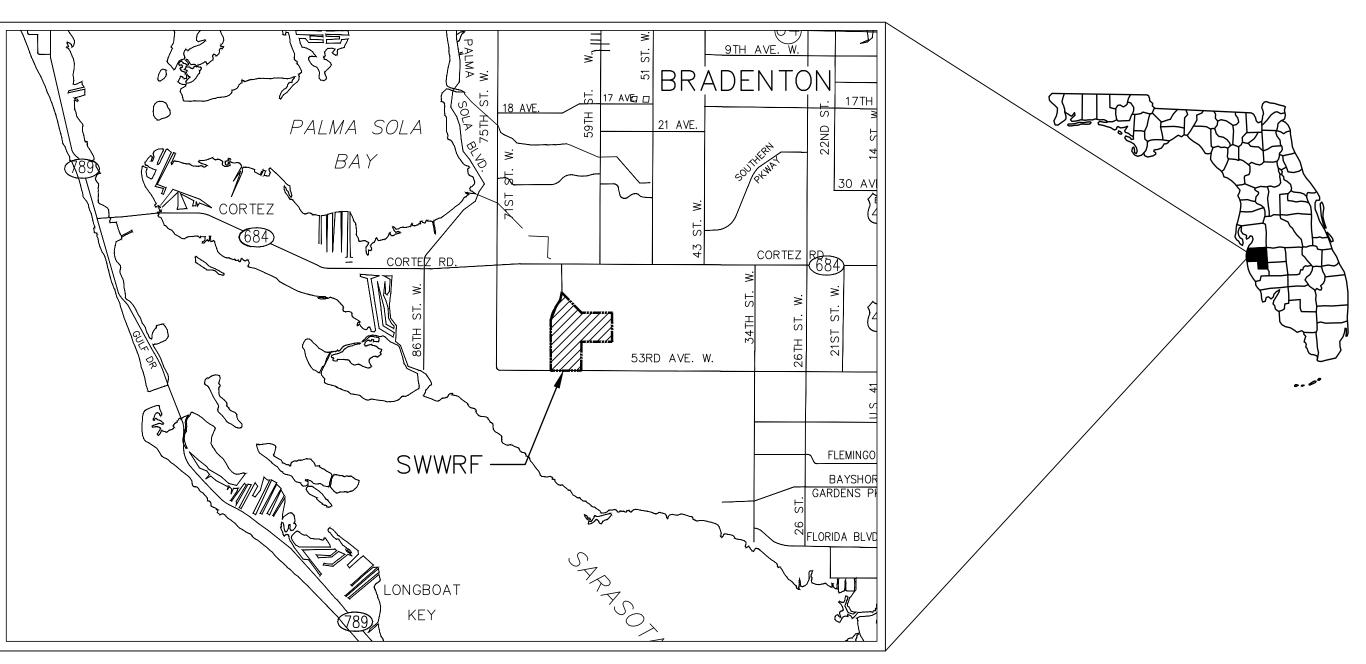
COUNTY PROJECT No. 6071781 ISSUED FOR BID SEPTEMBER 2023



MANATEE COUNTY, FLORIDA



PROJECT VICINITY MAP
SECTION 35S, TOWNSHIP 18E, RANGE 1



ON THE DATE ADJACENT TO THE SEAL

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, FAC. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

> MCKIM & CREED, INC *1365 HAMLET AVENUE* CLEARWATER, FLORIDA 33756 PHONE: (727) 442-7196, FAX: (727) 461-3827 CERTIFICATE OF AUTHORIZATION NO. 29588 DAVID C. WEHNER, P.E. NO. 59541

THE INDIVIDUAL ABOVE SHALL BE THE RESPONSIBLE ENGINEER OF RECORD FOR THE FOLLOWING SHEETS INCLUDED HEREIN:

Sheet List Table		
Sheet Number	Sheet Title	
GENERAL		
G-01	COVER SHEET	
G-02	SIGNATURE SHEET	
G-03	GENERAL NOTES AND INDEX OF SHEETS	
G-04	SYMBOLS AND ABBREVIATIONS	
G-05	EXISTING SITE PLAN	
DEMO		
D-01	DEMOLITION SITE PLAN	
D-02	YARD PIPING DEMOLITION PLAN	
D-03	RETURN ACTIVATED SLUDGE TRANSFER PUMP STATION DEMOLITION PLAN	
D-04	EQ TANK RETURN PUMP STATION AND WET WELL DEMO PLAN AND SECTION	
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D-07	DAF TANK DEMOLITION PHOTOS	
D-08	THICKENED SLUDGE PUMP STATION DEMOLITION PLAN	
D-09	DAF BUILDING EQUIPMENT DEMOLITION PLAN	
D-10	SUBNATANT PUMP STATION DEMOLITION PLAN AND SECTION	
D-11	EQUALIZATION TANK DEMOLITION PLAN	
CIVIL		
C-01	PROPOSED SITE PLAN	
C-02	PROPOSED YARD PIPING PLAN	
C-03	CIVIL DETAILS I	
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MECHANICAL		
M-01	EQ RETURN PS PLAN	
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M-04	EQ TANK AND FLOWMETER SECTIONS	
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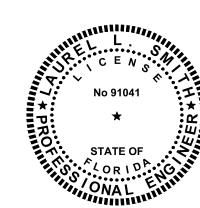
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> MCKIM & CREED, INC 9432 BAYMEADOWS ROAD, SUITE 230 JACKSONVILLE, FL 32256 PHONE: (904) 587-0134 CERTIFICATE OF AUTHORIZATION NO. 29588 A.E. ANDERSON, P.E. NO. 34779

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STRUCTURAL		
S-01	STRUCTURAL GENERAL NOTES, DESIGN LOADS, DESIGN CRITERIA & LEGEND	
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S-03	EQ TANK FLOWMETER PLAN AND SECTIONS	
S-04	EQ RETURN PUMP STATION PLAN & SECTIONS	
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S-06	GENERAL STRUCTURAL SECTIONS & DETAILS	
S-07	GENERAL SECTIONS & DETAILS ACCESS PLATFORMS & STAIRS	
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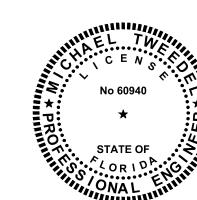
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> MCKIM & CREED, INC 1365 HAMLET AVENUE CLEARWATER, FLORIDA 33756 PHONE: (727) 442-7196, FAX: (727) 461-3827 LAUREL L. SMITH, P.E. NO. 91041

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E-08	SCHEDULES AND TABLES	
E-09	SCHEDULES AND TABLES	
E-10	ELECTRICAL SCHEMATICS	
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E-15	ELECTRICAL DETAILS III	



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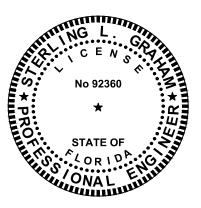
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> MCKIM & CREED, INC *1365 HAMLET AVENUE* CLEARWATER, FLORIDA 33756 PHONE: (727) 442-7196, FAX: (727) 461-3827 CERTIFICATE OF AUTHORIZATION NO. 29588 MICHAEL TWEEDEL, P.E. NO. 60940

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I-02	INSTRUMENTATION DETAILS	
I-03	CONTROL PANEL DETAILS	
I-04	NETWORK DIAGRAM MODIFICATIONS	
I-05	PROCESS & INSTRUMENTATION DIAGRAM FLOW EQUALIZATION TANK	
I-06	PROCESS & INSTRUMENTATION DIAGRAM WETWELL & RETURN PUMP STATION	

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:



ON THE DATE ADJACENT TO THE SEAL

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> MCKIM & CREED, INC *1365 HAMLET AVENUE*

CLEARWATER, FLORIDA 33756 PHONE: (727) 442-7196, FAX: (727) 461-3827

CERTIFICATE OF AUTHORIZATION NO. 29588

THE INDIVIDUAL ABOVE SHALL BE THE RESPONSIBLE ENGINEER

OF RECORD FOR THE FOLLOWING SHEETS INCLUDED HEREIN:

STERLING L. GRAHAM, P.E. NO. 92360

Sheet	List Table
Sheet Number	Sheet Title
HVAC	
H-01	HVAC DATA SHEET
H-02	HVAC FLOOR PLAN
H-03	HVAC DETAILS

DESCRIPTIONS REVISIONS

DAVID C. WEHNER, P.E. No. 59541



Clearwater, Florida 33756 Phone: (727)442-7196, Fax: (727)461-3827 CA LIC No. 29588

www.mckimcreed.com



SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

SIGNATURE SHEET

)	DATE:	MAY 20
.	MCE PROJ. #	1024-01
1	DRAWN	D
	DESIGNED	
	CHECKED	D
	PROJ. MGR.	D

SCALE HORIZONTAL: NA VERTICAL:

2. 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.

4. 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.

5. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION SHALL NOT EXCEED 75% OF THE MANUFACTURERS' MAXIMUM RECOMMENDED DEFLECTION.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

14. ALL PIPELINES SHALL HAVE A MINIMUM COVER OF 36" BELOW EXISTING GRADE UNLESS OTHERWISE NOTED OR DIRECTED.

15. WATER SHALL NOT BE PERMITTED IN EXCAVATIONS AND TRENCHES DURING CONSTRUCTION. DEWATERING IS REQUIRED TO A MINIMUM OF 18" BELOW BOTTOM OF

16. 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.

17. ALL EXPOSED PIPING SHALL BE PAINTED WITH DESIGNATED COLORS ASSOCIATED WITH THEIR USAGE AS PROVIDED IN THE SPECIFICATIONS.

18. 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.

19. 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.

20. 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.

21. CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.

22. 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.

23. 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"

24. CONTRACTOR SHALL COORDINATE WORK SUCH THAT THE PLANT SHALL STAY IN OPERATION AT ALL TIMES.

25, LINE INACTIVATIONS SHALL BE CONCLUDED AT OFF PEAK TIMES AS DICTATED BY

PLANT OPERATIONS STAFF. 26. 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.

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.

2. 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.

4. 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.

5. LIMITS OF PROPOSED ROADWAY OVERLAY SHOWN ARE APPROXIMATE. CONTRACTOR SHALL OVERLAY ALL DISTURBED AREAS OF ACCESS ROAD AS PART OF THIS PROJECT IN ACCORDANCE WITH THE DETAILS.

CONTRACTOR SHALL RESTORE ALL IRRIGATION SYSTEM COMPONENTS TO PRE-CONSTRUCTION CONDITIONS.

7. THE CONTRACTOR SHALL RAISE EXISTING MANHOLE FRAMES AND COVERS TO MATCH

8. CONTRACTOR SHALL RESTORE GRADE TO PRECONSTRUCTION ELEVATIONS UNLESS OTHERWISE NOTED.

9. THE CONTRACTOR SHALL PROVIDE A 10'x20' TEMPORARY STORAGE UNIT ONSITE 30 DAYS PRIOR TO COMMENCING ANY MODIFICATION TO THE PROPOSED ELECTRICAL ROOM. STORAGE UNIT SHALL REMAIN ONSITE DURING ACTIVE CONSTRUCTION PERIOD.

SIDEWALK NOTES

1. ALL SIDEWALKS SHALL BE CONSTRUCTED WITH 4 INCH THICK 3000 PSI CLASS I CONCRETE REINFORCED WITH 6X6 NO. 10 MESH.

2. SIDEWALKS SHALL BE CONSTRUCTED TO THE SPECIFICATIONS OF THE MANATEE COUNTY DEVELOPMENT STANDARDS AND A MINIMUM OF FIVE (5) FEET WIDE.

3. 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.

4. EXPANSION JOINT: EXPANSION JOINTS BETWEEN THE SIDEWALK AND DRIVEWAYS OR AT FIXED OBJECTS AND SIDEWALK INTERSECTIONS SHALL BE 1/2 INCH JOINTS.

5. 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

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

WORKS DEPT.

SCOTT MAY, P.E.

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



SOUTHWEST FLORIDA WATER

6750 FRUITVILLE ROAD

SARASOTA, FL. 34240

FAX: (941) 373-7660

7804 ANDERSON ROAD

TAMPA, FL. 33634

PH. (813) 466-3327

CHAD HARREL

TOM WRIGHT

FLORIDA GAS TRANSMISSION

E-mial: chadharrel@sua.com

CHARTER COMMUNICATION

5413 E. STATE ROAD 64

tom.wright@charter.com

PARAGON CABLE -

WALTER KROL 5413 S.R. 64 E

BRADENTON, FL. 34208-5535

(941) 748-3816 EXT. 21348

BRIGHTHOUSE NETWORK, LLC

(941) 748-3816 EXT. 24053

BRADENTON, FL. 34208

SERVICE OFFICE

(941) 377-3722

STEVE LOPES

MANAGEMENT DISTRICT SARASOTA

(941) 708-7450 EXT. 7650 FAX: (941) 708-7415 8261 VICO COURT SARASOTA, FL. 34240 (941) 342-4030 DAN SHANAHAN

MANATEE COUNTY PUBLIC

1022 26TH AVENUE EAST

BRADENTON, FL. 34208

TECO/PEOPLES GAS CO. FAX: (941) 342-4011 EMERGENCY: 1-877-832-6911

ATMS. 2101 47TH TERRACE EAST BRADENTON, FL. 34203 VISHAL KAKAAD, P.E. (941) 749-3500 EXT. 7812 FAX: (941) 749-3571 visha.lkakaad@mymanatee.org

PEACE RIVER ELECTRIC COOPERATIVE, INC. P.O. BOX 1310 WACHULA, FL. 33873 KENDELL COKER (863) 767-4660 kendell.coker@preco.coop

MANATEE COUNTY TRANSPORTATION DEPARTMENT ALLEN BRENTLEY 2904 12TH STREET COURT E BRADENTON, FL. 33208 (941) 708-7509

1701 RINGLING BLVD. SARASOTA, FL. 34236 JOHN PLOTT (941) 906-6707 FAX: (941) 906-6706 john.plott@ftr.com

FLORIDA POWER & LIGHT 1253 12TH AVENUE EAST PALMETTO, FL. 34221 GREG COKER (941) 723-4430 FAX: (941) 723-4444 EMERGENCY: 1-800-4-OUTAGE greg_coker@fpl.com

MANATEE COUNTY HEALTH DEPT. 410 6TH AVENUE EAST BRADENTON, FL. 34208 (941) 748-0747 EXT. 1355 FAX: (941) 750-9364

DEPARTMENT OF ENVIRONMENTAL PROTECTION 13051 N. TELECOM PKWY. TEMPLE TERRACE, FL. 33637 ED WATSON PH: (813) 470-5875 FAX: (813) 470-5993

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

UTILITY NOTES CONT.

2. ALL UTILITY CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE LATEST VERSION OF THE MANATEE COUNTY UTILITY STANDARDS.

3. ALL BELOW GROUND DUCTILE IRON PIPE SHALL BE ENCASED IN A POLYETHYLENE WRAP IN ACCORDANCE WITH AWWA STANDARDS.

4. ALL VALVE BOX COVERS SHALL BE PAINTED TO INDICATE THEIR TYPE OF SERVICE.

5. 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.

SURVEY NOTES

1. THIS SURVEY IS REFERENCED TO A GRID PROJECTION OF THE STATE PLANE COORDINATE SYSTEM OF FLORIDA WEST ZONE (NAD 83/11 ADJUSTMENT)

2. THE FOLLOWING NGS VERTICAL CONTROL POINT WAS RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREON: "SABAL PALM" NAVD 1988 ELEVATION 14.62'.

3. THIS IS NOT A BOUNDARY SURVEY.

4. THIS SURVEY IS SUBJECT TO PERTINENT EASEMENTS, ADDITIONAL RIGHTS-OF-WAY AND RESTRICTIONS OF RECORD, IF ANY.

5. 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.

6. ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM, 1988 (NAVD 88). CONTRACTOR SHALL NOTE THAT ELEVATIONS ON RECORD DRAWINGS FOR THIS FACILITY MAY BE BASED ON NATIONAL GEODETIC VERTICAL DATUM, 1929 (NGVD 1929). THE CONVERSION OF VERTICAL DATUM FOR THIS SITE IS NGVD=NAVD 88+0.99 FT.

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H-02	HVAC FLOOR PLAN	
H-03	HVAC DETAILS	

SOIL EROSION & SEDIMENTATION CONTROL NOTES:

1. 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.

2. CONTRACTOR SHALL FOLLOW BEST MANAGEMENT PRACTICES THROUGHOUT DEMOLITION AND CONSTRUCTION.

3. HAY BALES AND/OR SILT SCREENS SHALL BE INSTALLED ADJACENT TO THE WORK AREAS TO PREVENT SEDIMENT TRANSPORT PRIOR TO THE COMMENCEMENT OF WORK.

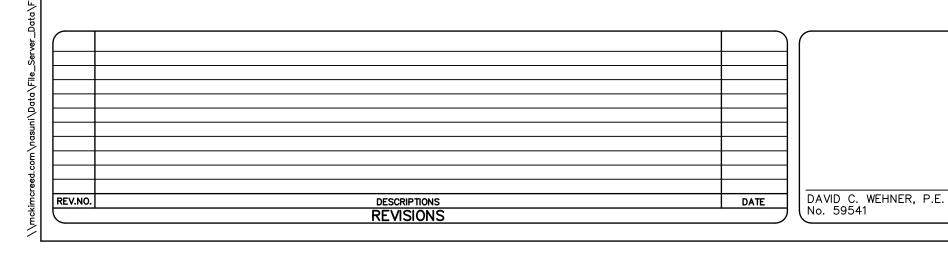
4. INLET PROTECTION SHALL BE PLACED AT ALL INLETS IN OR ADJACENT TO THE PROJECT AREA.

5. AS SOON AS PRACTICAL, ALL DRESSED SLOPES AND DISTURBED AREAS SHALL BE SODDED OR SEEDED AND MULCHED TO PREVENT EROSION.

6. NO EXCAVATION SHALL EXTEND BELOW THE DEPTHS/ELEVATIONS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS WITHOUT PRIOR APPROVAL.

7. 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.

8. 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.





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SWWRF
EQUALIZATION SYSTEM REHABILITATION
AND COVER ADDITION

GENERAL NOTES AND INDEX OF SHEETS STATUS:

DATE:	MAY 2023
MCE PROJ. #	1024-0174
DRAWN	DMP
DESIGNED	VH
CHECKED	DCW
PROJ. MGR.	DCW

SCALE HORIZONTAL VERTICAL:

DRAWING NUMBER

GENERAL ABBREVIATIONS

OLIVER ABBILL VITATIONS			
_			
@. . -	AT	LN.	LANE
ABW	AUTOMATIC BACKWASH	LP	LIGHT POLE
A/C	AIR CONDITIONER UNIT	LS	LICENSED SURVEYOR
AC	ACRES	MAS	MASONRY
AC	ASPHALTIC CONCRETE	MAX.	MAXIMUM
ABD _.	ABANDONED	MCC	MOTOR CONTROL CENTER
AL./ALUM.	ALUMINUM	MES	MITERED END SECTION
ANCH.	ANCHOR	MG	MILLION GALLONS
APPROX.	APPROXIMATE	MGD	MILLION GALLONS PER DAY
BLDG.	BIULDING	MES	MITERED END SECTION
BM.	BEAM	MHW	MEAN HIGH WATER
вот./вотт.	BOTTOM	M.O.	MOTOR OPERATED
(C)	CALCULATED DATA	MON.	MONUMENT
С	CHANNEL	NG	NATURAL GROUND
C.	CONDUIT	N.T.S.	NOT TO SCALE
CARV	COMBINATION AIR RELEASE VALVE	NO.	NUMBER
C.B.	CATCH BASIN	NP	NORMAL POOL
CCR	CERTIFIED CORNER RECORD	Ø	DIAMETER/PHASE
CHKR	CHECKERED	O/A	OVERALL
CIR.	CIRCLE	OPNG.	OPENING
CLF	CHAIN LINK FENCE	OR	OFFICIAL RECORDS BOOK
Q	CENTERLINE	(P)	PLAT BOOK
CMP	CORRUGATED METAL PIPE	PCCP	PRE-STRESSED CYLINDRICAL CONCRETE PIPE
COL.	COLUMN	PG	PAGE
CONN.	CONNECTOR/CONNECTION	PLCS.	PLACES
CONC.	CONCRETE	PLS	PROFESSIONAL LAND SURVEYOR
COR	CORNER	POB	POINT OF BEGINNING
CPB	CONDOMINIUM PLAT BOOK	POC	POINT OF COMMENCEMENT
C/T	CURB TIE	POT	POTABLE
ĆÚ.	COPPER	PP	POWER POLE
(D)	DEED DATA	PRM	
D.	DEEP/DRAIN	PROP.	
DB	DEED BOOK	PSM	
DBL.	DOUBLE	P/T	
DHW.	DESIGN HIGH WATER	P.V.	
DISCH.		PVMT	
DN.	DOWN	R.	RADIUS/RISER/RELAY
DRWY		RCP	·
E.W.		REF.	
EA.		REINF.	
	ELLIPTICAL CORRUGATED METAL PIPE		•
EL./ELEV.		RESTR.	
ELEC.	ELECTRICAL CONDUIT	RLS	
EP EP		RW;R/W	
	ELLIPTICAL REINFORCED CONCRETE PIPE	SAN.	
	AND SO FORTH	SEC.	
EXIST.		SGL	SINGLE
EXP.		SHW	
	FIELD DATA	SIR	
	FOUND CONCRETE MONUMENT	SND	
	FLORIDA DEPARTMENT OF TRANSPORTATION		
FF	FINISHED FLOOR	SQ.	SQUARE
FIR	FOUND IRON ROD	SN.	SIGN
FND	FOUND NAIL & DISC	SR	
FOP	FOUND OPEN PIPE	SSMH	
FPP	FOUND PINCHED PIPE	S/T	
FRRS	FOUND RAILROAD SPIKE	STL.	
F/T	FENCE TIE	STL. STY	
FT.	FOOT	S/W;SWK	
FTG.	FOOTING	SYM.	SYMBOL
FXC	FOUND X-CUT	TBM	TEMPORARY BENCH MARK

TOB

TEL

UT

T.&B.

TOP OF BANK

TEMPORARY

THICK

TYPICAL

VERTICAL

WOOD FENCE

WATER LINE

WATER LEVEL

WATER MAIN

WALL TIE

WATER METER

WEATHER PROOF

TOP & BOTTOM TELEPHONE

TOE OF SLOPE

UTILITY POLE

UNDERGROUND GAS

VITRIFIED CLAY PIPE

UNDERGROUND TELEPHONE

WIDE FLANGE/WIDE/WATT

WATER RECLAMATION FACILITY

WALL SLEEVE/WATER STOP/WATER SERVICE

FLOW ABBREVIATIONS

LUW	ABBREVIA HUNS
WTR.	WATER
AL	ALUM SOLUTION
AB	AERATION BASIN
AD	AEROBIC DIGESTER
AX	ANOXIC BASIN
ВА	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
HW	HOT WATER
HDW	HEADWORKS
INF	INFLUENT
IR	INTERNAL RECYCLE
HSBFP	HIGH SOLIDS BELT FITER PRESS
ML	MIXED LIQUOR
OF	OVERFLOW
Р	POLYMER
PD	PLANT DRAIN
PDFM	PLANT DRAIN FORCE MAIN
	PUMP STATION
PW	POTABLE WATER
RAS	RETURNED ACTIVATED SLUDGE
RAW	RAW SEWAGE
RCW	RECLAIMED WATER
REJ	REJECT
RML	RECIRCULATED MIXED LIQUOR
RS	RAW SEWAGE
RW	REUSE WATER
SAM	SAMPLE
SB	SPLITTER BOX
SC	SCUM
SDR	STORMWATER DRAINAGE
SL	SAMPLE LINE
SPW	STORAGE POND WATER
SRS	STORED RAW SEWAGE
SS	SANITARY SEWER
TS	THICKENED SLUDGE
WAS	WASTE ACTIVATED SLUDGE
\\/\D\\/	WASTE BACKWASH WATER

WASTE BACKWASH WATER

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
HFAC	HARNESSES FLANGE ADAPTER COUPLING
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

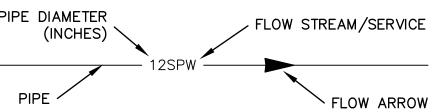
UNDERGROUND ELECTRIC

VERTICAL WATER METER

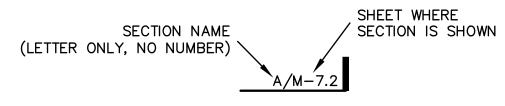
<u>LEGEND</u>

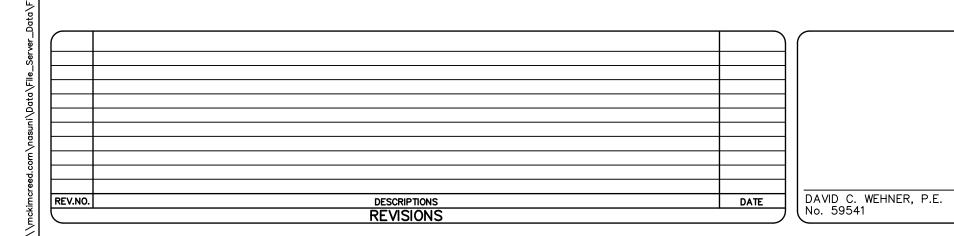
EXISTING		PROPOSED
8	PIPE 12" OR LARGER (ABOVE GROUND)	
	PIPE 12" OR LARGER (UNDERGROUND)	
	PIPE SMALLER THAN 12" (ABOVE GROUND)	
	PIPE SMALLER THAN 12" (UNDERGROUND)	
	GATE VALVE	\bowtie
	BUTTERFLY VALVE	\sim
	BALL VALVE	101
	PLUG VALVE	$ \triangle $
	REDUCER	\triangleright
	MANHOLE	O _{M.H.}
C.B.	CATCH BASIN	□ _{C.B.}
	TOP OR TOE OF BANK	<u> </u>
11/1///////////////////////////////////	PIPING, STRUCTURES OR EQUIPMENT TO BE REMOVED	
25	CONTOURS	26

PIPE IDENTIFICATION



SECTION DESIGNATION





GALV.

GDRL

GE

GEN

GPM

GRTG.

G.S.

GST

GWP

H.R.

HWL

IN. INV.

IR

J.B.

JT. (L) LB

LG.

GR./GRD.

HDWALL

GALVANIZED

GUARDRAIL

GENERATOR GRATED INLET

GRATING

GRADE

HEADWALL

HANDRAIL

INCH

LONG

INVERT

IRON PIPE

IRON ROD

JUNCTION BOX

LEGAL DESCRIPTION DATA

LICENSED BUSINESS

GRATE ELEVATION

GALLONS PER MINUTE

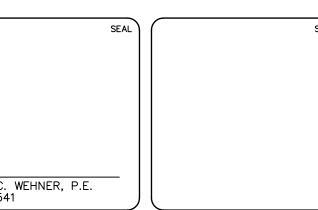
GROUND STORAGE TANK

GALVANIZED STEEL

GUY WIRE POLE

HIGH WATER LEVEL

INVERT ELEVATION





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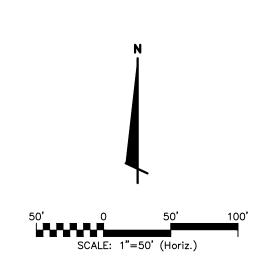


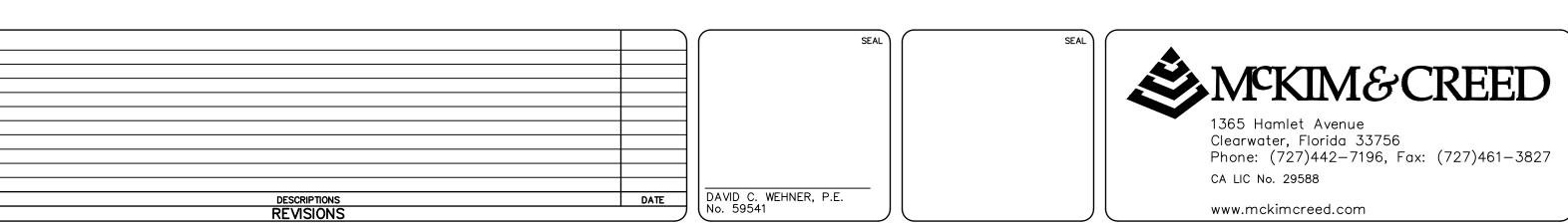
SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

SYMBOLS AND ABBREVIATIONS

	DATE:	MAY 2023	SCALE	DRAWING NUMBER
A I	MCE PROJ. #	1024-0174		
N	DRAWN	DMP	HORIZONTAL:	
	DESIGNED	VH	NA	\bigcirc 04
	CHECKED	DCW	VERTICAL:	G-04
	PROJ. MGR.	DCW	NA	
	STATUS:			REVISION

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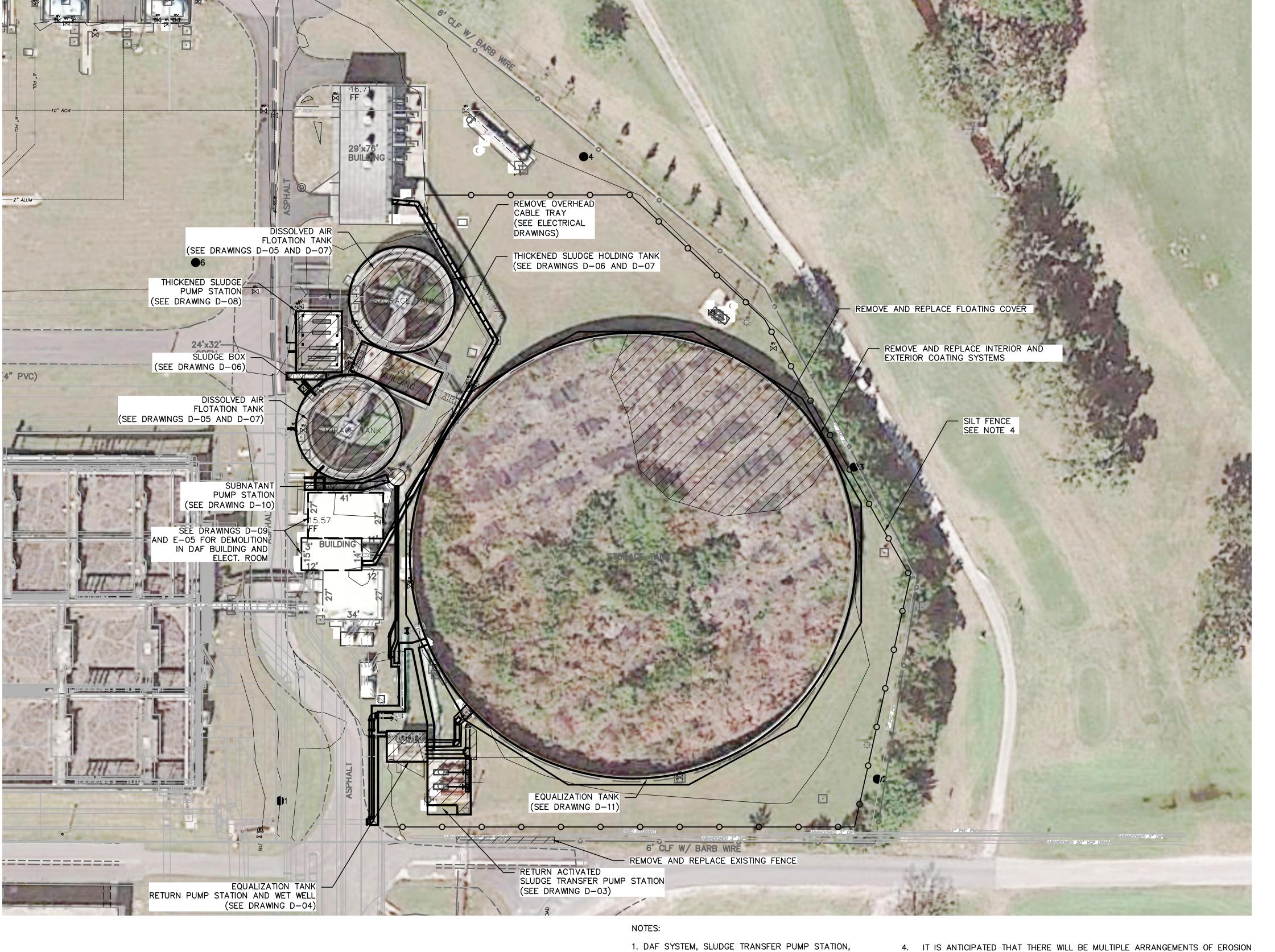


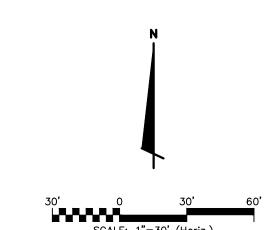


SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

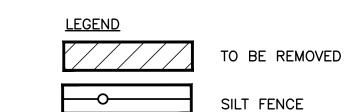
EXISTING	SITE	PLAN
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DESIGNED VH CHECKED DCW VERTICAL:		-		HORIZONTAL:	
CHECKED DCW VERTICAL:				NA	G-05
L DDO L MOD DOW L NA				VERTICAL:	
[PROJ. MGK. DOW]		PROJ. MGR.	DCW	NA J	





- DAF SYSTEM, SLUDGE TRANSFER PUMP STATION, SUBNATANT PUMP STATION AND RAS PUMP STATION ARE NO LONGER IN SERVICE AND CAN BE DEMOLISHED INDEPENDENTLY FROM OTHER PROCESSES ONCE ISOLATED.
- 2. THE EQ TANK, EQ RETURN PS, AND CABLE TRAY ARE IN-SERVICE. COORDINATE DEMOLITION WITH SPECIAL PROVISIONS OUTLINED IN SPECIFICATION SECTION 01013 SPECIAL PROJECT PROVISIONS.
- 3. SEE SPECIFICATION SECTION 02050 DEMOLITION FOR ADDITIONAL INFORMATION.
- 4. IT IS ANTICIPATED THAT THERE WILL BE MULTIPLE ARRANGEMENTS OF EROSION CONTROL BASED UPON THE CONTRACTOR'S IMMEDIATE WORK EFFORT AND THE NECESSITY TO MAINTAIN OPERATION OF THE TREATMENT PLANT. CONTRACTOR SHALL PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL PROCEDURES UTILIZING THE PROVIDED DETAILS AS REQUIRED TO PREVENT THE TRANSPORTATION OF SEDIMENT DOWNSTREAM INTO STREETS, STORM SEWERS, DITCHES, PONDS, ETC.



SWWRF
EQUALIZATION SYSTEM REHABILITATION
AND COVER ADDITION

DEMOLITION SITE PLAN

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	PROJ. MGR.	DCW	NA

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DESCRIPTIONS
DATE
REVISIONS

DAYID C. WEHNER, P.E.
No. 59541

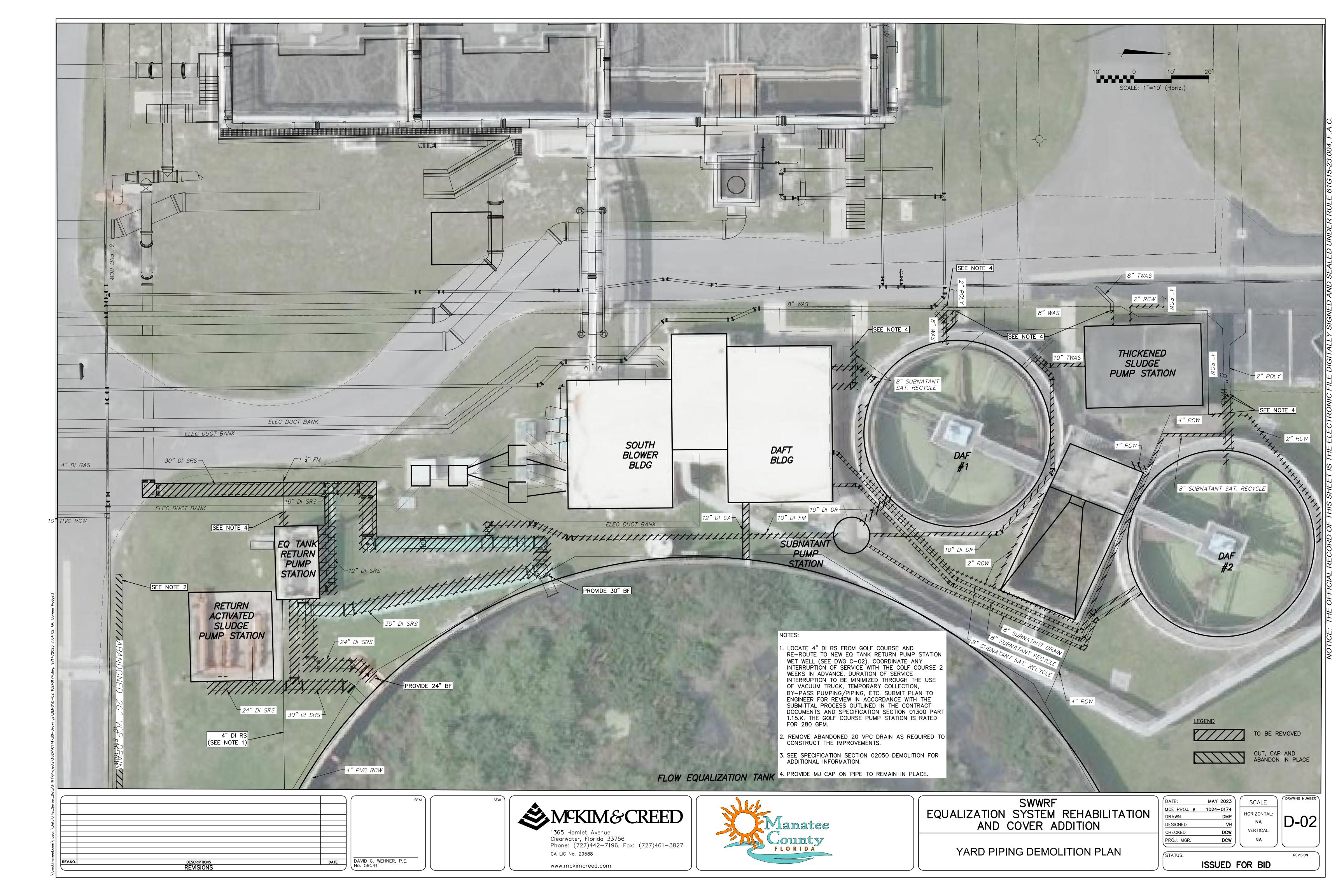


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OLITION SITE PLAN



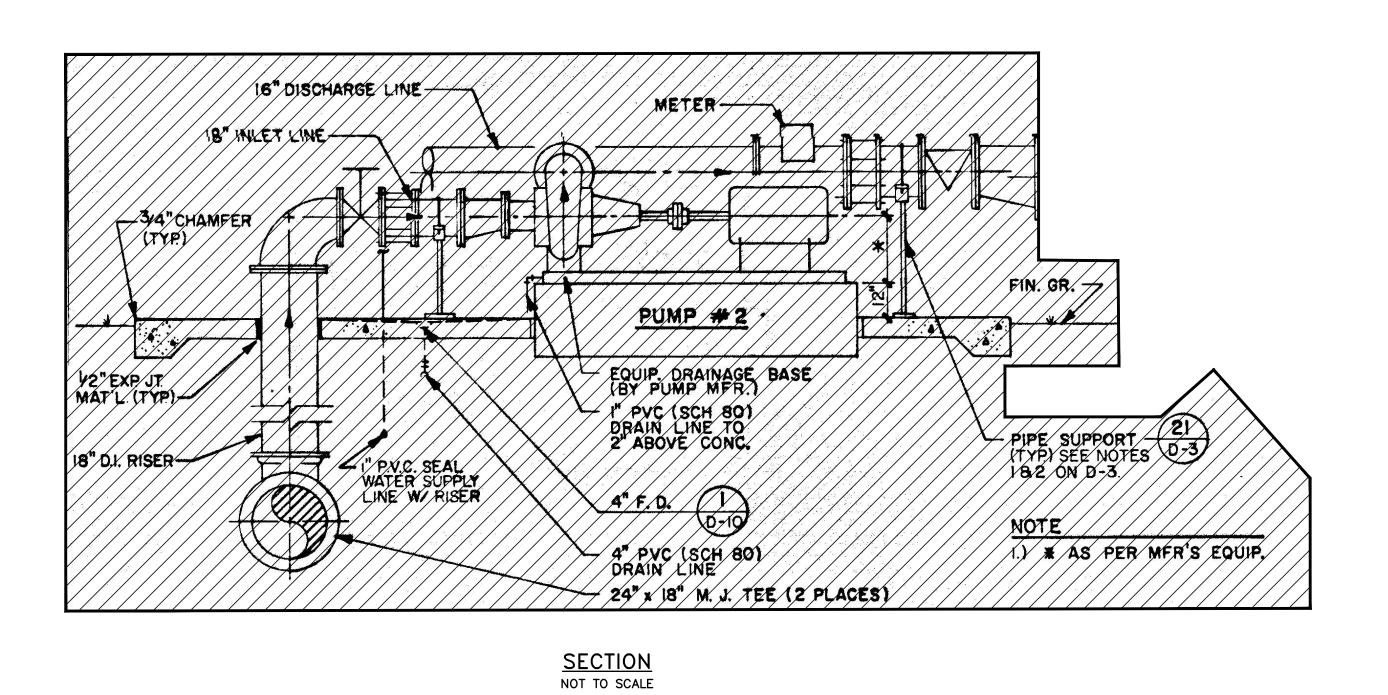
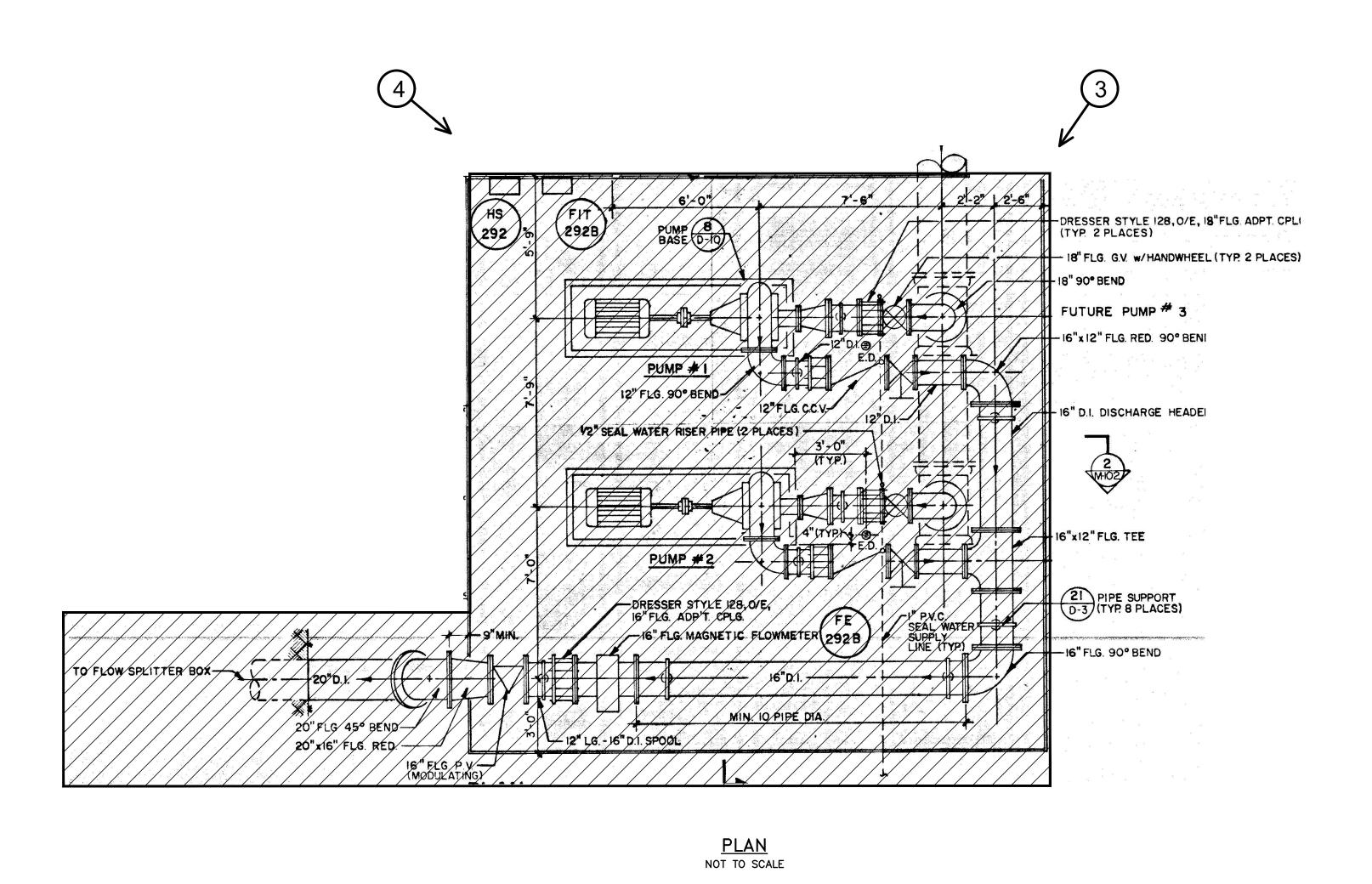




PHOTO 3



PHOTO 4



- CONTRACTOR SHALL DEMOLISH PUMP STATION TO ITS ENTIRETY. DEMOLITION INCLUDES ALL SLABS, EQUIPMENT, PIPING AND ELECTRICAL.
- SEE SPECIFICATION SECTION 02050 DEMOLITION FOR ADDITIONAL INFORMATION.



TO BE REMOVED

DESCRIPTIONS
DESCRIPTIONS
DESCRIPTIONS
DATE
REVISIONS
DATE
DAVID C. WEHNER, P.E.
No. 59541

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SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

RETURN ACTIVATED SLUDGE TRANSFER PUMP STATION DEMOLITION PLAN

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)	DATE:	MAY 2023
	MCE PROJ. #	1024-0174
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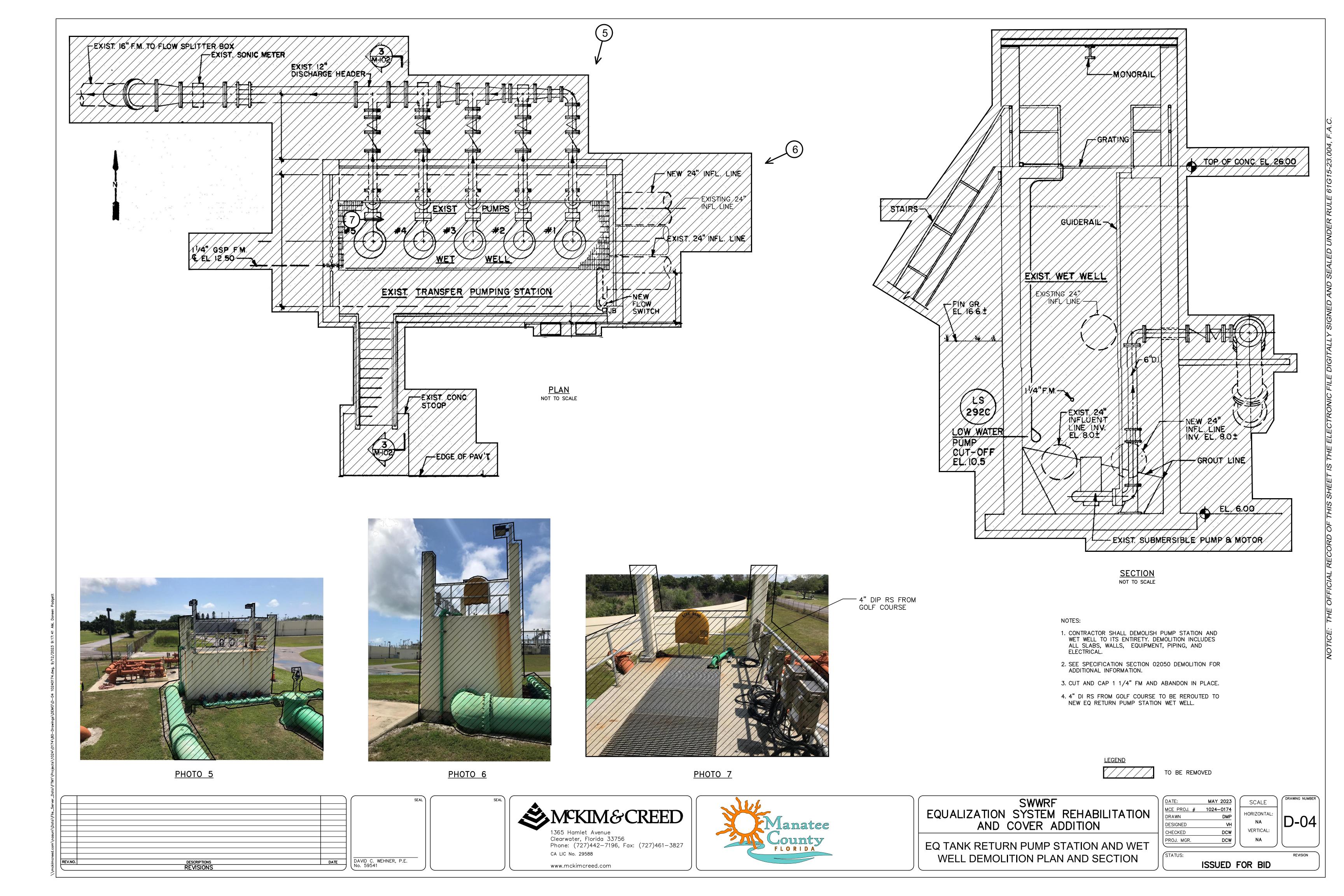
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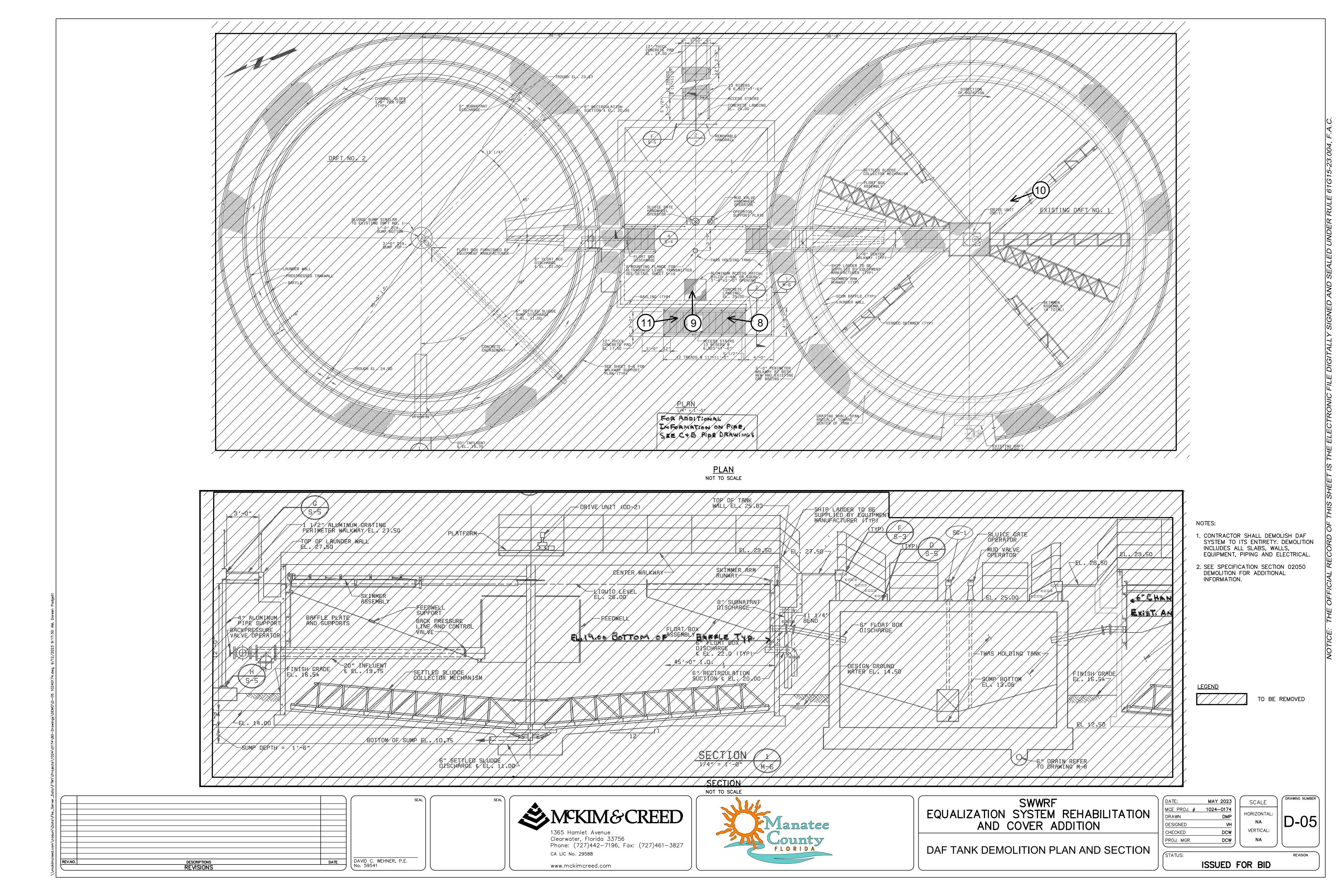
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VERTICAL:

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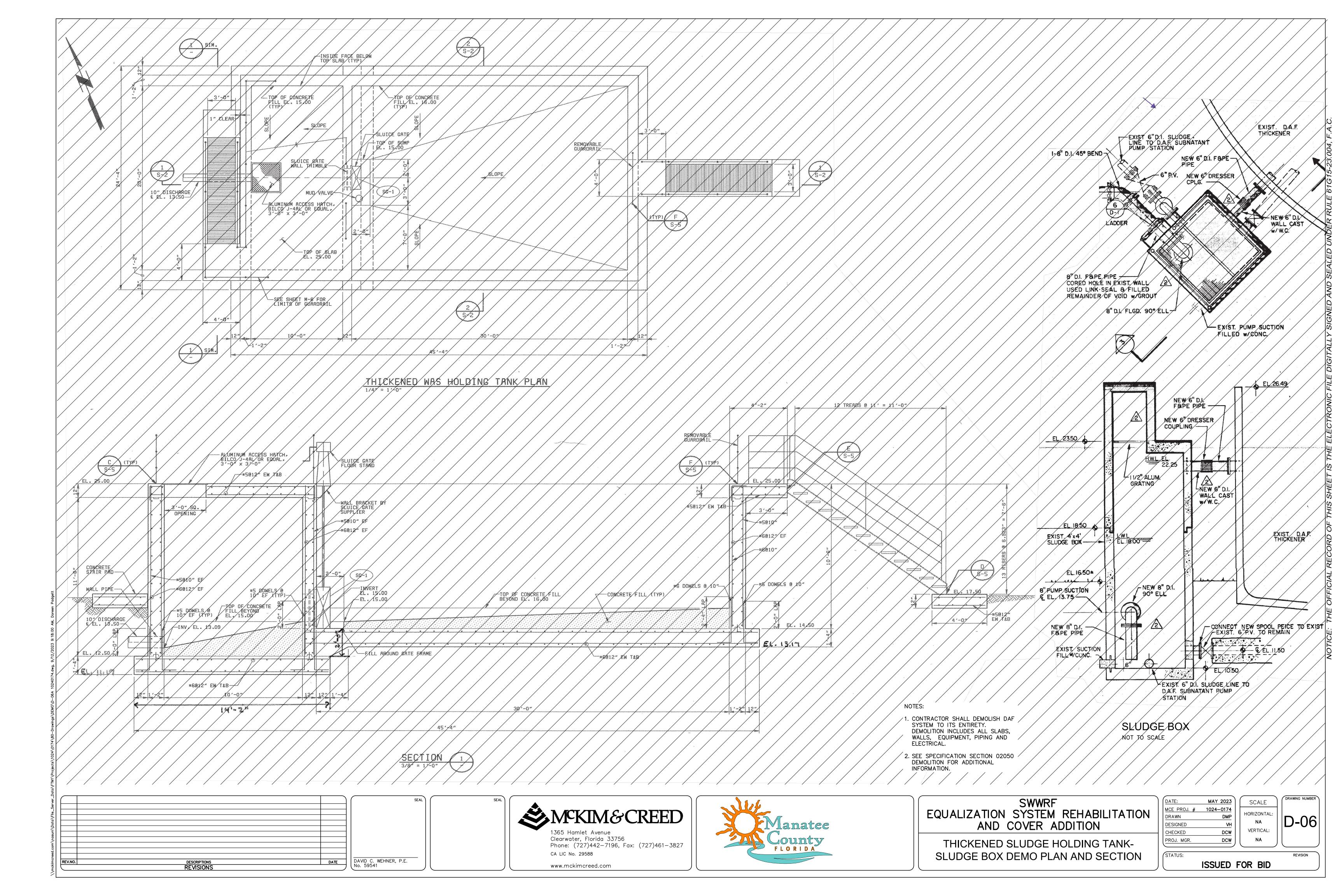




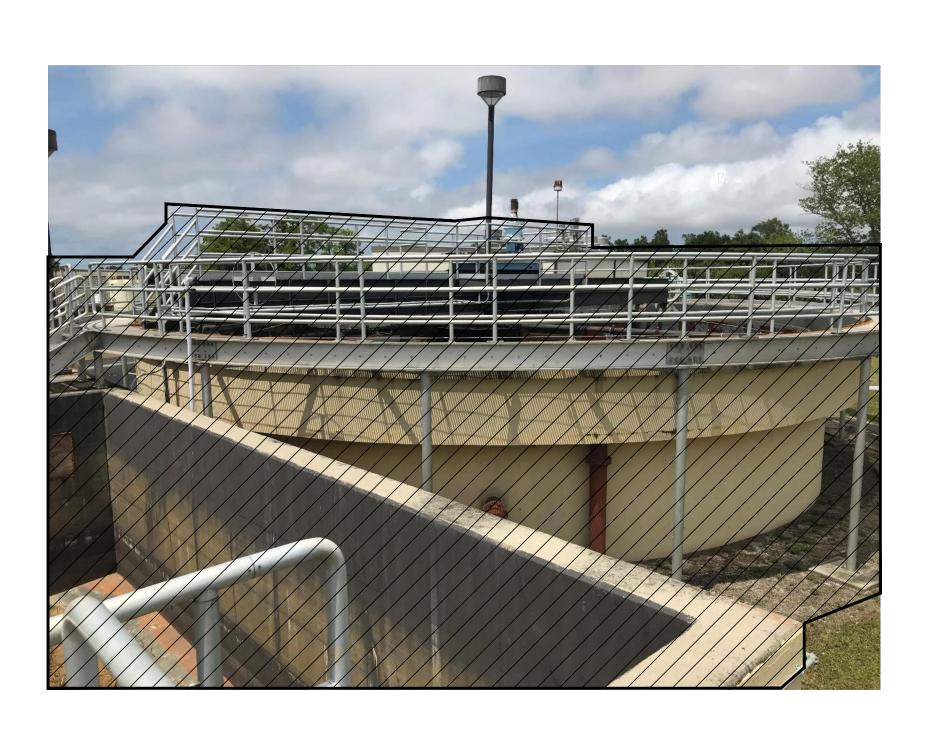
PHOTO 8 <u>PHOTO 10</u>



<u>PHOTO 9</u>

NOTES:

- CONTRACTOR SHALL DEMOLISH DAF SYSTEM TO ITS ENTIRETY. DEMOLITION INCLUDES ALL SLABS, WALLS, EQUIPMENT, PIPING AND ELECTRICAL.
- SEE SPECIFICATION SECTION 02050 DEMOLITION FOR ADDITIONAL INFORMATION.



<u>PHOTO 11</u>

TO BE REMOVED

DAVID C. WEHNER, P.E.
No. 59541



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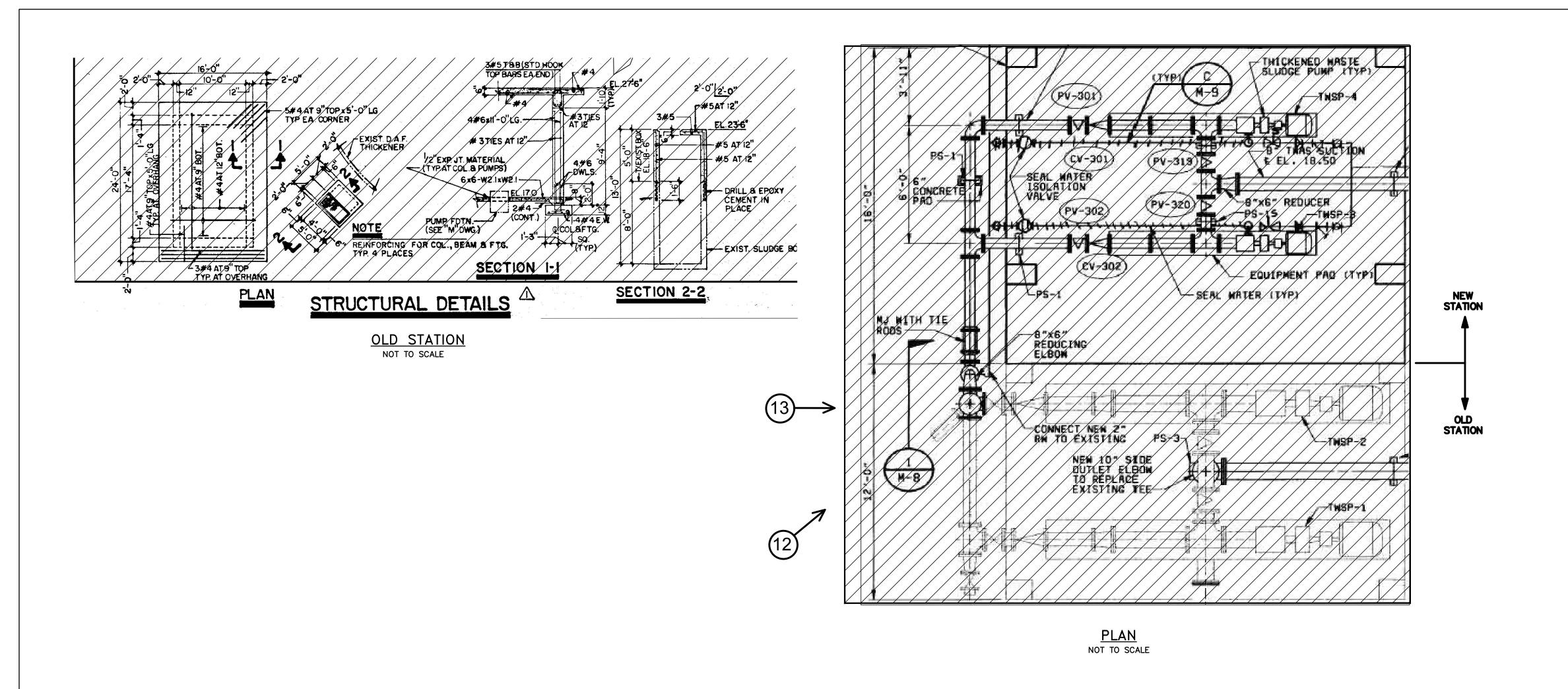




DAF TANK DEMOLITION PHOTOS

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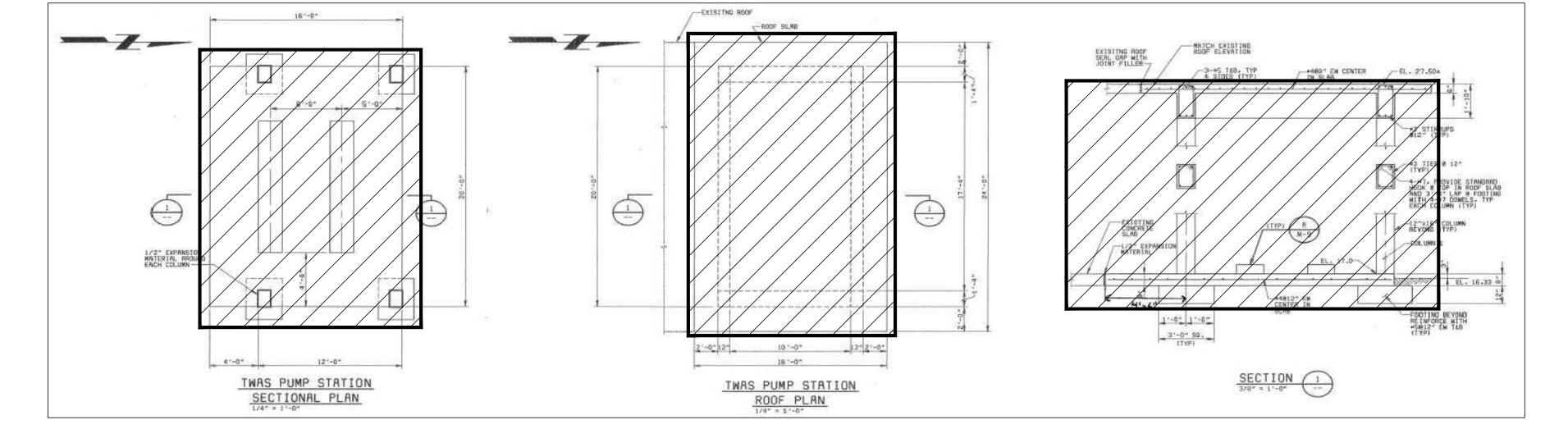


<u>PHOTO 12</u>



<u>PHOTO 13</u>

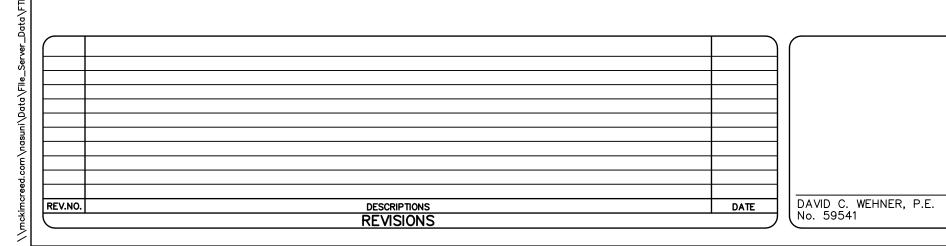
- CONTRACTOR SHALL DEMOLISH PUMP STATION TO ITS ENTIRETY. DEMOLITION INCLUDES ALL SLABS, WALLS, ROOF, EQUIPMENT, PIPING AND ELECTRICAL.
- 2. SEE SPECIFICATION SECTION 02050 DEMOLITION FOR ADDITIONAL INFORMATION.

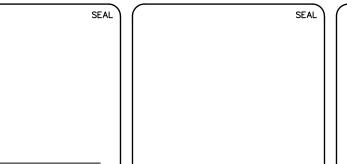


NEW STATION NOT TO SCALE



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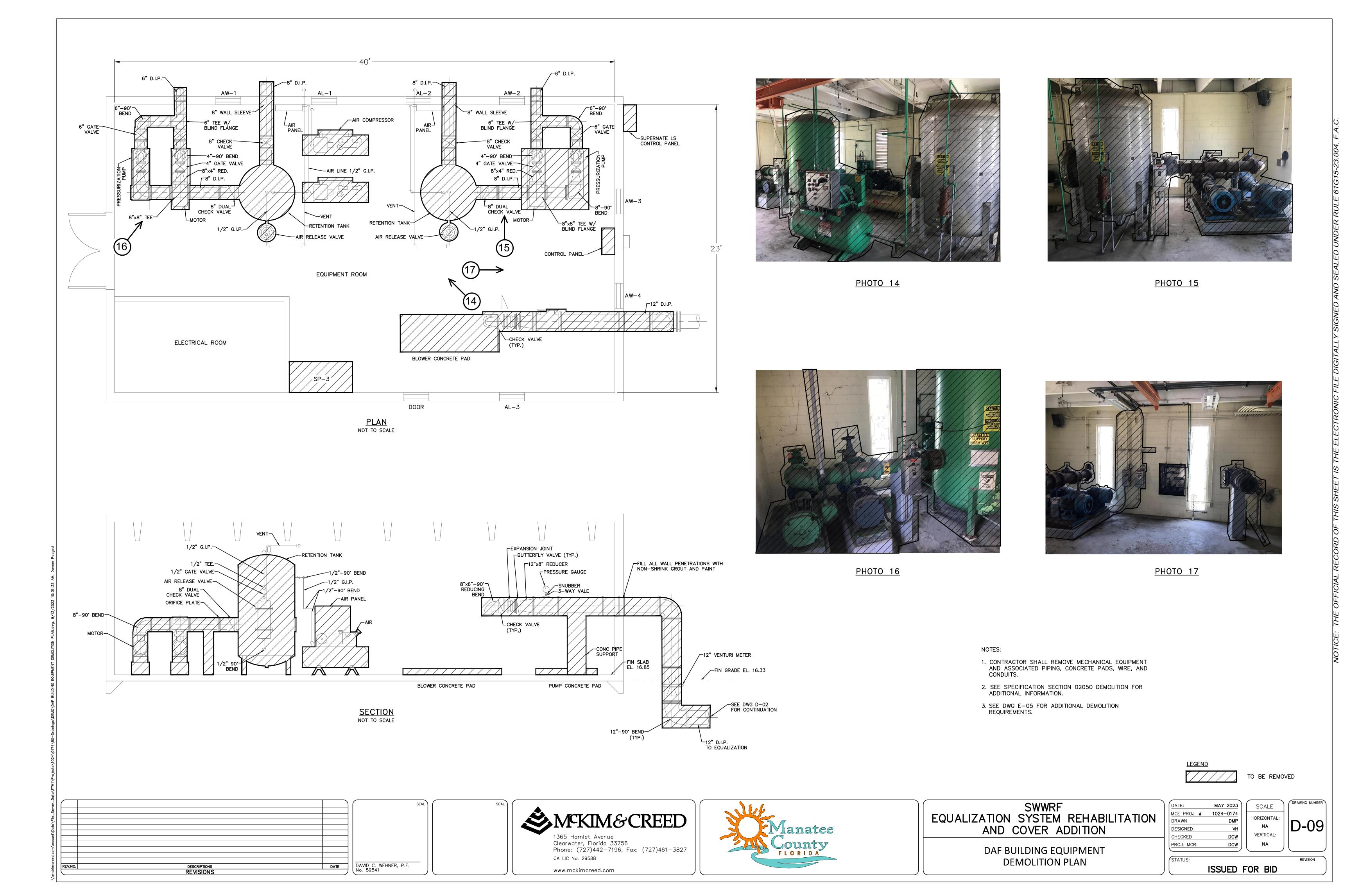


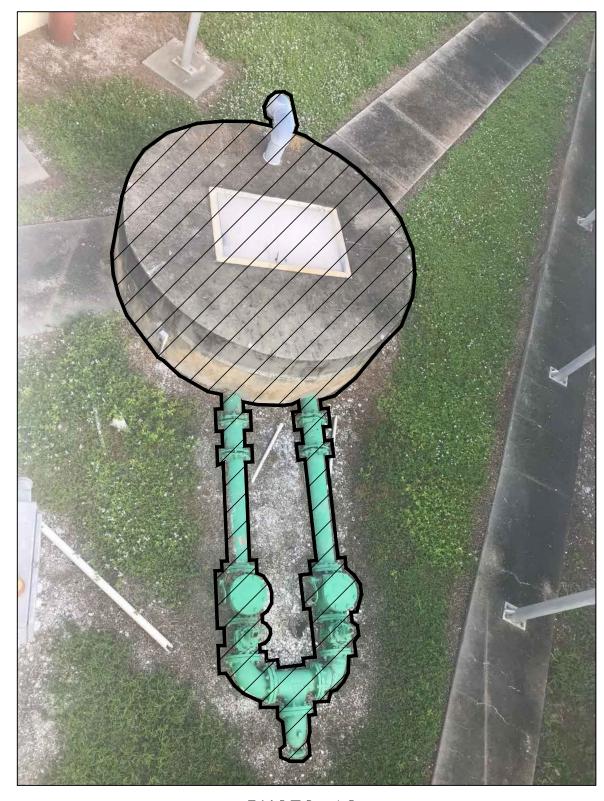
SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

THICKENED SLUDGE PUMP STATION **DEMOLITION PLAN**

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SCALE HORIZONTAL: VERTICAL:





<u>PHOTO 18</u>

- CONTRACTOR SHALL REMOVE PUMP EQUIPMENT AND ASSOCIATED PIPING, WIRE AND CONDUITS. CONCRETE WET WELL SHALL BE REMOVED TO 6-FT BELOW GRADE. PENETRATE SLAB TO ALLOW WATER TO PASS THROUGH TO PREVENT FLOATATION BEFORE BACKFILLING AND COMPACTING.
- SEE SPECIFICATION SECTION 02050 DEMOLITION FOR ADDITIONAL INFORMATION.

3. SEE D-05 AND D-07 FOR DAF DEMOLITION.



TO BE REMOVED

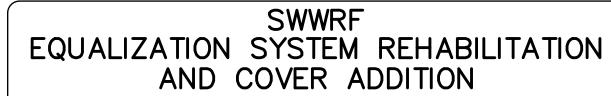
DAVID C. WEHNER, P.E. No. 59541 DESCRIPTIONS REVISIONS



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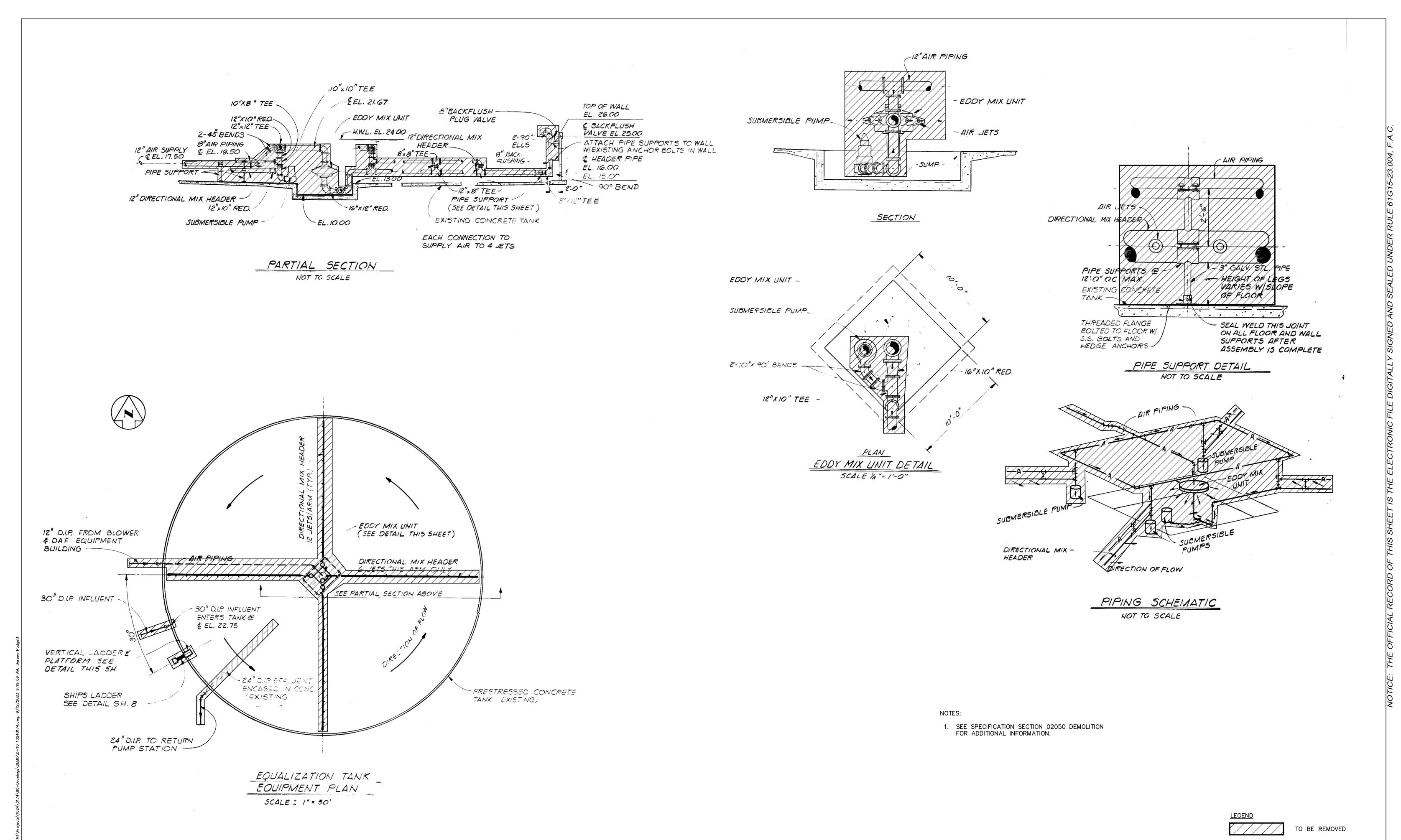
SUBNATANT PUMP STATION DEMOLITION PLAN AND SECTION

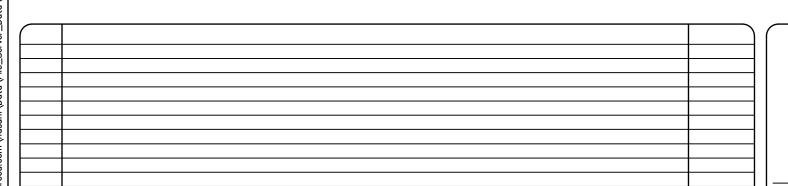
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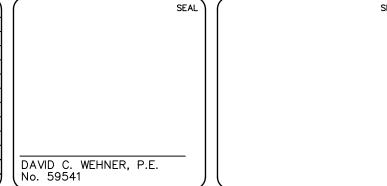
SCALE HORIZONTAL: NA VERTICAL:

DRAWING NUMBER





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SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

EQUALIZATION TANK DEMOLITION PLAN

	DATE:	MAY 2023	S
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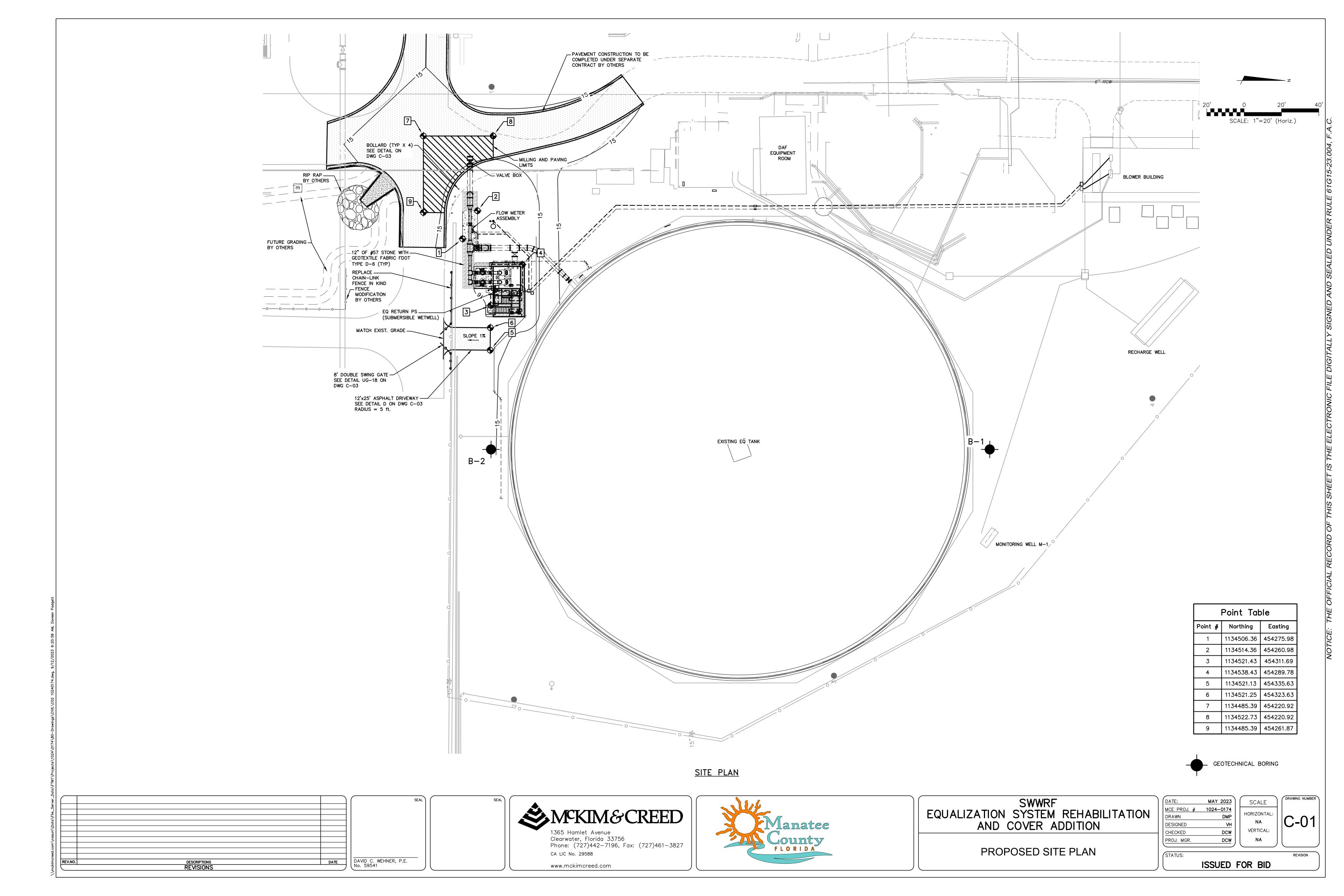
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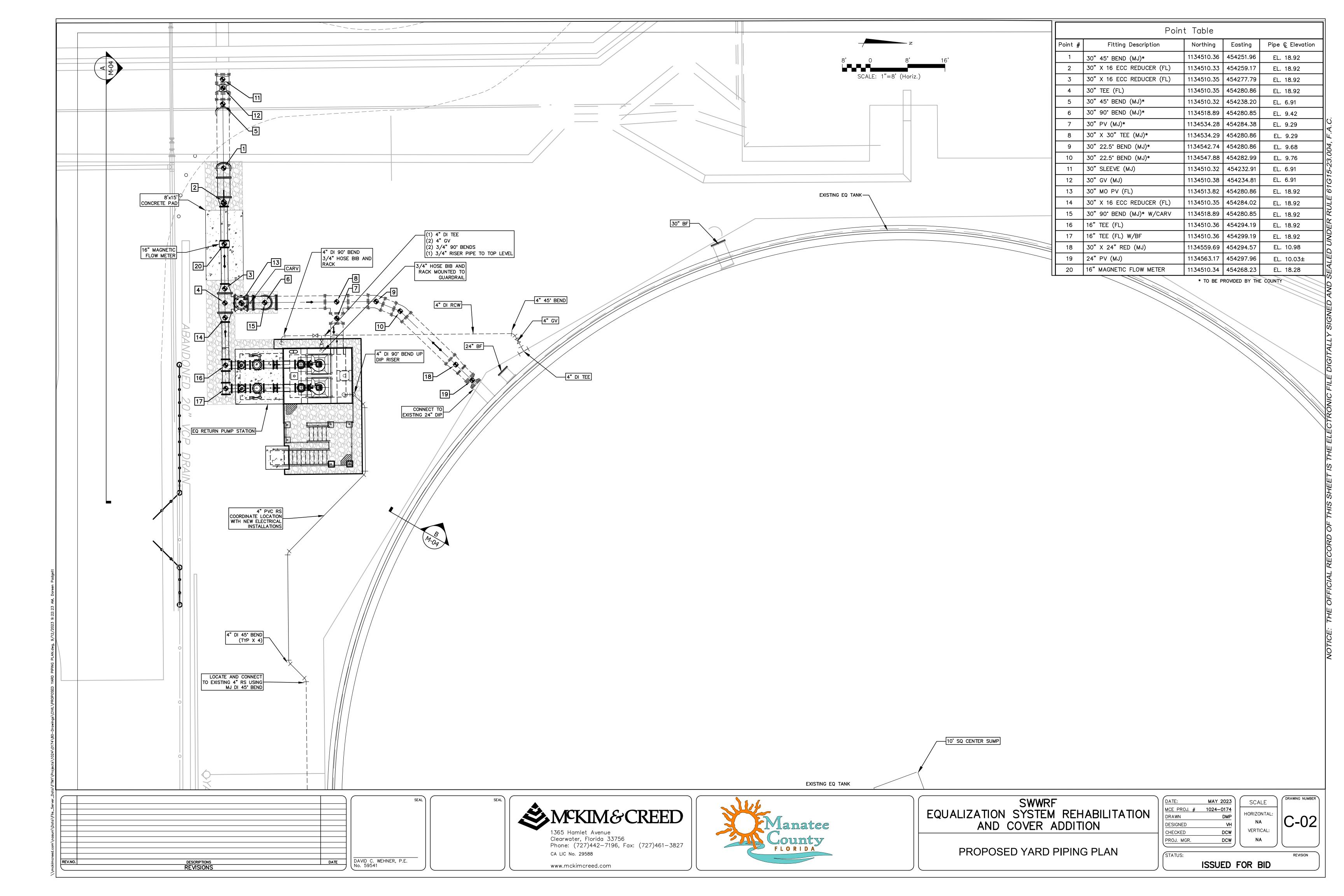
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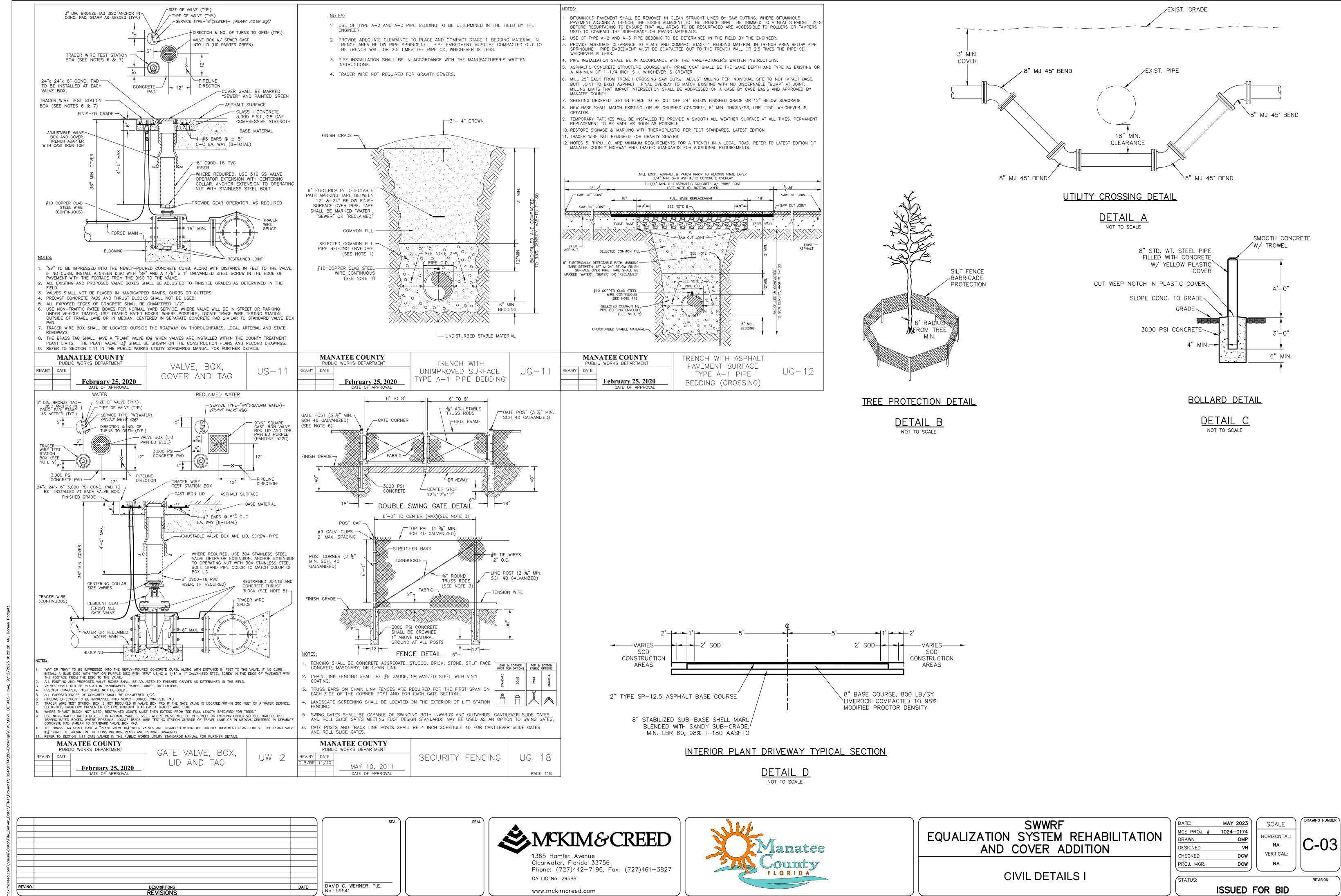
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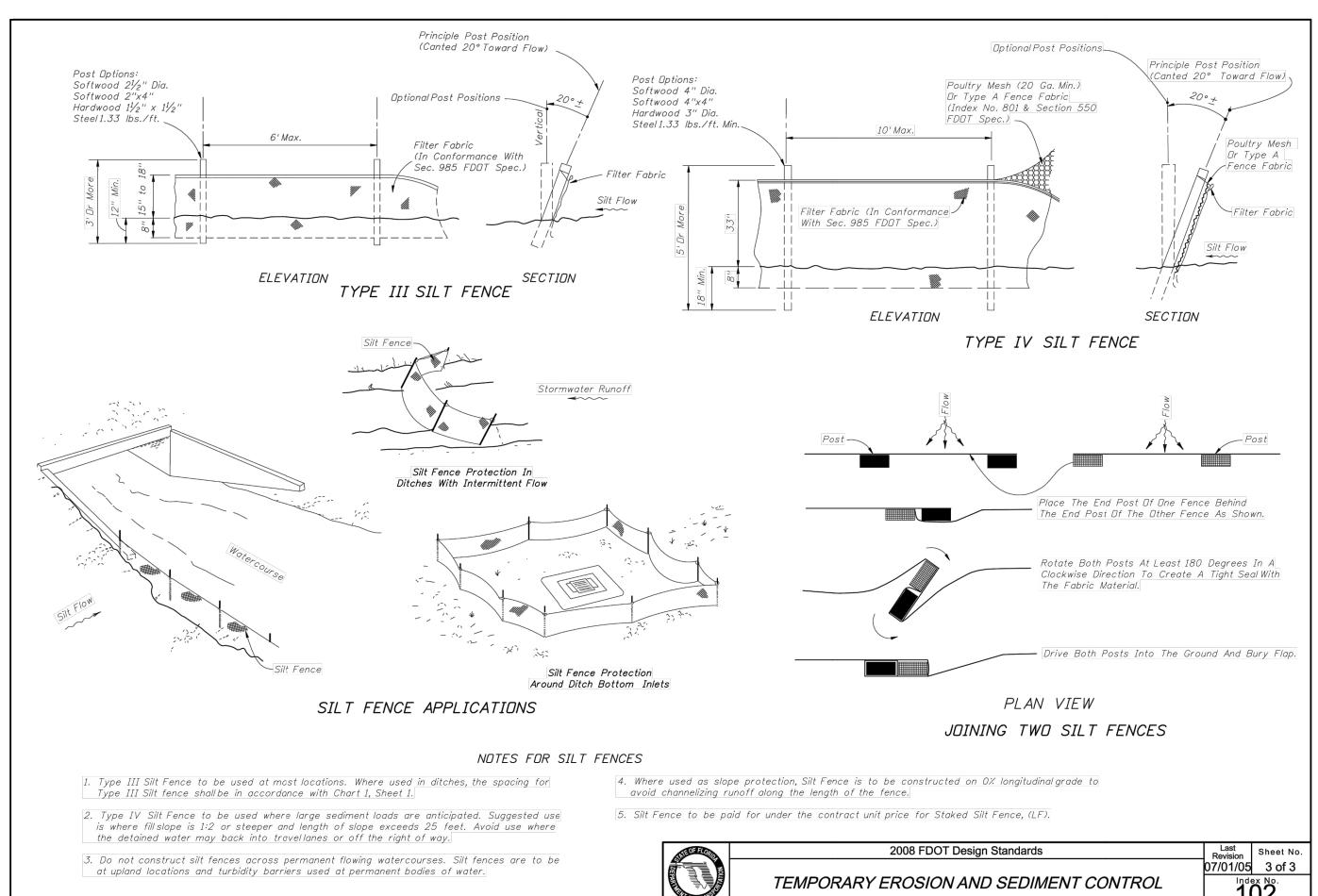
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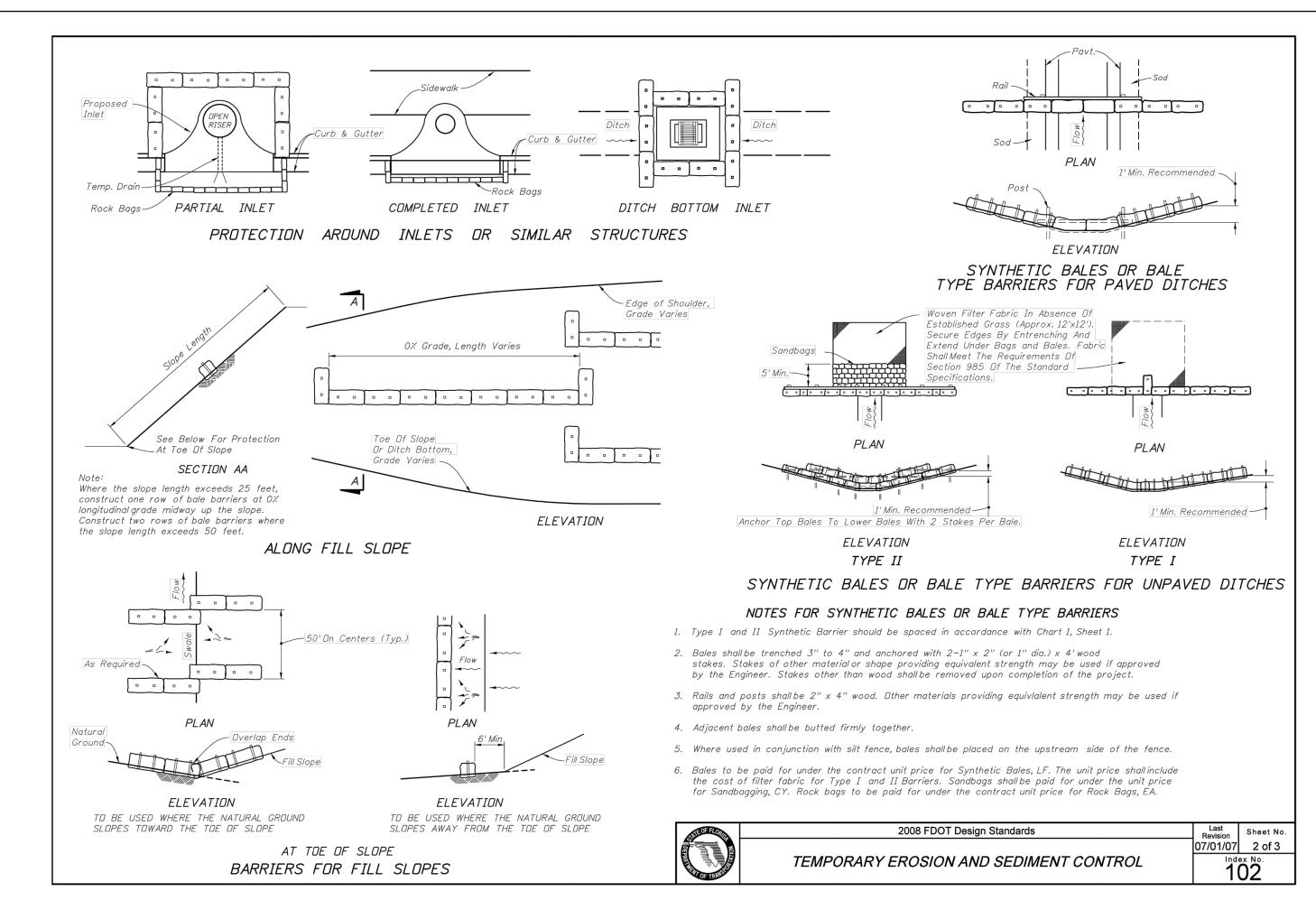


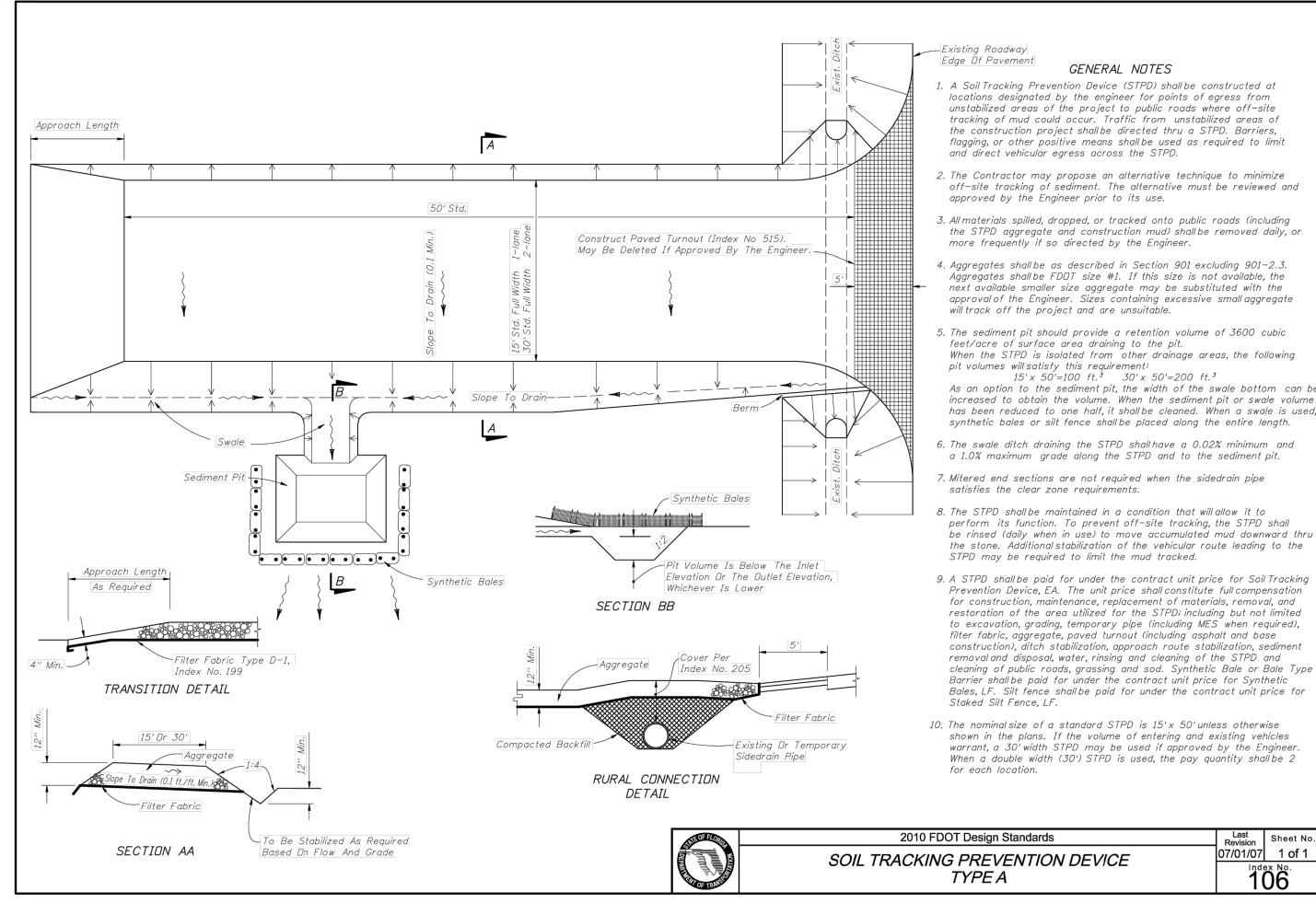


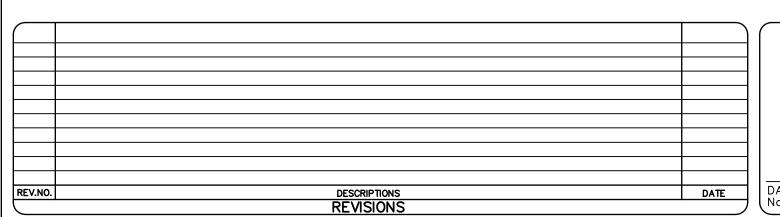


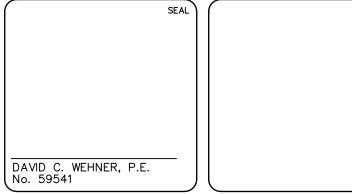
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SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

CIVIL DETAILS II

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)	DATE:	MAY 2023
	MCE PROJ. #	1024-0174
	DRAWN	DMP
	DESIGNED	VH
_	CHECKED	DCW
	PROJ. MGR.	DCW

SCALE HORIZONTAL: VERTICAL:

GENERAL NOTES:

REQUIREMENTS IF MORE STRINGENT.

1.0 GENERAL

1.1 ALL WORK IS TO BE PERFORMED IN A GOOD, WORKMANLIKE AND PROFESSIONAL MANNER.

1.2 ALL CONSTRUCTION SHALL BE IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE (FBC), 2020 EDITION, OR LOCAL BUILDING CODE

1.3 THESE DRAWINGS DO NOT SHOW PROVISIONS FOR SAFETY DURING CONSTRUCTION, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THE REQUIRED BRACING. SHORING, AND SAFETY DEVICES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT.

2.0 COORDINATION

2.1 STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH AND COORDINATED WITH CIVIL, ELECTRICAL & MECHANICAL DRAWINGS, INCLUDING VENDOR SUBMITTAL DRAWINGS AND OTHER CONTRACT DOCUMENTS.

2.2 COORDINATE THE EXACT SIZE AND LOCATION OF ALL SLEEVES AND OPENINGS THROUGH WALLS OR CONCRETE SLABS WITH CIVIL, ELECTRICAL & MECHANICAL DRAWINGS, INCLUDING VENDOR SUBMITTAL DRAWINGS AND OTHER CONTRACT DOCUMENTS.

2.3 ANY DISCREPANCIES BETWEEN ACTUAL CONDITIONS AND THOSE SHOWN ON THESE DRAWINGS ARE TO BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE WORK PROCEEDS, INCLUDING ORDERING AND FABRICATING MATERIALS.

2.4 INDEPENDENT TESTING OF MATERIALS SHALL BE PROVIDED AS DEFINED IN PROJECT SPECIFICATIONS. IN GENERAL PROJECT INVOLVES THE FOLLOWING: A. SOIL/FILL COMPACTION & BEARING. B. C.I.P. CONCRETE.

2.5 IF COORDINATION OF INFORMATION PRESENTED CONFLICTS w/ THE PROJECT SPECIFICATIONS, THE DRAWINGS WILL TAKE PRECEDENCE.

2.6 IN GENERAL CALL-OUTS ARE FOR NEW CONSTRUCTION U.N.O.. EXISTING CONSTRUCTION CALL-OUTS, ELEVATIONS AND DIMENSIONS OF EXISTING STRUCTURES ARE BASED ON EXISTING RECORD DRAWINGS PROVIDED TO McKIM & CREED. THE (*) SYMBOL ON INDIVIDUAL FACILITY "STRUCTURAL" DRAWINGS INDICATES EXISTING CONSTRUCTION CALL-OUTS, CONDITIONS, ELEVATIONS AND DIMENSIONS TO BE FIELD VERIFIED BY THE GENERAL CONTRACTOR U.N.O. PRIOR TO CONSTRUCTION, INCLUDING ORDERING AND FABRICATING MATERIALS. RECORD DRAWINGS PROVIDED BY MANATEE COUNTY UTILIZED INCLUDES:

A. WASTE TREATMENT FACILITIES INTERIM IMPROVEMENTS B. BLOWER BUILDING MODIFICATIONS, DECEMBER 1988.

2.7 SPECIAL INSPECTIONS (IF APPLICABLE): ALL FOUNDATION SOILS, REINF. STEEL, PRE-CAST & C.I.P. CONCRETE, ASSEMBLIES WORK SHALL BE REVIEWED AS STATED IN CONJUNCTION w/ THEIR RESPECTIVE NOTES BELOW.

3.0 FOUNDATIONS

3.1 PREPARE THE EXISTING SUBGRADE IN ACCORDANCE w/ THE PROJECT GEOTECHNICAL REPORT AS PREPARED BY DRIGGERS ENGINEERING SERVICES, INC. (PROJECT No. DES 198482, DTD. JANUARY 31, 2020). IN THE EVENT UNUSUAL SOIL CONDITIONS ARE UNCOVERED. INCLUDING CONDITIONS THAT DEVIATE FROM THOSE DESCRIBED IN THE PROJECT GEOTECHNICAL REPORT, NOTIFY THE OWNER AND ENGINEER PRIOR TO FOUNDATION CONSTRUCTION FOR INSTRUCTIONS HOW TO PROCEED. ADJUSTMENT IN THE FOOTING DEPTHS AND GENERAL FOUNDATION CONSTRUCTION MAY BE MADE BY THE ENGINEER BEFORE WORK PROCEEDS. CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY SUCH ADJUSTMENTS.

3.2 FOOTING & BASE SLAB EXCAVATIONS AND FORMS SHALL BE REVIEWED BY AN OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE.

3.3 FOOTING & BASE SLAB ELEVATIONS SHALL NOT BE RAISED OR LOWERED WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER.

3.4 ALL EXCAVATIONS SHALL BE ADEQUATELY DEWATERED BEFORE PLACEMENT OF CONCRETE. NO CONCRETE OR CONCRETE FILL SHALL BE PLACED IN STANDING WATER. ACCUMULATION EXCEEDING 1 INCH SHALL BE PUMPED OUT.

3.5 ALL FILL INSIDE THE STRUCTURE/BUILDING'S FOOTPRINT AND BELOW FOUNDATION'S SHALL BE SELECT MATERIAL FREE FROM ROOTS, TRASH WOOD SCRAPS, AND OTHER EXTRANEOUS MATERIALS. PLACE FILL IN LIFTS NOT EXCEEDING THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT AS PREPARED BY DRIGGERS ENGINEERING SERVICES, INC. (PROJECT No. DES 198482, DTD. JANUARY 31, 2020).

3.6 ALL FOOTINGS SHALL BE CENTERED UNDER THE SUPPORTED WALL/COLUMN MEMBER UNLESS NOTED OTHERWISE.

3.7 CONSTRUCTION JOINTS IN FOUNDATION SLABS, WALLS & FOOTINGS SHALL BE MADE AT LOCATIONS SHOWN ON DRAWINGS.

3.8 ANCHOR BOLTS SHALL BE SET BY MEANS OF TEMPLATE. "FLOATING" ANCHOR BOLTS INTO PLACE IS PROHIBITED.

3.9 CONTRACTOR IS TO VERIFY THE ELEVATION AND LOCATION OF ALL EXISTING AND PROPOSED UTILITIES PRIOR TO CONSTRUCTION. ANY "KNOWN" UTILITY LINES DAMAGED WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE. IF ANY "UNKNOWN" UTILITY LINES ARE ENCOUNTERED WHEN EXCAVATING THE CONTRACTOR IS TO CEASE ALL EXCAVATION ACTIVITY UNTIL THE ENGINEER AND OWNER ARE NOTIFIED AND INSTRUCTIONS ARE PROVIDED ABOUT HOW TO PROCEED.

3.10 THE CONTRACTOR SHALL OBTAIN THE OWNER'S PERMISSION BEFORE ENCASING OR BACK FILLING AROUND ANY EXISTING UNDERGROUND STRUCTURE, PIPING, ELECTRICAL, OR OTHER UNDERGROUND WORK.

4.0 REINFORCING STEEL

4.1 BARS SHALL BE ROLLED FROM NEW BILLET-STEEL OF DOMESTIC MANUFACTURE CONFORMING TO "STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET STEEL BARS FOR CONC. REINFORCEMENT," ASTM A615, GRADE 60.

4.2 DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "ACI DETAILING MANUAL," LATEST PUBLICATION.

4.3 REINFORCING STEEL IN PLACE SHALL BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE.

4.4 WELDED WIRE FABRIC SHALL CONFORM TO "STANDARD

SPECIFICATION FOR WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT," ASTM A1064. 4.5 PLACE WELDED WIRE FABRIC AT CENTER OF

METAL DECK, UNLESS NOTED OTHERWISE. 4.6 PROVIDE BARS AT CORNERS AND INTERSECTIONS OF WALLS & FOOTINGS OF THE SAME NUMBER AND SIZE AS

SLABS-ON-GRADE AND ELEVATED SLAB TOPPINGS OVER

LONGITUDINAL BARS, U.N.O. ON THE DRAWINGS. 4.7 FABRICATE CONTINUOUS BARS IN WALLS, SLABS, FOOTINGS & PILE CAPS TO THE LONGEST PRACTICABLE

LENGTHS. 4.8 REINFORCING STEEL SHALL NOT BE BENT AFTER BEING

PARTIALLY EMBEDDED IN HARDENED CONCRETE. 4.9 BARS SHALL BE COLD BENT AND SHALL NOT BE HEATED

4.10 REINFORCING BARS SHALL NOT BE WELDED U.N.O. ON THE DRAWINGS.

4.11 REFERENCE DRAWINGS FOR REQUIREMENTS FOR LAP SPLICING REINFORCING STEEL IN CONCRETE. ALL "LCS" SHALL CONFORM TO CLASS B SPLICE CRITERIA & IT IS ACCEPTABLE TO LAP SPLICE NON "LCS" A MINIMUM 50 BAR DIAMETERS, UNLESS NOTED OTHERWISE.

4.12 LAP SPLICED BARS IN CONCRETE ARE TO BE WIRE TIED.

4.13 LAP SPLICED BARS IN MASONRY ARE TO BE NO FARTHER APART THAN 8".

5.0 CONCRETE

FOR ANY REASON.

5.1 IN GENERAL CONCRETE SHALL DEVELOP 3,000 TO 4,500 psi MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS. REFERENCE "DESIGN CRITERIA" THIS DWG. & PROJECT SPECIFICATIONS, FOR APPLICATION & SPECIFIC CONCRETE MIX DESIGN REQUIREMENTS.

5.2 CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE". ACI 318 & TO "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES", ACI 350 (LATEST EDITIONS).

5.3 PLACE 1/2 INCH EXPANSION JOINT MATERIAL BETWEEN EDGES OF SLABS AND VERTICAL SURFACES UNLESS NOTED

5.4 PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS & WALLS AT LOCATIONS SHOWN ON DRAWINGS, AT OFFSETS AND CHANGES IN DIRECTION AND AT THIRTY (30) FEET MAXIMUM U.N.O., GENERAL CONTRACTOR TO PROVIDE CONSTRUCTION JOINT LAYOUT PLAN PER THE PROJECT SPECIFICATIONS PRIOR TO CONSTRUCTION, INCLUDING ORDERING & FABRICATING MATERIALS.

5.5 CHAMFER EXPOSED EDGES OF CONCRETE 3/4 INCH. UNLESS NOTED OTHERWISE.

5.6 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER CURING OF ALL CONCRETE. CURING METHODS SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, "CODE REQUIREMENTS FOR ENVIRONMENTAL ENGINEERING CONCRETE STRUCTURES" ACI 350 AND "STANDARD PRACTICE FOR CURING CONCRETE," ACI 308, LATEST EDITIONS.

NUMBER AND SIZE AS THE LARGEST VERTICAL BAR TO WHICH THEY ARE SPLICED.

5.7 UNLESS NOTED OTHERWISE DOWELS SHALL BE THE SAME

5.8 REFERENCE PROJECT SPECIFICATIONS FOR REQUIRED

5.9 CONTRACTOR SHALL SUBMIT REBAR SHOP DRAWINGS FOR APPROVAL TO OWNER PRIOR TO FABRICATION. DO NOT FABRICATE REINFORCING PRIOR TO RECEIPT OF APPROVED SHOP DRAWINGS.

5.10 CONCRETE MIXES TO BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE. COMPRESSIVE STRENGTH TEST CYLINDERS TO BE REVIEWED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE THROUGHOUT CONCRETE CONSTRUCTION OF THE PROJECT.

5.11 ROUGHEN THE "BASE" CONCRETE POUR SURFACE TO A FULL AMPLITUDE OF 1/4" MINIMUM, WHERE NOTED ON THE CONSTRUCTION DRAWINGS.

5.12 CONCRETE ACCESSORIES AS FOLLOWS:

a.) PREFORMED WATERSTOPS SHALL BE PVC 6 INCH LONG w/ 3/8 INCH (MIN.) CENTER BULB & TAPERED RIB ENDS AND IN ACCORDANCE w/ THE

PROJECT SPECIFICATIONS. b.) EXPANSIVE WATERSTOPS SHALL BE ADEKA ULTRA SEAL TYPE MC-2010M. THE WATERSTOPS CAN BE EITHER ADHERED TO THE CONCRETE WITH 3M-2141 BONDING ADHESIVE OR NAILED IN PLACE USING 1.5 INCH CONCRETE NAILS 3 TO 6 INCHES APART OR AN ACCEPTED EQUIVALENT.

c.) RETROFIT WATERSTOPS SHALL BE SIKA WESTEC ENVIROSTOP TPE TYPE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

d.) CAULK/SEALANT - BASF MASTERSEAL CR125. e.) BONDING AGENT — SHALL BE STRUCTURAL EPOXY ADHESIVE CONFORMING TO ASTM C-881 TYPE I STRENGTH AND II, GRADE 2, CLASS B AND C WITH A MINIMUM BOND STRENGTH OF 1900 PSI. 1.) SIKA ARMATEC 110 EpoCem OR AN APPROVED

5.13 CONCRETE ANCHORS NOTE THE FOLLOWING:

EQUAL.

a.) BOLTED ANCHORING SYSTEMS EMBEDDED IN CONCRETE SHALL BE RED HEAD, C6 EPOXY ADHESIVE

ANCHORING SYSTEM OR AN ACCEPTED EQUIVALENT. b.) REBAR ANCHORING SYSTEM EMBEDDED IN CONCRETE SHALL BE RED HEAD, C6 EPOXY ADHESIVE ANCHORING SYSTEM OR AN ACCEPTED EQUIVALENT DEPTH OF REBAR EMBEDMENT SHALL MEET MFG.'s RECOMMENDATIONS TO ENSURE DEVELOPMENT OF THE FULL TENSILE STRENGTH OF THE REINFORCING BAR. MECHANICAL WEDGE TYPE ANCHORS ARE NOT ALLOWED.

6.1 PROVIDE NON-SHRINK GROUT UNDER ALL COLUMN BASE PLATES AND BEAM BEARING PLATES AND ELSEWHERE AS INDICATED ON DRAWINGS. NON-SHRINK GROUT SHALL CONFORM TO ASTM C1107.

6.2 GROUT SHALL BE NON-METALLIC AND NON-STAINING AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 psi.

7.0 MASONRY (NOT APPLICABLE)

8.0 STRUCTURAL STEEL

8.1 STEEL SHALL CONFORM TO "STANDARD SPECIFICATION FOR STRUCTURAL STEEL," ASTM A36 (Fy=36 ksi) FOR ANGLES, PLATES & CHANNELS. WIDE FLANGE SECTIONS SHALL CONFORM TO ASTM A992 (Fy=50ksi). HOLLOW STEEL SECTIONS (HSS) SHALL CONFORM TO ASTM A500, GRADE B (Fy=46 ksi). STEEL PIPE SHALL CONFORM TO ASTM A53, GRADE B, (Fy=35 ksi).

8.2 STEEL WORK SHALL CONFORM TO "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS", OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC., (LATEST EDITION), INCLUDING ALL SUPPLEMENTS AND THE "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", (LATEST EDITION).

8.3 CONNECTION BOLTS SHALL BE 3/4 INCH DIAMETER CONFORMING TO "STANDARD SPECIFICATION FOR HIGH-STRENGTH BOLTS FOR STRUCTURAL STEEL JOINTS", ASTM A325. UNLESS NOTED OTHERWISE CONNECTIONS ARE BEARING TYPE WITH THREADS EXCLUDED FROM SHEAR PLANES (A325x).

8.4 WELDING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY AWS D1.1 "STRUCTURAL WELDING CODE". WELDING SHALL BE PERFORMED BY CERTIFIED PERSONNEL WHO HAVE BEEN PREVIOUSLY QUALIFIED BY TEST PRESCRIBED IN THE AWS "STRUCTURAL WELDING CODE". ELECTRODES SHALL CONFORM TO AWS 5.5, E70XX.

8.5 LINTELS SHALL BEAR EIGHT (8) INCHES MINIMUM ON MASONRY UNLESS NOTED OTHERWISE.

8.6 THE CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY BRACING, SHORING, AND GUYING OF STEEL FRAMING AGAINST WIND, CONSTRUCTION LOADS, AND OTHER TEMPORARY FORCES UNTIL SUCH PROTECTION IS NO LONGER REQUIRED FOR THE SAFE SUPPORT OF THE FRAMING.

8.7 ALL COPES, BLOCKS, CUTS, CUT-OFFS AND OTHER CUTTING OF STRUCTURAL MEMBERS SHALL HAVE ALL RE-ENTRANT CORNERS SHAPED, AND NOTCH-FREE TO A RADIUS OF AT LEAST 1/2 INCH. THE FILLET AND ITS CONTIGUOUS CUTS SHALL MEET WITHOUT OFFSET OR CUTTING PAST THE POINT OF TANGENCY.

8.8 ANCHOR BOLTS SHALL BE ASTM F1554 OR ASTM A36 & SHALL BE EITHER HEADED w/ NUTS TACK WELDED TO BOLTS OR NON-HEADED w/ HOOKS AS REQUIRED BY THE DRAWINGS. PROVIDE (2) NUTS AND WASHERS WITH EACH ANCHOR BOLT AT COLUMNS UNLESS NOTED OTHERWISE.

8.9 OVERSIZED AND SLOTTED HOLES SHALL NOT BE USED FOR BOLTED CONNECTIONS ON THIS PROJECT EXCEPT AT LOCATIONS NOTED ON DRAWINGS.

8.10 SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER, AS TO LOCATION AND TYPE OF SPLICE. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAILED ON THE SHOP DRAWINGS WILL BE REPLACED.

8.11 PRE-GROUTING BASE PLATES IS NOT PERMITTED.

8.12 ALL HOLES IN STRUCTURAL STEEL ARE TO BE PUNCHED OR DRILLED. FLAME CUTTING OF STEEL IS STRICTLY

8.13 ALL DESIGN, DETAILING, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION.

8.14 IN GENERAL SHOP CONNECTIONS SHALL BE EITHER WELDED OR BOLTED AND FIELD CONNECTIONS SHALL BE BOLTED UNLESS NOTED OTHERWISE.

8.15 FABRICATOR/CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR OWNER/ENGINEER APPROVAL PRIOR TO FABRICATION. ALL SHOP DRAWINGS MAY BE EXPEDITED IF THE FABRICATOR ADHERES CLOSELY TO THE DETAILS, NOTES, AND INSTRUCTIONS, SHOWN ON THE DRAWINGS.

8.16 ALL GALVANIZED MATERIALS THAT ARE FIELD CUT, FIELD WELDED OR DAMAGED IN SURFACE FINISH SHALL BE CLEANED AND RE-COATED w/ A 98% ZINC RICH OXIDE AND IN CONFORMANCE w/ THE PROJECT SPECIFICATIONS.

ADD'L = ADDITIONAL

ALT. = ALTERNATE

BLDG. = BUILDING

= BEAM

BRG. = BEARING

CLR. = CLEAR

B.O. = BOTTOM OF

C.O. = CLEAN OUT

COL = COLUMN

CONC. = CONCRETE

CONN. = CONNECTION

CONT. = CONTINUOUS

COORD.= COORDINATE

CTR. = CENTER

DBL. = DOUBLE

CTR'D. = CENTERED

DIR. = DIRECTION

DWG. = DRAWING

E.O. = EDGE OF

EXIST. = EXISTING

FLG. = FLANGE

EQUIP. = EQUIPMENT

EXP. = EXPANSION

FDN. = FOUNDATION

GALV'D = GALVANIZED

HORZ. = HORIZONTAL

H.P. = HIGH POINT

I/F = INSIDE FACE

INFO. = INFORMATION

= KNEE BRACE

LLV = LONG LEG VERT

LSL = LONG SLOTTED

MFG. = MANUFACTURER

N.T.S. = NOT TO SCALE

O/F = OUTSIDE FACE

L.P. = LOW POINT

MAS. = MASONRY

MAT'L. = MATERIAL

MIN. = MINIMUM

NOM. = NOMINAL

N.S. = NEAR SIDE

O.C. = ON CENTER

O/H = OVERHANG

OPNG. = OPENING

PLCS. = PLACES

RAD. = RADIUS

P.P. = PUMP PAD

REF. = REFERENCE

REQ'D. = REQUIRED

RET. = RETAINING

STD. = STANDARD

STL. = STEEL

THK. = THICK

T.O. = TOP OF

TYP. = TYPICAL

VERT. = VERTICAL

SIM. = SIMILAR

SPA. = SPACED

= ROTATE

S.S. = STAINLESS STEEL

SSL = SHORT SLOTTED

T&B = TOP & BOTTOM

T/D = TURN DOWN

THK'D = THICKENED

T.O.S = TOP OF STEEL

U.N.O. = UNLESS NOTED

XB = "X" - BRACING

W.P. = WORK POINT

OTHERWISE

SPECIFICATIONS

ROT.

SPECS. =

REINF. = REINFORCING

OPP. = OPPOSITE

O/O = OUT TO OUT

ORIENT.= ORIENTATION

MTL. = METAL

= LIQUID CONTAINMENT

STRUCTURES

= LONG LEG HORZ.

HRS. = HOURS

INTR. = INTERIOR

JST. = JOIST

JT. = JOINT

F.S. = FAR SIDE

FTG. = FOOTING

GA. = GAGE

FT. = FEET

EQ. = EQUAL

EA. =

DWG.'s. = DRAWINGS

EACH

= ELEVATION

CONST. = CONSTRUCTION

C.I.P. = CAST-IN-PLACE

CMU = CONC. MAS. UNIT

BLK. = BLOCK

RM.

= ALUMINUM

8.17 STRUCTURAL STEEL FRAMING & DECKING ERECTION TO BE REVIEWED BY THE THE OWNER'S CONSTRUCTION REPRESENTATIVE THROUGHOUT CONCRETE & STEEL CONSTRUCTION OF THE PROJECT.

9.0 ALUMINUM

9.1 ALUMINUM FABRICATION SHALL BE IN CONFORMANCE WITH THE ALUMINUM ASSOCIATION, INC. "SPECIFICATIONS FOR ALUMINUM STRUCTURES".

9.2 UNLESS NOTED OTHERWISE, MATERIALS SHALL BE: a. PLATE & SHEET - ASTM B209; 6061-T6, 6061-T651 b. EXTRUDED SHAPES - ASTM B221; 6061-T6, 6061-T651 ALLOY. PIPE SECTIONS ARE SCHEDULE 40 U.N.O.. c. CASTINGS - ASTM B108; 214 ALLOY.

d. BOLTS - ASTM A193; GRADE B8 OR, ASTM 276; TYPE 316 STAINLESS STEEL. e. NUTS - ASTM A194; GRADE M, OR ASTM 276; TYPE 316 STAINLESS STEEL.

9.3 ALUMINUM SHALL BE SEPARATED FROM DIRECT CONTACT WITH OTHER MATERIALS (STEEL, CONCRETE, ETC.) BY PRESSURE SENSITIVE TAPE, BITUMASTIC COATING, OR OTHER PROTECTIVE METHOD SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE OWNER'S CONSTRUCTION REPRESENTATIVE

9.4 CONNECTIONS SHALL HAVE A MINIMUM OF TWO 3/4" DIAMETER STAINLESS STEEL BOLTS.

9.5 WELDING ALUMINUM SHALL CONFORM TO AWS D1.2 & AWS A5.10 AND THE REQUIREMENTS OF THE ALUMINUM ASSOCIATIONS "ALUMINUM DESIGN MANUAL" (LATEST EDITION) TABLE 7.1-1 FOR WELD FILLERS FOR WROUGHT ALLOYS.

9.6 REFERENCE PROJECT SPECIFICATIONS FOR HANDRAIL & GUARDRAIL REQUIREMENTS.

10.0 PRE-CAST CONCRETE

10.1 PRE-CAST CONCRETE FIELD ASSEMBLED STRUCTURES TO BE DESIGNED BY THE PRE-CAST MANUFACTURER UTILIZING "DESIGN LOADS" PROVIDED THIS DRAWING AND/OR THE RESPECTIVE FACILITY STRUCTURAL DRAWINGS AND IN ACCORDANCE w/ THE PROJECT SPECIFICATIONS. COORDINATE w/ THE CIVIL, ELECTRICAL, MECHANICAL AND VENDOR EQUIPMENT DRAWINGS FOR ADDITIONAL MATERIALS REQUIRED FOR CALCULATION OF THE DEAD LOADS, LIVE LOADS AND EQUIPMENT LOADS. THAT MAY BE SUSPENDED FROM THE SIDES OF WALL PANELS AND UNDERSIDE OF THE TOP SLAB PANELS AS APPLICABLE.

10.2. PRE-CAST CONCRETE FIELD ASSEMBLED STRUCTURES MANUFACTURER IS REQUIRED TO SUBMIT DRAWINGS AND CALCULATION PACKAGES SEALED, SIGNED AND DATED BY AN ENGINEER CURRENTLY LICENSED BY THE STATE OF FLORIDA. FABRICATION OF THE PRE-CAST FIELD ASSEMBLED STRUCTURES COMPONENTS SHOULD NOT OCCUR UNTIL "FINAL" APPROVAL OF THE MANUFACTURER'S DRAWINGS AND CALCULATIONS SUBMITTALS.

10.3 REFERENCE MECHANICAL AND STRUCTURAL DRAWINGS FOR PRE-CAST CONCRETE FIELD ASSEMBLED STRUCTURES FOUNDATION SYSTEMS AND BEARING ELEVATIONS, DIMENSIONS, WALL AND TOP SLAB OPENINGS & TOP SLAB SLOPE REQUIREMENTS.

10.4 REFERENCE MECHANICAL DRAWINGS & PROJECT SPECIFICATIONS FOR ALL INTERIOR AND EXTERIOR WALL AND SLAB SECTIONS FINISH REQUIREMENTS.

10.5 PRE-CAST FIELD ASSEMBLED STRUCTURES WALL AND SLAB SECTIONS TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI.

10.6 REFERENCE ALL PROJECT SPECIFICATIONS RELATED TO THE PRE-CAST CONCRETE FIELD ASSEMBLED STRUCTURES FOR ADDITIONAL REQUIREMENTS AND INFORMATION.

10.7 CONSTRUCTION ACTIVITIES RELATED TO THE PRE-CAST FIELD ASSEMBLED STRUCTURES TO BE REVIEWED BY THE THE OWNER'S CONSTRUCTION REPRESENTATIVE THROUGHOUT

11.0 PRE-ENGINEERED TIMBER TRUSS (NOT APPLICABLE)

CONCRETE CONSTRUCTION OF THE PROJECT.

12.0 PRE-ENGINEERED METAL BUILDINGS (NOT APPLICABLE)

13.0 MISCELLANEOUS BUILDING MATERIALS (NOT APPLICABLE)

14.0 ABBREVIATIONS

14.1 THE FOLLOWING LIST OF ABBREVIATIONS IS NOT INTENDED TO REPRESENT ALL THOSE USED ON THE DRAWINGS, BUT TO SUPPLEMENT THE MORE COMMON ABBREVIATIONS USED.

DESIGN LOADS:

DESIGN LOADS BASIS OF DESIGN: FLORIDA BUILDING CODE (FBC) - 2020 EDITION. MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES - ASCE 7-16. 300 PSF ELEVATED PLATFORMS AND ACCESS HATCHES 100 PSF STAIR & ACCESS GRATING PLATFORMS ROOF LOAD: N/A PSF SNOW LOAD: N/A WIND LOAD: 158 mi/hr, EXPOSURE C, RISK CATEGORY III CALCULATED WIND BASE SHEARS: Vx = k & Vy = k

COMPONENTS & CLADDING WIND PRESSURES: ROOF PRESSURES: ZONE 1, ZONE 2 & ZONE 3 = N/AWALL PRESSURES: ZONE 4 & ZONE 5 = N/A

SOIL BEARING: REF. "FOUNDATIONS" NOTE 3.1 THIS DWG.

DESIGN CRITERIA:

ALUMINUM WELD FILLERS ALLOYS SHALL

CONCRETE 28 DAY COMPRESSIVE STRENGTH: SLABS-ON-GRADE & NON LCS SLABS f'c = 4,000 psiMINOR EQUIPMENT PADS & PIPE ENCASEMENTS: f'c = 3,000 psif'c = 4,500 psiSLABS & WALLS OF LCS: f'c = 4,500 psiBEAMS & COLUMNS OF LCS: NON-LCS FOOTINGS, WALLS, COLUMNS & BEAMS: f'c = 4,000 psif'c = 4,000 psiBELOW GRADE & RETAINING WALLS: SIDEWALK, DRIVEWAY, CURB & GUTTER: f'c = 3,000 psiASTM A615, GRADE 60 REINFORCING STEEL: ASTM A1064 WELDED WIRE FABRIC: STRUCTURAL STEEL: NOT APPLICABLE REF. STRUCTURAL NOTE 9.2 ALUMINUM: BOLTS SHALL BE REF. STRUCTURAL NOTE TYPE 316 S.S.: 9.2.d ANCHOR BOLTS SHALL BE TYPE 316 S.S. (ALUMINUM) STEEL ELECTRODES SHALL CONFORM TO: NOT APPLICABLE

AWS A5.10 (REF. STRUCTURAL NOTE 9.5)

LEGEND

CONFORM TO:

ENLARGED PLAN AREA, DETAIL CONC. MASONRY BLOCK BRICK VENEER CONC. WALL, PAD, ETC. . ⊿ . ⊿ . GRATING DETAIL OR SECTION NO./SHEET NO. REFERENCE

PROJECT NORTH

ELEVATION DATUM

REFERENCE



X'-X'' = DISTANCE TO/FROM FACILITY REFERENCE EL 0'-0"ELEVATIONS X'-X" (Y.YY') Y.YY' = EQUIVALENT SITE EL VERTICAL DATUM

STEP IN FOOTING ELEVATION

STL. FRAMING COL./BM. MOMENT CONNECTION

ELEVATION NO./SHEET NO.

SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

STRUCTURAL GENERAL NOTES, DESIGN LOADS, DESIGN CRITERIA & LEGEND

MAY 2023 1024-0174 DRAWN DAR/WFB DESIGNED AEA CHECKED AEA/WFB PROJ. MGR. DCW

STATUS:

DRAWING NUMBER SCALE HORIZONTAL N/A VERTICAL:

ISSUED FOR BID

DATE REVISIONS

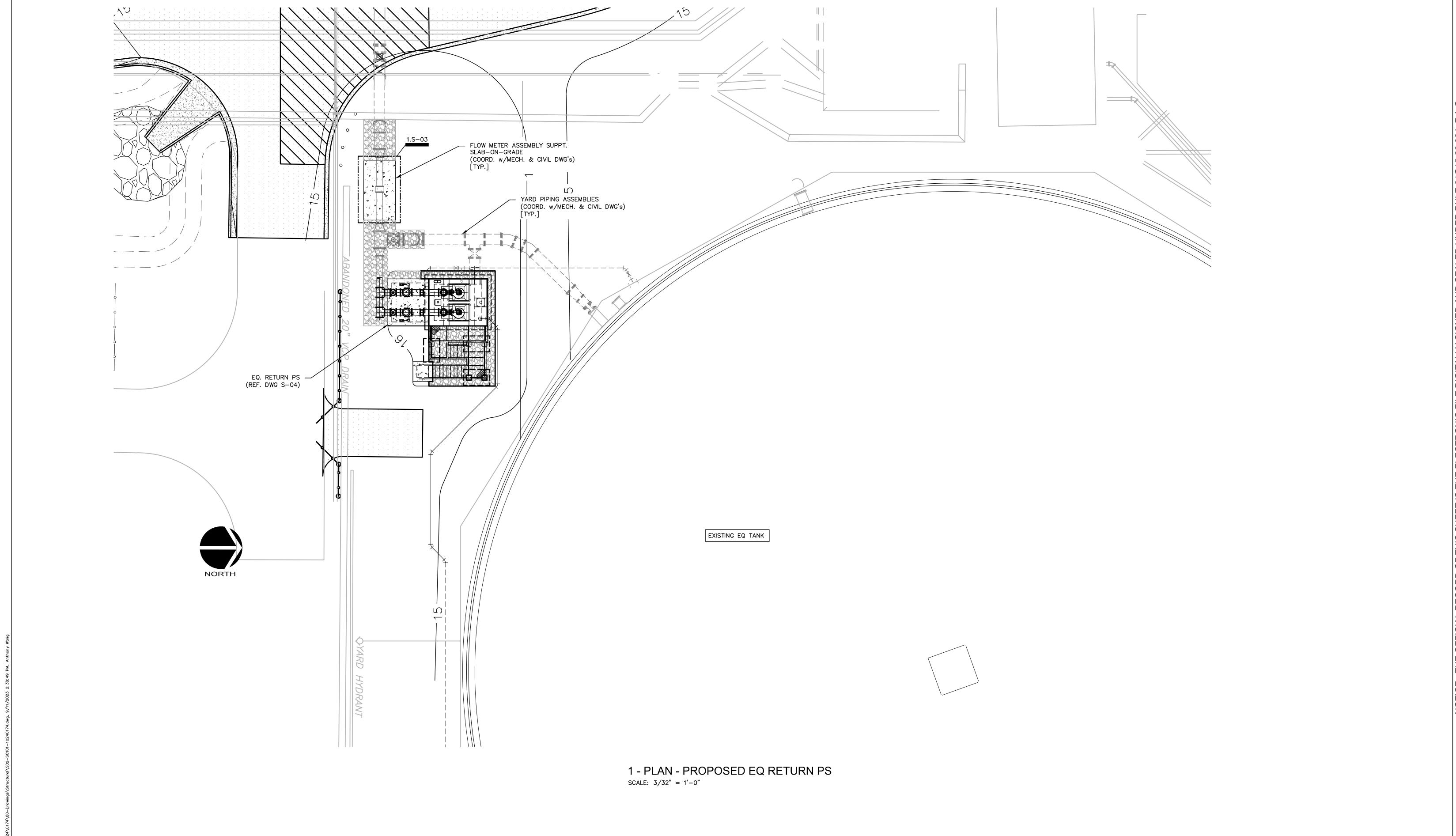
. EMMETT ANDERSON, P.E.

MCKIM&CREED 1365 Hamlet Avenue

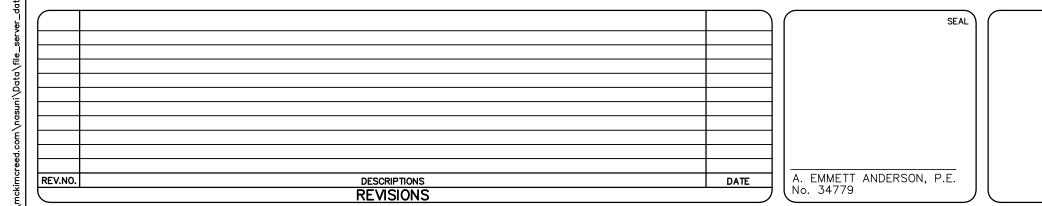
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1. THE EXISTING EQ TANK IS A PRESTRESSED CIRCULAR CONCRETE TANK MANUFACTURED BY THE CROM CORPORATION. REFERENCE SPECIFICATION 01030 SPECIAL PROJECT PROCEDURES FOR ADDITIONAL REQUIREMENTS.
2. REFERENCE DWG S-01 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOAD INFORMATION, DESIGN CRITERIA AND LEGEND.



1365 Hamlet Avenue
Clearwater, Florida 33756
Phone: (727)442-7196, Fax: (727)461-3827
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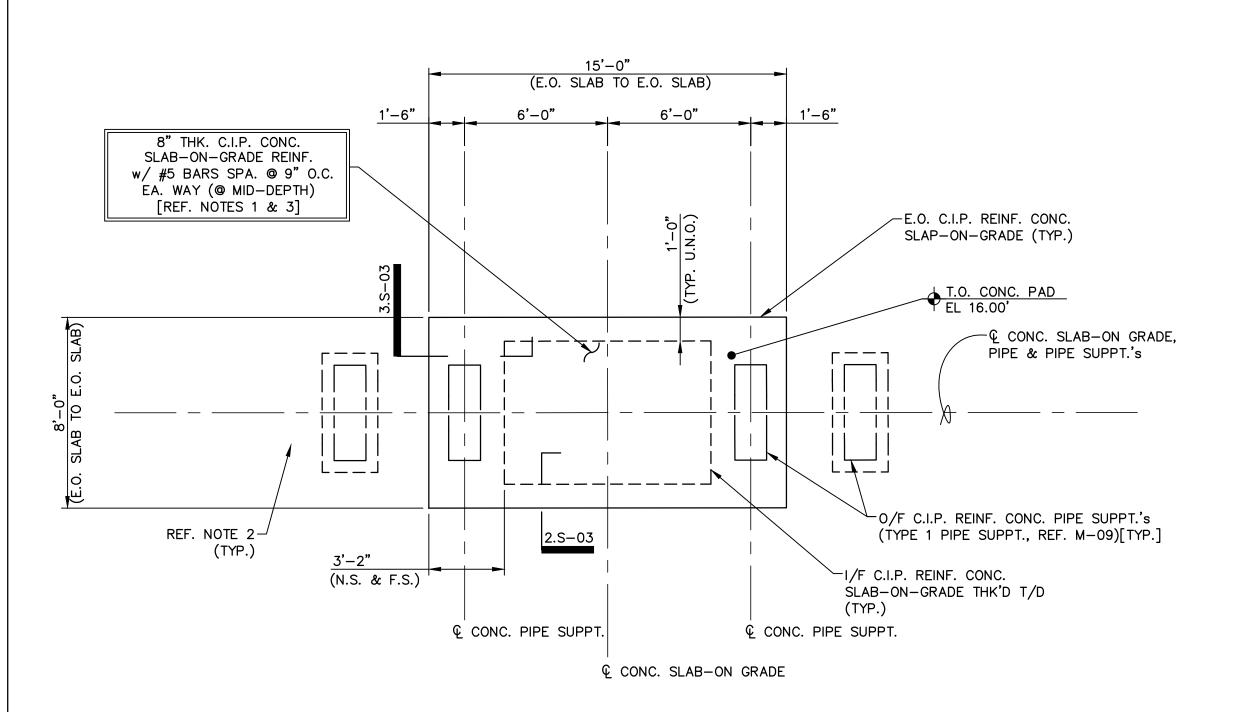
SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

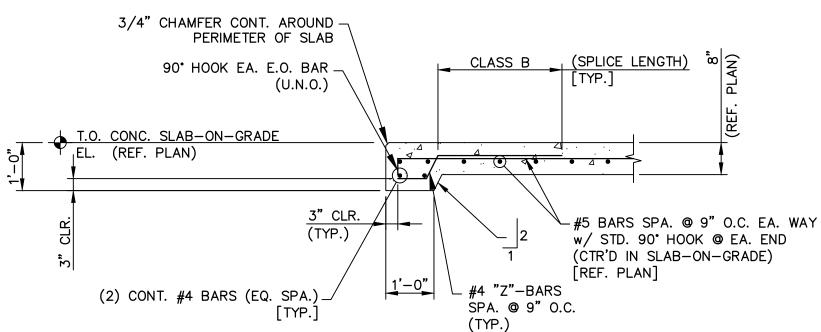
EQ RETURN PS PLAN

	DATE:	MAY 2023	SCALE
1	MCE PROJ. #	1024-0174	
	DRAWN	DAR/WFB	HORIZONTAL:
	DESIGNED	AEA	AS NOTED
	CHECKED	AEA/WFB	VERTICAL:
	PROJ. MGR.	DCW	N/A

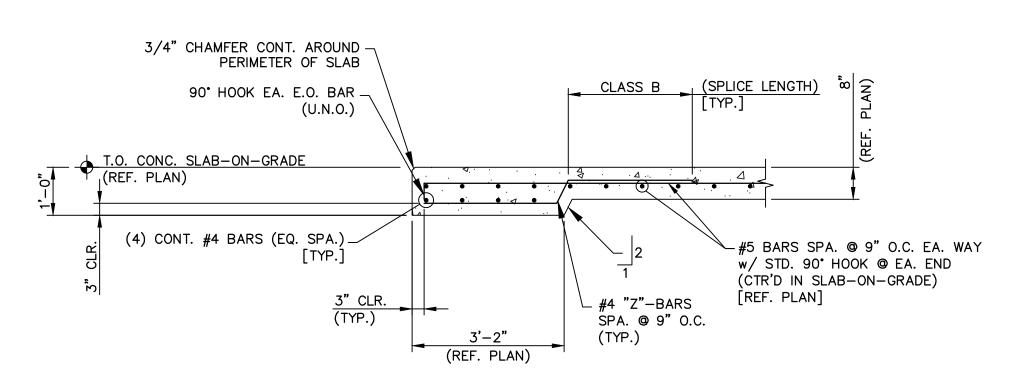
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DRAWING NUMBER





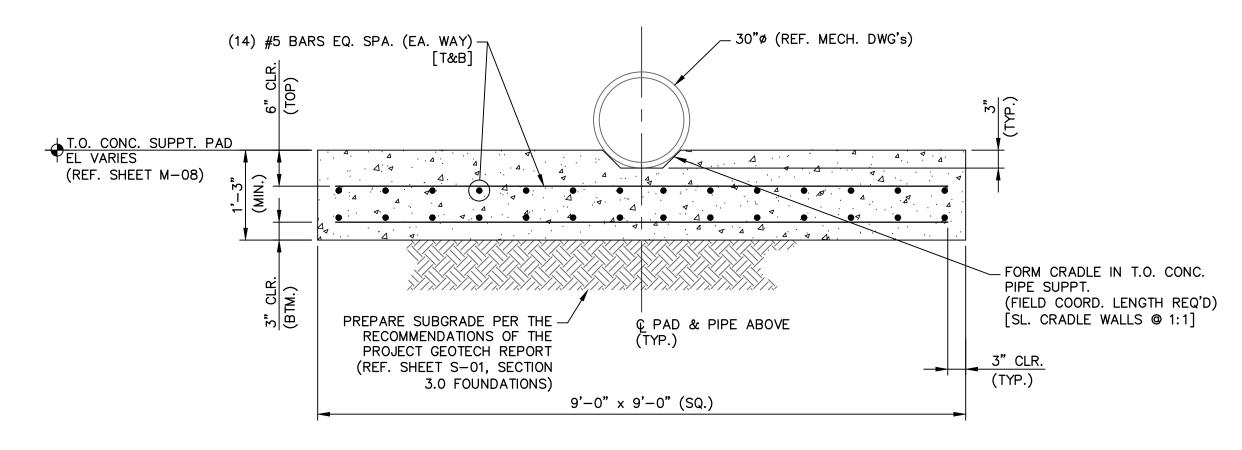
2 - DETAIL - TYP. SLAB-ON-GRADE THK'D T/D REINF. SCALE: 1/2" = 1'-0"



3 - DETAIL - SLAB-ON-GRADE THK'D T/D REINF. SCALE: 1/2" = 1'-0"



- PLAN - FLOW METER ASSEMBLY SLAB-ON-GRADE



4 - SECTION AT BASE OF PIPE SCALE: 3/4" = 1'-0"

PLAN NOTES:

- PREPARE SUBGRADE FOR THIS FACILITY PER THE RECOMMENDATIONS OF THE PROJECT GEOTECHNICAL REPORT.
 EQUIPMENT & PROCESS PIPE LAYOUTS ARE SHOWN FOR GENERAL INFO ONLY. REFERENCE CIVIL, ELECTRICAL, MECHANICAL & EQUIPMENT VENDOR DRAWINGS FOR LOCATIONS & INFO REGARDING SLAB & WALL PENETRATIONS, OPENINGS, PIPING & MISCELLANEOUS EQUIPMENT EITHER SHOWN OR NOT SHOWN.
- 3. FINISHED GRADE ELEVATION AROUND THESE STRUCTURES IS EL 15'00(±). REFERENCE CIVIL DRAWINGS FOR ADDITIONAL
- INFORMATION. 4. REFERENCE DWG S-01 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOADS INFO, DESIGN CRITERIA AND LEGEND.

A. EMMETT ANDERSON, P.E. No. 34779 DESCRIPTIONS REVISIONS

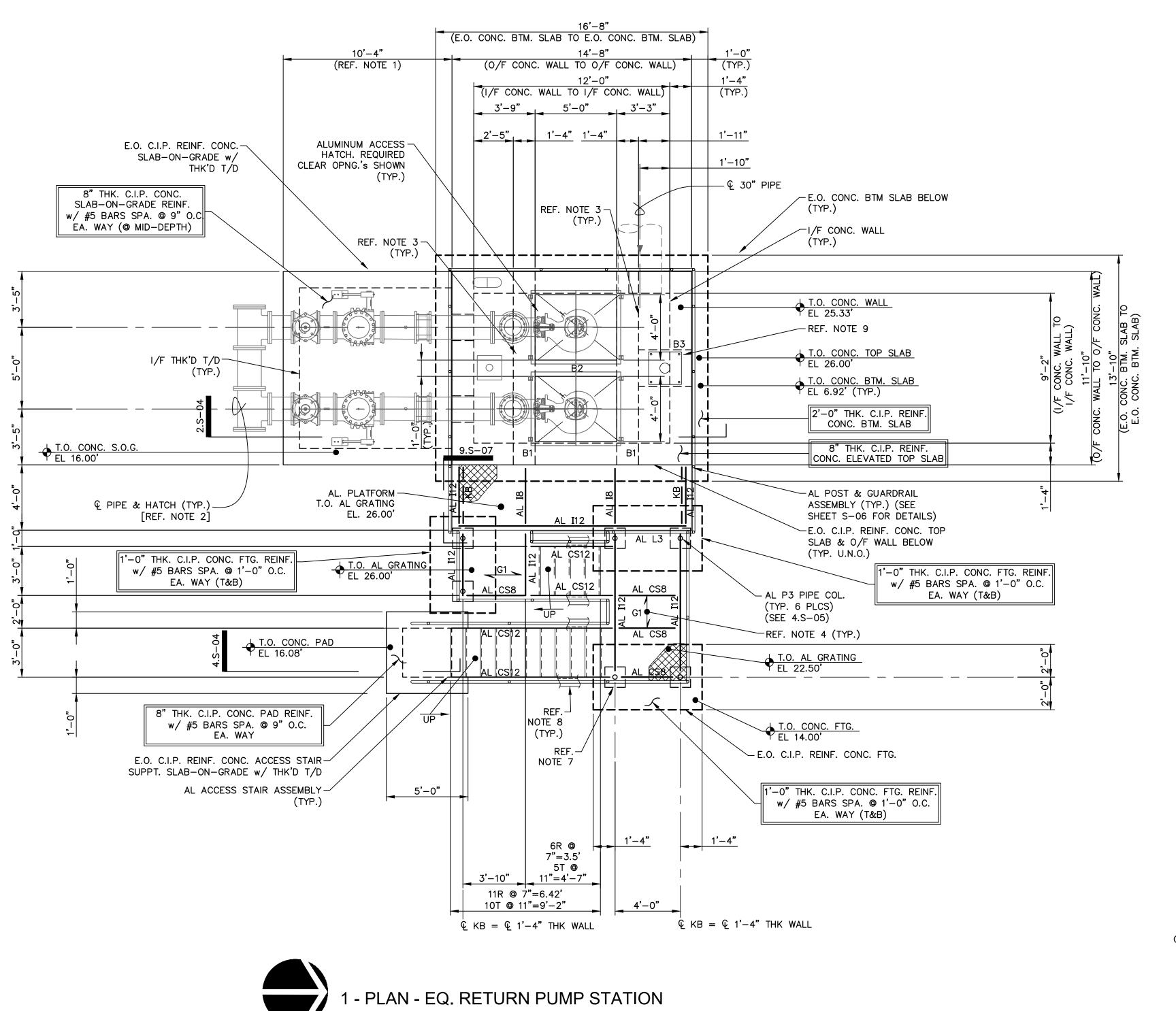


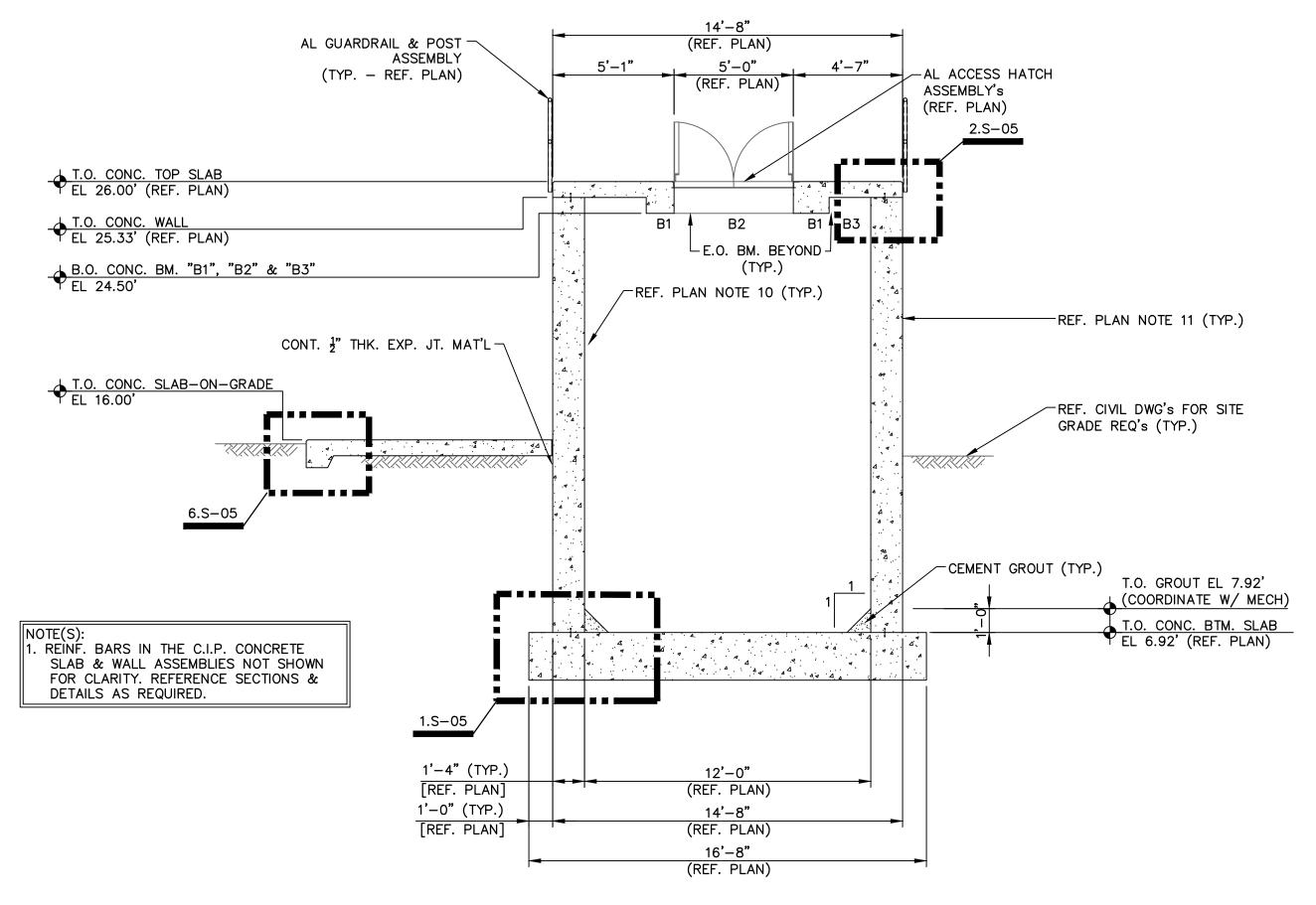


SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

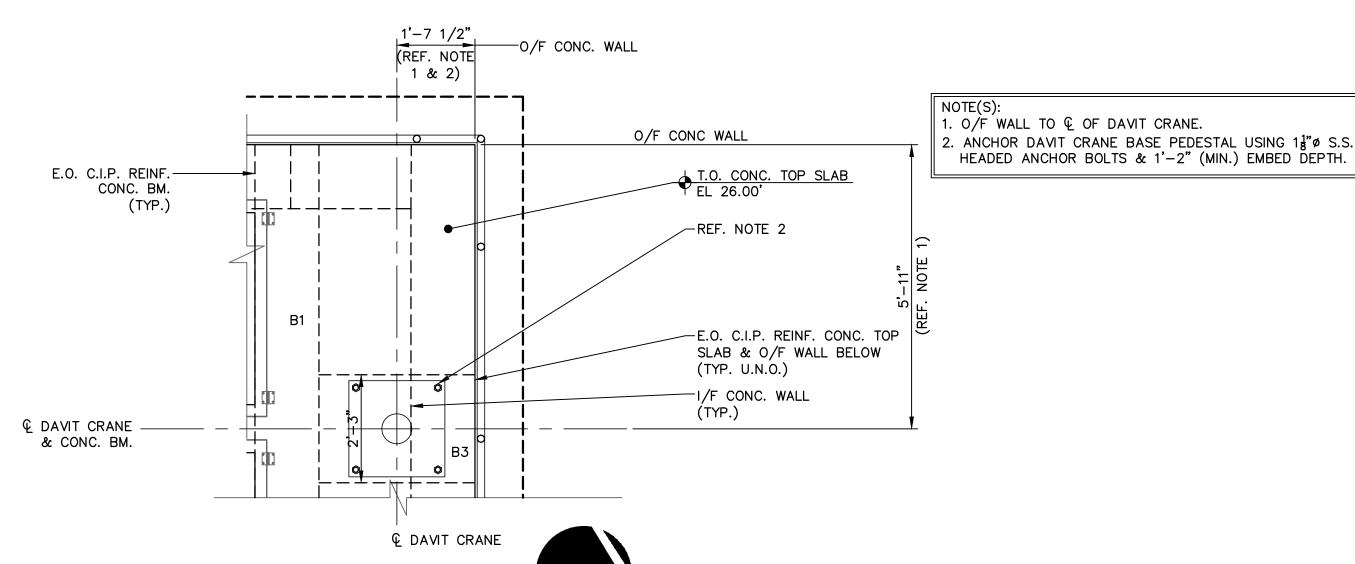
EQ TANK FLOWMETER PLAN AND SECTIONS

	DATE:	MAY 2023	SCALE	DRAWING NUMBER
	MCE PROJ. #	1024-0174	HORIZONTAL:	
	DRAWN	DAR/WFB		C 02
	DESIGNED	AEA	AS NOTED	S-03
4	CHECKED	AEA/WFB	VERTICAL:	
	PROJ. MGR.	DCW	N/A	





2 - SECTION - THRU EQ. RETURN PUMP STATION SCALE: 1/4" = 1'-0"



SCALE: 1/2" = 1'-0"

SCALE: 1/4" = 1'-0"NORTH

PLAN NOTES:

- DIMENSIONS SHOWN INDICATED O/F CONC. WALL TO E.O. SLAB-ON-GRADE. 2. PIPE ASSEMBLIES AT THE SLAB-ON-GRADE & PUMP ASSEMBLIES AT THE INTERIOR OF THE EQ RETURN PUMP STATION ARE SHOWN FOR GENERAL INFORMATION ONLY. CONTRACTOR IS RESPONSIBLE FOR REFERENCING & COORDINATING w/ MECH. DRAWINGS FOR ALL PIPING & PROCESS EQUIPMENT LAYOUTS FOR ASSEMBLIES THAT MAY NOT BE SHOWN FOR CLARITY &
- ANY ADDITIONAL INFORMATION AS REQUIRED. 3. E.O. C.I.P. REINF. CONC. BM.'s CONSTRUCTED MONOLITHIC w/ ELEVATED TOP SLAB.
 - a.) "B1" = 16" WIDE x 18" DEEP C.I.P. REINF. CONC. BM...
 - b.) "B2" = 12" WIDE x 18" DEEP C.I.P. REINF. CONC. BM.
- c.) "B3" = 27" WIDE x 18" DEEP C.I.P. REINF. CONC. BM. (REF. 3.S-04 FOR BM. LOCATION @ TOP SLAB). c.) REF. 5.S-05 FOR C.I.P. REINF. CONC. BM.'s REINF. REQ.'s.
- "> "SYMBOL ON PLAN INDICATES SPAN DIRECTION OF THE GRATING ASSEMBLIES MAIN BEARING BARS. IN GENERAL GRATING ASSEMBLIES ARE TO BE MANUFACTURED BY REPUTABLE VENDOR(S) EXPERIENCED IN MANUFACTURING THE ASSEMBLIES REQUIRED. GRATING ASSEMBLIES ARE TO INCLUDE RECTANGULAR MAIN BEARING BARS, RECTANGULAR CROSS BARS OR RODS, AND RECTANGULAR BANDING BARS ALONG PERIMETERS OF PANELS & AT OPENINGS. REFERENCE PROJECT SPECIFICATIONS, PLANS, SECTIONS & DETAILS FOR ADDITIONAL INFORMATION & REQUIREMENTS. NOTE THE FOLLOWING:
- a.) GRATING "G1" = $1\frac{1}{2}$ " x $\frac{3}{16}$ " ALUMINUM IN ACCORDANCE w/ MFG.'s 19-4 "W" SERIES SPACE PROFILE.
- b.) GRATING PANELS SHALL BE ANCHORED TO ALUMINUM FRAMING TOP FLG's w/ S.S. FASTENERS & TYPE AS RECOMMENDED BY THE MANUFACTURER.
- c.) COORDINATE w/ THE OWNER REGARDING REQUIREMENTS FOR SERRATED TOP SURFACE FINISH FOR SKID RESISTANCE.

- 5. ALUMINUM FRAMING SECTIONS:
- AL I12 = I12x11.7 ALUMINUM ASSOCIATION STANDARD I-BEAM SECTION.
- AL CS12 = CS12x8.27 ALUMINUM ASSOCIATION STANDARD CHANNEL SECTION. AL CS8 = CS8x5.79 ALUMINUM ASSOCIATION STANDARD CHANNEL SECTION.
- AL L3 = $L3x3x\frac{3}{8}$ ALUMINUM ASSOCIATION STANDARD CHANNEL SECTION.
- KB = AL L3x3x3 ALUMINUM ASSOCIATION ANGLE SECTION KNEE BRACE. AL P3 = 3"Ø SCHEDULE 40 ALUMINUM PIPE SECTION.
- SUBMIT ALUMINUM HATCH SHOP DRAWINGS PRIOR TO FABRICATION. DESIGN LIVE LOAD = 300 PSF. C.I.P. REINF. CONC. 1'-3" x 1'-3" x 4'-0" HEIGHT SUPPT. PIER TYP. 2 PLCS. (SEE DETAIL 4.S-05).
- 8. SYMBOL ON PLAN INDICATES ORIENTATION OF THE CHANNEL SECTION FLANGES. 9. THERN ADMIRAL 3000 (SERIES 5PT30) w/ PEDESTAL PLATE (MODEL 5BP30) & 3" O THK. x 45' LONG WIRE ROPE DAVIT CRANE
- ASSEMBLY NOTE THE FOLLOWING:
- b.) CRANE IS TO LIFT PUMP WT. = 2,390 lbs.
- 10. PROTECTIVE COATING SHALL BE APPLIED TO ALL INTERIOR CONCRETE SURFACES (REF. SPECIFICATION 09970). 11. PROTECTIVE COATING SHALL BE APPLIED TO ALL EXTERIOR CONCRETE SURFACES (REF. SPECIFICATION 09900).
- 12. REF. S-08 FOR AL ACCESS PLATFORMS & STAIRS DETAILS & REQ.'s.

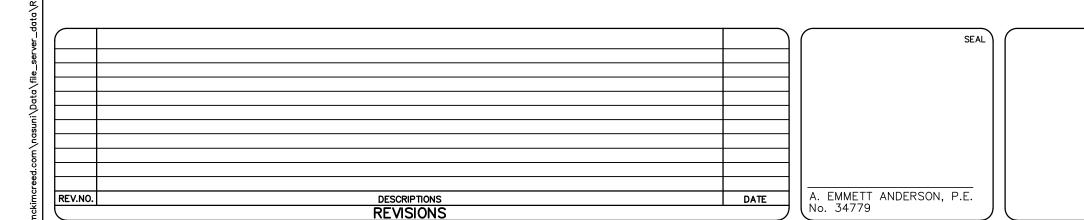
a.) REF. PLAN 3.S-04 FOR DAVIT CRANE ANCHORING REQ.'s.

13. REFERENCE DWG. S-01 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOADS INFO, DESIGN CRITERIA AND LEGEND.

CONN. TO CONC. w/ (2) \$"\phi\$" S.S. THR'D RODS & _ANCHOR TO CONC. w/ RED HEAD C6 ADHESIVE CONN. STRINGER TO SLAB w/ AL $L3\frac{1}{2}x3\frac{1}{2}x\frac{1}{4}$ (F.S. CS12 WEB) (EMBED $5\frac{5}{8}$ " (MIN.)) #4 "Z"-BARS SPA. @ 9" O.C. EA. WAY #5 BARS SPA. @ 9" O.C. EA. WAYw/ STD. 90° HOOK @ EA. END -AL CS12 STAIR (CTR'D IN SLAB-ON-GRADE) STRINGER [REF. PLAN] T.O. CONC. PAD CONT. ¾" CHAMFER EL 16.08' (REF. PLAN) 3" CLR. (2) CONT. #4 BARS (EQ. SPA.) [TYP.] 5'-0" SQ. (REF. PLAN)

3 - PLAN - DAVIT CRANE / CONC. TOP SLAB. CONN.

4 - SECTION - TYP. AL ACCESS STAIR SUPPT. SLAB-ON-GRADE / PAD

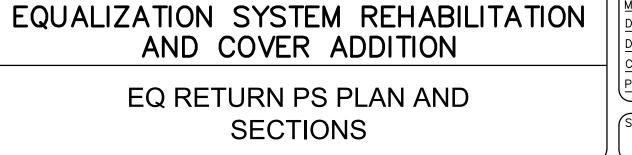




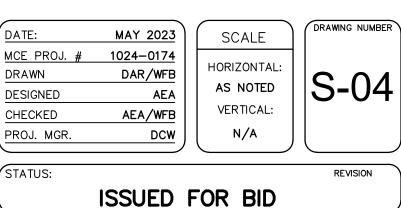
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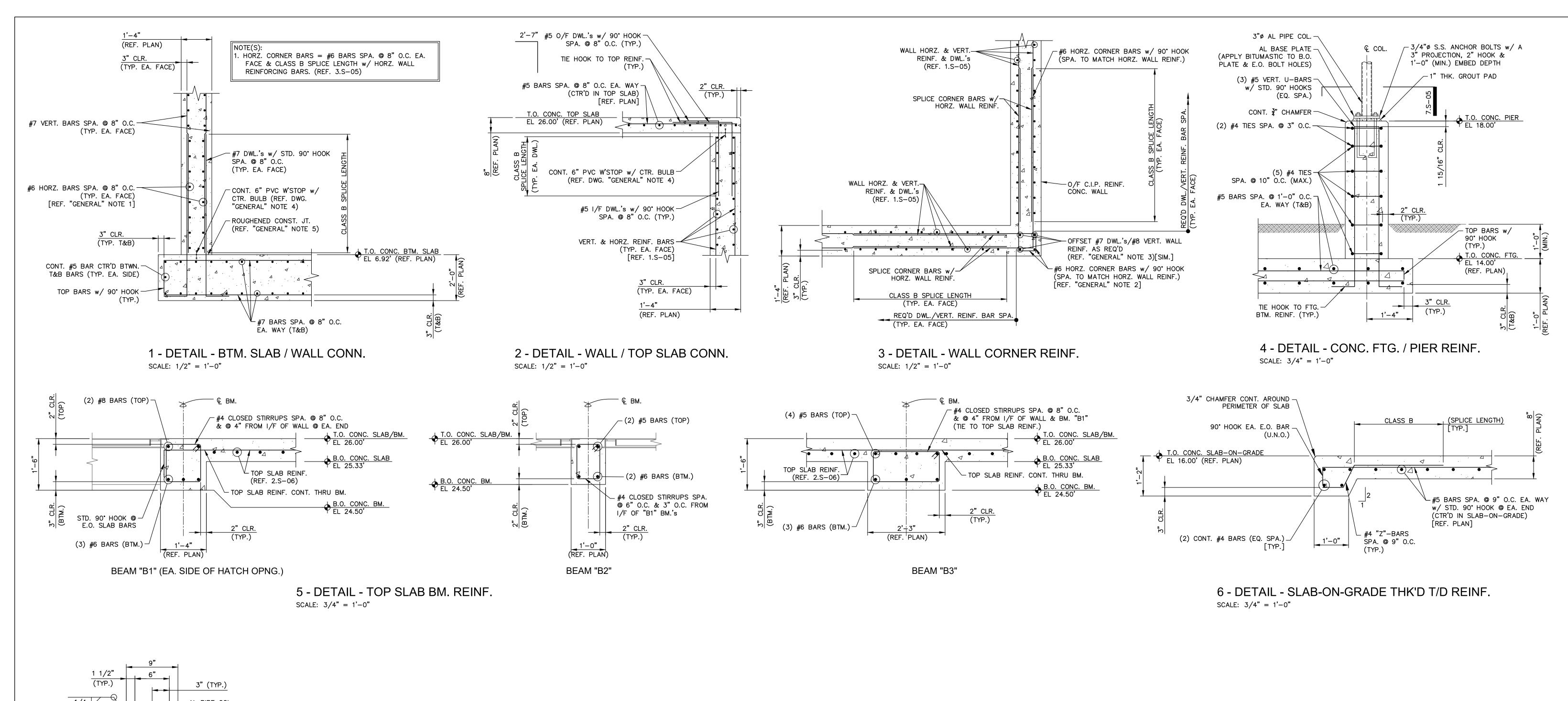
Clearwater, Florida 33756 Phone: (727)442-7196, Fax: (727)461-3827 CA LIC No. 29588

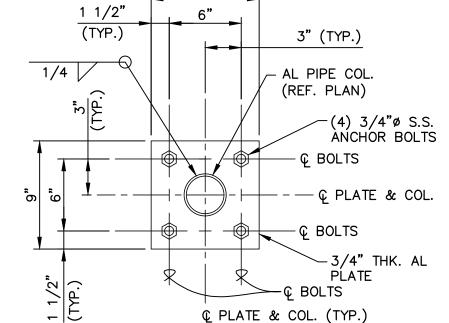




SWWRF



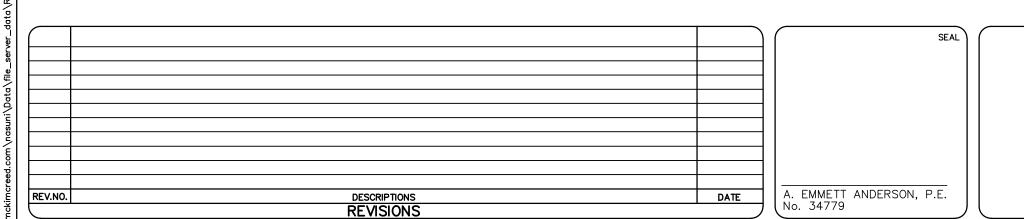




7 - SECTION - AL PIPE COL. BASE PLATE SCALE: $1 \frac{1}{2} = 1'-0"$

GENERAL NOTES:

- 1. THE SLOPED GROUT TO BE INSTALLED THROUGH THE BAFFLE WALL OPENINGS IS NOT SHOWN ON THE SECTION FOR CLARITY. REFERENCE MECH. DWG.'s FOR THE EQ. PUMP STATION FOR ADDITIONAL INFORMATION.
- 2. PROVIDE STD. 90° HOOK WHERE WALL THICKNESS ALLOW FOR STD. HOOK LENGTH TO ENCASE VERT. DWL. LEGS/BARS.
- 3. OFFSET THE FAR SIDE DWL.'s & VERT. REINF BARS AS REQ'D TO TIE TO I/F OF THE HORZ. CORNER BARS. 4. REFERENCE "CONCRETE" STRUCTURAL GENERAL NOTE 5.12.a ON DWG. S-01.
- 5. REFERENCE "CONCRETE" STRUCTURAL GENERAL NOTE 5.11 ON DWG. S-01 FOR REQ.'s & INFORMATION
- REGARDING ROUGHING THE T.O. SLAB/B.O. WALL JOINT.







SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

EQ RETURN PS SECTION AND **DETAILS**

DATE:	MAY 2023	SCALE	DRAWING NUMBER
MCE PROJ. #	1024-0174		
DRAWN	DAR/WFB	HORIZONTAL:	
DESIGNED	AEA	AS NOTED	S-05
CHECKED	AEA/WFB	VERTICAL:	
PROJ. MGR.	DCW	N/A	

DEVELOPMENT LENGTH OF STANDARD HOOKS FOR BARS IN TENSION fy = 60,000 psi fc' = 4000 psi OR GREATER DEVELOPMENT LENGTH,总 dh BAR SIZE W/ CONC COVER * BASIC 1'-0" #5 1'-2" 1'-0" 1'-5" 1'-7" 1'-1" 1'-9" 1'-3" 2'-0" 1'-5" 1'-6" #11 2'-2" *SIDE COVER NORMAL TO PLANE OF HOOK AT LEAST 2 1/2"; AND FOR 90° HOOK END COVER BEYOND OUTSIDE END OF HOOK AT LEAST 2".

BASIC DEVELOPMENT LENGTH AND SPLICE LENGTH				
FOR BARS IN COMPRESSION $fy = 60,000 psi$ $fc' = 4000 psi OR GREATER$				
BASIC DEVELOPMENT LENGTH		BAR	SPLICE LENGTH	
BASIC	CONFINEMENT *	SIZE	BASIC	CONFINEMENT **
8"	8"	# 3	12"	12"
10"	8"	# 4	1'-3"	13"
1'-0"	9"	# 5	1'-7"	1'-4"
1'-3"	1'-0"	# 6	1'-11"	1'-7"
1'-5"	1'-1"	# 7	2'-2"	1'-10"
1'-7"	1'-3"	# 8	2'-6"	2'-1"
1'-9"	1'-4"	# 9	2'-10"	2'-4"
2'-0"	1'-6"	# 10	3'-2"	2'-7"
2'-2"	1'-8"	# 11	3'-6"	2'-10"

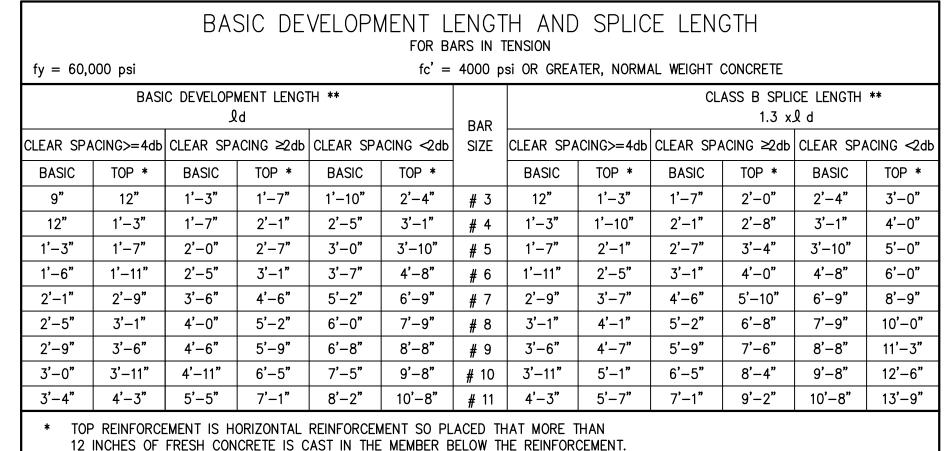
- * BAR ENCLOSED WITHIN SPIRALS OF NOT LESS THAN 1/4 INCH DIAMETER AND NOT MORE THAN 4 INCH PITCH OR WITHIN #4 TIES IN CONFORMANCE WITH ACI 318. SECTION 7.10.5 AT NOT MORE THAN 4 INCHES ON CENTER, FACTOR 0.75 USED.

 ** BAR ENCLOSED WITHIN TIES PER ACI 350-01 SECTION 12.17.2.4.
 - THE PROVISIONS OF ACI 318, SECTION 12.2.

1 - SCHEDULE - REINF. BAR SPLICE REQUIREMENTS SCALE: N.T.S.

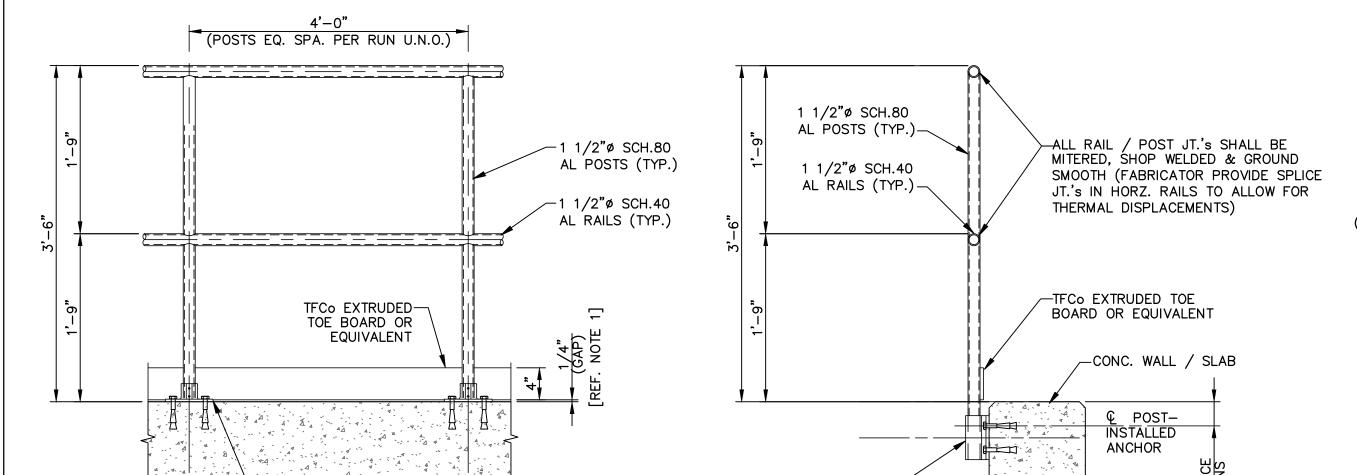
ATTACHMENT TO VERT. CONC.

(AS INDICATED ON DWG.'s)



** LENGTHS SHOWN IN CHART SHALL BE MODIFIED WHERE REQUIRED TO CONFORM TO

BASIC DEVELOPMENT LENGTH **



EMBEDMENT AND EDGE DISTANCE PER MANUFACTURER'S RECOMMENDATIONS. COAT BACK OF POST WITH BITUMASTIC.

ATTACHMENT TO HORZ. CONC.

(AS INDICATED ON DWG.'s)

POST BASE BY TFCo OR EQUIVALENT

ANCHOR WITH SS POST-INSTALLED

ADHESIVE ANCHOR WITH MINIMUM

GENERAL NOTES:

GAP FOR TOE PLATE ABOVE THE WALKING SURFACE U.N.O..
 REFERENCE DWG S1 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOADS, INFO, DESIGN CRITERIA AND LEGEND.

SIDE-MOUNTED POST BASE BY TFCo-

OR EQUIVALENT. ANCHOR WITH SS

DISTANCE PER MANUFACTURER'S

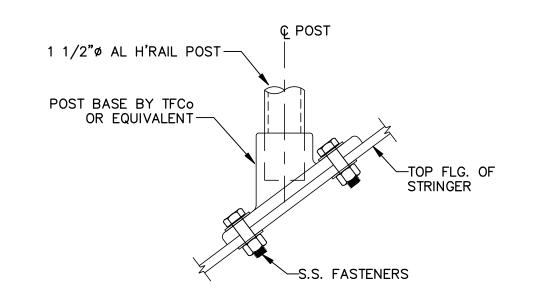
POST WITH BITUMASTIC

POST-INSTALLED ADHESIVE ANCHOR

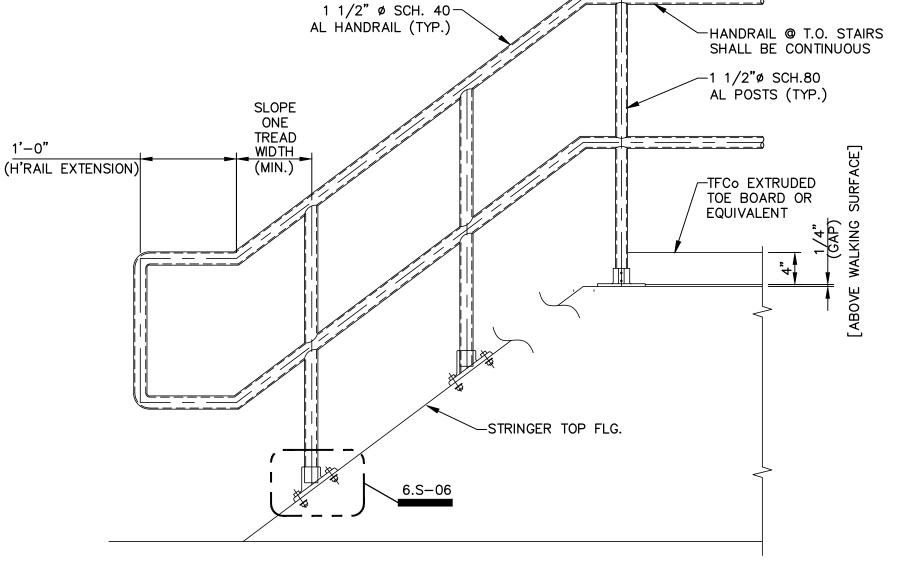
WITH MINIMUM EMBEDMENT AND EDGE

RECOMMENDATIONS. COAT BACK OF

3 - DETAIL - TYP. AL GUARDRAIL & POST / CONC. CONN. REQ.'s SCALE: 1" = 1'-0"

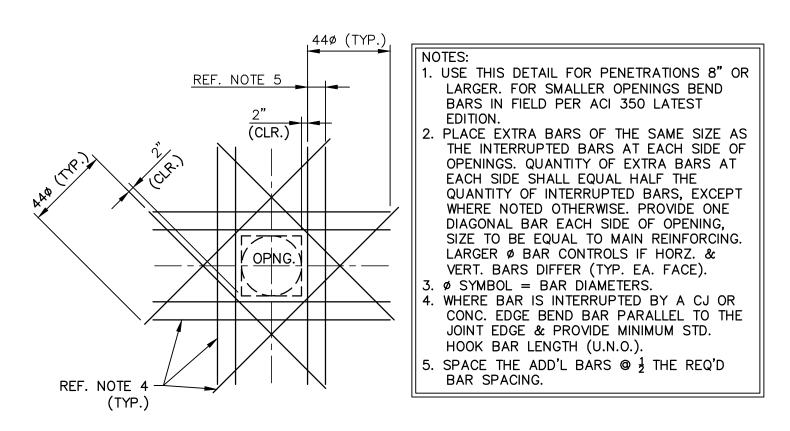


6 - DETAIL - AL POST / AL STRINGER TOP FLG. CONN.
SCALE: 3" = 1'-0"

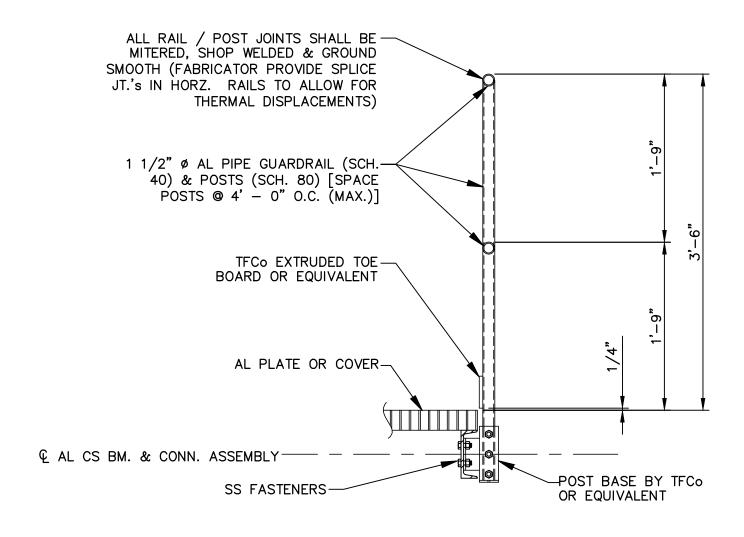


GENERAL NOTES:

- REFERENCE DWG S1 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOADS, INFO, DESIGN CRITERIA AND LEGEND.
- 4 DETAIL TYP. AL GUARDRAIL POST / AL STRINGER CONN. REQ.'s



2 - DETAIL - TYP. SLAB & WALL OPNG. REINF. BAR REQ.'s SCALE: 3/8" = 1'-0"



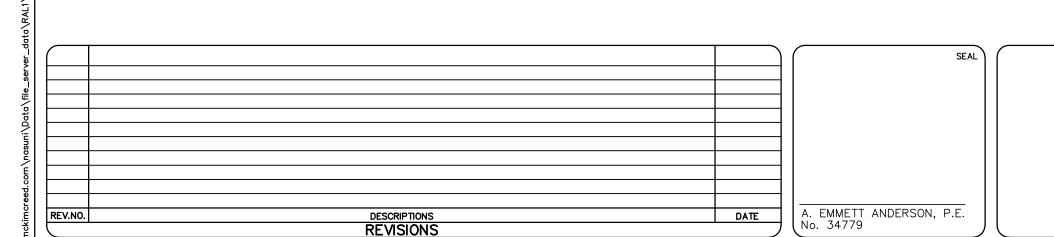
GENERAL NOTES:

- 1. REFERENCE DWG S1 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOADS, INFO, DESIGN CRITERIA AND LEGEND.
- 5 DETAIL TYP. AL GUARDRAIL POST / AL FRAMING CONN. REQ.'s SCALE: 1" = 1'-0"

NOTES:

1. REFERENCE DRAWING S-01 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOADS INFO, DESIGN CRITERIA & LEGEND.

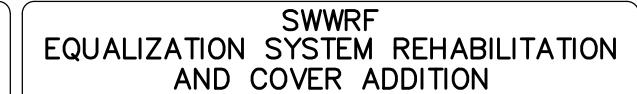
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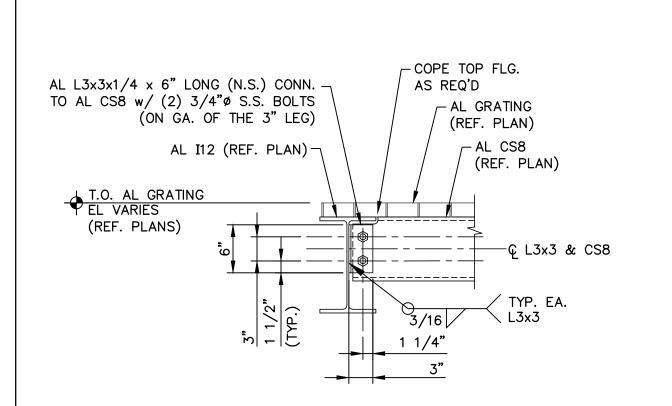
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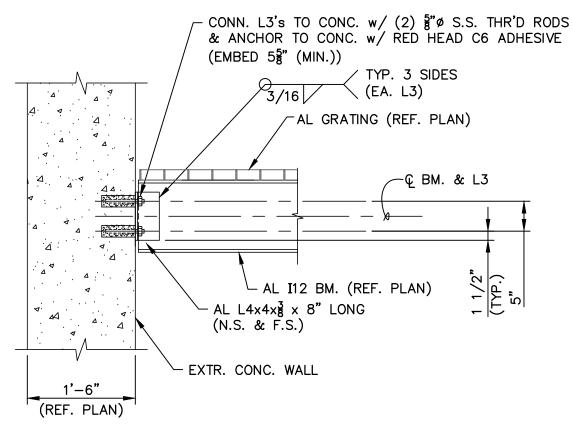


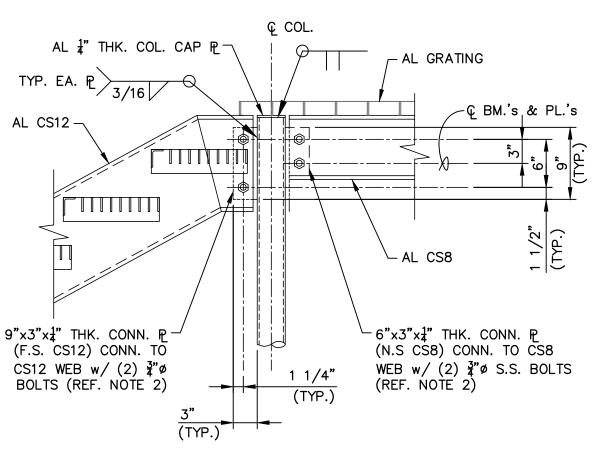


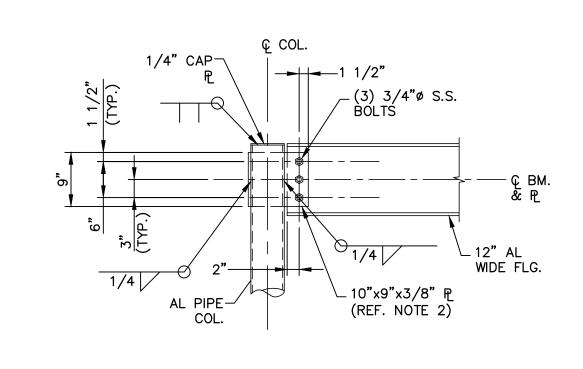
GENERAL STRUCTURAL SECTIONS & DETAILS

ATE: M	AY 2023	SCALE	DRAWING NUMBER
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RAWN [DAR/WFB	HORIZONTAL:	
ESIGNED	AEA	AS NOTED	S-06
HECKED A	AEA/WFB	VERTICAL:	
ROJ. MGR.	DCW	N/A	







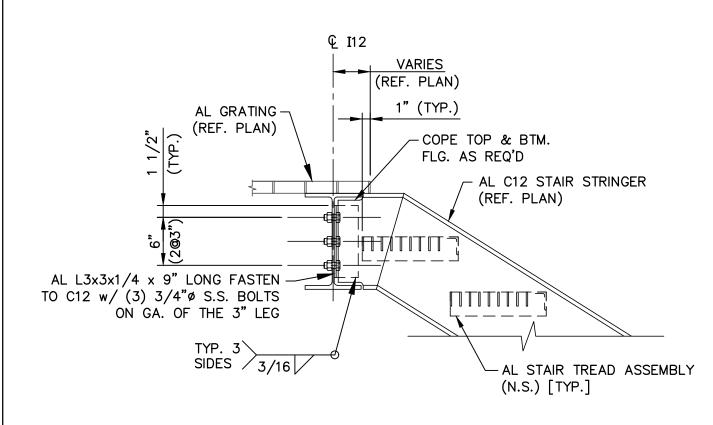


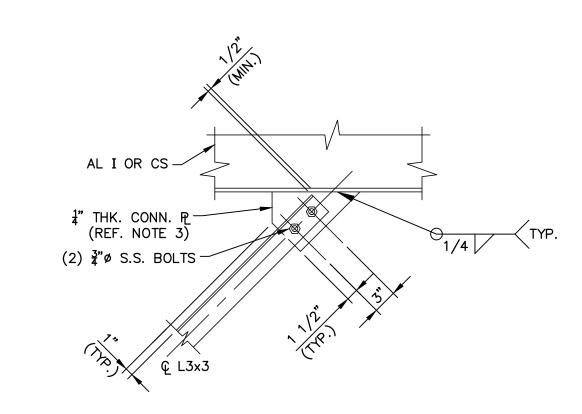
1 - DETAIL - TYP. AL I 12 / AL CS8 CONN. SCALE: 1" = 1'-0"

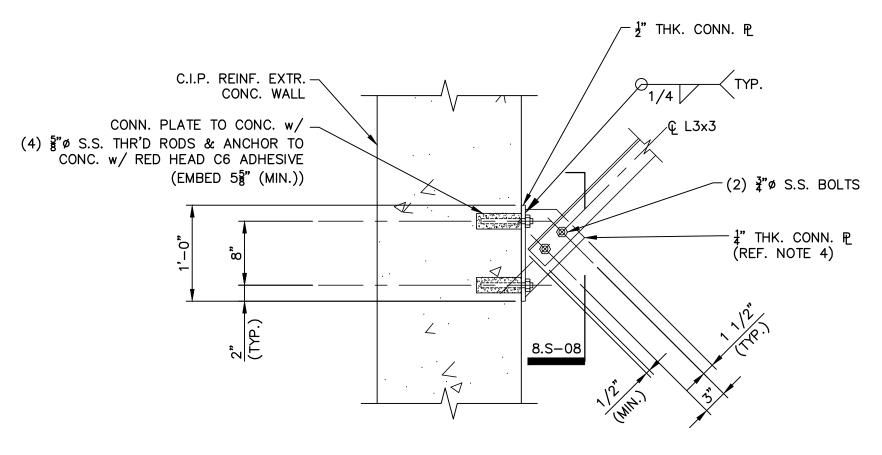
2 - DETAIL - TYP. AL I12 / EXTR. CONC. WALL CONN. SCALE: 3/4" = 1'-0"

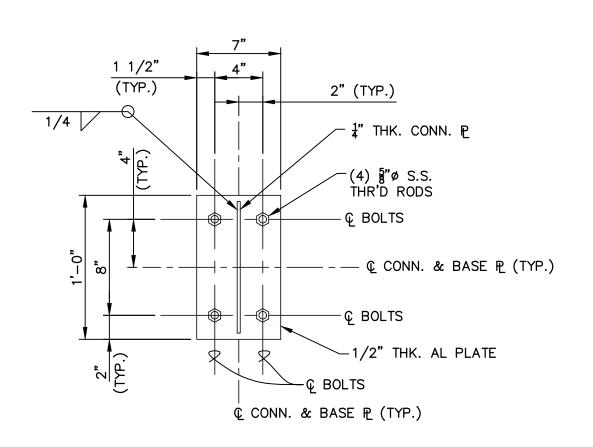
3 - DETAIL - TYP. AL STAIR STRINGER / AL PIPE COL. / AL CS8 CONN. SCALE: 1" = 1'-0"

4 - DETAIL - TYP. T.O. AL COL. / AL I12 CONN. SCALE: 3/4" = 1'-0"







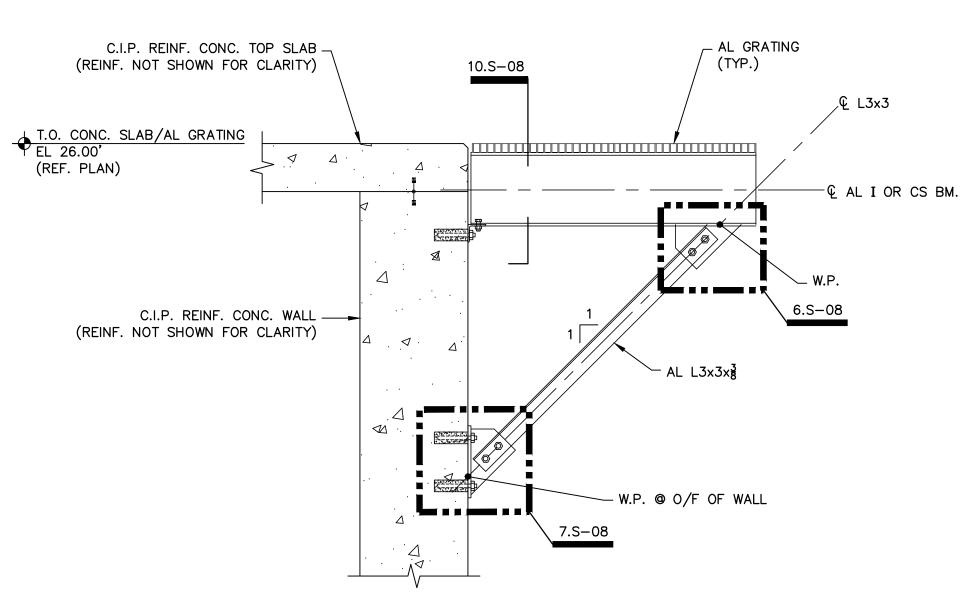


5 - DETAIL - TYP. AL STAIR STRINGER / AL I 12 CONN. SCALE: 1" = 1'-0"

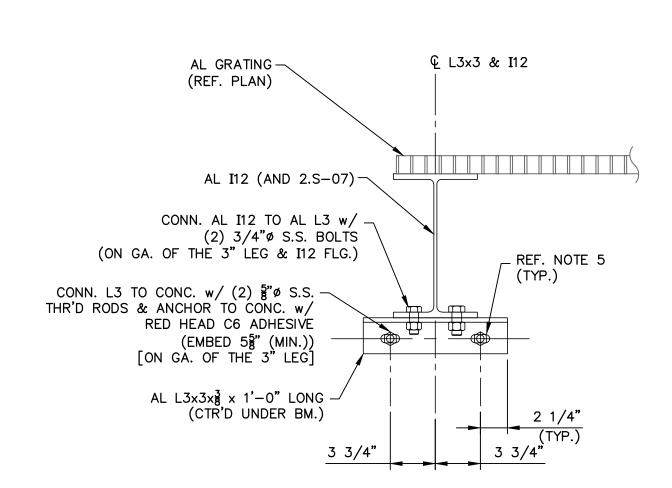
SCALE: 1" = 1'-0"

6 - DETAIL - TYP. AL KNEE BRACE / AL I OR CS CONN. 7 - DETAIL - TYP. AL KNEE BRACE / EXTR. CONC. WALL CONN. SCALE: 1'' = 1'-0''

8 - SECTION - AL KNEE BRACE CONN. PLATE SCALE: $1 \frac{1}{2} = 1'-0"$







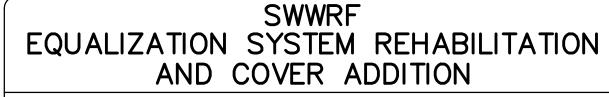
10 - DETAIL - AL I 12 / EXTR. CONC. WALL CONN. SCALE: $1 \frac{1}{2} = 1'-0''$

- 1. REFERENCE DRAWING S-01 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOADS INFO, DESIGN CRITERIA & LEGEND.
- 2. THE AL BEAM & STRINGER CONNECTION PLATES ARE OFFSET FROM COLUMN CENTERLINES AS REQUIRED. IN GENERAL THE ASSEMBLY CONNECTIONS INCLUDE THE FOLLOWING:
- a.) THE FLAT E.O. AL CS8 BEAM EQUALS THE AL COL. CENTERLINE. b.) THE FLAT E.O. AL CS12 STRINGER EQUALS THE COL. CENTERLINE.
- 3. CONNECTION PLATES ARE OFFSET FROM BM.'s AS FOLLOWS: a.) AL I BM. CENTERLINE EQUALS THE CONN. PLATE CENTERLINE.
- b.) THE FLAT E.O. AL CS BM. EQUALS THE FLAT E.O CONN. PLATE. 4. COORDINATE ORIENTATION OF GRATING BEARING BARS w/ PLAN SYMBOLS AS REQUIRED.
- 5. ANCHOR BOLT HOLES FOR ALUMINUM TO CONCRETE CONNECTIONS MAY BE LSL 16"x16" HORZ. SLOTTED HOLES.

A. EMMETT ANDERSON, P.E. No. 34779 DATE DESCRIPTIONS REVISIONS

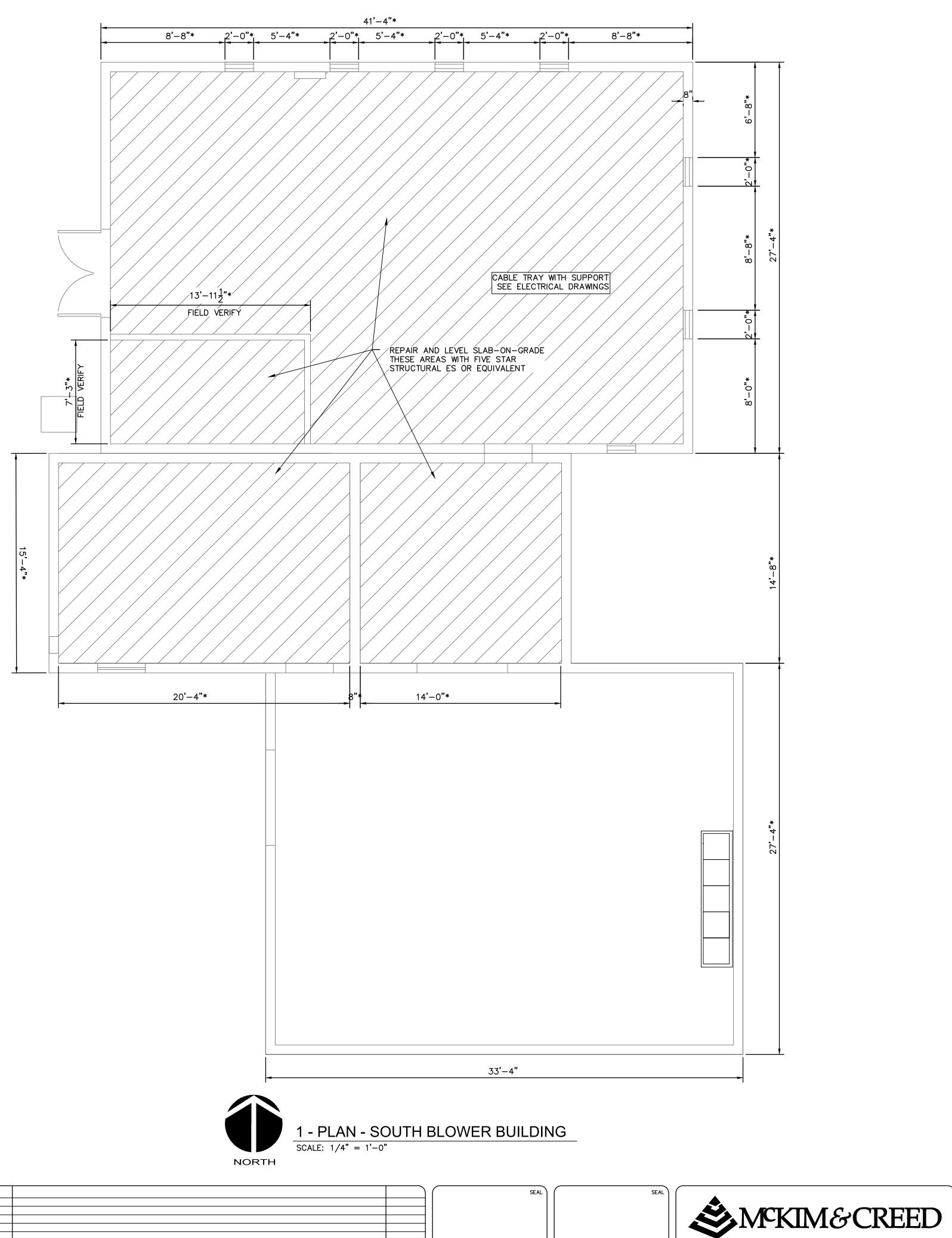






GENERAL SECTIONS & DETAILS ACCESS PLATFORMS & STAIRS

DATE:	MAY 2023	SCALE	DRAWING NUMBER
MCE PROJ. # DRAWN	1024-0174 DAR/WFB	HORIZONTAL:	S 07
DESIGNED CHECKED	AEA /WFB	AS NOTED VERTICAL:	S-07
PROJ. MGR.	DCW	N/A	



A. EMMETT ANDERSON, P.E. No. 34779

DESCRIPTIONS REVISIONS

PLAN NOTES:

- REFERENCE DRAWING S-01 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN LOAD INFO, DESIGN CRITERIA & LEGEND.
 DIMENSIONS SHOWN INDICATED O/F CONC. WALL TO E.O. SLAB-ON-GRADE.

SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

DAF BUILDING PLAN

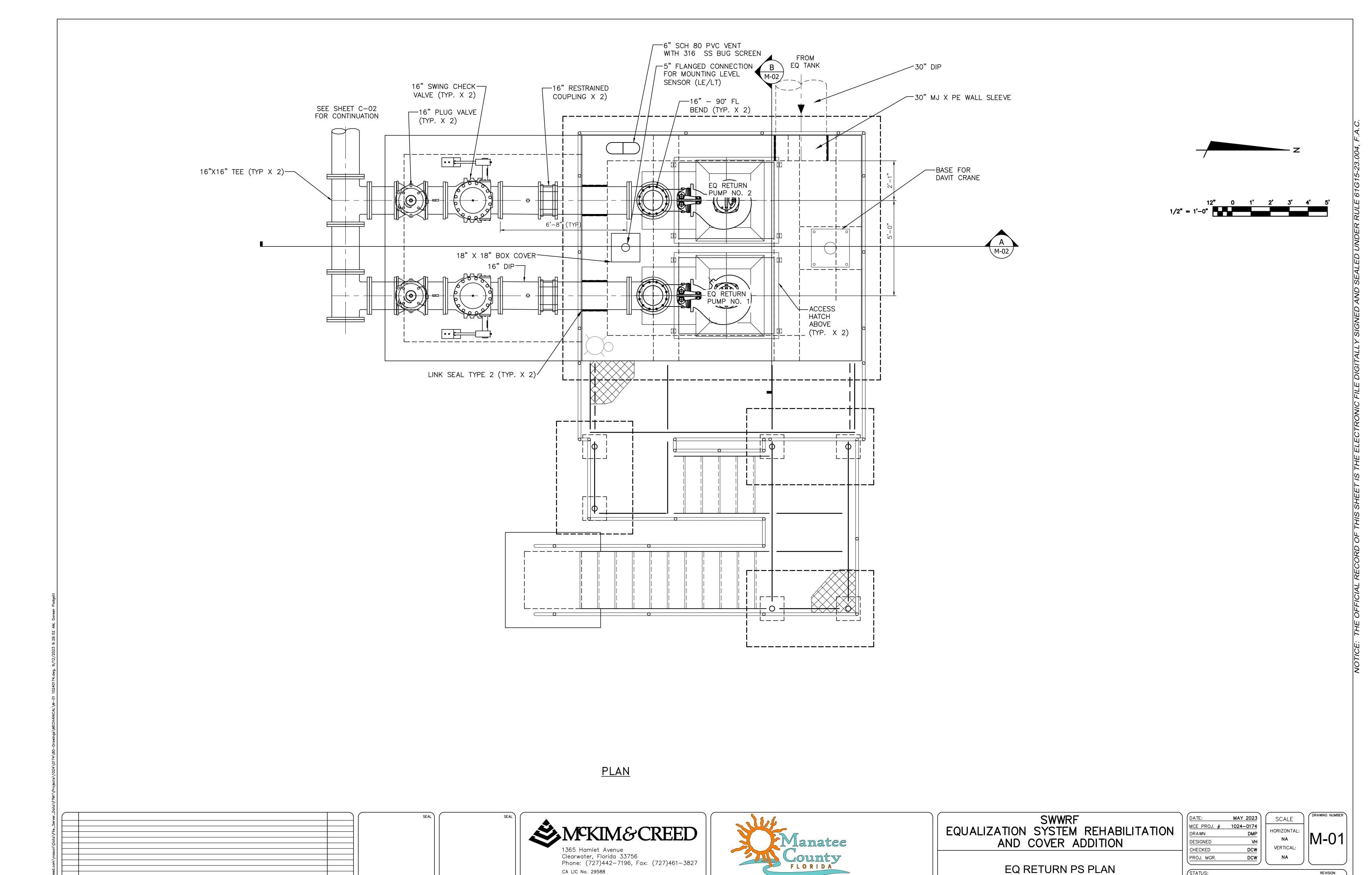
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	MCE PROJ. #	1024-0174	
	DRAWN	DAR/WFB	H
	DESIGNED	AEA	'
4	CHECKED	AEA/WFB	'
	PROJ. MGR.	DCW	
	CTATUS:		

SCALE HORIZONTAL: AS NOTED VERTICAL:

ISSUED FOR BID

1365 Hamlet Avenue Clearwater, Florida 33756 Phone: (727)442—7196, Fax: (727)461—3827 CA LIC No. 29588 www.mckimcreed.com



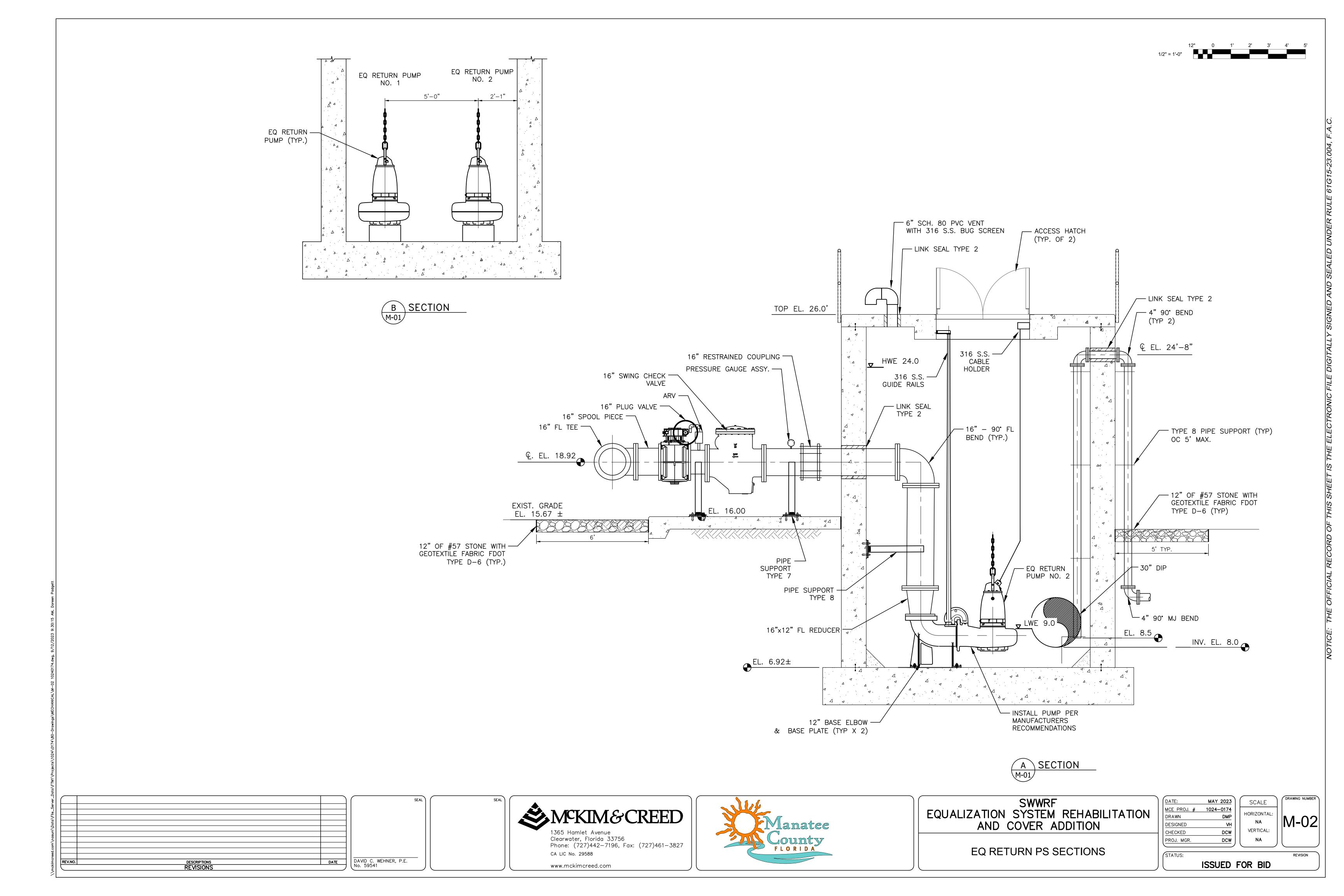


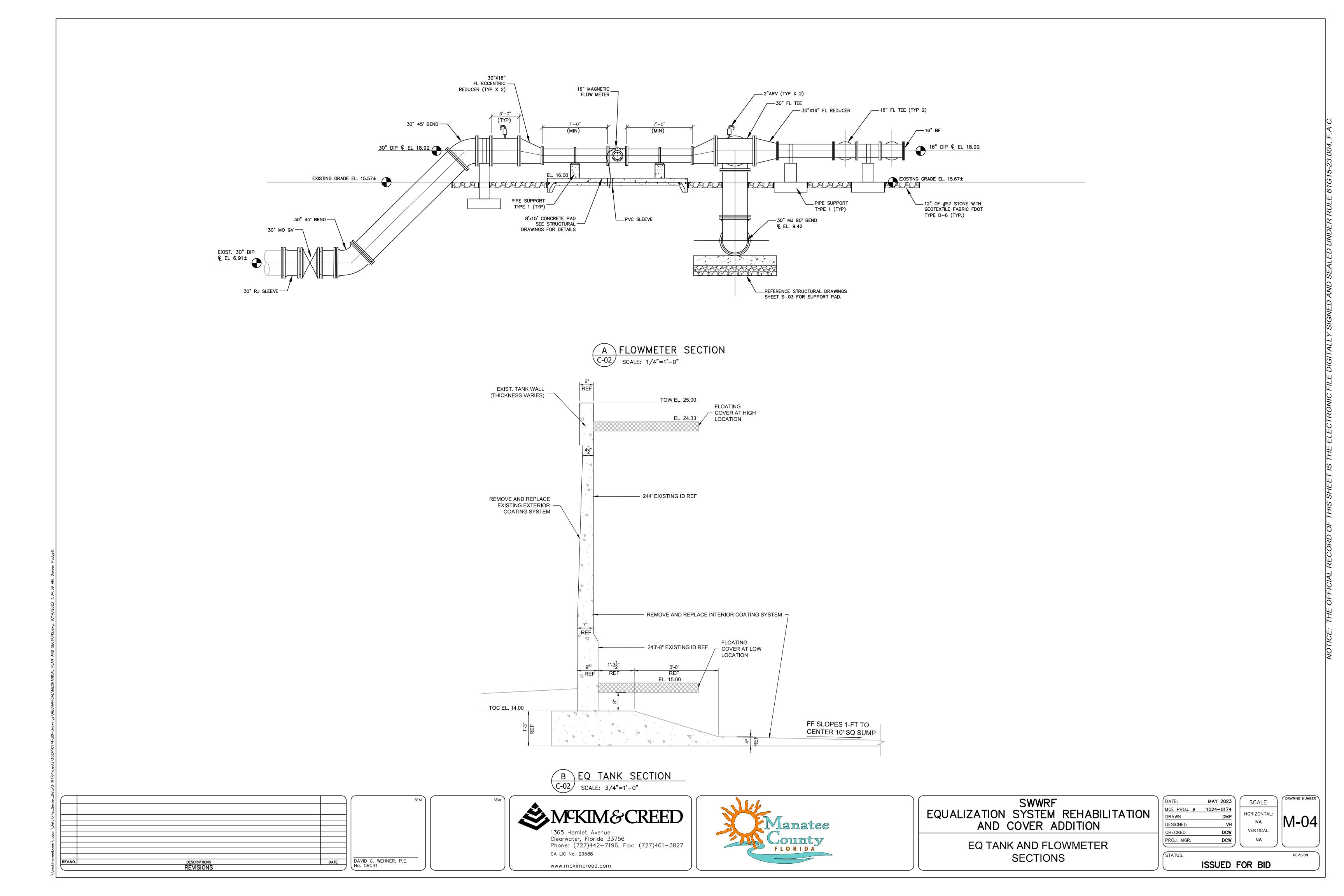
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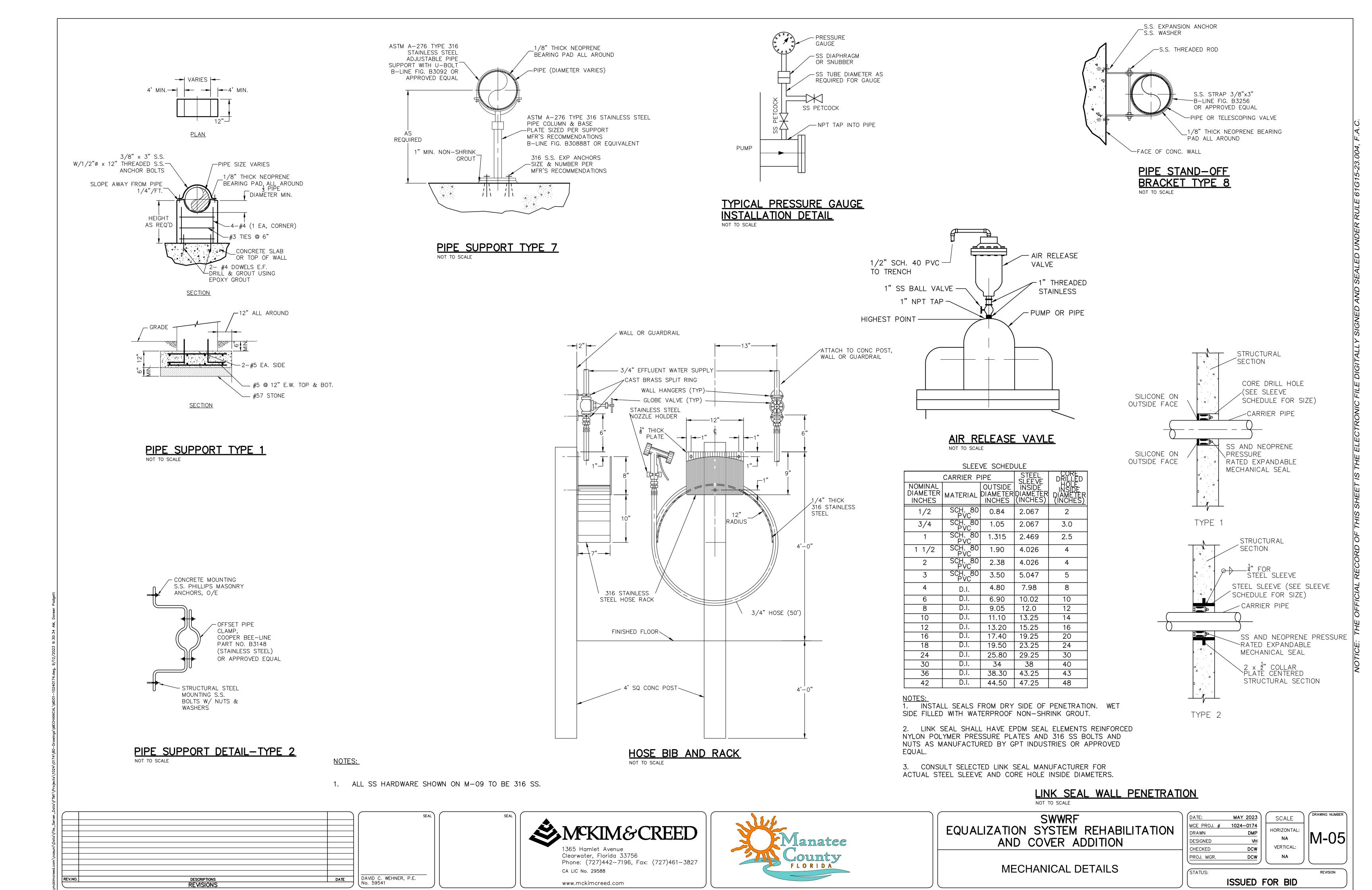
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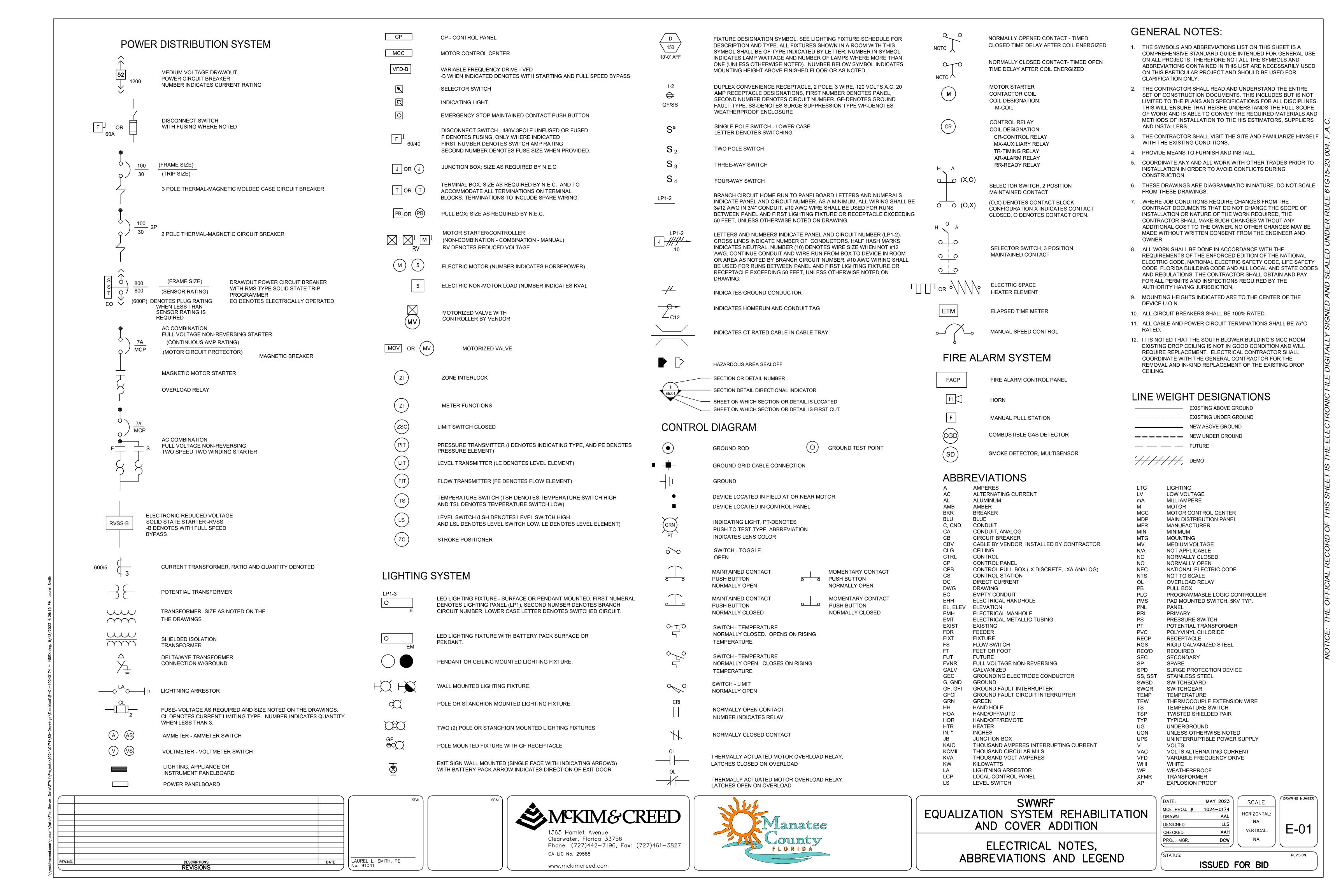
DAVID C. WEHNER, P.E.
No. 59541

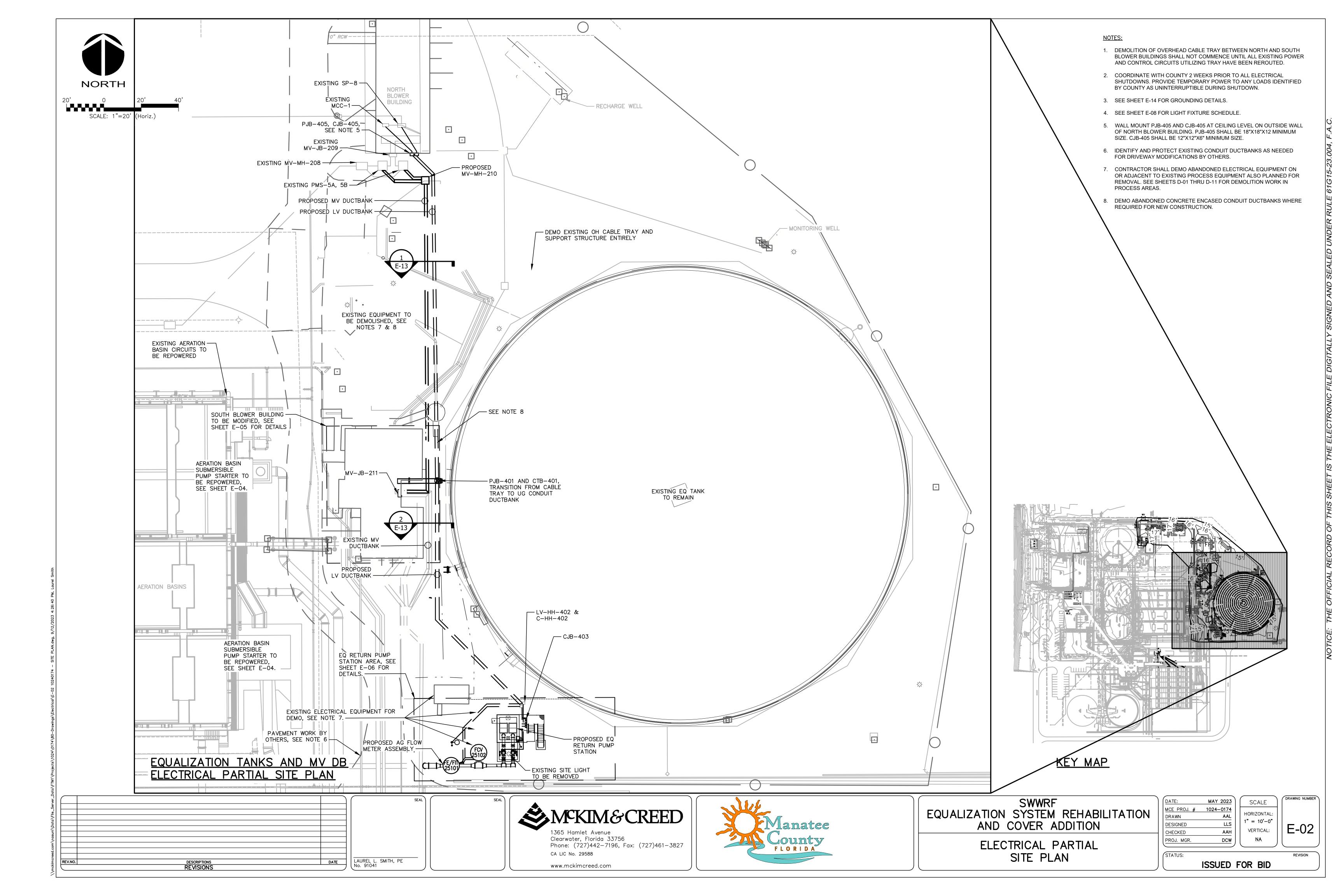
DESCRIPTIONS REVISIONS

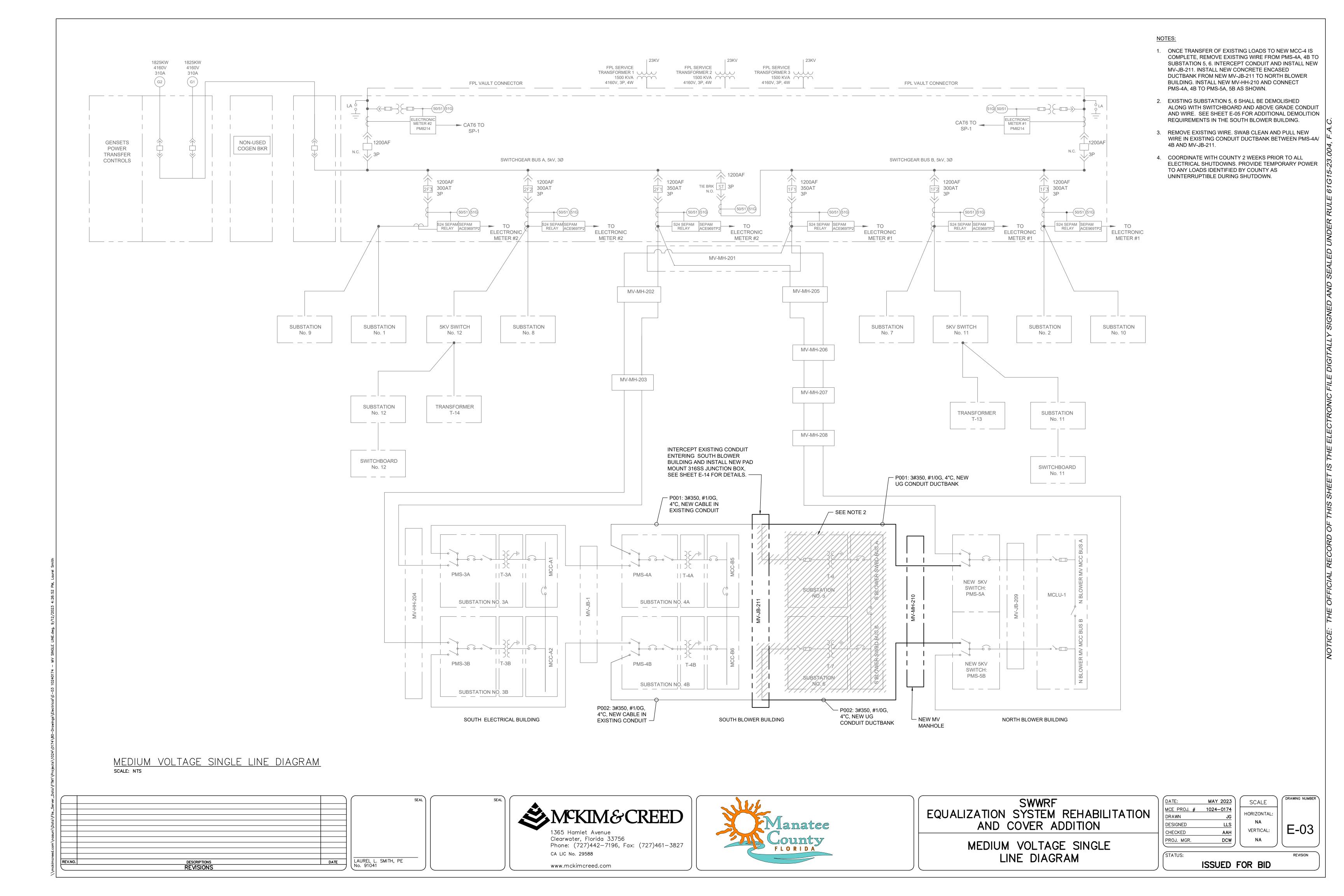


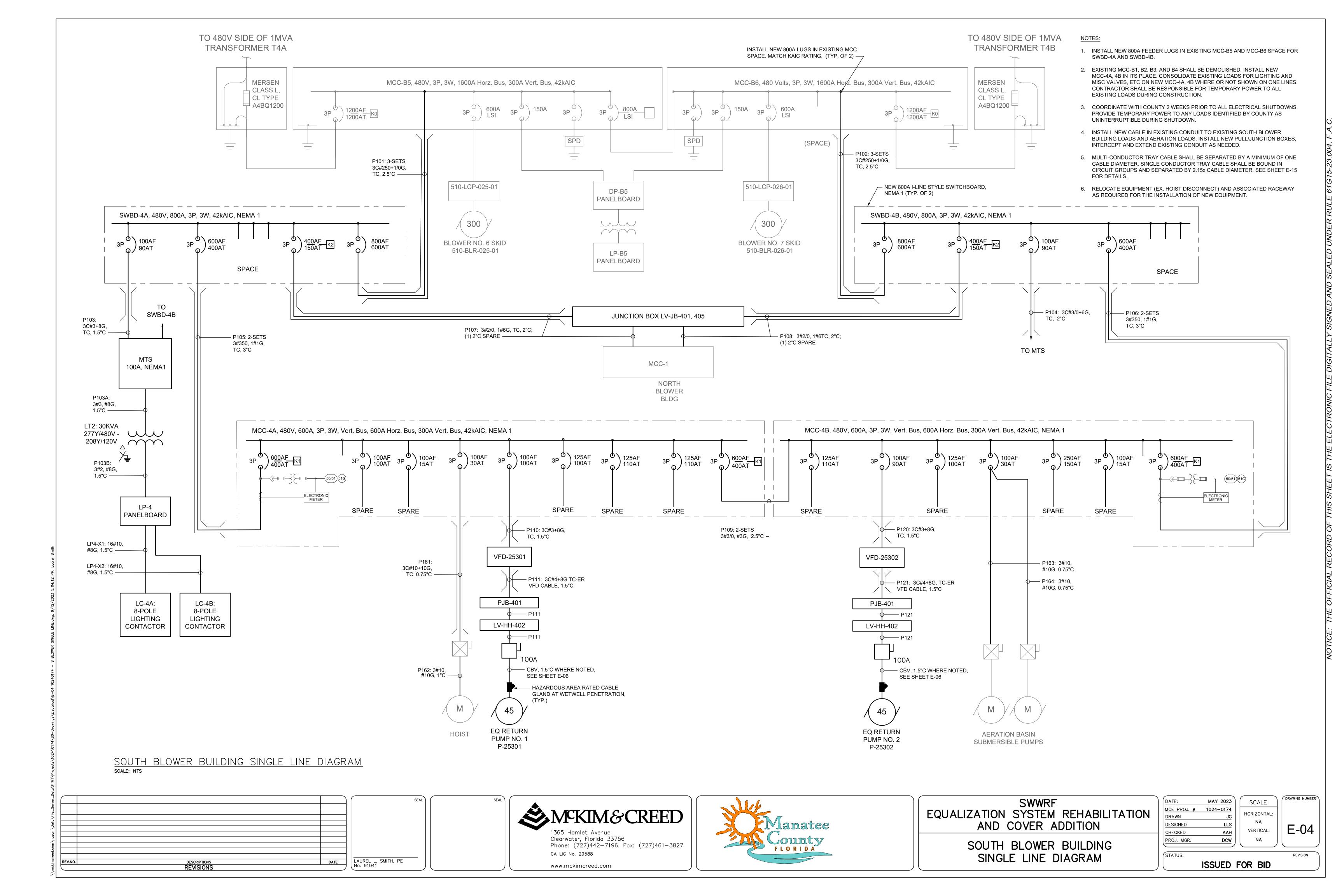


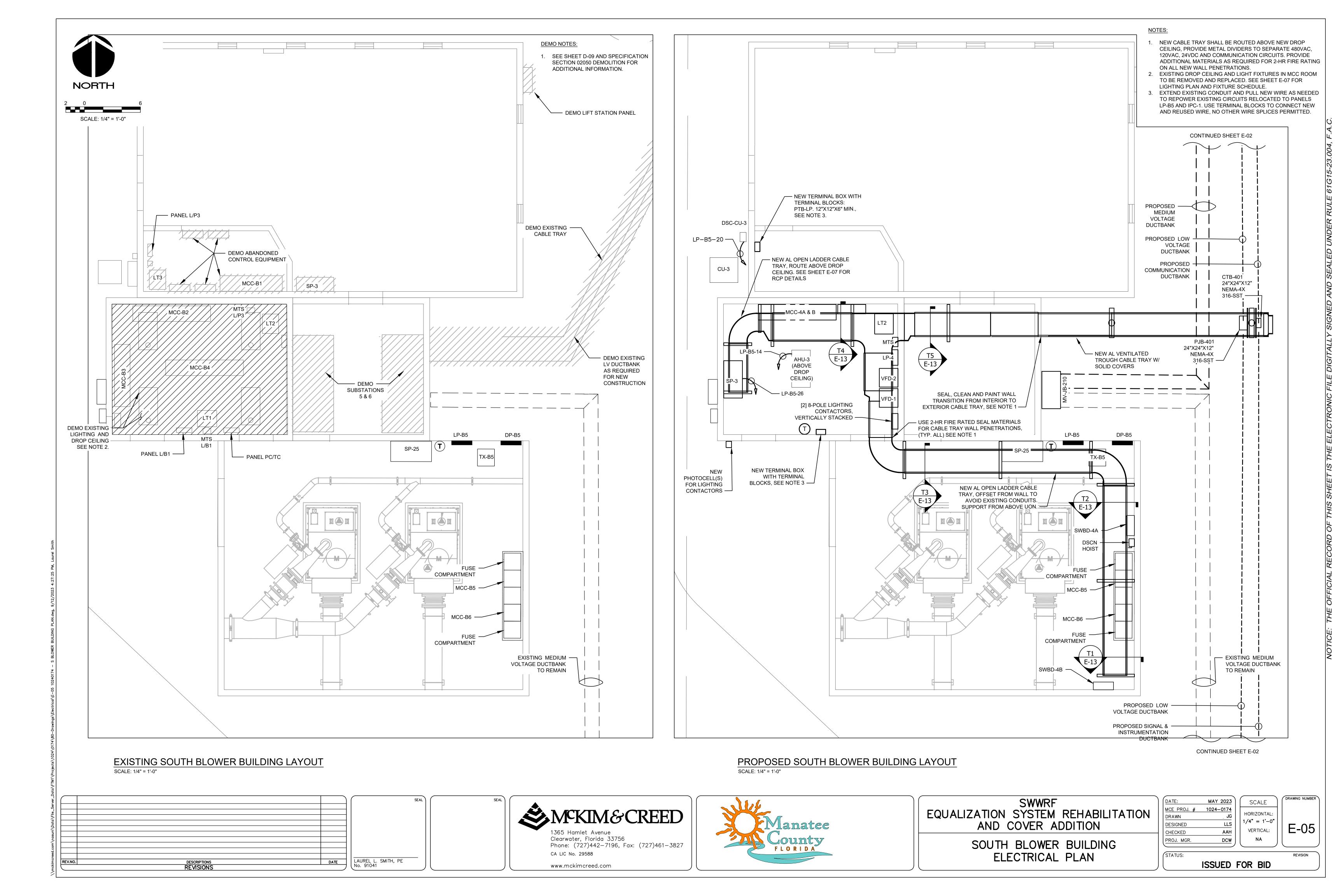






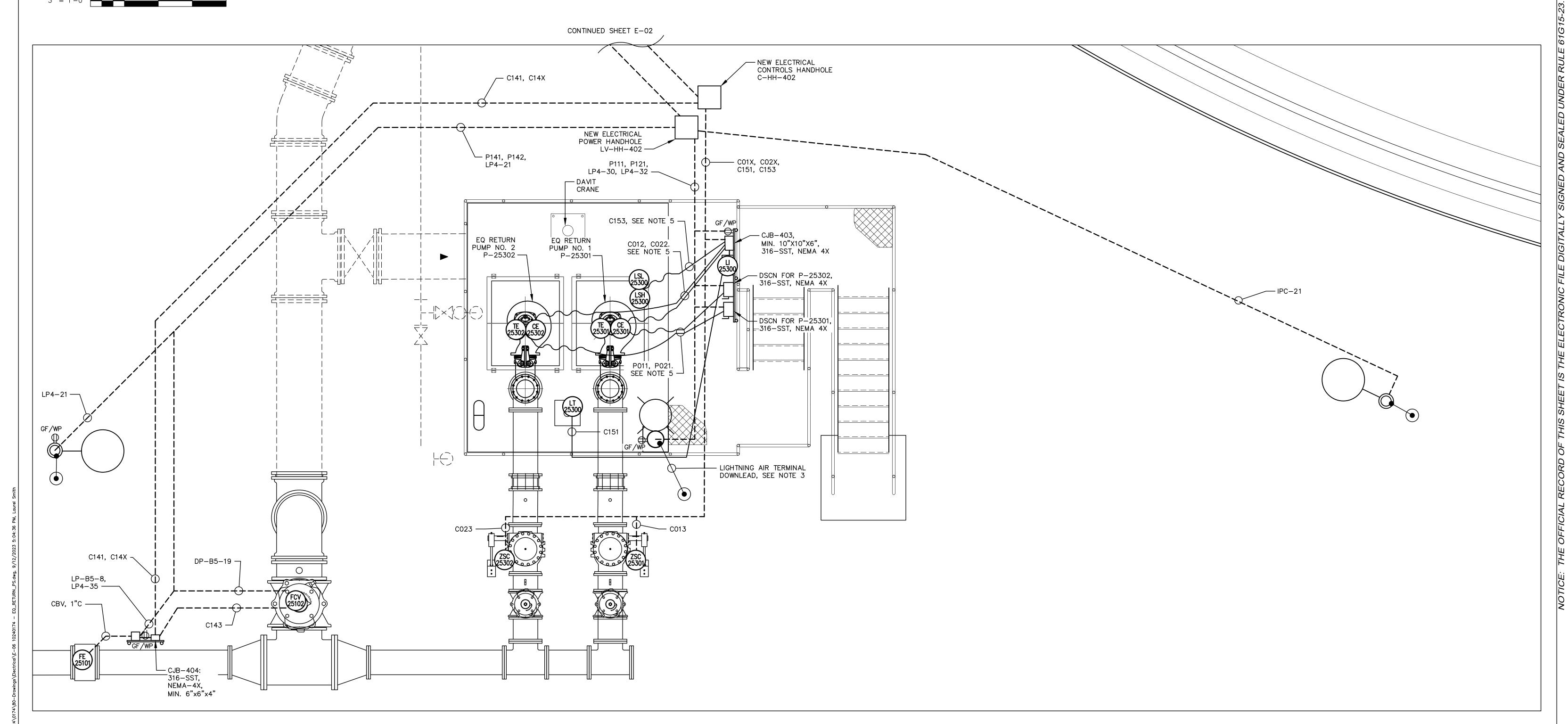




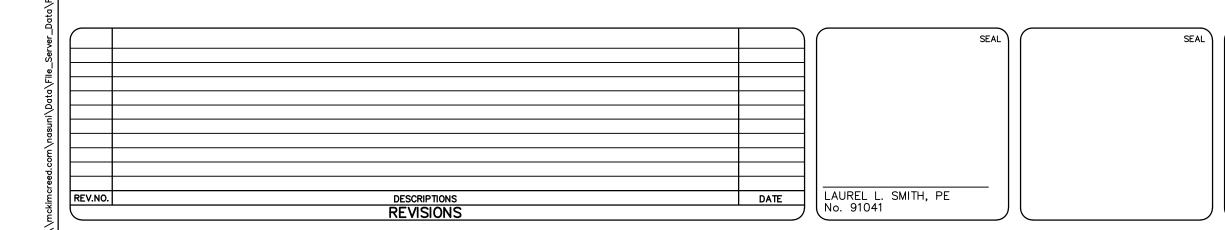


NOTES:

- 1. INSTRUMENT MOUNTING LOCATIONS MAY VARY. COORDINATE WITH MECHANICAL AND STRUCTURAL DRAWINGS.
- 2. COORDINATE WITH COUNTY 2 WEEKS PRIOR TO ALL ELECTRICAL SHUTDOWNS. PROVIDE TEMPORARY POWER TO ANY LOADS IDENTIFIED BY COUNTY AS
- UNINTERRUPTIBLE DURING SHUTDOWN. 3. SEE SHEET E-07 FOR LIGHTING PLAN..
- 4. SEE SHEET E-11 FOR ELECTRICAL AREA CLASSIFICATION.
- 5. SUBMERSIBLE CABLES SHALL EXIT THROUGH THE SIDE OF THE WETWELL ADJACENT TO CJB-403 ELECTRICAL EQUIPMENT RACK. UTILIZE HAZARDOUS AREA RATED CABLE GLANDS AT THE WET WELL WALL PENETRATION. PROVIDE CABLE TRAINING, STRAIN RELIEF AND OTHER SUPPORT AS NEEDED FOR ALL POWER, CONTROL AND INSTRUMENTATION CABLES INSIDE THE WETWELL AND UNDER THE STRUCTURAL GRATING. TRANSITION CABLES INTO CONDUIT UNDER GRATING WITH MINIMUM 3' SEPARATION FROM ALL WETWELL PENETRATIONS. INSTALL DUCTSEAL OR CABLE GLANDS AT BOTH ENDS OF ALL CONDUITS CONTAINING WETWELL OR SUBMERSIBLE CABLES.



PROPOSED EQ RETURN PUMP STATION LAYOUT SCALE: 1/4" = 1'-0"





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SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

EQ RETURN PS PLAN

	DATE:	MAY 2023
	MCE PROJ. #	1024-0174
N	DRAWN	AAL
	DESIGNED	LLS
	CHECKED	AAH
	PROJ. MGR.	DCW

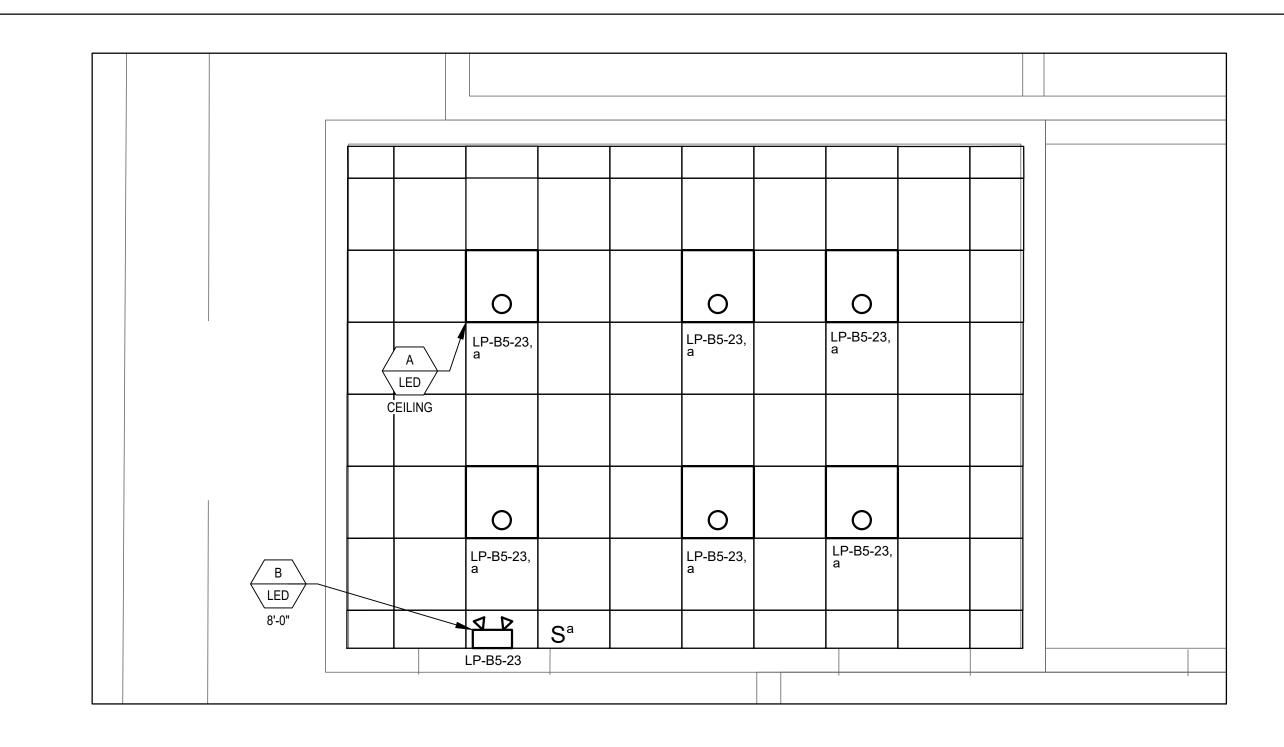
STATUS:

SCALE HORIZONTAL: 1/4" = 1'-0"VERTICAL:

E-06

- 1. NEW CABLE TRAY SHALL BE ROUTED ABOVE NEW DROP CEILING.
- EXISTING DROP CEILING AND LIGHT FIXTURES TO BE REMOVED AND REPLACED PER FIXTURE SCHEDULE.
- 3. NEW DROP CEILING T-BAR SYSTEM TO MATCH EXISTING OR BETTER. NEW DROP CEILING HEIGHT SHALL BE A MINIMUM OF 8.25' AFF. COORDINATE WITH OTHER
- DISCIPLINES AS REQUIRED.

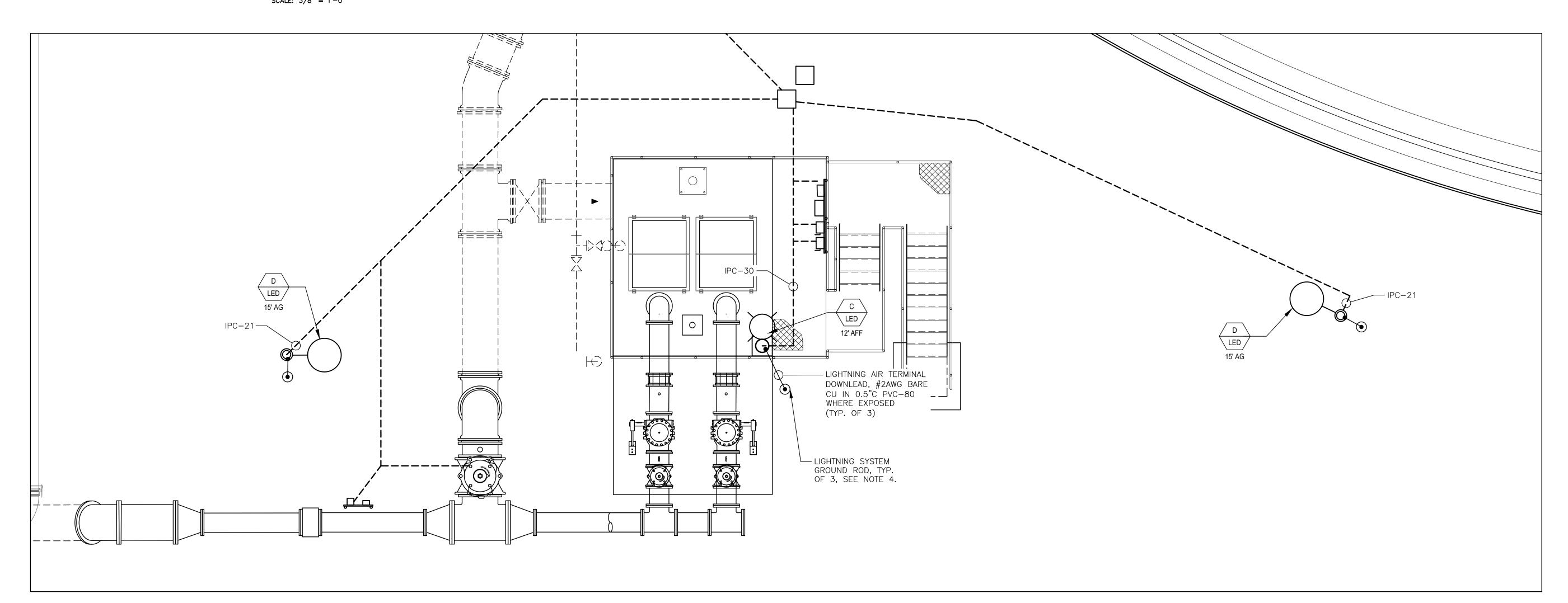
 4. PROVIDE LIGHTNING PROTECTION FOR EQ RETURN PUMP STATION IN ACCORDANCE WITH LPI STANDARDS. SEE DETAIL SHEET E-15 AND PROJECT SPECIFICATIONS.



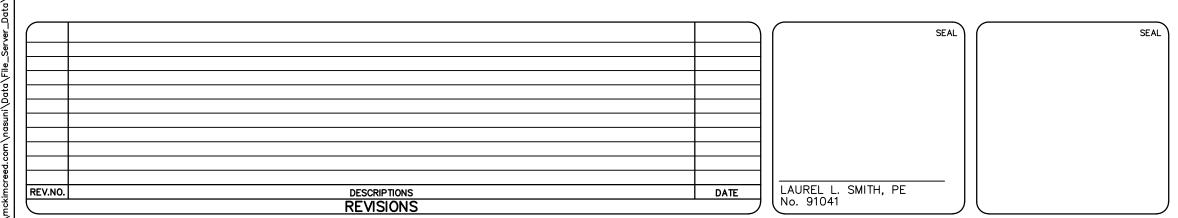
	LIGHTING SCHEDULE						
LETTER	DESCRIPTION	LAMPS	REMARKS	SYMBOL			
A	2'X2' RECESSED HIGH PERFORMANCE TRANSMITTANCE DIFFUSER, ONE PIECE ROLLED CONSTRUCTION, CONCAVE RIBBED REFRACTOR, HINGED DOOR OPTICAL ASSEMBLY FOR INSTALLATION IN T-BAR SYSTEM. SUITABLE FOR DAMP LOCATIONS. POWDER-PAINT WHITE FINISH.	LED L90/60,000HRS, 4000K, 120V. 18W INPUT, 2000 LUMENS	LAMAR LIGHTING SERIES R1L, LITHONIA LIGHTING SERIES 2ALL2, OR APPROVED ALTERNATE	0			
В	EMERGENCY EXIT/EGRESS COMBO, INJECTION-MOLDED, ENGINEERING-GRADE, 5VA FLAME RETARDANT, HIGH-IMPACT, THERMOPLASTIC IN WHITE FINISH. PUSH TO TEST. 90 MIN BATTERY BACKUP.	WHITE LED, RED LETTERS 1.6W (MIN) 120V	SEELEDEXCU2 BY EMERGENSEE, ECR LED M6 BY LITHONIA OR APPROVED ALTERNATE				
С	LED OUTDOOR POLE MOUNTED AREA LIGHT. EPA 1.2sqft. DK BRONZE FINISH. TYPE 3 DISTRIBUTION. PROVIDE POLE AND BASE PER DETAIL SHEET E-15. WIND RATING 158MPH IN ACCORDANCE WITH SHEET S-01.	30 LED L90/>80,000HRS. 69WATTS, 700mA, 4000K	LITHONIA LIGHTING MOD. KAD LED OR APPROVED EQUAL.				
D	LED OUTDOOR POLE MOUNTED AREA LIGHT. EPA 1.2sqft. DK BRONZE FINISH. TYPE 4 DISTRIBUTION. PROVIDE POLE AND BASE PER DETAIL SHEET E-15. WIND RATING 158MPH IN ACCORDANCE WITH SHEET S-01.	60 LED L90/>80,000HRS. 137WATTS, 700mA, 4000K	LITHONIA LIGHTING MOD. KAD LED OR APPROVED EQUAL.				

SOUTH BLOWER BUILDING REFLECTIVE CEILING PLAN

SCALE: 3/8" = 1'-0"



EQ RETURN PUMP STATION PROPOSED LIGHTING PLAN SCALE: 1/4" = 1'-0"





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	SWWRF
EQUALIZATIO	N SYSTEM REHABILITATION
AND	COVER ADDITION

LIGHTING PL	.AN
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	DATE:	MAY 2023	SCALE
N.	MCE PROJ. #	1024-0174	HORIZONTAL:
A	DRAWN	_ JG	AS SHOWN
	DESIGNED	LLS	
	CHECKED	AAH	VERTICAL:
	PROJ. MGR.	DCW	NA

ISSUED FOR BID

DRAWING NUMBER

E-07

CKT NO.	TRIP	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	А	KVA PER PHAS	E C	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO.
1	15	510-FIT-030-01	0.3	2.5	1	0.6			1	2.5	0.3	AIT-001-01, AIT-002-01	15	2
3	15	510-FIT-030-02	0.3	2.5	1		0.6		1	2.5	0.3	AIT-003-01, AIT-004-01	15	4
5	15	510-FIT-030-03	0.3	2.5	1			1.3	1	8.3	1	SP-25	20	6
7	15	510-FIT-030-04	0.3	2.5	1	0.6			1	2.5	0.3	FIT-25101	15	8
9	20	510-MCP-025-01	0.3	2.5	1		0.3		1			SPARE	20	10
11	20	RECEPT. AT IP-85	0.3	2.5	1			0.5	1	1.5	0.18	CONVEINENCE OUTLET	20	12
13	20	EXISTING BUILDING FAN	1	4.8	2	1.0			2	4.8	1	MCC-4 ROOM AHU-3	15	14
							1.0							
17	60	EXISTING EXHAUST FAN	5	24.0	2			2.5	1	0.0	0	SPACE		18
						3.6			3	9.0	3.25	MCC-4 ROOM CU-3	20	20
21	15	EX. EXHAUST FAN CONTROL POWER	0.2	1.7	1		1.3							
23	20	LIGHTS MCC ROOM & SUBSTATION ROOM	0.5	4.2	1			1.6						
25	20	LIGHTS BLOWER ROOM	0.5	4.2	1	1.5			1	8.3	1	SP-3	20	26
27	20	SPARE			1		0.0		1			SPARE	15	28
29	20	SPARE			1			0.0	1			SPARE	15	30
31		SPACE			1	0.0			1			SPACE		32
33		SPACE			1		0.0		1			SPACE		34
35		SPACE			1			0.0	1			SPACE		36
37	30	SURGE PROTECTION DEVICE			3	0.0			1			SPACE		38
							0.0		1			SPACE		40
								0.0	1			SPACE		42
	PANEL	PANEL LP-B5	TO	OTAL KVA		7.3	3.2	5.9		VOLTS:	208Y/120	SERVICE CHARACTERISTICS		A MLO
LOCATION MCC-B5/B6 ROOM BUILDING SOUTH BLOWER BUILDING NOTES: EXISTING PANEL FEED FROM DP-B5 VIA EXISTING 30KVA TRANSFORMER			GRAND CONNECTED TOTAL KVA			16	5.3	PHASE: 3 WIRE: 4				100	_ A MCB	
										22k	MIN AIC S	SYMM, FULLY RATED ASSEMBLY		

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	K A	VA PER PHAS B	SE C	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
1	*20	LIGHTS - AERATION BASIN	0.45	3.7	1	0.9			1	3.7	0.45	LIGHTS -AERATION BASIN	*20	2
3	*20	LIGHTS - AERATION BASIN	0.45	3.7	1		0.9		1	3.7	0.45	LIGHTS -AERATION BASIN	*20	4
5	*20	LIGHTS -AERATION BASIN	0.45	3.7	1			0.9	1	3.7	0.45	LIGHTS -AERATION BASIN	*20	6
7	*20	LIGHTS -AERATION BASIN	0.6	5.0	1	1.2			1	5.0	0.6	LIGHTS -AERATION BASIN	*20	8
9	*20	LIGHTS -AERATION BASIN	0.6	5.0	1		1.2		1	5.0	0.6	LIGHTS -AERATION BASIN	*20	10
11	*20	LIGHTS -AERATION BASIN	0.6	5.0	1			1.2	1	5.0	0.6	LIGHTS -AERATION BASIN #3 EAST	*20	12
13	20	RECEPT - AERATION BASIN	0.54	4.5	1	0.8			1	2.5	0.3	LIGHTS -AERATION BASIN	*20	14
15	20	RECEPT - AERATION BASIN	0.54	4.5	1		1.1		1	4.5	0.54	RECEPT - AERATION BASIN	20	16
17	20	RECEPT - AERATION BASIN	0.54	4.5	1			1.1	1	4.5	0.54	RECEPT - AERATION BASIN	20	18
19	*20	OUTSIDE LIGHT SOUTH BLOWER BLDG	0.12	1.0	1	0.7			1	4.5	0.54	RECEPT - AERATION BASIN	20	20
21	*20	EQ PERIM. LIGHTS, SOUTH	0.48	4.0	1		1.2		1	6.0	0.72	RECEPT - AERATION BASIN	20	22
23	20	RECEPT - AERATION BASIN	0.72	6.0	1			1.4	1	6.0	0.72	RECEPT - AERATION BASIN	20	24
25	20	RECEPT - AERATION BASIN	0.72	6.0	1	1.4			1	6.0	0.72	RECEPT -AERATION BASIN, EAST	20	26
27	20	RECEPT - AERATION BASIN (OFF)	0.72	6.0	1		1.3		1	4.7	0.56	RECEPT -AERATION BASIN, RAS METER	20	28
29	20	SPARE			1			0.2	1	1.2	0.15	LIGHTS -EQ RETURN PS	*20	30
31	20	SPARE			1	0.2			1	1.5	0.18	RECEPT -EQ RETURN PS	20	32
33	20	PHOTOCELL CONTROL RELAY	0.2	1.7	1		0.2		1			RECEPT -LIGHT POLES NORTH POND ??	20	34
35	20	RECEPT - EQ FLOW METER ASSEMBLY	0.18	1.5	1			0.2	1			SPARE	20	36
37	20	SPARE			1	0.0			3			SURGE PROTECTION DEVICE	30	38
39	20	SPARE			1		0.0							
41	20	SPARE			1			0.0						
	PANEL	PANEL LP-4	то	TAL KVA		5.2	5.9	5.0		VOLTS:	208Y/120	SERVICE CHARACTERISTICS		A MLO
LOCATION MCC-4 ROOM BUILDING SOUTH BLOWER BUILDING GRAND CONNECTED TOTAL KVA 16.0 PHASE: 3 WIRE: 4			- - -	100	_ A MCB									
	NOTES: FED FROM MCC-4 VIA 100A MTS AND 30KVA TRANSFORMER * PHOTOCELL CONTROLLED THROUGH LIGHTING CONTACTOR * PHOTOCELL CONTROLLED THROUGH LIGHTING CONTACTOR													

NOTES:

1. NEW BREAKERS IN EXISTING PANELS SHALL MATCH KAIC

2. PROVIDE MULTI-CONDUCTOR TRAY CABLE RATED SUNLIGHT AND MOISTURE RESISTANT FOR ALL CIRCUITS TO BE PLACED DIRECTLY IN CABLE TRAY. CONDUIT SIZES SHOWN ARE FOR USE OUTSIDE OF CABLE TRAY OR INSIDE TRAY WITH NON-TC RATED

3. TYPICAL PANEL CIRCUIT WIRING SHALL BE 2#12, 1#12G, 0.75"C.

3.4. LP4: ALL CIRCUITS OVER 200' TO FIRST DEVICE SHALL

UTILIZE MIN. #8AWG. CIRCUITS 100' - 200' TO FIRST DEVICE

RATING OF EXISTING PANEL BREAKERS.

EXCEPTIONS ARE LISTED BELOW:

SHALL UTILIZE #10AWG.

3.1. DP-B5 CIRCUIT 19: 3#10, 1#10G, 0.75"C

3.2. LP-B5 CIRCUIT 17: 2#6, 1#10G, 0.75"C

3.3. LP-B5 CIRCUIT 20, 3#12, 1#12G, 0.75"C

			SEAL	۱ (
		_		$ \ $	
		_		$ \ $	
		4		$ \ $	
		_		$ \ $	
		4		$ \ $	
		_		$ \ $	
		_		$ \ $	
		_		$ \ $	
71110		4	I ALIDEL I SMITH DE	$ \ $	
EV.NO.	DESCRIPTIONS DATE	-	LAUREL L. SMITH, PE No. 91041	IJ	
	REVISIONS	ノ		' '	



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SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

SCHEDULES	AND	TABLES
	/ \l \ \ \	

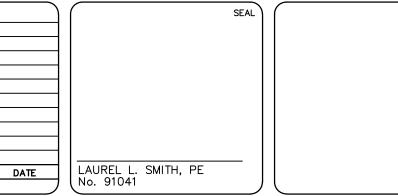
_			
`	DATE:	MAY 2023	(SCALE)
. 1	MCE PROJ. #	<u> 1024-0174</u>	LIODIZONITAL
1	DRAWN	JG	HORIZONTAL:
	DESIGNED	LLS	NA
	CHECKED	AAH	VERTICAL:
	PROJ. MGR.	DCW	NA.

ISSUED FOR BID

E-08

DRAWING NUMBER

ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F





CA LIC No. 29588

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DUTY: 1.06572445



SCHEDULES AND TABLES

Ĩ	DATE:	MAY
ANI	MCE PROJ. #	1024
ON	DRAWN	
	DESIGNED	
	CHECKED	
	PROJ. MGR.	

CABLE TO LOAD (SWBD-4A, 4B)

WIRE SIZE 250 kCMIL

C VALUE 18594

F VALUE 0.0150

22,047 A

22.05 kA

4,811 A

4.81 kA

26,858 A

26.86 kA

MULTIPLIER 0.9857

NUMBER OF SETS

CONDUIT TYPE

Isc SYM RMS

ISC MOTOR CONTRB.

@LOAD

@LOAD

TOTAL Isc SYM RMS

@LOAD

CONDUCTOR TYPE Copper

DIST MAIN TO LOAD 10 ft

SCALE VERTICAL:

ISSUED FOR BID

SWWRF
EQUALIZATION SYSTEM REHABILITATION
AND COVER ADDITION

CABLE TO MAIN (MCC-B5, B6)

NUMBER OF SETS 4

CONDUIT TYPE PVC

CONDUCTOR TYPE Copper

DIST XFMR TO MAIN 50 ft

Isc MOTOR CONTRIB. 4,811 A

Isc SYM RMS

@MAIN BREAKER

@MAIN BREAKER

Total Isc sym RMS

@MAIN BREAKER

WIRE SIZE 500 kCMIL

C VALUE 26706

F VALUE 0.0393

22,365 A

22.37 kA

4.81 kA

27,177 A

27.18 kA

MULTIPLIER 0.9622

TRANSFORMER (T4A, T4B)

MAX XFMR RATING:

SECONDARY VOLTS

Isc SYM RMS

@XFMR SECONDARY

Isc MOTOR CONTRB.

@XFMR SECONDARY

TOTAL ISC SYM RMS

@XFMR SECONDARY

IMPEDANCE FACTOR:

PRIMARY VOLTS:

MULTIPLIER

4,160 V

19.324

23,243 A

23.24 kA

4,811 A

4.81 kA

28,055 A

28.05 kA

FLA: 1202.8 A

SOUTH BLOWER BUILDING		4 WIKE	600	AF	ROSS	13%
NAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
EQ RETURN PUMPS	Υ	1	. 1		45.0	57.4
HOIST	N	1	. 1	5		6.0
						0.0
						0.0
						0.0
SUM				5.0	45.0	63.4
TOTAL CONNECTED LOAD (A)						63.4
TOTAL RUNNING LOAD				64.6		77.8

LOAD TABLE		480V		KVA	XFR	
				KW	GEN	
MCC-4A		3 Ph	400	AT	MCB	19%
SOUTH BLOWER BUILDING		4 WIRE	600	AF	BUSS	13%
NAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
EQ RETURN PUMPS	Υ	1	1		45.0	57.4
HOIST	N	1	1	5		6.0
						0.0
						0.0
						0.0
SUM				5.0	45.0	63.4
TOTAL CONNECTED LOAD (A)						63.4

LOAD TABLE

MCC-6B (T-4B)

NAME

BLOWER 6

SWBD-4A

PANEL DP-B5

SOUTH BLOWER BUILDING

TOTAL CONNECTED LOAD (A)

TOTAL RUNNING LOAD

LOAD TABLE

SOUTH BLOWER BUILDING

TOTAL CONNECTED LOAD (A)

TOTAL RUNNING LOAD

TIE TO LP-4, LT2, MTS

SWBD-4A

NAME

MCC-4A

MCC-1

	19%
5	13%
Р	FLA
45.0	57.4
	6.0
	0.0
	0.0
	0.0
45.0	63.4
	63.4
	77.8

OAD TABLE		480V		KVA	XFR	
				KW	GEN	
ICC-4B		3 Ph	400	AT	MCB	22%
OUTH BLOWER BUILDING		4 WIRE	600	AF	BUSS	14%
AME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
Q RETURN PUMPS	Υ	1	1		45.0	57.4
ER SUB PUMPS	Υ	1	2	10.0		12.0
						0.0
						0.0
						0.0
JM				20.0	45.0	69.4
OTAL CONNECTED LOAD (A)						81.4
OTAL RUNNING LOAD				72.0		86.8

I O A D T A DI E		4001/		10.14	YED	-
LOAD TABLE		480V	V-22/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2002/11/2	KVA	XFR	
				KW	GEN	
MCC-4B		3 Ph	400	AT	MCB	22%
SOUTH BLOWER BUILDING		4 WIRE	600	AF	BUSS	14%
NAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
EQ RETURN PUMPS	Y	1	1		45.0	57.4
AER SUB PUMPS	Υ	1	2	10.0		12.0
						0.0

LOAD TABLE		480V		KVA	XFR	
				KW	GEN	
SWBD-4B		3 Ph	600	AT	MCB	19%
SOUTH BLOWER BUILDING		4 WIRE	800	AF	BUSS	14%
NAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
MCC-4B	N	1.07	1	20	45.0	69.4
LP-4, LT2, MTS	Υ	0.6	1	30		21.6
TIE TO MCC-1	Υ	0	1	107	4.8	0.0
						0.0
						0.0
						0.0
						0.0
SUM				157.0	49.8	91.0
TOTAL CONNECTED LOAD (A)						235.6
TOTAL RUNNING LOAD				94.5		113.8

LOAD TABLE		480V		KVA	XFR	
				KW	GEN	
SWBD-4B		3 Ph	600	AT	MCB	19%
SOUTH BLOWER BUILDING		4 WIRE	800	AF	BUSS	14%
NAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
MCC-4B	N	1.07	1	20	45.0	69.4
LP-4, LT2, MTS	Υ	0.6	1	30		21.6
TIE TO MCC-1	Υ	0	1	107	4.8	0.0
						0.0
						0.0
						0.0
						0.0
SUM				157.0	49.8	91.0
TOTAL CONNECTED LOAD (A)						235.6
TOTAL BURNING LOAD				04.5		440.0

LOAD TABLE		480V	1000	KVA	XFR	47%
				KW	GEN	
MCC-5B (T-4A)		3 Ph	1200	AT	MCB	47%
SOUTH BLOWER BUILDING		4 WIRE	1200	AF	BUSS	47%
NAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
BLOWER 7	Υ	1	1		300.0	361.0
TIE TO PANEL DP-B5	Υ	0	1	73.4		0.0
SWBD-4B	NA	0.48	1	157	49.8	91.0
						0.0
						0.0
						0.0
						0.0
SUM				230.4	349.8	452.0
TOTAL CONNECTED LOAD (A)						637.6
TOTAL RUNNING LOAD				469.2		565.0
		DUTY:	0.88616724	NEC	230.42 SE:	542.3 A

EXI	ST

EXISTING LOADS APPROXIMATED BASED ON RECORD DRAWINGS.

DUTY: 1.22634069

1000 KVA

1200 AT

1200 AF

4 WIRE

CONTINUOUS? #DUTY #CONNECTED KVA

0.81

DUTY: 1.13529694

480V

CONTINUOUS? #DUTY #CONNECTED KVA

1.23

0.77

DUTY: 0.81483968

4 WIRE

KW

73.4 142

618.7

KVA

107

30

152.5

600 AT 800 AF MCB

HP

49.8

215.4 349.8 617.9

NEC 230.42 SE: 730.2 A

FLA

168.8

656.2

745.0

23%

63.4

105.4

225.4

183.7

4.8

142.0 49.8 168.8

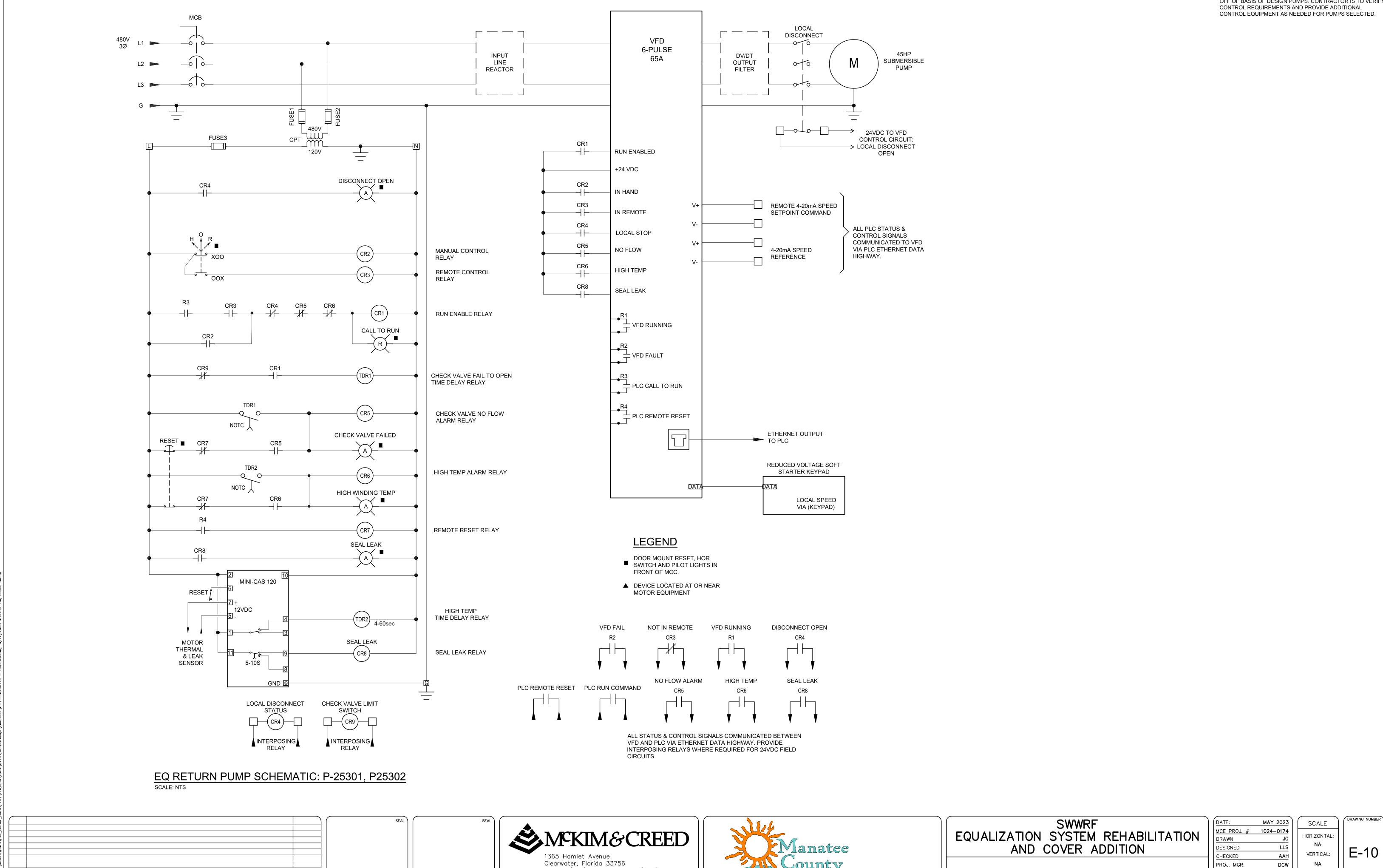
FLA

300.0 361.0

LOAD TABLE		480V		KVA	XFR	
				KW	GEN	
MCC-4A		3 Ph	400	AT	MCB	19%
SOUTH BLOWER BUILDING		4 WIRE	600	AF	BUSS	13%
NAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
EQ RETURN PUMPS	Υ	1	1		45.0	57.4
HOIST	N	1	1	5		6.0
						0.0
						0.0
						0.0
SUM				5.0	45.0	63.4
TOTAL CONNECTED LOAD (A)						63.4

SWBD-4B		3 Ph	60
SOUTH BLOWER BUILDING		4 WIRE	80
NAME	CONTINUOUS?	#DUTY	#CONNECTE
MCC-4B	N	1.07	
LP-4, LT2, MTS	Υ	0.6	
TIE TO MCC-1	Υ	0	
SUM			
TOTAL CONNECTED LOAD (A)			
TOTAL RUNNING LOAD			
		DUTY:	0.48277134

OAD TABLE		480V	1000	KVA	XFR	47%
				KW	GEN	
ЛСС-5B (Т-4A)		3 Ph	1200	AT	MCB	47%
OUTH BLOWER BUILDING		4 WIRE	1200	AF	BUSS	47%
IAME	CONTINUOUS?	#DUTY	#CONNECTED	KVA	HP	FLA
LOWER 7	Υ	1	1		300.0	361.0
TE TO PANEL DP-B5	Υ	0	1	73.4		0.0
WBD-4B	NA	0.48	1	157	49.8	91.0
						0.0
						0.0
						0.0
						0.0
UM				230.4	349.8	452.0
OTAL CONNECTED LOAD (A)						637.6



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DESCRIPTIONS REVISIONS

NOTES:

PROJ. MGR.

ELECTRICAL SCHEMATICS

DCW

ISSUED FOR BID

1. SCHEMATIC SHOWN IS MINIMUM REQUIREMENTS AND BASED OFF OF BASIS OF DESIGN PUMPS. CONTRACTOR IS TO VERIFY

PROPOSED EQ RETURN PUMP STATION SCALE: 1/2" = 1'-0"

HAZARDOUS AREA SEAL (TYP.)— UNCLASSIFIED AREA OR DIV I TO DIV EXPLOSION PROOF ENCLOSURE ~ UNBROKEN CONDUIT --/ MFR CABLE IN CONDUIT —— _NON-HARDNENING MOISTURE SEAL SURROUNDING INDIVIDUAL CONDUCTORS **EQUIPMENT**

C1D1 HAZARDOUS AREA: — INSIDE EQ TANK

CLASS-I DIVISION-I/II HAZARDOUS AREA TYPICAL WIRING

- NOTES:

 1. REFER TO NEC CHAPTER 5 FOR HAZARDOUS WIRING REQUIREMENTS.
 HAZARDOUS AREA TABLE SUMMARIZES NEC REQUIREMENTS, BUT NEC
 SHALL GOVERN.

 2. REFER TO NFPA 820, FIGURE A.4.2(C)(B) TABLE 5.2.2, ROW 5B,C.

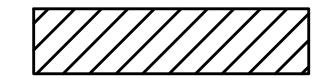
 3. REFER TO NFPA 820, FIGURE A.4.2(C)(B) TABLE 5.2.2, ROW 2B,2C.

CLASS I DIV-1:



- 1. ENCLOSED SPACE WITH EXPOSED WASTEWATER WITH VENTILATION AT LESS THAN 12 AIR CHANGES PER HOUR. (INSIDE OF WETWELL AND EQ TANK)
- 2. 3'-0" RADIUS AROUND VENTS LEADING TO CLASS 1 DIV 1

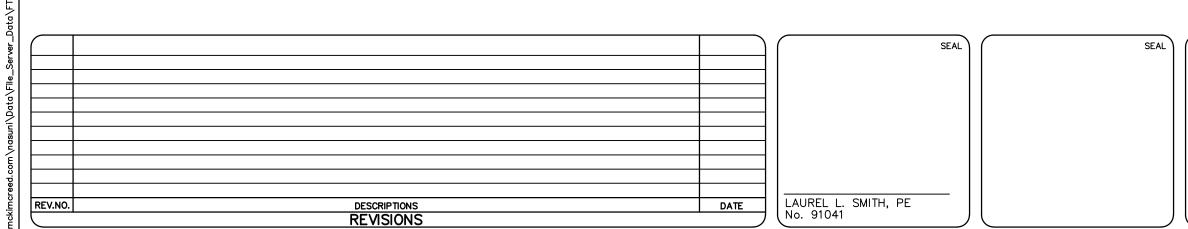
CLASS I DIV-2:



- 1. 10'-0" RADIUS AROUND EQUIPMENT WHERE INDICATED 2. 3'-0" RADIUS AROUND ODOR CONTROL VESSEL (WHERE PRESENT)
- 3. 3'-0" AROUND VENTS (LEADING TO CLASS 1 DIV 2 SPACE.)
- 4. 18" ABOVE COVER OR OPEN TANK WALL EXTENDING 18" FROM OUTSIDE OF WALL TO GROUND OR DECK 10' EXTENDED OUTWARDS FROM WALL.
- 5. ENCLOSED SPACE WITH VENTILATION AT 12 AIR CHANGES PER HOUR OR GREATER.6. 18" ABOVE HATCHES TO SPACES WITH EXPOSED WASTEWATER VENTILATION AT LESS
- THAN 12 AIR CHANGES PER HOUR, EXTENDED 3' OUTWARDS. 7. SPACE FROM 3'-0" TO 5'-0" RADIUS AROUND VENTS LEADING TO CLASS 1 DIV 1 SPACE.

HAZARDOUS AREA TABLE

CLASSIFICATION	APPLICATION	LOCATION OF SEAL				
CONDUIT SEALS CLASS I, DIVISION I	SWITCH ENCLOSURE CIRCUIT BREAKER ENCLOSURE FUSE ENCLOSURE RELAY ENCLOSURE RESISTOR ENCLOSURE ARCING OR SPARKING APPARATUS HIGH-TEMPERATURE APPARATUS	IN CONDUIT RUN WITHIN 18 IN. OF ENCLOSURE				
	EXPLOSION PROOF ENCLOSURE CONTAINING ARCING OR SPARKING CONTACTS THAT ARE HERMETICALLY SEALED AGAINST GAS OR VAPOR ENTRY	IN CONDUIT RUNS OF 1.5 IN. AND SMALLER, NO SEAL IS REQUIRED. IF CONDUIT IS LARGER THAN 1.5 IN., IN CONDUIT RUN WITHIN 18 IN. OF ENCLOSURE				
	ENCLOSURE CONTAINING TERMINALS, SPLICES, OR TAPS FITTING CONTAINING TERMINALS, SPLICES, OR TAPS	IN CONDUIT RUNS SMALLER THAN TRADE SIZE 2, NO SEAL IS REQUIRED. IF CONDUIT IS 2 IN. OR LARGER, IN CONDUIT RUN WITHIN 18 IN. OF ENCLOSURE				
	TWO EXPLOSION PROOF ENCLOSURES WITH A CONDUIT RUN BETWEEN THEM OF 36 IN. OR LESS	IN CONDUIT RUN WITHIN 18 IN. OF EACH ENCLOSURE. PERMITTED TO USE A SINGLE SEAL IN EACH RUN AS LONG AS THE SEAL IS WITHIN 18 IN. OF EACH ENCLOSURE				
	CONDUIT RUN LEAVING DIVISION 1 LOCATION	ON EITHER SIDE OF BOUNDARY. NO UNIONS, COUPLINGS, BOXES, OR FITTINGS (OTHER THAN EXPLOSION PROOF REDUCERS) PERMITTED BETWEEN THE SEAL FITTING AND THE POINT WHERE THE CONDUIT LEAVES THE DIVISION 1 LOCATION.				
	METAL CONDUIT CONTAINING NO UNIONS, COUPLINGS, BOXES, OR FITTINGS THAT PASSES COMPLETELY THROUGH A CLASS I, DIVISION 1 LOCATION, WITH NO FITTINGS LESS THAN 12 IN. BEYOND EACH BOUNDARY	NOT REQUIRED TO BE SEALED IF THE TERMINATION POINTS OF THE UNBROKEN CONDUIT ARE IN UNCLASSIFIED LOCATIONS.				
CLASS I, DIVISION II	ENCLOSURE REQUIRED TO BE EXPLOSION PROOF	SEAL AS REQUIRED FOR SIMILAR EQUIPMENT IN DIVISION 1 LOCATION				
	CONDUIT RUN LEAVING DIVISION 2 LOCATION	ON EITHER SIDE OF BOUNDARY. NO UNIONS, COUPLINGS, BOXES, OR FITTINGS (OTHER THAN EXPLOSION PROOF REDUCERS) PERMITTED BETWEEN THE SEAL FITTING AND THE POINT WHERE THE CONDUIT LEAVES THE DIVISION 2 LOCATION.				
	METAL CONDUIT CONTAINING NO UNIONS, COUPLINGS, BOXES, OR FITTINGS THAT PASSES COMPLETELY THROUGH A DIVISION 2 LOCATION WITH NO FITTINGS LESS THAN 12 IN. BEYOND EACH BOUNDARY	NOT REQUIRED TO BE SEALED IF THE TERMINATION POINTS OF THE UNBROKEN CONDUIT ARE IN UNCLASSIFIED LOCATIONS.				
	CONDUIT SYSTEMS TERMINATING AT AN UNCLASSIFIED LOCATION WHERE A WIRING METHOD TRANSITION IS MADE TO CABLE TRAY, CABLE BUS, VENTILATED BUSWAY, TYPE MI CABLE, OR OPEN WIRING	NOT REQUIRED TO BE SEALED IF PASSING FROM THE CLASS I, DIVISION 2 LOCATION INTO AN OUTDOOR UNCLASSIFIED LOCATION OR AN INDOOR LOCATION IF THE CONDUIT SYSTEM IS ALL IN ONE ROOM. THE CONDUITS DO NOT TERMINATE AT AN ENCLOSURE CONTAINING AN IGNITION SOURCE IN NORMAL OPERATION.				
CONDUIT SEALS CLASS I, DIVISION I	MULTICONDUCTOR CABLES	SEAL IN THE DIVISION 1 LOCATION AFTER REMOVING THE JACKET AND ANY OTHER COVERINGS, SO THAT THE SEALING COMPOUND SURROUNDS EACH INDIVIDUAL INSULATED CONDUCTOR AND THE OUTER JACKET.				





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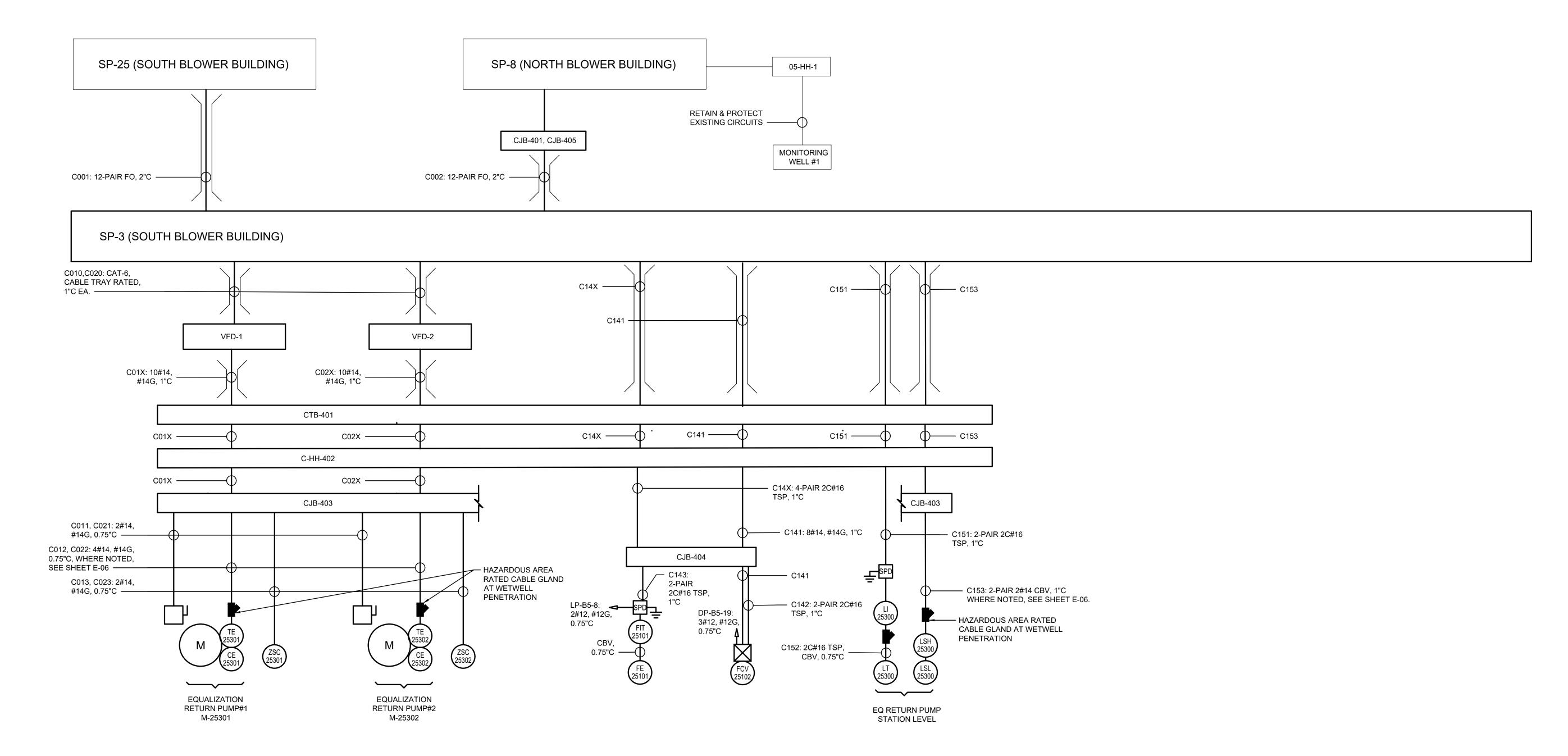
SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

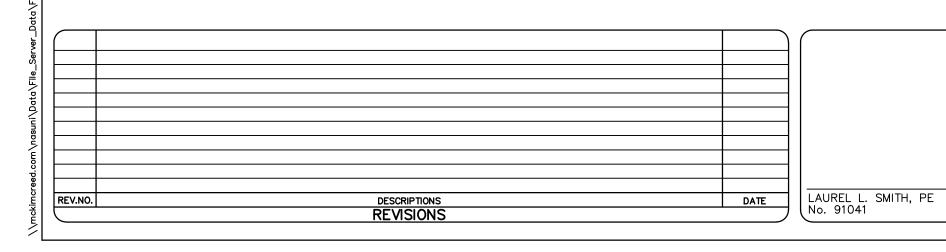
ELECTRICAL AREA CLASSIFICATION

_			
	DATE:	MAY 2023	
	MCE PROJ. #	1024-0174	F
	DRAWN	AAL	
	DESIGNED	LLS	'
4	CHECKED	AAH	
- 1			- 1

SCALE HORIZONTAL: 1/4" = 1'-0" E-11 VERTICAL:

- 1. SURGE PROTECTION DEVICES REQUIRED, WHICH MAY NOT BE SHOWN. REFER TO I-SHEETS AND CONTRACT SPECIFICATIONS FOR REQUIREMENT.
- 2. CABLES SHALL BE MULTI-CONDUCTOR TYPE TC-ER OR ENCLOSED IN SCH-40 PVC CONDUIT WHERE ROUTED IN CABLE TRAY.
- 3. CONDUIT SIZES SHOWN ARE MINIMUM. CONTRACTOR SHALL PROVIDE LARGER SIZE CONDUIT WHERE NEC REQUIRED DUE TO ACTUAL CABLE SELECTION OR CIRCUIT CONSOLIDATION.







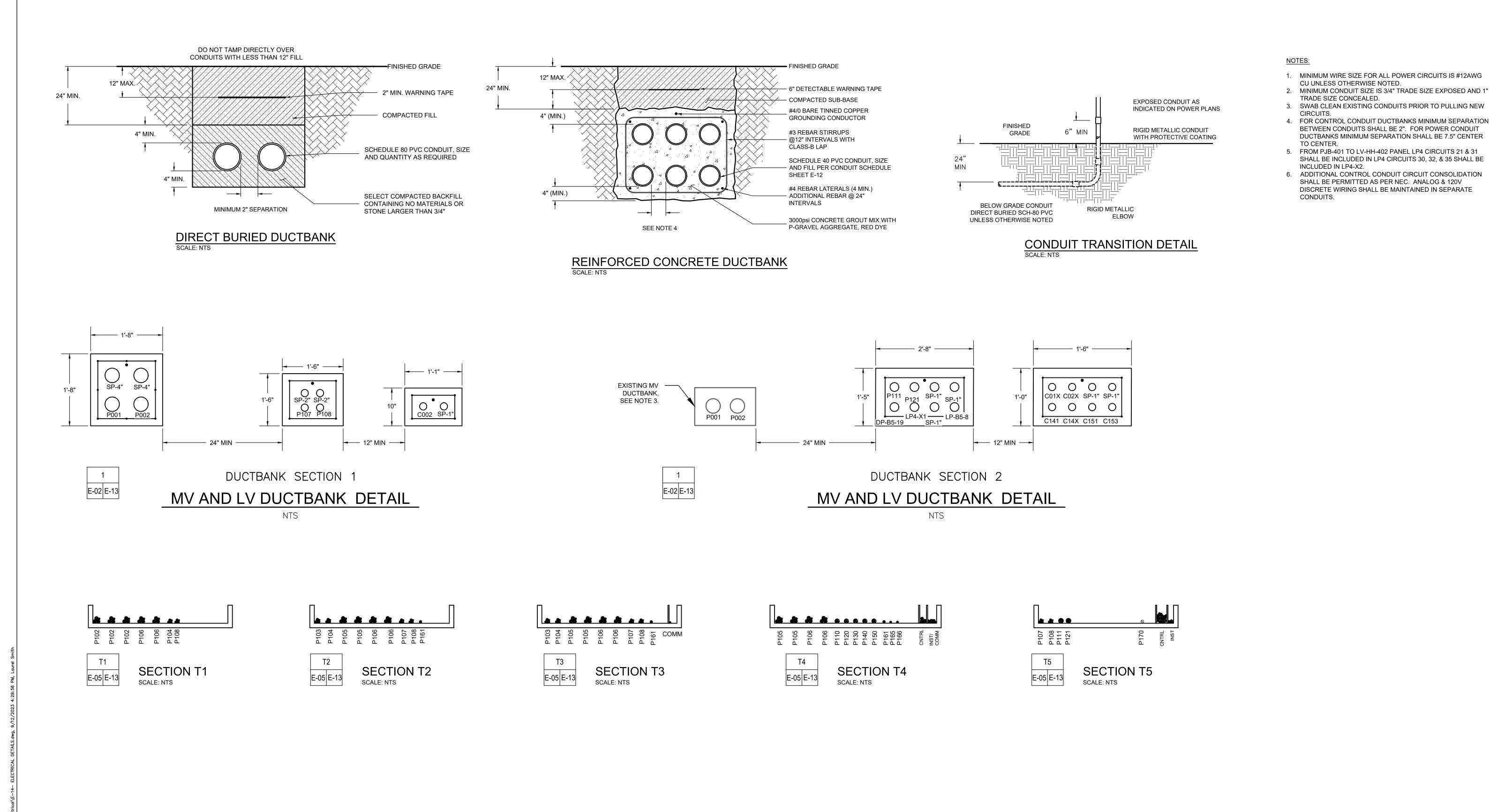
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SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

ELECTRICAL INTERCONNECTION DIAGRAM

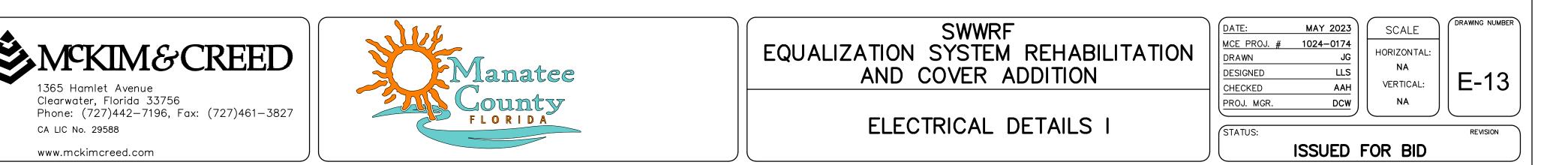
	DATE:	MAY 2023	(SCALE)	DRAWING NUMBER
281	MCE PROJ. #	1024-0174		
N	DRAWN	JG	HORIZONTAL:	
	DESIGNED	LLS	NA	
	CHECKED	AAH	VERTICAL:	E-12
	PROJ. MGR.	DCW	NA.	



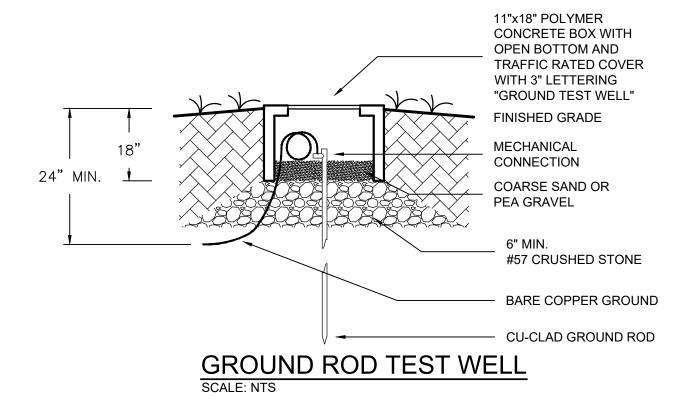
ELECTRICAL DETAILS I

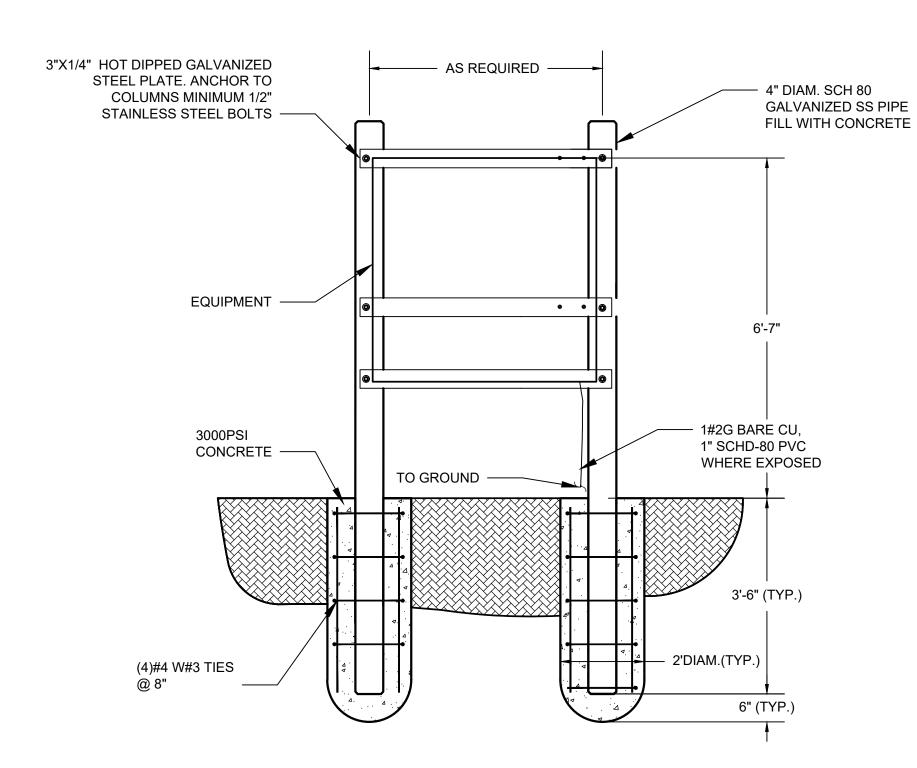
DESCRIPTIONS REVISIONS

DATE LAUREL L. SMITH, PE No. 91041



SMALL HANDHOLE DETAIL



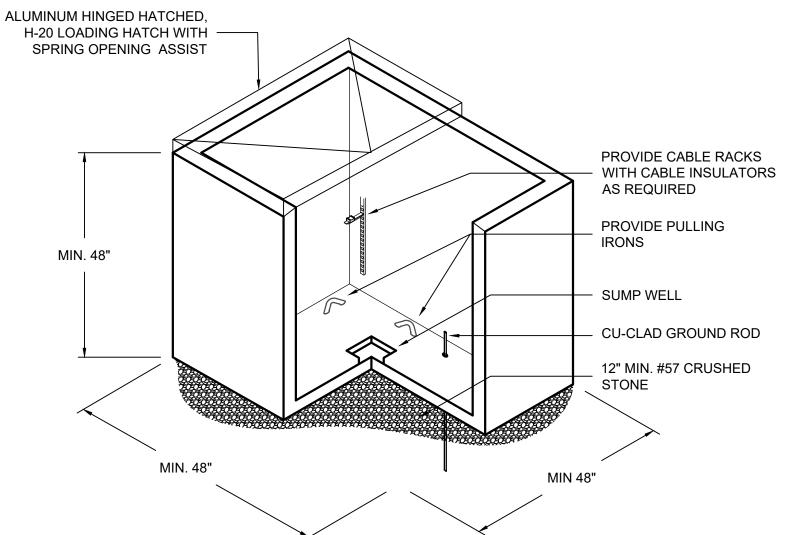


EQUIPMENT MOUNTING DETAIL (IN GROUND MOUNT)

SCALE: NTS

ELECTRICAL

DETAILS II

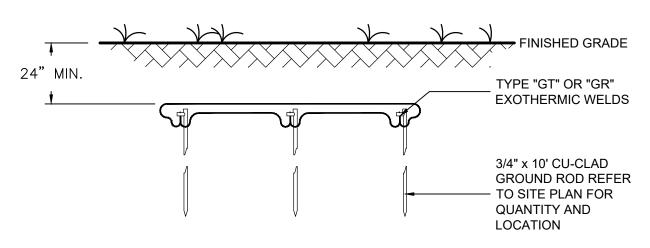


DETAIL NOTES:

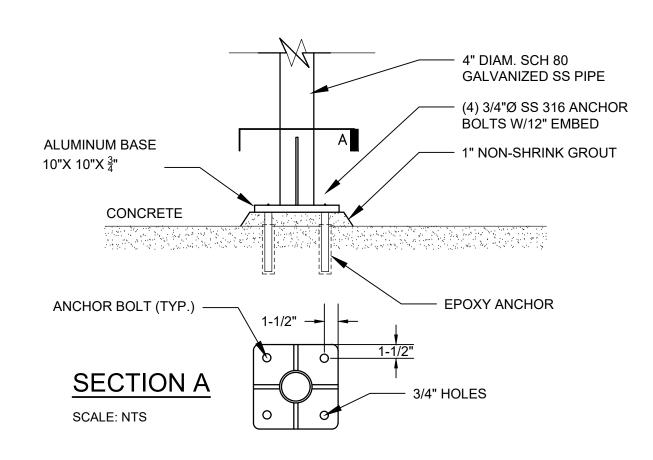
- 1. BOND ALL METALLIC PARTS WITH #2AWG BARE TINNED COPPER.
- 2. EXOTHERMIC WELD CU-CLAD GROUND ROD TO GROUND CABLE.
- 3. DIMENSIONS FOR MV-HH-201, MV-HH-203, MV-HH-206 AND MV-HH-208 SHALL BE MINIMUM 4' x 4' x 6'.

MV HANDHOLE DETAIL

SCALE: NTS



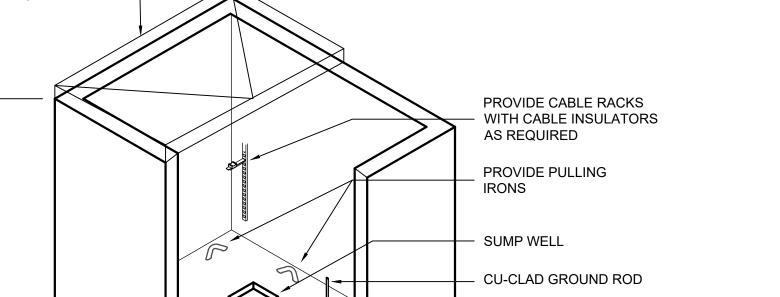
BELOW GRADE GROUND ROD/CABLE CONNECTION DETAIL

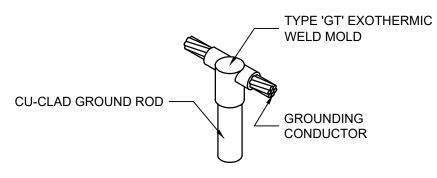


EQUIPMENT MOUNTING DETAIL

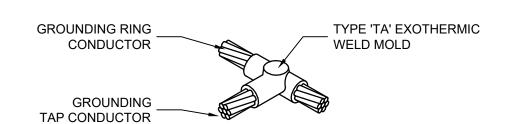
(ON SLAB)

SCALE: NTS





EXOTHERMIC WELD 'GT' CONNECTION



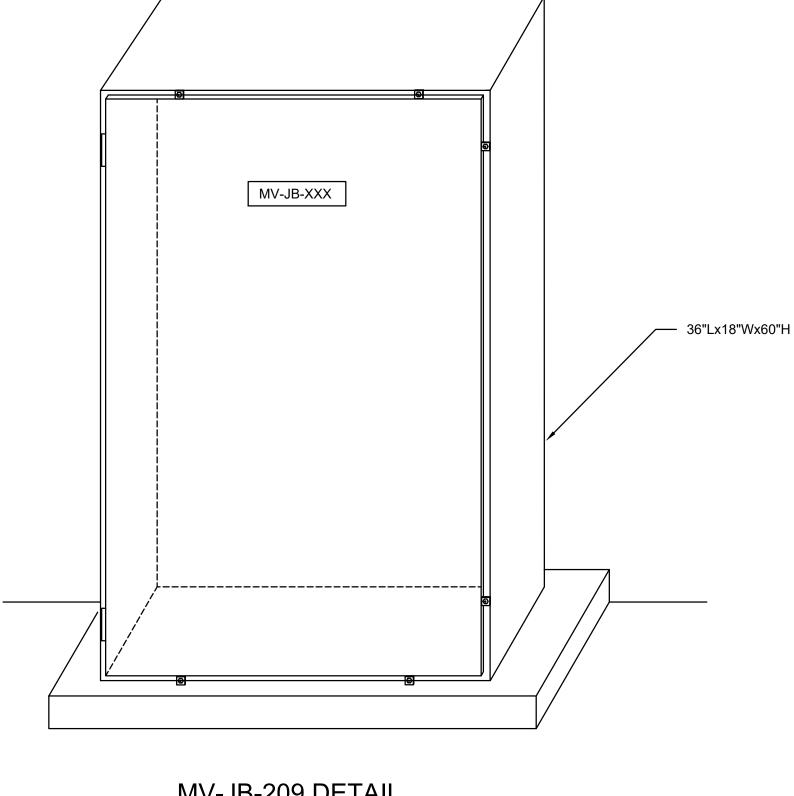
EXOTHERMIC WELD 'TA' CONNECTION

GENERAL NOTES:

- 1. MINIMUM WIRE SIZE FOR ALL POWER CIRCUITS IS #12AWG CU UNLESS OTHERWISE NOTED.
- 2. MINIMUM CONDUIT SIZE IS 3/4" TRADE SIZE.

LIGHTNING PROTECTION INSTALLATION NOTES:

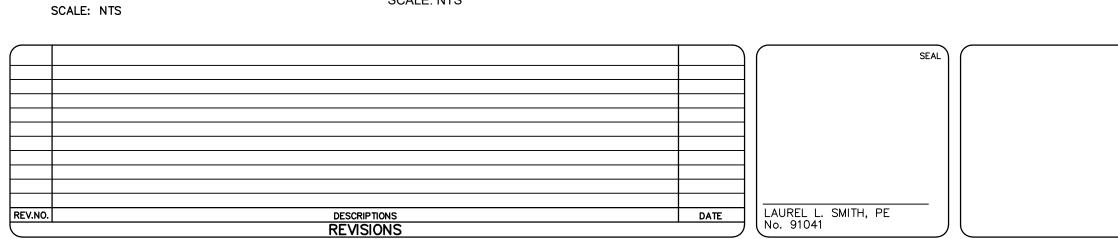
- 1. INSTALLATION SHALL COMPLY IN ALL RESPECTS TO L.P.I. CODE 175. INSTALLATION SHALL BE MADE BY OR UNDER THE SUPERVISION OF AN L.P.I. CERTIFIED MASTER INSTALLER. COMPLETED INSTALLATION TO RECEIVE SYSTEM CERTIFICATION INCLUDING SUBMITTAL OF FORMS L.P.I. 175-A AND
- 2. ALL MATERIALS SHALL BE UNDERWRITERS LABORATORIES APPROVED WITH "A" LABEL ON EACH AIR TERMINAL AND "B" LABEL AT 10'-0" ALONG ALL MAIN CONDUCTORS. COMPLETED INSTALLATION AS SHOWN SHALL BEAR U.L. MASTER LABEL "C" AS PER U.L. CODE 96A.
- 3. INTERCONNECT LIGHTNING PROTECTION GROUND TO ELECTRIC, TELEPHONE, AND OTHER GROUND SYSTEMS AS SHOWN OR AS REQUIRED BY CODES.
- 4. ALL CABLE TO CABLE, CABLE TO LUG & CABLE TO GROUND ROD CONNECTIONS SHALL BE MADE WITH CADWELD.
- 5. BOND PUMP, MOTOR, EQUIPMENT AND PIPE TO TO GROUNDING SYSTEM AS SHOWN.



MV-JB-209 DETAIL

SCALE: NTS

TYPICAL FOR MV-JB-200 MV-JB-209 (SEE DUCTBANK SECTION 1 AND SECTION 5 THIS SHEET)



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SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

ELECTRICAL DETAILS II

	DATE:	MAY 2023	(SCALE)
•	MCE PROJ. #	1024-0174	
1	DRAWN	JG	HORIZONTAL:
	DESIGNED	LLS	NA
	CHECKED	AAH	VERTICAL:
	PROJ. MGR.	DCW	NA

STATUS:

ISSUED FOR BID

DRAWING NUMBER

E-14

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LAUREL L. SMITH, PE No. 91041

SCALE: NTS

DESCRIPTIONS REVISIONS

ISSUED FOR BID

MCE PROJ. #

DRAWN

DESIGNED

CHECKED

PROJ. MGR.

MAY 2023

AAH

DCW

SCALE

HORIZONTAL:

VERTICAL:

SWWRF

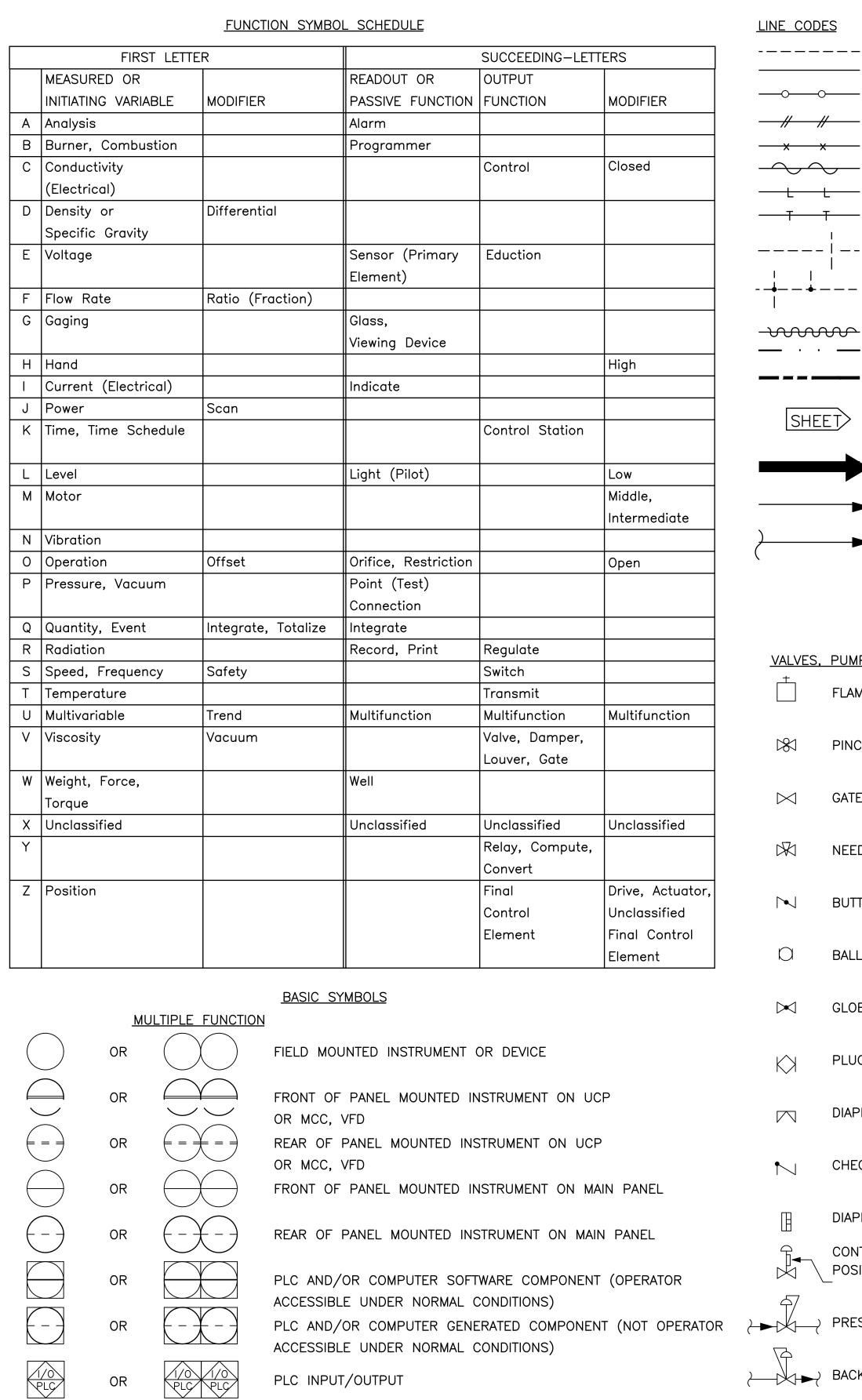
EQUALIZATION SYSTEM REHABILITATION

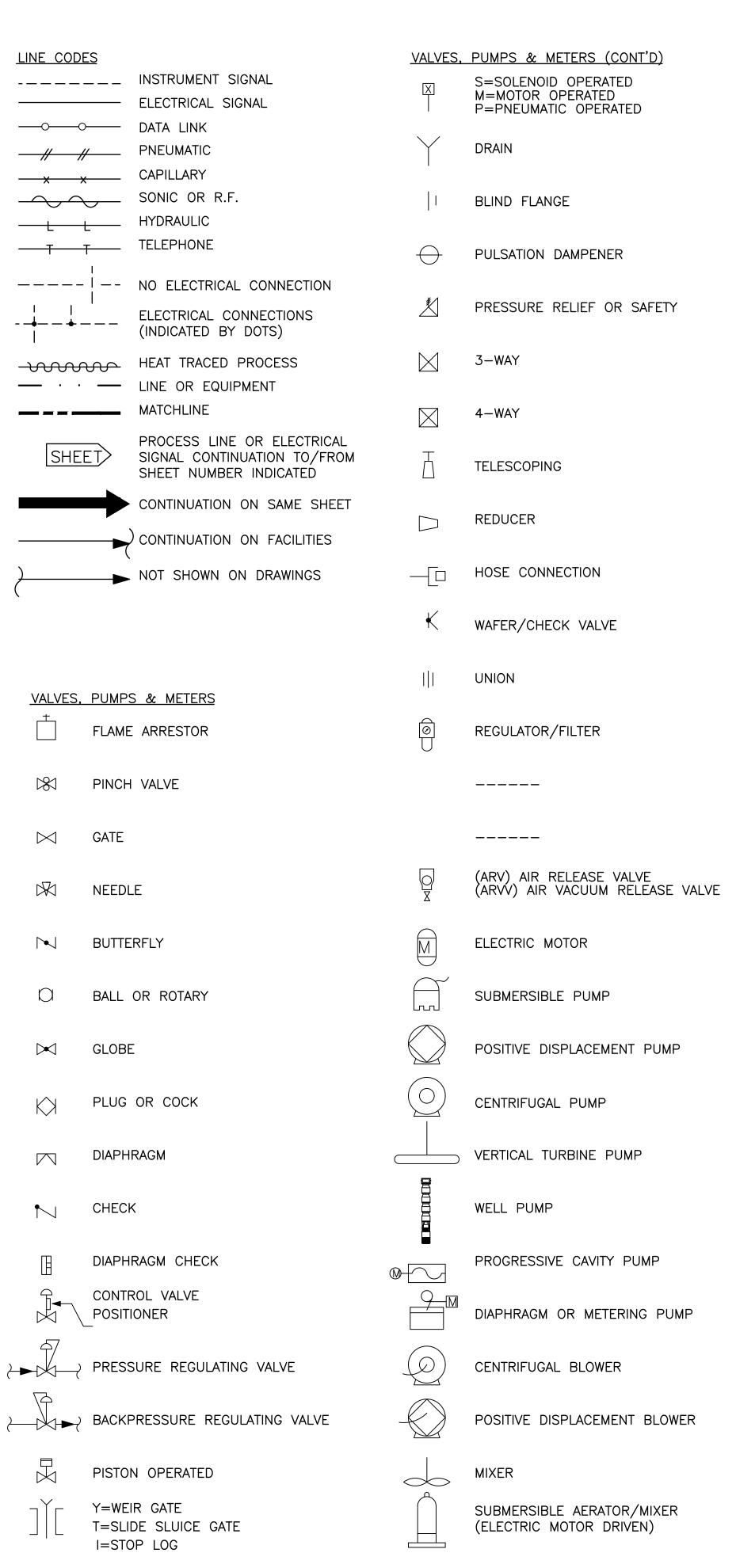
AND COVER ADDITION

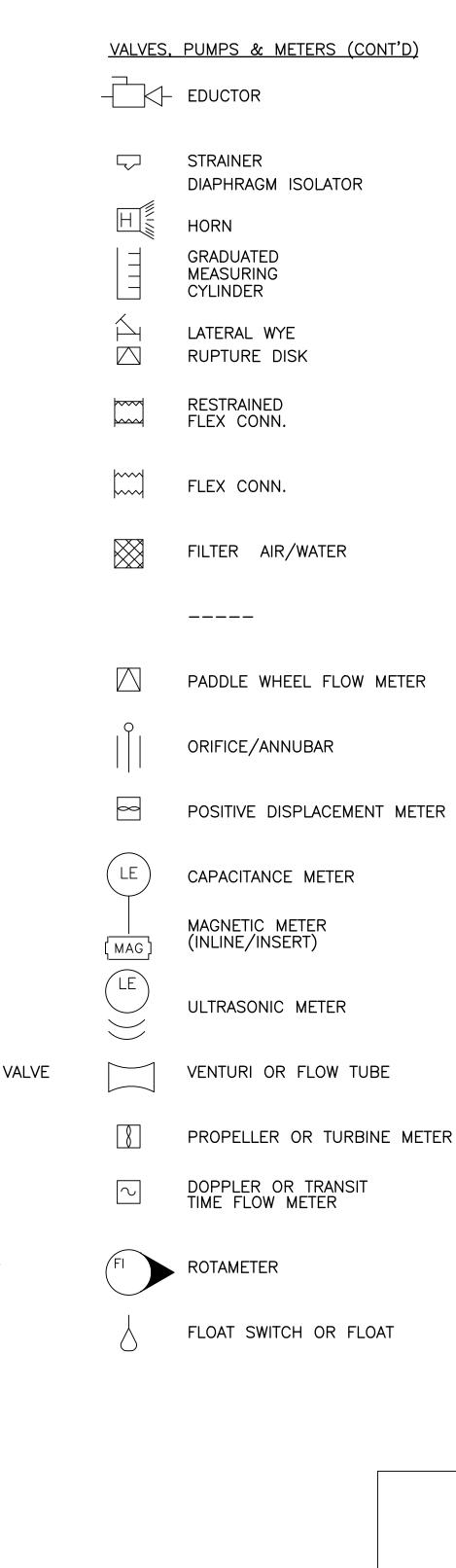
ELECTRICAL DETAILS III

DRAWING NUMBER

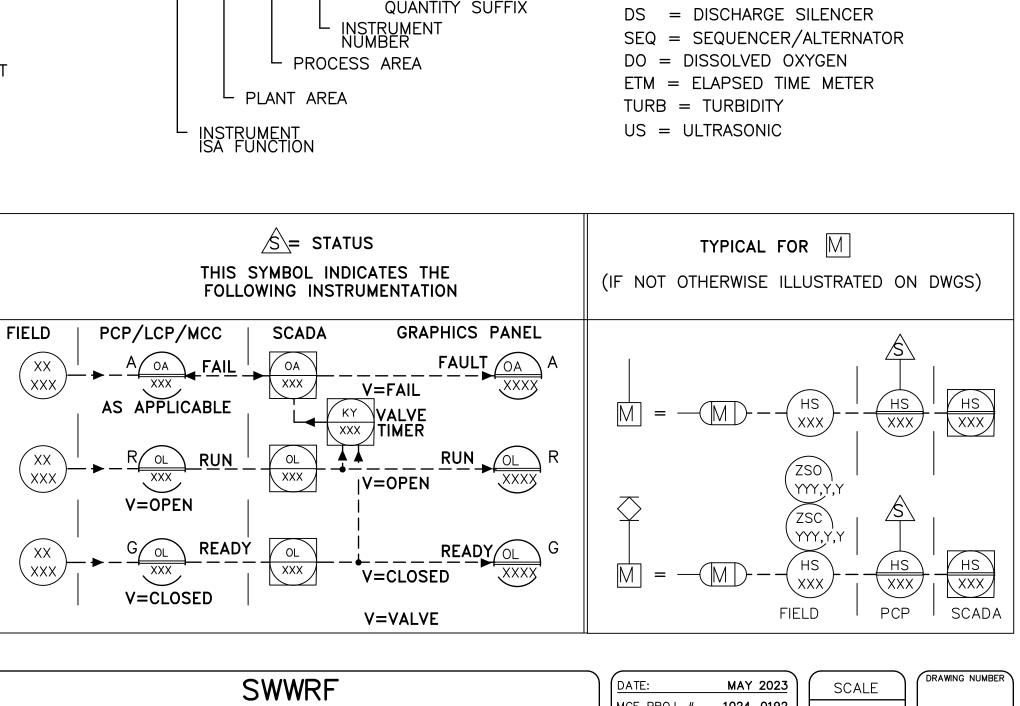
E-15

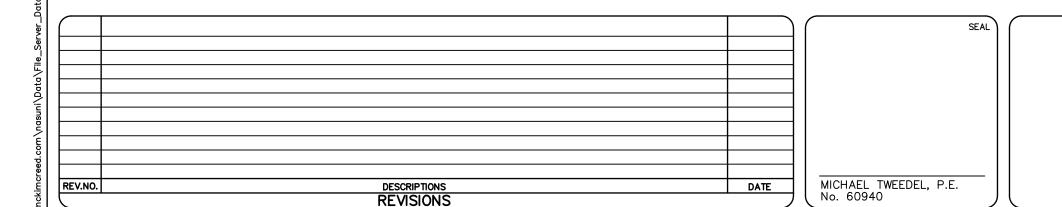














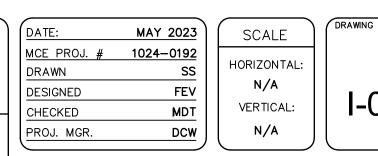
CA LIC No. 29588

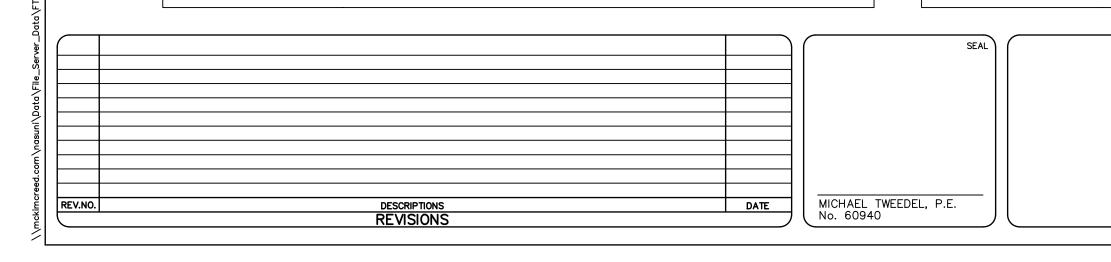
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PROCESS & INSTRUMENTATION DIAGRAM LEGEND AND SYMBOLS



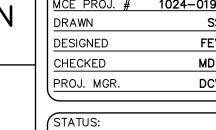




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INSTRUMENTATION DETAILS



SCALE HORIZONTAL: VERTICAL: MDT N/A DCW

ISSUED FOR BID

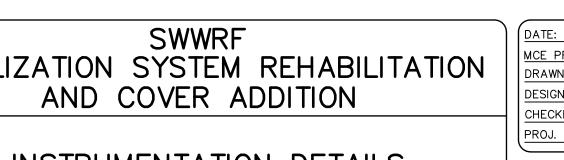
MCKIM&CREED

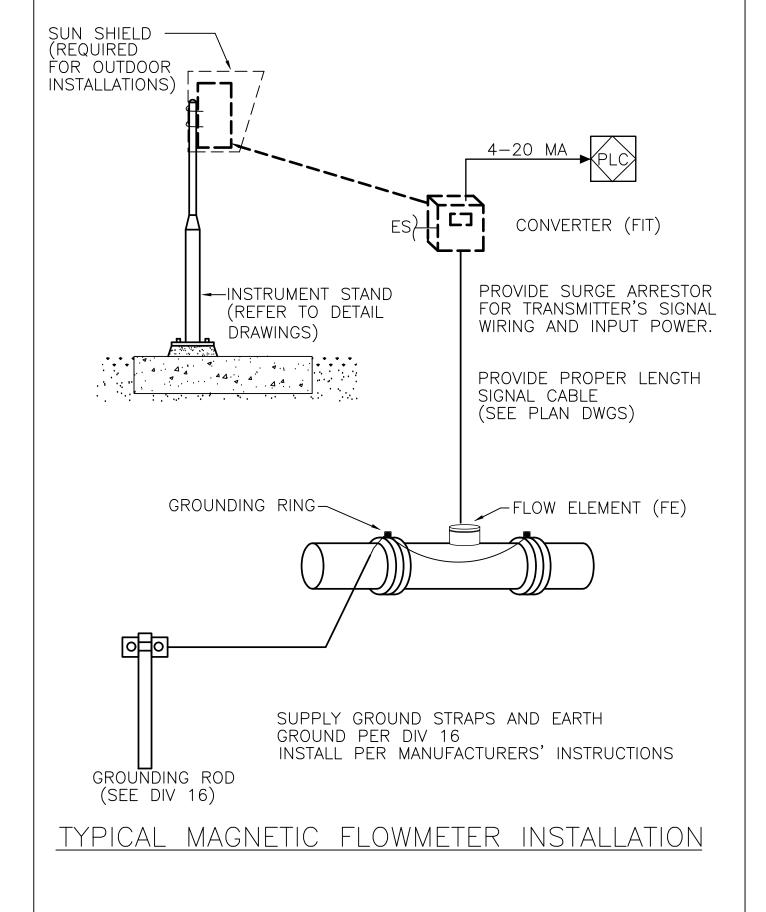


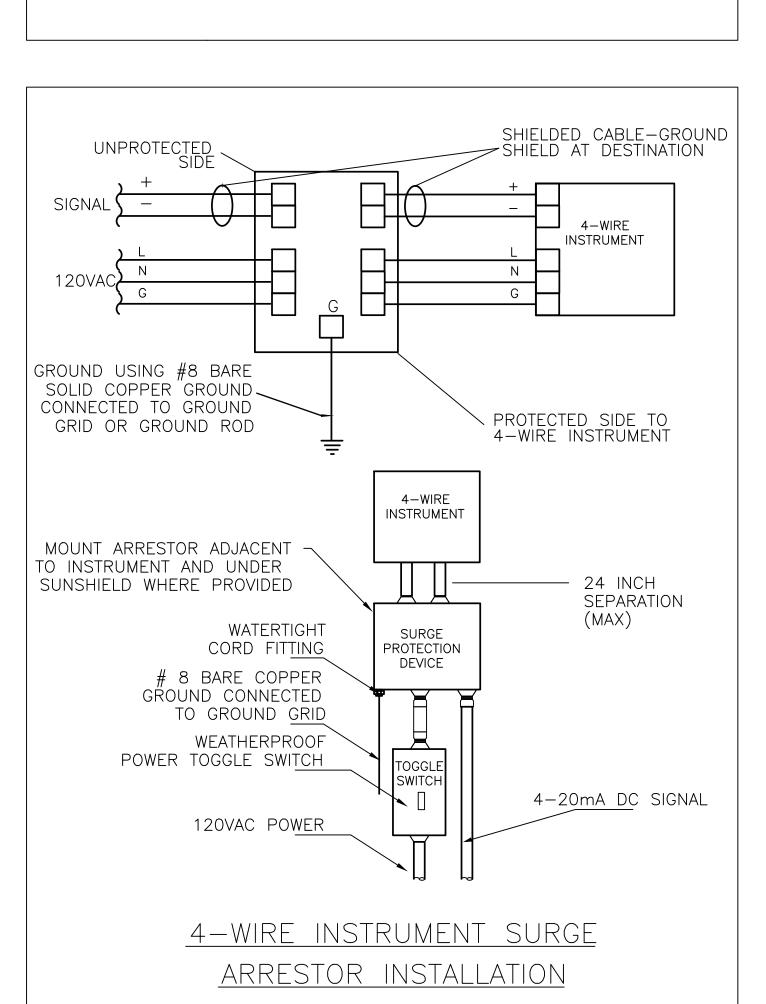


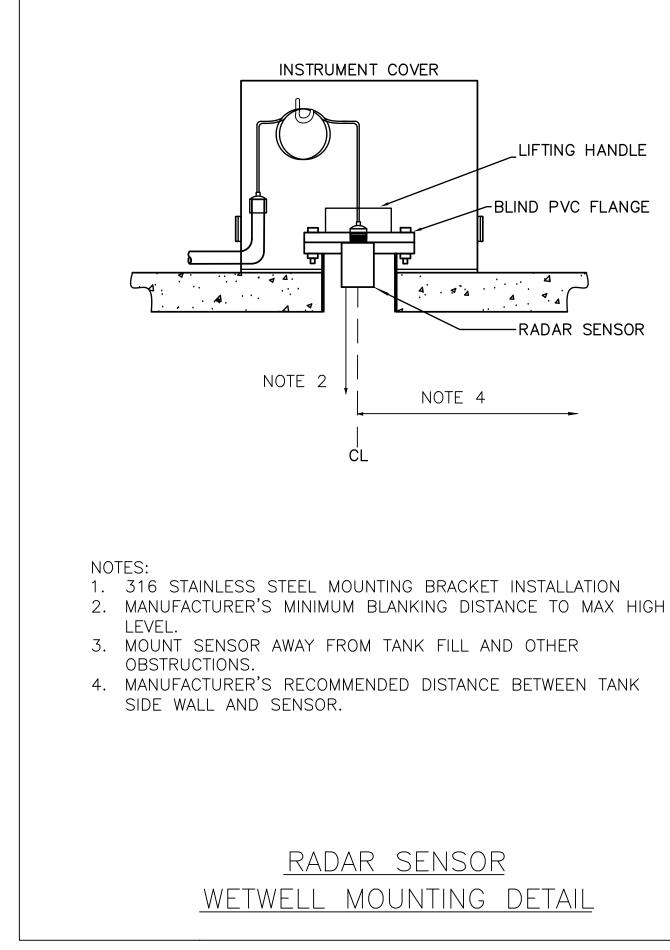


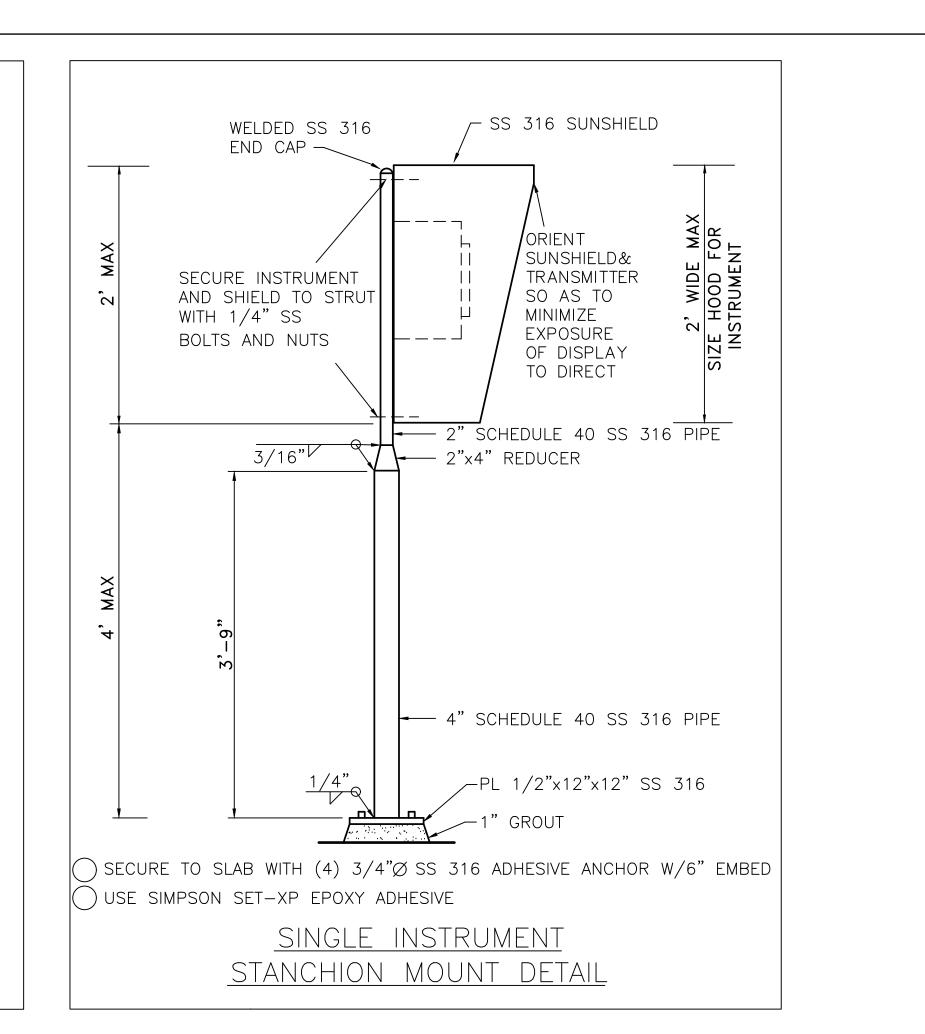
SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

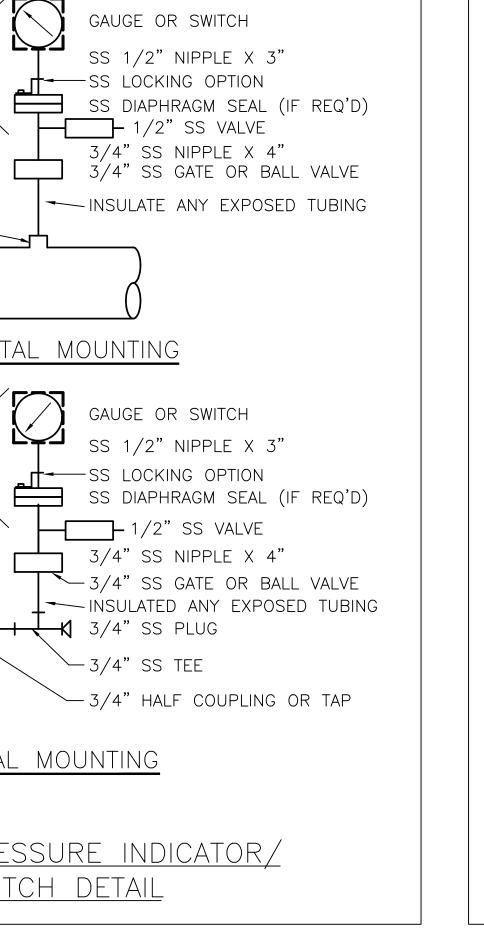












GAUGE OR SWITCH

SS LOCKING OPTION

- 1/2" SS VALVE

GAUGE OR SWITCH

______1/2" SS VALVE

| - SS LOCKING OPTION | SS LOCKING OPTION | STATE |

3/4" SS PLUG

-3/4" SS TEE

SS 1/2" NIPPLE X 3"

FACTORY

3/4" HALF COUPLING

ÓR TAP —

ASSEMBLED OIL FILLED

FACTORY ASSEMBLED

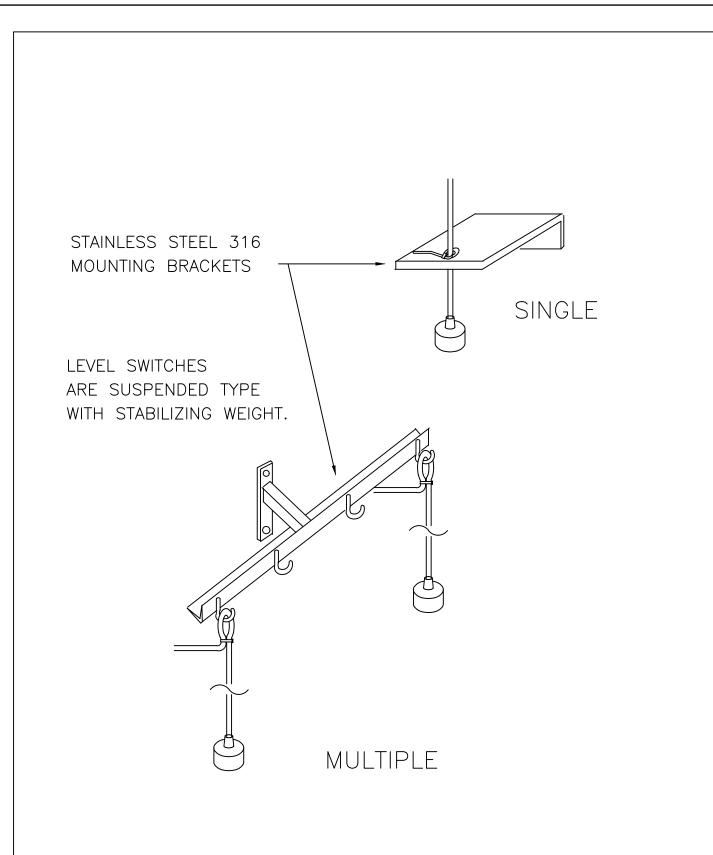
OIL FILLED

HORIZONTAL MOUNTING

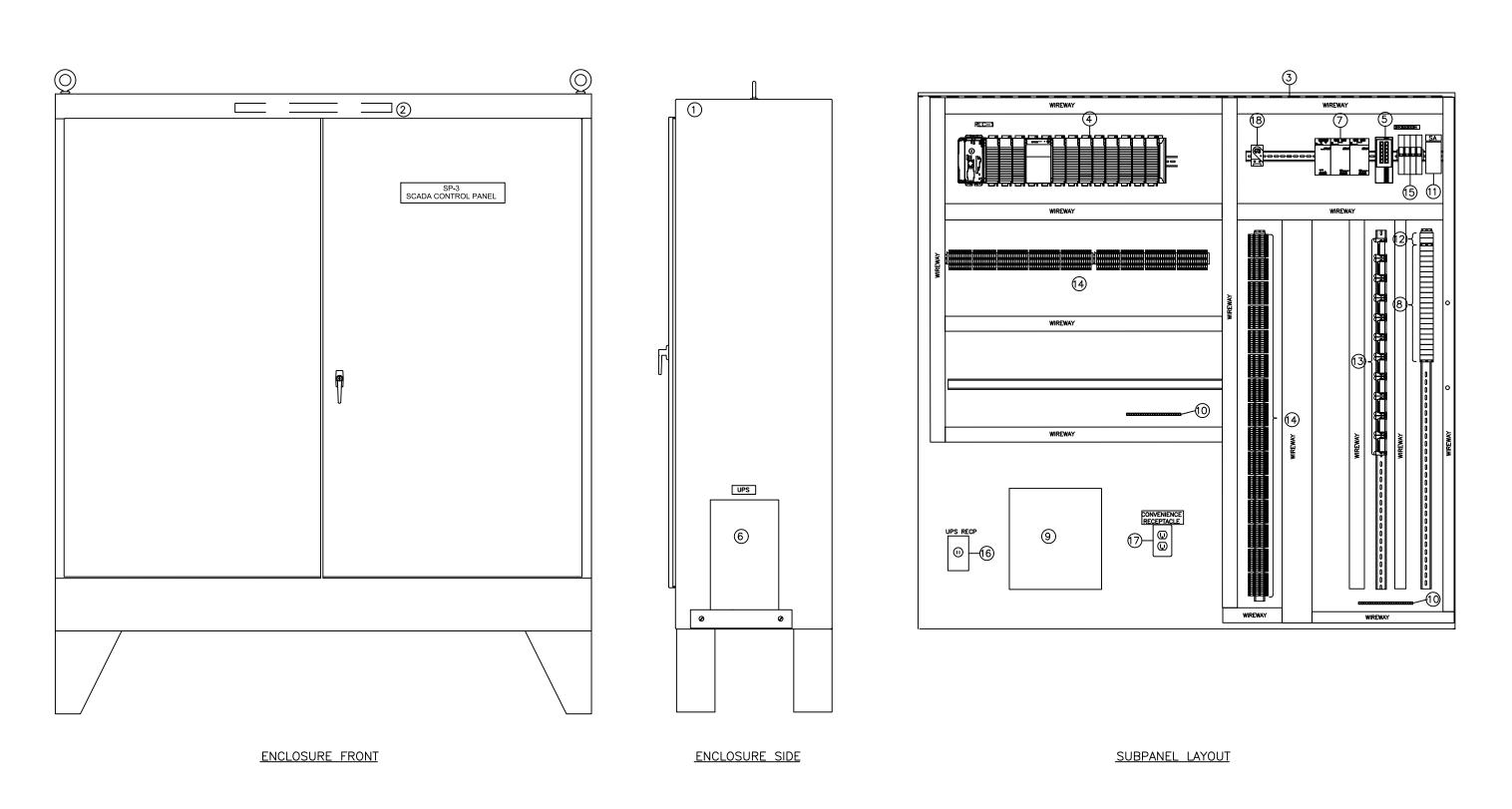
VERTICAL MOUNTING

TYPICAL PRESSURE INDICATOR/

SWITCH DETAIL



TYPICAL LEVEL SWITCH MOUNTING DETAIL

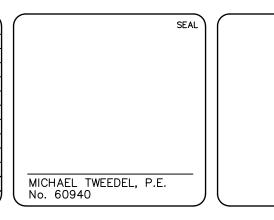


SP-3 SCADA CONTROL PANEL REPLACEMENT NOT TO SCALE

NOTES:

- 1. ENCLOSURE W/LEGS, NEMA 4X, STAINLESS STEEL 316
 WITH WHITE POWDER EPOXY COATING FINISHED. MINIMUM
- SIZE 60"H x 60"W X 24"D. LED LIGHT
- 3. ENCLOSURE SUBPANEL, STEEL, PAINTED WHITE 4. PLC HARDWARE
- 5. MANAGED ETHERNET NETWORK FIBER SWITCH
- 6. UNINTERRUPTIBLE POWER SUPPLY (UPS) WITH STAND 7. POWER SUPPLY, REDUNDANT, 24VDC
- 8. CONTROL RELAYS, 24VDC COIL, DPDT
 9. FIBER OPTIC TERMINATION PATCH PANEL CABLE
- 10. GROUND CONNECTOR
- 11. AC LINE SURGE SUPPRESSOR 12. CONTROL RELAYS, 120VAC, COIL, DPDT
- 13. ANALOG SURGE SUPPRESSORS
- 14. TERMINALS 15. CIRCUIT BREAKERS
- 16. UPS RECEPTACLE
- 17. 120VAC GFCI OUTLET
 18. TEMPERATURE SWITCH

DESCRIPTIONS REVISIONS





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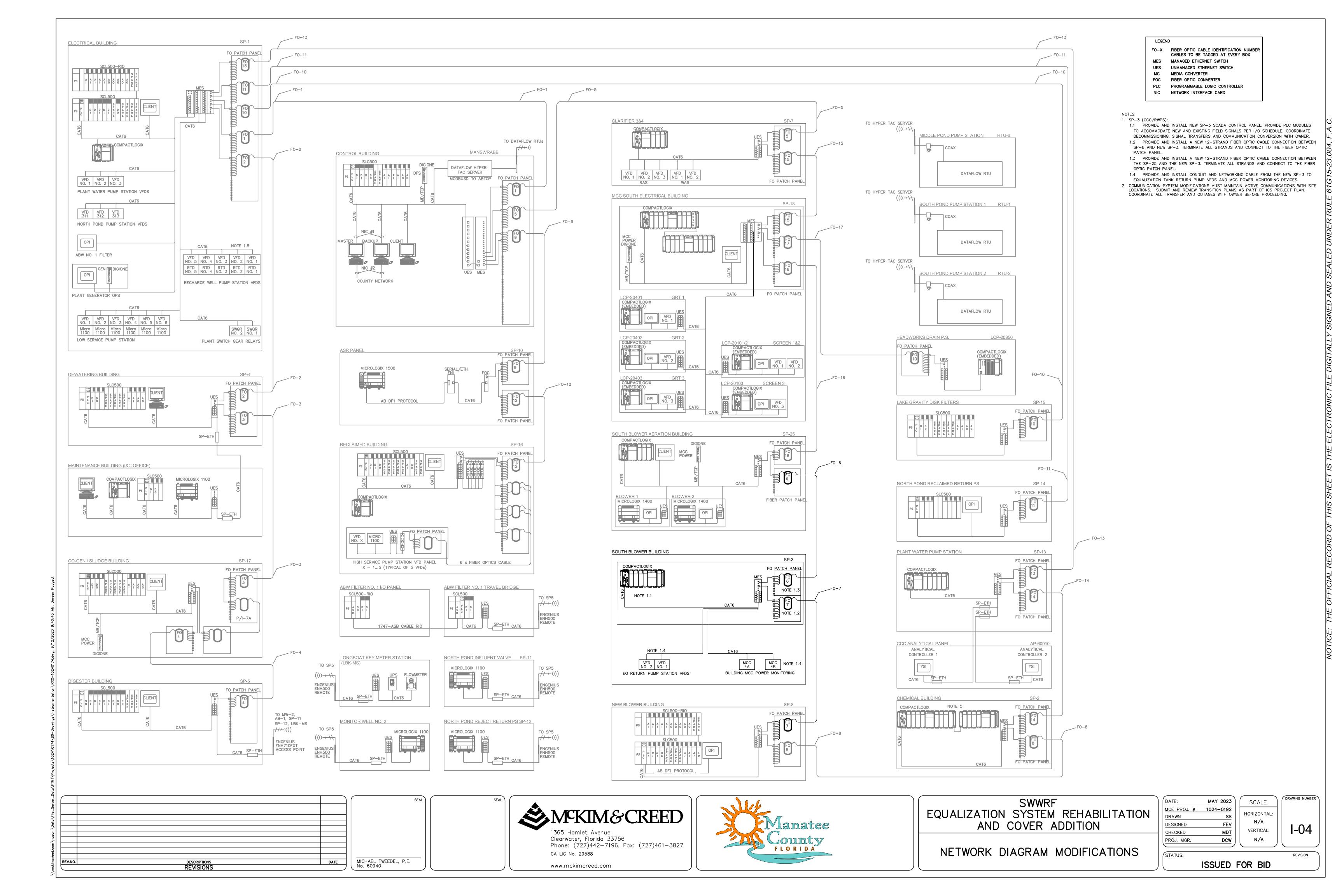


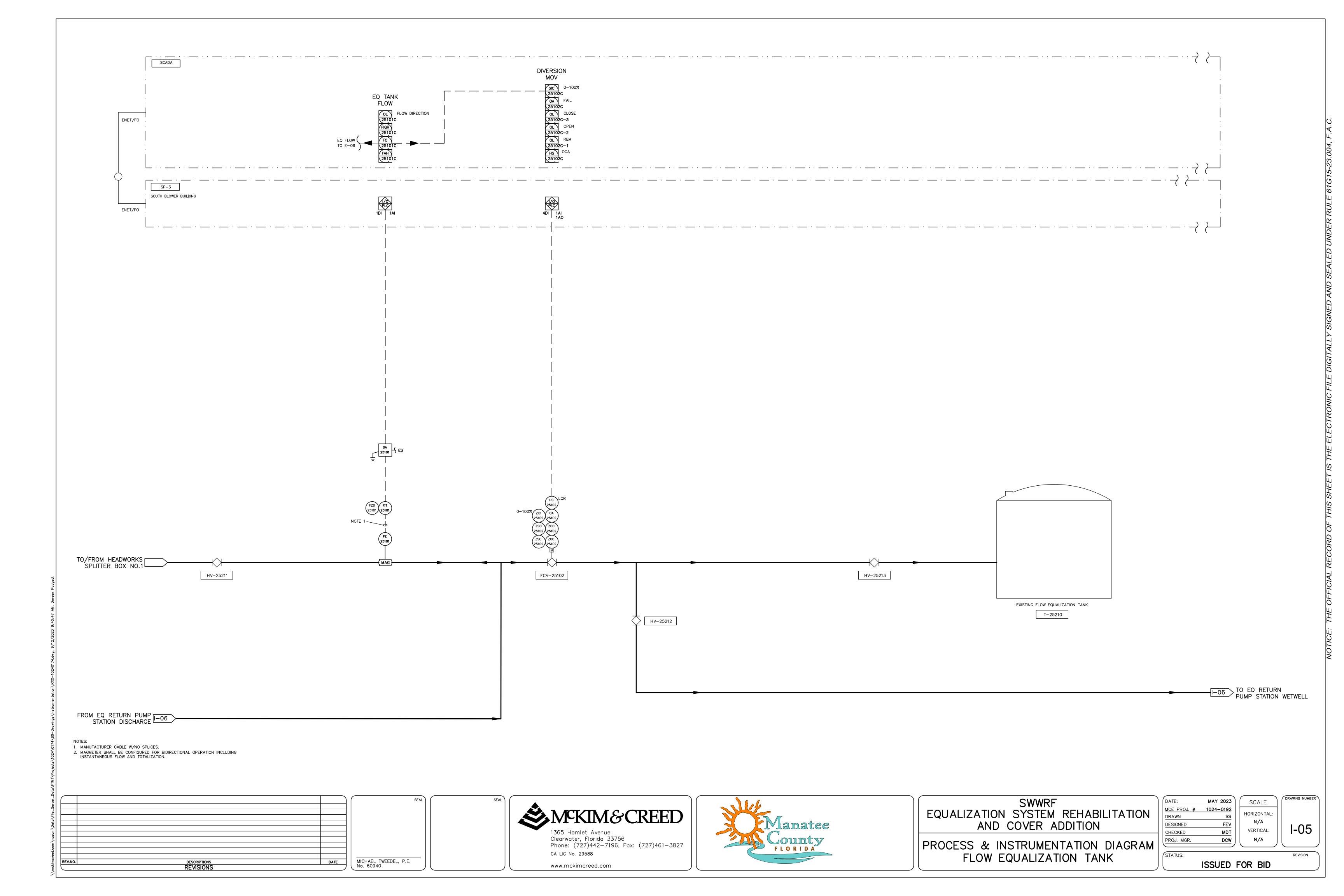
SWWRF EQUALIZATION SYSTEM REHABILITATION AND COVER ADDITION

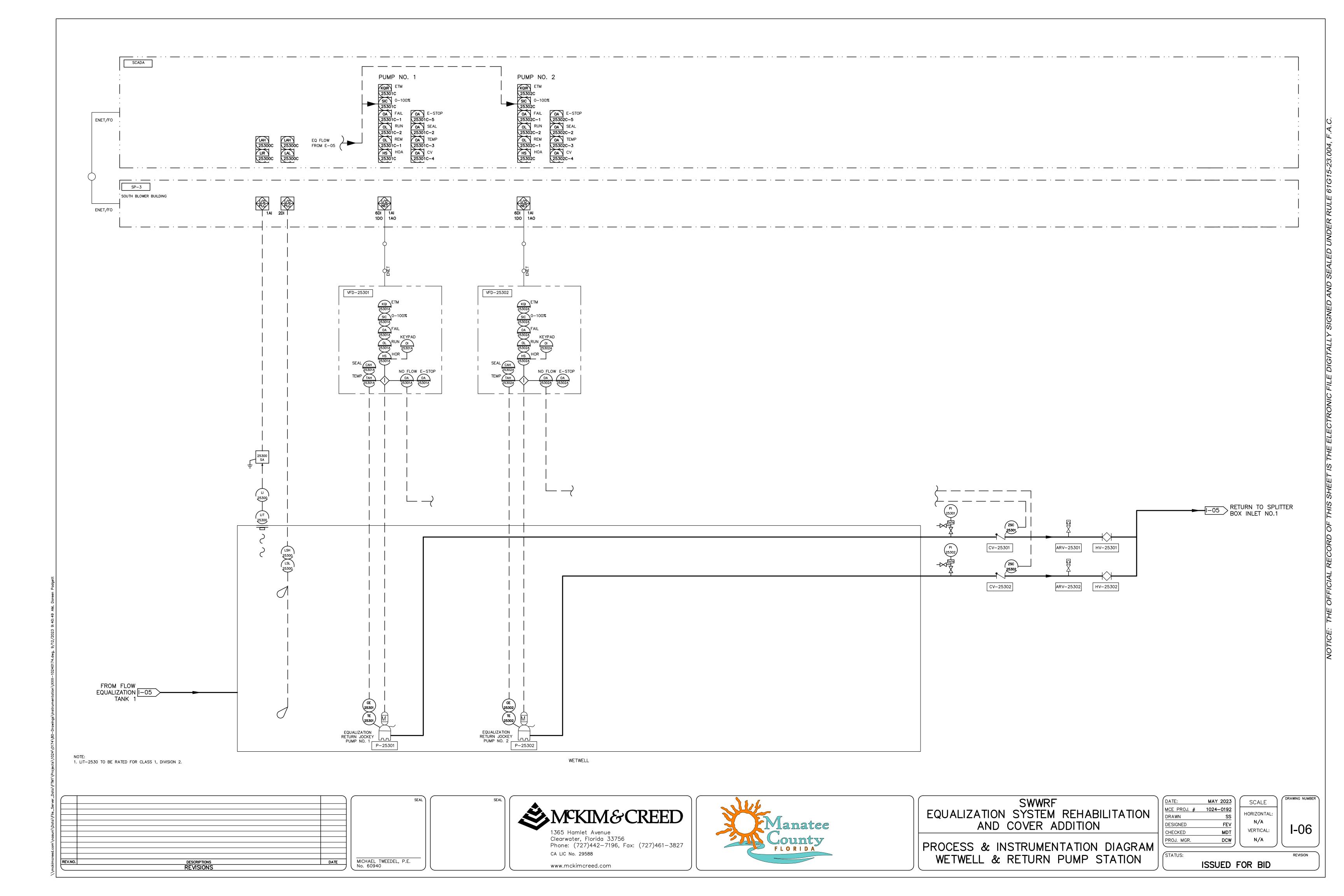
CONTROL PANEL DETAILS

			_
	DATE:	MAY 2023	
28.1	MCE PROJ. #	1024-0192	Η.
N	DRAWN	SS	
	DESIGNED	FEV	
	CHECKED	MDT	
	PROJ MGR	DCW	

HORIZONTAL: VERTICAL:







BUILDING HEATING LOAD:

BUILDING COOLING LOAD: 32.9 MBH

MECHANICAL SPACE CONDITIONING SYSTEM:

UNITARY - NEW SPLIT DX AIR CONDITIONING UNIT. NOT APPLICABLE TO THIS PROJECT. CHILLER - NOT APPLICABLE TO THIS PROJECT.

EQUIPMENT EFFICIENCIES:

EFFICIENCIES ARE LISTED ON EQUIPMENT SCHEDULES - SEE DRAWINGS.

EQUIPMENT SCHEDULES WITH MOTORS:

SEE DRAWINGS FOR EFFICIENCIES.

DESIGNER STATEMENT:

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE DESIGN OF THIS BUILDING COMPLIES WITH THE MECHANICAL SYSTEM AND EQUIPMENT REQUIREMENTS OF THE FLORIDA STATE BUILDING, CODE, 2020 EDITION-ENERGY CONSERVATION.

STERLING L. GRAHAM PROFESSIONAL ENGINEER

	MECHANICAL A	BBREVIATIO	DNS
AFF	ABOVE FINISHED FLOOR	FPM	FEET PER MINUTE
AFG	ABOVE FINISHED GRADE	GPM	GALLONS PER MINUTE
AHU	AIR HANDLING UNIT	HHWS F	HEATING HOT WATER SUPPLY
APD	AIRSIDE PRESSURE DROP	HHWR F	HEATING HOT WATER RETURN
BLDG	BUILDING	HP	HORSEPOWER
CFM	CUBIC FEET PER MINUTE	НХ	HEAT EXCHANGER
CV	CONSTANT VOLUME	IND	INDUCTION UNIT
CWR	CHILLED WATER SUPPLY	LAT	LEAVING AIR TEMPERATURE
CWS	DOWN	LWT	LEAVING WATER TEMPERATURE
DN	EXHAUST AIR	MC	MECHANICAL CONTRACTOR
EA	EXHAUST AIR	N/A	NOT AVAILABLE
EAT	ENTERING AIR TEMPERATURE	NTS	NOT TO SCALE
ETR	EXISTING TO REMAIN	OA	OUTSIDE AIR
EWT	ENTERING WATER TEMPERATURE	RA	RETURN AIR
EX.	EXISTING	SA	SUPPLY AIR
FCU	FAN COIL UNIT	VAV	VARIABLE AIR VOLUME
FVAV	FAN POWERED VAV BOX	WPD	WATERSIDE PRESSURE DROP
GC	GENERAL CONTRACTOR		

ME	CHANICAL LEGEND
(T)	THERMOSTAT
	SUPPLY DIFFUSER
	RETURN DIFFUSER
	VOLUME DAMPER
X 8"Ø 275	DIFFUSER NECK SIZE DIFFUSER CFM
→	AIRFLOW DIRECTION
10x10	RECTANGULAR DUCTWORK
8"Ø	ROUND DUCTWORK
UP DN	SUPPLY DUCT (UP & DOWN)
UP DN	EXHAUST DUCT (UP & DOWN)
UP DN	RETURN DUCT (UP & DOWN)
Ð	PIPING DOWN
Ю	PIPING UP
ЮН	TEE UP
1 0 1	

TEE DOWN

	DRAWING	SYMBOLS
FPV 1-1	4	- EQUIPMENT TAG
#		- DEMOLITION KEYED NOTE - NEW WORK KEYED NOTE
2	-	- DETAIL NUMBER
M1.1	-	- DRAWING NUMBER
A	-	_ SECTION LETTER
M1.1		_ DRAWING NUMBER

ODLIT OVOTERA			
SPLIT SYSTEM	AIR CONDII	HONING S	SCHEDULE

TAG LOCATION				I	NDOOR UNIT E	DATA						OUTDOOR C	ONDENSING U	NIT DATA	٨			
	LOCATION	TOTAL SPACE TEMP (°F)	CFM	COOLING SENS./TOTAL (MBH)	VOLTS/Ø	MCA	МОСР	FLA	MANUFACTURER/ MODEL#	TAG	COOLING CAP. TOTAL (MBH)	HEATING CAP. (MBH)	VOLTS/Ø	MCA	МОСР	MANUFACTURER/ MODEL#	SEER	NOTES
AHU-1	SOUTH BLOWER BUILDING ELECTRICAL ROOM	80.0	1200	36.0	208V/1PH	5	15	4.3	TRANE TEM6A0C36H31	CU-1	36.0	N/A	208V/3PH	12	20	TRANE 4TTA4036A3	16.0	ALL

NOTES:

- PROVIDE ACCUMULATOR FOR EXTENDED REFRIGERANT PIPING AND LOW AMBIENT CONTROL DOWN TO 10° F.
- REFRIGERANT PIPING SHALL BE PROVIDED AS RECOMMENDED BY THE MANUFACTURER. MC SHALL ROUTE THE PIPING IN THE MOST
- PROVIDE WITH R410A REFRIGERANT. PROVIDE 4" TALL EQUIPMENT PAD FOR OUTDOOR UNIT THAT EXTENDS 6" PAST ALL SIDES OF
- PROVIDE WITH WIND BAFFLE FOR OPERATION DOWN TO O°F.
- ELECTRICAL PANELS TO IDU'S. SEE ELECTRICAL DRAWINGS FOR WIRE SIZE.

	AIR DISTRIBUTION SCHEDULE
AG	DESCRIPTION
A	LAY-IN CEILING SUPPLY DIFFUSER; PRICE ASCD, ALUMINUM CONSTRUCTION, 24" x24" FACE. SQUARE 3-CONE DIFFUSER; BAI OFF-WHITE ENAMEL FINISH. 4-WAY BLOW UNLESS SHOWN OTHERWISE. SEE PLAN FOR NECK SIZE AND CFM.

- ALUMINUM CONSTRUCTION. SUITABLE FOR TBAR LAY-IN. MERV 8 FILTER PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR SEE PLANS FOR NECK SIZE AND CFM.

- MECHANICAL CONTRACTOR SHALL PROVIDE MANUAL VOLUME DAMPER IN BRANCH TAKE-OFF FOR ALL AIR DISTRIBUTION DEVICES (UNLESS OTHERWISE NOTED).
- 2. "BASIS OF DESIGN" SHALL BE PRICE OR APPROVED EQUIVALENT BY METAL-AIRE, CARNES, NAILOR, TITUS AND TUTTLE &

		SPLIT SYSTEM AIR CONDITIONING SCHEDULE															
		INDOOR UNI								OUTDOOR CONDENSING UNIT DATA							
G	LOCATION	TOTAL SPACE TEMP (°F)	CFM	COOLING SENS./TOTAL (MBH)	VOLTS/Ø	MCA MOCP	FLA	MANUFACTURER/ MODEL#	TAG	COOLING CAP. TOTAL (MBH)	HEATING CAP. (MBH)	VOLTS/Ø	MCA	МОСР	MANUFACTURER/ MODEL#	SEER	NOTES
J-1	SOUTH BLOWER BUILDING ELECTRICAL ROOM	80.0	1200	36.0	208V/1PH	5 15	4.3	TRANE TEM6A0C36H31	CU-1	36.0	N/A	208V/3PH	12	20	TRANE 4TTA4036A3	16.0	ALL

- COOLING CAPACITY IS LISTED IN BTUH AND BASED ON 95°F AMBIENT.
- EQUIPMENT. PROVIDE 24" TALL STAND FOR INDOOR UNIT TO ALLOW SPACE FOR DUCT CONNECTION TO BOTTOM RETURN AIR INLET.
- DISCONNECT PROVIDED BY MECHANICAL CONTRACTOR. MECHANICAL CONTRACTOR TO PROVIDE WIRING FROM DEDICATED CIRCUITS IN
- 7. PROVIDE MANUFACTURER'S WALL-MOUNTED THERMOSTAT.
- COOLING ONLY UNIT.

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- (B) LAY-IN CEILING FILTERED RETURN GRILLE PRICE 630FF SERIES 45° DEFLECTION, 3/4" BLADE SPACING, FIXED LOUVER FACE.

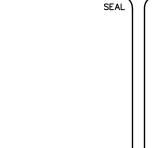
GENERAL NOTES

- THE DRAWINGS SHALL NOT BE SCALED FOR CONSTRUCTION PURPOSES. THE SCALE, WHEN INDICATED IS INTENDED
- FOR GENERAL REFERENCE ONLY. THE MECHANICAL CONTRACTOR SHALL MAKE A COMPLETE REVIEW OF THE PROJECT PLANS, SCHEDULES, AND
- DETAILS PRIOR TO INSTALLATION OF THE MECHANICAL SYSTEMS AND REVIEW ANY CONFLICTS WITH THE ENGINEER. ALL WORK SHALL CONFORM TO ALL LOCAL, STATE, AND NATIONAL CODES. EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. ANY EQUIPMENT OR MATERIAL DEVIATIONS
- FROM THAT SPECIFIED OR DETAILED ON THIS DRAWING SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT/ENGINEER. ALL PROPOSED EQUIPMENT DEVIATIONS SUBMITTED SHALL BE SIMILAR BOTH IN QUALITY AND CAPACITY TO THAT EQUIPMENT SPECIFIED.
- DESIGN IS BASED ON THE MANUFACTURER AND MODEL SCHEDULED OR THE FIRST MANUFACTURER LISTED IN THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR SHALL BEAR ANY AND ALL COSTS FOR ALTERING ANY OTHER CONTRACT OR SUB-CONTRACT RESULTING FROM THE USE OF ANY MANUFACTURER OR MODEL OTHER THAN THE DESIGN BASIS INCLUDING LISTED EQUALS.
- PRIOR TO CONSTRUCTION, FABRICATING DUCTWORK, ORDERING EQUIPMENT, ETC., THE CONTRACTOR SHALL FIELD VERIFY SPACE LIMITATIONS AT THE JOB SITE AND COORDINATE WITH OTHER TRADES.
- ALL MATERIALS, EQUIPMENT AND PRODUCTS INCORPORATED IN THE WORK UNDER THE CONTRACT SHALL BE NEW, OF A SUITABLE GRADE FOR THE PURPOSES INTENDED, AND TO THE EXTENT POSSIBLE, STANDARD PRODUCTS OF THE VARIOUS MANUFACTURES EXCEPT WHERE SPECIAL CONSTRUCTION OR PERFORMANCE FEATURES ARE CALLED FOR. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE FURNISHED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS.
- THE MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE CAUSED BY THEIR ACTIONS. SUCH DAMAGE SHALL BE RETURNED TO ORIGINAL NORMAL WORKING CONDITION, SUBJECT TO ACCEPTANCE OF THE OWNER AND ENGINEER, WITHOUT EXTRA COST TO THE OWNER.
- THE MECHANICAL CONTRACTOR SHALL KEEP THEIR WORK SITE AND ALL ACCESS POINTS OF THE BUILDING FREE OF RUBBISH AND WASTE MATERIAL. ALL ROOF OPENINGS IN THE BUILDING REQUIRED FOR THE MECHANICAL CONTRACT SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. ALL FRAMING AROUND OPENINGS SHALL BE BY THE GENERAL CONTRACTOR. MECHANICAL CONTRACTOR SHALL COORDINATE SIZE OF OPENINGS AND LOCATION OF OPENINGS WITH THE GENERAL CONTRACTOR. ALL ROOF CURBS AND ROOF SUPPORT RAILS FOR MECHANICAL EQUIPMENT INSTALLED ON THE ROOF SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
- ALL OPENINGS IN WALLS AS REQUIRED BY THE MECHANICAL SYSTEM IN THE BUILDING SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT IS THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE SIZE AND LOCATION OF ALL OPENINGS WITH THE GENERAL CONTRACTOR AT THE JOB SITE IN A TIMELY MANNER.
- REFER TO ARCHITECTURAL DRAWINGS, AS AVAILABLE, FOR LOCATIONS OF ALL RATED WALL AND FLOOR ASSEMBLIES. PROVIDE FIRE DAMPERS AND/OR U.L. LISTED ASSEMBLIES AND/OR SEALANTS PER DRAWINGS, SPECIFICATIONS, AND APPLICABLE CODES AT ALL PENETRATIONS.
- THE MECHANICAL CONTRACTOR SHALL FURNISH ACCESS DOORS FOR ALL GYPSUM BOARD CEILINGS AT VOLUME DAMPERS, EQUIPMENT, MOTOR OPERATED DAMPERS, FIRE DAMPERS, BALANCING DEVICES OR OTHER ITEMS REQUIRING BALANCING OR SERVICE. ACCESS DOORS SHALL BE INSTALLED BY THE GENERAL CONTRACTOR. SEE
- PLANS AND GENERAL CONSTRUCTION SPECIFICATIONS FOR ACCESS DOOR REQUIREMENTS. MECHANICAL CONTRACTOR SHALL PROVIDE 6" HIGH HOUSEKEEPING PADS UNDER MAJOR MECHANICAL EQUIPMENT (I.E. CHILLERS) AND 4" HIGH HOUSEKEEPING PADS UNDER ALL OTHER FLOOR MOUNTED EQUIPMENT UNLESS NOTED OTHERWISE. PADS SHALL EXTEND BEYOND EQUIPMENT BY THE SAME DIMENSION AS THE HEIGHT OF THE PAD,
- ALL PIPING AND DUCTWORK (EXCEPT IN MECHANICAL ROOMS, BOILER ROOM, ETC.) SHALL BE CONCEALED UNLESS
- OTHERWISE SHOWN OR NOTED. DO NOT INSTALL PIPING OR DUCTWORK OVER ANY ELECTRICAL SWITCHGEAR; SEE MECHANICAL DETAIL SHEET(S).
- MC SHALL BLANK OFF UNUSED PORTIONS OF LOUVERS WITH DOUBLE WALL INSULATED PANELS.
- REFER TO SPECIFICATIONS FOR EQUIPMENT STARTUP PROCEDURES AND REQUIREMENTS.

- DUCT SIZES SHOWN ON PLANS ARE FREE AREA DIMENSIONS. CONTRACTOR SHALL INCREASE SIZES AS NECESSARY TO ACCOMMODATE LINING, IF SPECIFIED.
- BEFORE FABRICATING OR INSTALLING DUCTWORK, COORDINATE DUCT LOCATIONS WITH THE ELECTRICAL CONTRACTOR'S PANELS, CONDUIT AND RECESSED LIGHT FIXTURES, PLUMBING PIPING, AND ALL STRUCTURAL MEMBERS. THESE DRAWINGS ARE DIAGRAMMATIC AND ARE NOT SHOP DRAWINGS. ALL OFFSETS AND TRANSITIONS REQUIRED FOR THIS PROJECT MAY NOT BE SHOWN ON THESE DRAWINGS; HOWEVER, THEY SHALL BE PROVIDED
- WITHOUT CHANGE TO THE BID CONTRACTS. BEFORE FABRICATING OR INSTALLING DUCTWORK, COORDINATE FINAL LOCATION OF CEILING GRILLES, REGISTERS
- AND DIFFUSERS WITH REFLECTED CEILING PLANS AND ELECTRICAL LIGHTING PLANS. ALL SURFACES SEEN THOUGH GRILLES AND DIFFUSERS SHALL BE PAINTED MATTE BLACK.
- CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO KEEP ACCESS TO THE VOLUME DAMPERS WITHIN THE
- LAY-IN CEILING OR EXPOSED AREAS.
- PROVIDE FLEXIBLE CONNECTIONS TO ALL AIR MOVING EQUIPMENT.
- INSTALL DIFFUSERS WITH 3-WAY OR 2-WAY THROW AS REQUIRED TO AVOID BLOWING DIRECTLY ON THERMOSTATS. MC SHALL CONFIRM ALL CEILING TYPES, HARD OR LAY-IN, INCLUDING NARROW TEE AND REGULAR, PRIOR TO
- SUBMITTAL OF SHOP DRAWINGS TO ENGINEER. ANY AIR DEVICES REQUIRING REPLACEMENT DUE TO LACK OF MC'S CONFIRMATION SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- ALL FIRE DAMPERS AND U.L. FIRE STOPS SHALL BE INSTALLED IN COMPLETE ACCORDANCE WITH MANUFACTURER'S U.L. LISTING AND INSTALLATION INSTRUCTIONS. REGARDLESS OF DUCT SIZE, FIRE DAMPERS SHALL BE MINIMUM 12"X12" OR 12"Ø IN SIZE. TRANSITION BEYOND ACCESS DOOR AS REQUIRED TO MATCH ACTUAL DUCT SIZE.

- ANY INSULATION DAMAGED DURING THE PROJECT SHALL BE REPAIRED AND ALL VAPOR BARRIERS RESTORED. COORDINATION
- ALL SHUTDOWNS SHALL BE COORDINATED AND APPROVED THROUGH THE OWNERS' REPRESENTATIVE AND WILL REQUIRE ADVANCE NOTICE OF ONE WEEK MINIMUM. THIS TIME/LENGTH MAY BE LONGER OR SHORTER FOR SOME SHUTDOWNS AND SHALL BE AT THE OWNER'S DISCRETION.







CA LIC No. 29588

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HVAC DATA SHEET

)	DATE:	MAY 2023
	MCE PROJ. #	1024-0174
V	DRAWN	SG
	DESIGNED	SG
	CHECKED	DCW

SCALE HORIZONTAL: SEE PLAN VERTICAL:

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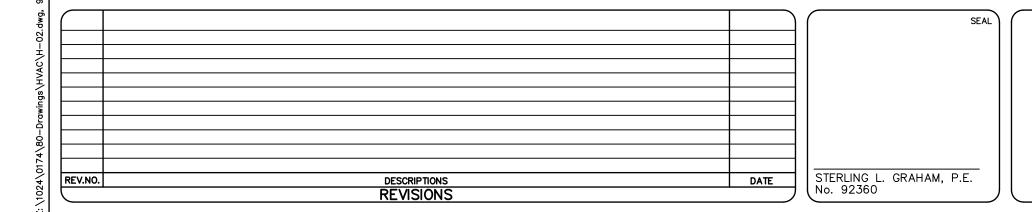
DRAWING NUMBER

★ KEY NOTES

- 1. INSTALL NEW CONDENSING UNIT, CU-1, ON NEW 4" TALL CONCRETE EQUIPMENT PAD (BY G.C.). PAD SHALL EXTEND 4" PAST EDGE OF EQUIPMENT. ROUTE REFRIGERANT PIPING FROM CONDENSING UNIT TO INDOOR UNIT PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- INSTALL NEW AIR HANDLING UNIT, AHU-1, ABOVE CEILING.
 SUSPEND UNIT FROM STRUCTURE ABOVE. PROVIDE
 CONDENSATE P-TRAP AND ROUTE CONDENSATE PIPING ABOVE
 CEILING TO BUILDING EXTERIOR. PROVIDE AND INSTALL
 SECONDARY DRAIN PAN UNDER UNIT AND ROUTE CONDENSATE
 PIPING TO BUILDING EXTERIOR, REFER TO MECHANICAL
 DETAILS FOR MORE INFORMATION.
- 3. PROVIDE AND INSTALL MERV 8 FILTER IN FILTER HOUSING OF RETURN GRILLE.
- 4. REFRIGERANT PIPING SHALL BE SIZED PER MANUFACTURER'S INSTRUCTIONS.
- 6. ROUTE PIPING DOWN EXTERIOR WALL AND DISCHARGE CONDENSATE ONTO CONCRETE SPLASH BLOCK. MAINTAIN 1" AIR GAP MINIMUM.
- COORDINATE EXACT LOCATION OF CEILING DEVICES WITH OTHER DISCIPLINES.

PROPOSED SOUTH BLOWER BUILDING LAYOUT

SCALE: 1/4" = 1'-0"





1365 Hamlet Avenue Clearwater, Florida 33756 Phone: (727)442—7196, Fax: (727)461—3827 CA LIC No. 29588 www.mckimcreed.com



$\Big)$	SWWRF		
	EQUALIZATION SYSTEM REHABILITATION		
	AND COVER ADDITION		
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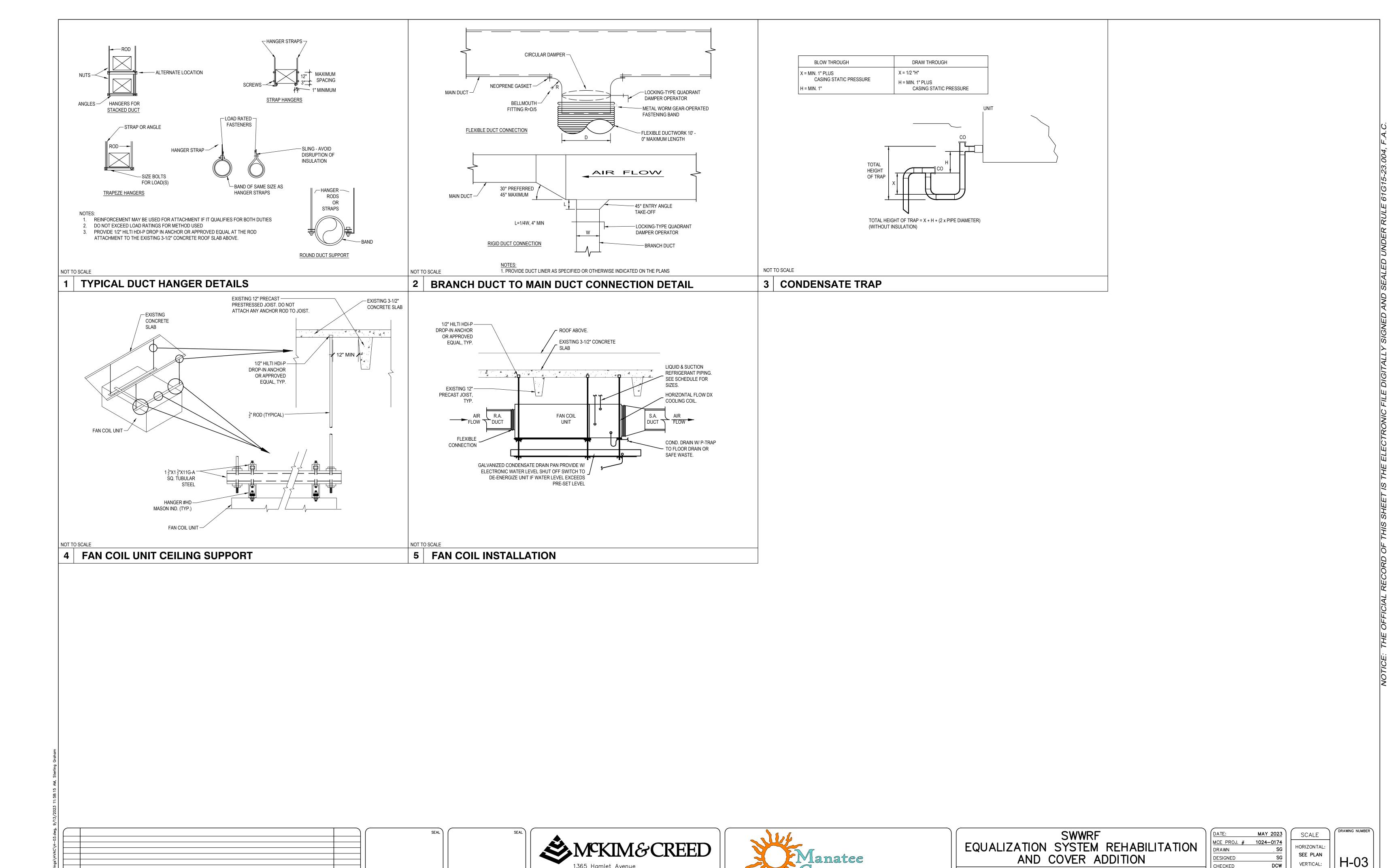
HVAC FLOOR PLAN

Ì	DATE:	MAY 2023
 .	MCE PROJ. #	1024-0174
)N	DRAWN	SG
	DESIGNED	SG
	CHECKED	DCW
	PROJ. MGR.	DCW

SCALE
HORIZONTAL:
SEE PLAN
VERTICAL:
NA

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DESCRIPTIONS REVISIONS

H-03

VERTICAL:

DCW

DCW

ISSUED FOR BID

PROJ. MGR.

HVAC DETAILS