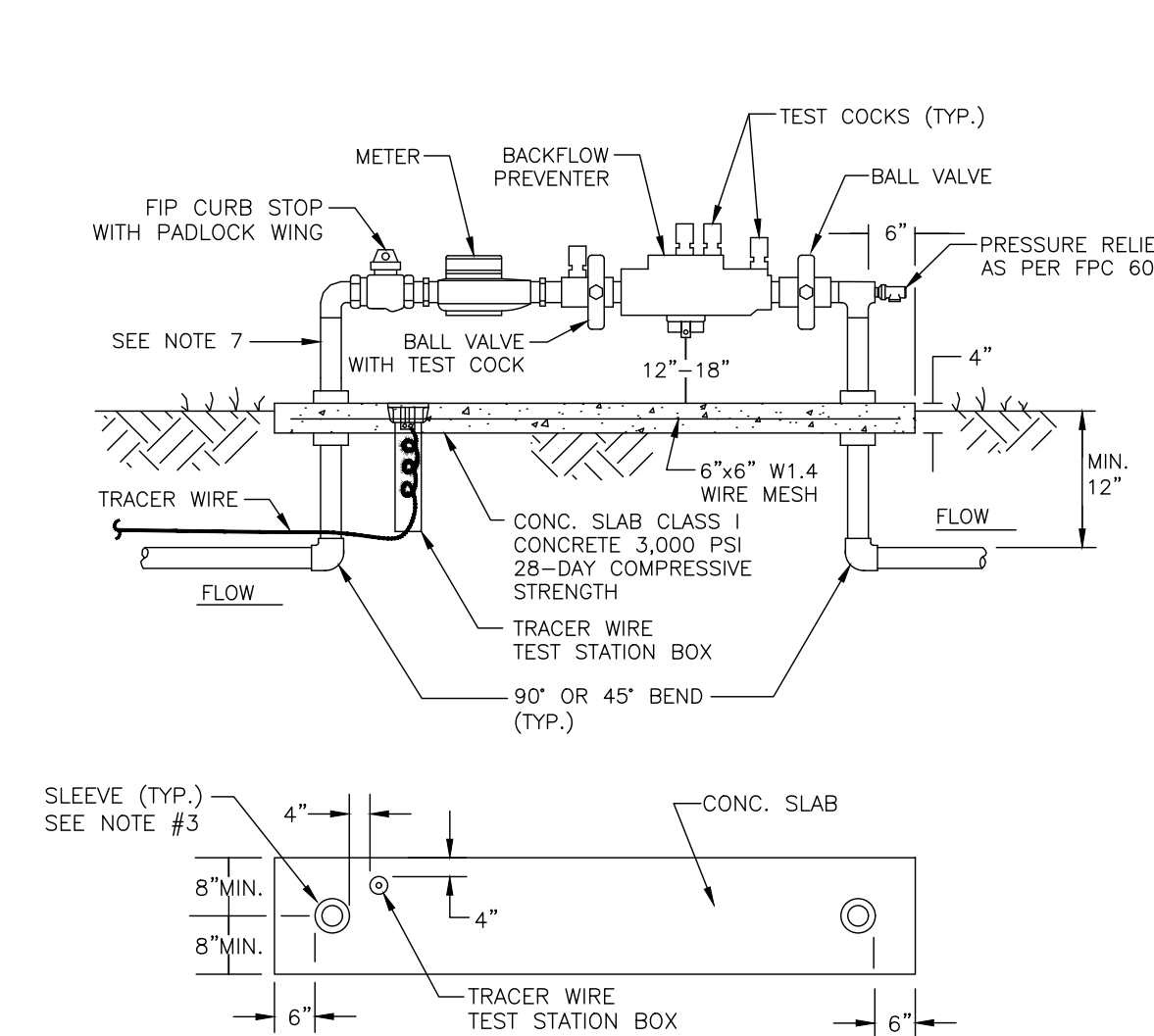
NOTES:

- "SV" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A GREEN DISC WITH "SV" AND A 1/8"x1" GALVANIZED STEEL SCREW IN THE FIELD.
- ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS ESTABLISHED IN THE FIELD.
- SEWER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS, CURBS OR GUTTERS.
- PRECAST CONCRETE PADS SHALL NOT BE USED.
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
- TEST BOX TO BE BINGHAM & TAYLOR P200NFG OR EQUAL FOR NORMAL YARD SERVICE, WHERE VALVE WILL BE IN STREET OR UNDER VEHICLE TRAFFIC, USE P525RD CENTERED IN SEPARATE CONCRETE PAD SIMILAR TO STANDARD VALVE BOX PAD.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		GATE VALVE, BOX, COVER AND TAG	US-13
REV. BY	DATE		



MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PIPE	UG-10
REV. BY	DATE		



NOTES:

- BACKFLOW DEVICE MUST BE INSTALLED DOWNSTREAM OF METER, AS CLOSE TO METER AS POSSIBLE.
- COPPER PIPE TYPE "K" OR BRASS PIPE MINIMUM SCHEDULE 40 SHALL BE USED TO A MINIMUM DEPTH OF 12" BELOW GRADE.
- PIPES PASSING THROUGH OR ENCASED IN CONCRETE MUST BE PROPERLY PROTECTED AND SLEEVED.
- THE SYSTEM MUST MEET ALL REQUIREMENTS OF THE FLORIDA PLUMBING CODE (LATEST EDITION) AND THE MANATEE COUNTY BACKFLOW PREVENTION ORDINANCE (LATEST EDITION).
- ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
- BACKFLOW PREVENTER SHALL BE TESTED AT THE TIME OF INSTALLATION.
- PRESSURE REDUCING VALVE REQUIRED UPSTREAM OF BACKFLOW IF SYSTEM PRESSURE EXCEEDS 80 PSI.
- 3" MINIMUM CLEARANCE FROM LANDSCAPING PLANTS TO EDGE OF CONCRETE SLAB AND CLEAR OPENING FOR ACCESS FROM STREET.
- THE WATER METER AND BACKFLOW PREVENTER SHALL BE LOCATED WITHIN THE LIFT STATION FENCING FOR PUBLICLY OWNED AND MAINTAINED LIFT STATIONS. THE ASSEMBLY FOR PRIVATE LIFT STATIONS SHALL BE LOCATED ADJACENT TO THE ROW LINE OR WITHIN AN EASEMENT OUTSIDE OF THE FENCING.
- SATELLITE PUMP STATIONS SHALL HAVE A 5/8-INCH WATER METER, WITH A 3/4-INCH REDUCED PRESSURE BACKFLOW PREVENTER. STATIONS WITH WETWELL DIAMETERS 12 FEET AND LARGER TO HAVE A 2-INCH METER AND RPZ BACKFLOW PREVENTER.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		WATER METER & BACKFLOW PREVENTER FOR PUMP STATIONS	US-16
REV. BY	DATE		



PUBLIC WORKS DEPARTMENT
ENGINEERING SERVICES
1022 26th Avenue East, Bradenton, FL 34208

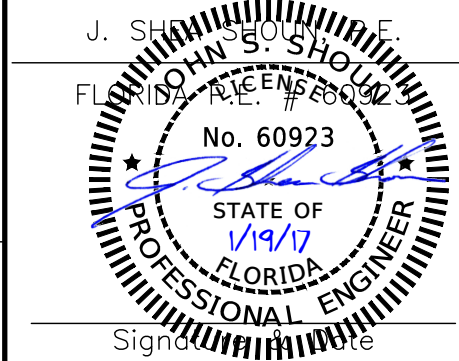
SATELLITE STATION R&R 2-D (RTU 236)

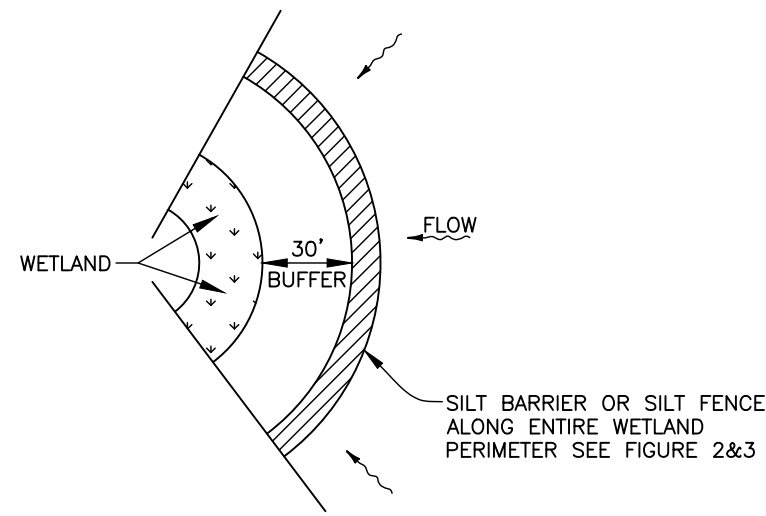
REHABILITATION & EMERG. BACKUP PUMP

DETAILS

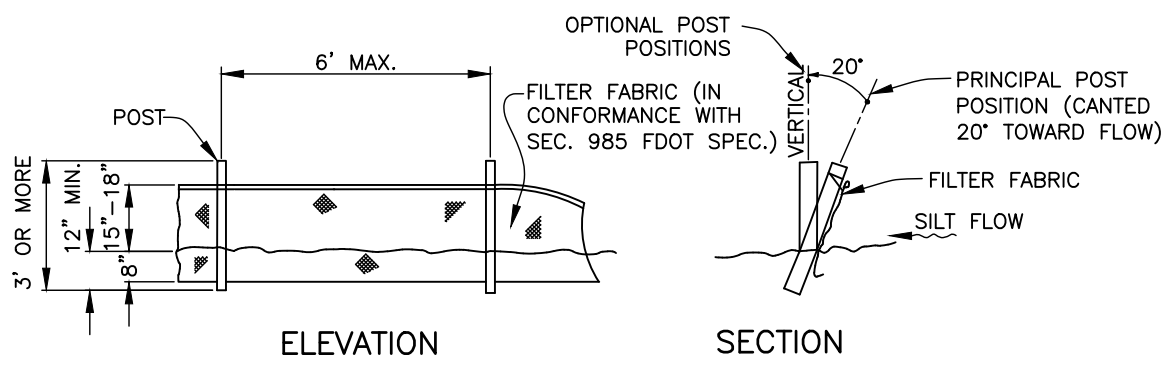
NO.	REVISION DESCRIPTION	BY	DATE

PROJECT #	402-5114880
SURVEY #	00-43420
SEC./TWN./RGE	28/34/17
SCALE	NTS
SURVEYED	ZNS 10/13
DESIGNED	JSS 8/16
DRAWN	JSS 8/16
CHECKED	-



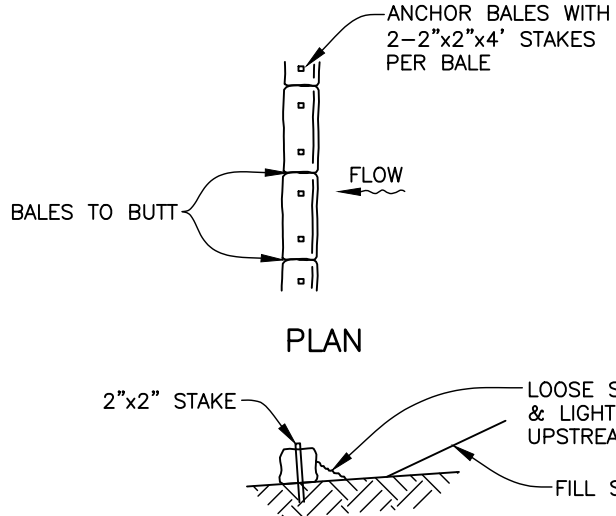


WETLAND BUFFER
FIGURE 1

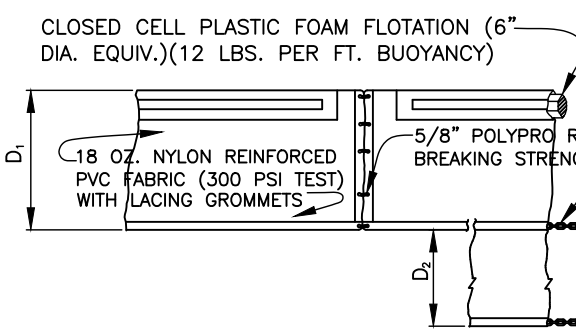


NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF).

TYPICAL SILT FENCE
FIGURE 2



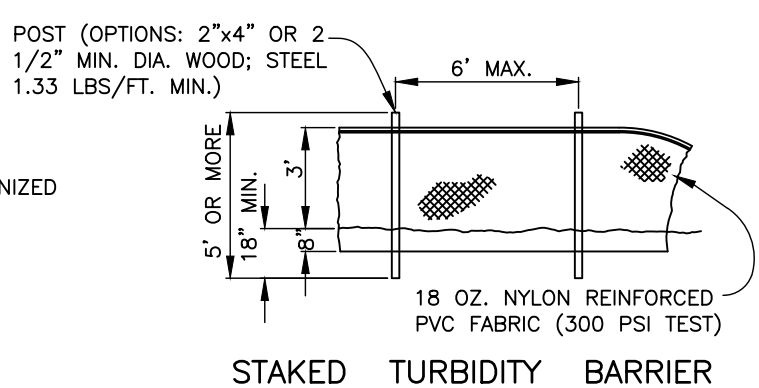
TYPICAL BALE SILT BARRIER
FIGURE 3



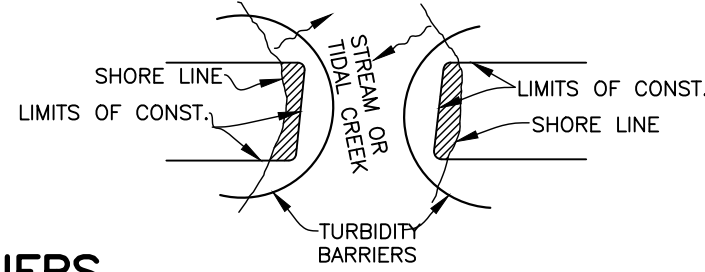
FLOATING TURBIDITY BARRIERS

D₁ = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS). D₂ = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5'). 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 CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

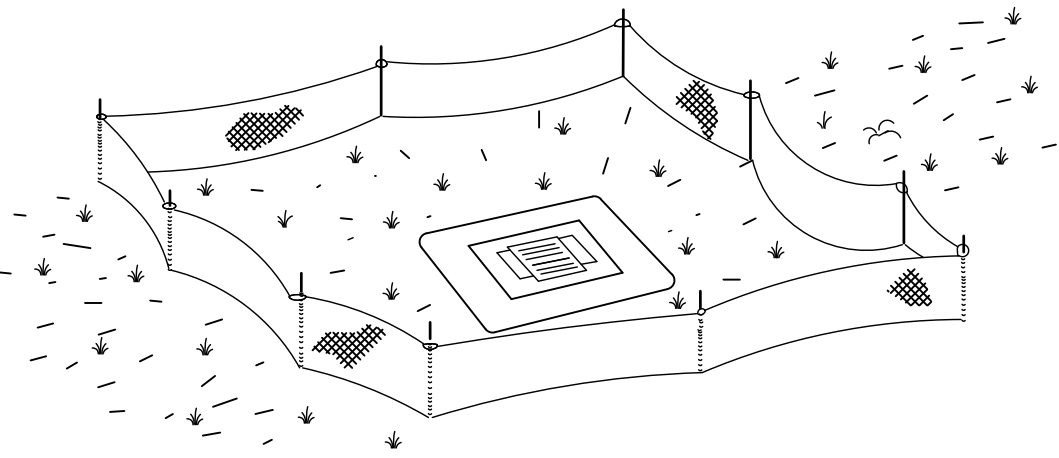
NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.



STAKED TURBIDITY BARRIER

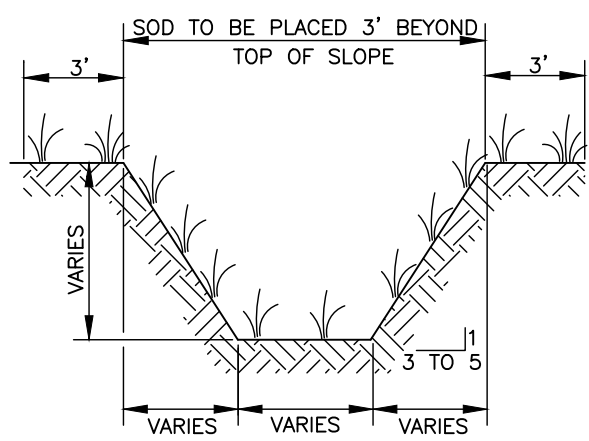


TURBIDITY BARRIERS
FIGURE 4

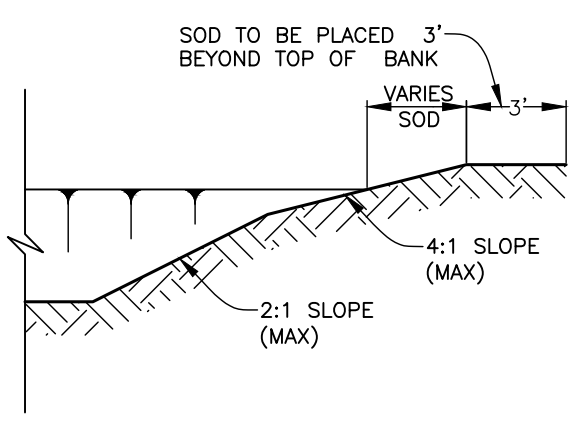


TYPE III SILT FENCE PROTECTION
AROUND DITCH BOTTOM INLETS

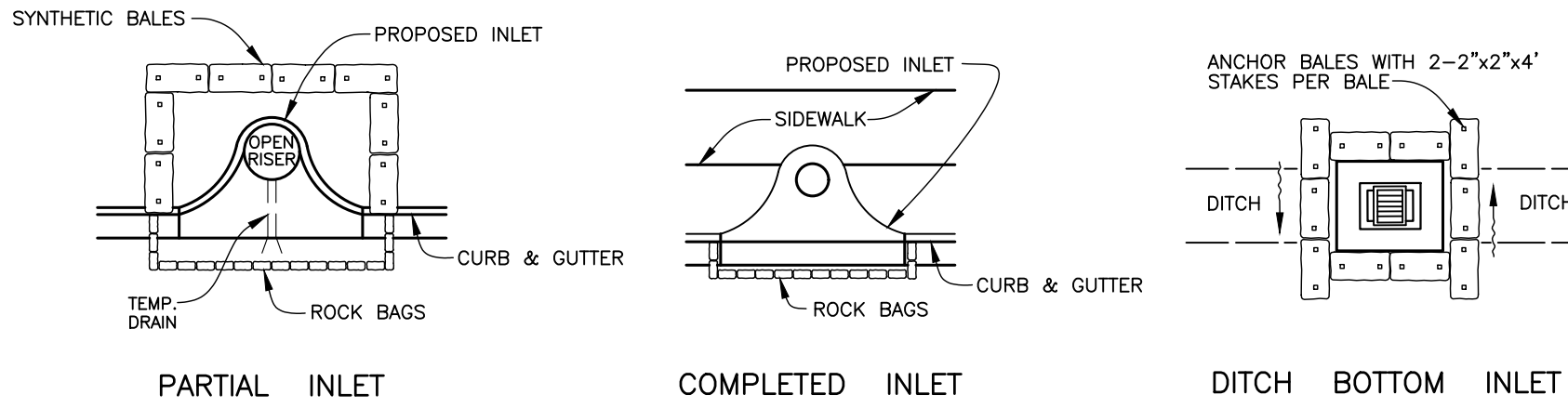
STAKED SILT BARRIER OR SILT FENCE
PROTECTION AROUND DITCH BOTTOM INLETS
FIGURE 8



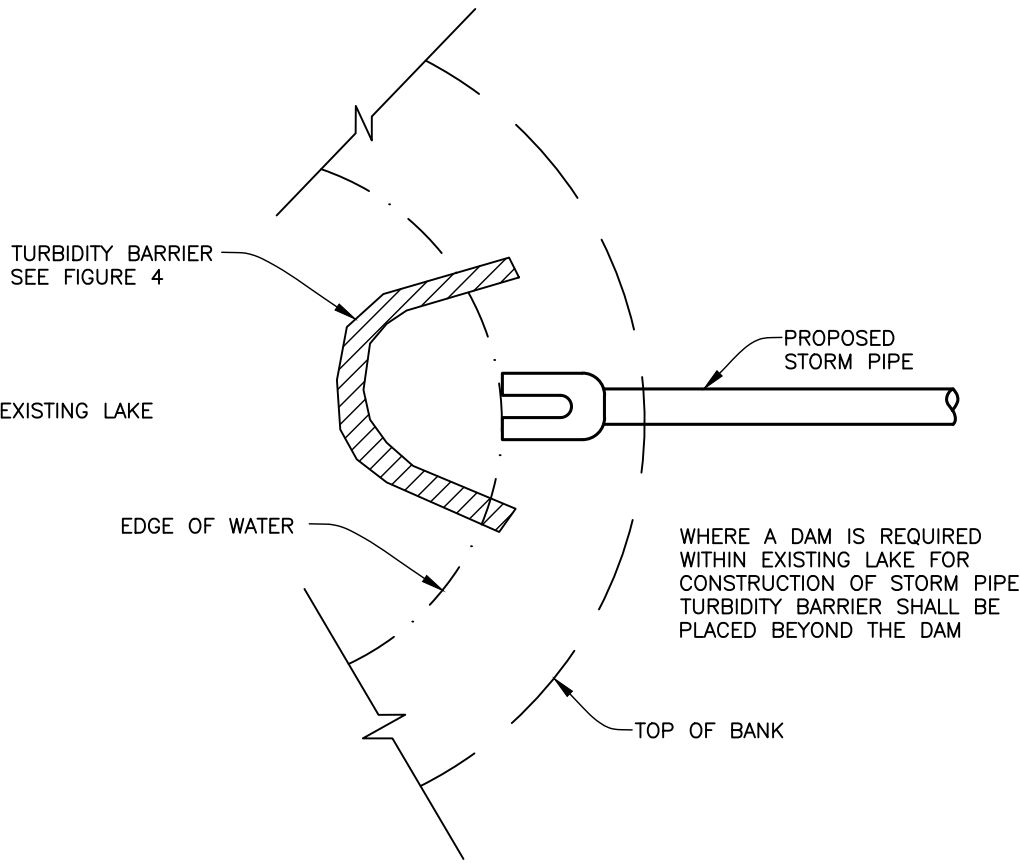
TYPICAL SWALE SECTION
FIGURE 5



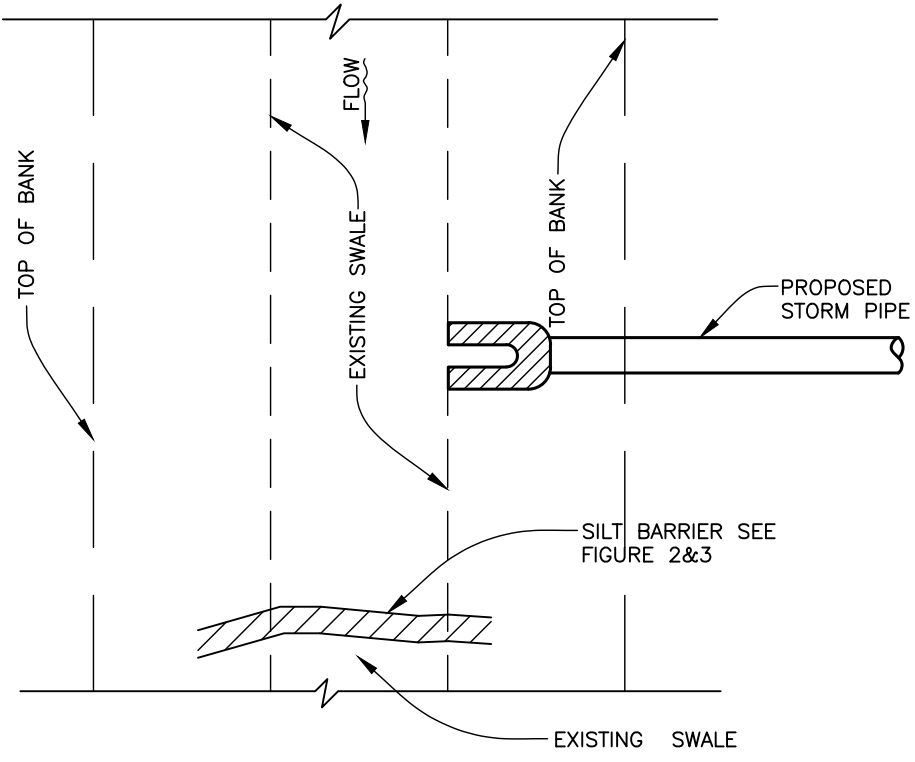
TYPICAL RETENTION/DETENTION POND SECTION
FIGURE 6



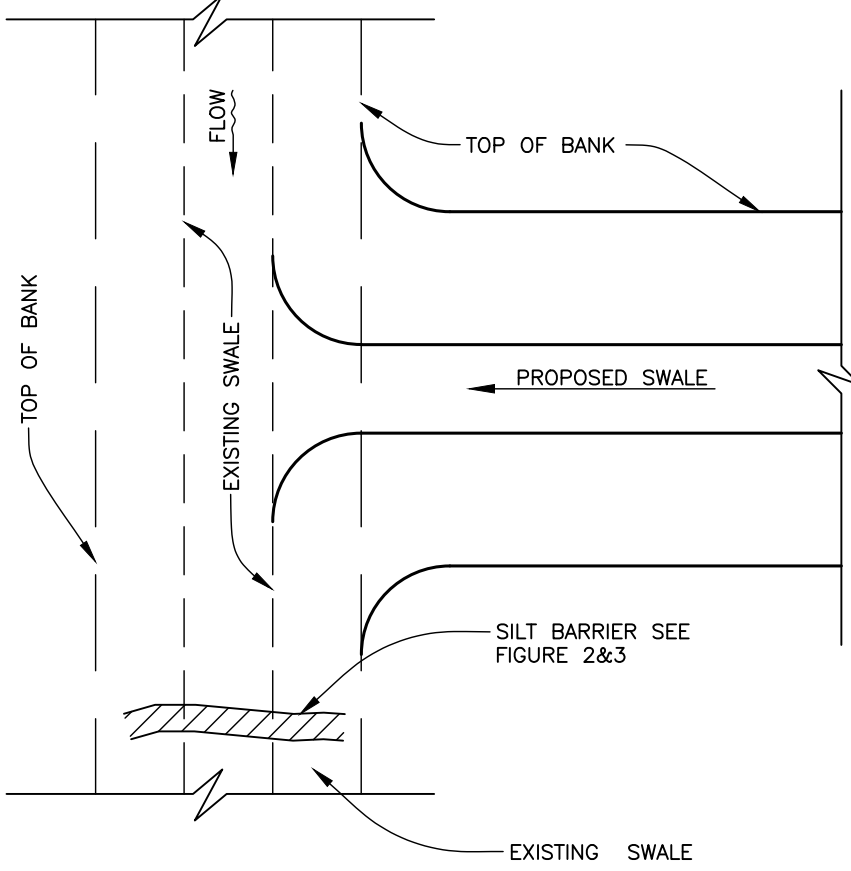
SYNTHETIC BALE PROTECTION AROUND
INLETS OR SIMILAR STRUCTURES
FIGURE 7



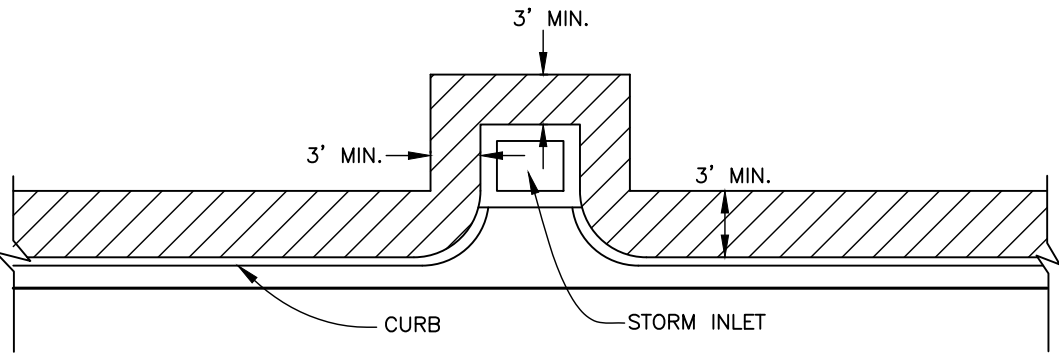
TURBIDITY BARRIER AT CONNECTION OF
STORM PIPE TO EXISTING LAKE
FIGURE 9



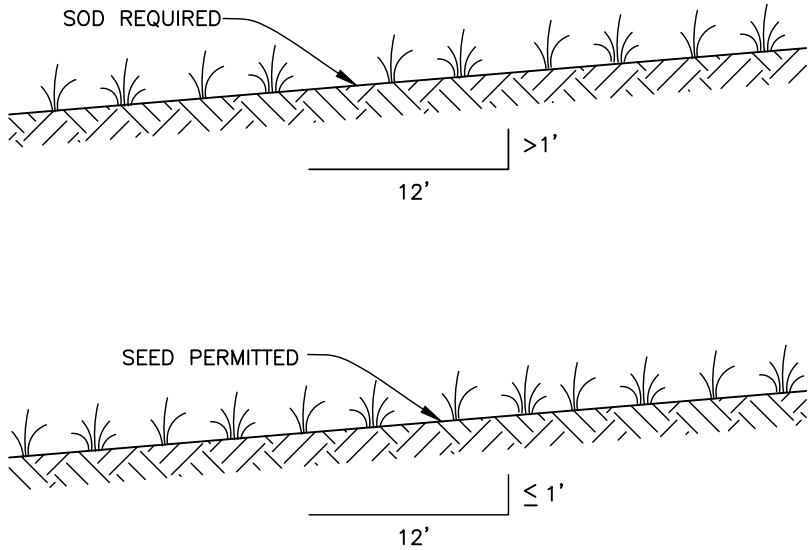
SILT BARRIER AT CONNECTION OF
STORM PIPE TO EXISTING SWALE
FIGURE 10



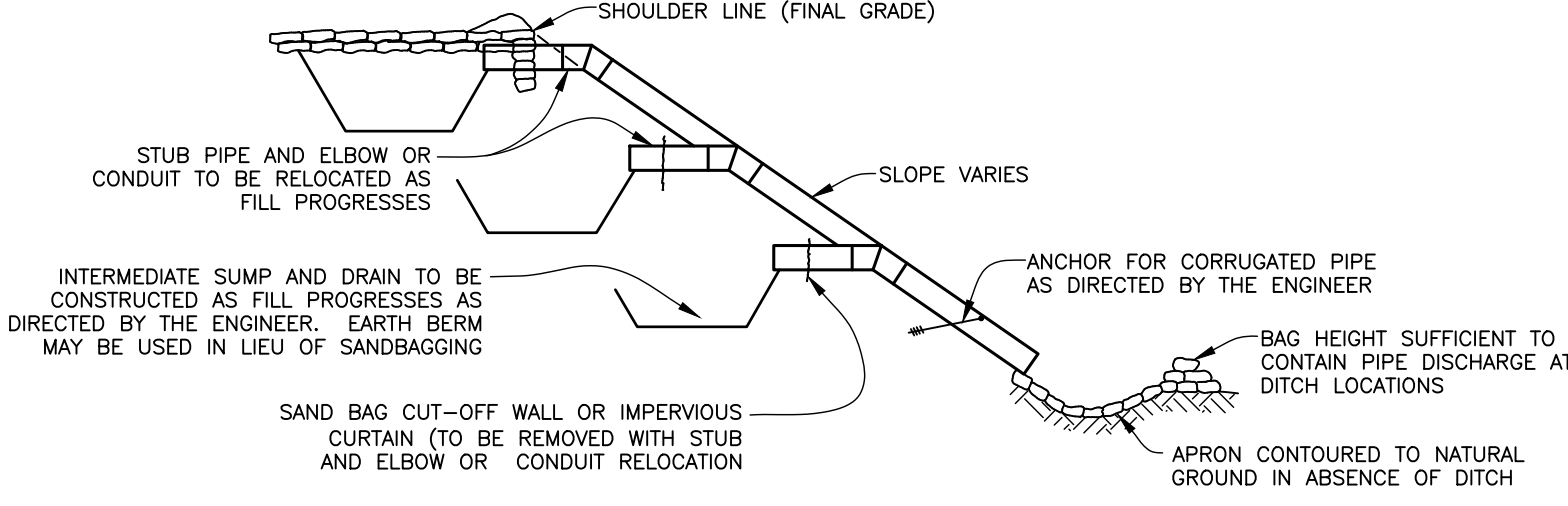
SILT BARRIER AT CONNECTION
OF SWALE TO EXISTING SWALE
FIGURE 11



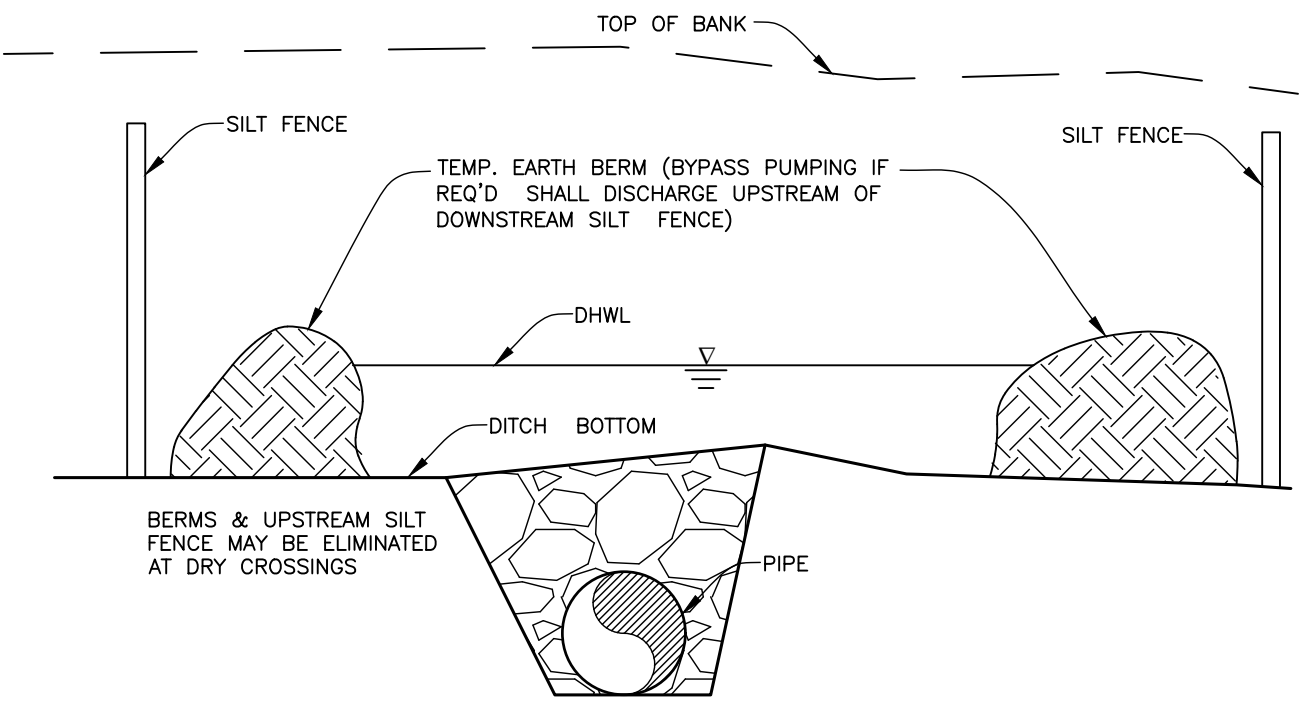
SOD ALONG CURB
AND AROUND INLET
FIGURE 14



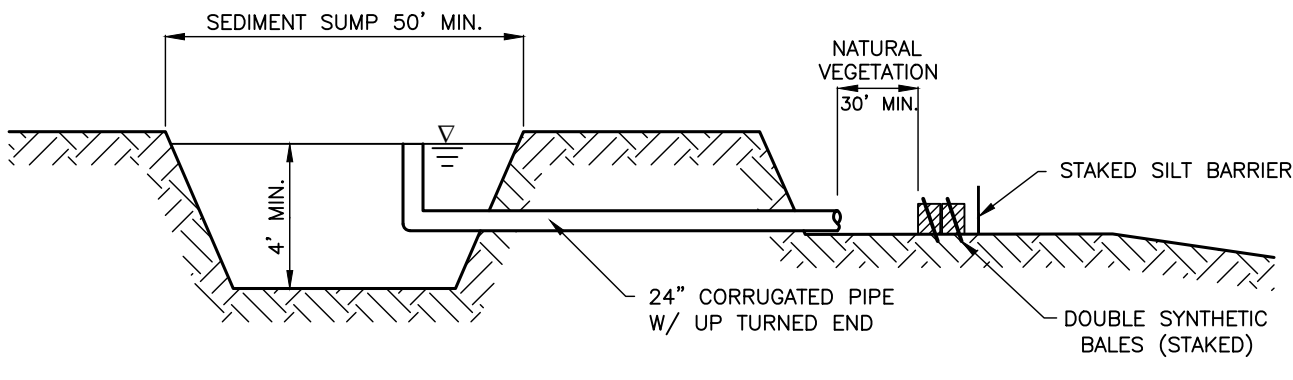
GRASS SLOPES
FIGURE 13



SECTION AA
TEMPORARY SLOPE DRAIN
FIGURE 15



UNDERGROUND PIPE CROSSING
FIGURE 12



SEDIMENT SUMP SECTION
FIGURE 16

NOTE:
REFERENCE THE FDOT DESIGN STANDARDS
LATEST EDITION FOR ALL TEMPORARY
EROSION CONTROL MEASURES.



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SATELLITE STATION R&R 2-D (RTU 236)
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EROSION CONTROL

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