

MANATEE COUNTY

ELWOOD BOOSTER PUMP STATION UPGRADES

COUNTY PROJ. No. 6097370

APRIL 2023

ISSUED FOR BID



VICINITY MAP NOT TO SCALE

PROJECT NAME: ELWOOD BOOSTER PUMP STATION UPGRADES

OWNER/DEVELOPER:
 MANATEE COUNTY
 1112 MANATEE AVE. W., SUITE 803
 BRADENTON, FL. 34205
 (941)749-3014

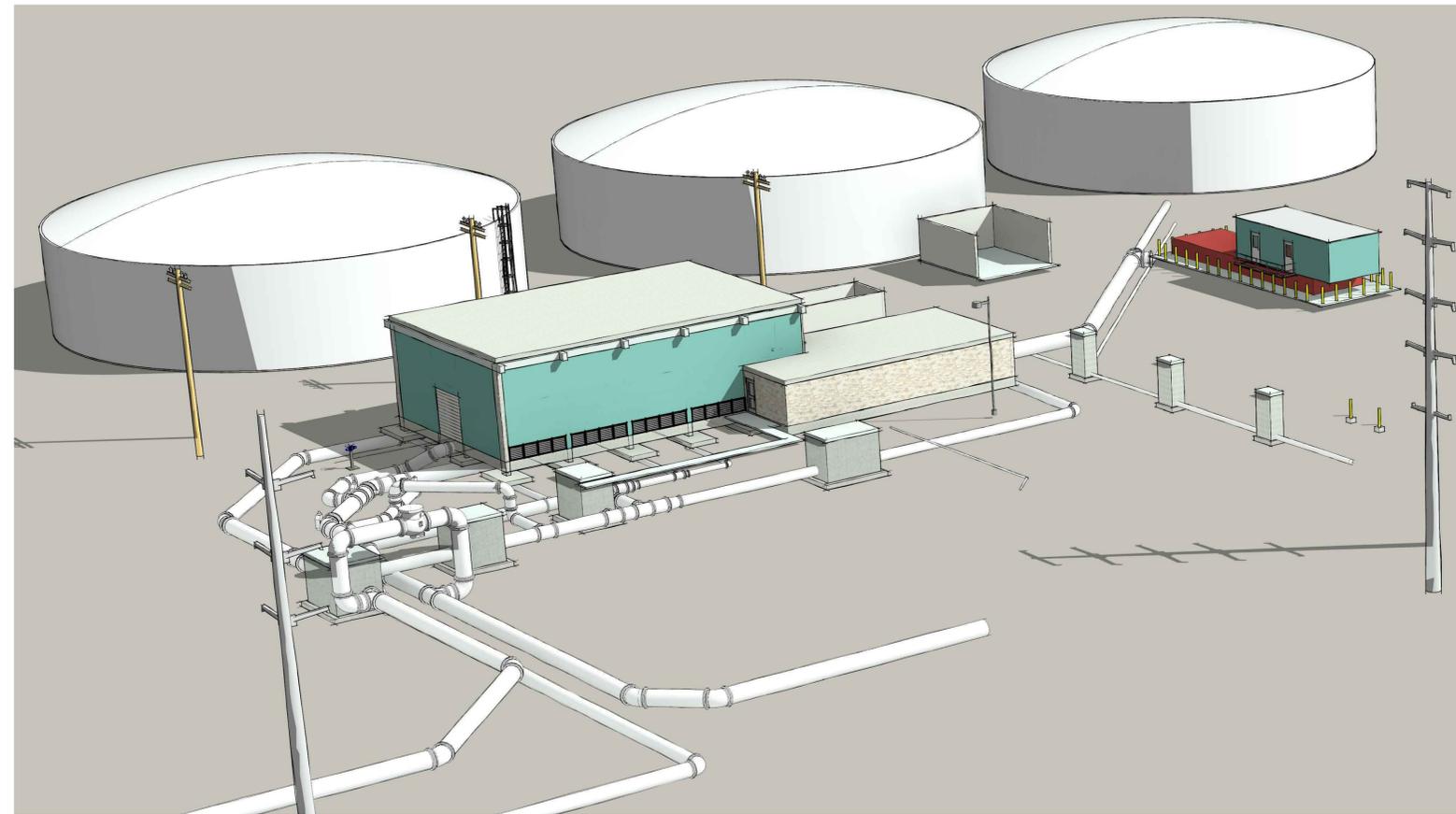
WWW.MYMANATEE.ORG



1365 Hamlet Avenue
 Clearwater, Florida 33756-3331
 Phone: (727) 442-7196, Fax: (727) 461-3827

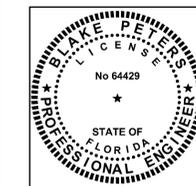
CA Lic. No. 29588
 www.mckimcreed.com

PROJECT INFORMATION



SITE MAP

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
GENERAL	
G-1	COVER SHEET
G-2	GENERAL NOTES (NOT INCLUDED)
G-3	LEGEND AND ABBREVIATIONS (NOT INCLUDED)
G-4	EXISTING SITE SUE & SURVEY (NOT INCLUDED)
G-5	PROCESS FLOW DIAGRAM
CIVIL	
C-1	EXISTING AND DEMO SITE PLAN
C-2	PROPOSED SITE PLAN
MECHANICAL	
M-1	EXISTING BUILDING PLAN AND DEMOLITION
M-2	PROPOSED PUMP REPLACEMENT PLAN
M-3	PROPOSED MECHANICAL PLAN AND SECTIONS
M-4	PROPOSED MECHANICAL RISER SECTION
ELECTRICAL	
E00.1	ELECTRICAL GENERAL NOTES
E00.2	ELECTRICAL SYMBOLS 1 OF 2
E00.3	ELECTRICAL SYMBOLS 2 OF 2
E01.1	ELECTRICAL AND PUMP ROOMS DEMOLITION PLAN
E01.2	PROPOSED ELECTRICAL SITE PLANS 1, 2 AND 3
E01.3	PROPOSED ELECTRICAL SITE PLANS 4, 5 AND 6
E02.1	EXISTING AND DEMOLITION ONE LINE
E02.2	PROPOSED ONE LINE
E02.3	INTERCONNECT DIAGRAM
E03.1	PANEL SCHEDULES
E04.1	DETAILS
INSTRUMENTATION	
I04.0	GENERAL NOTES, LEVENDS, AND ABBREVIATIONS
I04.1	BOOSTER PUMP STATION P&ID I
I04.2	BOOSTER PUMP STATION P&ID II
I04.3	INSTRUMENTATION DETAILS
DETAILS	
D-1	CIVIL DETAIL SHEET (1)
D-2	CIVIL DETAIL SHEET (2)
D-3	ERROSION CONTROL DETAILS

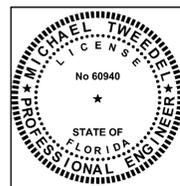


BLAKE PETERS,
 STATE OF FLORIDA,
 PROFESSIONAL ENGINEER,
 LICENSE NO. 64429

THIS ITEM HAS BEEN DIGITALLY
 SIGNED AND SEALED BY BLAKE
 PETERS ON THE DATE INDICATED
 ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS
 DOCUMENT ARE NOT CONSIDERED
 SIGNED AND SEALED AND THE
 SIGNATURE MUST BE VERIFIED ON
 ANY ELECTRONIC COPIES.

SHEET NUMBER	SHEET TITLE
GENERAL	
G-1	COVER SHEET
G-2	GENERAL NOTES
G-3	LEGENDS AND ABBREVIATIONS
G-4	EXISTING SITE SUE & SURVEY
G-5	PROCESS FLOW DIAGRAM
CIVIL	
C-1	EXISTING AND DEMO PLAN
C-2	PROPOSED SITE PLAN
MECHANICAL	
M-1	EXIST BUILDING PLAN AND DEMOLITION
M-2	PROPOSED PUMP REPLACEMENT PLAN
M-3	PROPOSED MECHANICAL PLAN AND SECTIONS
M-4	PROPOSED MECHANICAL RISER SECTION
DETAILS	
D-1	CIVIL DETAIL SHEET (1)
D-2	CIVIL DETAIL SHEET (2)
D-3	ERROSION CONTROL DETAILS

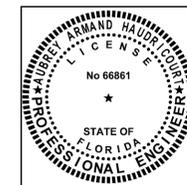


MICHAEL TWEEDDEL, STATE OF
 FLORIDA, PROFESSIONAL
 ENGINEER, LICENSE NO. 60940

THIS ITEM HAS BEEN DIGITALLY
 SIGNED AND SEALED BY MICHAEL
 TWEEDDEL ON THE DATE
 ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS
 DOCUMENT ARE NOT CONSIDERED
 SIGNED AND SEALED AND THE
 SIGNATURE MUST BE VERIFIED ON
 ANY ELECTRONIC COPIES.

SHEET NUMBER	SHEET TITLE
INSTRUMENTATION	
I04.0	GENERAL NOTES, LEGENDS AND ABBREVIATIONS
I04.1	BOOSTER PUMP STATION P&ID I
I04.2	BOOSTER PUMP STATION P&ID II
I04.3	INSTRUMENTATION DETAILS



AUBREY A. HAUDRICOURT, STATE
 OF FLORIDA, PROFESSIONAL
 ENGINEER, LICENSE NO. 66861

THIS ITEM HAS BEEN DIGITALLY
 SIGNED AND SEALED BY AUBREY A.
 HAUDRICOURT ON THE DATE
 ADJACENT TO THE SEAL.

PRINTED COPIES OF THIS
 DOCUMENT ARE NOT CONSIDERED
 SIGNED AND SEALED AND THE
 SIGNATURE MUST BE VERIFIED ON
 ANY ELECTRONIC COPIES.

SHEET NUMBER	SHEET TITLE
ELECTRICAL	
E00.1	ELECTRICAL GENERAL NOTES
E00.2	ELECTRICAL SYMBOLS 1 OF 2
E00.3	ELECTRICAL SYMBOLS 2 OF 2
E01.1	ELECTRICAL AND PUMP ROOMS DEMOLITION PLAN
E01.2	PROPOSED ELECTRICAL SITE PLANS 1, 2 AND 3
E01.3	PROPOSED ELECTRICAL SITE PLANS 4, 5 AND 6
E02.1	EXISTING AND DEMOLITION ONE LINE
E02.2	PROPOSED ONE LINE
E02.3	INTERCONNECT DIAGRAM
E03.1	PANEL SCHEDULES
E04.1	DETAILS

NOT TO SCALE

SHEET INDEX



SUBMITTAL DATE: APRIL 2023 PROJ. NO. 01024-0186 ELWOOD BOOSTER PUMP STATION UPGRADES

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.
- 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.
- 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.
- 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.
- 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.
- 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 POTABLE WATER DISTRIBUTION SYSTEM OPERATIONS AT ALL TIMES.
- ALL PROPOSED WORK SHALL BE COORDINATED WITH THE MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
- 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 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.
- 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 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 BMP'S IDENTIFIED IN CHAPTER 4, 4.40 "DEWATERING" OF "THE FLORIDA STORMWATER EROSION AND SEDIMENTATION CONTROL INSPECTOR'S MANUAL".
- 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.
- AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT 1-800-432-4770 OR THE NATIONAL 811 ONE CALL NUMBER WHEN APPLICABLE FOR UTILITY LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITIES FOR THE POSSIBLE RELOCATION OR THE TEMPORARY MOVEMENT OF ANY EXISTING UTILITIES WITHIN THE RIGHTS-OF-WAY.

GENERAL NOTES CONT.

- CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE FLORIDA TRENCH SAFETY ACT, 90-96, LAWS OF FLORIDA EFFECTIVE OCTOBER 1, 1990 AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION EXCAVATION SAFETY STANDARDS, 29 CFR 1926.650, SUBPART P, AS AMENDED. THE CONTRACTOR SHALL INCLUDE IN THE TOTAL BID PRICE ALL COSTS FOR COMPLIANCE WITH THESE REGULATIONS.
- CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND UTILITIES, POWER LINES, ETC.
- ALL CONSTRUCTION ACTIVITIES SHALL BE LIMITED TO WITHIN THE MANATEE COUNTY RIGHT-OF-WAY AND/OR EASEMENTS SHOWN ON THE DRAWINGS. THE PROJECT IS LOCATED AT 4825 44th AVENUE EAST, BRADENTON, FLORIDA 34203
- CONTRACTOR SHALL USE APPROPRIATE TECHNIQUES, AS APPROVED, RECOMMENDED OR OFFERED BY FLORIDA POWER AND LIGHT TO PREVENT UNDERMINING OF POWER POLES DURING CONSTRUCTION. IF HOLDING OF POWER POLES IS RECOMMENDED OR REQUIRED BY THE UTILITY, THE CONTRACTOR SHALL COORDINATE THIS ACTIVITY WITH THE UTILITY AND BEAR ALL RELATED COSTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL UTILITY COMPANIES FOR THE RELOCATION AND ADJUSTMENT OF ALL UTILITIES, INCLUDING, ANY EXISTING POWER POLES AND/OR UTILITY CONDUITS WITHIN RIGHT-OF-WAY.
- JOINT RESTRAINT SHALL BE INSTALLED AS NECESSARY TO PREVENT MOVEMENT OF EXISTING UNRESTRAINED PRESSURE PIPE AT ALL TIE-IN LOCATIONS WHETHER SPECIFICALLY IDENTIFIED ON THE PLANS OR NOT.
- ALL WORK, EQUIPMENT AND MATERIALS SHALL MEET OR EXCEED CURRENT MANATEE COUNTY STANDARDS, UNLESS OTHERWISE STATED IN CONTRACT DOCUMENTS.
- PIPE LENGTHS SHOWN ON PLAN VIEW DRAWINGS ARE IN LINEAR FEET AND DO NOT TAKE INTO ACCOUNT VERTICAL ELEVATION CHANGES, DEFLECTIONS, BENDS, ETC.
- ALL CONSTRUCTION ACTIVITIES SHALL BE COORDINATED WITH MANATEE COUNTY PROJECT MANAGEMENT DIVISION. THE PROJECT MANAGER IS ALBERT ROSENSTEIN (941-708-7450; EXT. 7219).

RESTORATION AND MISCELLANEOUS NOTES

- CONTRACTOR SHALL PROVIDE AN ASPHALT PATCH FOR TRENCH AREAS CONSTRUCTED IN EXISTING ROADWAYS. ADJUST ALL CASTINGS TO MATCH NEW PAVEMENT SURFACE.
- 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.
- CONTRACTOR SHALL RESTORE ALL IRRIGATION SYSTEM COMPONENTS TO PRE-CONSTRUCTION CONDITIONS.
- 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.

UTILITY NOTES

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

SUNSHINE STATE ONE CALL OF FLORIDA
1-(800) 432-4770



CHARTER COMMUNICATIONS
MICHAEL DEGRON
(727) 329-2951

FRONTIER COMMUNICATIONS
TONI CANNON - (AFTER HRS)
toni.cannon@ftr.com
(813) 875-1014

FLORIDA POWER & LIGHT - MANATEE
JOEL BRAY
(386) 586-6403

MCI-NATIONAL FIBER SECURITY DEPARTMENT
(800) 624-9675

MANATEE COUNTY TRANSPORTATION DEPARTMENT
KATHY McMAHON
(941) 792-8811 (EXT. 5002)

MANATEE COUNTY UTILITY OPERATIONS
KATHY McMAHON
(941)-792-8811 (EXT. 5002)

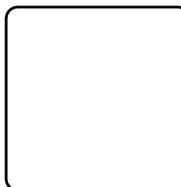
- ALL UTILITY CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST VERSION OF THE MANATEE COUNTY UTILITY STANDARDS.
- ALL BELOW GROUND DUCTILE IRON PIPE SHALL BE ENCASED IN A POLYETHYLENE WRAP IN ACCORDANCE WITH AWWA STANDARDS.
- ALL VALVE BOX COVERS SHALL BE PAINTED TO INDICATE THEIR TYPE OF SERVICE.
- 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.

SOIL EROSION & SEDIMENTATION CONTROL NOTES

- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION, DEMOLITION, DEWATERING, OR MOBILIZATION ACTIVITIES, MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL WORK IS COMPLETE.
- CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES THROUGHOUT DEMOLITION AND CONSTRUCTION.
- HAY BALES AND/OR SILT SCREENS SHALL BE INSTALLED ADJACENT TO THE WORK AREAS TO PREVENT SEDIMENT TRANSPORT PRIOR TO THE COMMENCEMENT OF WORK.
- INLET PROTECTION SHALL BE PLACED AT ALL INLETS IN OR ADJACENT TO THE PROJECT AREA.
- AS SOON AS PRACTICAL, ALL DRESSED SLOPES AND DISTURBED AREAS SHALL BE SODDED OR SEEDED AND MULCHED TO PREVENT EROSION.
- NO EXCAVATION SHALL EXTEND BELOW THE DEPTHS/ELEVATIONS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS WITHOUT PRIOR APPROVAL.
- CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES AND PROVIDE APPROVED FDEP NOI TO COUNTY.
- CONTRACTOR SHALL PREPARE AND SUBMIT A DISPOSAL PLAN FOR EXCAVATION MATERIAL INCLUDING THE LOCATION OF DISPOSAL SITE(S) AND DISPOSAL PLANS SHOWING APPLICABLE BEST MANAGEMENT PRACTICES FOR REVIEW AND APPROVAL PRIOR TO ANY EARTHWORK ACTIVITIES.
- 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.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV-2022
REVISIONS		

BLAKE PETERS, P.E.
No. 64429



1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com



**ELWOOD BOOSTER PUMP STATION
UPGRADES**

**GENERAL
GENERAL NOTES**

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: G-2
DRAWN DES	VERTICAL: NTS
DESIGNED NAM	NTS
CHECKED MAC	REVISION
PROJ. MGR. NAM	ISSUED FOR BID

G-2
DRAWING NUMBER

REVISION

ABBREVIATION LEGEND

ASPH	ASPHALT
AVG	AVERAGE
BPP	BLACK PLASTIC PIPE
C/L	CENTERLINE
C	CALCULATED
CB	CONCRETE BOX CULVERT
CLF	CHAIN LINK FENCE
CLP	CONCRETE LIGHT POLE
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CPB	CONDOMINIUM PLAT BOOK
D	CENTRAL ANGLE
DIP	DUCTILE IRON PIPE
DEP	DEPRESSED (CURB)
DL	DRAIN LINE
EL	ELEVATION
EP	EDGE OF PAVEMENT
EOW	EDGE OF WATER
ERCPC	ELLIPTICAL REINFORCED CONCRETE PIPE
FCM	FOUND CONC MONUMENT
FIR	FOUND IRON ROD
FIRC	FOUND IRON ROD & CAP
FF	FINISH FLOOR ELEVATION
FND	FOUND NAIL & DISK
FM	FORCE MAIN
FIP	FOUND IRON PIPE
FO	FIBER OPTIC
FOP	FOUND OPEN PIPE
FPP	FOUND PINCH PIPE
HH	HAND HOLE
HDPE	HIGH DENSITY POLYETHYLENE
IE	INVERT ELEVATION
L	LENGTH
LF	LINEAR FEET
LSA	LANDSCAPE AREA
MISC	MISCELLANEOUS
MP	METAL PIPE
ND	NOT DETERMINED
OF	OVERFLOW
OHL	OVERHEAD LINE
OR	OFFICIAL RECORD BOOK
PB	PLAT BOOK
PG	PAGE
PP	PLASTIC PIPE
PRM	PERMANENT REFERENCE MARKER
PVC	POLYVINYL CHLORIDE
R	RADIUS
RGE	RANGE
IRC	IRON ROD AND CAP
RCP	REINFORCED CONCRETE PIPE
R/W	RIGHT OF WAY
RLS	REGISTERED LAND SURVEYOR
SEC	SECTION
STA	STATION
TOB	TOP OF BANK
TOS	TOP OF SLOPE
T.O.C.	TOP OF CONDUIT
T.O.N.	TOP OF NUT
T.O.P.	TOP OF PIPE
T.O.W.	TOP OF WALL
TWN	TOWNSHIP
UD	UNDERDRAIN
VERT	VERTICAL
VCP	VITRIFIED CLAY PIPE
VVH	VERIFIED VERTICAL AND HORIZONTAL
WPP	WOOD POWER POLE

LINE & SYMBOL LEGEND

	AIR RELEASE VALVE		COMMUNICATION PULLBOX		RED FLAG
	COMMUNICATION MANHOLE		COMMUNICATION PEDESTAL		WHITE FLAG
	ELECTRICAL MANHOLE		ELECTRICAL PULLBOX		BLUE FLAG
	UNKNOWN TYPE MANHOLE		COMMUNICATION CABINET		YELLOW FLAG
	SANITARY MANHOLE		ELECTRICAL CABINET		ORANGE FLAG
	STORM MANHOLE		TRAFFIC CABINET		GREEN FLAG
	YARD DRAIN		COMMUNICATION VAULT		PURPLE FLAG
	CATCH BASIN		COMMUNICATION HANDHOLE		BLUE PAINT MARKS
	CURB INLET		ELECTRIC HANDHOLE		RED PAINT MARKS
	CLEANOUT		UNKNOWN HANDHOLE		GREEN PAINT MARKS
	IRRIGATION CONTROL VALVE		TRAFFIC SIGNAL PULLBOX		ORANGE PAINT MARKS
	SANITARY VALVE		FIBER OPTIC PULLBOX		PURPLE PAINT MARKS
	WATER VALVE		FIBER OPTIC MARKER		RED PAINT MARKS
	RECLAIMED WATER VALVE		GAS MARKER		GREEN PAINT MARKS
	NATURAL GAS VALVE		GAS TEST BOX		ORANGE PAINT MARKS
	SPIGOT		UNKNOWN RISER BOX		PURPLE PAINT MARKS
	RECLAIMED WATER METER		ELECTRIC TRANSFORMER		WHITE PAINT MARKS
	WATER METER		ELECTRIC BOX		YELLOW PAINT MARKS
	DOUBLE WATER METER		ELECTRIC METER		OVERHEAD WIRE
	BACK FLOW PREVENTER		KEY PAD		RIGHT-OF-WAY LINE
	CHECK VALVE ASSEMBLY		ELECTRICAL PANEL		LANDSCAPE AREA
	FIRE HYDRANT		ANTENNA		SUBSURFACE ELECTRICAL - LEVEL B
	FIRE DEPT. CONNECTION		SPRINKLER HEAD		SUBSURFACE ELECTRICAL - LEVEL B
	WATER WELL		TRASH CAN		SUBSURFACE FIBER OPTIC - LEVEL B
	MONITORING WELL		GROUND LIGHT		BURIED TELEPHONE
	WOOD STREET LIGHT		WOOD POST		BURIED TELEPHONE - LEVEL B
	CONC STREET LIGHT		ELECTRIC OUTLET		SUBSURFACE ELECTRICAL
	METAL STREET LIGHT		SIGN		SUBSURFACE FIBER OPTIC
	WOOD UTILITY POLE		GUY WIRE ANCHOR		SUBSURFACE FORCE MAIN
	CONCRETE UTILITY POLE		MAILBOX		SUBSURFACE FORCE MAIN - LEVEL B
	WOOD LIGHT POLE		DIAMETER		GAS MAIN
	METAL LIGHT POLE		LARGE ROCK		GAS MAIN - LEVEL B
	CONCRETE LIGHT POLE		PARKING METER		OVERHEAD LINE
	GUY WIRE POLE		EXISTING ELEVATION		SUBSURFACE RECLAIMED WATER MAIN
	PEDESTRIAN SIGNAL POLE		SITE CONTROL		SUBSURFACE RECLAIMED WATER MAIN - LEVEL B
	ELECTRIC METER POLE		FOUND PROPERTY CORNER		SUBSURFACE SANITARY SEWER PIPE - LEVEL B
	DECORATIVE LIGHT POST		FOUND SECTION CORNER		SUBSURFACE SANITARY SEWER PIPE
					SUBSURFACE TRAFFIC FIBER
					SUBSURFACE WATER MAIN - LEVEL B
					SUBSURFACE WATER MAIN
					SUBSURFACE STORM DRAINAGE PIPE
					SUBSURFACE STORM DRAINAGE PIPE - LEVEL B
					GUARD RAIL
					FLAG POLE
					PROPOSED PIPING (ABOVE GROUND)
					PROPOSED PIPING (BELOW GROUND)
					EXISTING PIPING
					PROPOSED BUTTERFLY VALVE
					EXISTING BUTTERFLY VALVE
					EXISTING GATE VALVE
					PROPOSED PRESSURE SUSTAINING VALVE
					EXISTING CHECK VALVE
					PROPOSED MOTOR ACTUATED VALVE
					PROPOSED MOTOR ACTUATED VALVE
					EXISTING FLOW METER
					CASING PIPE

TREE & LANDSCAPE LEGEND

	- ACACIA		- UNKNOWN		- CITRUS		- PINE
	- PALM SPECIES		- BOTTLEBRUSH		- CACTUS		- HEDGE
	- BANANA		- MAPLE		- MANGO		- BUSH
	- FICUS		- MAHOGANY		- PAPAYA		- PLANT
	- SEAGRAPE		- OAK		- CYPRESS		
	- GUMBO-LIMBO		- SCHEFFLERA		- ORNAMENTAL MULTI-TRUNK		

INDICATES TRUNK DIAMETER

NOTE: VERIFICATION OF TREE SPECIES SHOULD BE CONDUCTED BY A PROFESSIONAL ENGAGED IN THE FIELD OF NATURAL SCIENCE.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022

BLAKE PETERS, P.E.
No. 64429

1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com

ELWOOD BOOSTER PUMP STATION UPGRADES

GENERAL
LEGENDS AND ABBREVIATIONS

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: NTS
DRAWN: DES	VERTICAL: NTS
DESIGNED: NAM	
CHECKED: MAC	
PROJ. MGR.: NAM	

G-3
DRAWING NUMBER

REVISION

STATUS: **ISSUED FOR BID**

SURVEYOR NOTES

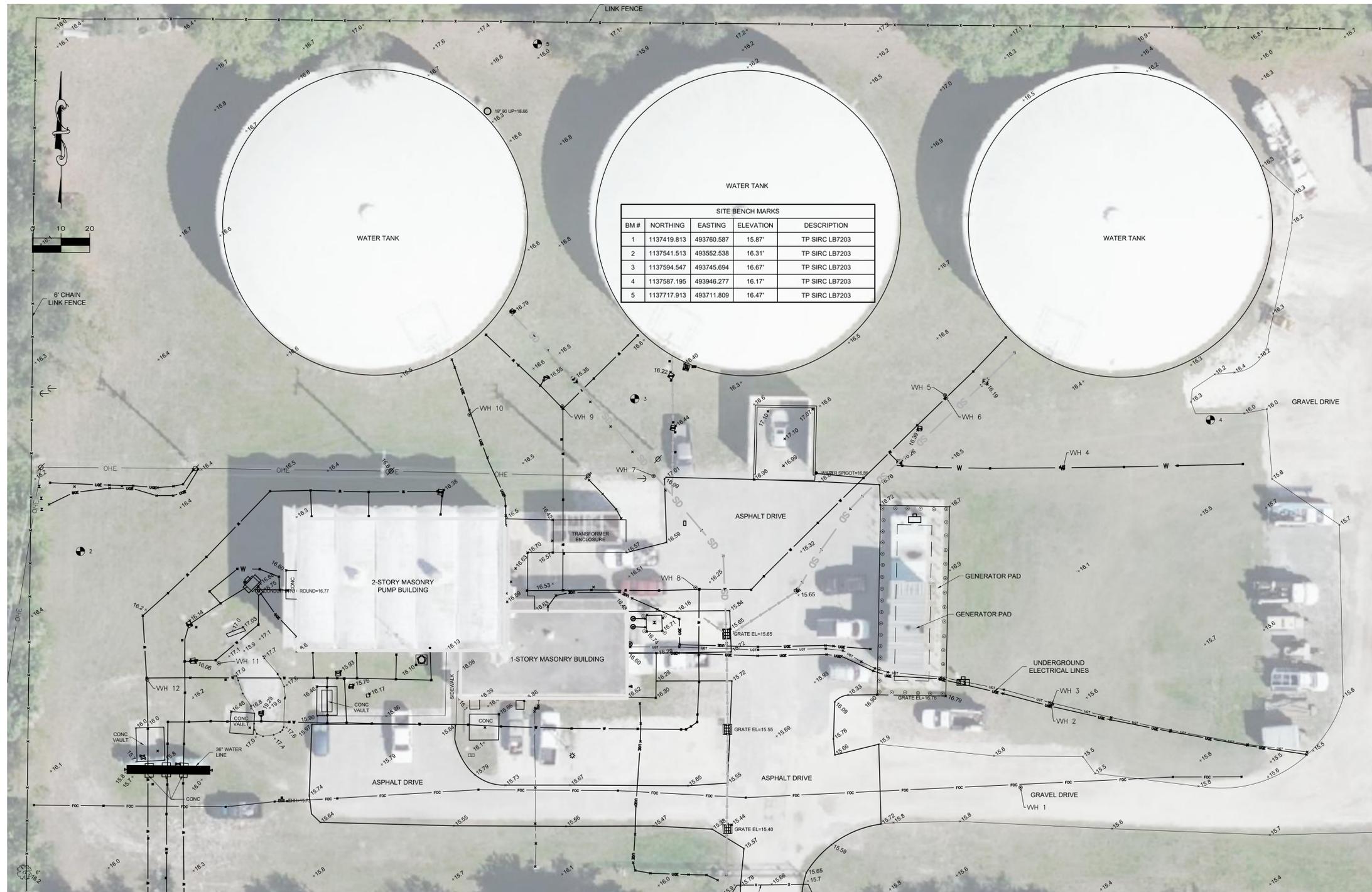
- THIS SURVEY IS REFERENCED TO A PROJECTION OF THE STATE PLANE COORDINATE SYSTEM OF FLORIDA WEST ZONE (NAD 83/11).
- THE FOLLOWING NGS VERTICAL CONTROL POINT WAS RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREIN:
"WEST MELBOURNE" (3" DISK) NAVD 1988 ELEVATION 4.30'.
- THE HORIZONTAL AND VERTICAL COORDINATES OF THE SITE BENCH MARKS WERE DERIVED FROM REDUNDANT RTK GPS OBSERVATIONS AND DIFFERENTIAL LEVELING METHODS.
- THIS IS NOT A BOUNDARY SURVEY.
- THIS SURVEY IS SUBJECT TO PERTINENT EASEMENTS, RIGHTS OF WAY AND RESTRICTIONS OF RECORD, IF ANY.
- THE LOCATION OF UTILITIES, FOUNDATIONS OR STRUCTURES, IF ANY, BENEATH THE SURFACE HAVE NOT BEEN DETERMINED.
- THE PURPOSE OF THIS SURVEY IS TO SHOW TOPOGRAPHIC AND MARKED UNDERGROUND UTILITY INFORMATION.
- THIS SURVEY DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF THE PARTY OR PARTIES CERTIFIED TO BELOW FOR THE EXPRESS PURPOSE STATED HEREON AND/OR CONTAINED IN THE CONTRACT BETWEEN HYATT SURVEY SERVICES, INC. AND THE CLIENT FOR THIS PROJECT. COPYING, DISTRIBUTING AND/OR USING THIS DRAWING, IN WHOLE OR IN PART FOR ANY PURPOSE OTHER THAN ORIGINALLY INTENDED WITHOUT WRITTEN CONSENT FROM HYATT SURVEY SERVICES, INC. IS STRICTLY PROHIBITED AND RENDERS THE SURVEYOR'S CERTIFICATION, SIGNATURE AND SEAL NULL AND VOID. ANY QUESTIONS CONCERNING THE CONTENT OR PURPOSE OF THIS DRAWING SHOULD BE DIRECTED TO HYATT SURVEY SERVICES, INC.

LEGEND

● SITE CONTROL POINT	(M) MEASURED DISTANCE/BEARING
■ UNDERGROUND UTILITY MARKER	(P) PLAT DISTANCE/BEARING
△ SIGN	ASPH ASPH ASPHALT
♣ WOOD UTILITY POLE	B/C BACK OF CURB
♠ CONCRETE UTILITY POLE	BOS BOTTOM OF STRUCTURE
← GUY WIRE	CLF CHAIN LINK FENCE
⊖ WATER METER	CMF CONCRETE MONUMENT FOUND
⊕ WATER VALVE	CO COUNTY
⊖ RECLAIMED WATER VALVE	CONC CONCRETE
⊕ SANITARY MANHOLE	CPP CORRUGATED PLASTIC PIPE
⊕ STORM MANHOLE	D DELTA
⊕ UTILITY MANHOLE	DHF DRILL HOLE FOUND
⊕ GRATE INLET	DIP DUCTILE IRON PIPE
⊕ ANTENNA	DLR DRIP LINE (RADIUS)
⊖ BACKFLOW PREVENTER	EL ELEVATION
⊕ UTILITY RISER	ELEV ELEVATION
⊕ UTILITY VAULT	EM ELECTRIC METER
⊕ MAILBOX	E/B EDGE OF BRICK
⊕ BOLLARD	E/P EDGE OF PAVEMENT
⊕ CLEANOUT	FFE FINISHED FLOOR ELEVATION
⊕ FLAGPOLE	GIS GEOGRAPHIC INFORMATION SYSTEM
⊕ TRANSFORMER	INC INCORPORATED
⊕ WELL	INV INVERT
⊕ CABLE SERVICE BOX	IRF IRON ROD FOUND
⊕ TELEPHONE SERVICE BOX	IRS IRON ROD SET
⊕ STREET LIGHT	L LENGTH
⊕ CONCRETE COLUMN	LB LICENSED BUSINESS
○ PALM	NAVD NORTH AMERICAN VERTICAL DATUM
○ OAK	NDF NAIL & DISK FOUND
○ PINE TREE	NDS NAIL & DISK SET
○ TREE	NGS NATIONAL GEODETIC SURVEY
○ SHRUB	NO NUMBER
	N.T.S. NOT TO SCALE
	PID PARCEL IDENTIFICATION NUMBER
	PRM PERMANENT REFERENCE MONUMENT
	PSM PROFESSIONAL SURVEYOR & MAPPER
	PVC POLYVINYL CHLORIDE
	R RADIUS
	RCP REINFORCED CONCRETE PIPE
	RMG RANGE
	SIRC SET IRON ROD & CAP
	S/W SIDEWALK
	TWN TOWNSHIP
	# NUMBER
	--- x --- FENCE LINE
	--- RIGHT OF WAY
	--- W --- UNDERGROUND WATER LINE
	--- FOC --- UNDERGROUND FIBER-OPTIC
	--- UGE --- UNDERGROUND ELECTRICAL
	--- UGT --- UNDERGROUND TELEPHONE
	--- OHE --- OVERHEAD ELECTRIC
	--- SD --- STORM DRAINAGE PIPE
	--- --- UNDERGROUND RECLAIMED WATER

SURVEY PERFORMED BY:
HYATT SURVEY SERVICES, INC.

SUBSURFACE UTILITY ENGINEERING (SUE) PERFORMED BY:
McKIM & CREED

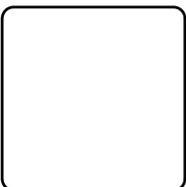


SUE TABLE

TEST HOLE NUMBER	NORTHING	EASTING	ELEVATION	DEPTH/COVER	TYPE	SIZE	MATERIAL	NOTE	
1 1023	VVH-1	1137459.46	493880.12	15.65	8.44'	FO	UNK	PVC	UNABLE TO VISUALLY VERIFY PIPE SIZE DUE TO WATER INTRUSION.
2 1033	VVH-2	1137488.21	493890.89	15.66	2.56'	BE	2X3"	PVC	
3 1034	VVH-3	1137488.35	493891.06	15.68	2.56'	BT	3"	PVC	
4 1032	VVH-4	1137570.35	493894.99	16.10	1.24'	WL	2"	PVC	
5 1022	VVH-5	1137595.85	493853.76	16.75	3.50'	UNK	12"	PVC	
6 1019	VVH-6	1137594.95	493854.24	16.62	4.50'	UNK	UNK	D.I.	UNABLE TO VISUALLY VERIFY PIPE SIZE DUE TO WATER INTRUSION. PLANT MANAGER STATES PIPE IS 42" DIAMETER
7 1011	VVH-7	1137567.70	493752.26	16.46	3.66'	STM	8"	TERRACOTTA	
8 1008	VVH-8	1137528.93	493766.88	16.19	3.88'	WL	42"	D.I.	UNABLE TO VISUALLY VERIFY PIPE SIZE DUE TO WATER INTRUSION.
9 1014	VVH-9	1137591.86	493720.40	16.28	4.30'	WL	42"	D.I.	UNABLE TO VISUALLY VERIFY PIPE SIZE DUE TO WATER INTRUSION.
10 1005	VVH-10	1137589.00	493688.14	16.48	0.78'	BE	1"	PVC	
11 1002	VVH-11	1137502.58	493600.77	16.39	6.22'	WL	24"	D.I.	UNABLE TO VISUALLY VERIFY PIPE SIZE DUE TO WATER INTRUSION.
	VVH-12	1137496.94	493575.80	16.02	3.60'	WL	36"	D.I.	UNABLE TO VISUALLY VERIFY PIPE SIZE DUE TO WATER INTRUSION.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022

BLAKE PETERS, P.E.
No. 64429



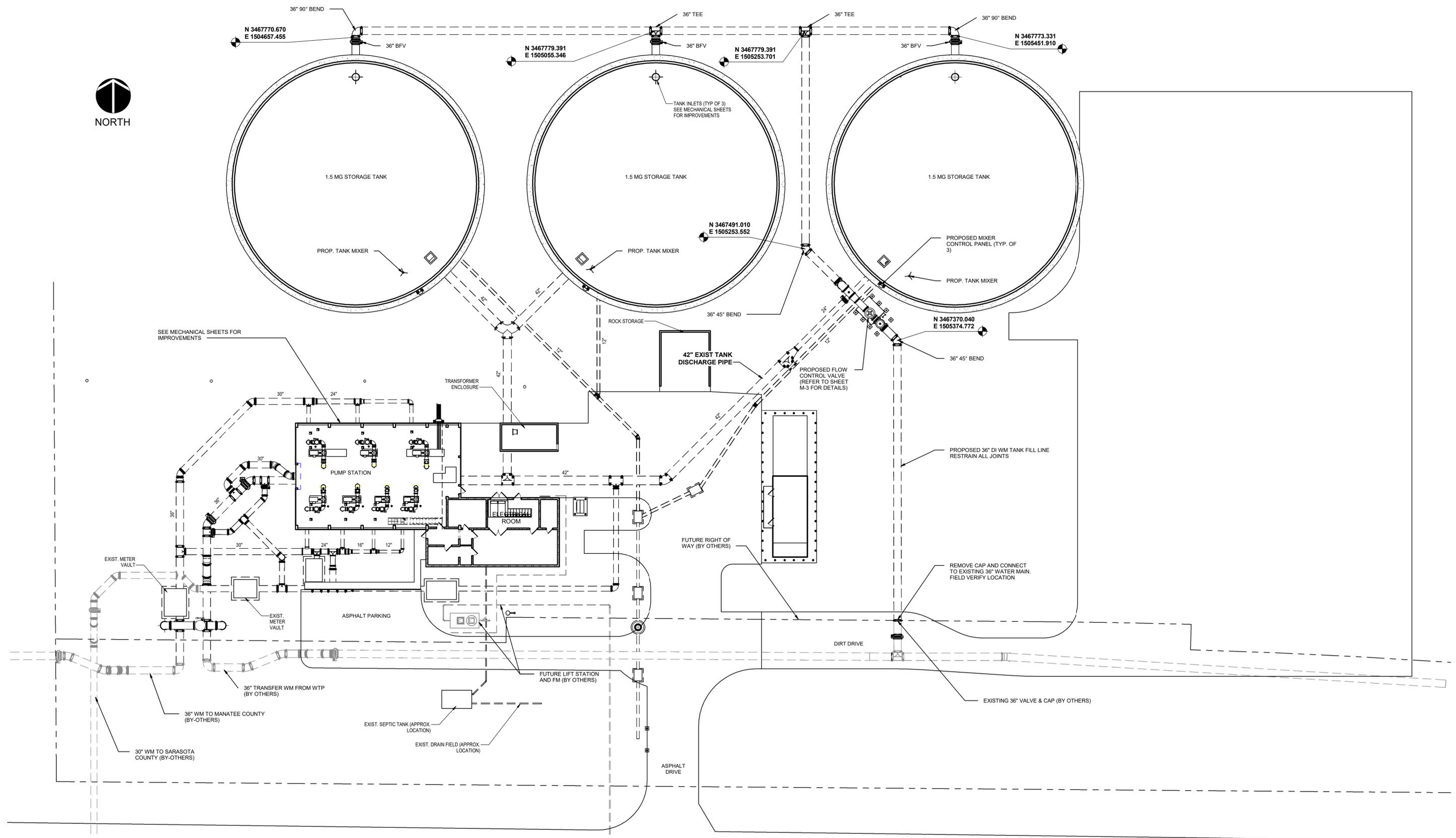
McKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827
CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES
GENERAL EXISTING SITE SUE & SURVEY

PROJ. START DATE: NOV. 2021	SCALE: HORIZONTAL: 1" = 20'-0"
MCE PROJ. # 01024-0186	VERTICAL: TBD
DRAWN: DES	
DESIGNED: NAM	
CHECKED: MAC	
PROJ. MGR: NAM	

G-4
DRAWING NUMBER
ISSUED FOR BID



REV. NO.	DESCRIPTION	DATE

REVISIONS

BLAKE PETERS, P.E.
LIC. NO. 64429

McKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727) 442-7196, Fax: (727) 461-3827
CA Lic. No. 29588
www.mckimcreed.com

Manatee County
FLORIDA

**ELWOOD BOOSTER PUMP STATION
UPGRADES**

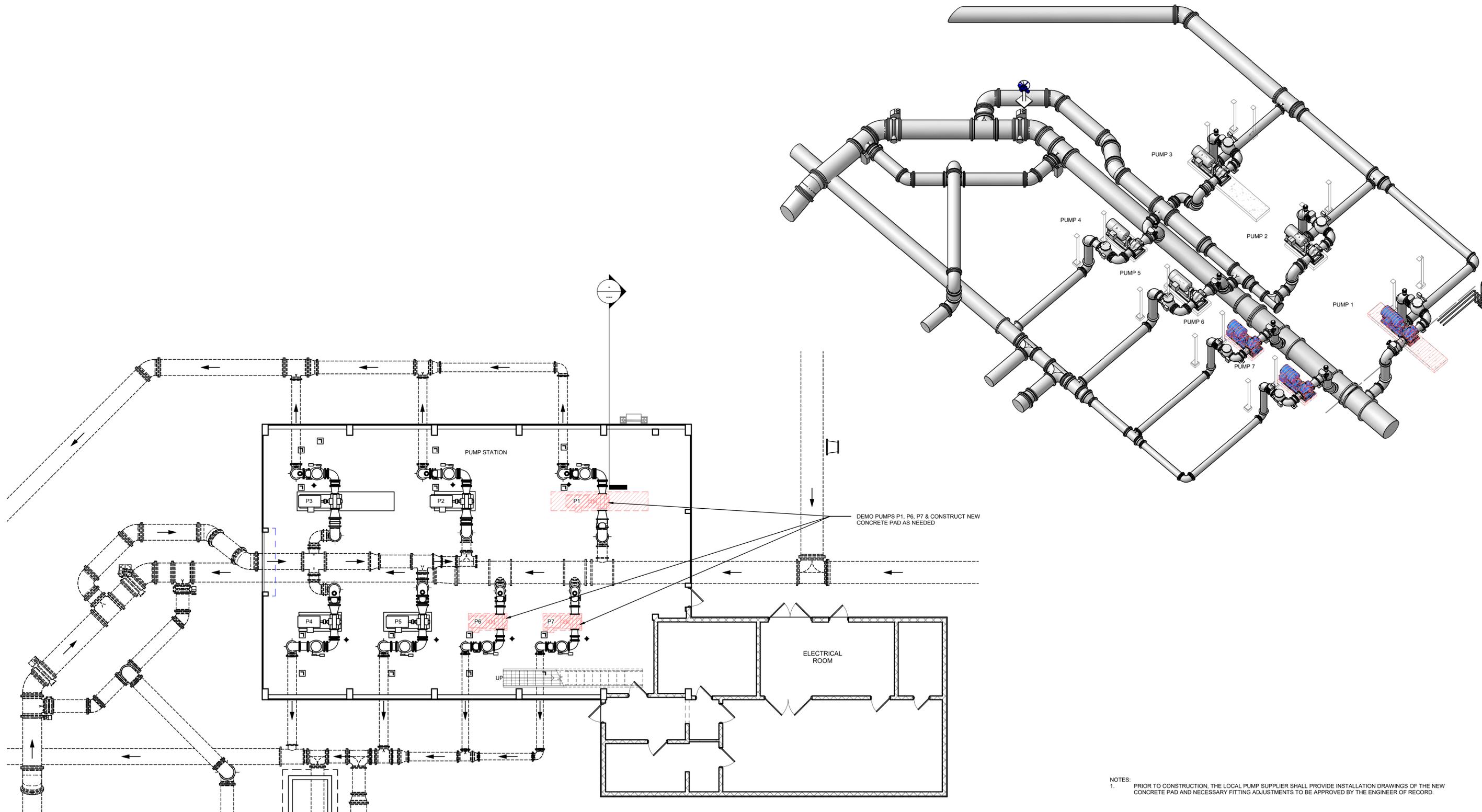
CIVIL SHEETS
PROPOSED SITE PLAN

PROJ START DATE: NOV. 2021
MCE PROJ. # 01024-0188
DRAWN DES
DESIGNED NAM
CHECKED MAC
PROJ. MGR. NAM
STATUS:

SCALE
1" = 20'-0"

C-2
DRAWING NUMBER
REVISION

ISSUED FOR BID



NOTES:
 1. PRIOR TO CONSTRUCTION, THE LOCAL PUMP SUPPLIER SHALL PROVIDE INSTALLATION DRAWINGS OF THE NEW CONCRETE PAD AND NECESSARY FITTING ADJUSTMENTS TO BE APPROVED BY THE ENGINEER OF RECORD.

REV. NO.	DESCRIPTION	DATE

REVISIONS

BLAKE PETERS, P.E.
 LIC. NO. 64429



1365 Hamlet Avenue
 Clearwater, Florida 33756
 Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
 www.mckimcreed.com



Manatee
 County
 FLORIDA

**ELWOOD BOOSTER PUMP STATION
 UPGRADES**

MECHANICAL SHEETS

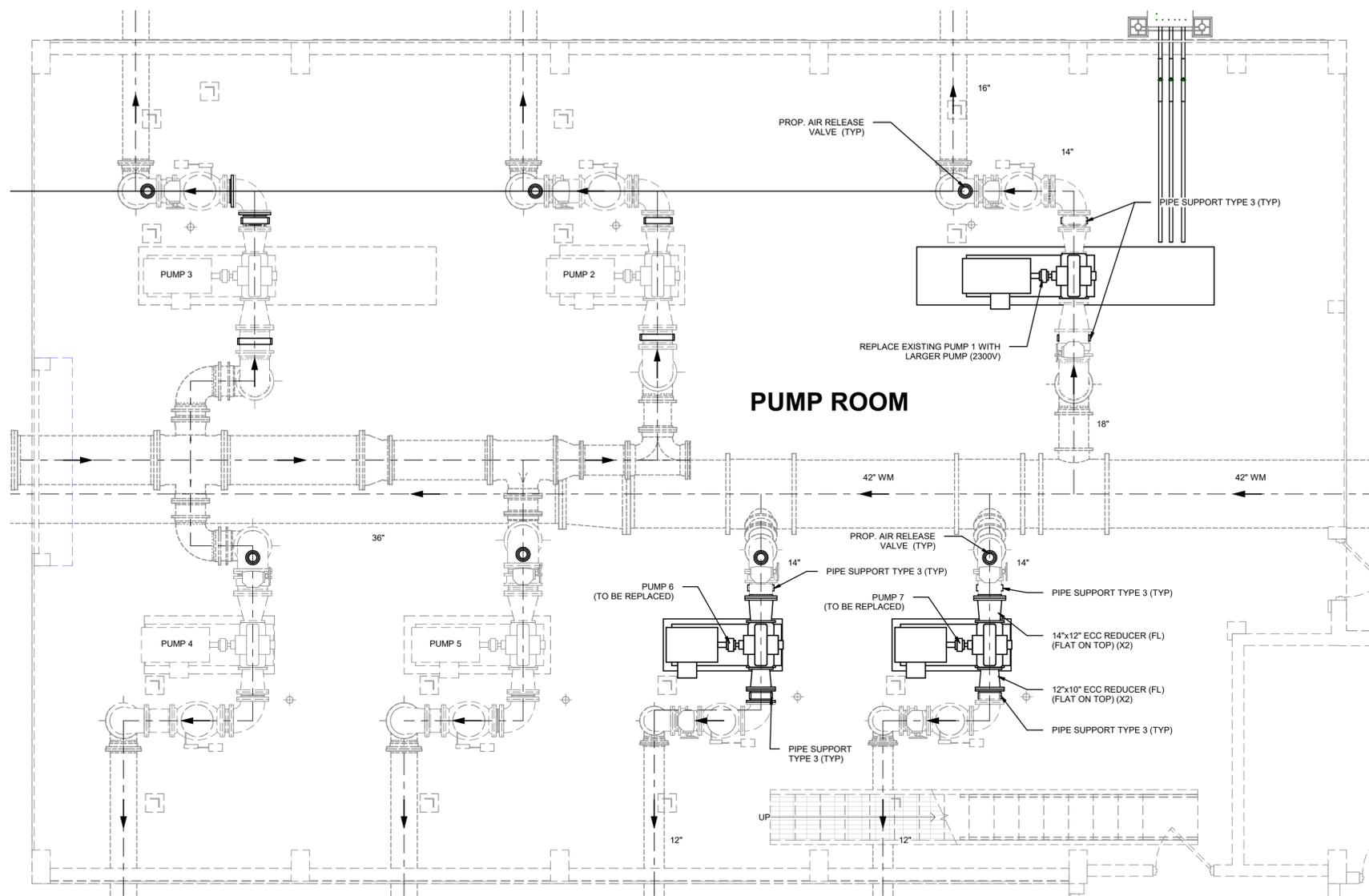
EXISTING BUILDING PLAN AND DEMOLITION

PROJ START DATE: NOV. 2021
MCE PROJ. # 01024-0188
DRAWN DES
DESIGNED NAM
CHECKED MAC
PROJ. MGR. NAM
STATUS:

SCALE
 1/8" = 1'-0"

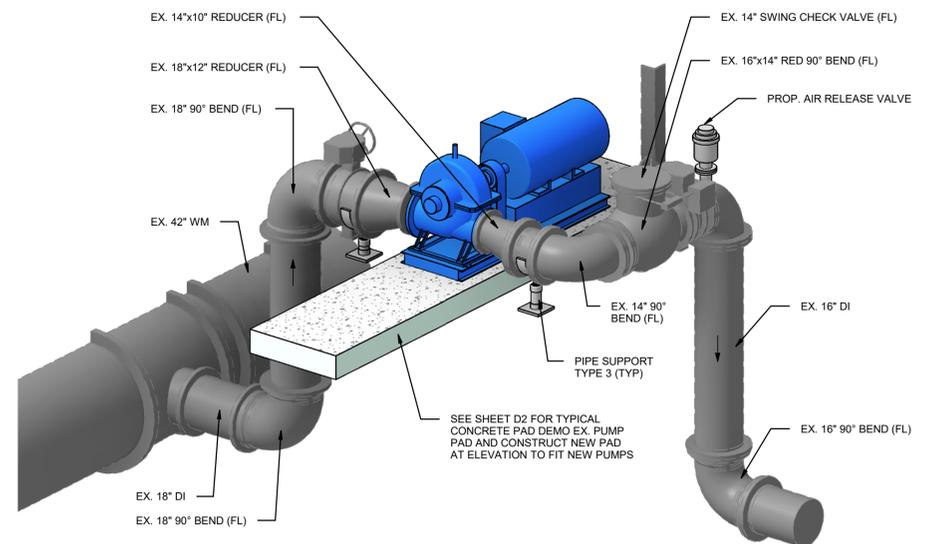
M-1
 DRAWING NUMBER
 REVISION

ISSUED FOR BID

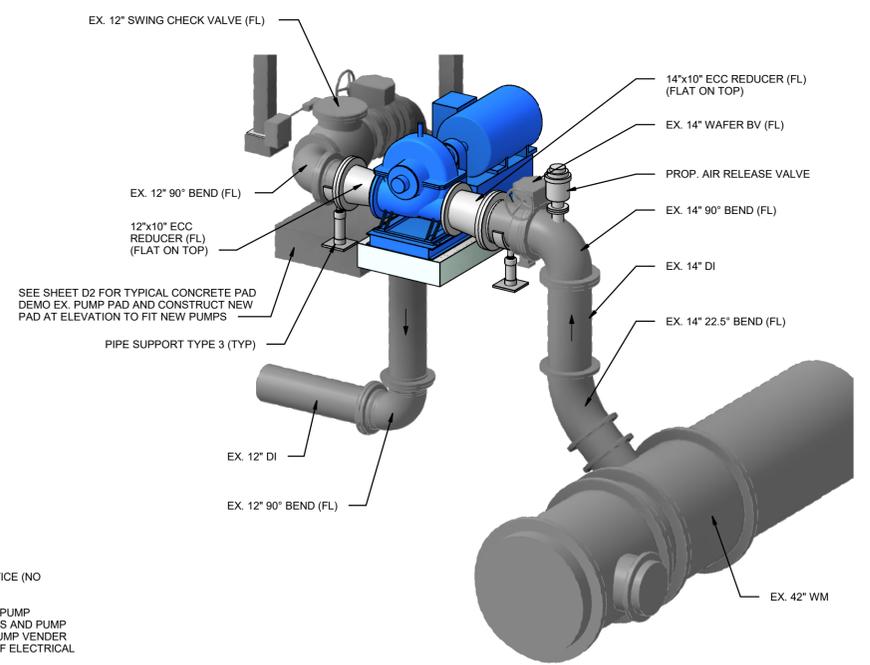


PUMP ROOM PLAN VIEW
1/4" = 1'-0"

- NOTES:
1. MOTOR STARTERS FOR PUMPS 1, 6 & 7 TO REMAIN IN SERVICE (NO CHANGE).
 2. ADJUSTMENTS ARE REQUIRED TO FIT NEW PUMPS. LOCAL PUMP SUPPLIER SHALL SUBMIT RECOMMENDED PIPING REVISIONS AND PUMP ELEVATIONS TO ACCOMMODATE THE NEW PUMPS. LOCAL PUMP VENDOR SHALL ALSO PERFORM THE WORK WITH THE EXCEPTION OF ELECTRICAL AND INSTRUMENTATION.



PUMP 1
NTS



PUMPS 6 & 7
NTS

REV. NO.	DESCRIPTION	DATE

BLAKE PETERS, P.E.
LIC. NO. 64429

1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com

ELWOOD BOOSTER PUMP STATION UPGRADES

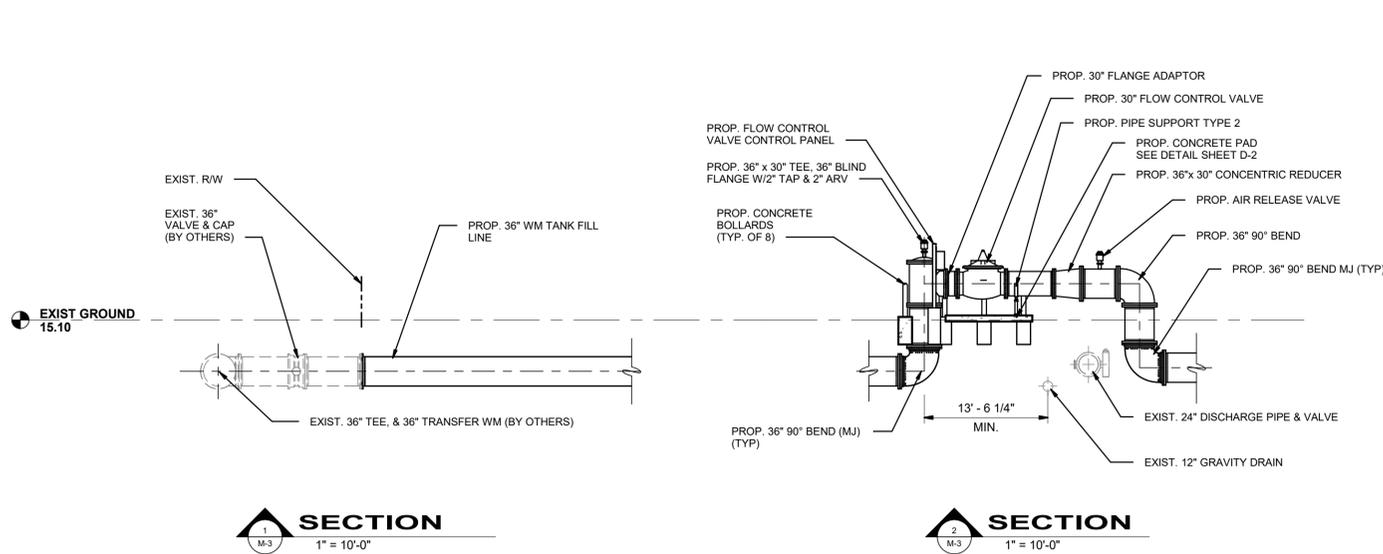
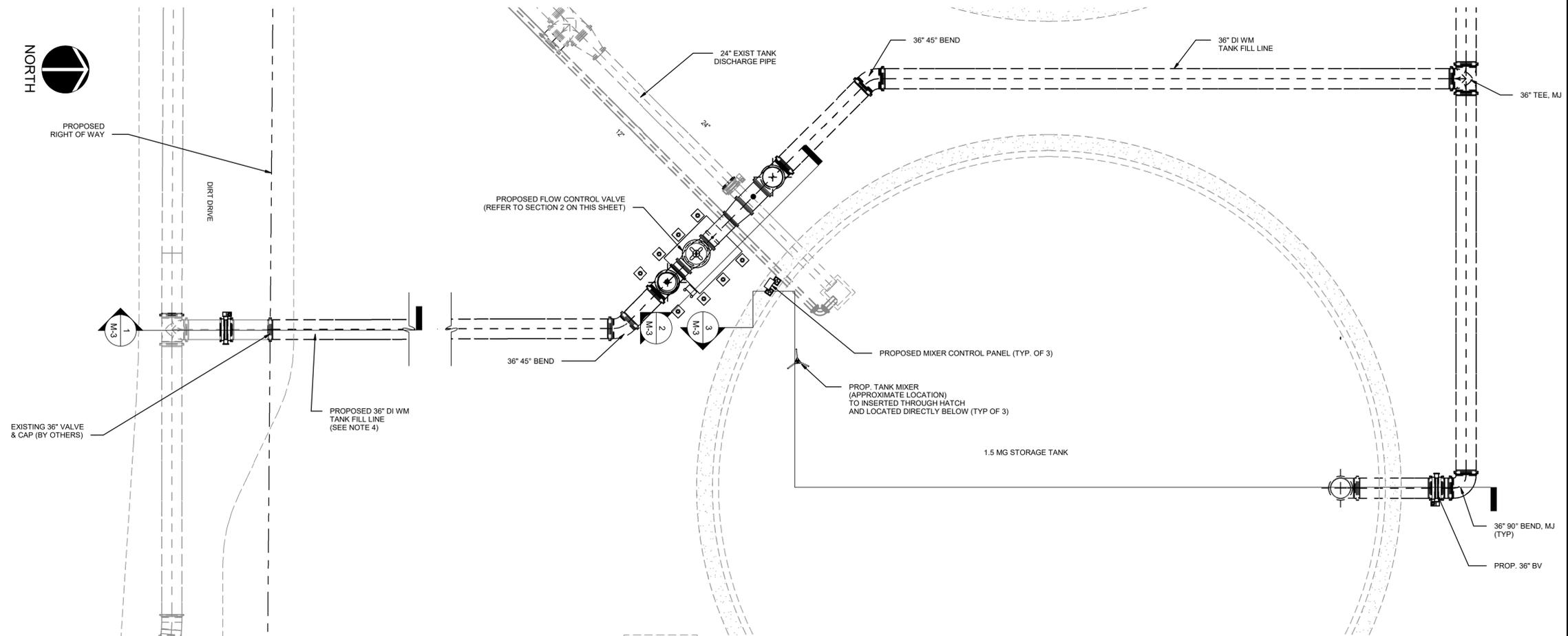
MECHANICAL SHEETS

PROPOSED PUMP REPLACEMENT PLAN

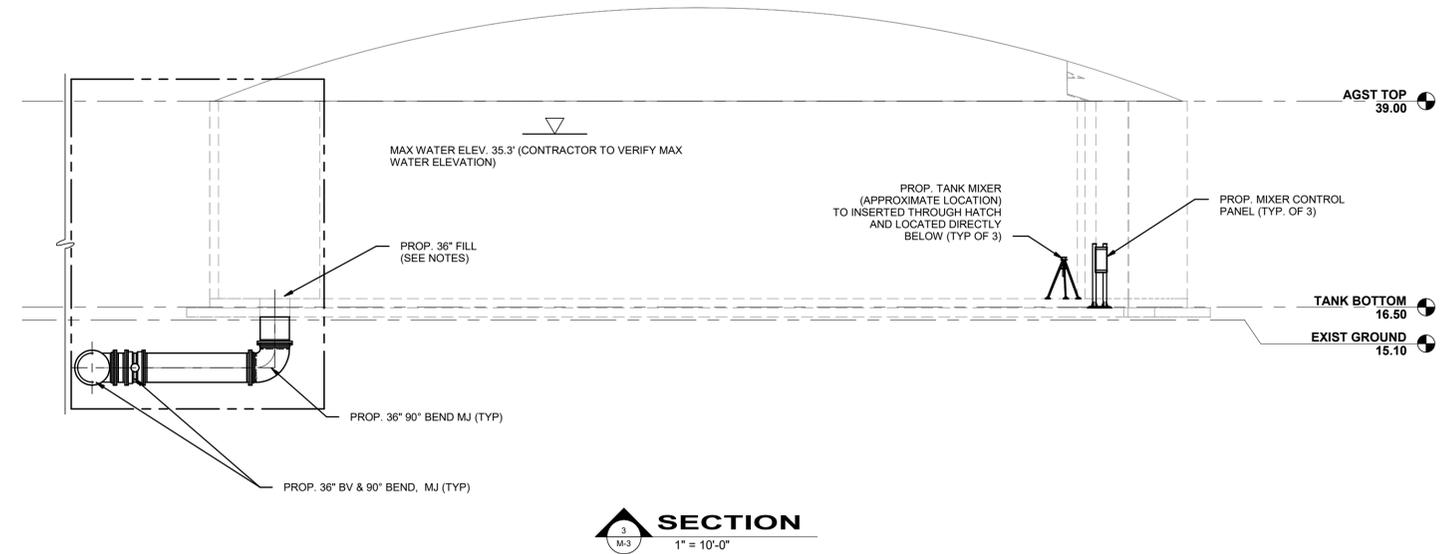
PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0188	As indicated
DRAWN DES	M-2 DRAWING NUMBER
DESIGNED NAM	
CHECKED MAC	
PROJ. MGR. NAM	
STATUS:	ISSUED FOR BID

REVISION

- NOTES:
- CONTRACTOR TO COORDINATE WITH THE EXISTING TANK MANUFACTURER (THE CROM CORPORATION) FOR THE DESIGN AND INSTALLATION OF THE PIPE AND CONNECTION, CONCRETE ENCASEMENT, TANK PENETRATION, WATERSTOP COLLAR, REINFORCED MAT, AND FLOOR PIPE. CONTRACTOR TO SUBMIT DESIGN PLANS TO COUNTY FOR APPROVAL PRIOR TO CONSTRUCTION.
 - SEE NOTES ON M-4 FOR WHAT SHALL BE PROVIDED BY THE CONTRACTOR FOR TANK FILL LINES.
 - SEE SHEET M-4 FOR PROPOSED TANK OUTLET VORTEX BAFFLE. CONTRACTOR SHALL COORDINATE WITH THE TANK MANUFACTURER REGARDING THE OUTLET VORTEX BAFFLE. ANY DESIGN REVISION REQUIRED TO TAILOR TO THE EXISTING TANKS SHALL BE REFLECTED IN THE SUBMITTAL.
 - ALL FILL LINE JOINTS SHALL BE RESTRAINED.
 - CONTRACTOR SHALL VERIFY FINISHED FLOOR ELEVATIONS OF TANKS.



SECTION 1
1" = 10'-0"

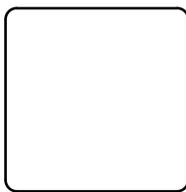


SECTION 2
1" = 10'-0"

SECTION 3
1" = 10'-0"

REV. NO.	DESCRIPTION	DATE

BLAKE PETERS, P.E.
LIC. NO. 64429



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727) 442-7196, Fax: (727) 461-3827
CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES

MECHANICAL SHEETS

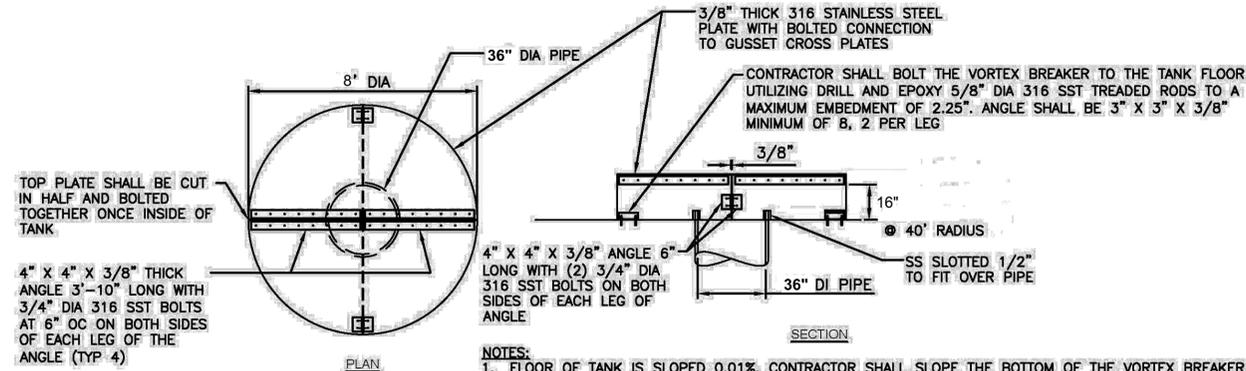
PROPOSED MECHANICAL PLAN AND SECTIONS

PROJ START DATE: NOV. 2021	SCALE	M-3 DRAWING NUMBER
MCE PROJ. # 01024-0188	1" = 10'-0"	
DRAWN DES		
DESIGNED NAM		
CHECKED MAC		
PROJ. MGR. NAM		REVISION

STATUS: **ISSUED FOR BID**

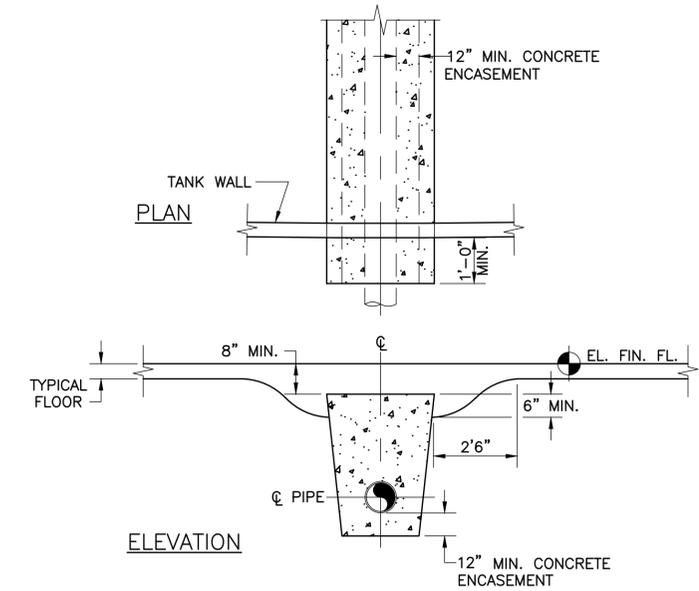
36" DIP NEW OUTLET VORTEX BAFFLE

NTS



NOTES:

- FLOOR OF TANK IS SLOPED 0.01%. CONTRACTOR SHALL SLOPE THE BOTTOM OF THE VORTEX BREAKER TO MATCH THE SLOPE OF THE TANK FLOOR. CONTRACTOR SHALL COORDINATE WITH AS-BUILT DRAWINGS BEFORE FABRICATION OF VORTEX BREAKER.
- THE INSTALLER SHALL USE POSITIVE MEANS TO CONTROL THE DEPTH THEY DRILL INTO THE FLOOR TO ACHIEVE MAXIMUM EMBEDMENT OF 2.25".
- ANY ABANDONED HOLES/ANCHORS SHALL BE PROPERLY SEALED TO PREVENT LEAKAGE. CONTRACTOR SHALL UTILIZE HILTI-RE-500 HIGH STRENGTH EPOXY TO SEAL TANK FLOOR.
- ENTIRE UNIT IS TO BE ASSEMBLED IN 6 PIECES INSIDE OF TANK. FABRICATOR SHALL COORDINATE PIECES WITH THE CLEAR OPENING OF THE GST MANWAY.

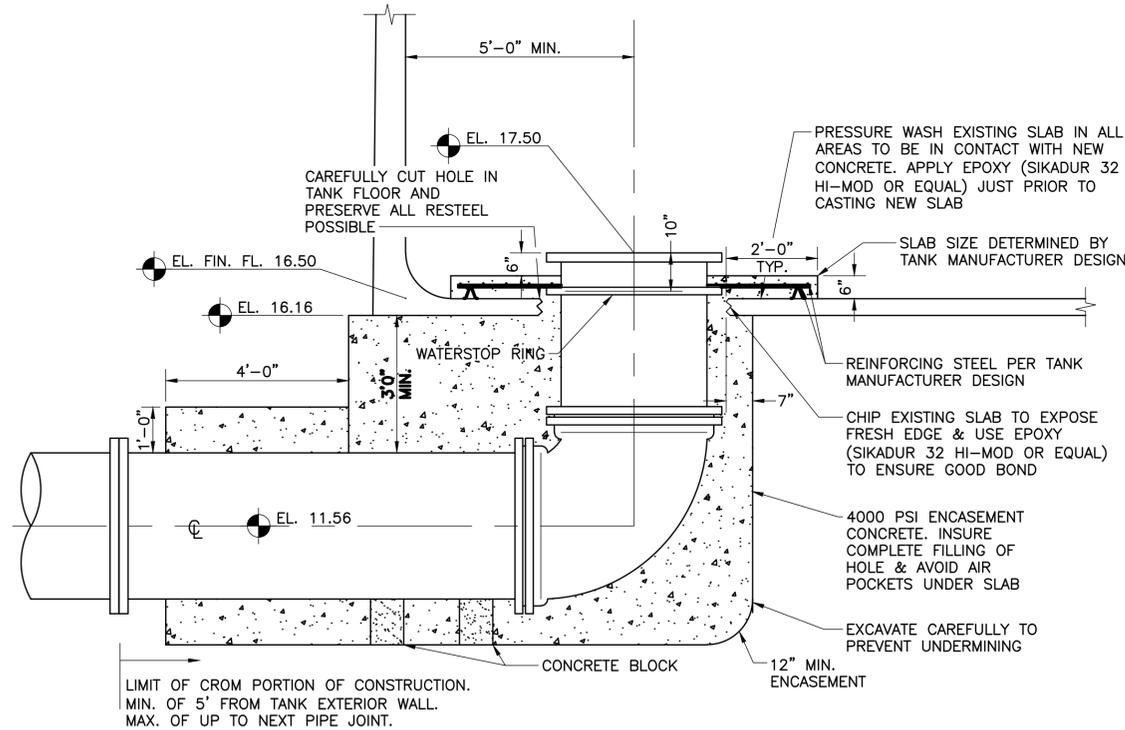


TYPICAL PIPE ENCASEMENT

NTS

NOTES:

- DESIGN AND CONSTRUCTION OF BELOW-GRADE PIPE ADDITION THROUGH TANK FLOOR TO BE BY TANK MANUFACTURER, THE CROM CORPORATION.
- THE CONTRACTOR SHALL PROVIDE THE FOLLOWING TO SUPPORT CROM'S WORK:
 - DISPOSAL IF ANY SILT/SEDIMENT ON THE BOTTOM OF THE TANK.
 - UTILITY LOCATES FOR CROM'S EXCAVATIONS.
 - EXCAVATION, DEWATERING AND SHORING FOR CROM'S UNDERGROUND IMPROVEMENTS.
 - POWER SUPPLY FOR CROM'S ACTIVITIES.
 - EXTERIOR TANK CLEANING SHALL BE BY THE CONTRACTOR.



STANDARD DETAIL FOR NEW UNDER FLOOR 36" DIP TO EXISTING TANK

1' 0 1' 2'
1/2"=1'0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022

BLAKE PETERS, P.E.
No. 64429



1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES

MECHANICAL PROPOSED MECHANICAL RISER SECTION

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: M-4
DRAWN: DES	VERTICAL: NA
DESIGNED: NAM	REVISION
CHECKED: MAC	
PROJ. MGR. NAM	

STATUS: ISSUED FOR BID

1 GENERAL ELECTRICAL SYMBOLS

	LIGHTING, INSTRUMENT OR RECEPTACLE PANELBOARD
	POWER PANELBOARD
	CONTROL PANEL
	MOTOR CONTROL CENTER
	POWER MONITOR
	AMMETER
	AMMETER SWITCH
	VOLTMETER
	VOLTMETER SWITCH
	FLOAT/FLOW SWITCH
	LIMIT SWITCH
	PRESSURE SWITCH
	THERMOSTAT
	JUNCTION BOX, SIZE PER NEC
	ELECTRICAL EQUIPMENT CONNECTION
	ELECTRICAL MANHOLE / HANDHOLE AND THE LETTERS INDICATE THE TYPE OF THE HOLE
	RACEWAY SYSTEM CALL-OUTS: CT - CABLE TRAY BD - BUS DUCT DB - DUCTBANK EC - EXPOSED CONDUIT WW - WIRE WAY/TROUGH
	RACEWAY AND/OR CABLE ID NUMBER
	RACEWAY HOMERUN TO EQUIPMENT ID TAG AS SHOWN. LINE TYPE DESIGNATES CONCEALED, EXPOSED, ETC. NUMBERS/TEXT DESIGNATE HOMERUN EQUIPMENT (I.E. PANEL BOARD CIRCUIT NUMBER).
	TO PLC-1 CONDUCTOR/CABLE CALL-OUT WITHIN RACEWAY 9#14 #12G 0.75°C
	CONCEALED CONDUIT IN FLOOR SLAB, UNDERGROUND, ETC. EXISTING CABLE OR CONDUIT CONDUIT TURNED DOWN CONDUIT TURNED UP CONDUIT TURNED UP
	E SITE ELECTRICAL E EXISTING SITE ELECTRICAL
	T SITE TELEPHONE T EXISTING SITE TELEPHONE
	OHE OVERHEAD ELECTRICAL UTILITY OHT OVERHEAD TELEPHONE UTILITY
	UGE UNDERGROUND ELECTRICAL UTILITY UGT UNDERGROUND TELEPHONE UTILITY
	G SITE GROUND G EXISTING SITE GROUND

2 POWER SYMBOLS

	CLASS 1/2 DIVISION I/II CONDUIT SEAL-OFF FITTING		TRANSFORMER, POWER TYPE AND RATINGS AS NOTED ON THE DRAWINGS
	LOCAL CONTROL STATION WITH THREE OR MORE SELECTOR/PUSH SWITCHES LOWER-RIGHT SYMBOL INDICATES MOUNTING LOCATION		TRANSFORMER, SHIELDED ISOLATION TYPE AND RATINGS AS NOTED ON THE DRAWINGS
	LOCAL CONTROL STATION WITH TWO SELECTOR/PUSH SWITCHES LOWER-RIGHT SYMBOL INDICATES MOUNTING LOCATION		TRANSFORMER, CURRENT 'CT' TYPE AND RATINGS AS NOTED ON THE DRAWINGS
	LOCAL CONTROL STATION WITH ONE SELECTOR/PUSH SWITCH LOWER-RIGHT SYMBOL INDICATES MOUNTING LOCATION		TRANSFORMER, POTENTIAL 'PT' OR 'VT' TYPE AND RATINGS AS NOTED ON THE DRAWINGS
	LOCATED AT FIELD DEVICE		AUTOMATIC OR MANUAL TRANSFER SWITCH, STAND-ALONE TYPE AND RATINGS AS NOTED ON THE DRAWINGS
	LOCATED AT MAIN CONTROL PANEL		SAFETY / DISCONNECT SWITCH TOP NUMBER DENOTES FUSE SIZE (NF=NON-FUSED) BOTTOM NUMBER DENOTES FRAME SIZE RIGHT NUMBER DENOTES NEMA ENCLOSURE RATING
	LOCATED AT LOCAL CONTROL PANEL		STAND ALONE COMBINATION MOTOR STARTER: UPPER LEFT NUMBER DENOTES NEMA FRAME SIZE UPPER RIGHT NUMBERS DENOTE AMPERE AND FRAME RATINGS CENTER RIGHT NUMBER DENOTES NEMA ENCLOSURE RATING LETTERS WITHIN THE SYMBOL DENOTE THE FOLLOWING: FVNR FULL VOLTAGE NON-REVERSE FVR FULL VOLTAGE REVERSIBLE TS1W TWO SPEED - SINGLE WINDING TS2W TWO SPEED - DUAL WINDING RVSS REDUCED VOLTAGE SOFT STARTER RVAT REDUCED VOLTAGE AUTO TRANSFORMER VFD VARIABLE FREQUENCY DRIVE
	MOUNTED ON DOOR		MOTOR CONTROLLER, FULL-VOLTAGE MCC UNIT: UPPER LEFT NUMBER DENOTES NEMA FRAME SIZE LETTERS WITHIN THE SYMBOL DENOTE THE FOLLOWING: FVNR FULL VOLTAGE NON-REVERSE FVR FULL VOLTAGE REVERSIBLE
	DRAW-OUT POWER CIRCUIT BREAKER WITH PROGRAMMABLE SOLID STATE RELAY 'EO' DENOTES ELECTRICALLY OPERATED		MOTOR CONTROLLER, PART-WINDING MCC UNIT: UPPER LEFT NUMBER DENOTES NEMA FRAME SIZE LETTERS WITHIN THE SYMBOL DENOTE THE FOLLOWING: TS1W TWO SPEED - SINGLE WINDING TS2W TWO SPEED - DUAL WINDING
	FIXED-MOUNT POWER CIRCUIT BREAKER WITH ADJUSTABLE SOLID STATE RELAY		MOTOR CONTROLLER, REDUCED-VOLTAGE MCC UNIT: UPPER LEFT NUMBER DENOTES NEMA FRAME SIZE LETTERS WITHIN THE SYMBOL DENOTE THE FOLLOWING: RVSS REDUCED VOLTAGE SOFT STARTER RVAT REDUCED VOLTAGE AUTO TRANSFORMER
	CIRCUIT BREAKER, GENERIC FIXED-MOUNT 'TMTU' THERMAL-MAGNETIC TRIP UNIT 'ELTU' ELECTRONIC TRIP UNIT		MOTOR CONTROLLER, VARIABLE FREQUENCY DRIVE, MCC UNIT: UPPER LEFT NUMBER DENOTES NEMA FRAME SIZE LETTERS WITHIN THE SYMBOL DENOTE THE FOLLOWING: VFD VARIABLE FREQUENCY DRIVE
	CIRCUIT BREAKER, THERMAL		LINE OR LOAD REACTOR CENTER RIGHT NUMBER DENOTES PERCENT IMPEDANCE
	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTOR		MOTOR PROTECTION FILTER
	CIRCUIT BREAKER, THERMAL ENCLOSED TOP NUMBER DENOTES TRIP BOTTOM NUMBER DENOTES FRAME SIZE UPPER LEFT NUMBER DENOTES NEMA ENCLOSURE RATING		AC MOTOR SINGLE OR THREE PHASE AS NOTED
	FUSE, GENERIC		CABLE-TRAY TYPE AS NOTED ON THE DRAWINGS
	FUSE, GENERIC TOP NUMBER DENOTES TRIP BOTTOM NUMBER DENOTES VOLTAGE CLASS MIDDLE NUMBER DENOTES TYPE		
	WIRING DEVICE, POWER RECEPTACLE WITH INTEGRAL DISCONNECT / LOAD BREAK NEMA CONFIGURATION SHOWN LOWER RIGHT		
	WIRING DEVICE, POWER RECEPTACLE NEMA CONFIGURATION SHOWN LOWER RIGHT		

NOTES:
ALL SYMBOLS MAY NOT BE UTILIZED FOR THIS PROJECT.
ADDITIONAL SYMBOLS NOT SHOWN ON THIS DRAWING MAY BE SHOWN ELSEWHERE ON THE ELECTRICAL DRAWINGS. IF REQUIRED, IEC RATINGS WILL INCLUDE THE "IEC" AND "IP" PREFIX.

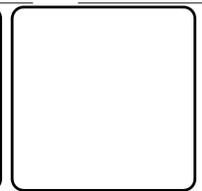
3 SCHEMATIC SYMBOLS

	MOMENTARY PUSH BUTTON NORMALLY OPENED		CONTROL RELAY, GENERIC DESIGNATIONS: CR CONTROL RELAY MX AUXILIARY RELAY TR TIMING RELAY AR ALARM RELAY RR READY RELAY
	MOMENTARY PUSH BUTTON NORMALLY CLOSED		CONTROL RELAY, LATCHING
	MUSHROOM PUSH BUTTON NORMALLY OPENED		CONTACT, NORMALLY OPENED TOP ID TAG DENOTES PARENT RELAY
	MUSHROOM PUSH BUTTON NORMALLY CLOSED		CONTACT, NORMALLY CLOSED TOP ID TAG DENOTES PARENT RELAY
	TOGGLE SWITCH NORMALLY OPENED		SOLENOID, GENERIC
	TOGGLE SWITCH NORMALLY CLOSED		HEATING ELEMENT, GENERIC
	TWO-POSITION SWITCH NORMALLY OPENED		ELAPSED TIME METER, ELECTRONIC
	THREE-POSITION BUTTON NORMALLY OPENED		HORN, ALARM
	LIMIT SWITCH NORMALLY OPENED		HORN, ALARM AUDIO AND VISUAL ANNUNCIATION
	LIMIT SWITCH NORMALLY CLOSED		TRANSFORMER, CONTROL POWER RATINGS AS NOTED ON THE DRAWINGS
	LIMIT SWITCH HELD OPENED		BATTERY OR DC POWER SOURCE
	LIMIT SWITCH HELD CLOSED		MOTOR ACTUATED VALVE M MODULATING O/C OPEN/CLOSE
	TEMPERATURE SWITCH NORMALLY OPENED		MOTOR ACTUATED VALVE M MODULATING O/C OPEN/CLOSE
	TEMPERATURE SWITCH NORMALLY CLOSED		MOTOR ACTUATED VALVE M MODULATING O/C OPEN/CLOSE
	FLOAT SWITCH NORMALLY OPENED		
	FLOAT SWITCH NORMALLY CLOSED		
	FLOW SWITCH NORMALLY OPENED		
	FLOW SWITCH NORMALLY CLOSED		
	PRESSURE SWITCH NORMALLY OPENED		
	PRESSURE SWITCH NORMALLY CLOSED		
	ON DELAY TIME RELAY NORMALLY OPENED TIMED CLOSED NOTC		
	ON DELAY TIME RELAY NORMALLY CLOSED TIMED OPENED NCTO		
	OFF DELAY TIME RELAY NORMALLY OPENED TIMED OPENED NOTO		
	OFF DELAY TIME RELAY NORMALLY CLOSED TIMED CLOSED NCTC		
	INDICATION LIGHT W - WHITE G - GREEN A - AMBER R - RED B - BLUE C - CLEAR		
	INDICATION LIGHT, PUSH-TO-TEST W - WHITE G - GREEN A - AMBER R - RED B - BLUE C - CLEAR		

NOTES:
ALL SYMBOLS MAY NOT BE UTILIZED FOR THIS PROJECT.
ADDITIONAL SYMBOLS NOT SHOWN ON THIS DRAWING MAY BE SHOWN ELSEWHERE ON THE ELECTRICAL DRAWINGS. IF REQUIRED, IEC RATINGS WILL INCLUDE THE "IEC" AND "IP" PREFIX.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022
REVISIONS		

AUBREY A. HAUDRICOURT, P.E.
No. 66861



MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827
CA Lic. No. 29588
www.mckimcreed.com



**ELWOOD BOOSTER PUMP STATION
UPGRADES**
ELECTRICAL
ELECTRICAL SYMBOLS 1 OF 2

PROJ. START DATE: NOV. 2021	SCALE	E00.2 DRAWING NUMBER
MCE PROJ. # 01024-0186	HORIZONTAL: TBD	
DRAWN JG	VERTICAL: TBD	
DESIGNED AAH	TBD	
CHECKED MAC		
PROJ. MGR. BP		REVISION
STATUS: ISSUED FOR BID		

4 LIGHTING SYMBOLS

- 1-3 FLUORESCENT LIGHTING FIXTURE - SURFACE OR PENDANT MOUNTED. FIRST NUMERAL DENOTES LIGHTING PANEL (LP1), SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER. LOWER CASE LETTER DENOTES SWITCHED CIRCUIT.
- FLUORESCENT LIGHTING FIXTURE WITH BATTERY PACK SURFACE OR PENDANT.
- PENDANT OR CEILING MOUNTED LIGHTING FIXTURE.
- WALL MOUNTED LIGHTING FIXTURE.
- POLE OR STANCHION MOUNTED LIGHTING FIXTURE.
- TWO (2) POLE OR STANCHION MOUNTED LIGHTING FIXTURES
- POLE MOUNTED FIXTURE WITH GF RECEPTACLE
- 2 LAMP SELF CONTAINED DC EMERGENCY LIGHTING UNIT. LETTER DENOTES FIXTURE TYPE.
- EXIT SIGN WALL MOUNTED (SINGLE FACE WITH INDICATING ARROWS) WITH BATTERY PACK ARROW INDICATES DIRECTION OF EXIT DOOR
- EXIT SIGN PENDANT MOUNTED (DOUBLE FACE WITH INDICATING ARROWS) WITH BATTERY PACK ARROWS INDICATE DIRECTION OF EXIT DOOR
- FIXTURE DESIGNATION SYMBOL. SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND TYPE. ALL FIXTURES SHOWN IN A ROOM WITH THIS SYMBOL SHALL BE OF TYPE INDICATED BY LETTER. NUMBER IN SYMBOL INDICATES LAMP WATTAGE AND NUMBER OF LAMPS WHERE MORE THAN ONE (UNLESS OTHERWISE NOTED). NUMBER BELOW SYMBOL INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR OR AS NOTED.
- 1-2 DUPLEX CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE, 120 VOLTS A.C. 20 AMP RECEPTACLE DESIGNATIONS. FIRST NUMBER DENOTES PANEL, SECOND NUMBER DENOTES CIRCUIT NUMBER. GF-DENOTES GROUND FAULT TYPE. SS-DENOTES SURGE SUPPRESSION TYPE WP-DENOTES WEATHERPROOF ENCLOSURE
- SINGLE CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE; 120 VOLTS AC. 20 AMP UNLESS NOTED OTHERWISE ON DRAWINGS.
- POWER RECEPTACLE, 2 POLE, 3 WIRE 250 VOLTS A.C. 20 AMP UNLESS NOTED OTHERWISE ON DRAWINGS.
- CLASS 1 DIV 2 WALL OUTLET BOX AND SPECIAL PURPOSE RECEPTACLE, NEMA 7, 20A.
- QUADRUPLEX RECEPTACLE
- HEAT-TRACE OR SPECIAL PURPOSE RECEPTACLE REFERENCE DRAWINGS FOR ADDITIONAL DETAILS
- PAGING UNIT
- PAGING UNIT SPEAKER
- LIGHTING CONTROL SWITCHES:
UPPER-LEFT CHARACTER "a" DENOTES SWITCH DESIGNATION. LOWER-RIGHT CHARACTER "4" DENOTES SWITCH CONTROL
1- SINGLE POLE
2- TWO POLE
3- THREE-WAY SWITCH CONTROL
4- FOUR-WAY SWITCH CONTROL
D - DIMMER CONTROL
OS - OCCUPANCY SENSOR
M - MOTOR RATED SWITCH
T - 24V DC MOMENTARY CONTACT SWITCH
V - VARIABLE SPEED FAN SWITCH

- LP1-2 BRANCH CIRCUIT HOME RUN TO PANELBOARD LETTERS AND NUMERALS INDICATE PANEL AND CIRCUIT NUMBER. AS A MINIMUM, ALL WIRING SHALL BE 3#12 AWG IN 3/4" CONDUIT. #10 AWG WIRE SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50 FEET, UNLESS OTHERWISE NOTED ON DRAWING.
- LETTERS AND NUMBERS INDICATE PANEL AND CIRCUIT NUMBER (LP1-2). CROSS LINES INDICATE NUMBER OF CONDUCTORS. HALF HASH MARKS INDICATES NEUTRAL. NUMBER (10) DENOTES WIRE SIZE WHEN NOT #12 AWG. CONTINUE CONDUIT AND WIRE RUN FROM BOX TO DEVICE IN ROOM OR AREA AS NOTED BY BRANCH CIRCUIT NUMBER. #10 AWG WIRING SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50 FEET, UNLESS OTHERWISE NOTED ON DRAWING.
- INDICATES GROUND CONDUCTOR
- INDICATES HOMERUN AND CONDUIT TAG OR CONDUCTORS WITHIN RACEWAY

5 FIRE ALARM SYSTEM

- AUDIO/VISUAL ALARM INDICATOR (HORN/STROBE) NUMBER INDICATES STROBE CANDELLA RATING WHEN OTHER THAN 15
- HORN
- MANUAL PULL STATION
- FIRE ALARM CONTROL PANEL
- BELL
- FIRE ALARM ANNUNCIATOR STATION
- FLOW SWITCH (AIR)
- VALVE TAMPER SWITCH
- END OF LINE RESISTOR
- FLAME DETECTOR
- SMOKE DETECTOR, MULTISENSOR
- SMOKE DETECTOR IONIZATION
- SMOKE DETECTOR PHOTOELECTRIC
- DUCT MOUNTED SMOKE DETECTOR
- THERMAL DETECTOR (FIXED AND RATE OF RISE) H-HIGH TEMPERATURE
- SIGNAL INPUT MODULE
- SIGNAL MODULE

6 GROUND SYMBOLS

- CADWELD
- GROUNDING ROD
- GROUND TEST WELL
- GROUNDING
- POWER

7 AUXILIARY SYSTEMS

- AUXILIARY DETECTOR
DC DOOR CONTACT
GD GLASS-BREAK DETECTOR
MS MOTION SENSOR
CR CARD READER
- CONTROL PANEL. THE MIDDLE LETTERS DENOTE AS THE FOLLOWING:
IACP INTRUSION ALARM CONTROL PANEL
ACP ALARM CONTROL PANEL
FOPP FIBER OPTIC PATCH PANEL
- CAMERA
- ALARM BEACON
LETTER INDICATES COLOR
- SPEAKER/HORN
H = HORN
PS = PAGING SPEAKER
- CEILING MOUNTED SPEAKER
- VOICE/DATA COMBINATION OUTLETS:
WIRING DEVICE NOTES: IF SHOWN, UPPER-LEFT CHARACTERS DENOTE PANEL BOARD CIRCUIT FOR POWER OUTLETS. IF SHOWN, LOWER-RIGHT CHARACTERS DENOTE NEMA PLUG AND/OR RECEPTACLE CONFIGURATION.
- DATA OUTLET
- FLOOR MOUNTED DATA OUTLET
- SOUND POWERED TELEPHONE
- FLAT CABLE TRANSITION BOX
- TELEPHONE PUNCH DOWN BLOCK
- PRIVATE BRANCH EXCHANGE
- EXTERNAL PORT NODE
- FIBER CONVERTER
- LINE EXTENDER
- PAGING CONTROL CABINET
- MULTIPLEXOR
- TRANSCEIVER
- MONITOR
- T1 DEMARCATION
- UNINTERRUPTIBLE POWER SUPPLY

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022
REVISIONS		

AUBREY A. HAUDRICOURT, P.E.
No. 66861

MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827
CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES
ELECTRICAL
ELECTRICAL SYMBOLS 2 OF 2

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: E00.3
DRAWN: JG	TBD
DESIGNED: AAH	VERTICAL: TBD
CHECKED: MAC	TBD
PROJ. MGR. BP	REVISION

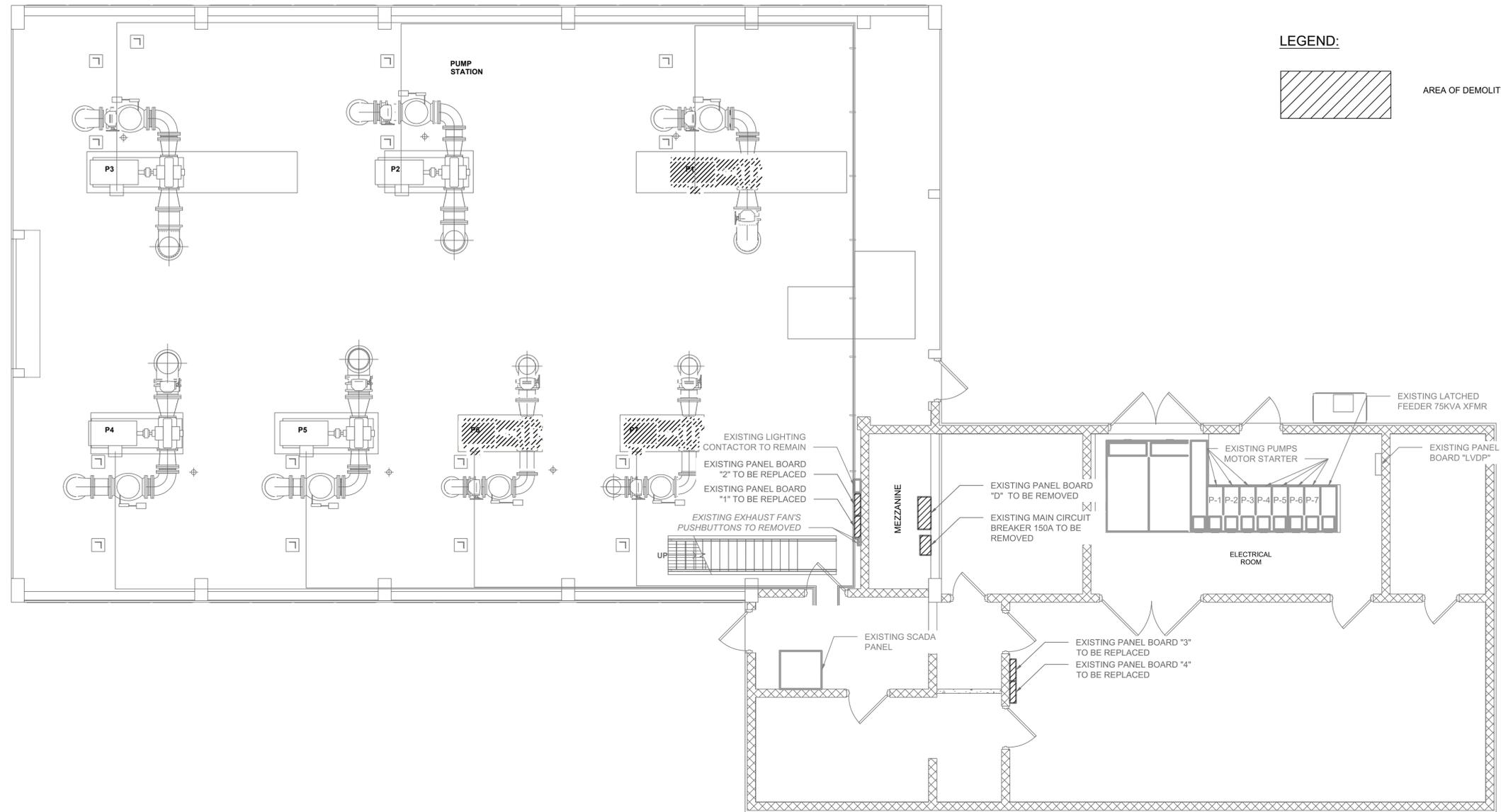
STATUS: **ISSUED FOR BID**



NORTH

30 0 30 60

SCALE: 1" = 60'



ELECTRICAL AND PUMP ROOM DEMOLITION PLAN

SCALE: 1"=60'-0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022

AUBREY A. HAUDRICOURT, P.E.
No. 66861



1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES

ELECTRICAL AND PUMP ROOMS DEMOLITION PLAN

PROJ. START DATE: NOV. 2021
MCE PROJ. # 01024-0186
DRAWN: JG
DESIGNED: AAH
CHECKED: MAC
PROJ. MGR.: BP

SCALE
HORIZONTAL: TBD
VERTICAL: TBD

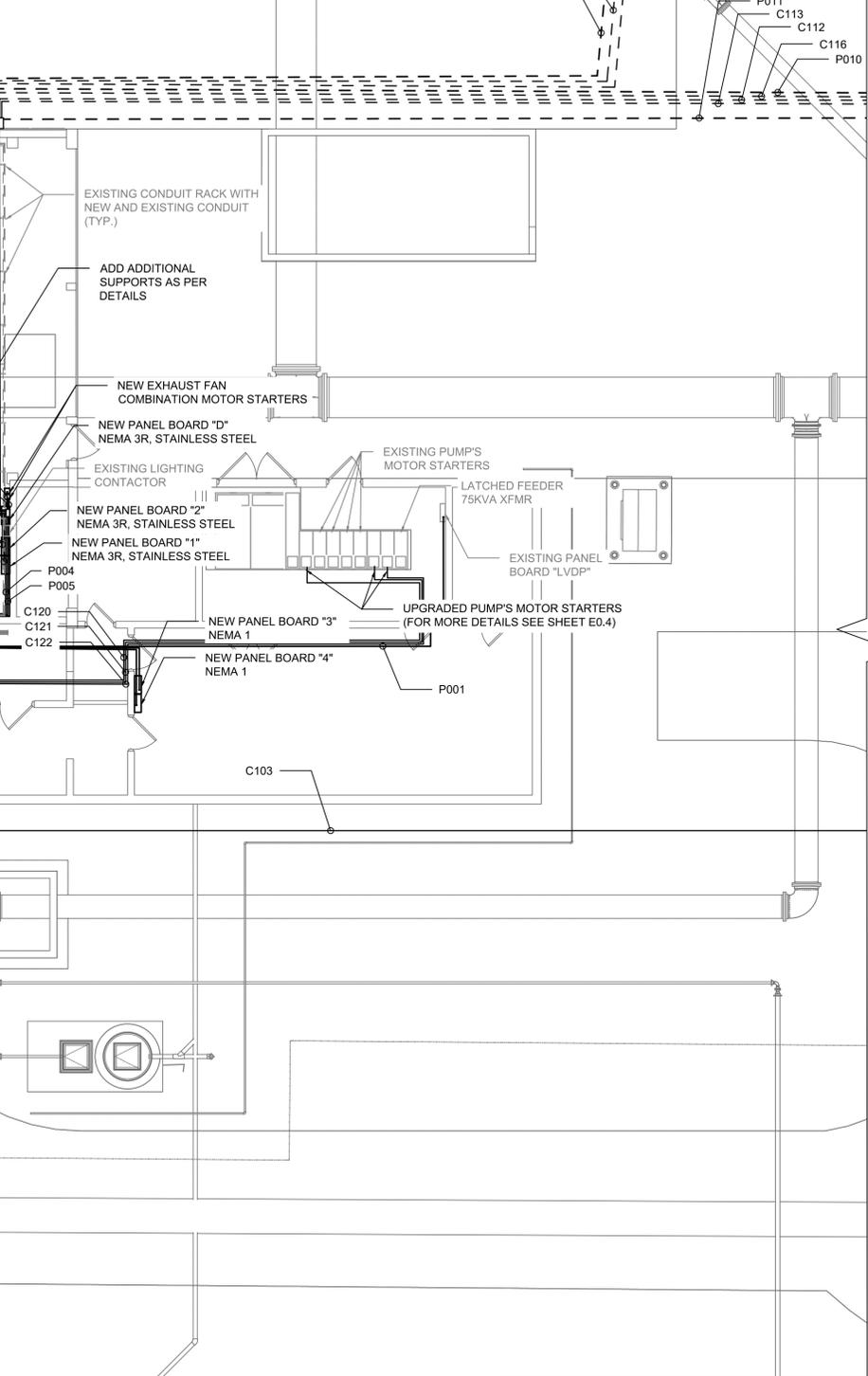
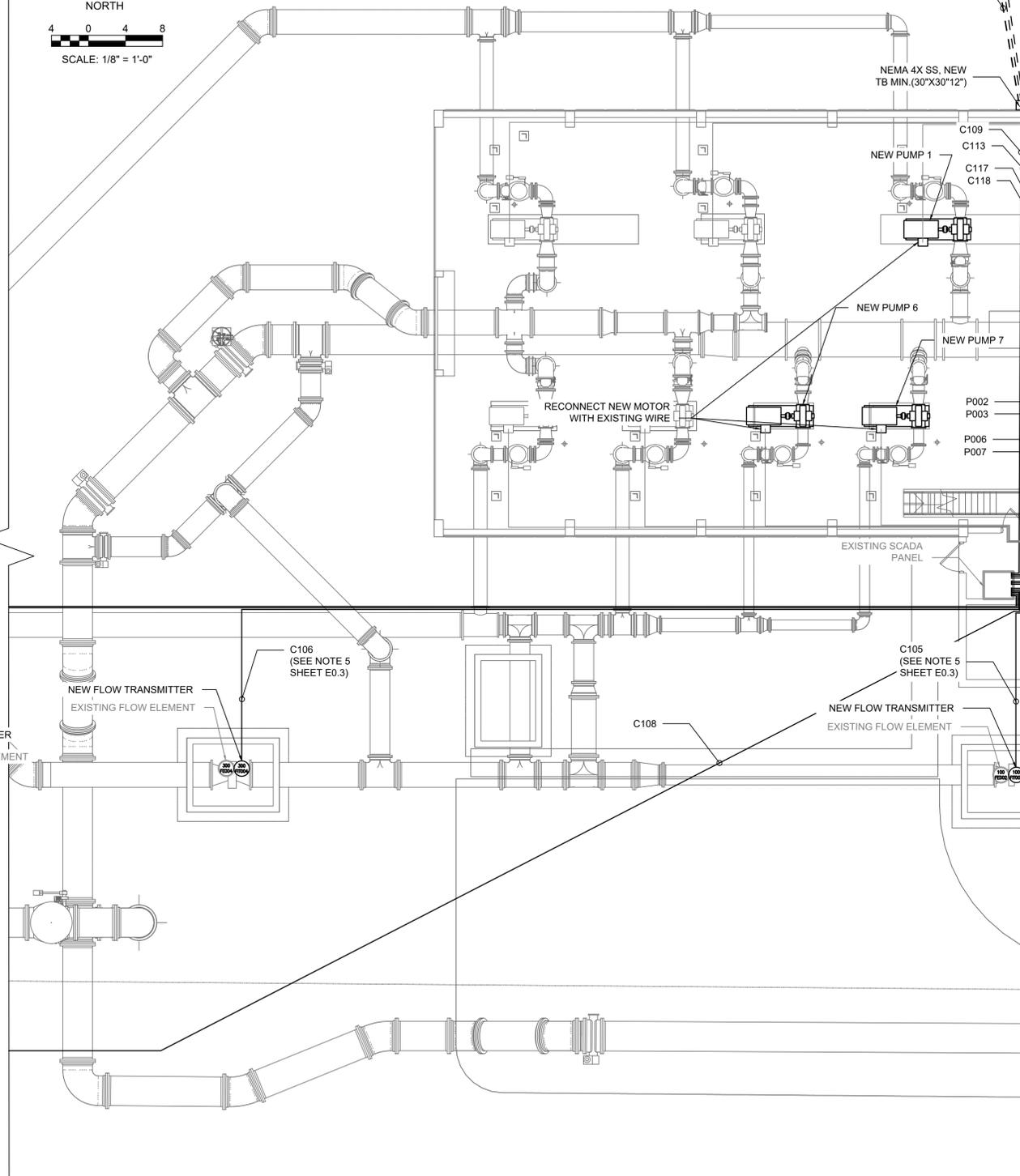
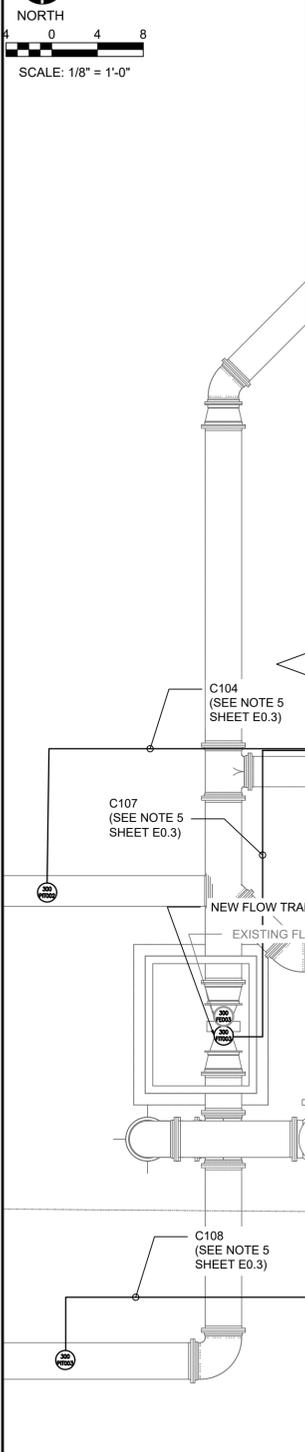
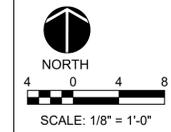
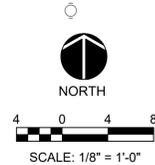
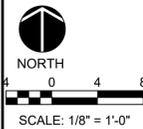
E01.1

DRAWING NUMBER

REVISION

STATUS: ISSUED FOR BID

TO BE CONTINUED ON E01.3



PROPOSED ELECTRICAL SITE PLAN 1
SCALE: 1/8" = 1'-0"

PROPOSED ELECTRICAL SITE PLAN 2
SCALE: 1/8" = 1'-0"

PROPOSED ELECTRICAL SITE PLAN 3
SCALE: 1/8" = 1'-0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022
REVISIONS		

AUBREY A. HAUDRICOURT, P.E.
No. 66861

1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com

ELWOOD BOOSTER PUMP STATION UPGRADES

ELECTRICAL

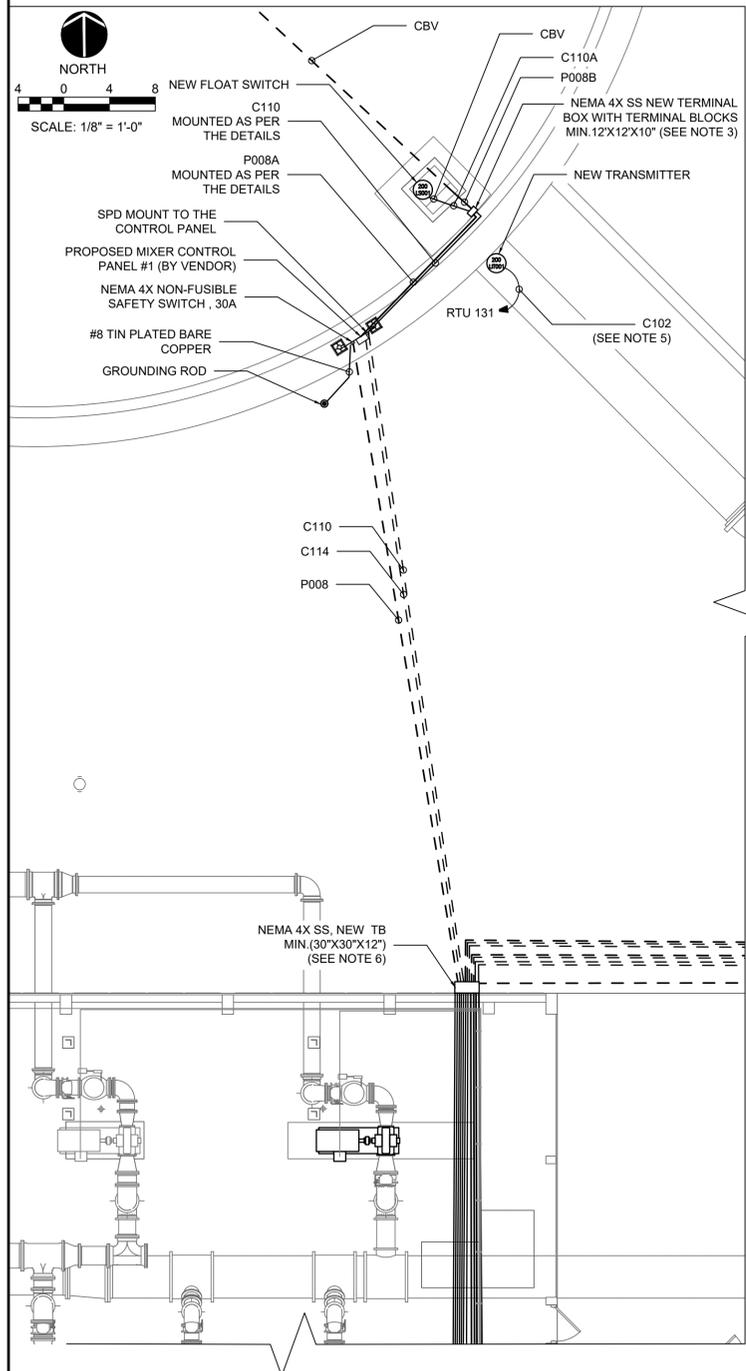
PROPOSED ELECTRICAL SITE PLANS 1, 2 AND 3

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: E01.2
DRAWN: JG	TBD
DESIGNED: AAH	VERTICAL: TBD
CHECKED: MAC	TBD
PROJ. MGR.: BP	REVISION

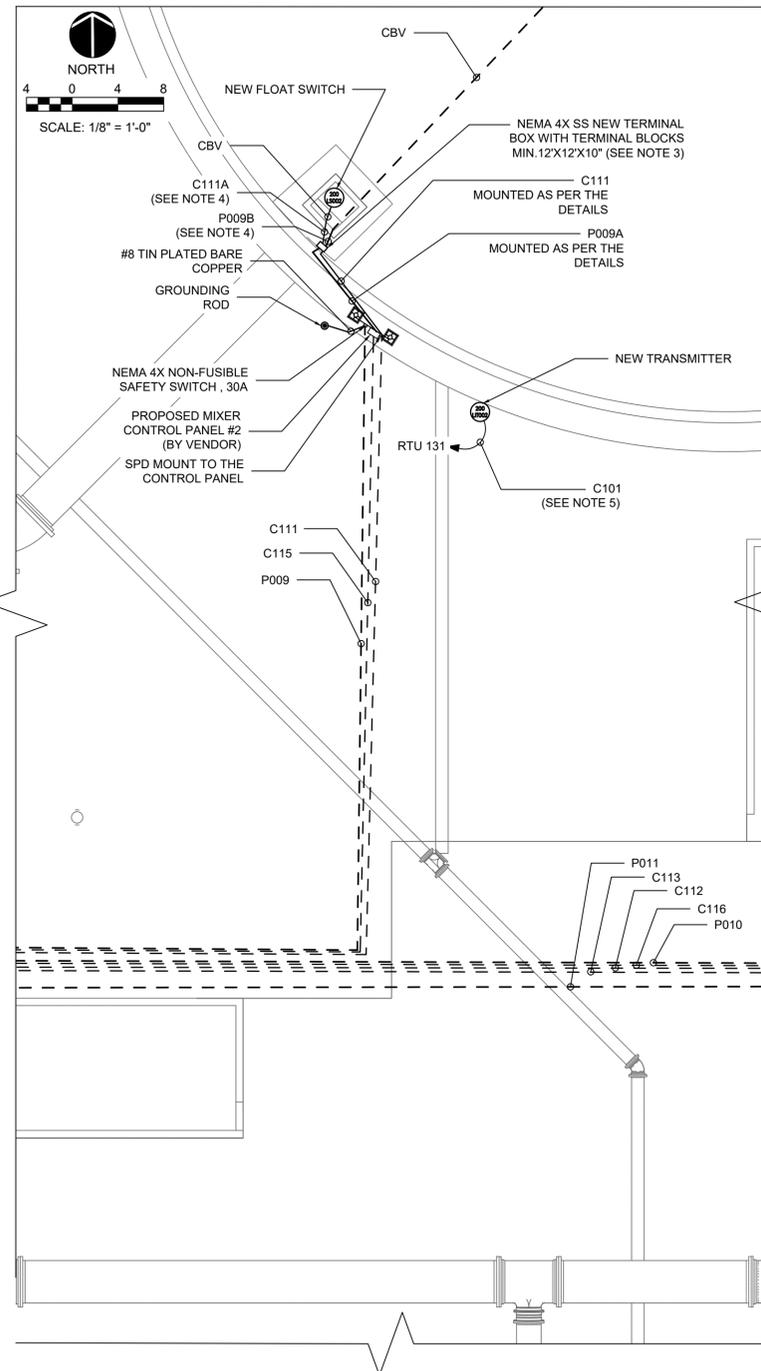
E01.2

ISSUED FOR BID

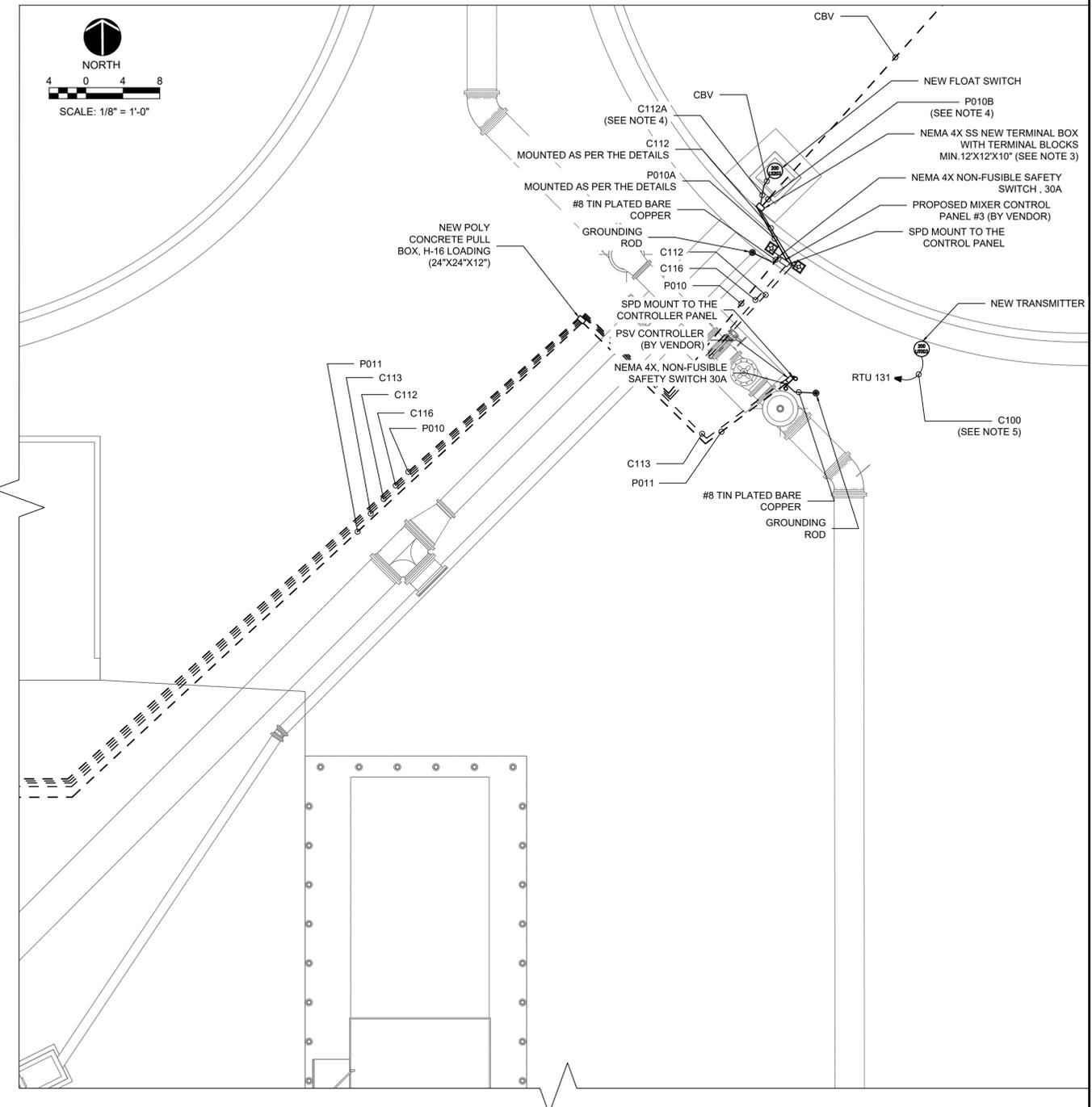
- NOTES:
1. ALL THE NEW JUNCTION BOXES SHOULD BE NEMA 4X, SS.
 2. ALL COORDINATION, DESIGN AND INSTALLATION RELATED TO THE TANKS SHOULD BE COORDINATED WITH CROM CORPORATION.
 3. BOND TERMINAL BOX AND THE METAL LADDERS SYSTEM TO GROUND SYSTEM. RUN #8 INSULATED COPPER WIRE TO GROUND ROD AT CONTROL PANEL. INSTALL IN RACEWAY TO CONTROL PANEL AND BOND TO GROUND ROD CONNECTION.
 4. CONDUITS TO PENETRATE THE HATCH AND BE CONNECTED TO CABLE BY VENDOR FOR THE MIXER MOTOR AND THE FLOAT.
 5. CONTRACTOR TO PULL NEW WIRE IN EXISTING CONDUIT. ROUTING IS DIAGRAMMATICAL AND SHOWN APPROXIMATE. CONTRACTOR TO VERIFY.
 6. CONTRACTOR TO PENETRATE BUILDING WITH CONDUIT. SEAL PENETRATION. REFER TO DETAIL.



PROPOSED ELECTRICAL SITE PLAN 4
SCALE: 1/8"=1'-0"



PROPOSED ELECTRICAL SITE PLAN 5
SCALE: 1/8"=1'-0"



PROPOSED ELECTRICAL SITE PLAN 6
SCALE: 1/8"=1'-0"

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022
REVISIONS		

AUBREY A. HAUDRICOURT, P.E.
No. 66861

MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827
CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES
ELECTRICAL
PROPOSED ELECTRICAL SITE PLANS 4, 5 AND 6

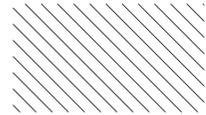
PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: E01.3
DRAWN: JG	TBD
DESIGNED: AAH	VERTICAL: TBD
CHECKED: MAC	REVISION: ----
PROJ. MGR. BP	ISSUED FOR BID

E01.3
DRAWING NUMBER

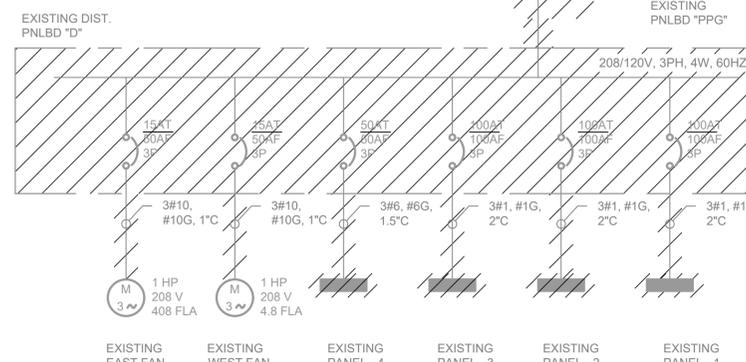
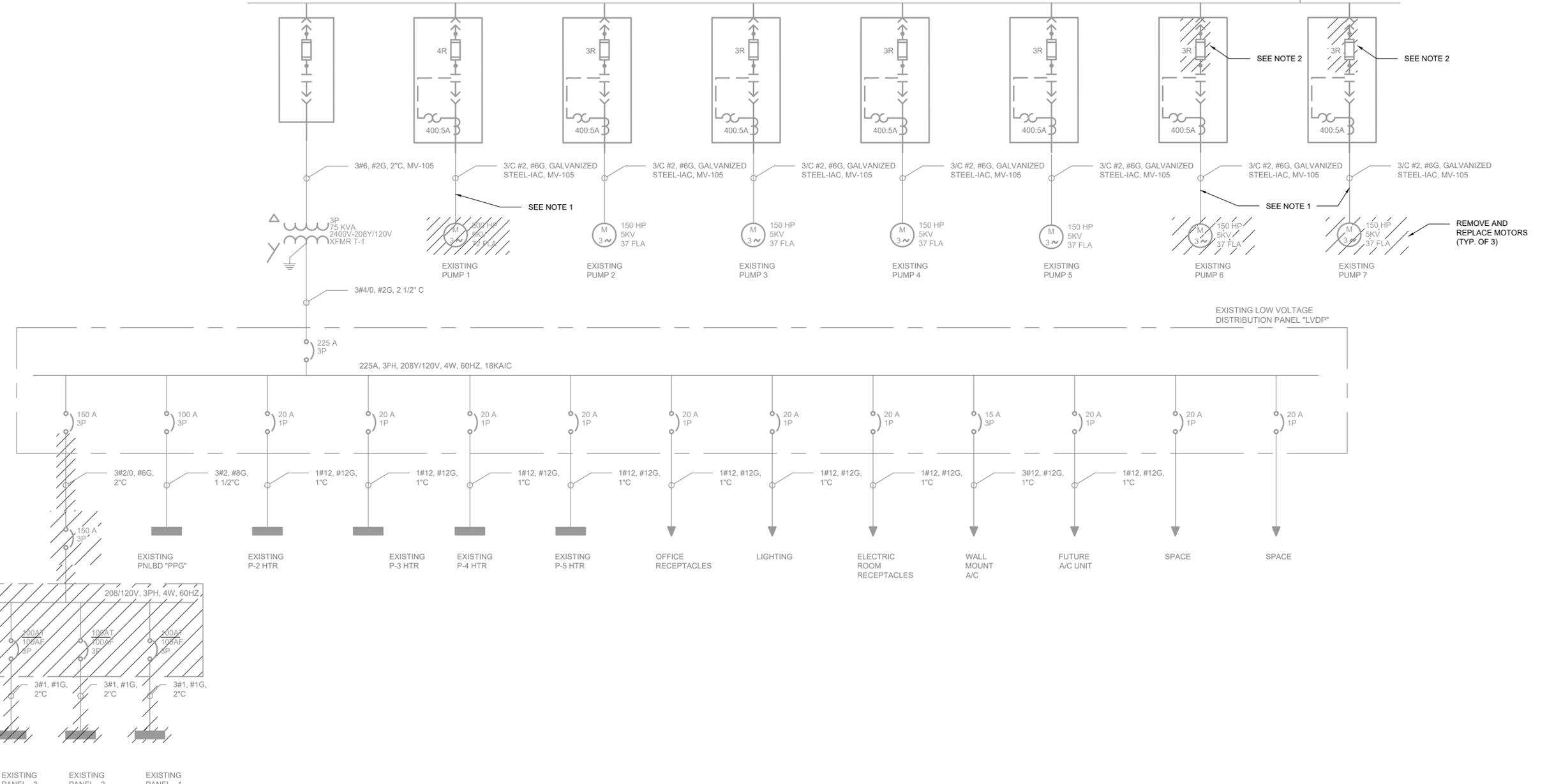
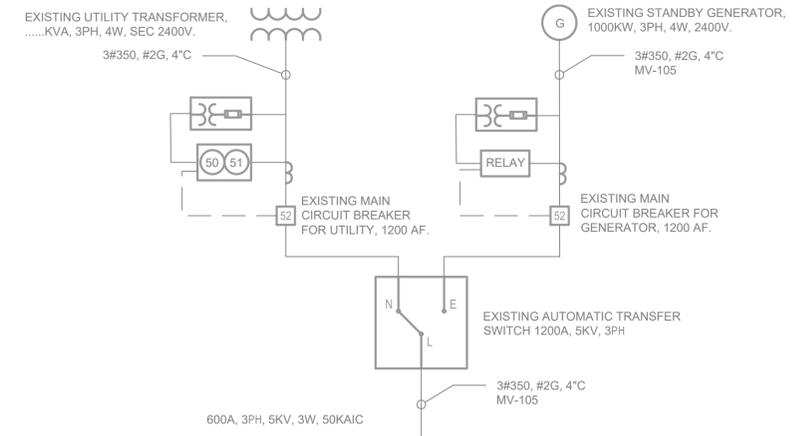
REVISION

- NOTES:
- REUSE THE EXISTING CONDUITS AND CONDUCTORS FOR THE NEW PUMP CONNECTIONS.
 - CONTRACTOR TO HIRE THE SERVICES OF SCHNIEDER ELECTRIC (SQD) TO REMOVE FUSE FOR REPLACEMENT.

DEMOLITION LEGEND



REMOVE AND REPLACE.



REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022

AUBREY A. HAUDRICOURT, P.E.
No. 66861

MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756-3331
 Phone: (727) 442-7196, Fax: (727) 461-3827
 CA Lic. No. 29588
 www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES
ELECTRICAL
EXISTING AND DEMOLITION ONE LINE

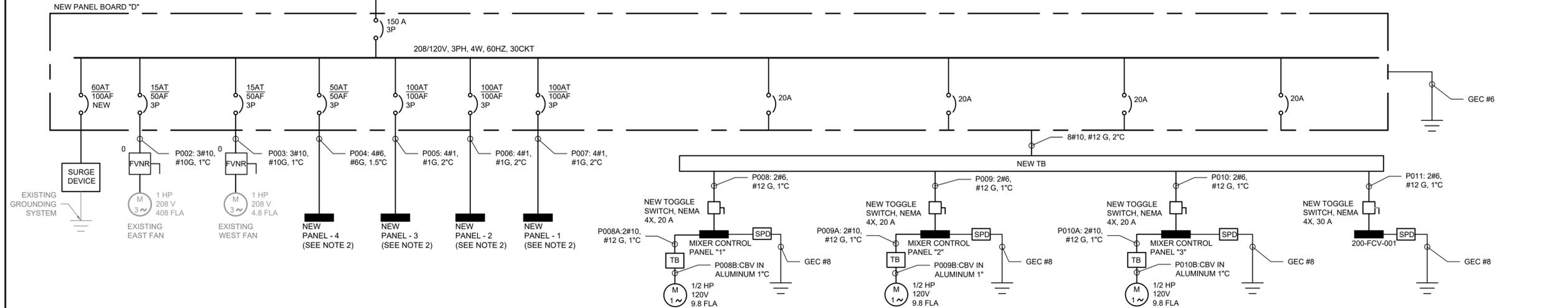
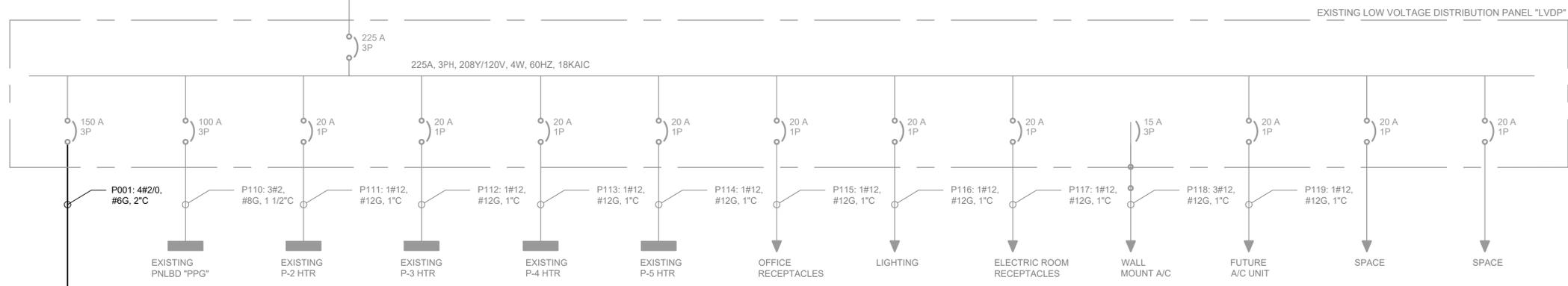
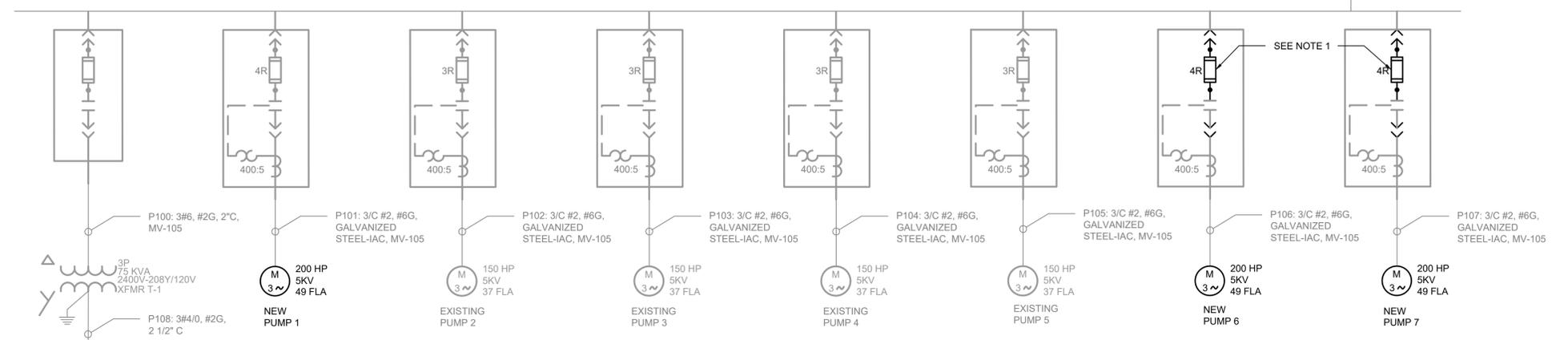
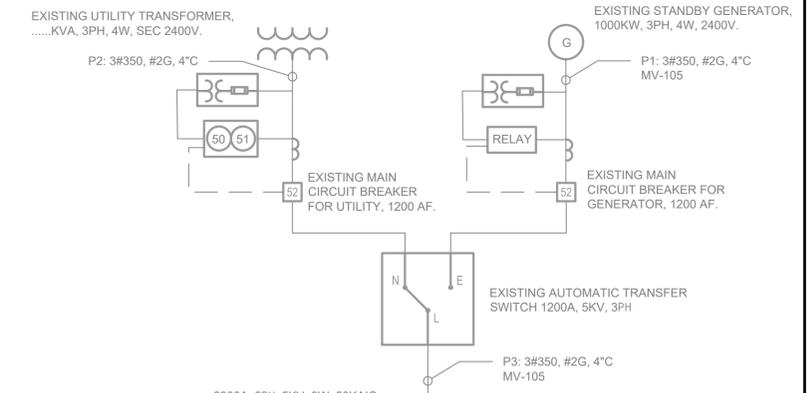
PROJ. START DATE: NOV. 2021
 MCE PROJ. # 01024-0186
 DRAWN: JG
 DESIGNED: AAH
 CHECKED: MAC
 PROJ. MGR.: BP

SCALE: HORIZONTAL: TBD, VERTICAL: TBD

E02.1
DRAWING NUMBER

STATUS: ISSUED FOR BID

- NOTES:**
- CONTRACTOR TO OBTAIN SQD SERVICES TO PROVIDE SERVICE TO INSTALL NEW FUSES, SET STARTER TRIP SETTING BASED ON NEW MOTOR SIZE, INCLUDE START UP, TESTING AND COMMISSIONING.
 - ALL THE NEW DISTRIBUTION PANELS SHALL HAVE AN INTEGRAL SURGE PROTECTION DEVICE (SPD).
 - INSTALL NEW CONDUITS AND REWIRE NEW WIRES FOR THE NEW DISTRIBUTION PANELS (PANEL D, 1, 2, 3 AND 4).
 - REPLACED DISTRIBUTION PANELS ARE TO BE RELOCATED IN SAME LOCATION TO MINIMIZE SPLICING. PROVIDE NEW FEEDERS AS SHOWN. BRANCH CIRCUIT WIRING TO REMAIN. SPLICE AS NECESSARY USING BUTT SPLICE CONNECTION.



REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022

AUBREY A. HAUDRICOURT, P.E.
No. 66861

1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

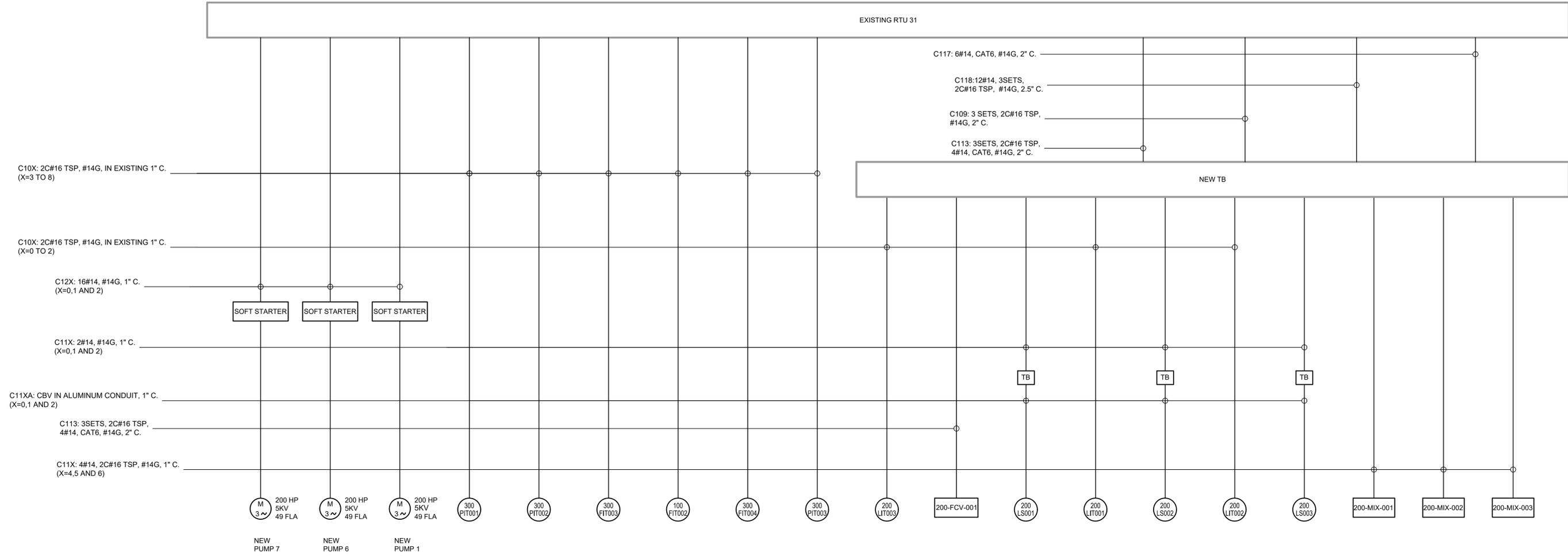
CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES

ELECTRICAL PROPOSED ONE LINE

PROJ. START DATE: NOV. 2021	SCALE: HORIZONTAL: E02.2
MCE PROJ. # 01024-0186	VERTICAL: TBD
DRAWN: JG	REVISION: ---
DESIGNED: AAH	ISSUED FOR BID
CHECKED: MAC	
PROJ. MGR: BP	



ELECTRICAL INTERCONNECTION DIAGRAM
SCALE: NTS

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022

AUBREY A. HAUDRICOURT, P.E.
No. 66861

1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com



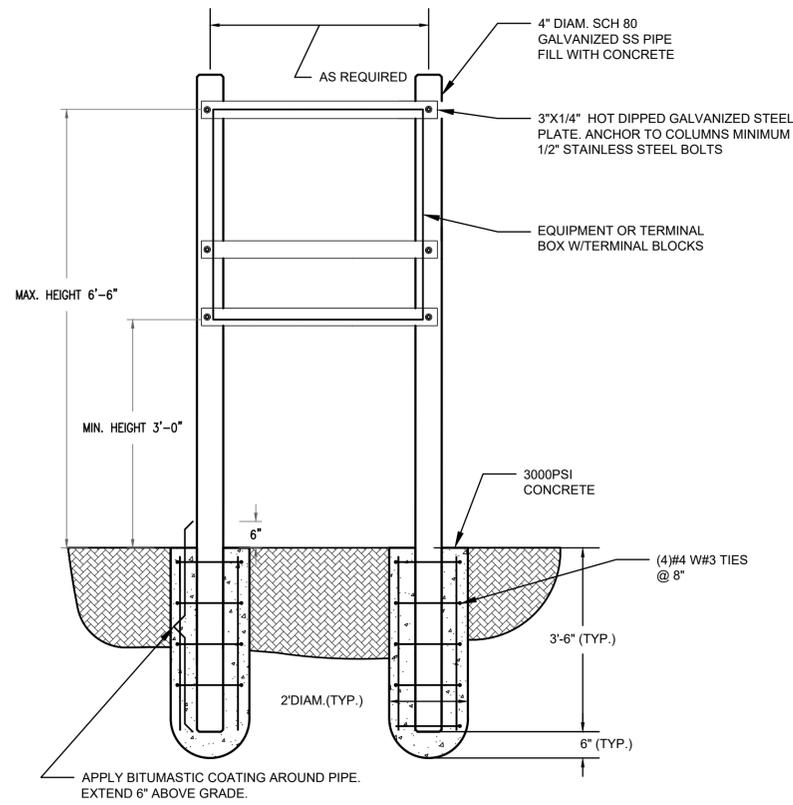
**ELWOOD BOOSTER PUMP STATION
UPGRADES**

**ELECTRICAL
INTERCONNECT DIAGRAM**

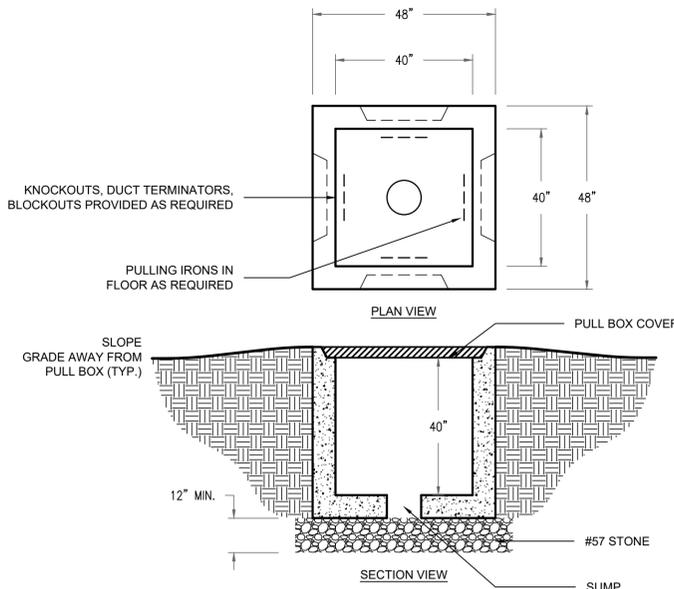
PROJ. START DATE: NOV. 2021
MCE PROJ. # 01024-0186
DRAWN: JG
DESIGNED: AAH
CHECKED: MAC
PROJ. MGR.: BP

SCALE	E02.3 DRAWING NUMBER
HORIZONTAL: TBD	
VERTICAL: TBD	
REVISION	

STATUS: **ISSUED FOR BID**



EQUIPMENT AND TERMINAL BOX MOUNTING DETAIL (IN GROUND MOUNT)
SCALE: N.T.S.

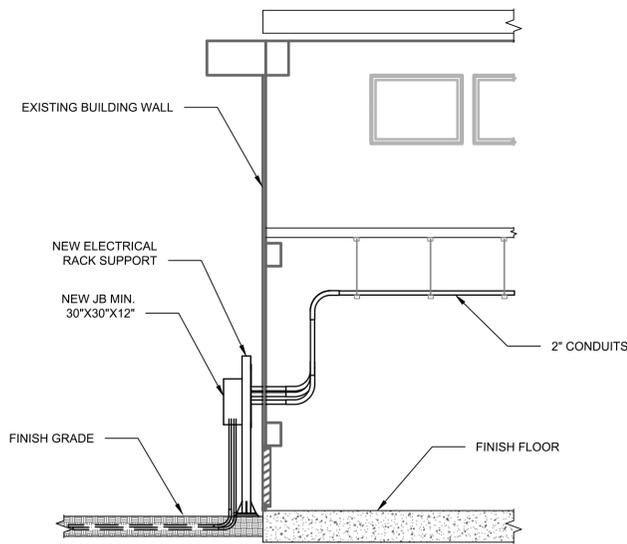


- NOTES:**
1. CONCRETE SHALL BE 5000psi MINIMUM. STEEL REINFORCEMENT: ASTM A-615, GRADE 60. COVER TO STEEL: 1" MINIMUM.
 2. VAULT SHALL MEET ASTM C857 AND ACI 318 WITH AASHTO HS-20-44 LOADING.
 3. PROVIDE PULL BOX COVER TO MEET LOADING CONDITIONS DESCRIBED IN NOTE 2.
 4. PROVIDE PULL EYES, GROUNDING ROD HOLE & INSERTS FOR CABLE RACKS AS REQUIRED.

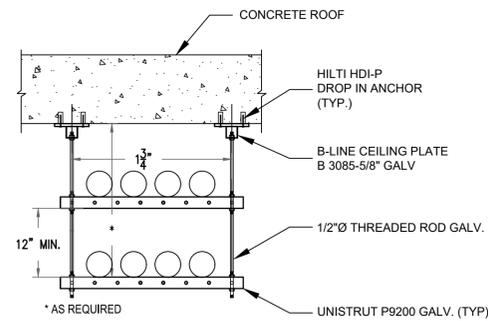
ELECTRICAL PULL BOX DETAIL
SCALE: N.T.S.



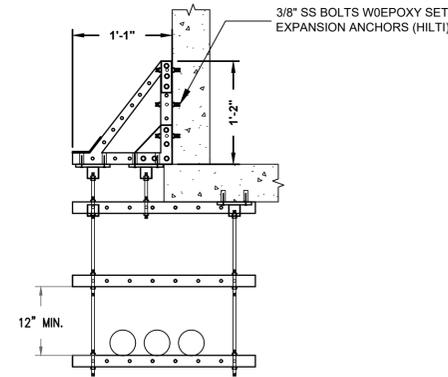
CONDUIT SUPPORT TO THE TANK
SCALE: N.T.S.



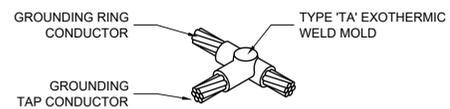
ABOVE GROUND JUNCTION BOX SUPPORT DETAILS
SCALE: 3/4"=1'-0"



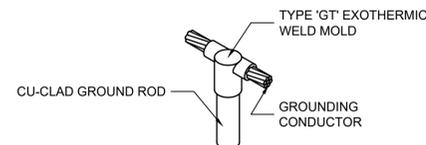
CONDUIT SUPPORT DETAIL (SUSPENDED SUPPORT)
SCALE: N.T.S.



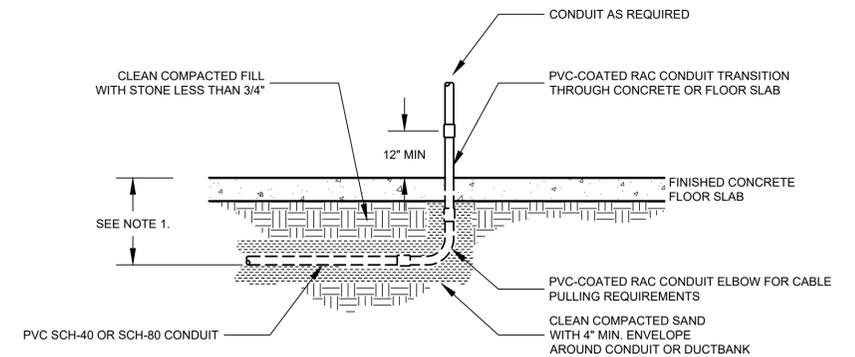
EXTEND CONDUIT SUPPORT DETAIL (WALL SUPPORT)
SCALE: N.T.S.



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



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



- DETAIL NOTES:**
1. BURIAL DEPTH OF CONDUIT OR DUCTBANK SHALL BE BASED ON THE LARGEST CONDUIT RADII SUCH THAT THE THREADED CONNECTION TO THE PVC-COATED RAC CONDUIT TRANSITION IS 6" MINIMUM BELOW BOTTOM OF CONCRETE FLOOR SLAB

TYPICAL UNDERSLAB CONDUIT STUB-UP INSTALLATION
SCALE: N.T.S.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV. 2022
REVISIONS		

AUBREY A. HAUDRICOURT, P.E.
No. 66861



1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com



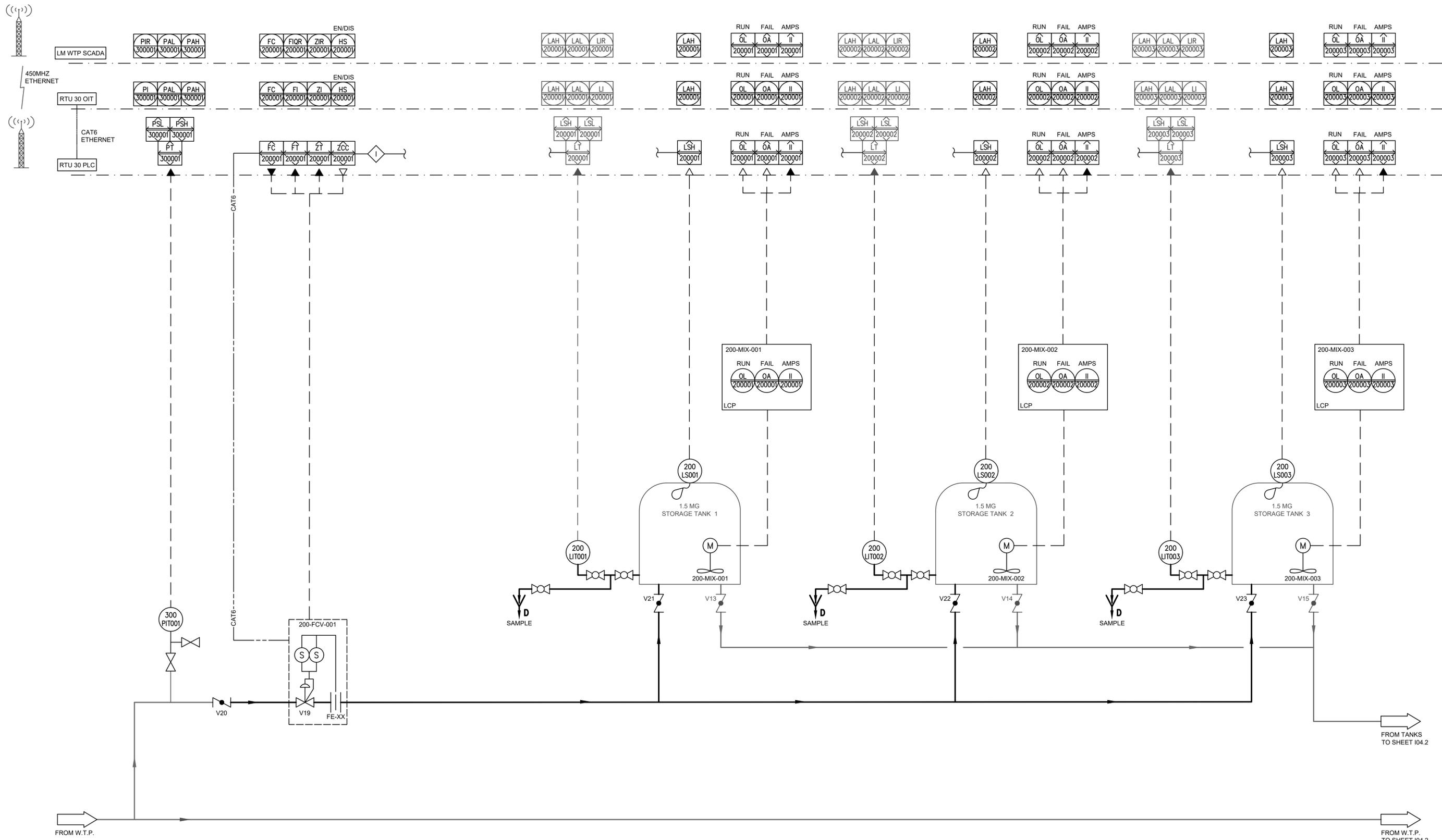
ELWOOD BOOSTER PUMP STATION UPGRADES

ELECTRICAL DETAILS

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: E04.1
DRAWN: JG	TBD
DESIGNED: AAH	VERTICAL: TBD
CHECKED: MAC	TBD
PROJ. MGR. BP	REVISION

STATUS:

ISSUED FOR BID



REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV-2022
REVISIONS		

MICHAEL TWEDEDEL, P.E.
No. 60940

1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES

INSTRUMENTATION

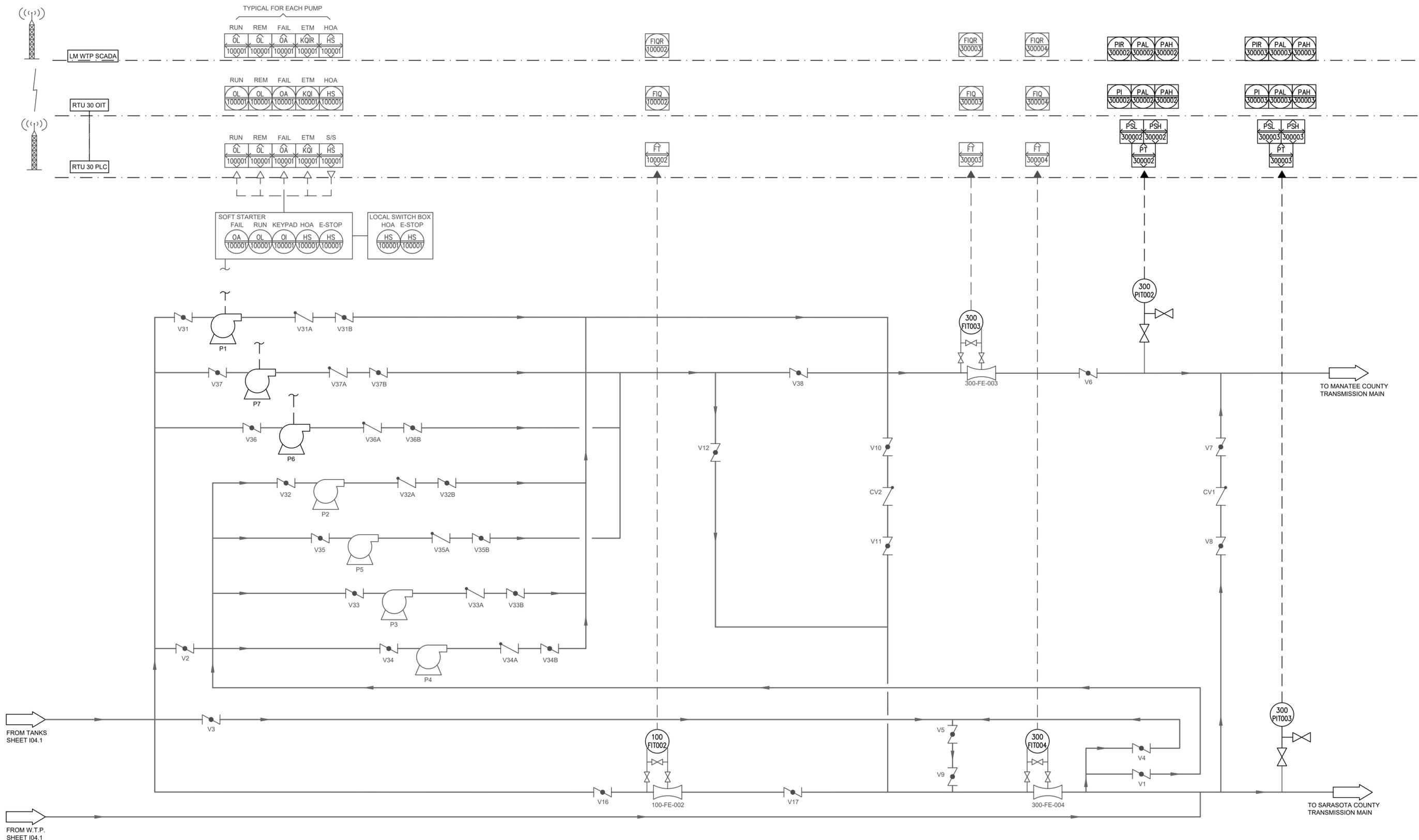
BOOSTER PUMP STATION P&ID I

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: 104.1
DRAWN: CJA	VERTICAL: NTS
DESIGNED: MDT	NTS
CHECKED: AAH	REVISION
PROJ. MGR. NAM	ISSUED FOR BID

104.1

DRAWING NUMBER

REVISION



REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV-2022
REVISIONS		

MICHAEL TWEDEDEL, P.E.
No. 60940

MCKIM & CREED
 1365 Hamlet Avenue
 Clearwater, Florida 33756-3331
 Phone: (727) 442-7196, Fax: (727) 461-3827
 CA Lic. No. 29588
 www.mckimcreed.com

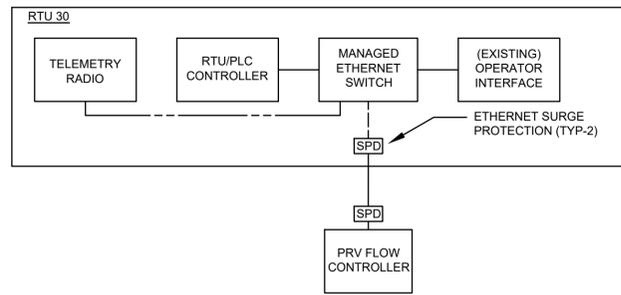


ELWOOD BOOSTER PUMP STATION UPGRADES
BOOSTER PUMP STATION P&ID II
 INSTRUMENTATION

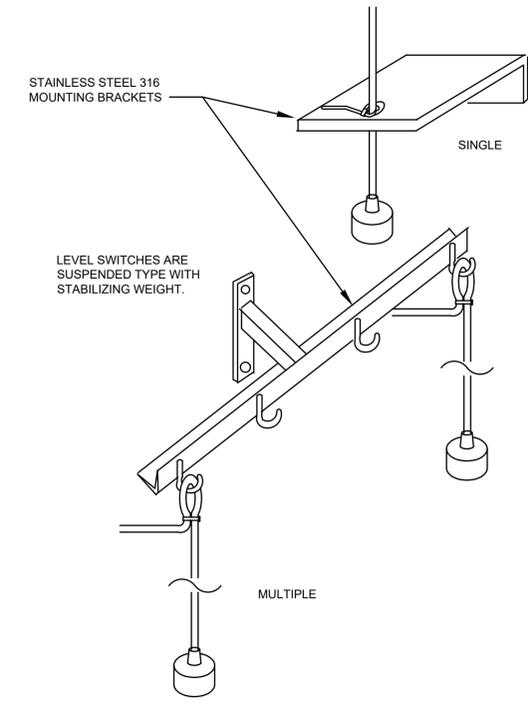
PROJ. START DATE: NOV. 2021
MCE PROJ. # 01024-0186
DRAWN: CJA
DESIGNED: MDT
CHECKED: AAH
PROJ. MGR.: NAM

SCALE: HORIZONTAL: NTS, VERTICAL: NTS
104.2
 DRAWING NUMBER
 REVISION: -

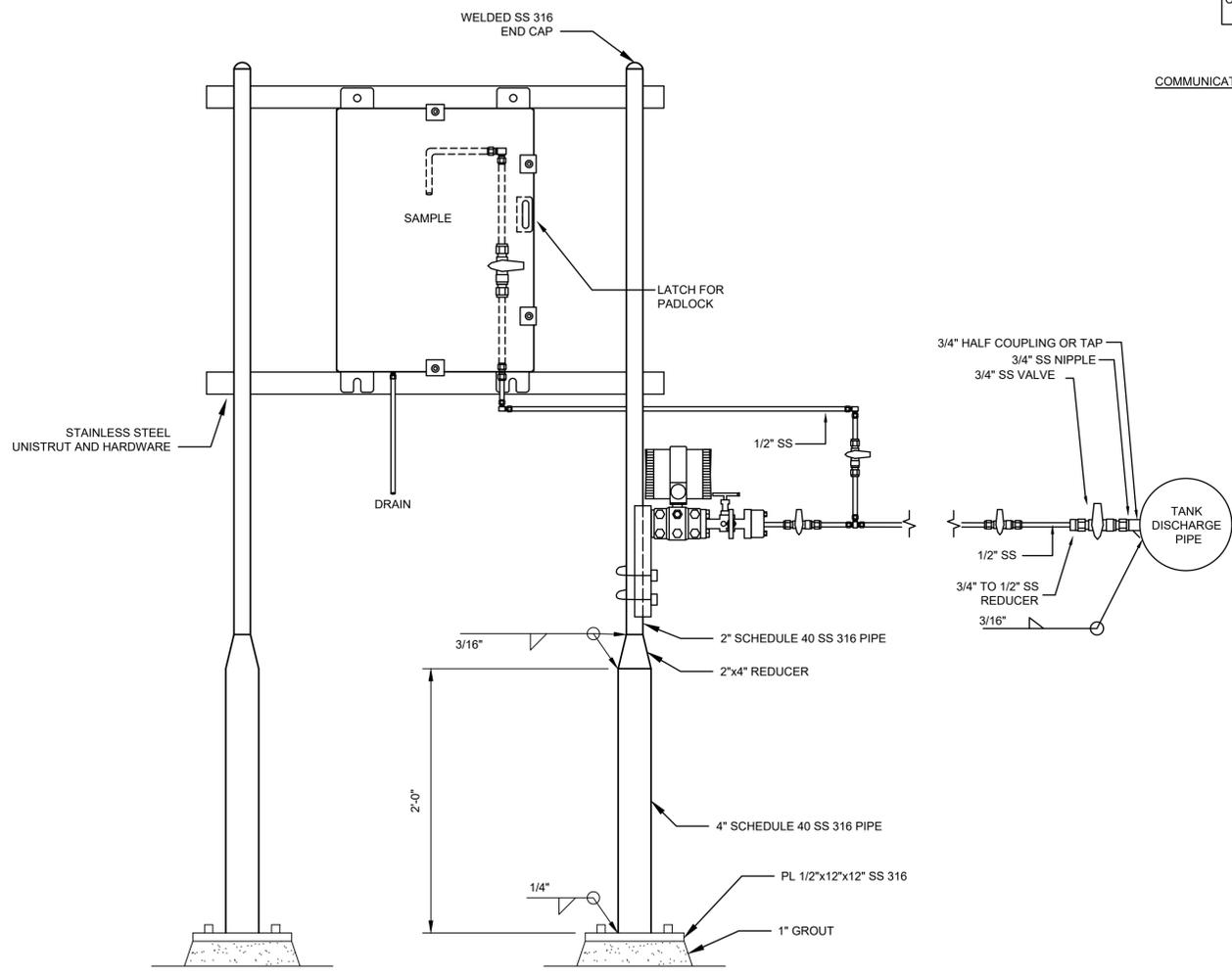
STATUS: ISSUED FOR BID



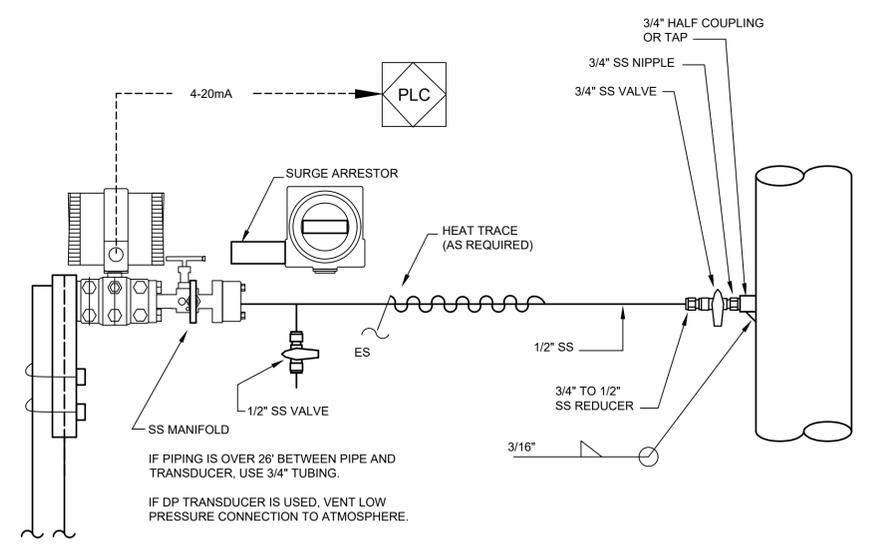
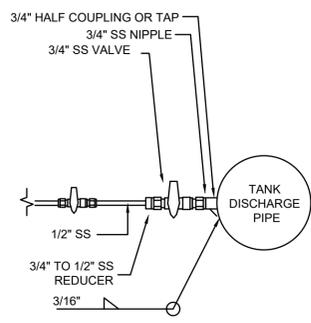
COMMUNICATION DETAIL



TYPICAL LEVEL SWITCH MOUNTING DETAIL



TYPICAL TANK LEVEL TRANSMITTER AND SAMPLE PANEL (NOT TO SCALE)



TYPICAL PRESSURE TRANSDUCER PIPING

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV-2022
REVISIONS		

MICHAEL TWEEDL, P.E.
No. 60940

1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

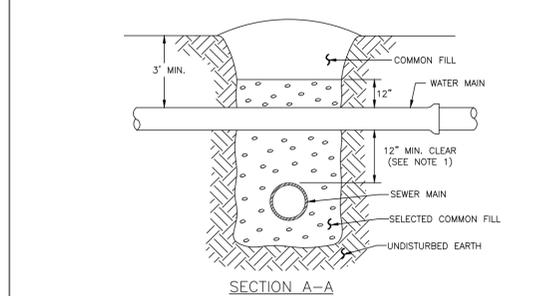
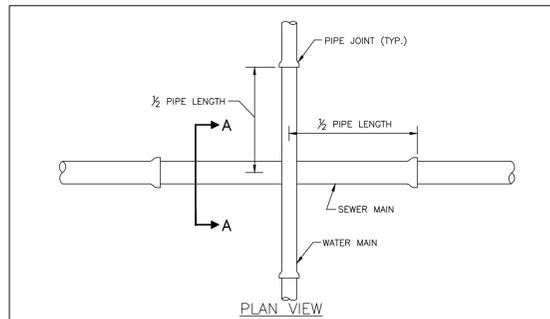
CA Lic. No. 29588
www.mckimcreed.com

ELWOOD BOOSTER PUMP STATION UPGRADES

INSTRUMENTATION INSTRUMENTATION DETAILS

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: 104.3
DRAWN: CJA	VERTICAL: NTS
DESIGNED: MDT	REVISION
CHECKED: AAH	-----
PROJ. MGR. NAM	NTS

STATUS: ISSUED FOR BID



NOTES:

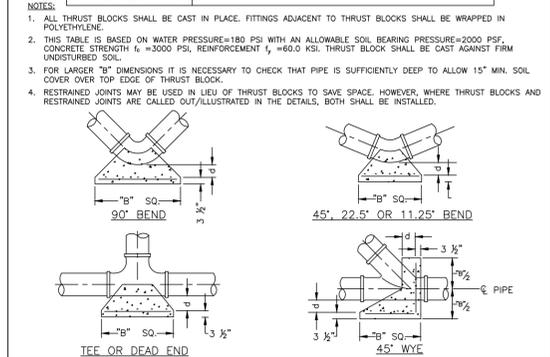
- CLEARANCE MAY BE REDUCED TO 6" FOR GRAVITY SEWER WHERE WATER MAIN IS DUCTILE IRON.
- PIPE SECTIONS SHALL BE FULL-LENGTH AND SHALL BE ADJUSTED HORIZONTALLY, SO THAT THE CROSSING IS AT EACH PIPE SECTION'S MIDPOINT REGARDLESS OF THE VERTICAL CLEARANCE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL NEW WATER & SEWER LINE CROSSING	UG-2
REV. BY	DATE	February 25, 2020 DATE OF APPROVAL	

PIPE SIZE (IN.)	THRUST BLOCK DIMENSIONS B ft. x d inches					
	90° BEND	45° BEND	22.5° BEND	11.25° BEND	DEAD END & TEE	45° WYE
4	1.5 3 1/2	1.1 3 3/4	0.8 3 3/4	0.6 3 3/4	1.3 3 3/4	1.1 3 3/4
6	2.2 5 1/4	1.6 3 3/4	1.2 3 3/4	0.8 3 3/4	1.9 4 1/2	1.6 3 3/4
8	2.9 7	2.1 5	1.5 3 3/4	1.1 3 3/4	2.4 5 3/4	2.0 4 3/4
10	3.5 8 1/2	2.6 6 3/4	1.9 4 1/2	1.3 3 3/4	3.0 7 1/2	2.5 6
12	4.2 10 1/4	3.1 7 3/4	2.2 5 3/4	1.6 3 3/4	3.5 8 3/4	3.0 7 1/2
14	4.9 11 3/4	3.6 8 3/4	2.6 6 3/4	1.8 4 1/2	4.1 9 3/4	3.4 8 3/4
16	5.5 13 1/4	4.1 9 3/4	2.9 7	2.1 5	4.7 11 1/4	3.9 9 3/4
18	6.2 15	4.6 11	3.3 8	2.3 5 3/4	5.2 12 3/4	4.4 10 3/4
20	6.9 16 1/2	5.0 12	3.6 8 3/4	2.6 6 3/4	5.8 14	4.9 11 3/4
24	8.2 19 3/4	6.0 14 3/4	4.3 10 3/4	3.1 7 3/4	6.9 16 3/4	5.8 14
30	10.1 24 1/4	7.5 18 3/4	5.3 12 3/4	3.8 9	8.5 20 3/4	7.2 17 3/4
36	12.1 29	8.9 21 3/4	6.4 15 3/4	4.5 10 3/4	10.2 24 3/4	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	February 25, 2020 DATE OF APPROVAL	

REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR C900-16 PVC PIPE (DR-18)

MAIN PIPE SIZE	HORIZ. BENDS	TEES		REDUCERS		PLUGS & VALVES
		SIZE	LENGTH	SIZE	LENGTH	
24	90° 45° 22.5°	X24	X24	X24	X24	214
20	90° 45° 22.5°	X20	X20	X20	X20	184
16	90° 45° 22.5°	X16	X16	X16	X16	151
12	90° 45° 22.5°	X12	X12	X12	X12	118
10	90° 45° 22.5°	X10	X10	X10	X10	100
8	90° 45° 22.5°	X8	X8	X8	X8	83
6	90° 45° 22.5°	X6	X6	X6	X6	63
4	90° 45° 22.5°	X4	X4	X4	X4	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 UG-10 RESTRAINED LENGTHS FOR PIPE.
- ALL RESTRAINED JOINT HARDWARE SHALL CONFORM TO 1.11.17 OF THE PUBLIC WORKS UTILITIES STANDARDS MANUAL.
- ALL THREE "LEGS" OF TEES SHALL BE RESTRAINED PER THE STATED LENGTH IN THE TABLE.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR PVC PIPE	UG-8
REV. BY	DATE	February 25, 2020 DATE OF APPROVAL	

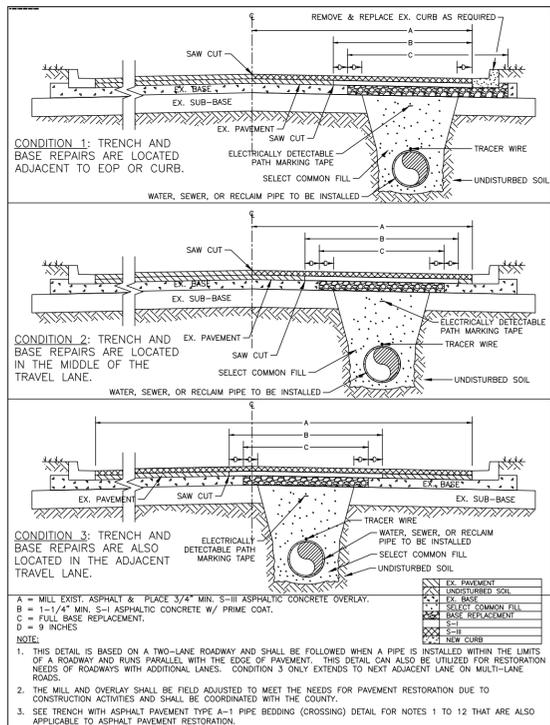
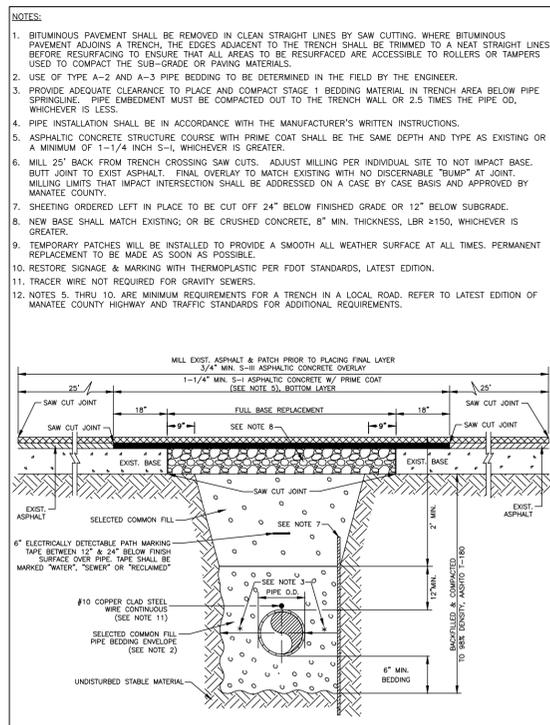
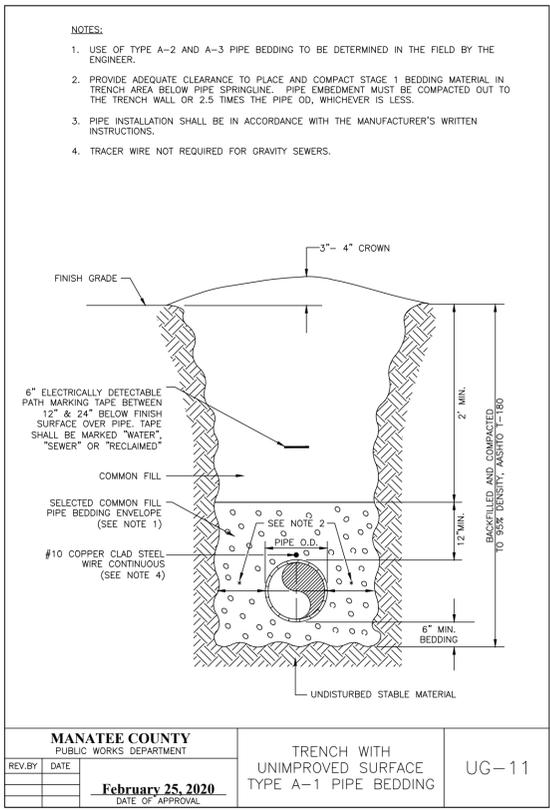
REQUIRED LENGTH OF RESTRAINED JOINT PIPE FOR DIP (POLY-WRAPPED)

MAIN PIPE SIZE	HORIZ. BENDS	TEES		REDUCERS		PLUGS & VALVES
		SIZE	LENGTH	SIZE	LENGTH	
36	90° 45° 22.5°	X36	X36	X36	X36	453
30	90° 45° 22.5°	X30	X30	X30	X30	391
24	90° 45° 22.5°	X24	X24	X24	X24	327
20	90° 45° 22.5°	X20	X20	X20	X20	280
16	90° 45° 22.5°	X16	X16	X16	X16	231
12	90° 45° 22.5°	X12	X12	X12	X12	181
10	90° 45° 22.5°	X10	X10	X10	X10	153
8	90° 45° 22.5°	X8	X8	X8	X8	128
6	90° 45° 22.5°	X6	X6	X6	X6	98
4	90° 45° 22.5°	X4	X4	X4	X4	69

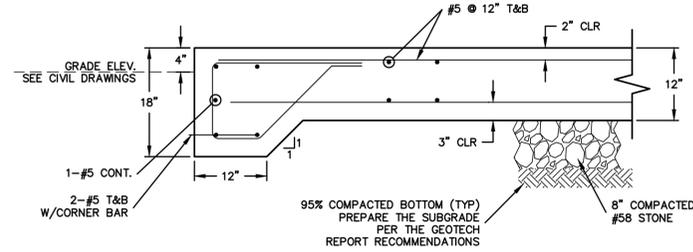
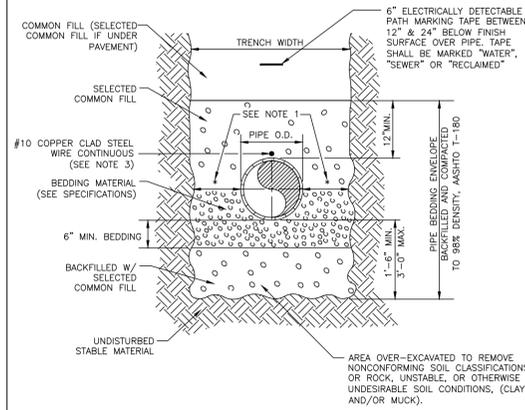
NOTES:

- SEE UG-8, RESTRAINED LENGTHS FOR PVC PIPE DETAIL FOR NOTES 1 THROUGH 9 THAT ARE ALSO APPLICABLE TO RESTRAINED LENGTHS FOR DIP.

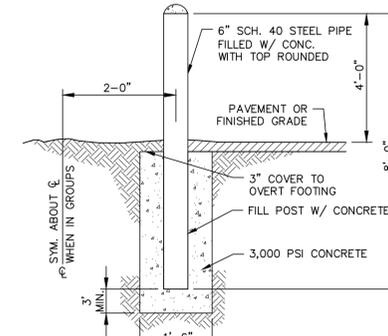
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RESTRAINED LENGTHS FOR DIP	UG-9
REV. BY	DATE	February 25, 2020 DATE OF APPROVAL	



- NOTES:
1. 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.
 2. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
 3. TRACER WIRE NOT REQUIRED FOR GRAVITY SEWERS.

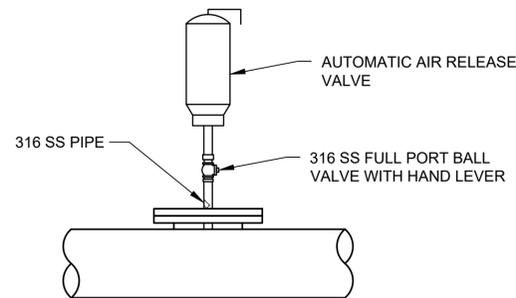


TYP. CONCRETE PAD
SCALE: NTS

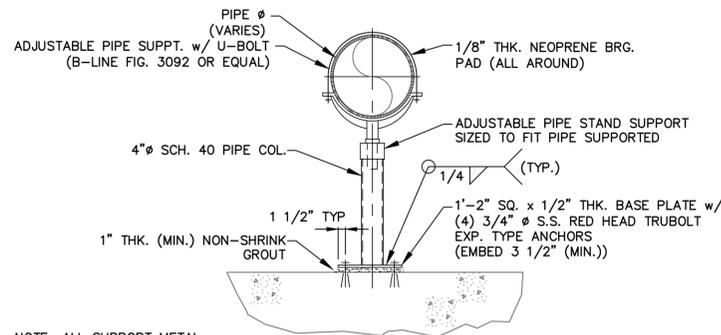


BOLLARD DETAIL
SCALE: NTS

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TRENCH WITH TYPE A-3 PIPE BEDDING	UG-16
REV. BY	DATE		
	February 25, 2020		
	DATE OF APPROVAL		

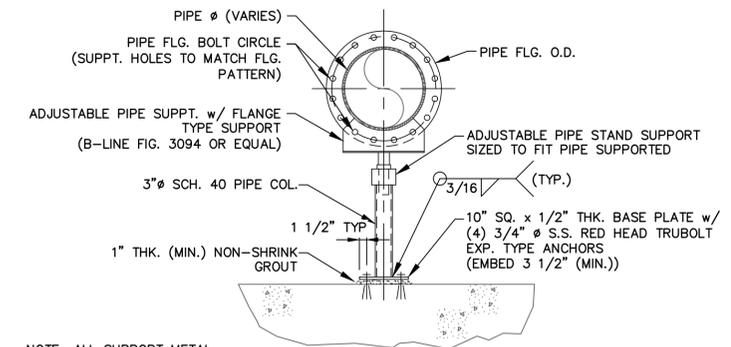


ARV ASSEMBLY DETAIL
SCALE: NTS



NOTE: ALL SUPPORT METAL COMPONENTS SHALL BE FABRICATED IN CONFORMANCE w/ ASTM A276 TYPE 316 S.S. U.N.O.

TYPE 2 PIPE SUPPORT
SCALE: NTS



NOTE: ALL SUPPORT METAL COMPONENTS SHALL BE FABRICATED IN CONFORMANCE w/ ASTM A276 TYPE 316 S.S. U.N.O.

TYPE 3 PIPE SUPPORT
SCALE: NTS

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV-2022
REVISIONS		

BLAKE PETERS, P.E.
No. 64429



1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588
www.mckimcreed.com

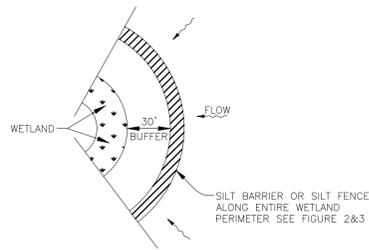


**ELWOOD BOOSTER PUMP STATION
UPGRADES**

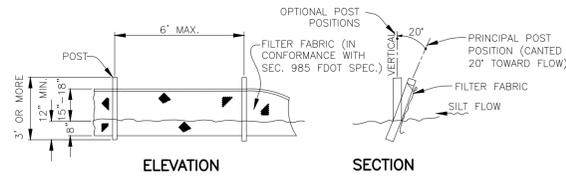
**DETAILS
CIVIL DETAIL SHEET (2)**

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: D-2
DRAWN: DES	VERTICAL: NTS
DESIGNED: NAM	NTS
CHECKED: MAC	REVISION
PROJ. MGR. NAM	----

STATUS: ISSUED FOR BID

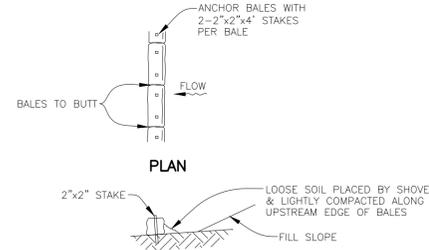


WETLAND BUFFER
FIGURE 1

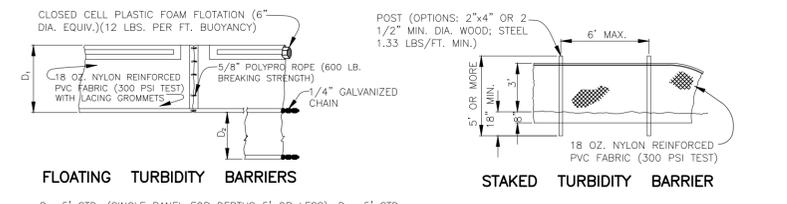


NOTE: SILT FENCE TO BE PAID FOR UNDER THE CONTRACT UNIT PRICE FOR STAKED SILT FENCE (LF).

TYPICAL SILT FENCE
FIGURE 2



TYPICAL BALE SILT BARRIER
FIGURE 3

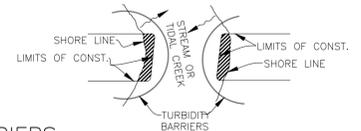


FLOATING TURBIDITY BARRIERS

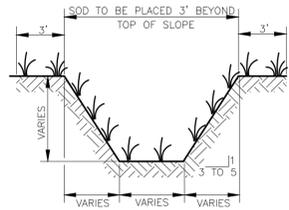
STAKED TURBIDITY BARRIER

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.

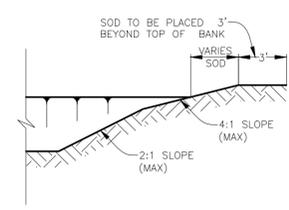
NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.



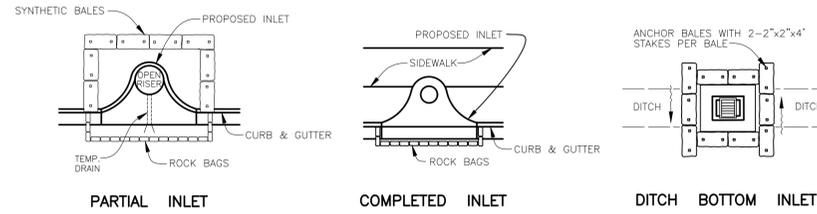
TURBIDITY BARRIERS
FIGURE 4



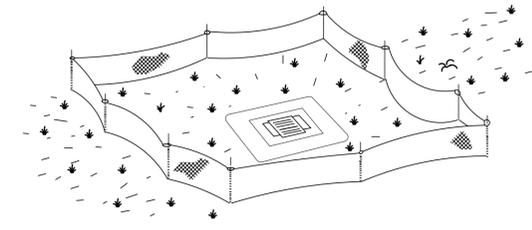
TYPICAL SWALE SECTION
FIGURE 5



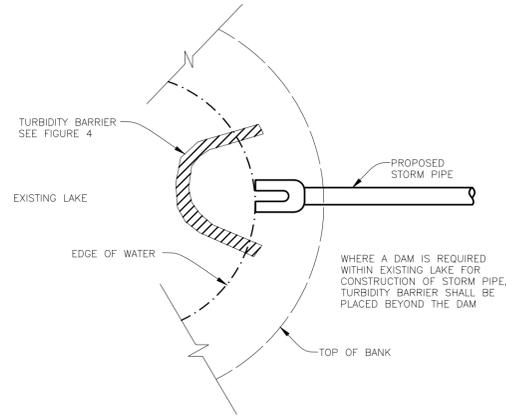
TYPICAL RETENTION/DETENTION POND SECTION
FIGURE 6



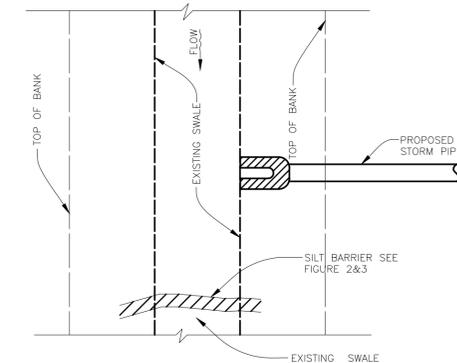
SYNTHETIC BALE PROTECTION AROUND INLETS OR SIMILAR STRUCTURES
FIGURE 7



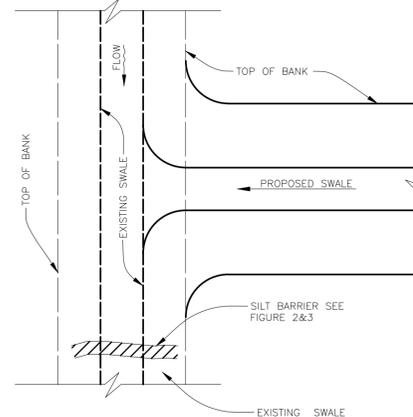
TYPE III SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS
STAKED SILT BARRIER OR SILT FENCE PROTECTION AROUND DITCH BOTTOM INLETS
FIGURE 8



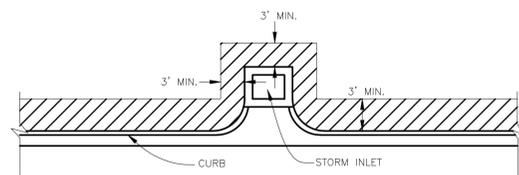
TURBIDITY BARRIER AT CONNECTION OF STORM PIPE TO EXISTING LAKE
FIGURE 9



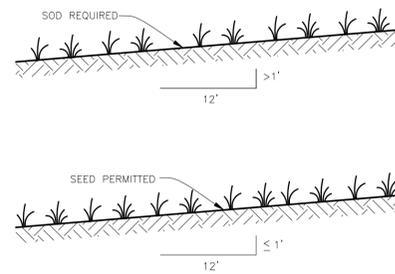
SILT BARRIER AT CONNECTION OF STORM PIPE TO EXISTING SWALE
FIGURE 10



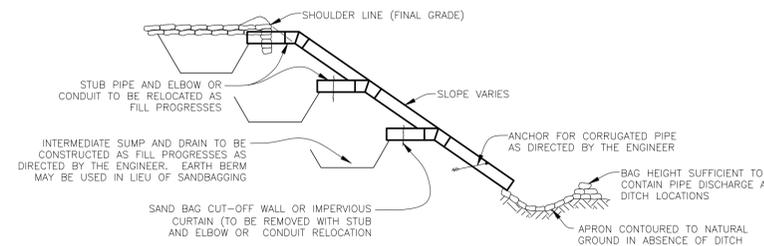
SILT BARRIER AT CONNECTION OF SWALE TO EXISTING SWALE
FIGURE 11



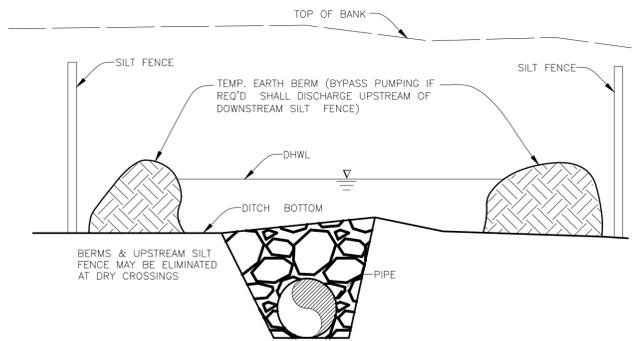
SOD ALONG CURB AND AROUND INLET
FIGURE 14



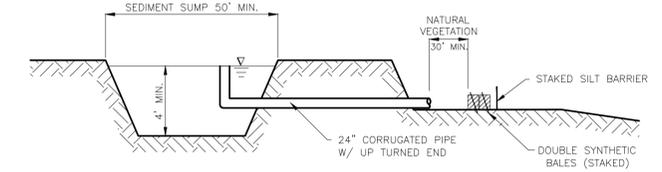
GRASS SLOPES
FIGURE 13



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.

REV. NO.	DESCRIPTION	DATE
0	ISSUED FOR BID	NOV-2022
REVISIONS		

BLAKE PETERS, P.E.
No. 64429

1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827

MCKIM & CREED
1365 Hamlet Avenue
Clearwater, Florida 33756-3331
Phone: (727) 442-7196, Fax: (727) 461-3827
CA Lic. No. 29588
www.mckimcreed.com



ELWOOD BOOSTER PUMP STATION UPGRADES
DETAILS
ERROSION CONTROL DETAILS

PROJ. START DATE: NOV. 2021	SCALE
MCE PROJ. # 01024-0186	HORIZONTAL: D-3
DRAWN: DES	VERTICAL: TBD
DESIGNED: NAM	TBD
CHECKED: MAC	REVISION
PROJ. MGR.: NAM	ISSUED FOR BID