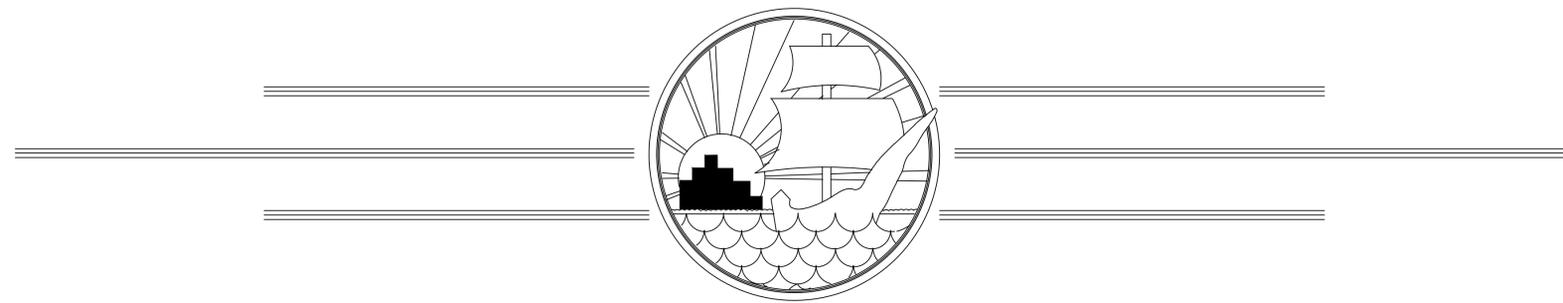


SWWRF RECLAIMED WATER AUTOMATION

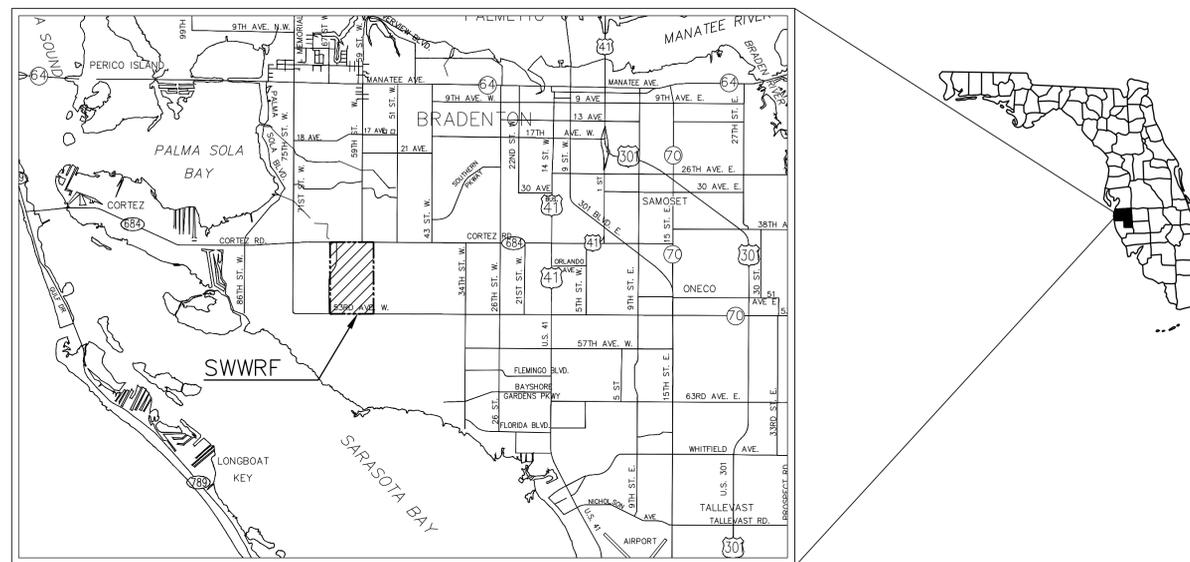
COUNTY PROJECT #6016392

RECORD DRAWINGS

AUGUST 2012



MANATEE COUNTY, FLORIDA



PROJECT VICINITY MAP
SECTION 35S, TOWNSHIP 17E, RANGE 8



McKIM & CREED

1365 Hamlet Avenue
Clearwater, FL 33756
Phone: (727)442-7196, Fax: (727)461-3827
EB0006691
www.mckimcreed.com

RECORD DRAWING

THIS DRAWING REPRESENTS A RECORD OF FACILITIES AND IMPROVEMENTS CONSTRUCTED AS PROPORTED BY THE CONTRACTOR TO BE A PART OF THIS PROJECT, BASED ON THE FOLLOWING:

B. INFORMATION FURNISHED BY:

A. ENGINEERS REVIEW OF INFORMATION PROVIDED

BRANDES DESIGN-BUILD INC.

2051 NE COACHMEN ROAD

CLEARWATER, FLORIDA 33765

O: 727-445-7544 / F: 727-445-7534

REVISIONS NO REVISIONS

DATE MARCH 2012

THESE DRAWINGS ARE NOT INTENDED TO REPRESENT A

DETAILED RECORD OF ACTUAL DIMENSIONS, ELEVATIONS, OR

DETAILS. ALL SUBSTANTIAL CHANGES OR DEVIATIONS FROM

THE ORIGINAL DESIGN, KNOWN BY THE ENGINEER, ARE

NOTED HEREON.

MATTHEW S. LOVE, PE
No. 66118

GENERAL NOTES

- THESE PLANS ARE SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE EXISTING CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. CONTRACTORS ARE DIRECTED, TO CONDUCT WHATEVER INVESTIGATION THEY DEEM NECESSARY, PRIOR TO BIDDING, TO DETERMINE THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.
- LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE CONTRACTOR SHALL VERIFY, PRIOR TO CONSTRUCTION, THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES (WHETHER OR NOT SHOWN ON THE PLANS) AFFECTING HIS WORK.
- THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS ON THE PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN WRITTEN CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, STORM DRAINS, SEWERS, UTILITIES, AND OTHER FACILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL REPAIR ANY DAMAGES DUE TO HIS CONSTRUCTION ACTIVITIES AT NO ADDITIONAL COST TO THE OWNER.
- WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURERS' MAXIMUM RECOMMENDED DEFLECTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE EXISTING DRAINAGE SYSTEM WITHIN THE LIMITS OF THE PROJECT AREA FOR THE DURATION OF THE PROJECT.
- THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS AS OUTLINED IN THE SPECIFICATIONS. RED-LINE DRAWINGS SHALL BE CURRENT WITH EACH PAY APPLICATION SUBMITTED AND WILL BE CHECKED AS PART OF THE PAY APPLICATION REVIEW PROCESS. PAYMENT WILL NOT BE MADE TO CONTRACTOR WITHOUT APPROVED RED-LINE DRAWINGS.
- FIELD CONDITIONS MAY NECESSITATE ALIGNMENT AND GRADE DEVIATION OF THE PROPOSED PIPELINES TO AVOID CONFLICTS. NO ADDITIONAL PAYMENT SHALL BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND THE OWNER'S ENGINEER.
- THE CONTRACTOR SHALL INCLUDE IN HIS BID; BY-PASS PUMPING FACILITIES, PUMPS, FITTINGS, LABOR, ETC. AS NECESSARY, BASED ON METHOD AND SEQUENCE OF CONSTRUCTION TO COMPLETE ALL WORK WHILE MAINTAINING THE EXISTING WASTEWATER TREATMENT PLANT OPERATIONS AT ALL TIMES.
- ALL PROPOSED WORK SHALL BE COORDINATED WITH WASTEWATER TREATMENT PLANT PERSONNEL AND MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
- THE CONTRACTOR SHALL FURNISH SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIALS PRIOR TO FABRICATION OR DELIVERY TO THE JOB SITE.
- CONNECTIONS TO EXISTING FACILITIES SHALL BE ACCOMPLISHED IN A NEAT WORKMANLIKE MANNER. WHEN FIELD CONDITIONS INDICATE ANY VARIANCE FROM DETAILED METHODS, THE CONTRACTOR SHALL PROVIDE COMPREHENSIVE AND DETAILED DRAWINGS FOR OWNER REVIEW AND APPROVAL PRIOR TO MAKING THE CONNECTIONS.
- UNLESS OTHERWISE INDICATED OR APPROVED, ALL BELOW GROUND DUCTILE IRON PIPE SHALL HAVE PUSH-ON OR MECHANICAL JOINTS, AND ALL ABOVE GROUND DUCTILE IRON PIPE SHALL HAVE FLANGED JOINTS. ALL JOINTS SHALL BE FULLY RESTRAINED.
- ALL PIPELINES SHALL HAVE A MINIMUM COVER OF 36" BELOW EXISTING GRADE UNLESS OTHERWISE NOTED OR DIRECTED.
- WATER SHALL NOT BE PERMITTED IN EXCAVATIONS AND TRENCHES DURING CONSTRUCTION. DEWATERING IS REQUIRED TO A MINIMUM OF 18" BELOW BOTTOM OF EXCAVATION.
- THE CONTRACTOR SHALL NOT ALLOW ANY DISCHARGE OF WASTEWATER TO LANDS AND/OR ADJACENT WATER BODIES OR STORM DRAINS. ANY LEAKAGE MUST BE CONTAINED AND TRANSFERRED BY THE CONTRACTOR TO THE PLANT DRAIN PUMP STATION AT THE WASTEWATER TREATMENT PLANT.
- ALL BELOW-GRADE FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON WITH FACTORY APPLIED, FUSION BONDED POLYETHYLENE LINING FOR ALL PIPE 4-INCHES AND GREATER IN DIAMETER.
- ALL EXPOSED PIPING SHALL BE PAINTED WITH DESIGNATED COLORS ASSOCIATED WITH THEIR USAGE AS PROVIDED IN THE SPECIFICATIONS.
- ALL NEW PIPELINES SHALL BE FLUSHED, PRESSURE TESTED, AND APPROVED PRIOR TO TIE-INS TO EXISTING FACILITIES. THE CONTRACTOR WILL BE ALLOWED TO USE TEMPORARY PLUGS FOR PRESSURE TESTING.
- ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE PIPELINE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE.
- CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL BE REQUIRED TO INSTALL ALL EROSION, SEDIMENT AND TURBIDITY CONTROL MEASURES PRIOR TO CONSTRUCTION OF ANY COMPONENTS ASSOCIATED WITH THE PROJECT. SEDIMENT CONTROL INCLUDES SILT DAMS, TRAPS, EROSION PROTECTION, AND ANY OTHER APPURTENANCES NEEDED BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS.
- CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.
- CONTRACTOR SHALL, PRIOR TO BEGINNING CONSTRUCTION, SUBMIT A "FUELING SPILL PREVENTION PLAN" THAT SHALL CLEARLY INDICATE HOW FUEL SPILLS WILL BE PREVENTED WHEN FUELING BOTH WITHIN AND OUTSIDE OF THE STAGING AREA.
- CONTRACTOR SHALL SUBMIT A DEWATERING PLAN FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION. DEWATERING SHALL BE CONDUCTED IN ACCORDANCE WITH THE Bmps IDENTIFIED IN CHAPTER 4, 4.40 "DEWATERING" OF "THE FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL".
- CONTRACTOR SHALL COORDINATE THE WORK SUCH THAT THE PLANT SHALL STAY IN OPERATION AT ALL TIMES.
- LINE INACTIVATIONS SHALL BE CONDUCTED AT OFF PEAK TIMES AS DICTATED BY PLANT OPERATIONS STAFF.
- CONTRACTOR SHALL EMPLOY A PROFESSIONAL SURVEYOR, LICENSED IN THE STATE OF FLORIDA TO PERFORM CONSTRUCTION STAKING IN ACCORDANCE WITH RULE 61G17-6.004(3) OF THE FLORIDA ADMINISTRATIVE CODE.

UTILITY NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE FOLLOWING JURISDICTIONAL BODIES AND UTILITY COMPANIES:



FLORIDA POWER AND LIGHT
LARRY RUSSO
125 12TH AVENUE EAST
BRADENTON, FL 34208
(941) 723-4424

MANATEE COUNTY
TRANSPORTATION DEP.
ALLEN BRENTLEY
2904 12TH STREET COURT E.
BRADENTON, FL 34208
(941) 708-7509

MANATEE COUNTY
UTILITIES OPERATIONS
KATHY McMAHON
4422-C 66TH STREET W.
BRADENTON, FL 34210

TECO/PEOPLES GAS
TED FELECY
8261 VICO CT.
SARASOTA, FL 34240
(941) 342-4026

VERIZON FLORIDA, INC.
DON DURDEN
1701 RINGLING BLVD.
SARASOTA, FL 34236
(941) 952-5616

PARAGON CABLE -
BRIGHTHOUSE NETWORK, LLC
WALTER KROL
5413 S.R. 64 E.
BRADENTON, FL 34208
(941) 748-3816 Ext. 24053

- ALL UTILITY CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST VERSION OF THE MANATEE COUNTY UTILITY STANDARDS.
- ALL BELOW GROUND DUCTILE IRON PIPE SHALL BE ENCASED IN A POLYETHYLENE WRAP IN ACCORDANCE WITH AWWA STANDARDS.
- ALL VALVE BOX COVERS SHALL BE PAINTED TO INDICATE THEIR TYPE OF SERVICE.
- ALL TEST POINT TAPPING SHALL BE CUT LOOSE FROM THE CORPORATION STOP AND COMPLETELY REMOVED AND DISPOSED OF BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE. THE CORPORATION STOP SHALL BE CAPPED AND REMAIN IN PLACE.
- RAISE EXISTING MANHOLE FRAMES AND COVERS TO MATCH FINAL GRADE.

RESTORATION AND MISCELLANEOUS NOTES

- THE CONTRACTOR SHALL PROVIDE AN ASPHALT PATCH FOR TRENCH AREAS CONSTRUCTED IN EXISTING ROADWAYS. ADJUST ALL CASTINGS TO MATCH NEW PAVEMENT SURFACE.
- THE CONTRACTOR SHALL REPLACE ALL EXISTING PAVING, STABILIZED EARTH, CURBS, SIDEWALKS, FENCES, LANDSCAPING AND OTHER IMPROVEMENTS WITH THE SAME OR BETTER TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS DIRECTED BY THE ENGINEER.
- ALL RESTORATION WORK PERFORMED THROUGHOUT THE PROJECT SHALL CONFORM TO EXISTING LINES AND GRADES UNLESS OTHERWISE NOTED.
- ALL EXISTING FENCES DISTURBED DURING CONSTRUCTION SHALL BE REPLACED AND REINSTALLED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER UNLESS SHOWN TO BE REMOVED ON CONSTRUCTION PLANS.
- LIMITS OF PROPOSED ROADWAY OVERLAY SHOWN ARE APPROXIMATE. CONTRACTOR SHALL OVERLAY ALL DISTURBED AREAS OF ACCESS ROAD AS PART OF THIS PROJECT.
- CONTRACTOR SHALL RESTORE ALL IRRIGATION SYSTEM COMPONENTS TO PRE-CONSTRUCTION CONDITIONS.
- THE CONTRACTOR SHALL RAISE EXISTING MANHOLE FRAMES AND COVERS TO MATCH FINAL GRADE.
- CONTRACTOR SHALL RESTORE GRADE TO PRECONSTRUCTION ELEVATIONS UNLESS OTHERWISE NOTED.

SIDEWALK NOTES

- ALL SIDEWALKS SHALL BE CONSTRUCTED WITH 4 INCH THICK 3000 PSI CLASS I CONCRETE REINFORCED WITH 6X6 NO. 10 MESH.
- SIDEWALKS SHALL BE CONSTRUCTED TO THE SPECIFICATIONS OF THE MANATEE COUNTY DEVELOPMENT STANDARDS AND A MINIMUM OF FIVE (5) FEET WIDE.
- THE CONCRETE SHALL BE GIVEN A BROOM FINISH. THE SURFACE VARIATIONS SHALL NOT BE MORE THAN 1/2 INCH UNDER A TEN-FOOT STRAIGHTEDGE, NOR MORE THAN 1/8 INCH ON A FIVE-FOOT TRAVERSE SECTION. THE EDGE OF THE SIDEWALK SHALL BE CAREFULLY FINISHED WITH AN EDGING TOOL HAVING A RADIUS OF 1/2 INCH.
- EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE SIDEWALK AND DRIVEWAYS OR AT FIXED OBJECTS AND SIDEWALK INTERSECTIONS SHALL BE 1/2 INCH JOINTS.
- CONTRACTION JOINTS: FIXED OPEN-TYPE CONTRACTION JOINTS SHALL BE FORMED BY STAKING A METAL BULKHEAD IN PLACE AND DEPOSITING THE CONCRETE ON BOTH SIDES. AFTER THE CONCRETE HAS SET SUFFICIENTLY TO PRESERVE THE WIDTH AND SHAPE OF THE JOINT, THE BULKHEAD SHALL BE REMOVED. AFTER THE SIDEWALK HAS BEEN FINISHED OVER THE JOINT, THE SLOT SHALL BE EDGED WITH A TOOL HAVING A 1/2 INCH RADIUS. SAWED JOINTS: A SLOT APPROXIMATELY 3/16 INCH WIDE AND NOT LESS THAN 1-1/2 INCHES DEEP SHALL BE CUT WITH A CONCRETE SAW AFTER THE CONCRETE HAS SET.

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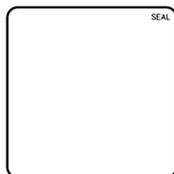
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MATTHEW S. LOVE, PE
No. 68118

NO.	DESCRIPTION	DATE
RD	RECORD DRAWING	JULY 2012
REVNO.	REVISIONS	



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MANATEE COUNTY, FLORIDA

SWWRF RECLAIMED WATER AUTOMATION

GENERAL NOTES AND SHEET INDEX

DATE: AUGUST 2012	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0128	HORIZONTAL: AS SHOWN	G-1
DRAWN: QES	VERTICAL: NA	
DESIGNED: MSL	PROJ. MGR: MSL	
CHECKED: JSL	STATUS: RECORD DRAWING	REVISION:

GENERAL ABBREVIATIONS

Ⓢ	AT	LN.	LANE
ABW	AUTOMATIC BACKWASH	LP	LIGHT POLE
A/C	AIR CONDITIONER UNIT	LS	LICENSED SURVEYOR
AC	ACRES	MAS	MASONRY
AC	ASPALTIC CONCRETE	MAX.	MAXIMUM
ABD	ABANDONED	MCC	MOTOR CONTROL CENTER
AL./ALUM.	ALUMINUM	MES	MITERED END SECTION
ANCH.	ANCHOR	MG	MILLION GALLONS
APPROX.	APPROXIMATE	MES	MILLION GALLONS PER DAY
BLDG.	BIUILDING	MHW	MEAN HIGH WATER
BM.	BEAM	MON.	MONUMENT
BOT./BOTT.	BOTTOM	NG	NATURAL GROUND
(C)	CALCULATED DATA	N.T.S.	NOT TO SCALE
C	CHANNEL	NO.	NUMBER
C.	CONDUIT	NP	NORMAL POOL
C.B.	CATCH BASIN	ø	DIAMETER/PHASE
CCR	CERTIFIED CORNER RECORD	O/A	OVERALL
CHKR	CHECKERED	OPNG.	OPENING
CIR.	CIRCLE	OR	OFFICIAL RECORDS BOOK
CLF	CHAIN LINK FENCE	(P)	PLAT BOOK
Ⓢ	CENTERLINE	PCCP	PRE-STRESSED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE	PG	PAGE
COL.	COLUMN	PLCS.	PLACES
CONN.	CONNECTOR/CONNECTION	PLS	PROFESSIONAL LAND SURVEYOR
CONC.	CONCRETE	POB	POINT OF BEGINNING
COR	CORNER	POC	POINT OF COMMENCEMENT
CPB	CONDOMINIUM PLAT BOOK	POT	POTABLE
C/T	CURB TIE	PP	POWER POLE
CU.	COPPER	PRM	PERMANENT REFERENCE MONUMENT
(D)	DEED DATA	PROP.	PROPOSED
D.	DEEP/DRAIN	PSM	PROFESSIONAL SURVEYOR & MAPPER
DB	DEED BOOK	P/T	PAVEMENT TIE
DBL.	DOUBLE	P.V.	PLUG VALVE
DHW.	DESIGN HIGH WATER	PVMT	PAVEMENT
DISCH.	DISCHARGE	R.	RADIUS/RISER/RELAY
DN.	DOWN	RCP	REINFORCED CONCRETE PIPE
DRWY	DRIVEWAY	REF.	REFERENCED
E.W.	EACH WAY	REINF.	REINFORCED/REINFORCING
EA.	EACH	REQ'D	REQUIRED
ECMP	ELLIPTICAL CORRUGATED METAL PIPE	RESTR.	RESTRAINED
EL./ELEV.	ELEVATION	RLS	REGISTERED LAND SURVEYOR
ELEC.	ELECTRICAL CONDUIT	RW/R/W	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	SAN.	SANITARY
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	SEC.	SECTION
ETC.	AND SO FORTH	SQL	SINGLE
EXIST.	EXISTING	SHW	SEASONAL HIGH WATER
EXP.	EXPANSION	SIR	SET IRON ROD 1/2" LB 6113
(F)	FIELD DATA	SND	SET NAIL & DISC LB 6113
FCM	FOUND CONCRETE MONUMENT	SPRK	SPRINKLER
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	SQ.	SQUARE
FF	FINISHED FLOOR	SN.	SIGN
FIR	FOUND IRON ROD	SR	STATE ROAD
FND	FOUND NAIL & DISC	SSMH	SANITARY SEWER MANHOLE
FOP	FOUND OPEN PIPE	S/T	SIDEWALK TIE
FPP	FOUND PINCHED PIPE	STL.	STEEL
FRRS	FOUND RAILROAD SPIKE	STY	STORY
F/T	FENCE TIE	S/W; SWK	SIDEWALK
FT.	FOOT	SYM.	SYMBOL
FTG.	FOOTING	TBM	TEMPORARY BENCH MARK
FXC	FOUND X-CUT	TOB	TOP OF BANK
GALV.	GALVANIZED	T.&B.	TOP & BOTTOM
GDRL	GUARDRAIL	TEL	TELEPHONE
GE	GRATE ELEVATION	TEMP.	TEMPORARY
GEN	GENERATOR	THK	THICK
GI	GRATED INLET	TOS	TOE OF SLOPE
GPM	GALLONS PER MINUTE	TYP.	TYPICAL
GRG.	GRATING	UG	UNDERGROUND GAS
G.S.	GALVANIZED STEEL	UP	UTILITY POLE
GR./GRD.	GRADE	UT	UNDERGROUND TELEPHONE
GWP	GUY WIRE POLE	VCP	VITRIFIED CLAY PIPE
HDWALL	HEADWALL	VERT.	VERTICAL
H.R.	HANDRAIL	W	WIDE FLANGE/WIDE/WATT
HWL	HIGH WATER LEVEL	W/	WITH
IE	INVERT ELEVATION	WF	WOOD FENCE
IN.	INCH	W/L	WATER LINE
INV.	INVERT	W.L.	WATER LEVEL
IP	IRON PIPE	W/M	WATER MAIN
IR	IRON ROD	W.M.	WATER METER
J.B.	JUNCTION BOX	W.P.	WEATHER PROOF
JT.	JOINT	W.S.	WALL SLEEVE/WATER STOP/WATER SERVICE
(L)	LEGAL DESCRIPTION DATA	W/T	WALL TIE
LB	LICENSED BUSINESS	WTR.	WATER
LC.	LONG		

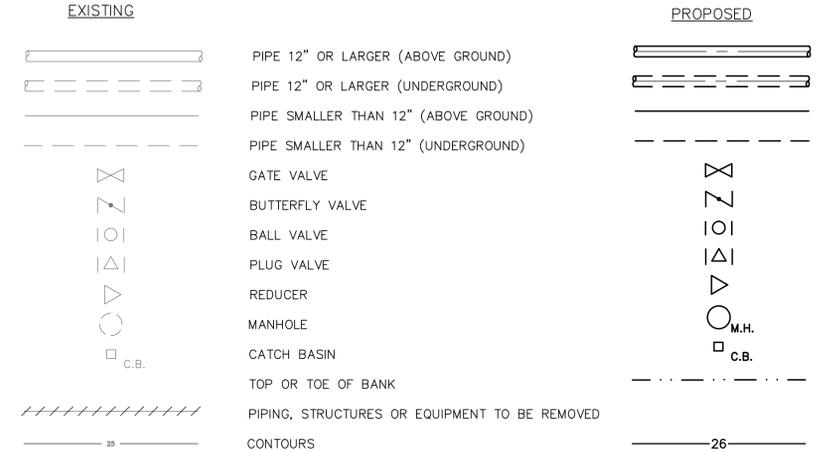
FLOW ABBREVIATIONS

AL	ALUM SOLUTION
AB	AERATION BASIN
AD	AEROBIC DIGESTER
AX	ANOXIC BASIN
BA	BLOWER AIR
BP	BYPASS
BW	BACKWASH
CA	COMPRESSED AIR
CCC	CHLORINE CONTACT CHAMBER
CCE	CHLORINATED EFFLUENT
CF	CLOTH FILTER
CLE	CLARIFIER EFFLUENT
CLG	CHLORINE GAS
CLS/CL2S	CHLORINE SOLUTION
D/DR	DRAIN
DAF	DISSOLVED AIR FLOTATION
DF	NEW CLOTH FILTER
DS	DEWATERED SLUDGE
EFF	EFFLUENT
EXP	EXPANSION
FBW	FILTER BACKWASH
FC	FINAL CLARIFIER
FE	FILTER EFFLUENT
FLE	FILTERED LAKE EFFLUENT
FLW	FLOCCULATED WATER
FM	FLOW METER
FW	FILTERED WATER
GBT	GRAVITY BELT THICKENER
GR	GRIT
HDW	HEADWORKS
INF	INFLUENT
IR	INTERNAL RECYCLE
HSBFP	HIGH SOLIDS BELT FILTER PRESS
ML	MIXED LIQUOR
OF	OVERFLOW
P	POLYMER
PD	PLANT DRAIN
PDFM	PLANT DRAIN FORCE MAIN
PS	PUMP STATION
PW	POTABLE WATER
RAS	RETURNED ACTIVATED SLUDGE
RCW	RECLAIMED WATER
REJ	REJECT
RML	RECIRCULATED MIXED LIQUOR
RW	REUSE WATER
SAM	SAMPLE
SB	SPLITTER BOX
SC	SCUM
SDR	STORMWATER DRAINAGE
SL	SAMPLE LINE
SS	SANITARY SEWER
TS	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
WBW	WASTE BACKWASH WATER
WW	WASTEWATER

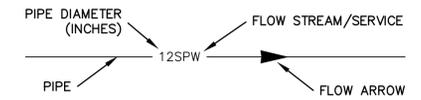
PIPING ABBREVIATIONS

ARV	AIR RELEASE VALVE
ABD	ABANDONED
BFV	BUTTERFLY VALVE
BV	BALL VALVE
CB	CATCH BASIN
CO	CLEANOUT
CORP	CORPORATION
CV	CHECK VALVE
D.I.	DUCTILE IRON
DIA	DIAMETER
D.I.P.	DUCTILE IRON PIPE
ELEC.	ELECTRICAL
EXIST.	EXISTING
FHA	FIRE HYDRANT ASSEMBLY
FL	FLANGED
GS	GALVANIZED STEEL
GV	GATE VALVE
HB	HOSE BIBB
HDPE	HIGH DENSITY POLYETHYLENE
MH	MANHOLE
MJ	MECHANICAL JOINT
PE	PLAIN END
PS	PUMP STATION
PV	PLUG VALVE
PVC	POLYVINYLCHLORIDE
RED.	REDUCER
SCH	SCHECULE
SDR.	DIAMETER RATIO
SS.	STAINLESS STEEL
TBR	TO BE REMOVED
UE	UNDERGROUND ELECTRIC
VERT.	VERTICAL
WM	WATER METER

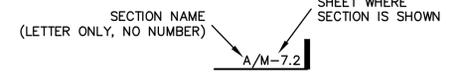
LEGEND



PIPE IDENTIFICATION



SECTION DESIGNATION



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SEAL

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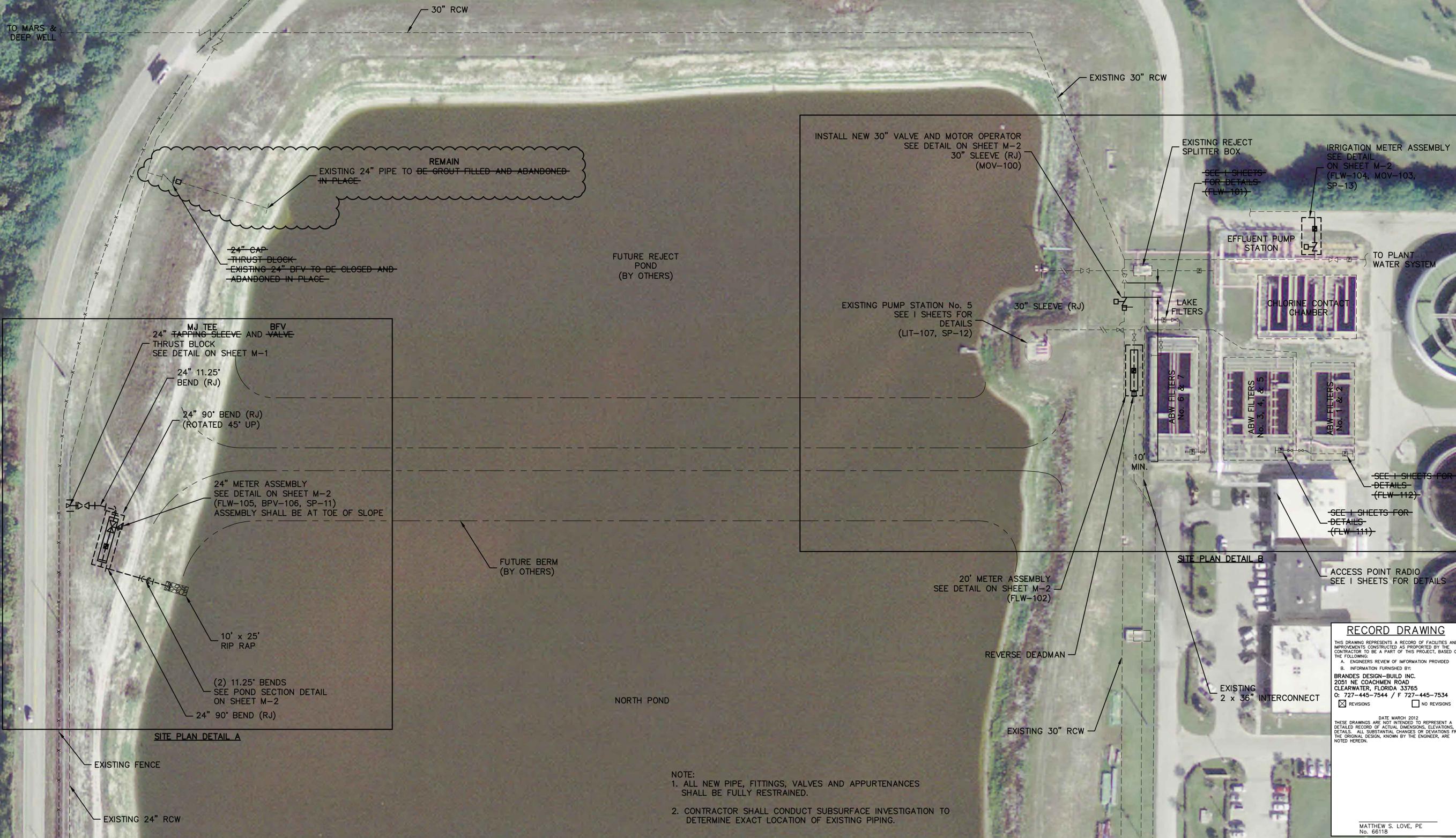
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ABBREVIATION, SYMBOLS AND LEGENDS

DATE:	AUGUST 2012	SCALE:		DRAWING NUMBER:	
MCE PROJ. #	1024-0128	HORIZONTAL:	AS SHOWN	G-2	REVISION
DRAWN:	QES	VERTICAL:	NA		
DESIGNED:	MSL				
CHECKED:	JSL				
PROJ. MGR.	MSL				
RECORD DRAWING					

S:\2084-Brands\0099170-Record\0128-Users\G-2-Abbrev-legend-1024-0128.dwg, 8/23/2012, 3:34:33 PM, Quilt, Shenton



NOTE:
 1. ALL NEW PIPE, FITTINGS, VALVES AND APPURTENANCES SHALL BE FULLY RESTRAINED.
 2. CONTRACTOR SHALL CONDUCT SUBSURFACE INVESTIGATION TO DETERMINE EXACT LOCATION OF EXISTING PIPING.

RECORD DRAWING
 THIS DRAWING REPRESENTS A RECORD OF FACILITIES AND IMPROVEMENTS CONSTRUCTED AS PROPORTIONED BY THE CONTRACTOR TO BE A PART OF THIS PROJECT, BASED ON THE FOLLOWING:
 A. ENGINEERS REVIEW OF INFORMATION PROVIDED
 B. INFORMATION FURNISHED BY:
 BRANDES DESIGN-BUILD INC.
 2051 NE COACHMEN ROAD
 CLEARWATER, FLORIDA 33765
 C: 727-445-7544 / F 727-445-7534
 REVISIONS NO REVISIONS
 DATE: MARCH 2012
 THESE DRAWINGS ARE NOT INTENDED TO REPRESENT A DETAILED RECORD OF ACTUAL DIMENSIONS, ELEVATIONS, OR DETAILS. ALL SUBSTANTIAL CHANGES OR DEVIATIONS FROM THE ORIGINAL DESIGN, KNOWN BY THE ENGINEER, ARE NOTED HEREON.
 MATTHEW S. LOVE, PE
 No. 66118

S:\2014\Branded\0099\10-Recon\0128\Users\G-3\Proposed Site Plan-1024-0128.dwg, 8/23/2012 3:34:40 PM, Quill, Shenton

REV. NO.	DESCRIPTION	DATE

SEAL
 MATTHEW S. LOVE, P.E.
 No. 66118

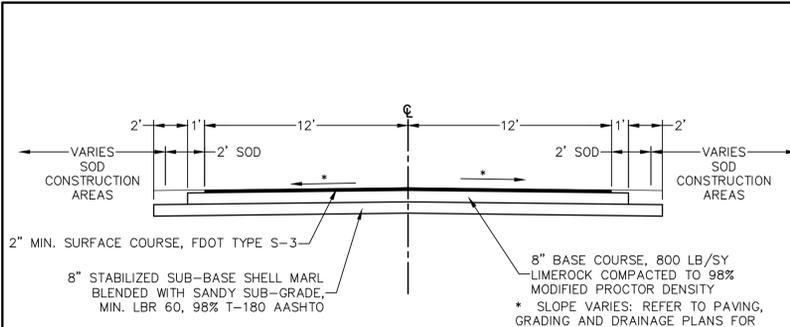
SEAL

1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727)442-7196, Fax: (727)461-3827
 EB0006691
 www.mckimcreed.com

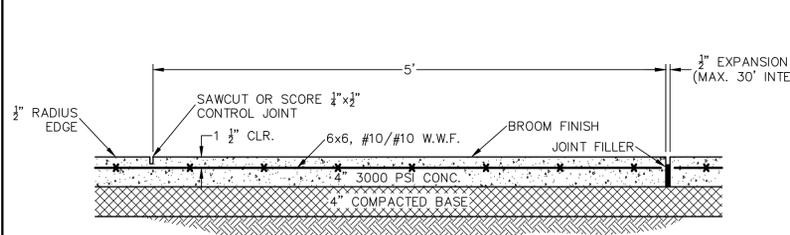
MANATEE COUNTY, FLORIDA

SWWRF RECLAIMED WATER AUTOMATION
 PROPOSED SITE PLAN

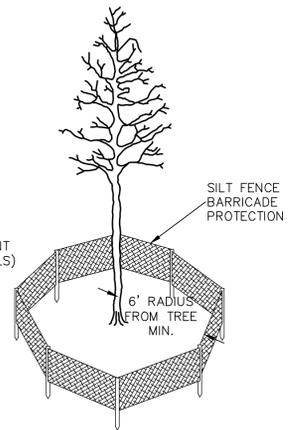
DATE: AUGUST 2012	SCALE: HORIZONTAL: AS SHOWN	DRAWING NUMBER: G-3
MCE PROJ. # 1024-0128	DESIGNED: QES	
DRAWN: MSL	CHECKED: JSL	
PROJ. MGR: MSL		
STATUS: RECORD DRAWING	REVISION:	



INTERIOR PLANT ROADWAY TYPICAL SECTION
NOT TO SCALE

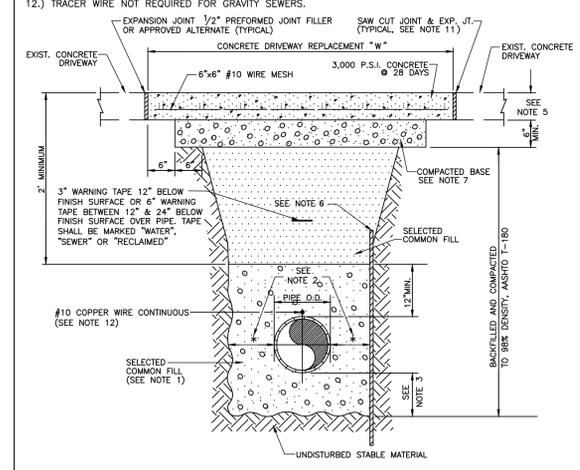


TYPICAL SIDEWALK DETAIL
NOT TO SCALE



TREE PROTECTION DETAIL
NOT TO SCALE

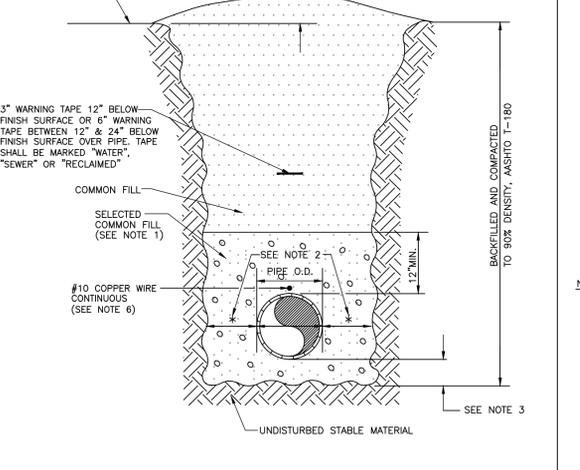
- NOTES:
- 1.) USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
 - 4.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5.) THICKNESS TO MATCH EXISTING OR BE 6" MINIMUM, WHICHEVER IS GREATER.
 - 6.) SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISH GRADE OR 12" BELOW SUBGRADE.
 - 7.) BASE SHALL BE COMPACTED 6" MINIMUM THICKNESS OF APPROVED MATERIAL.
 - 8.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 9.) DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST ADOPTED CONSTRUCTION STANDARDS OF THE MANATEE COUNTY TRANSPORTATION DEPARTMENT.
 - 10.) IF THE DRIVEWAY IS 12" OR WIDER, SAWCUT AN EXPANSION JOINT ALONG THE CENTER OF THE DRIVEWAY (3/16" WIDE AND 1 1/2" DEEP) AFTER THE CONCRETE HAS SET.
 - 11.) IF THERE IS AN EXISTING EXPANSION JOINT WITHIN 3' OF THE PROPOSED JOINT, EXTEND DRIVEWAY REPLACEMENT TO THE EXISTING JOINT.
 - 12.) TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



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

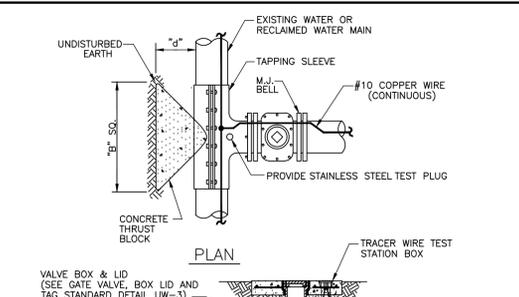
REV. BY DATE
CLB/KE 08/05
JAA/JB 10/08
JAA/JEA 02/09
MARCH 17, 2009
DATE OF APPROVAL

- NOTES:
- 1.) USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
 - 4.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES FOR SELECTED COMMON FILL AND NOT TO EXCEED 12 INCHES FOR COMMON FILL. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 6.) 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
CLB/KE 08/05
JAA/JB 10/08
JAA/JEA 02/09
MARCH 17, 2009
DATE OF APPROVAL

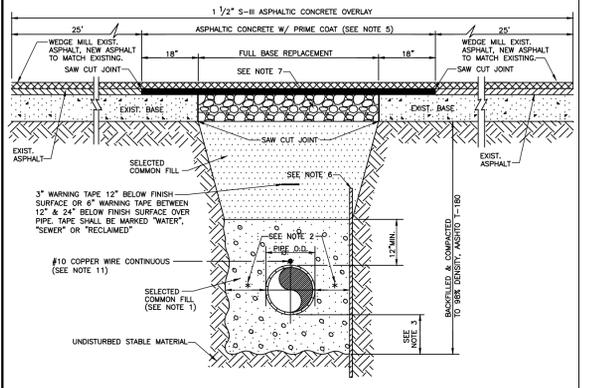


- NOTES:
1. NO CUTS SHALL BE MADE BEFORE:
 - (A) A 60 MINUTE TEST OF 180 PSI FOR WATER OR 150 PSI FOR SEWER IS MADE.
 - (B) ALL FITTINGS TO BE WRAPPED WITH 20 MIL VISQUEEN AT THRUST BLOCK.
 - (C) ALL TAPS ON CONCRETE WATER MAINS AND LARGER THAN 12" ARE TO BE MADE BY A MANATEE COUNTY APPROVED TAPPING COMPANY. ALL MATERIALS TO BE SUPPLIED BY THE CONTRACTOR.
 2. ALL TAPS MUST BE OF A SMALLER SIZE THAN THE MAIN BEING TAPPED & PLACED NO CLOSER THAN 30" OR A DISTANCE EQUAL TO (1) MAIN PIPE DIAMETER PLUS (2) TAP PIPE DIAMETERS (WHICHEVER IS LARGER) FROM A JOINT OR FITTING.
 3. CONTRACTOR TO SUPPLY A DRY HOLE FOR TAPPING CREW TO WORK IN AND A BACK-HOE TO LOWER TAPPING MACHINE INTO THE HOLE.
 4. THRUST BLOCK IS REQUIRED AND INCLUDED IN EVERY TAG. SEE CONCRETE THRUST BLOCK DETAIL FOR DIMENSIONS "b" & "d".
 5. TRACER WIRE TEST STATION BOX IS REQUIRED AT CONNECTIONS TO EXISTING MAINS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TAPPING SLEEVE AND VALVE
UW-4

REV. BY DATE
CLB/KE 08/05
JAA/JB 10/08
JAA/KE 02/09
MARCH 17, 2009
DATE OF APPROVAL

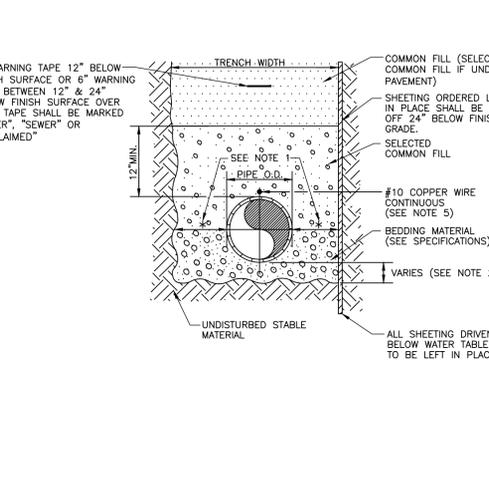
- NOTES:
- 1.) USE OF TYPE A-2 AND A-3 PIPE BEDDING TO BE DETERMINED IN THE FIELD BY THE ENGINEER.
 - 2.) 10" MAX. FOR PIPE DIAMETERS LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) 4" MAX. FOR PIPE 16" DIAMETER & LESS; 6" MAX. FOR PIPE 18" TO 36" DIAMETER; AND 9" MAX. FOR PIPE 42" DIAMETER AND LARGER.
 - 4.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 5.) ASPHALTIC CONCRETE FRICTION COURSE WITH PRIME COAT SHALL BE THE SAME DEPTH AND TYPE AS EXISTING OR A MINIMUM OF ONE INCH, WHICHEVER IS GREATER.
 - 6.) SHEETING ORDERED LEFT IN PLACE TO BE CUT OFF 24" BELOW FINISHED GRADE OR 12" BELOW SUBGRADE.
 - 7.) BASE SHALL BE 6" MINIMUM THICKNESS CRUSHED CONCRETE. SAND ASPHALT BASE WILL BE AN ACCEPTABLE ALTERNATIVE.
 - 8.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 9.) TEMPORARY PATCHES WILL BE INSTALLED TO PROVIDE A SMOOTH ALL WEATHER SURFACE AT ALL TIME. PERMANENT REPLACEMENT TO BE MADE AS SOON AS POSSIBLE.
 - 10.) RESTORE SIGNAGE & MARKING WITH THERMOPLASTIC PER FDOT STANDARDS, LATEST EDITION.
 - 11.) TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.
 - 12.) NOTES 5, THRU 11) ARE MINIMUM REQUIREMENTS. REFER TO MANATEE COUNTY HIGHWAY AND TRAFFIC STANDARDS FOR ADDITIONAL REQUIREMENTS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH ASPHALT PAVEMENT SURFACE
TYPE A-1 PIPE BEDDING UG-12

REV. BY DATE
CLB/KE 08/05
JAA/JB 10/08
JAA/JEA 02/09
MARCH 17, 2009
DATE OF APPROVAL

- NOTES:
- 1.) 10" MAX. FOR PIPE DIAMETER LESS THAN 24"; 12" MAX. FOR PIPE DIAMETER 24" AND LESS THAN 42"; 24" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 2.) 4" MAX. FOR PIPE 16" DIAMETER AND LESS; 6" MAX. FOR PIPE DIAMETER 18" TO 36" AND 9" MAX. FOR PIPE DIAMETER 42" AND OVER.
 - 3.) PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 - 4.) BACKFILL AASHTO M-145 SHALL BE PLACED IN LAYERS NOT TO EXCEED 6 INCHES. EACH LAYER SHALL BE THOROUGHLY TAMPED AND/OR ROLLED TO 98% AASHTO T-180 DENSITY.
 - 5.) TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
TRENCH WITH CONCRETE THRUST BLOCKS
TYPE A-2 PIPE BEDDING UG-15

REV. BY DATE
CLB/KE 08/05
JAA/JB 10/08
JAA/JEA 02/09
MARCH 17, 2009
DATE OF APPROVAL

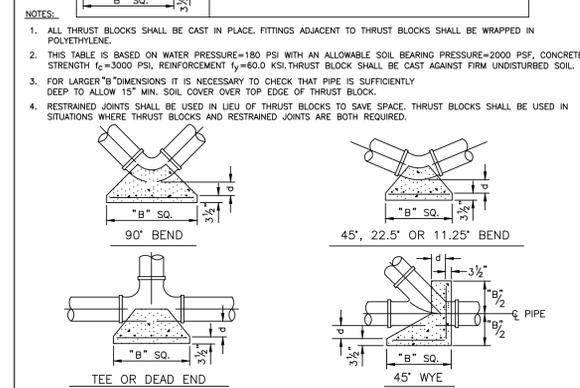
THRUST BLOCK DIMENSIONS B ft. x d inches

PIPE SIZE (IN.)	90° BEND		45° BEND		22.5° BEND		11.25° BEND		DEAD END & TEE		45° WYE	
	B	d	B	d	B	d	B	d	B	d	B	d
4	1.5	3 1/2	1.1	3 1/2	0.8	3 1/2	0.6	3 1/2	1.3	3 1/2	1.1	3 1/2
6	2.2	5 1/4	1.6	3 3/4	1.2	3 1/2	0.8	3 1/2	1.9	4 1/2	1.6	3 3/4
8	2.9	7	2.1	5	1.5	3 1/2	1.1	3 1/2	2.4	5 3/4	2.0	4 3/4
10	3.5	8 1/2	2.6	6 1/4	1.9	4 1/2	1.3	3 1/2	3.0	7 1/4	2.5	6
12	4.2	10	3.1	7 1/2	2.2	5 1/4	1.6	3 3/4	3.5	8 1/2	3.0	7 1/4
14	4.9	11 3/4	3.6	8 3/4	2.6	6 1/4	1.8	4 1/4	4.1	9 3/4	3.4	8 1/4
16	5.5	13 3/4	4.1	9 3/4	2.9	7	2.1	5	4.7	11 1/4	3.9	9 1/4
18	6.2	15	4.6	11	3.3	8	2.3	5 1/2	5.2	12 1/2	4.4	10 1/2
20	6.9	16 1/2	5.0	12	3.6	8 3/4	2.6	6 1/4	5.8	14	4.9	11 3/4
24	8.2	19 3/4	6.0	14 1/2	4.3	10 1/4	3.1	7 1/2	6.9	16 1/2	5.8	14
30	10.1	24 1/4	7.5	18	5.3	12 3/4	3.8	9	8.5	20 1/2	7.2	17 1/4
36	12.1	29	8.9	21 1/4	6.4	15 1/4	4.5	10 3/4	10.2	24 1/2	8.6	20 3/4

REINFORCEMENT MAT SCHEDULE

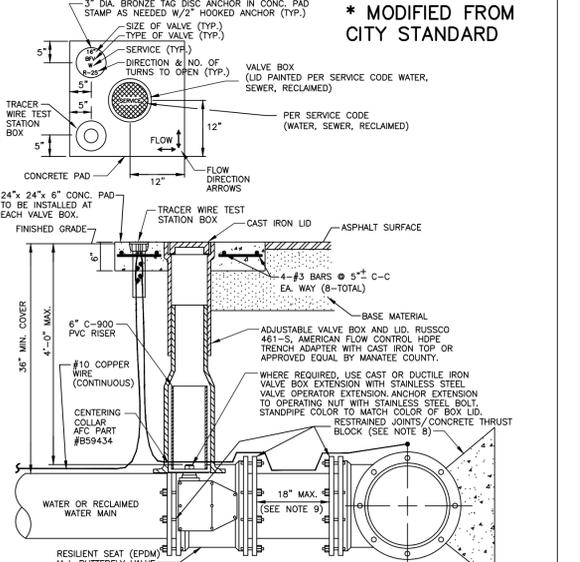
FOR DIM. "B" BETWEEN 5.75' & 12.5' USE #4 @ 8" EACH WAY

FOR DIM. "B" LESS THAN 5.75' USE #3 @ 8" EACH WAY



MANATEE COUNTY PUBLIC WORKS DEPARTMENT
CONCRETE THRUST BLOCKS
UG-7

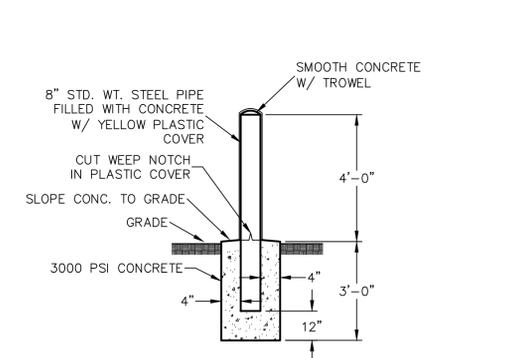
REV. BY DATE
CLB/KE 2/05
JAA/JB 2/09
MARCH 17, 2009
DATE OF APPROVAL



- NOTES:
1. "W" OR "RW" TO BE IMPRESSED INTO THE NEWLY-POURED CONCRETE CURB, ALONG WITH DISTANCE IN FEET TO THE VALVE. IF NO CURB, INSTALL A BLUE DISC WITH "W" OR PURPLE DISC WITH "RW" AND A 1/8" x 1" GALVANIZED STEEL SCREW IN THE EDGE OF PAVEMENT WITH THE FOOTAGE FROM THE DISC TO THE VALVE.
 2. ALL EXISTING AND PROPOSED VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADES AS DETERMINED IN THE FIELD.
 3. WATER VALVES SHALL NOT BE PLACED IN HANDICAPPED RAMPS.
 4. PRECAST CONCRETE PADS & THRUST BLOCKS SHALL NOT BE USED.
 5. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 1/2".
 6. FOR VALVES 16" AND LARGER, USE BUTTERFLY VALVES.
 7. "FLOW" AND "DIRECTION" ARROWS TO BE IMPRESSED INTO NEWLY POURED CONCRETE PAD.
 8. CONCRETE THRUST BLOCK IS ALSO REQUIRED UNLESS RESTRAINED JOINT LENGTH IS TREATED AS A PLUG SHOWN IN STANDARD DETAIL UW-8
 9. SHOULD THERE BE AN OBSTACLE/CONFLICT IN INSTALLING THE VALVE, THE ENGINEER OF RECORD MAY PROPOSE A REVERSE TAP, ETC. AND SEPARATE APPROVAL SHALL BE OBTAINED FROM MANATEE COUNTY.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT
BUTTERFLY VALVE, BOX, LID AND TAG
UW-3

REV. BY DATE
CLB/KE 08/05
JAA/JB 10/08
JAA/JEA 02/09
MARCH 17, 2009
DATE OF APPROVAL



RECORD DRAWING

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- A. ENGINEERS REVIEW OF INFORMATION PROVIDED
- B. INFORMATION FURNISHED BY:
 - BRANDES DESIGN-BUILD INC.
 - 2051 NE COACHMAN ROAD
 - CLEARWATER, FLORIDA 33765
 - C. 727-445-7544 / F 727-445-7534

REVISIONS NO REVISIONS

DATE: MARCH 2012

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MATTHEW S. LOVE, PE
No. 66118

REV. NO.	RECORD DRAWING	DESCRIPTIONS	DATE

MANATEE COUNTY PUBLIC WORKS DEPARTMENT

MATTHEW S. LOVE, P.E.
No. 66118

SEAL

MCKIM & CREED

1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
EB0006691
www.mckimcreed.com

MANATEE COUNTY, FLORIDA

SWRF RECLAIMED WATER AUTOMATION

MECHANICAL DETAILS 1

DATE: AUGUST 2012

MCE PROJ. # 1024-0128

DRAWN: QES

DESIGNED: MSL

CHECKED: JSL

PROJ. MGR: MSL

SCALE: HORIZONTAL: NA VERTICAL: NA

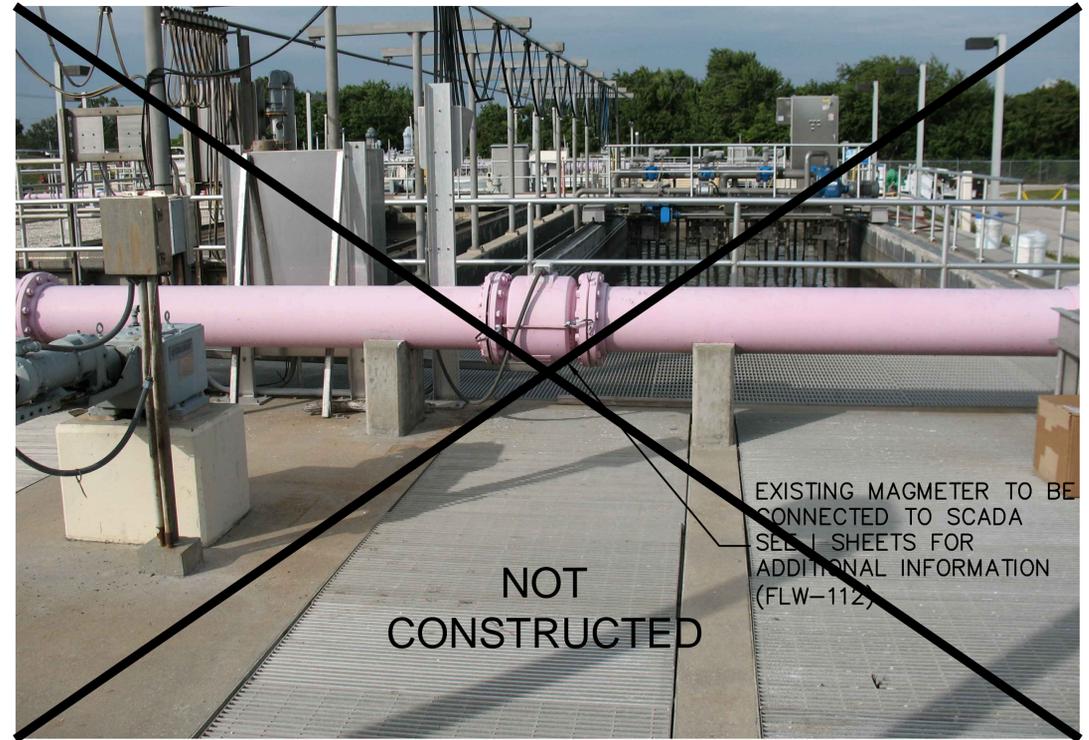
DRAWING NUMBER: M-1

STATUS: RECORD DRAWING



SEE DETAIL M-2 AND I SHEETS FOR ADDITIONAL INFORMATION

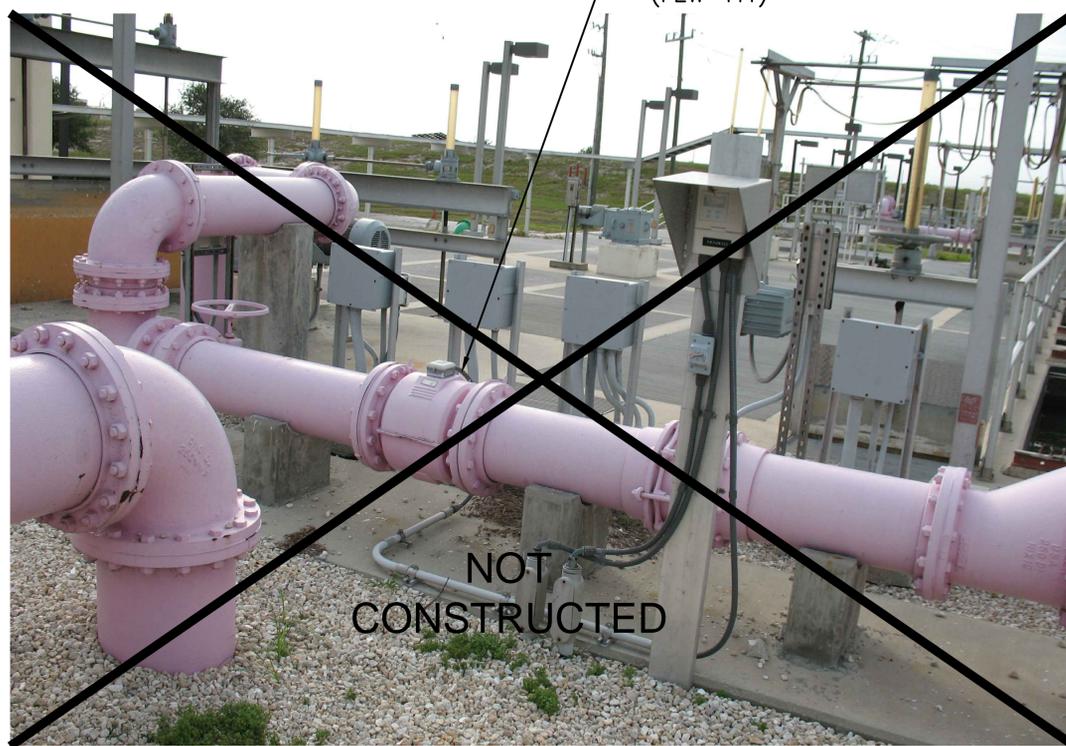
IRRIGATION METER ASSEMBLY DEMO
NTS



EXISTING MAGMETER TO BE CONNECTED TO SCADA SEE I SHEETS FOR ADDITIONAL INFORMATION (FLW-112)

NOT CONSTRUCTED

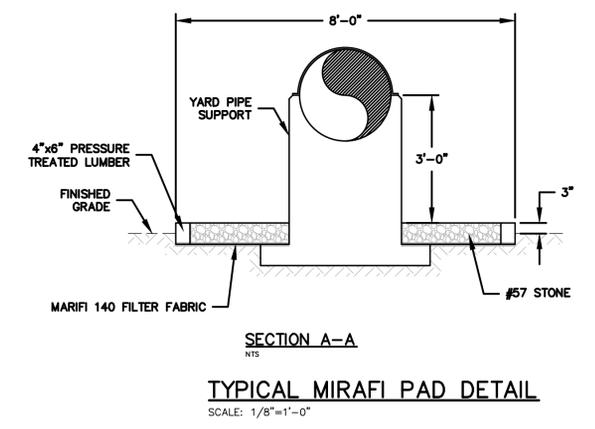
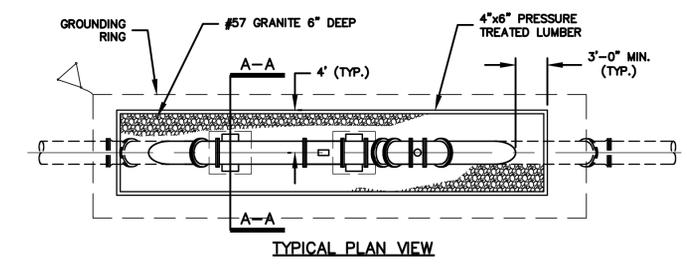
ABW FILTERS 1 & 2 METER ASSEMBLY
NTS



EXISTING MAGMETER TO BE CONNECTED TO SCADA SEE I SHEETS FOR ADDITIONAL INFORMATION (FLW-111)

NOT CONSTRUCTED

ABW FILTERS 3, 4 & 5 METER ASSEMBLY
NTS



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CLEARWATER, FLORIDA 33765
C: 727-445-7544 / F 727-445-7534

REVISIONS NO REVISIONS

DATE MARCH 2012

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MATTHEW S. LOVE, PE
No. 66118

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REV. NO.	DESCRIPTION	DATE

SEAL

MATTHEW S. LOVE, P.E.
No. 66118

SEAL

MCKIM & CREED

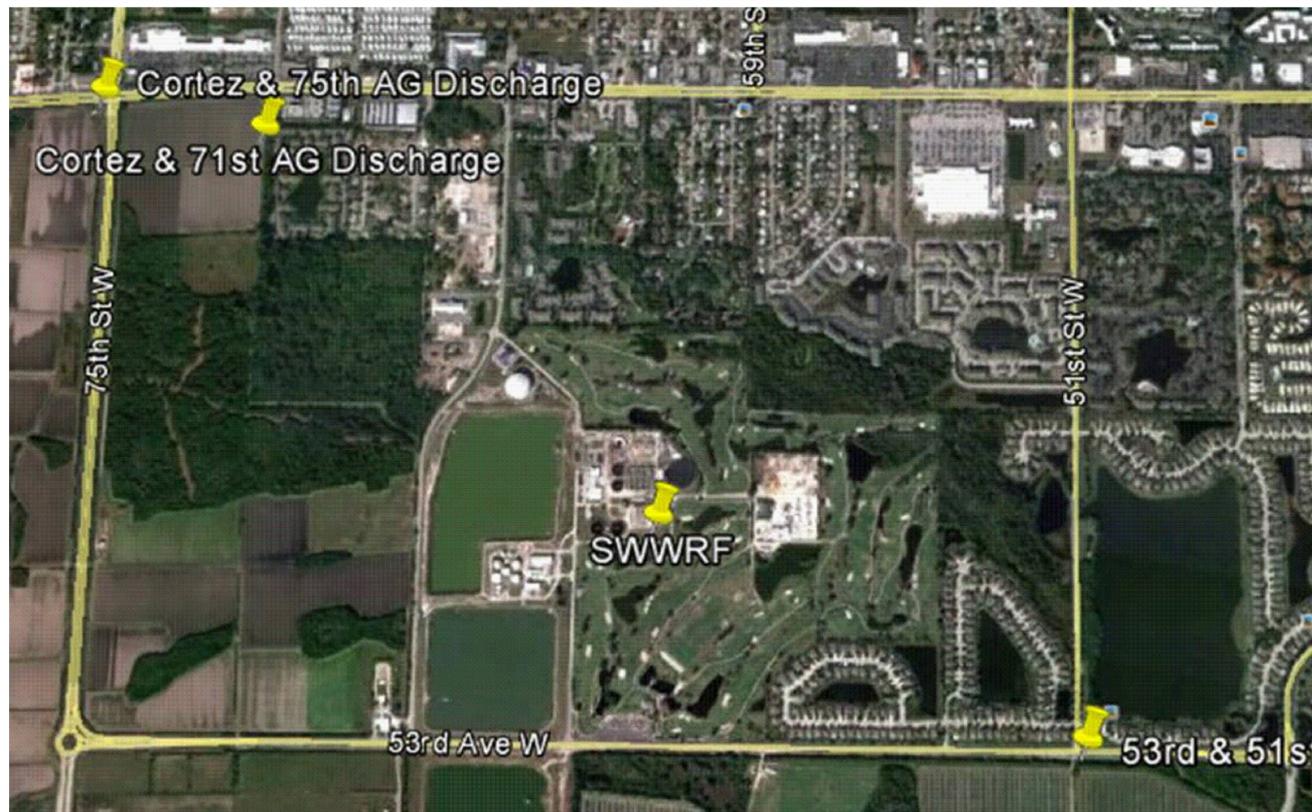
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EB0006691
www.mckimcreed.com

MANATEE COUNTY, FLORIDA

SWWRF RECLAIMED WATER AUTOMATION

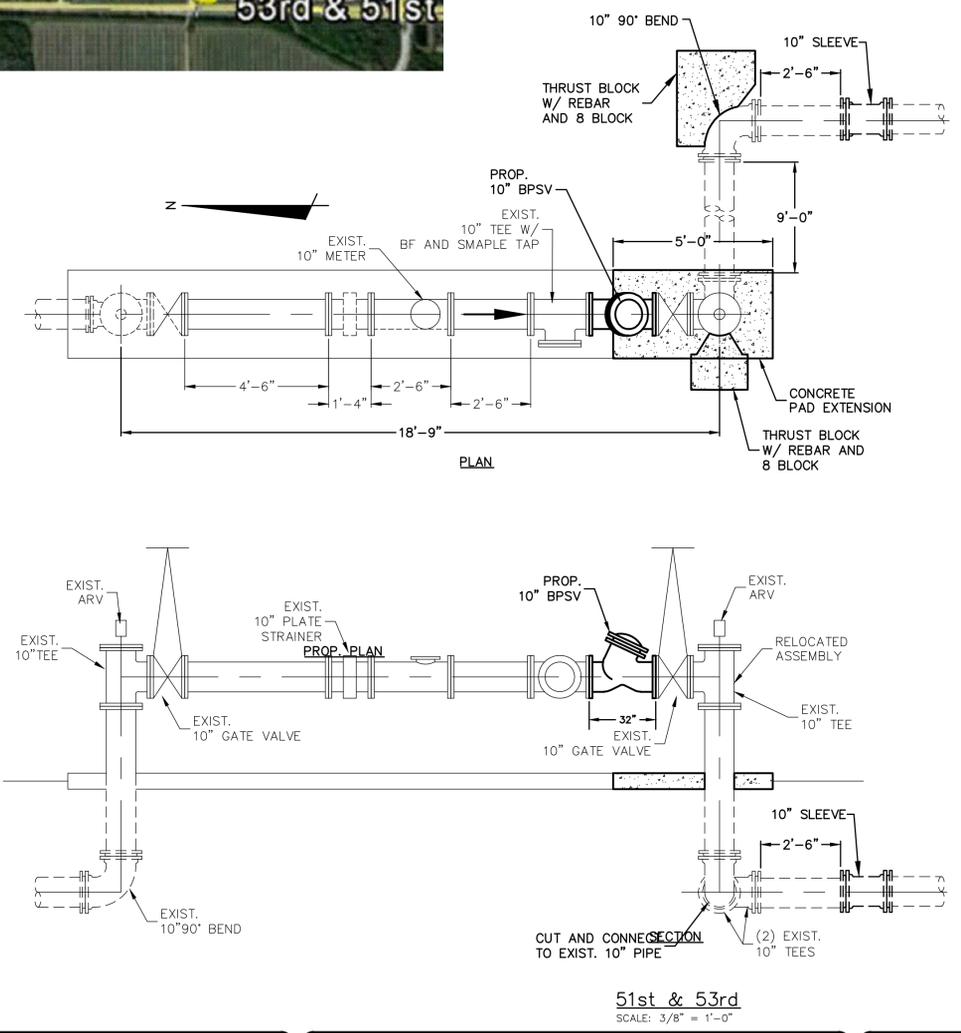
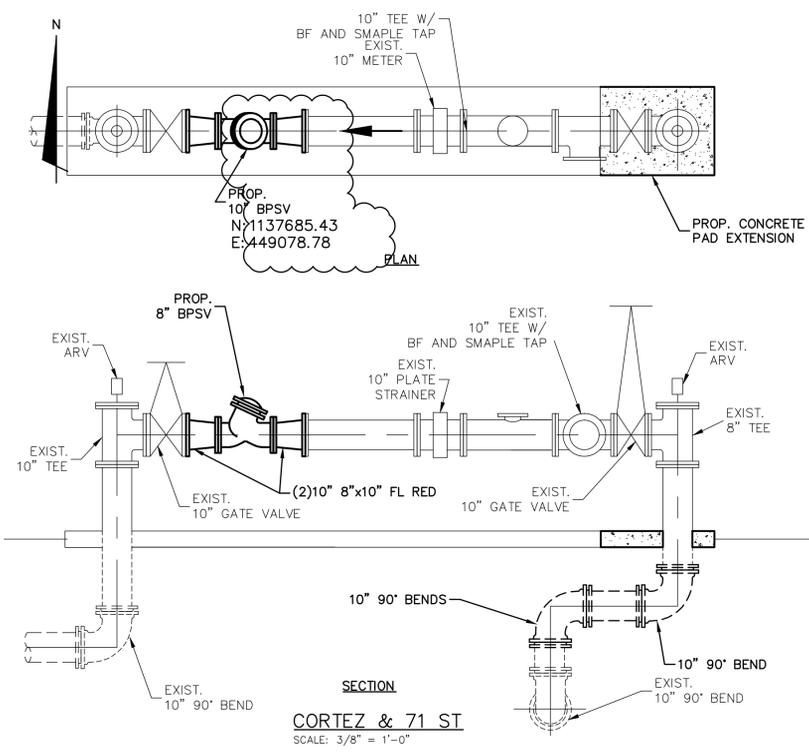
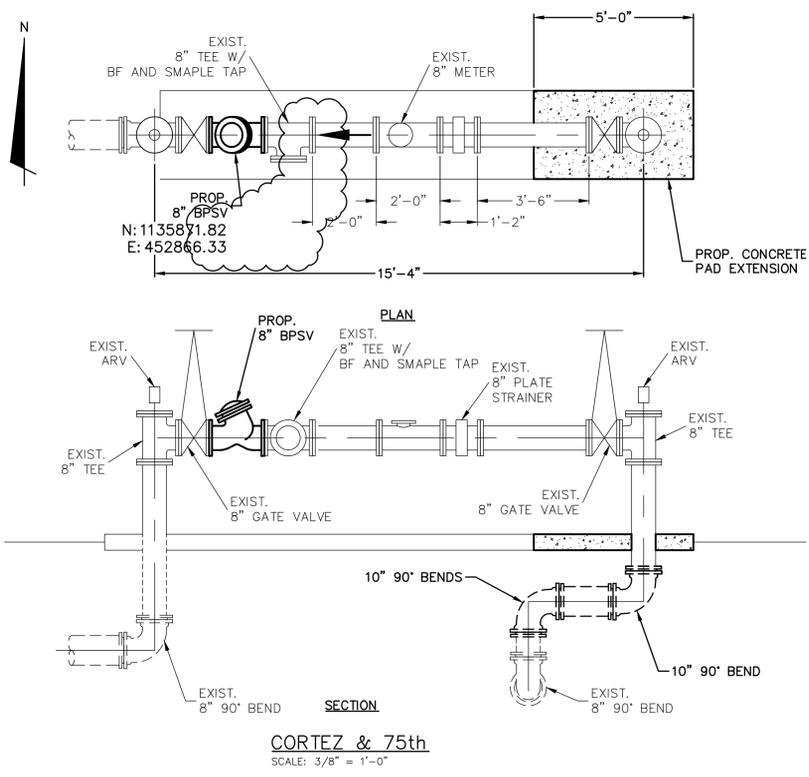
MECHANICAL DETAILS 3

DATE: AUGUST 2012	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0128	HORIZONTAL: AS SHOWN	M-3
DRAWN: QES	VERTICAL: NA	
DESIGNED: MSL	REVISION:	
CHECKED: JSL		
PROJ. MGR: MSL		
STATUS: RECORD DRAWING		



LOCATION MAP
NOT TO SCALE

CERTIFICATION					
CERTIFIED TO: BRANDES DESIGN BUILD					
I HEREBY CERTIFY THAT THE SURVEY REPRESENTED HEREON MEETS THE MINIMUM TECHNICAL STANDARDS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027 FLORIDA STATUTES.					
SEPTEMBER 26, 2011 DATE OF SURVEY					
DAN H. RIZZUTO PROFESSIONAL LAND SURVEYOR LICENSE NUMBER LS 5227 STATE OF FLORIDA					
PROJECT:	SOUTHWEST WATER RECLAIMED FACILITY				
TYPE OF SURVEY:	RECORD SURVEY				
PREPARED FOR:	BRANDES DESIGN BUILD				
POLARIS ASSOCIATES INC. PROFESSIONAL SURVEYING LB 6113 2165 SUNNYDALE BOULEVARD, SUITE D CLEARWATER, FLORIDA 33765 (727) 461-6113					
CHECKED BY:	SCALE:	DRAWN BY:	JOB NO.:	DRAWING PATH:	SHEET
JDF	AS NOTED	JT	3022-04	S:\2014_BRANDES\308\0009\10-RECORD\0128\MECHANICAL\3A-DETAILS-102402.DWG	3 OF 3



RECORD DRAWING

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MATTHEW S. LOVE, PE
No. 66118

P:\2014_Brandes\308\0009\10-RECORD\0128\MECHANICAL\3A-DETAILS-102402.dwg, 10/22/2012 12:27:50 PM, Dan Shuman

RD	RECORD DRAWING	DATE	JULY 2012
REV. NO.	DESCRIPTIONS	DATE	
	REVISIONS		

SEAL

MATTHEW S. LOVE, P.E.
No. 66118

SEAL

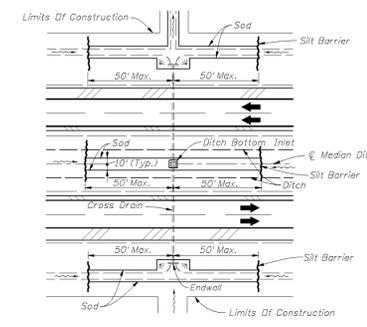
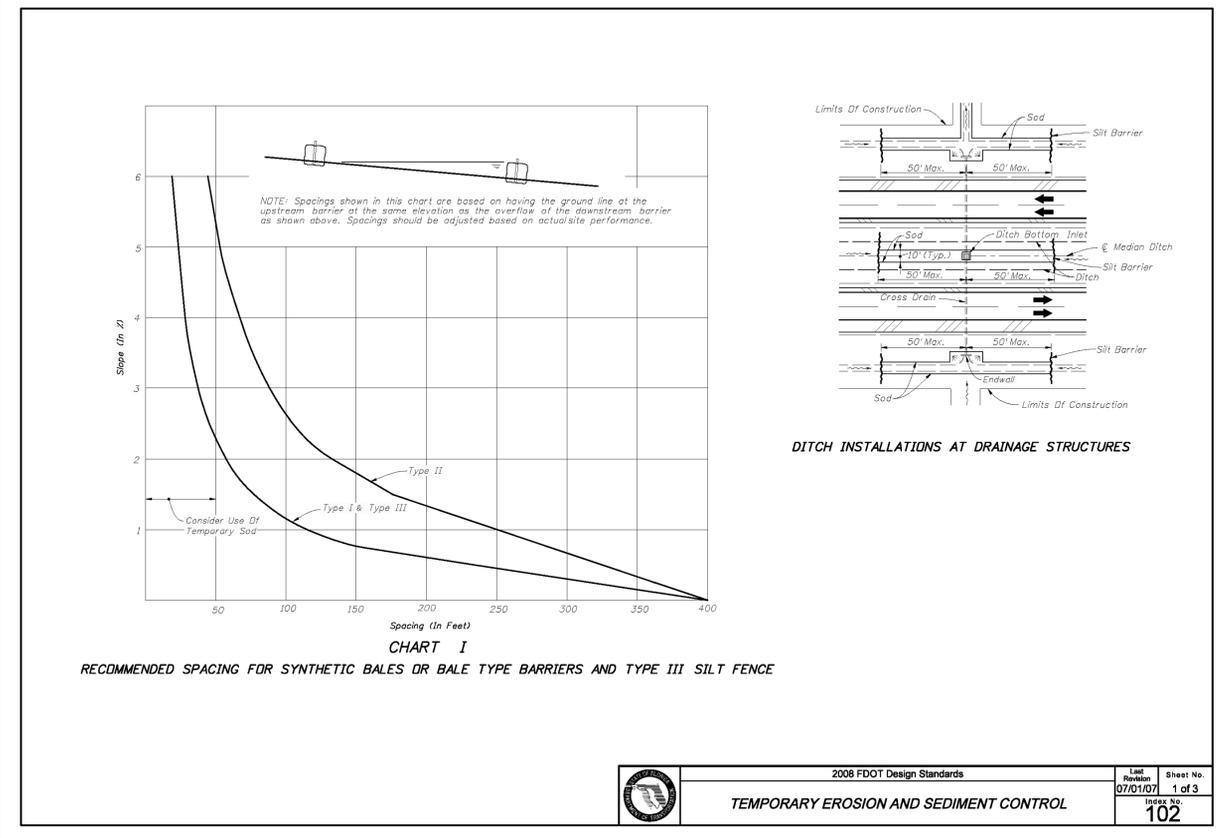
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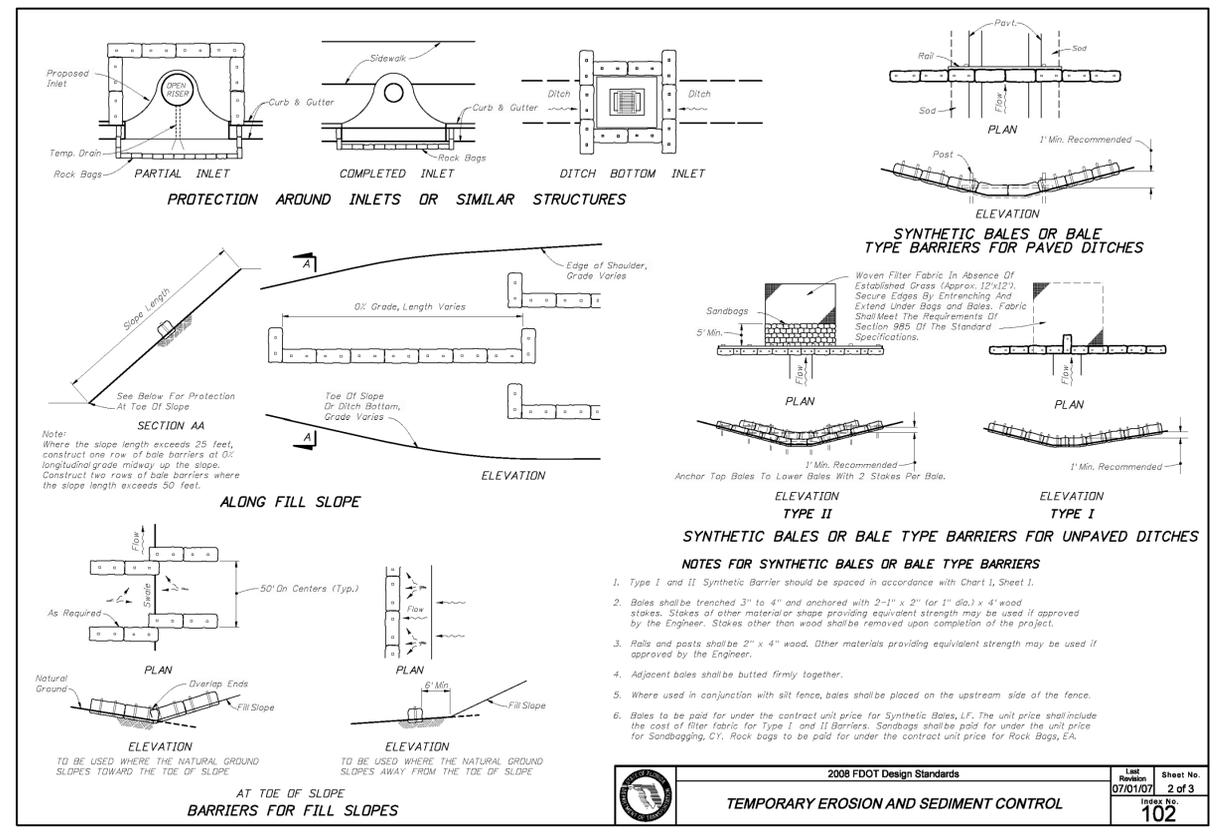
SWWRF RECLAIMED WATER AUTOMATION

MECHANICAL DETAILS 3A

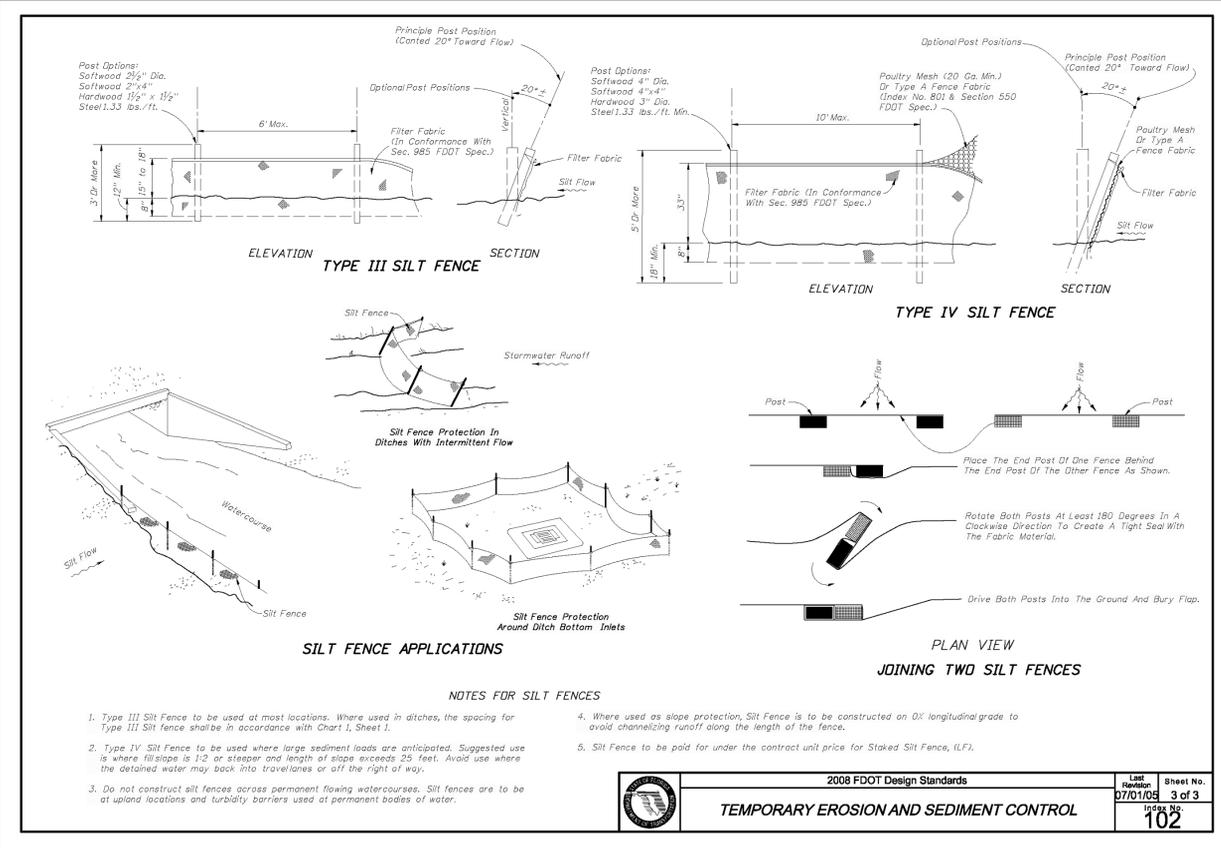
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DESIGNED:	MSL				
CHECKED:	JSL				
PROJ. MGR.:	MSL				
STATUS:	RECORD DRAWING				



	2008 FDOT Design Standards	Limit Revision	Sheet No.
	TEMPORARY EROSION AND SEDIMENT CONTROL	07/01/07	1 of 3
		Index No.	102

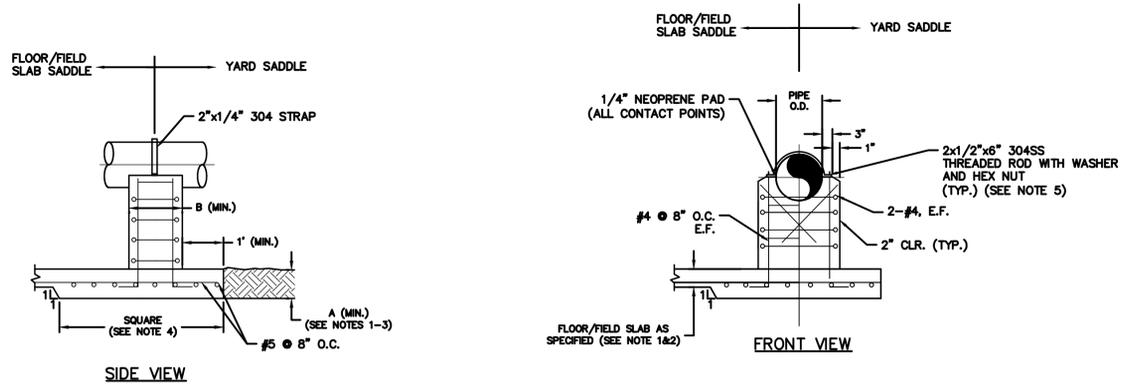


	2008 FDOT Design Standards	Limit Revision	Sheet No.
	TEMPORARY EROSION AND SEDIMENT CONTROL	07/01/07	2 of 3
		Index No.	102



	2008 FDOT Design Standards	Limit Revision	Sheet No.
	TEMPORARY EROSION AND SEDIMENT CONTROL	07/01/07	3 of 3
		Index No.	102

- GENERAL NOTES:**
- PIPE SUPPORT SLAB DEPTH SHALL BE NO LESS THAN ADJOINING FLOOR SLAB.
 - PIPE SUPPORT REINFORCEMENT SHALL BE NO LESS THAN ADJOINING REINFORCEMENT REQUIREMENTS
 - FOR A=10" OR THICKER, USE 2 LAYERS OF REINF. T/B E/W.
 - SADDLE FOOTER SHALL BE SQUARE (IN INCREMENTS OF 6") AND BE SIZED FOR FULL PIPE CONDITION WITH A MAXIMUM SOIL BEARING CAPACITY OF 500 LBS/SF. BASED ON REQUIRED SUPPORT SPACING.
 - ROD SHALL BE EMBEDDED WITH EPOXY GROUT TO A DEPTH OF 6".
 - INCREASE 4" CLEARANCE AS REQUIRED IF BOLT HAS TO BE INSERTED FROM THE SUPPORT SIDE OF THE CONNECTION.
 - SLAB DEPTH (A); 8" FOR OD < 24"
10" FOR 24" < OD < 42"
 - SADDLE WIDTH (B); 8" FOR OD < 24"
12" FOR 24" < OD < 42"



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B. INFORMATION FURNISHED BY:	
BRANDES DESIGN-BUILD INC. 2051 NE COACHMEN ROAD CLEARWATER, FLORIDA 33765 C: 727-445-7544 / F 727-445-7534	
<input type="checkbox"/> REVISIONS	<input checked="" type="checkbox"/> NO REVISIONS
DATE: MARCH 2012	
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MATTHEW S. LOVE, PE No. 66118	

RD	RECORD DRAWING	DATE	JULY 2012
REV. NO.	DESCRIPTIONS	DATE	
	REVISIONS		

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MATTHEW S. LOVE, P.E.
No. 66118

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SWWRF RECLAIMED WATER AUTOMATION

EROSION CONTROL DETAILS

AND MECHANICAL DETAILS 4

DATE:	AUGUST 2012	SCALE:		DRAWING NUMBER:	
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DESIGNED:	MSL				
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PROJ. MGR.	MSL				
STATUS:		RECORD DRAWING			

FUNCTION SYMBOL SCHEDULE

FIRST LETTER		SUCCEEDING-LETTERS		
MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	Analysis	Alarm		
B	Burner, Combustion	Programmer		
C	Conductivity (Electrical)		Control	Closed
D	Density or Specific Gravity	Differential		
E	Voltage	Sensor (Primary Element)	Eduction	
F	Flow Rate	Ratio (Fraction)		
G	Gaging	Glass, Viewing Device		
H	Hand			High
I	Current (Electrical)	Indicate		
J	Power	Scan		
K	Time, Time Schedule		Control Station	
L	Level	Light (Pilot)		Low
M	Motor			Middle, Intermediate
N	Vibration			
O	Operation	Offset	Orifice, Restriction	Open
P	Pressure, Vacuum		Point (Test) Connection	
Q	Quantity, Event	Integrate, Totalize	Integrate	
R	Radiation		Record, Print	Regulate
S	Speed, Frequency	Safety		Switch
T	Temperature		Transmit	
U	Multivariable	Trend	Multifunction	Multifunction
V	Viscosity	Vacuum		Valve, Damper, Louver, Gate
W	Weight, Force, Torque		Well	
X	Unclassified		Unclassified	Unclassified
Y			Relay, Compute, Convert	
Z	Position		Final Control Element	Drive, Actuator, Unclassified Final Control Element

LINE CODES

- INSTRUMENT SIGNAL
- ELECTRICAL SIGNAL
- DATA LINK
- PNEUMATIC
- CAPILLARY
- SONIC OR R.F.
- HYDRAULIC
- TELEPHONE
- NO ELECTRICAL CONNECTION
- ELECTRICAL CONNECTIONS (INDICATED BY DOTS)
- HEAT TRACED PROCESS
- LINE OR EQUIPMENT
- MATCHLINE
- PROCESS LINE OR ELECTRICAL SIGNAL CONTINUATION TO/FROM SHEET NUMBER INDICATED
- CONTINUATION ON SAME SHEET
- CONTINUATION ON FACILITIES NOT SHOWN ON DRAWINGS

VALVES, PUMPS & METERS

- FLAME ARRESTOR
- PINCH VALVE
- GATE
- NEEDLE
- BUTTERFLY
- BALL OR ROTARY
- GLOBE
- PLUG OR COCK
- DIAPHRAGM
- CHECK
- DIAPHRAGM CHECK
- CONTROL VALVE POSITIONER
- PRESSURE REGULATING VALVE
- BACKPRESSURE REGULATING VALVE
- PISTON OPERATED
- S=SOLENOID OPERATED
- M=MOTOR OPERATED
- P=PNEUMATIC OPERATED
- DRAIN
- Y=WEIR GATE
- T=SLIDE SLUICE GATE
- I=STOP LOG
- BLIND FLANGE
- PULSATION DAMPENER
- PRESSURE RELIEF OR SAFETY
- 3-WAY
- 4-WAY
- TELESCOPING
- REDUCER
- HOSE CONNECTION
- WAFER/CHECK VALVE

VALVES, PUMPS & METERS (CONT'D)

- FLOAT SWITCH OR FLOAT
- (ARV) AIR RELEASE VALVE
- (ARVV) AIR VACUUM RELEASE VALVE
- ELECTRIC MOTOR
- ORIFICE/ANNUBAR
- AIR DIFFUSER
- LIQUID DIFFUSER
- CAPACITANCE METER
- REGULATOR/FILTER
- SUBMERSIBLE PUMP
- MAGNETIC METER (INLINE/INSERT)
- ULTRASONIC METER
- VENTURI OR FLOW TUBE
- PROPELLER OR TURBINE METER
- DOPPLER OR TRANSIT TIME FLOW METER
- ROTAMETER
- PROGRESSING CAVITY PUMP
- CENTRIFUGAL PUMP
- POSITIVE DISPLACEMENT PUMP
- DIAPHRAGM OR METERING PUMP
- EDUCTOR
- STRAINER
- DIAPHRAGM ISOLATOR
- HORN
- GRADUATED MEASURING CYLINDER
- CYLINDER HYDRAULIC OR PNEUMATIC
- LATERAL WYE
- RUPTURE DISK
- RESTRAINED FLEX CONN.
- FLEX CONN.
- FILTER AIR/WATER
- CENTRIFUGAL BLOWER
- POSITIVE DISPLACEMENT BLOWER
- MANUAL BAR RACK
- MIXER
- SUBMERSIBLE AERATOR/MIXER (ELECTRIC MOTOR DRIVEN)
- UNION

MISCELLANEOUS SYMBOLS

- PURGE CONNECTION
- SAMPLE POINT
- INTERLOCK
- MULTIPLY
- DIVIDE
- HIGH SELECT
- LOW SELECT
- SQUARE ROOT
- SUM (ALGEBRAIC)
- SPECIAL FUNCTION
- R+B RATIO PLUS BIAS
- dL/dt RATE OF RISE (LEVEL)

VALVE OPERATION NOTATION

- EFC = ELECTRIC FAIL CLOSE
- AFC = AIR FAIL CLOSE
- EFO = ELECTRIC FAIL OPEN
- AFO = AIR FAIL OPEN
- AFS = AIR FAIL STATIC
- EFS = ELECTRIC FAIL STATIC

CONTROLLER NOTATION

- PV = PROCESS VARIABLE INPUT
- SP = SET POINT INPUT
- C = CONTROL OUTPUT

PLC NOTATIONS

- AI = ANALOG INPUT
- AO = ANALOG OUTPUT
- DI = DISCRETE INPUT
- DO = DISCRETE OUTPUT
- D/A = DISCRETE TO ANALOG CONVERTOR
- SSDC = SURGE SUPPRESSION DEVICE

HAND SWITCH NOTATION

- HOA = HAND-OFF-AUTO
- S/S = START/STOP
- SEL = SELECTOR
- O/C = OPEN/CLOSE
- O/O = ON/OFF
- LOS = LOCKOUT-START
- D/S = DUTY/STANDBY
- FOS = FAST-OFF-SLOW
- OAC = OPEN-AUTO-CLOSE
- OOCA = OPEN-OFF-CLOSE-AUTO
- ROF = REVERSE-OFF-FORWARD
- ROL = RAISE-OFF-LOWER
- F/R = FORWARD/REVERSE
- HOR = HAND-OFF-REMOTE
- LOR = LOCAL-OFF-REMOTE
- SAR = SILENCE-AUTO-RESET

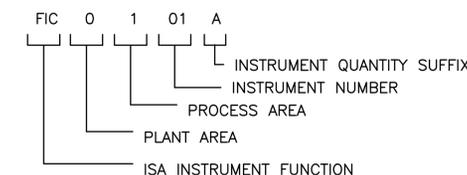
EQUIPMENT NOTATION

- B = BLOWER OR FAN
- E = ENGINE
- G = GENERATOR
- F = FILTER
- GS = GRINDER/SCREEN
- K = COMPRESSOR
- H = HOIST
- ME = MECHANICAL EQUIPMENT
- MX = MIXER
- P = PUMP
- R = HEAT EXCHANGER
- T = TANK OR SUMP

VALVE DESIGNATIONS

- HV = HAND VALVE
- FCV = FLOW CONTROL VALVE (MODULATING)
- PRV = PRESSURE REGULATING VALVE
- LCV = LEVEL CONTROL VALVE
- FV = FLOW VALVE (NON-MODULATING)
- MV = MUD VALVE
- TV = TELESCOPING VALVE
- CV = CHECK VALVE
- MOV = MOTOR OPERATED VALVE

INSTRUMENT TAG NOTATION



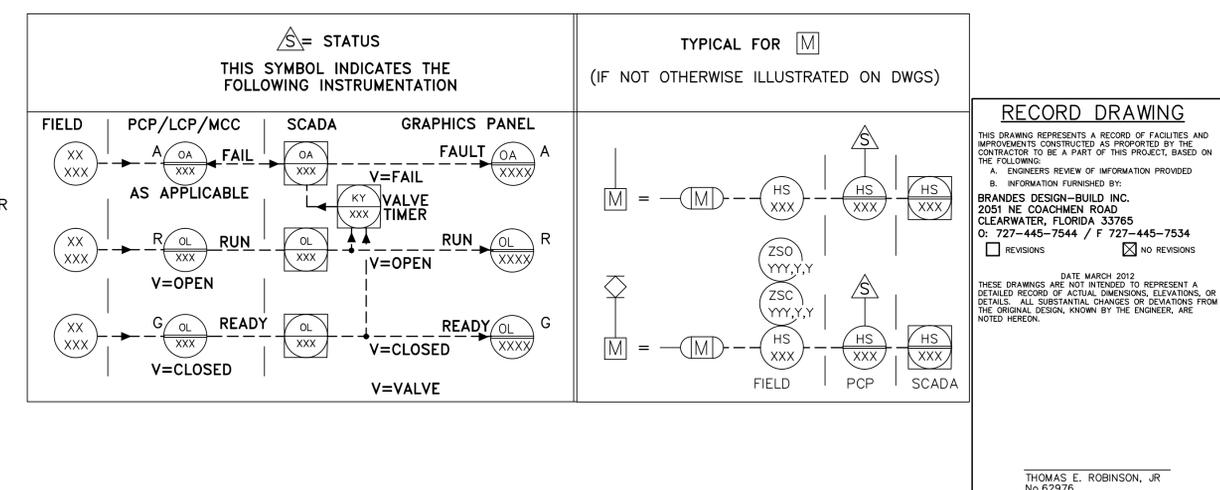
MISCELLANEOUS NOTATIONS

- S/D = SHUTDOWN
- O/R = OVERRIDE
- MCC = MOTOR CONTROL CENTER
- VFD = VARIABLE FREQUENCY DRIVE
- UCP = UNIT CONTROL PANEL
- LCP = LOCAL CONTROL PANEL
- MCP = MASTER CONTROL PANEL
- ES = ELECTRICAL SUPPLY
- IS = INLET SILENCER
- DS = DISCHARGE SILENCER
- SEQ = SEQUENCER/ALTERNATOR
- SA = SURGE ARRESTOR
- DO = DISSOLVED OXYGEN
- ETM = ELAPSED TIME METER
- TURB = TURBIDITY
- US = ULTRASONIC

BASIC SYMBOLS

MULTIPLE FUNCTION

- OR FIELD MOUNTED INSTRUMENT OR DEVICE
- OR FRONT OF PANEL MOUNTED INSTRUMENT ON UCP OR MCC, VFD
- OR REAR OF PANEL MOUNTED INSTRUMENT ON UCP OR MCC, VFD
- OR FRONT OF PANEL MOUNTED INSTRUMENT ON MAIN PANEL
- OR REAR OF PANEL MOUNTED INSTRUMENT ON MAIN PANEL
- OR PLC AND/OR COMPUTER SOFTWARE COMPONENT (OPERATOR ACCESSIBLE UNDER NORMAL CONDITIONS)
- OR PLC AND/OR COMPUTER GENERATED COMPONENT (NOT OPERATOR ACCESSIBLE UNDER NORMAL CONDITIONS)
- OR PLC INPUT/OUTPUT



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2051 NE COACHMEN ROAD
CLEARWATER, FLORIDA 33765
C: 727-445-7544 / F 727-445-7534

REVISIONS: NO REVISIONS

DATE: MARCH 2012

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THOMAS E. ROBINSON, JR.
No. 62976

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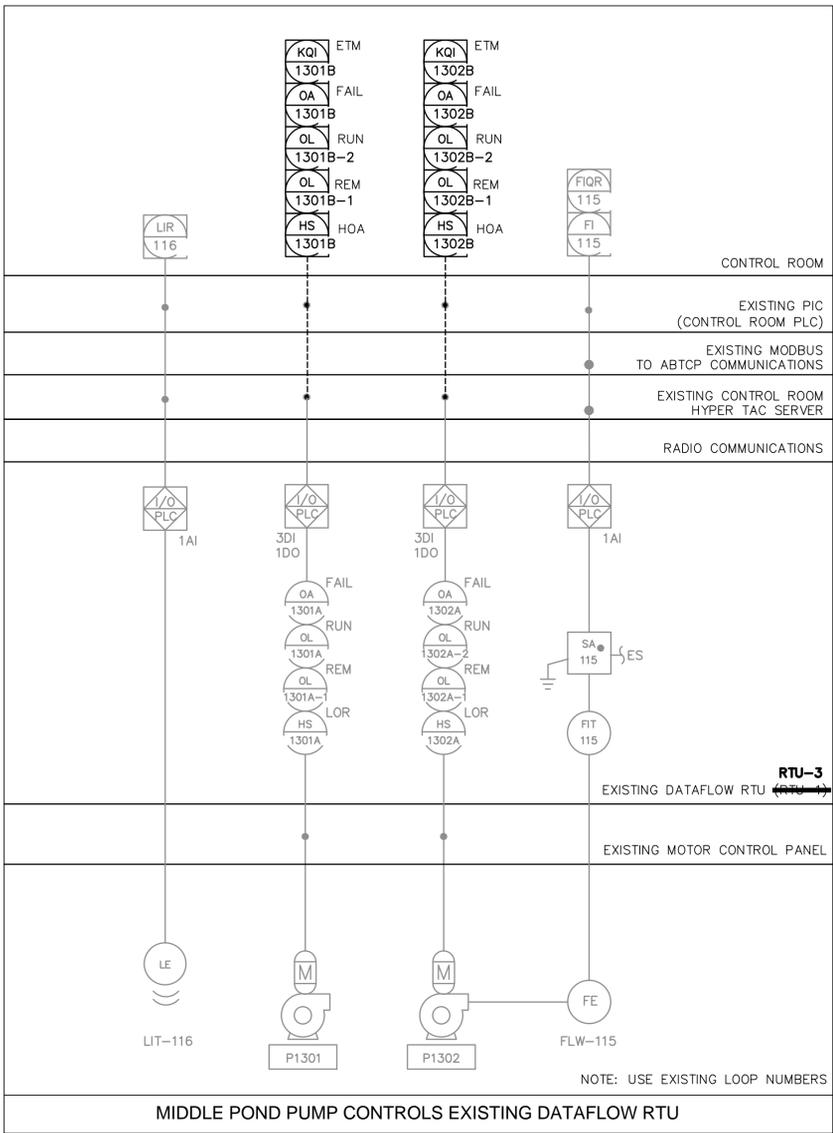
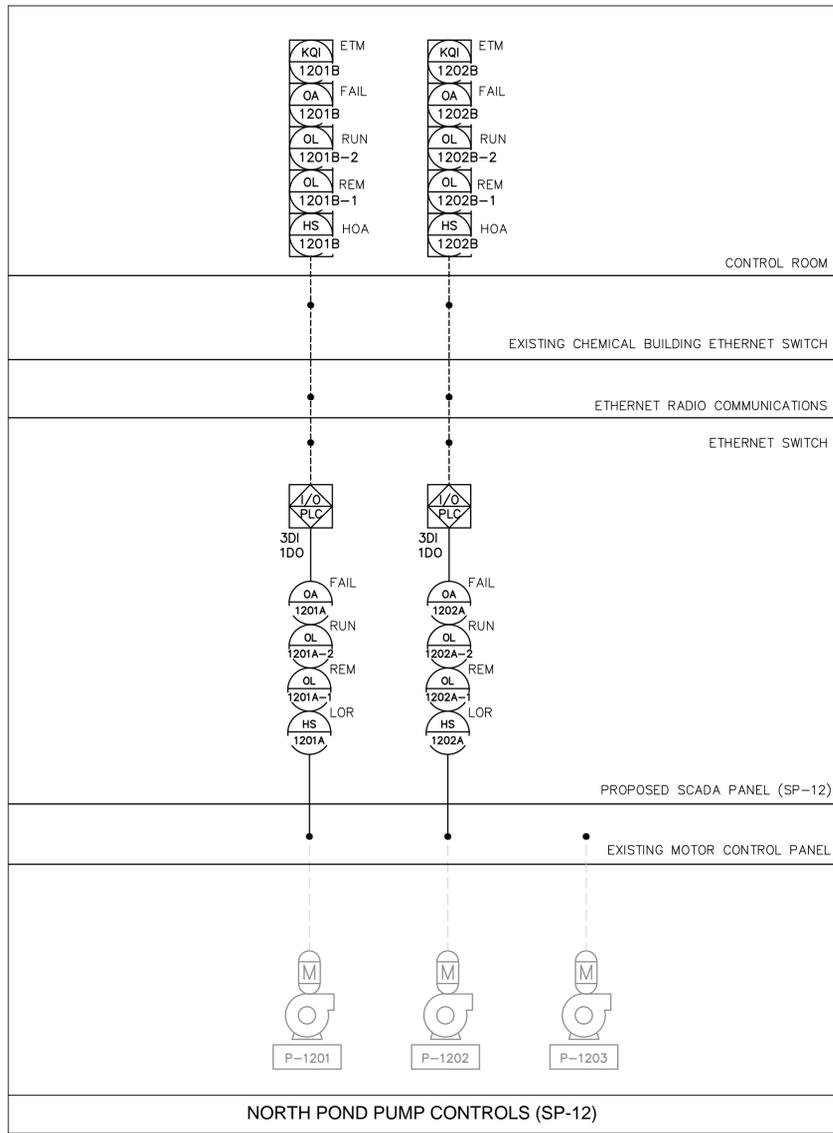
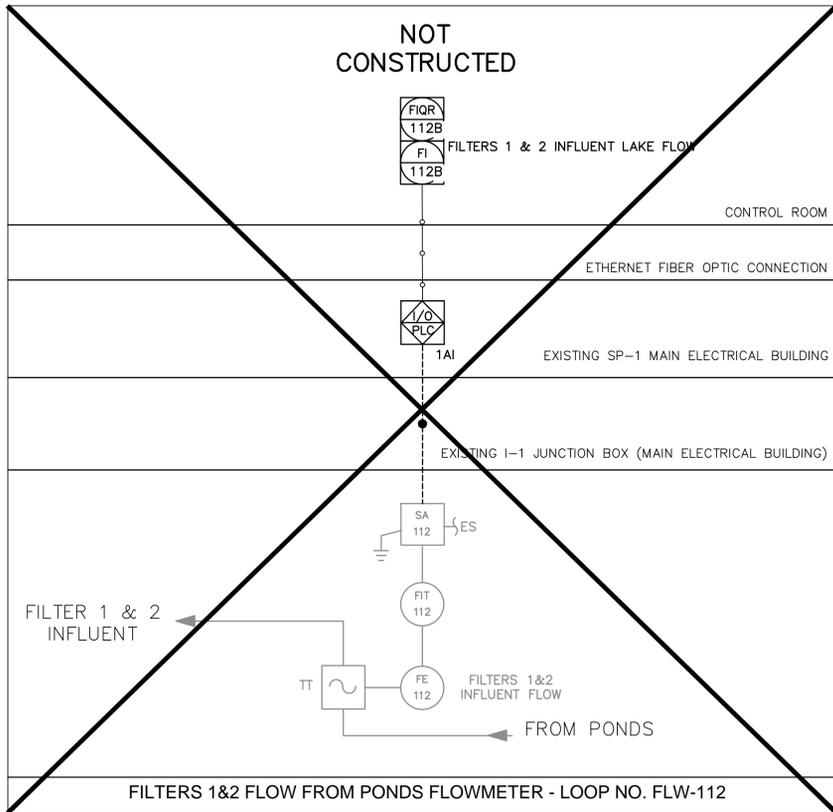
PROCESS AND INSTRUMENTATION
GENERAL NOTES, LEGEND
AND ABBREVIATIONS

DATE: AUGUST 2012
MCE PROJ. # 1024-0128
DRAWN: EEB
DESIGNED: EEB
CHECKED: TER
PROJ. MGR: MSL

SCALE: HORIZONTAL: NA, VERTICAL: NA

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STATUS: RECORD DRAWING



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MANATEE COUNTY, FLORIDA

SWWRF RECLAIMED WATER AUTOMATION
PROCESS AND INSTRUMENTATION DIAGRAM
SHEET 3

DATE: AUGUST 2012	SCALE:	DRAWING NUMBER:
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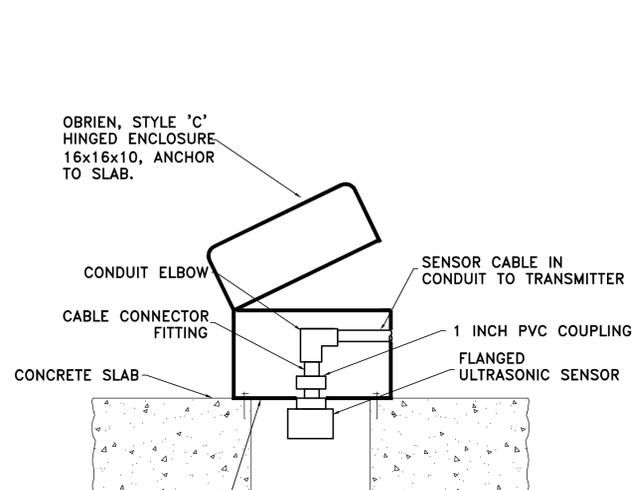
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2051 NE COACHMEN ROAD
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REVISIONS NO REVISIONS

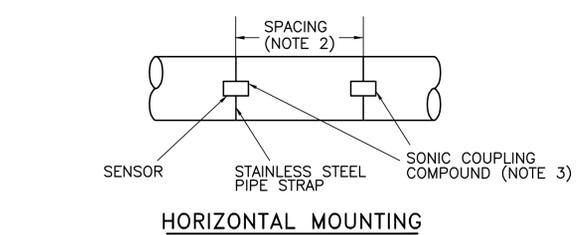
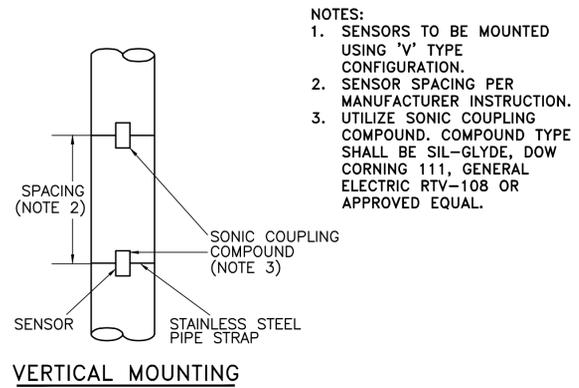
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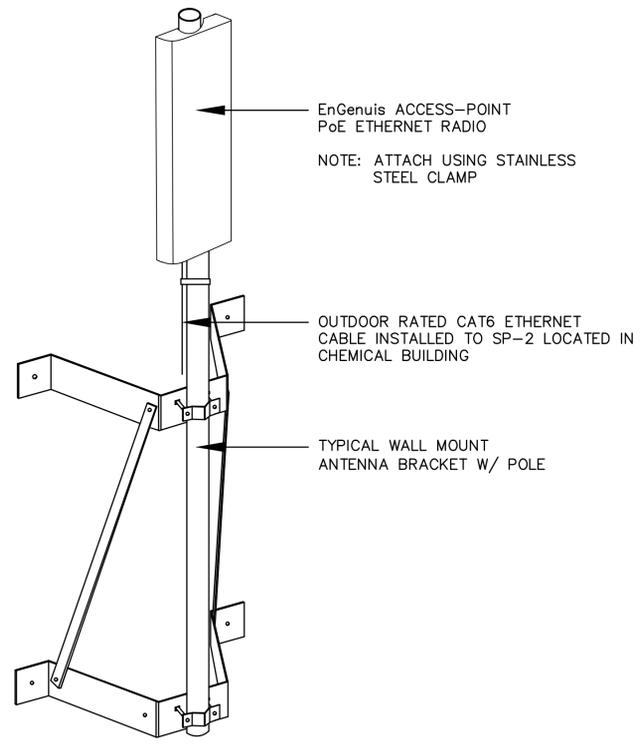


ULTRASONIC SENSOR MOUNTING FOR ENCLOSED WETWELL DETAIL

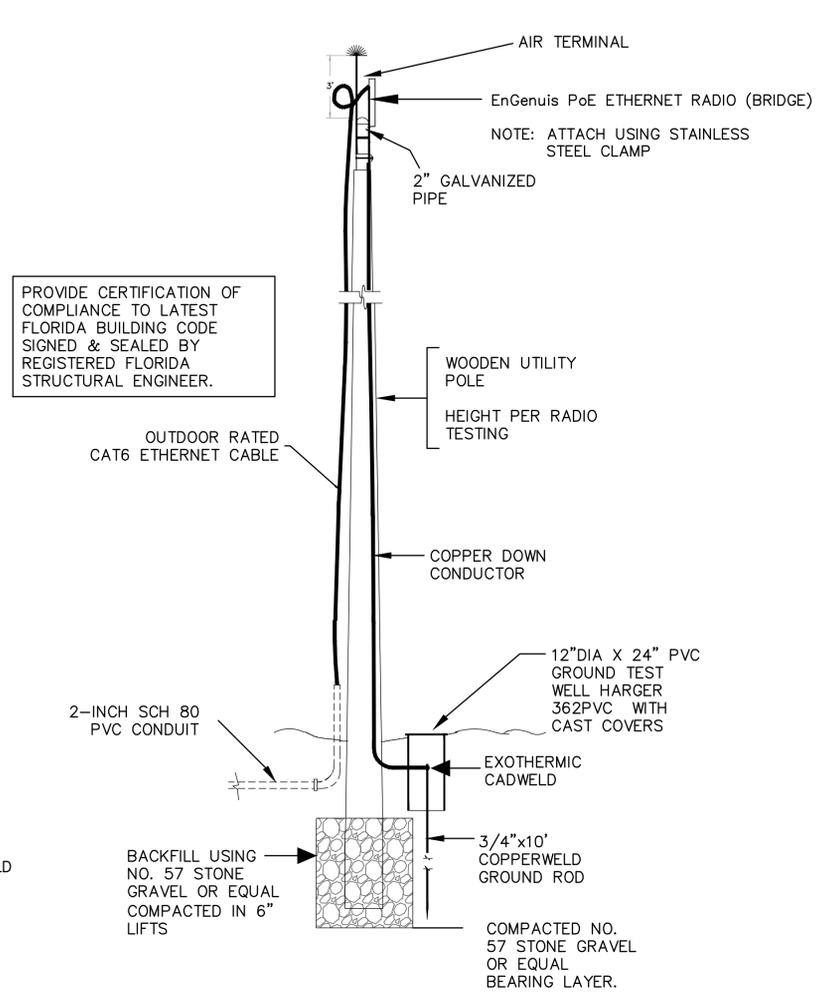


TRANSIT TIME FLOW METER SENSOR MOUNTING DETAIL

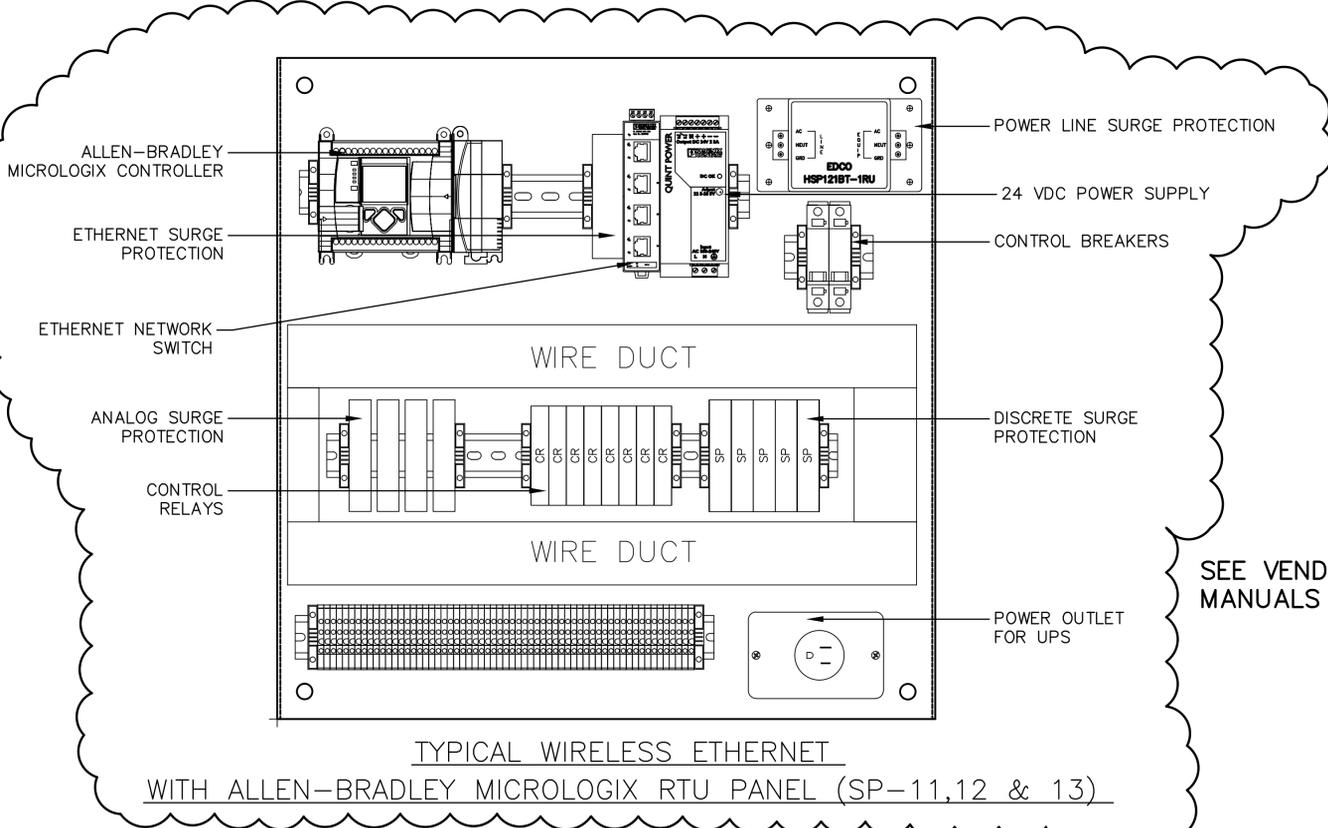
- NOTES:
1. SENSORS TO BE MOUNTED USING 'V' TYPE CONFIGURATION.
 2. SENSOR SPACING PER MANUFACTURER INSTRUCTION. UTILIZE SONIC COUPLING COMPOUND. COMPOUND TYPE SHALL BE SIL-GLYDE, DOW CORNING 111, GENERAL ELECTRIC RTV-108 OR APPROVED EQUAL.
 - 3.



ACCESS-POINT RADIO BUILDING MOUNTING DETAIL

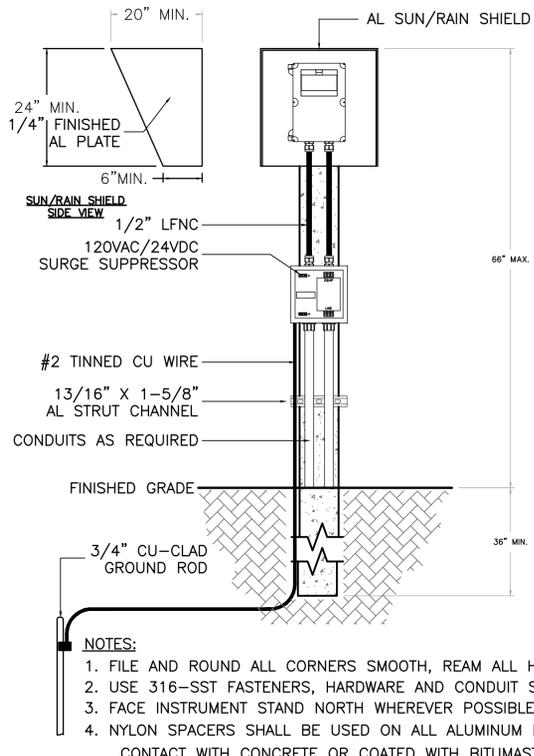


ANTENNA POLE INSTALLATION DETAIL FOR NORTH POND (SP-11)



TYPICAL WIRELESS ETHERNET WITH ALLEN-BRADLEY MICROLOGIX RTU PANEL (SP-11,12 & 13)

SEE VENDOR O&M MANUALS FOR DETAILS



- NOTES:
1. FILE AND ROUND ALL CORNERS SMOOTH, REAM ALL HOLES.
 2. USE 316-SST FASTENERS, HARDWARE AND CONDUIT STRAPS.
 3. FACE INSTRUMENT STAND NORTH WHEREVER POSSIBLE.
 4. NYLON SPACERS SHALL BE USED ON ALL ALUMINUM MATERIALS IN CONTACT WITH CONCRETE OR COATED WITH BITUMASTIC PAINT.

INSTRUMENT STAND CONCRETE POST DETAIL

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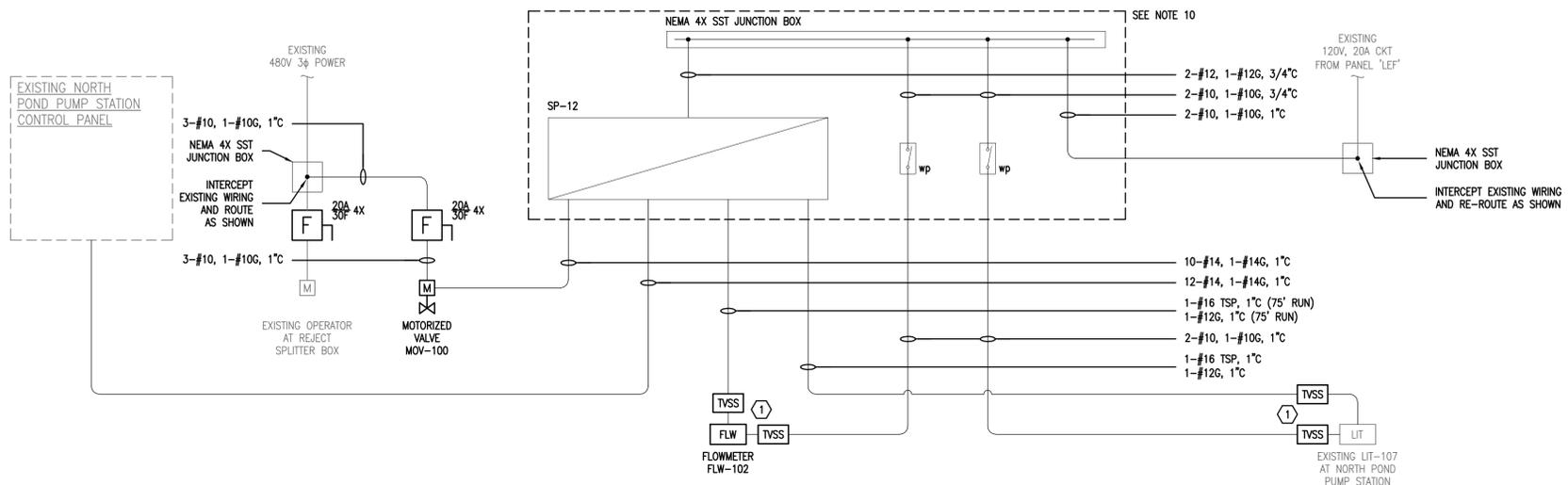
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PROCESS AND INSTRUMENTATION DETAILS

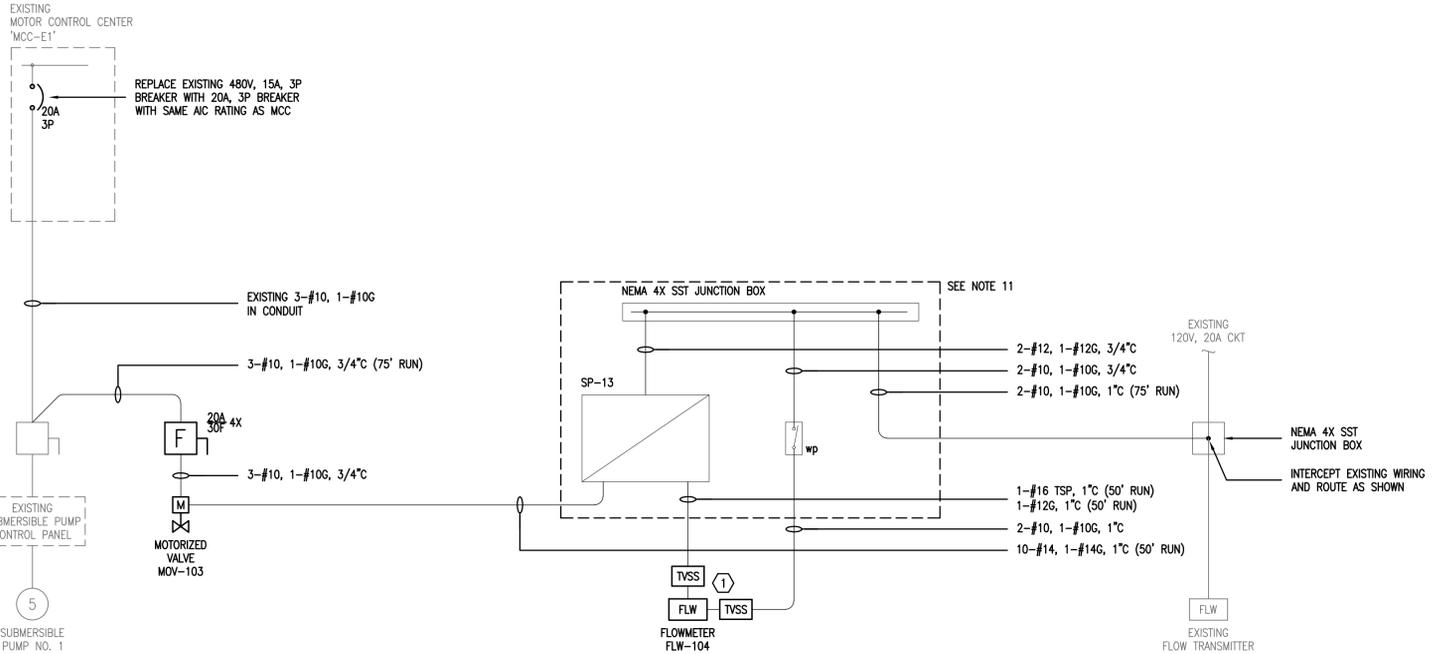
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CHECKED: TER		
PROJ. MGR: MSL		REVISION:
STATUS: RECORD DRAWING		



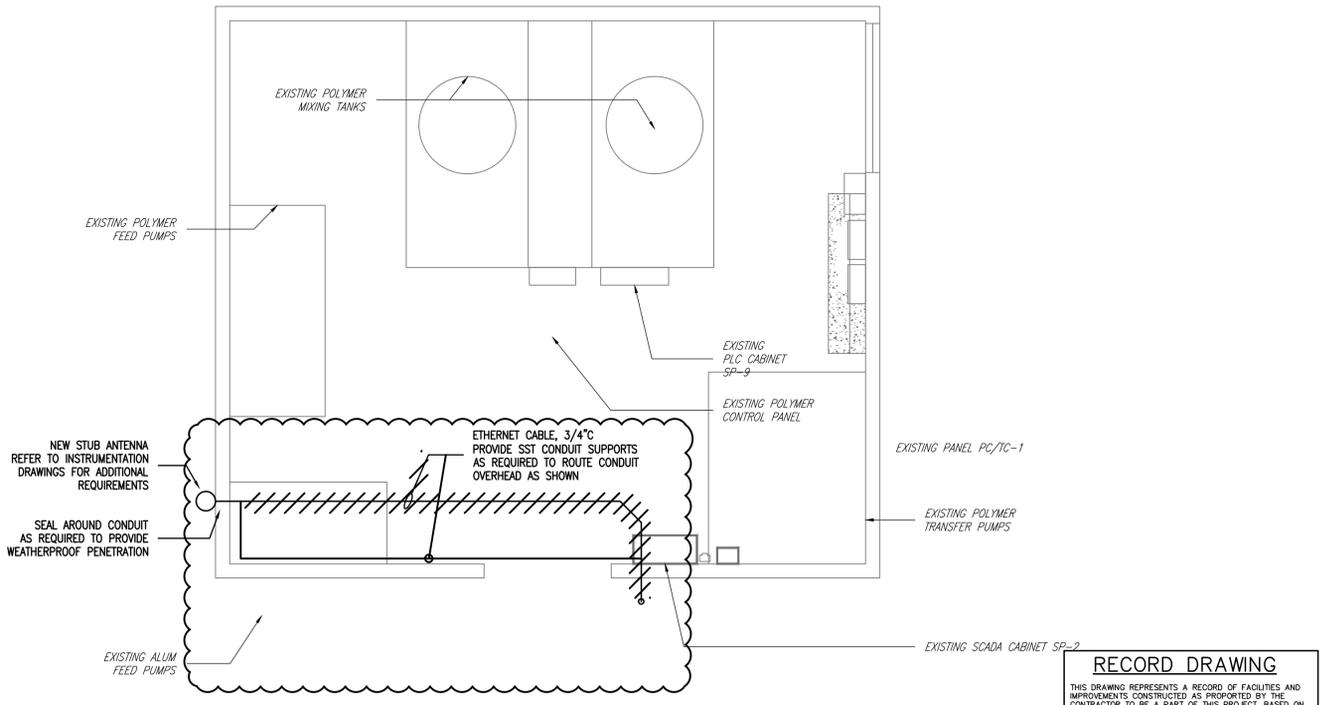
MOV-100, FLW-102
NORTH POND PUMP STATION
RISER DIAGRAM
N.T.S.

- NOTES:**
- ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT NEC, NESC AND LOCAL CODES INCLUDING OWNERS STANDARDS AND REQUIREMENTS.
 - ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED SO THAT ALL CODE-REQUIRED AND MANUFACTURER-RECOMMENDED SERVICING CLEARANCES ARE MAINTAINED. INSTALLATIONS SHALL COMPLY WITH NEC 110-26 FOR CLEARANCE REQUIREMENTS.
 - ALL POWER AND CONTROL CABLING SHALL BE 600V RATED THHN/THWN STRANDED COPPER.
 - ALL EXPOSED CONDUIT SHALL BE RIGID ALUMINUM. ALL CONDUIT INSTALLED BELOW GRADE SHALL BE CONCRETE ENCASED SCH. 40 PVC.
 - REFER TO DRAWING G-3 FOR LOCATIONS OF EQUIPMENT RACKS, VALVES, LEVEL TRANSMITTERS, AND FLOW TRANSMITTERS.
 - TRANSMITTER POWER ON-OFF SWITCH SHALL BE WEATHERPROOF.
 - PROVIDE EQUIPMENT RACK FOR NEW SP-12 PANEL ADJACENT TO THE NORTH POND PUMP STATION CONTROL PANEL.
 - PROVIDE DISCONNECTS AND STANDS FOR ALL MOTORIZED VALVES SUPPLIED OR RELOCATED AS A PART OF THIS CONTRACT.
 - PROVIDE MOUNTING STANDS FOR ALL NEW LEVEL AND FLOW TRANSMITTERS PROVIDED AS A PART OF THIS CONTRACT.
 - PROVIDE EQUIPMENT RACK, HARDWARE, ETC. AS REQUIRED FOR THE FOLLOWING EQUIPMENT AT A MINIMUM:
 - A. NEMA 4X JUNCTION BOX
 - B. SP-12
 - C. WEATHERPROOF SWITCHES
 - PROVIDE EQUIPMENT RACK, HARDWARE, ETC. AS REQUIRED FOR THE FOLLOWING EQUIPMENT AT A MINIMUM:
 - A. NEMA 4X JUNCTION BOX
 - B. SP-13
 - C. WEATHERPROOF SWITCH

- KEYNOTES:**
- PROVIDE CONDUIT/WIRE AS REQUIRED TO CONNECT INSTRUMENT TVSS DEVICES WHERE SHOWN. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



MOV-103, FLW-104
EFFLUENT PUMP STATION IRRIGATION METER
RISER DIAGRAM
N.T.S.



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MATTHEW S. LOVE, PE
No. 68118

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REV. NO.	DESCRIPTIONS	DATE
RD	RECORD DRAWING	MARCH 2012

SEAL

ARTHUR L. ANCHORS, P.E.
PROFESSIONAL ENGINEER NO. 39804
STATE OF FLORIDA

MCKIM & CREED

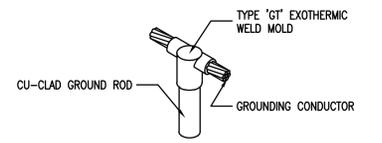
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
EB0006691
www.mckimcreed.com

MANATEE COUNTY, FLORIDA

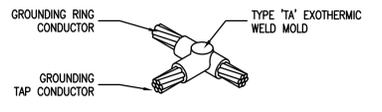
SWWRF RECLAIMED WATER AUTOMATION

MAIN ELECTRICAL BUILDING
SINGLE LINE DIAGRAM

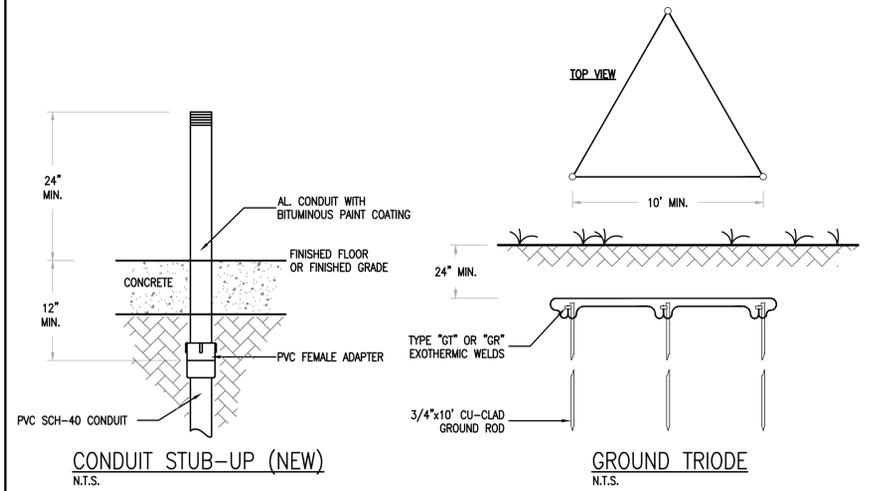
DATE: APRIL 2011	SCALE:	DRAWING NUMBER:
MCE PROJ. # 1024-0128	HORIZONTAL: NA	E-3
DRAWN: BMW	VERTICAL: NA	
DESIGNED: BMW		
CHECKED: ALA		
PROJ. MGR: MSL		REVISION:
STATUS: RECORD DRAWING		



EXOTHERMIC WELD 'GT' CONNECTION
N.T.S.

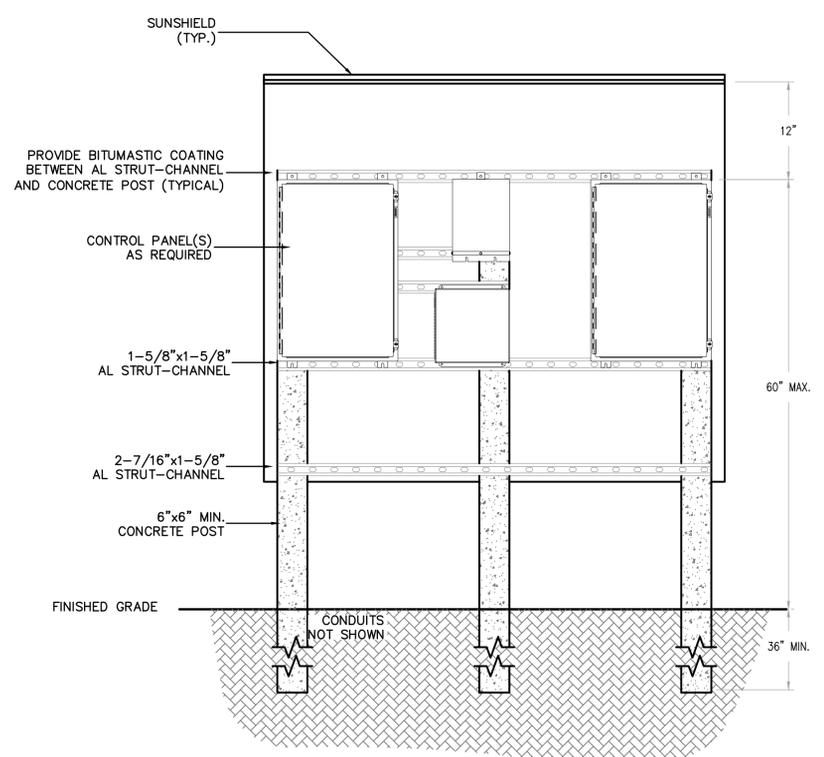


EXOTHERMIC WELD 'TA' CONNECTION
N.T.S.



CONDUIT STUB-UP (NEW)
N.T.S.

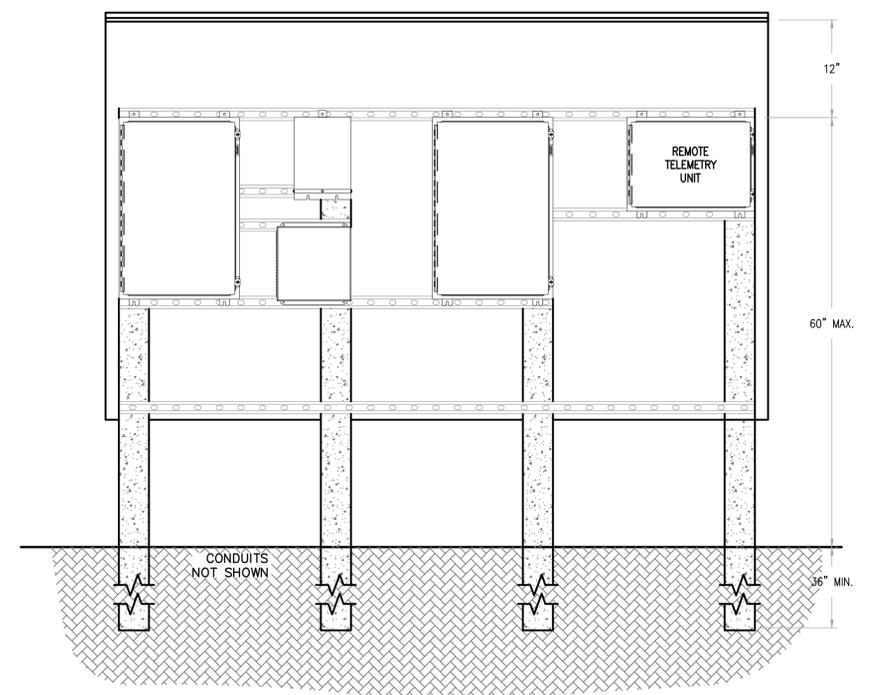
GROUND TRIODE
N.T.S.



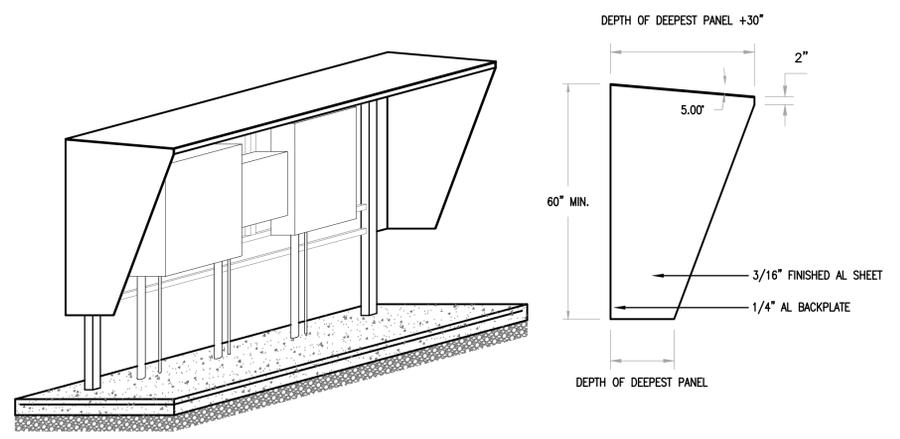
DETAIL NOTES:

- CONTRACTOR SHALL SUBMIT LAYOUT OF ELECTRICAL EQUIPMENT RACK.
- CONTRACTOR SHALL NOT CONSTRUCT ELECTRICAL EQUIPMENT RACK PRIOR TO RECEIVING APPROVED SUBMITTAL, INCLUDING ORDERING AND FABRICATION OF MATERIALS.
- ALL EQUIPMENT MOUNTING HARDWARE SHALL BE 316 STAINLESS-STEEL.
- CONCRETE SHALL BE 3000psi. CONCRETE PADS SHALL BE REINFORCED WITH 6x6-1.4Wx1.4W WWF. PAD SHALL EXTEND 36" OUT FROM DEEPEST PANEL AND 6" OUT FROM SIDES OF SUN/RAIN HOOD.
- PROVIDE ADDITIONAL VERTICAL 6" 'I-BEAM' POSTS AND BASES LIKE THOSE SHOWN ON PLANS TO SPAN GREATER DISTANCES GREATER THAN 96".
- ALARM STROBE SHALL BE MOUNTED, WATER-TIGHT, ATOP PUMP CONTROL PANEL 'PCP'.
- PROVIDE WEATHERPROOF CORROSION RESISTANT FLUORESCENT FIXTURE MOUNTED UNDERNEATH SUN/RAIN HOOD, LIGHT SWITCH AND GFCI RECEPTACLE.
- STRUT-CHANNEL SHALL BE MOUNTED TO 'I-BEAM' POSTS WITH STAINLESS-STEEL FASTENERS AND GALVANIZED CLAMPING HARDWARE.
- THE BOTTOM OF EQUIPMENT SHALL BE MOUNTED NO LESS THAN 20" ABOVE FINISHED CONCRETE PERSONNEL PAD.
- CONDUITS SHALL BE INSTALLED UNBROKEN (NO FITTINGS, COUPLINGS, UNIONS, ETC.) THROUGH CLASS-1/DIV-II BOUNDARY.

ELECTRICAL EQUIPMENT RACK LAYOUT (FRONT ELEVATION)
N.T.S.



ELECTRICAL EQUIPMENT RACK LAYOUT WITH RTU
N.T.S.



SUN/RAIN HOOD TYPICAL (ISOMETRIC)
N.T.S.

SUN/RAIN HOOD DETAIL (SIDE-VIEW)
N.T.S.

- GENERAL NOTES:
- REFER TO SHEET E1 FOR GENERAL ELECTRICAL NOTES, ABBREVIATIONS, SYMBOLS AND LIGHTING FIXTURE SCHEDULE.
 - ALL ELECTRICAL WORK SHALL COMPLY WITH THE NEC, NESC AND LOCAL CODES INCLUDING OWNERS STANDARDS AND REQUIREMENTS.
 - THE NEW ELECTRICAL SERVICE SHALL BE 480/277-VOLT, 3-PHASE, 4-WIRE.
 - ALL POWER CONDUCTORS SHALL BE 600V RATED XHHW-2 STRANDED CU.
 - ALL CONTROL CONDUCTORS SHALL BE 600V RATED THHN/THWN STRANDED CU.
 - ALL EXPOSED CONDUITS SHALL BE RIGID ALUMINUM (AL).
 - ALL UNDERGROUND CONDUITS SHALL BE DIRECT BURIED PVC SCH-80.
 - SERVICE LATERAL CONDUIT SHALL BE CONCRETE ENCASED PVC SCH-80.

RECORD DRAWING

THIS DRAWING REPRESENTS A RECORD OF FACILITIES AND IMPROVEMENTS CONSTRUCTED AS PROVIDED BY THE CONTRACTOR TO BE A PART OF THIS PROJECT, BASED ON THE FOLLOWING:

- ENGINEERS REVIEW OF INFORMATION PROVIDED
- INFORMATION FURNISHED BY:
 - BRANDES DESIGN-BUILD INC.
 - 2051 NE COACHMEN ROAD
 - CLEARWATER, FLORIDA 33765
 - C: 727-445-7544 / F 727-445-7534

DATE: MARCH 2012

THESE DRAWINGS ARE NOT INTENDED TO REPRESENT A DETAILED RECORD OF ACTUAL DIMENSIONS, ELEVATIONS, OR DETAILS. ALL SUBSTANTIAL CHANGES OR DEVIATIONS FROM THE ORIGINAL DESIGN, KNOWN BY THE ENGINEER, ARE NOTED HEREON.

MATTHEW S. LOVE, PE
No. 68118

REV. NO.	DESCRIPTION	DATE

SEAL

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SWWRF RECLAIMED WATER AUTOMATION

ELECTRICAL DETAILS 2

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