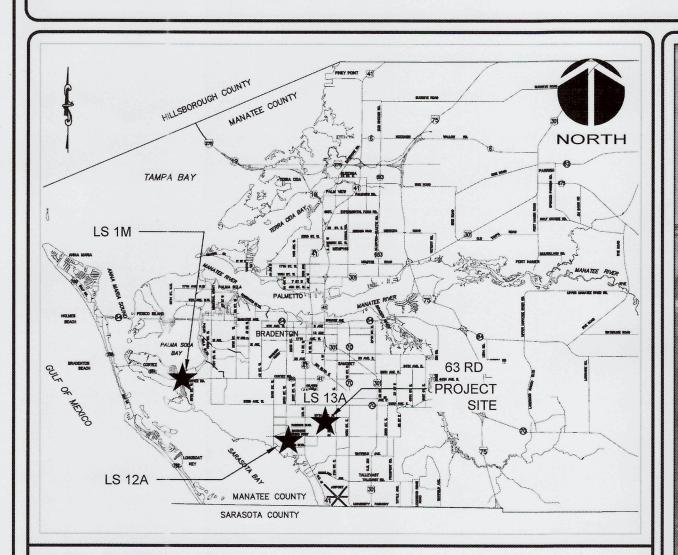
LIFT STATION 13A ELECTRICAL REHABILIATION MANATEE COUNTY

PROJ. NO. 01024-0182 MARCH 17, 2021 ISSUED FOR BID



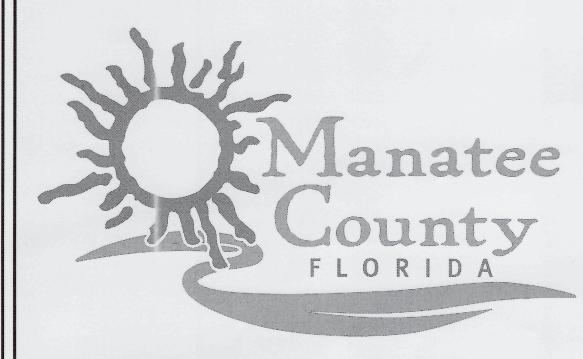
VICINITY MAP

NOT TO SCALE

SITE MAP

PROJECT NAME: LIFT STATION 13A ELECTRICAL REHABILIATION

OWNER/DEVELOPER: 112 63RD AVE W BRADENTON, FLORIDA 34203 EMAIL

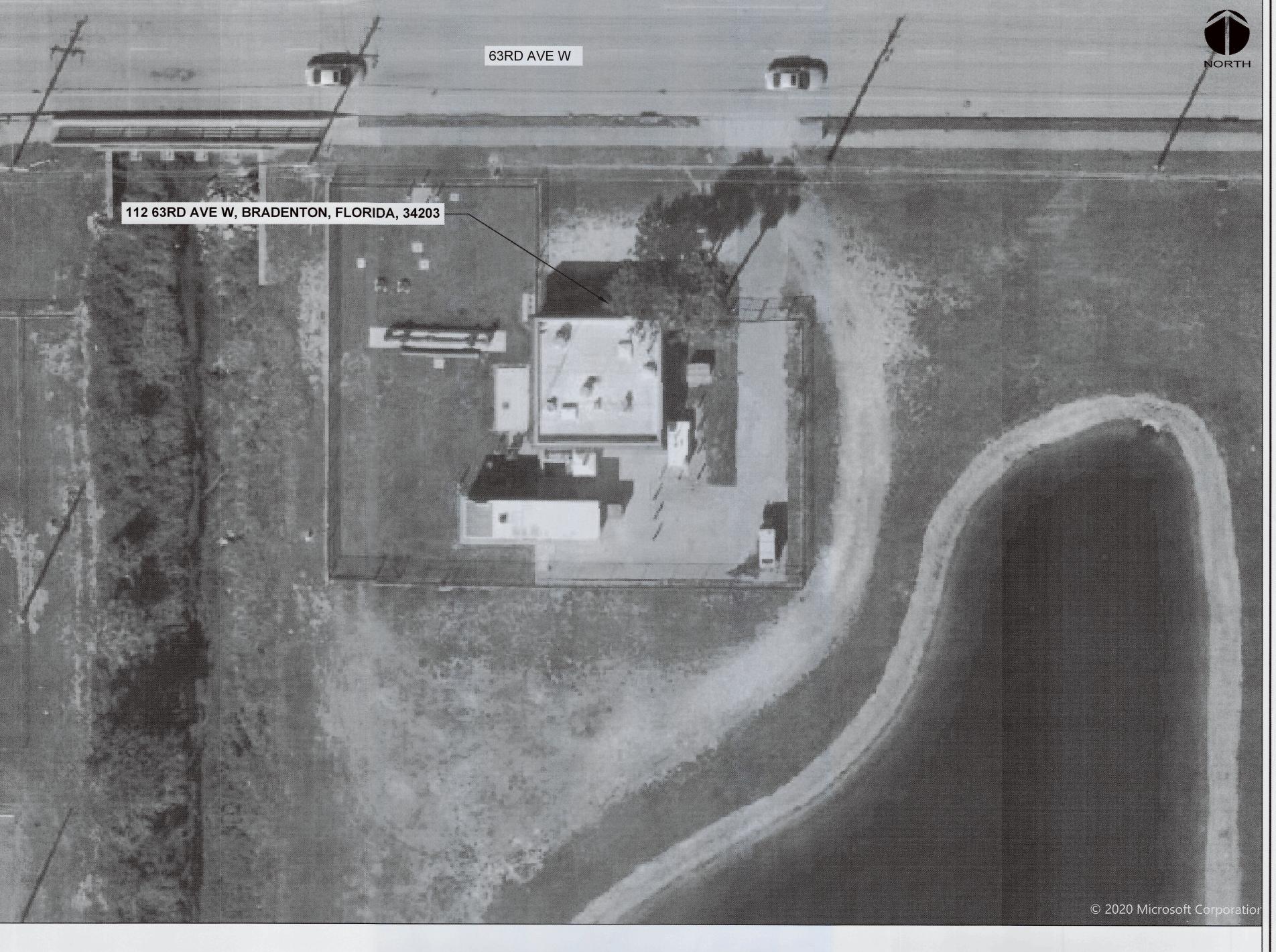


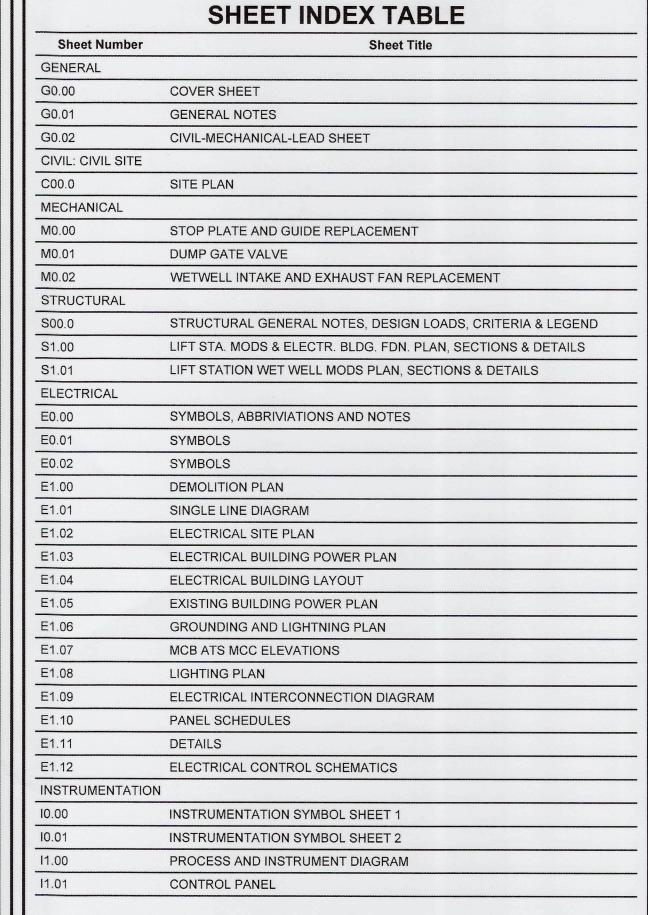


1365 Hamlet Avenue Clearwater, Florida 33756 Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588 www.mckimcreed.com

PROJECT INFORMATION







SHEET INDEX

SCALE: 1" = 200'

GENERAL NOTES

- 1. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL LAYOUTS, DIMENSIONS AND ELEVATIONS ON THE PLANS WITH FINAL APPROVED EQUIPMENT DRAWINGS AS WELL AS ALL TECHNICAL SPECIFICATIONS PRIOR TO STARTING CONSTRUCTION AND SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEERS CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- 2. THE CONTRACTOR SHALL COORDINATE ALL RELATED DISCIPLINE DRAWINGS TO ENSURE ACCURATE INSTALLATION OCCURS.
- 3. THESE PLANS ARE SOLELY TO ASSIST THE CONTRACTOR IN ASSESSING THE NATURE AND EXTENT OF THE EXISTING CONDITIONS WHICH MAY BE ENCOUNTERED DURING THE COURSE OF THE WORK. CONTRACTORS ARE DIRECTED TO CONDUCT WHATEVER INVESTIGATION THEY DEEM NECESSARY. PRIOR TO BIDDING, TO DETERMINE THE ACTUAL CONDITIONS THAT WILL BE ENCOUNTERED.
- 4. 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.
- 5. 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.
- 6. 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.
- 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. ALL PROPOSED WORK SHALL BE COORDINATED WITH MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.
- 9. UNLESS OTHERWISE INDICATED OR APPROVED, ALL BELOW GROUND DUCTILE IRON AND PVC 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.
- 10. WATER SHALL NOT BE PERMITTED IN EXCAVATIONS AND TRENCHES DURING CONSTRUCTION. DEWATERING IS REQUIRED TO A MINIMUM OF 18" BELOW BOTTOM OF EXCAVATION.
- 11. 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.
- 12. ALL EXPOSED NEW PIPING SHALL BE PAINTED WITH DESIGNATED COLORS ASSOCIATED WITH THEIR USAGE AS PROVIDED IN THE SPECIFICATIONS.
- 13. 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
- 14. 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.
- 15. CONTRACTOR SHALL PROVIDE PROTECTIVE MATTING, FUEL CONTAINMENT AND ALL OTHER MATERIALS, EQUIPMENT AND LABOR TO PROTECT THE STAGING AREA DURING CONSTRUCTION.
- 16. CONTRACTOR SHALL, PRIOR TO BEGINNING CONSTRUCTION, SUBMIT A "FUELING SPILL PREVENTION PLAN" THAT SHALL CLEARLY INDICATED HOW FUEL SPILLS WILL BE PREVENTED WHEN FUELING BOTH WITHIN AND OUTSIDE OF THE STAGING AREA.
- 17. 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.
- 18. JOINT RESTRAINT SHALL BE INSTALLED AS NECESSARY TO PREVENT MOVEMENT OF EXISTING UNRESTRAINT PRESSURE PIPE AT ALL TIE-IN LOCATIONS WHETHER SPECIALLY IDENTIFIED ON THE PLANS OR NOT.
- 19. ALL WORK, EQUIPMENT AND MATERIALS SHALL MEET OR EXCEED CURRENT MANATEE COUNTY STANDARDS, UNLESS OTHERWISE STATED IN CONTRACT DOCUMENTS.

RESTORATION AND MISCELLANEOUS NOTES:

- THE CONTRACTOR SHALL PROVIDE AN ASPHALT PATCH FOR TRENCH AREAS CONSTRUCTED IN EXISTING ROADWAYS UNLESS INDICATED OTHERWISE ON THE DRAWINGS. ADJUST ALL CASTINGS TO MATCH NEW PAVEMENT SURFACE.
- WHERE SURFACE IMPROVEMENTS ARE TO BE REPLACED IN KIND, AS INDICATED ON THE DRAWINGS, 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
- 3. 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
- 5. CONTRACTOR SHALL RESTORE GRADE PRECONSTRUCTION ELEVATIONS UNLESS OTHERWISE NOTED.

6. SOIL EROSION & SEDIMENTATION CONTROL NOTES:

- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF ANY CONSTRUCTION, DEMOLITION, DEWATERING, OR MOBILIZATION ACTIVITIES, MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL WORK IS COMPLETE.
- 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. CONTRACTOR SHALL PREPARE AND SUBMIT A STORM WATER POLLUTION PLAN (SWPPP) FOR REVIEW AND
- APPROVAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES AND PROVIDE APPROVED FDEP NOT TO COUNTY.
- CONTRACTOR SHALL PREPARE AND SUBMIT A DISPOSAL PLAN FOR EXCAVATION MATERIAL INCLUDING THE LOCATION OF DISPOSAL SITE(S) AND DISPOSAL PLANS SHOWING APPLICABLE BEST MANAGEMENT PRACTICES FOR REVIEW AND APPROVAL PRIOR TO ANY EARTHWORK ACTIVITIES.

PLANT WORK NOTES

- CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING CONSTRUCTION.
- 2. ALL PIPE LINES SHALL HAVE A MINIMUM COVER OF 36" UNLESS OTHERWISE NOTED OR DIRECTED.
- 3. NOTE; ALL VAULTS, MANHOLES, INLET STRUCTURES, BASINS, WET WELLS ETC. SHALL BE CONSIDERED "CONFINED SPACE ENTRY" AND SHALL BE MARKED AS SUCH BY MEANS OF STAMPING MANHOLE COVERS AND PLACING PERMANENT SIGNAGE ON THE VAULTS, BASINS OR STRUCTURES WARNING OF THE "CONFINED SPACE ENTRY" CONDITION.
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- NOTE: ALL NON-POTABLE/PLANT WATER USERS MUST BE CLEARLY LABELED AS "NON-POTABLE", NOT FOR HUMAN CONSUMPTION.
- PLANT TRAFFIC FLOW SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. IF TRAFFIC FLOW IS TO BE RE-DIRECTED, CONTRACTOR SHALL COORDINATE TEMPORARY TRAFFIC FLOW PATTERNS WITH OWNER AND ENGINEER.
- CONTRACTOR SHALL RESTRAIN ALL UNDERGROUND PRESSURE PIPING AT ALL FITTINGS AND PIPE JOINTS.

EXISTING UTILITY NOTES

- UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN MADE AVAILABLE FROM VARIOUS ENTITIES THAT MAY INCLUDE UTILITY OWNERS, SURVEY SUBSURFACE UTILITY INVESTIGATIONS (SUE), RECORD DRAWINGS AND OTHERS. THIS INFORMATION MAY NOT ALL-INCLUSIVE AND THE CONTRACTOR IS ADVISED THAT ADDITIONAL UNDERGROUND UTILITIES AND CABLES INVESTIGATION MAY BE NECESSARY PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ALL POTENTIAL CONFLICTS.
- THE CONTRACTOR SHALL FIELD VERIFY SIZE, DEPTH, LOCATION AND MATERIAL OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
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AS NEEDED NOTES

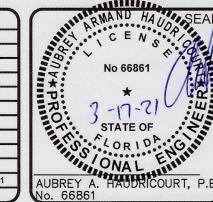
LIFT STATION 13A ELECTRICA REHABILITATION	L
GENERAL NOTES	

PROJ. START DATE:	2020. JUN
MCE PROJ. #	01024-0182
DRAWN	JG
DESIGNED	AAH
CHECKED	MAC
PROJ. MGR.	AAH

HORIZONTAL VERTICAL

ISSUED FOR BID

Phone: (727) 442-7196, Fax: (727) 461-3827



MCKIM& CREED 1365 Hamlet Avenue Clearwater, Florida 33756

> CA Lic. No. 29588 www.mckimcreed.com

ABBREVIATIONS STORY FRAMED DWELLING 1SBKBUS STORY BRICK BUSINESS ASBESTOS CEMENT AL OR ALUM ALUMINUM AIR RELEASE VALVE ASPHALT BACK OF CURB BUTTERFLY VALVE BLIND BOLLARD BLOW OFF VALVE BALL VALVE CATV CABLE TELEVISION CATCH BASIN C&G CURB AND GUTTER CHAIN CURB INLET CENTERLINE CORRUGATED METAL PIPE CONCRETE MASONRY UNIT CLEAN OUT CONCENTRIC CONCRETE COUPLING CORRUGATED PLASTIC PIPE COMPOST SOCK COMBO SILT / TREE PROTECTION FENCE CHECK VALVE CLEAN WATER TEMPORARY DIVERSION CWTD DROP INLET / DUCTILE IRON DUCTILE IRON PIPE DUCT BANK DRIVE WAY DRAWING EL OR ELEV ELEVATION EDGE OF GRAVEL END OF INFORMATION EP, EOP EDGE OF PAVEMENT EYEWASH EXISTING DESCRIPTION EXPANSION LIGHT POLE 11.25° HORIZONTAL BEND 22.50° HORIZONTAL BEND FLANGE COUPLING ADAPTER 45° HORIZONTAL BEND FLOOR DRAIN 90° HORIZONTAL BEND FIRE DEPARTMENT CONNECTOR FINISHED FLOOR ELEVATION AC UNIT FIRE HYDRANT BENCH MARK FIRE HYDRANT ASSEMBLY TEMP. BENCH MARK FINISHED FLANGE BLOW OFF VALVE FLEXIBLE BOLLARD LOOR TEST BORE HOLE LOCATION FORCE MAIN CABLE TV PEDISTAL FIBERGLASS REINFORCED PIPE CATCH BASIN FIBER OPTIC CLEAN OUT FLAT ON TOP GUTTER LINE CONCRETE MONUMENT FOUND GAS METER CONTROL POINT GRAV GRAVEL CROSS GAS TEST STATION CURB INLET GAS VALVE ELECTRIC BOX GATE VALVE ELECTRIC MANHOLE GUY WIRE HOSE BIB END OF INFORMATION нот вох FLAG POLE HIGH-DENSITY POLYETHYLENE GAS METER HIGH POINT GUY POLE HIGH WATER LEVEL INVERT ELEVATION GUY WIRE IRON POST FOUND HANDHOLE JUNCTION BOX HYDRANT JOINT IRON POST FOUND LINEAR FEET LIMITS OF DISTURBANCE IRON ROD FOUND LOW POINT LIGHT POLE LONG RADIUS MAIL BOX LANDSCAPE AREA MONITOR WELL LOW WATER LEVEL POWER POLE MAIL BOX WATER MANHOLE MAXIMUM MANHOLE PK FOUND MINIMUM RAIL ROAD SPIKE MECHANICAL JOINT SANITARY SEWER MANHOLE MOTOR OPERATED VALVE SHRUB SIGN NORMALLY CLOSED NORMALLY OPEN STORM DRAIN MANHOLE

RFCA	RESTRAINED FLANGE COUPLING ADAPTER
RJ	RESTRAINED JOINT
RK	ROCK
R/W, ROW	RIGHT OF WAY
S	SIGN
SDMH	STORM DRAIN MANHOLE
SF	SILT FENCE
SS	SANITARY SEWER
S.S.	STAINLESS STEEL
SSF	SUPER / HIGH HAZARD SILT FENCE
SSMH	SANITARY SEWER MANHOLE
STA	STATION
SUE	SUBSURFACE UTILITY ENGINEERING
S/W	SIDE WALK
SVC	SERVICE
TBM	TEMPORARY BENCH MARK
TC	TERRA COTTA
TLP	TRAFFIC LIGHT POLE
TOB	TOP OF BANK
TOC	TOP OF CONCRETE
TOG	TOP OF GRATING
TOS	TOP OF SLAB
TOW	TOP OF WALL
TH	TEST HOLE
TPF	TREE PROTECTION FENCE
TSBOX	TRAFFIC SIGNAL BOX
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UNK	UNKNOWN
VAR	VARIABLE VATRICIES OF ANY PIPE
VCP	VITRIFIED CLAY PIPE
WD	WOOD
WL .	WATER LINE
WM WV	WATER METER
wv XP	WATER VALVE CROSS LIGHT POLE
WWF	WELDED WIRE FABRIC
YI	YARD INLET
TI	TARD INLET

SYMBOL

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ORRSPIKE

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63

C

 \bowtie

UNDERGROUND CABLE TV	TV
UNDERGROUND PER RECORD CABLE TV	TV(R)
UNDERGROUND ELECTRIC	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
PER RECORD UNDERGROUND ELECTRIC	
UDERGROUND FIBER OPTIC	FO
PER RECORD UNDERGROUND FIBER OPTIC	FO(R)
SANITARY SEWER FORCEMAIN	
PER RECORD SANITARY SEWER FORCE MAIN	FN(R)
UNDERGROUND GAS	G
UNDERGROUND PER RECORD GAS	
OVER HEAD UTILITIES	OU
RECLAIMED WATER LINE	R
PER RECORD RECLAIMED WATER LINE	
GRAVITY SANITARY SEWER	
PER RECORD GRAVITY SANITARY SEWER	
STORM DRAINAGE	
UNDERGROUND TELEPHONE	T
UNDERGROUND PER RECORD TELEPHONE	T(R)
UNDERGROUND UNKNOWN	U
WATER LINE	
PER RECORD WATER LINE	W(R)
FENCE	
GUARD RAIL	0-0-
BACK OF CURB	
EASEMENT	
EDGE OF GRAVEL	
EDGE OF PAVEMENT	
PROPERTY LINE	
RIGHT OF WAY	***************************************
ROAD CENTER LINE	
100 YEAR FLOODPLAIN	100FP
DITCH ©	
MAJOR CONTOUR	
MINOR CONTOUR	
RIPARIAN BUFFER ZONE 1	mum mum y 4 mm mm mmm
RIPARIAN BUFFER ZONE 2	man man man 1/2 mm mm mm
TOP OF BANK	annumum + annumum + annumumm
TREELINE	
WATERCOURSE ©	
WETLAND BOUNDARY	······ ······ ······ ····· ····· ······
4 PROPOSED SYMBO	LICCEND
4 PROPOSED SYMBO	L LEGEND

EXISTING LINE LEGEND

DESCRIPTION

INDEDODOLIND OADLE

LINETYPE

DESCRIPTION	SYMBOL
11.25° HORIZONTAL BEND	Н
22.50° HORIZONTAL BEND	4
45° HORIZONTAL BEND	4
90° HORIZONTAL BEND	4
VERTICAL BEND	II .
AIR RELEASE VALVE	(A)
VALVE	Н
BLOWOFF VALVE	He
HYDRANT	- O -
YARD HYDRANT	ರ
CROSS	田
TEE	円
TAPPING SLEEVE AND VALVE	墨
REDUCER	>
CAP/PLUG	-
POTABLE WATER SERVICE METER	M
RECLAIMED WATER SERVICE METER	B
EXISTING UTILITY SERVICE RECONNECTION	(
CONCENTRIC SANITARY SEWER MANHOLE	0
ECCENTRIC SANITARY SEWER MANHOLE	0
FLAT TOP SANITARY SEWER MANHOLE	0
CLEAN OUT	⊕
ARC FILTER	8
CHECK DAM	
INLET PROTECTION	
PIPE INLET PROTECTION	
SILT FENCE OUTLET	
WATTLE	000

5 | PROPOSED LINE LEGEND

J	THOI OOLD LINE L	LOLIND
	DESCRIPTION	LINETYPE
	PERMANENT EASEMENT	
	TEMPORARY EASEMENT	
SA	ANITARY SEWER FORCE MAIN	———FM———
	RECLAIMED WATER LINE	
	GRAVITY SANITARY SEWER	——SS——
	WATER LINE	W
	TO BE ABANDONED	. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.
	DIVERSION DITCH	$\rightarrow \longrightarrow$
LIMITS C	OF DISTURBANCE/CLEARING LIMITS	LOD
COMBINA	TION SILT FENCE/TREE PROTECTION	csF
	TEMPORARY SILT FENCE	SF
TE	MPORARY SUPER SILT FENCE	SSF
TEMPO	DRARY TREE PROTECTION FENCE	TPF
	COMPOST SOCK	cs
	PERMANENT FENCE	
	GUARD RAIL	

PROFILE LINE LEGEND

DESCRIPTION	LINETYPE
EXISTING GRADE PAVEMENT PROFILE	
EXISTING GRADE GROUND PROFILE	
PROPOSED GRADE PROFILE	
THEORETICAL 1:1 SLOPE	
WETLAND CROSSING	

AREA LEGEND

A PROCESS AIR

ALUM WTP ALUM SLUDGE

AS ACTIVATED SLUDGE

	*		V	*	*	`
WETLANDS	*	V	4		*	*
	*		V	*	*	1
RIP-RAP	遂	Ž	次次			S.
TEMP. SLOPE STABILIZATION	+ + +	+ + + + + + + +	+ + + + + +	+ -++++++++++++++++++++++++++++++++++++	+ + + + + + +	+ + + + + +
STRAW WITH NET LINER						

PROCESS ABBREVIATIONS

710	AO II VATED SEODOL
BW	BACKWASH
BWD	BACKWASH DRAIN
BWS	BACK WASH SUPPLY
BWW	BACK WASH WASTE
D	DRAIN
EXP	EXPANSION
FA	FOUL AIR
FE	FINAL EFFLUENT
FI	FILTER INFLUENT
FFM	FILTRATE FORCE MAIN
FTD	FILTER DRAIN
FTE	FILTER EFFLUENT
GR	GRIT
GV	GATE VALVE
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
IFM	INFLUENT FORCE MAIN
ML	MIXED LIQUOR
NAOCL	SODIUM HYPOCHLORITE
NAOH	SODIUM HYDROXIDE (CAUSTIC SODA)
NG	NATURAL GAS
NPW	NON-POTABLE WATER
NRCY	NITRIFIED RECYCLE
PD	PROCESS DRAIN
PE	PRIMARY EFFLUENT
PS	PRIMARY SLUDGE
PTE	PRELIMINARY TREATMENT EFFLUENT
PTFE	POLYTETRAFLUOROETHYLENE
PW	POTABLE WATER
RAS	RETURN ACTIVATED SLUDGE
RW	RAW WASTEWATER
SBR	SEQUENCING BATCH REACTOR
SD	STORM DRAIN
SPD	SUMP PUMP DISCHARGE
SR	SCRUBBER RECIRCULATION
SRD	SCRUBBER RECIRCULATION DISCHARGE
SRP	SCRUBBER RECIRCULATION PUMP
SRS	SCRUBBER RECIRCULATION SUCTION
SUP	DIGESTER SUPERNATANT
SW	SEAL WATER
UV	ULTRAVIOLET
WAS	WASTE ACTIVATED SLUDGE

9 MECHANICAL SYMBOLS

VALVE SYMBOL	DESCRIPTION
	BUTTERFLY VALVE
	CHECK VALVE
	GATE VALVE
X	PLUG VALVE
1 <u>D</u> IM	BALL VALVE
	GLOBE VALVE

10 GENERAL NOTES

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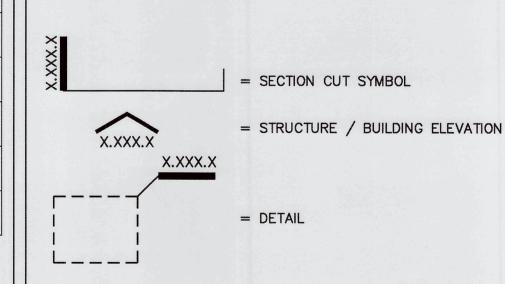
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PIPING SCHEDULE

ABBREVIATION	DESIGNATION	PIPE MATERIAL	NOTES
NF	INFLUENT	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK
FF	EFFLUENT	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK, PROVIDE PIPE WITH PROTECTIVE LINING - ENTIR NETWORK
or SS	DRAIN OR SANITARY SEWER	DUCTILE IRON / SCH. 80 PVC	>=4" DIP / <=3" SCH. 80 PVC SOLVENT WELD, RESTRAIN ALL FITTINGS
M	FORCE MAIN	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK
IPW	NON-POTABLE WATER	RESTRAINED DUCTILE IRON / SCH. 80 PVC	>=4" DIP / <=3" SCH. 80 PVC SOLVENT WELD, RESTRAIN ENTIRE NETWORK
4	PROCESS AIR	SCH. 10 304 STAINLESS STEEL	
SL	SLUDGE	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK
SC	SCUM	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK
PW .	POTABLE WATER	RESTRAINED DUCTILE IRON / SCH. 80 PVC	>=4" DIP / <=3" SCH. 80 PVC SOLVENT WELD, RESTRAIN ENTIRE NETWORK
A	FOUL AIR	SCH. 80 PVC / FRP	FRP ABOVE GRADE SCH. 80 PVC BELOW GRADE
ATAD	ATAD SUPPLY & DISCHARGE	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK
PE	PLANT EFFLUENT	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK, PROVIDE PIPE CONNECTING NEW EQ TANK W/ EXISTING EQ BASIN AND (NEW AND EXISTING) BIODENOPHO DITCHES WITH PROTECTIVE LINING
RAS/WAS	WASTE/RETURN ACTIVATED SLUDGE	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK

CROSS-REF SYMBOLOGY



REVISIONS

NOT IN CONTRACT

OHE/OE

POLY

PRV

RCP REC RED

NORMAL WATER LEVEL

OVER HEAD ELECTRIC

OVER HEAD UTILITIES

POST INDICATOR VALVE

POLY VINYL CHLORIDE

POTABLE WATER

PRESSURE REDUCING VALVE POLYTETRAFLUOROETHYLENE

REINFORCED CONCRETE PIPE

OVERFLOW

PLAIN END

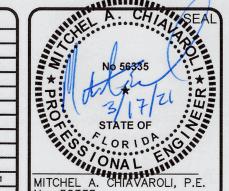
POWER POLE

PLUG VALVE

PER RECORD

REDUCER

POLYMER



TAPPING SLEEVE AND VALVE

TEE

TELEPHONE MANHOLE

TELEPHONE PEDESTAL

TRAFFIC SIGNAL BOX

TRANSFORMER

DECIDUOUS TREE

PINE TREE

UTILITY POLE

VALVE

WATER METER

WATER WELL

YARD HYDRANT



CA Lic. No. 29588

www.mckimcreed.com

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



LIFT STATION 13A ELECTRICAL REHABILITATION

GENERAL

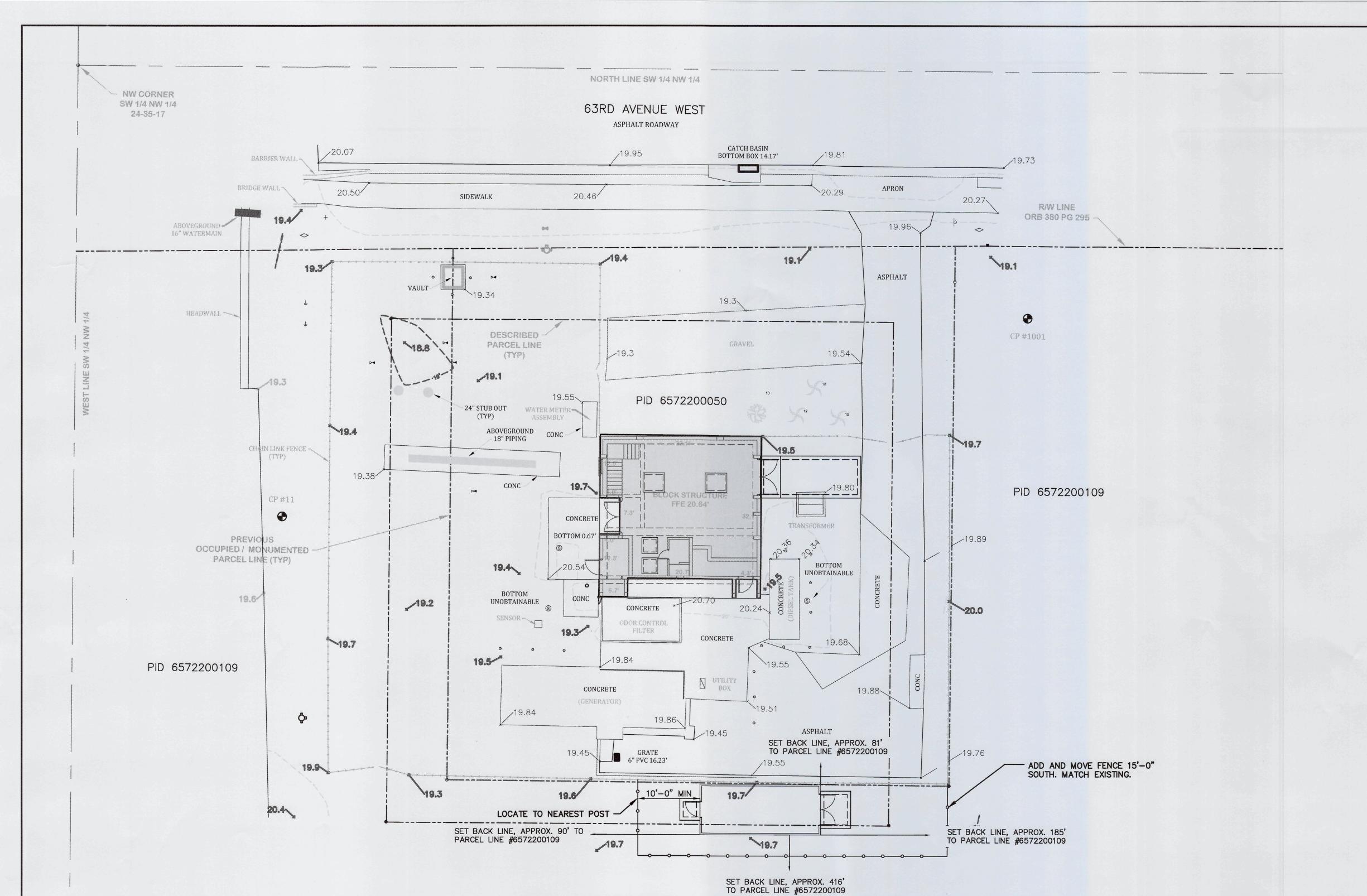
CIVIL-MECHANICAL-LEAD SHEET

PROJ. START DATE:	2020. JUN		SC
MCE PROJ. #	01024-0182	lt	
DRAWN	JG	П	HORIZ
DESIGNED	ААН		N
CHECKED	MAC		VER
PROJ. MGR.	ААН		Т
		' \	

G0.02 RTICAL:

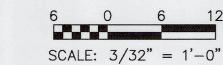
ISSUED FOR BID

STATUS:



SITE PLAN
SCALE: 3/32"=1'-0"





SITE CONTROL

DESIGNATION	NORTHING	EASTING	ELEVATION	DESCRIPTION	
CP #11	1125555.95	473545.48	19.76'	IR (LB 7203)	
CP #1001	1125595.39	473693.96	19.67'	IR (LB 7203)	

LEGEND

PID PARCEL IDENTIFICATION

CP CONTROL POINT

R/W RIGHT OF WAY

ND NAIL W/ DISC

IR IRON ROD

ORB OFFICIAL RECORDS BOOK

PG PAGE

FFE FINISHED FLOOR ELEVATION

TREE

CONTROL POINT

OUTILITY POLE

GUY WIRE

SEWER VALVE

WATER VALVE

SANITARY MANHOLE

LIGHT POLE

DOLLARD

TREE

UTILITY BOX

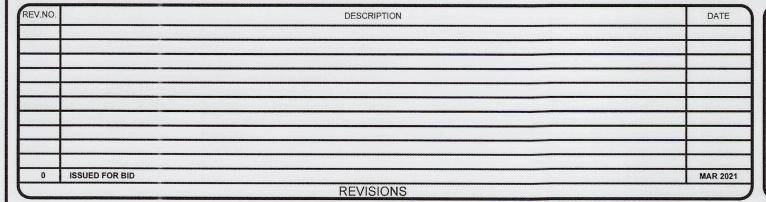
+ FIBER OPTIC WITNESS

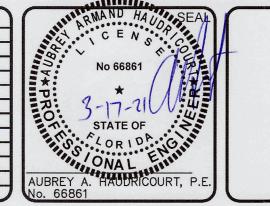
ANTENNA

FIRE HYDRANT

GENERAL NOTES

- 1. THE FOLLOWING MANATEE COUNTY VERTICAL CONTROL MONUMENT WAS RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREON: "BREVARD" NAVD 1988 ELEVATION 20.00'
- 2. THIS SURVEY IS REFERENCED TO A GRID PROJECTION OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE NAD 1983/2011 ADJUSTMENT).
- 3. THIS IS NOT A BOUNDARY SURVEY. PARCEL AND R/W LINES INDICATED HEREON ARE APPROXIMATE.
- 4. THIS SURVEY IS SUBJECT TO PERTINENT EASEMENTS, 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.





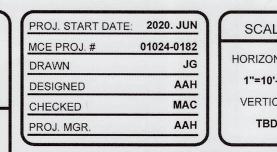


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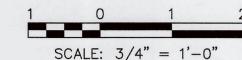
LIFT STATION 13A ELECTRICAL REHABILITATION

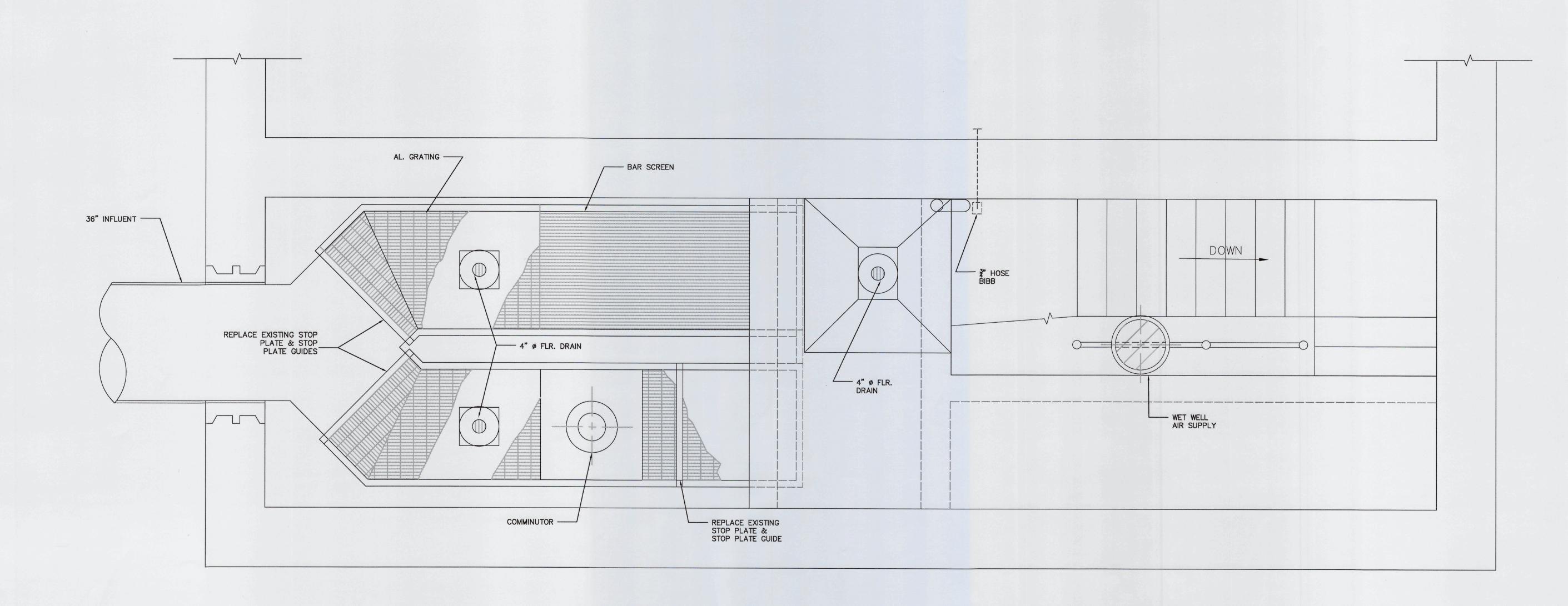
SITE PLAN



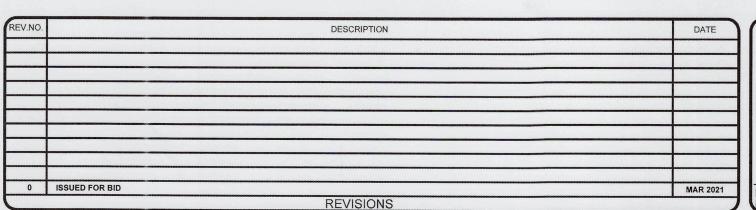
GRATE INLET







WET WELL PLAN - INTERMEDIATE LEVEL









LIFT STATION 13A ELECTRICAL REHABILITATION

MECHANICAL

STOP PLATE AND GUIDE REPLACEMENT

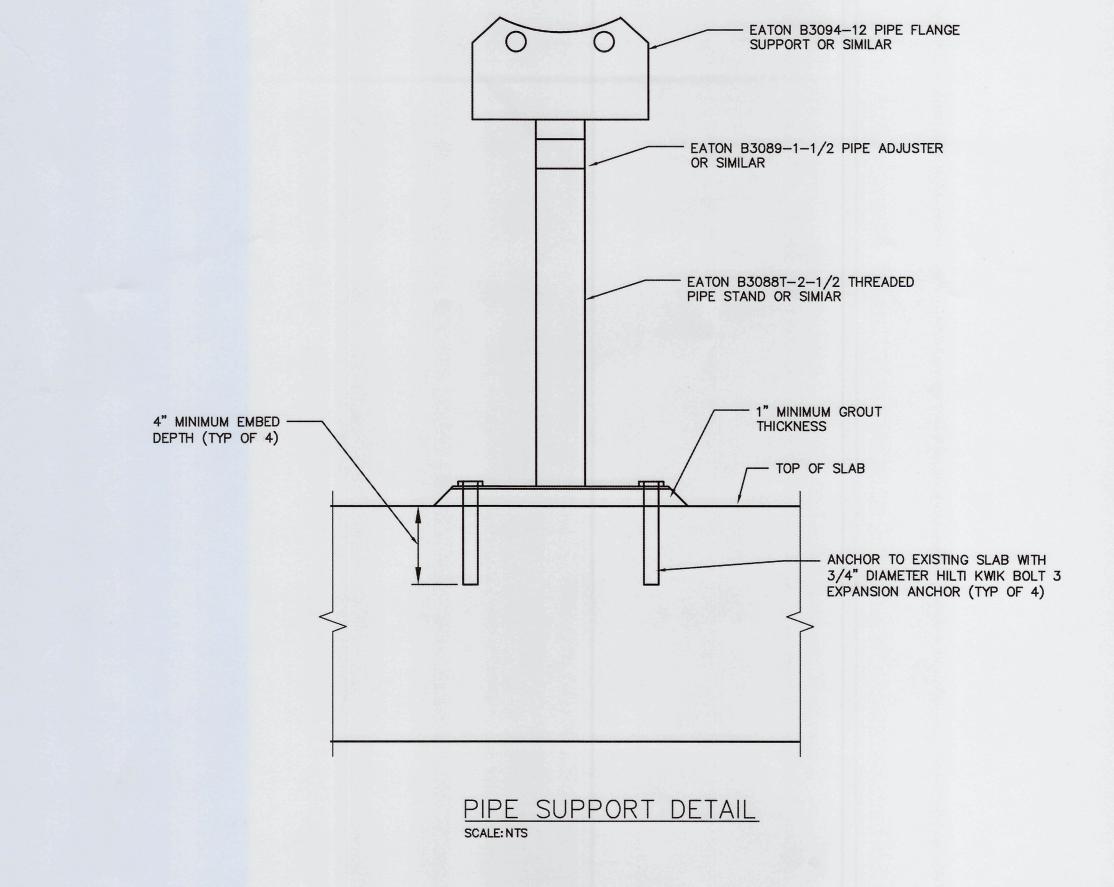
PROJ. START DATE:	2020. JUN	SCALE
MCE PROJ. #	01024-0182	
DRAWN	CW	HORIZONTAL:
DESIGNED	DC	3/4"=1'-0"
CHECKED	MAC	VERTICAL:
PROJ. MGR.	AAH	N/A
STATUS:		



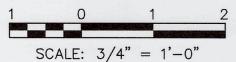
- 1. CONTRACTOR SHALL FIELD VERIFY AND NOTIFY OWNER OF ANY DIFFERENCES THAT MAY IMPACT THE WORK TO BE PERFORMED.
- 2. CONTRACTOR SHALL REMOVE ANY EXPOSED ANCHOR BOLTS.
- 3. CONTRACTOR SHALL APPLY PATCHWORK TO CONCRETE AND TOUCH-UP PAINT WHERE

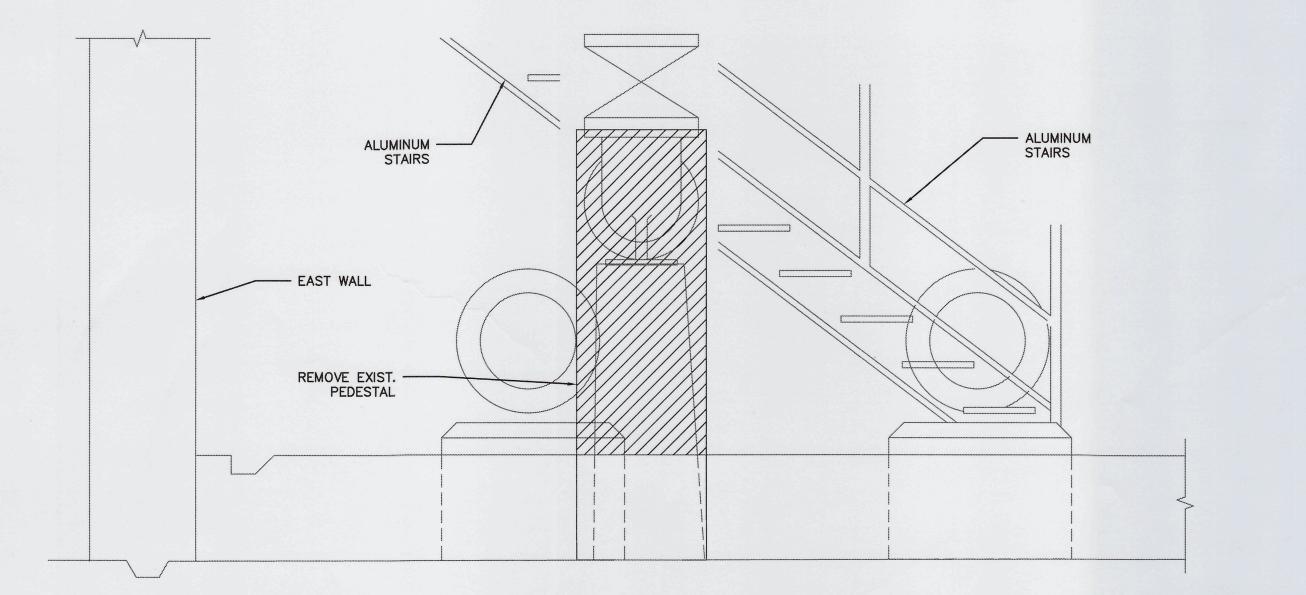


EQUIPMENT TO BE DEMOLISHED



1 0 1 2 SCALE: 3/4" = 1'-0"





EAST WALL

EAST WALL

PIPE SUPPORT,
SEE DETAIL ON
THIS SHEET

DRYWELL SECTION (EXISTING)

DRYWELL SECTION (PROPOSED)

NOTE: ALL PIPE SUPPORT, CONNECTING AND ANCHORING MATERIALS SHALL BE GALVANIZED.

REV.NO. DESCRIPTION DATE

DATE

DATE

DATE

MAR 2021

REVISIONS





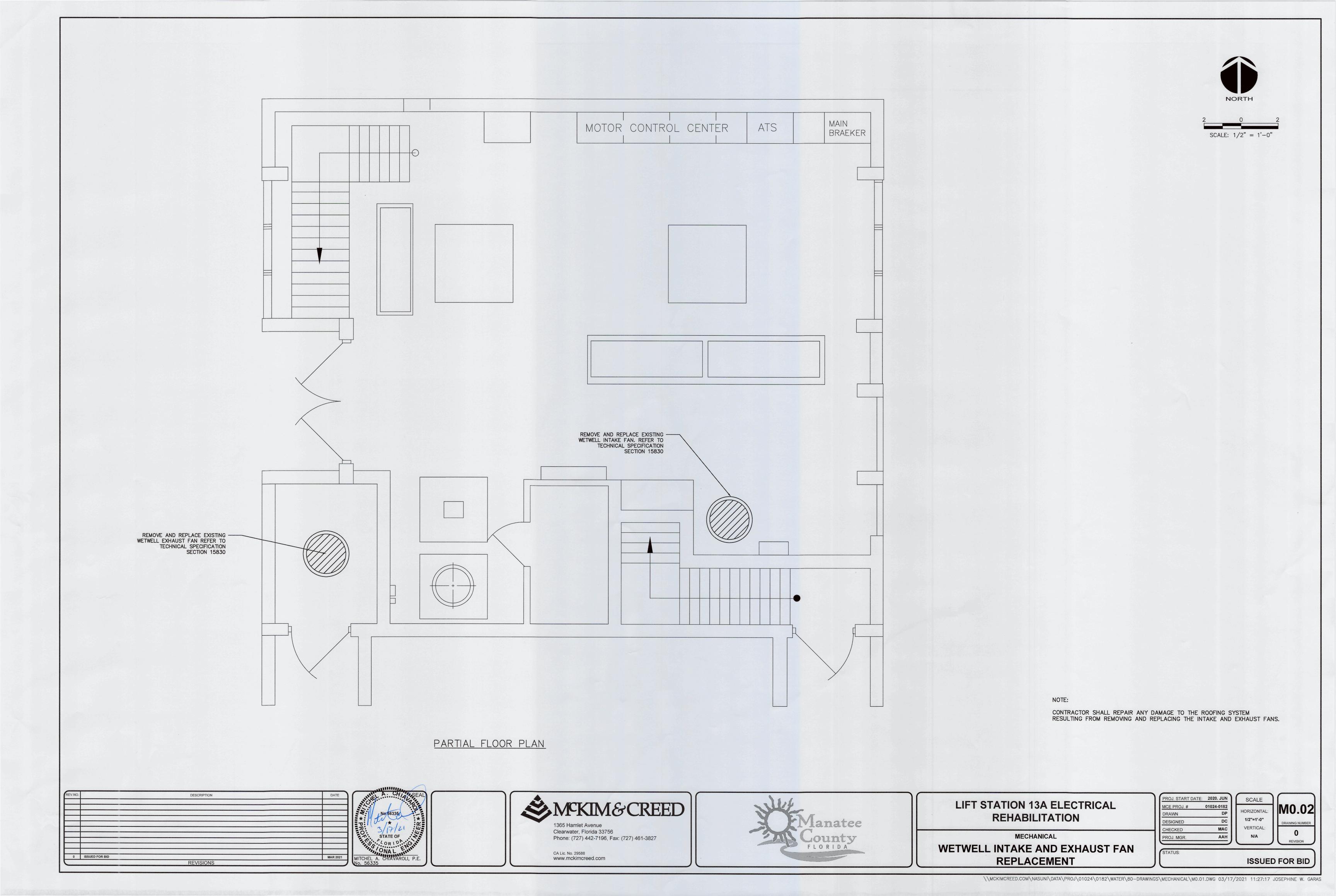


LIFT STATION 13A ELECTRICAL REHABILITATION

MECHANICAL

DUMP GATE VALVE

MCE PROJ. #	01024-0182	SCALE	NAC
DRAWN	cw	HORIZONTAL:	IVIU
DESIGNED	DC	AS SHOWN	DRAWIN
CHECKED	MAC	VERTICAL:	
PROJ. MGR.	AAH	N/A	



GENERAL NOTES

- 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 STATE BUILDING CODE (FBC), LATEST EDITION, OR LOCAL BUILDING CODE REQUIREMENTS IF MORE STRINGENT
- 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.

COORDINATION

- 2.1 STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH & COORDINATED WITH CIVIL, ELECTRICAL AND 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 AND 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/REVIEW OF MATERIALS SHALL BE PROVIDED AS DEFINED IN PROJECT SPECIFICATIONS IF APPLICABLE. 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. "MANATEE COUNTY, FLA. SANITARY SEWERAGE PART F SECTION || - SEWAGE LIFT STATIONS" BY RUSSELL & AXON, CONSULTING ENGINEERS, INC. (DTD. JUNE 1978).
- 2.7 SPECIAL INSPECTIONS (IF APPLICABLE): ALL FOUNDATION SOILS, REINF, STEEL, C.I.P. CONCRETE, CONCRETE MASONRY STRUCTURAL STEEL & PRE-CAST CONCRETE BUILDINGS/STRUCTURES WORK SHALL BE REVIEWED AS STATED IN CONJUNCTION w/ THEIR RESPECTIVE NOTES BELOW.

FOUNDATIONS

- 3.1 DESIGN ALLOWABLE SOIL BEARING PRESSURE 2,500 PSF IN ACCORDANCE w/ THE PROJECT GEOTECHNICAL REPORT AS PREPARED BY DRIGGERS ENGINEERING SERVICES, INC. (PROJECT NO. DES 208567, DTD. AUGUST 31, 2020). THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THIS VALUE PRIOR TO FOUNDATION CONSTRUCTION. IN AREAS WHERE THE SOIL DOES NOT YIELD THIS BEARING STRESS VALUE, ADJUSTMENT IN THE FOOTING DEPTHS AND FOUNDATION DIMENSION MAY BE MADE BY THE ENGINEER BEFORE WORK PROCEEDS. CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY SUCH ADJUSTMENTS.
- 3.2 PREPARE THE EXISTING SUBGRADE IN ACCORDANCE w/ THE PROJECT GEOTECHNICAL REPORT AS PREPARED BY DRIGGERS ENGINEERING SERVICES, INC. (PROJECT NO. DES 208567, DTD AUGUST 31, 2020). IN THE EVENT UNUSUAL SOIL CONDITIONS ARE UNCOVERED, 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.
- 3.3 FOOTING, PIER & SLAB EXCAVATIONS AND FORMS SHALL BE REVIEWED BY AN OWNER'S CONSTRUCTION REPRESENTATIVE PRIOR TO PLACEMENT OF CONCRETE.
- 3.4 FOOTING, PIER & SLAB ELEVATIONS SHALL NOT BE RAISED OR LOWERED WITHOUT APPROVAL OF THE STRUCTURAL
- 3.5 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.
- 3.6 ALL FILL MATERIAL, IF REQUIRED, INSIDE THE BUILDING'S/STRUCTURE'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 208567, DTD. AUGUST 31, 2020).
- 3.7 ALL FOOTINGS & PIERS SHALL BE CENTERED UNDER THE SUPPORTED WALL/COLUMN MEMBER UNLESS NOTED OTHERWISE
- 3.8 CONSTRUCTION JOINTS IN FOUNDATION SLABS, WALLS & FOOTINGS SHALL BE MADE AT LOCATIONS SHOWN ON DRAWINGS.

DESCRIPTION

FOUNDATIONS CTD

3.10 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.

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

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 CONCRETE REINFORCEMENT," ASTM A615, GRADE 60 AND SUPPLEMENTARY REQUIREMENT S-1.
- WITH THE AMERICAN CONCRETE INSTITUTE "ACI DETAILING MANUAL," LATEST PUBLICATION.

4.2 DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE

- 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 SLABS-ON-GRADE AND ELEVATED SLAB TOPPINGS OVER METAL DECK. UNLESS NOTED OTHERWISE.
- 4.6 PROVIDE BARS AT CORNERS AND INTERSECTIONS OF WALLS & FOOTINGS OF THE SAME NUMBER AND SIZE AS LONGITUDINAL BARS, U.N.O. ON THE DRAWINGS.
- 4.7 FABRICATE CONTINUOUS BARS IN SLABS, WALLS AND FOOTINGS 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 FOR ANY REASON.
- 4.10 REINFORCING BARS SHALL NOT BE WELDED.
- 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 TO LAP SPLICE NON "LCS" A MINIMUM OF 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 CONCRETE

NOTED OTHERWISE.

- 5.1 IN GENERAL CONCRETE SHALL DEVELOP 4,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS. IN ADDITION 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 CONCRETE AND VERTICAL SURFACES UNLESS NOTED OTHERWISE.
- 5.4 PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLABS & WALLS AT LOCATIONS SHOWN ON DRAWINGS.
- 5.5 CHAMFER EXPOSED EDGES OF CONCRETE 3/4 INCH, UNLESS
- 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). 5.7 UNLESS NOTED OTHERWISE DOWELS SHALL BE THE SAME NUMBER AND SIZE AS THE LARGEST VERTICAL BAR TO WHICH
- THEY ARE SPLICED. 5.8 REFERENCE PROJECT SPECIFICATIONS FOR REQUIRED FINISHES.
- 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
- 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.

STATE OF

GROUT

- 6.1 GROUT WHERE REQUIRED SHALL BE NON-SHRINK GROUT IN CONFORMANCE TO ASTM C1107.
- 6.2 GROUT SHALL BE NON-METALLIC AND NON-STAINING AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI.

MASONRY

NOT APPLICABLE

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=50 ksi). 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
- 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. ANCHOR BOLTS FOR EQUIPMENT & OTHER ASSEMBLIES MAY BE POST APPLIED ANCHOR ASSEMBLIES AS INDICATED ON THE DRAWINGS.
- 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 PROHIBITED.
- 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.
- 8.17 STRUCTURAL STEEL FRAMING & DECKING ERECTION TO BE REVIEWED BY THE THE OWNER'S CONSTRUCTION REPRESENTATIVE THROUGHOUT CONCRETE & STEEL CONSTRUCTION OF THE PROJECT.

ALUMINUM

NOT APPLICABLE.

PRECAST 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" ACCEPTANCE 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 CONCRETE CONSTRUCTION OF THE PROJECT

PRE-ENGR. TIMBER TRUSS

NOT APPLICABLE.

PRE-ENGR. METAL BLDGS

NOT APPLICABLE.

MISC. BUILDING MATERIALS

- 13.1 ALL MISCELLANEOUS MATERIALS ARE TO BE DELIVERED TO SITE & STAGED ON SITE PRIOR TO INSTALLATION. STORE ON SITE AS REQUIRED BY THE MATERIAL MANUFACTURER TO AVOID DAMAGE PRIOR TO INSTALLATION.
- 13.2 CAULK & SEALANT MATERIAL SHALL BE MASTERSEAL "NP 1" ONE COMPONENT, MOISTURE CURING HIGH PERFORMANCE POLY-URETHANE SEALANT, OR AN APPROVED EQUAL.

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. ADD'L = ADDITIONAL= ALUMINUM
 - = ALTERNATE BLDG. = BUILDING BLOCK BLK. = BM. BEAM ***** B.O. BOTTOM OF ***** BEARING C.I.P. CAST-IN-PLACE
 - CLR. CLEAR CMU CONC. MAS. UNIT C.O. CLEAN OUT -
 - COL. = COLUMN CONC. = CONCRETE CONNECTION CONST. = CONSTRUCTION
- CONT. = CONTINUOUS COORD.= COORDINATE CTR. = CENTER
- CTR'D. = CENTERED DBL. = DIR. = DOUBLE DIRECTION DWG. = DRAWING DWG.'s. = DRAWINGS
 - EACH ELEVATION EDGE OF EQ.
- EQUIP. = EQUIPMEN EXIST. = EXISTING EXP. **EXPANSION**
- FLANGE FDN. FOUNDATION -F.S. = FAR SIDE FT. = FEET
 - FTG. = FOOTING GA. GAGE ***** GALV. = GALVANIZED
 - GALV'D = GALVANIZED HORZ. = HORIZONTAL H.P. = HIGH POINT HRS. = HOURS
 - INSIDE FACE INFO. = INFORMATION INTR. INTERIOR JST. JOIST ****
 - JOINT ***** KB ***** KNEE BRACE LIQUID CONTAINMENT STRUCTURES
 - LONG LEG HORIZONTAL LLV LONG LEG VERTICAL L.P. **** LOW POINT
 - LSL = LONG SLOTTED MAS. = MASONRY MAT'L. = MATERIAL MFG. = MANUFACTURER
 - MIN. ***** MINIMUM MTL. METAL ****
 - NOT APPLICABLE **** NOT APPLICABLE ***** NOM. = NOMINAL N.S. = NEAR SIDE
 - N.T.S. = NOT TO SCALE O.C. = ON CENTER= OUTSIDE FACE
 - OVERHANG O/O = OUT TO OUTOPNG. = OPENING OPPOSITE
 - ORIENT.= ORIENTATION PLCS. = PLACES P.P. = PUMP PADRAD. = RADIUS REF. = REFERENCE
 - REINF. = REINFORCING REQ'D. = REQUIREDRET. = RETAINING
 - ROT. = ROTATE SIM. = SIMILAR SPA. = SPACED SPECS. = SPECIFICATIONS
 - S.S. == STAINLESS STEEL SSL = SHORT STD. = STAND STL. = STEEL T&B = TOP & SHORT SLOTTED STANDARD
 - TOP & BOTTOM T/D = TURN D THK. = THICK = TURN DOWN
 - THK'D = THICKENED T.O. = TOP OFT.O.S = TOP OF STEELTYP. = TYPICAL
 - U.N.O. = UNLESS NOTED OTHERWISE XB CROSS OR "X"-BRACE
 - VERT. = VERTICAL W.P. = WORK POINT

DESIGN LOADS

- DESIGN LOADS BASIS OF DESIGN: FLORIDA BUILDING CODE (FBC) - 2020 EDITION
- MINIMUM DESIGN LOADS FOR BUILDINGS & OTHER STRUCTURES ASCE 7-16 EQUIP. LOAD: N/A
- LIVE LOAD: 125 PSF (ELECTRICAL BLDG. FLOOR), 100 PSF (ACCESS STAIRS & LANDING) ROOF LOAD: 65 PSF (ELECTRICAL BLDG.)
- SNOW LOAD: N/A WIND LOAD: 160 mi/hr, EXPOSURE C, OCCUPANCY/RISK CATEGORY III
 - Vx = 12.6 k & Vy = 4.5 kCOMPONENTS & CLADDING WIND PRESSURES:
- ZONE 1, ZONE 2 & ZONE 3 ROOF PRESSURES = BY ELECTRICAL BLDG. MFG. ZONE 4 & ZONE 5 WALL PRESSURES = BY ELECTRICAL BLDG. MFG.
- SEISMIC: SOIL BEARING: FIELD TEST PER PROJECT GEOTECH REPORT = 2,500 PSF

CALCULATED WIND BASE SHEARS:

REF. "FOUNDATIONS" NOTE 3.1 DWG. S0.00

DESIGN CRITERIA

- CONCRETE 28 DAY COMPRESSIVE STRENGTH:
- SLABS-ON-GRADE & NON LCS SLABS f'c = 4,000 PSIPIPE ENCASEMENTS: f'c = 3,000 PSI (N/A)SLABS & WALLS OF LCS: f'c = 4,500 PSI (N/A)BEAMS & COLUMNS OF LCS: f'c = 4,500 PSI (N/A)NON-LCS FOOTINGS & PIERS: f'c = 4,000 PSI (N/A)
- BELOW GRADE & RETAINING WALLS: f'c = 4,000 PSI (N/A)SIDEWALK, DRIVEWAY, CURB & GUTTER: f'c = 3,000 PSI (N/A)ASTM A615, GRADE 60 REINFORCING STEEL WELDED WIRE FABRIC: ASTM A1064 STRUCTURAL STEEL: REF. STRUCTURAL NOTE 8.1 **ALUMINUM:** REF. STRUCTURAL NOTE 9.2 (N/A)
- BOLTS SHALL BE 3/4" ASTM A325 OR REF. STRUCTURAL NOTES 8.3 & 9.2.C TYPE 316 S.S.: ANCHOR BOLTS SHALL BE 3/4" ASTM F-1554 OR ASTM A36 (STEEL): TYPE 316 S.S. (ALUMINUM):
- STEEL ELECTRODES SHALL CONFORM TO: AWS 5.5 E70XX ALUMINUM WELD FILLERS ALLOYS SHALL CONFORM AWS A5.10 (N/A) SOIL BEARING CAPACITY: REF. "DESIGN LOADS" TABLE

LEGEND

GRATING

DETAIL OR SECTION

NO./SHEET NO. REFERENCE

- ENLARGED PLAN AREA,
- CONC. MASONRY BLOCK
- BRICK VENEER
- . . 4 . (EXISTING) CONC. WALL, SLAB, ETC.
 - (EXISTING)
 - (EXISTING)
 - X-SY.YY

(EXISTING)

(EXISTING)

- PROJECT NORTH
- NORTH **ELEVATION DATUM**
- ELEVATION NO./SHEET NO. X-SY.YY REFERENCE
- ELEVATIONS X'-X" (Y.YY') X'-X" = DISTANCE TO/FROM FACILITY REFERENCE EL 0'-0"
- Y.YY' = EQUIVALENT SITE EL VERTICAL DATUM STEP IN FOOTING ELEVATION =
- STL. FRAMING COL./BM MOMENT CONNECTION

LIFT STATION 13A ELECTRICAL

STRUCTURAL

01024-018

HORIZONTAL VERTICAL:

SCALE

ISSUED FOR BID

MCKIM& CREED

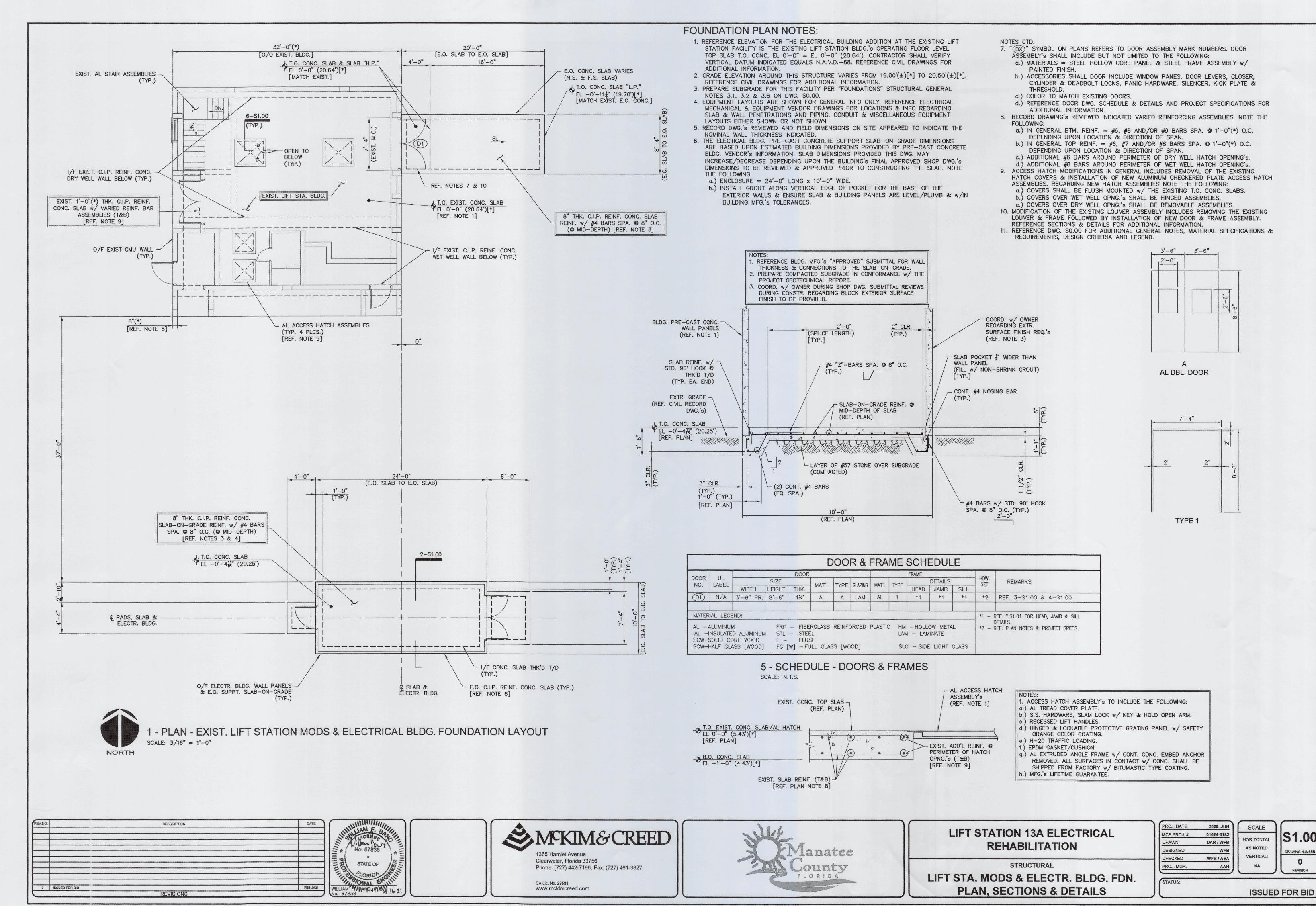
Phone: (727) 442-7196, Fax: (727) 461-3827

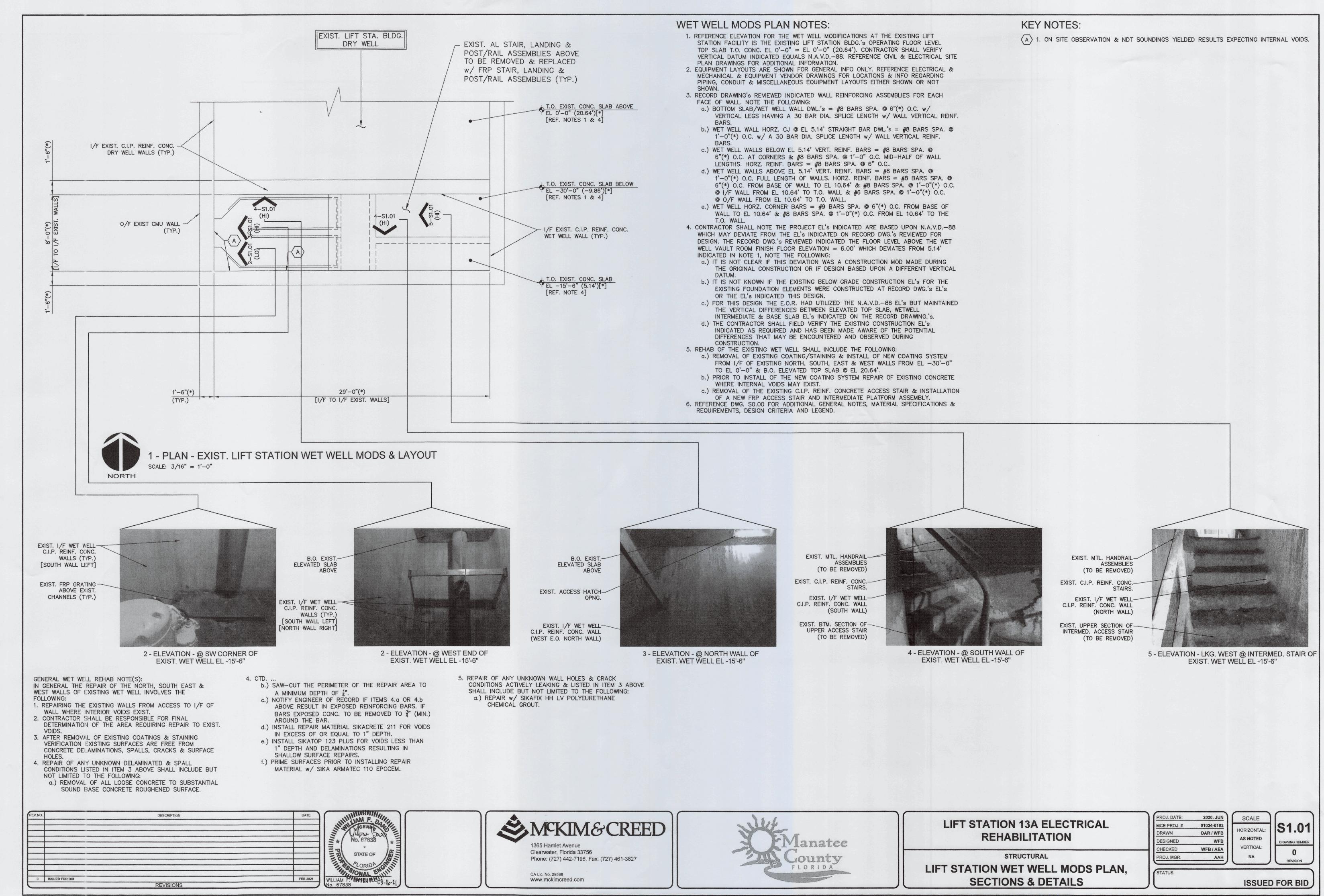
Clearwater, Florida 33756

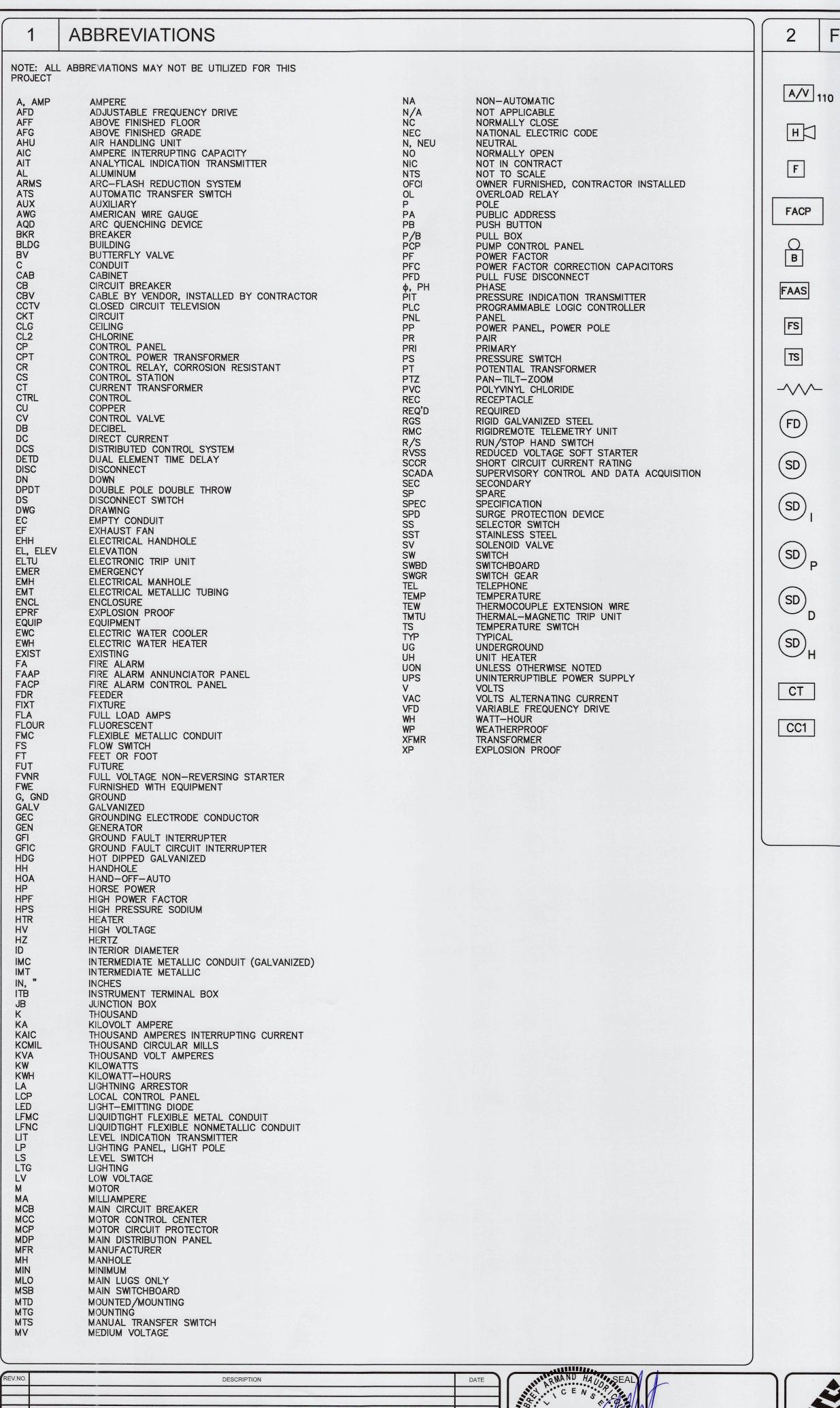
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FIRE ALARM SYSTEM GENERAL ELECTRICAL NOTES

AUDIO/VISUAL ALARM INDICATOR

MANUAL PULL STATION

FIRE ALARM CONTROL PANEL

FIRE ALARM ANNUNCIATOR STATION

HORN

BELL

FLOW SWITCH

VALVE TAMPER SWITCH

END OF LINE RESISTOR

SMOKE DETECTOR, MULTISENSOR

SMOKE DETECTOR IONIZATION

SMOKE DETECTOR PHOTOELECTRIC

DUCT MOUNTED SMOKE DETECTOR

THERMAL DETECTOR

H-HIGH TEMPERATURE

SIGNAL INPUT MODULE

SIGNAL MODULE

(FIXED AND RATE OF RISE)

FLAME DETECTOR

(HORN/STROBE) NUMBER INDICATES

STROBE CANDELLA RATING WHEN OTHER THAN 15

1. CONTRACTOR RESPONSIBILITIES:

- THE CONTRACTOR SHALL READ AND UNDERSTAND THE ENTIRE SET OF CONSTRUCTION DOCUMENTS. THIS INCLUDES BUT IS NOT LIMITED TO THE PLANS AND SPECIFICATIONS FOR ALL DISCIPLINES. THIS WILL ENSURE THAT HE UNDERSTANDS THE FULL SCOPE OF WORK AND IS ABLE TO CONVEY THE REQUIRED MATERIALS AND METHODS OF INSTALLATION TO THE HIS ESTIMATORS, SUPPLIERS AND INSTALLERS.
- 1.2. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS.
- 1.3. PROVIDE MEANS TO FURNISH AND INSTALL.
- 1.4. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. DO NOT SCALE FROM THESE DRAWINGS.
- WHERE JOB CONDITIONS REQUIRE CHANGES FROM THE CONTRACT DOCUMENTS THAT DO NOT CHANGE THE SCOPE OF INSTALLATION OR NATURE OF THE WORK REQUIRED, THE CONTRACTOR SHALL MAKE SUCH CHANGES WITHOUT ANY ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN CONSENT FROM THE ENGINEER AND OWNER.
- MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE U.O.N.
- 1.7. REFERENCE ALL SPECIFICATIONS, DRAWINGS AND CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND CONTRACT RESPONSIBILITIES PRIOR TO COMMENCING WORK.
- 1.8. THE GENERAL NOTES STATED ON THIS DRAWING ARE APPLICABLE TO ALL DRAWINGS AND SCOPE OF WORK UNDER THIS CONTRACT UNLESS NOTED OTHERWISE.
- 1.9. ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT NFPA, NEC, NESC AND LOCAL CODES INCLUDING OWNERS STANDARDS AND REQUIREMENTS. 1.10. CONTRACTOR SHALL COORDINATE WITH THE LOCAL ELECTRICAL UTILITY TO ESTABLISH NEW ELECTRICAL SERVICE(S) AND FINAL CONNECTIONS TO PROVIDE UTILITY POWER AS REQUIRED TO INCLUDE ESTABLISHING TEMPORARY UTILITY ACCOUNT TO PROVIDE ELECTRICAL POWER FOR START-UP AND COMMISSIONING.
- 1.11. THE ELECTRICAL INSTALLATION SHALL EXCEED THE REQUIREMENTS OF ALL APPLICABLE NECA/NEIS STANDARDS.
- 1.12. CONTRACTOR SHALL PLAN AND COORDINATE ELECTRICAL CONSTRUCTION WITH ALL CRAFT/TRADE TO ACHIEVE AN EFFICIENT AND EFFECTIVE ELECTRICAL INSTALLATION.
- THE SCHEDULING AND DURATION OF ANY PROCESS OR FACILITY SHUTDOWN TO REMOVE AND/OR INSTALL EQUIPMENT SHALL BE COORDINATED IN ADVANCE WITH FACILITY MANAGEMENT, ENGINEER, OWNER OR OWNER

2. ELECTRICAL EQUIPMENT:

- 2.1. 600V RATED ELECTRICAL EQUIPMENT SHALL HAVE AN AMPERE INTERRUPTING CAPACITY (AIC) RATINGS AS SHOWN ON THE CONTRACT DRAWINGS.
- 2.2. EQUIPMENT SHALL BE ARRANGED AND INSTALLED TO COMPLY WITH ALL CODE-REQUIRED, MANUFACTURER-RECOMMENDED AND HEAT-DISSIPATION CLEARANCES.
- 2.3. EQUIPMENT INSTALLATIONS AND PLACEMENTS SHALL COMPLY WITH NEC ARTICLE 110 FOR ALL CLEARANCE REQUIREMENTS.
- 2.4. EQUIPMENT SHALL FIT INTO THOSE SPACES AS SHOWN ON THE CONTRACT DRAWINGS. CONTRACTOR IS RESPONSIBLE TO PROVIDE EQUIPMENT WHICH MEETS THE SPACE REQUIREMENTS.
- 2.5. CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS REQUIRED FOR MAKING FINAL CONNECTIONS FOR ALL EQUIPMENT INSTALLED AND/OR MODIFIED UNDER CONTRACT.

3. POWER AND CONTROL SYSTEM RACEWAYS:

- 3.1. EXPOSED CONDUIT SHALL BE RIGID ALUMINUM CONDUIT (RAC), GRS, IMC AND EMT ARE NOT ACCEPTABLE.
- 3.2. CONCEALED CONDUIT EMBEDDED IN CONCRETE SHALL BE SCH-40 PVC
- 3.4. DIRECT-BURIED CONDUIT SHALL BE DIRECT-BURIED SCH-80 PVC
- TRANSITIONS THROUGH FINISHED GRADE AND/OR CONCRETE SHALL BE PVC-COATED RAC CONDUIT.
- DRAWINGS DEPICT MAJOR DUCTBANK. CABLE-TRAY, BUS-DUCT, WIRE-WAY, TRENCH/FLOOR DUCTS, RACEWAY, CONDUIT, ETC., TO INCLUDE CABLE, CONDUCTOR AND WIRING IN SCHEMATIC AND/OR DIAGRAMMATIC FORMATS. THE CONTRACTOR SHALL REFERENCE ALL EQUIPMENT SPECIFICATIONS AND MANUFACTURER INSTRUCTIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS.
- 3.7. RACEWAY INSTALLATION AND/OR ARRANGEMENT LAYOUTS ARE NOT TYPICALLY SHOWN ON THE DRAWINGS. CONTRACTOR SHALL DEVELOP LOGICAL GROUPINGS, ROUTING AND MARSHALLING OF DUCTBANK, CABLE-TRAY, BUS-DUCT, WIRE-WAY, TRENCH/FLOOR DUCT, RACEWAY, CONDUIT, ETC., THESE SHALL NOT BE ROUTED THROUGH OR INTERFERE WITH ANY STRUCTURAL ELEMENTS. CONTRACTOR SHALL SUBMIT THESE RACEWAY INSTALLATION AND/OR ARRANGEMENT LAYOUTS PER THE SPECIFICATIONS FOR ENGINEER REVIEW PRIOR TO INSTALLATION.
- RACEWAY ROUTINGS SHALL BE ORGANIZED AND GROUPED IN A PRACTICAL MANNER TO MINIMIZE CROSS-OVERS AND SADDLES. RACEWAY INSTALLATIONS SHALL BE ARRANGED TO ENTER EQUIPMENT FOR DIRECT CONDUCTOR TERMINATIONS. RACEWAYS SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED OR SHOWN. THESE SHALL RUN PARALLEL TO LANDSCAPE AND STRUCTURAL FEATURES WHILE THE BENDS AND TURNS SHALL BE MADE BY
- MEANS OF LARGE RADII FITTINGS. 3.10. PROVIDE FLEXIBLE RACEWAY CONNECTIONS TO ALL EQUIPMENT SUBJECT TO MOVEMENT AND/OR VIBRATION. CONTRACTOR SHALL MAKE RACEWAY CONNECTIONS COMPLETE AND IN ACCORDANCE WITH THE
- SPECIFICATIONS. 3.11. CONTRACTOR SHALL PROVIDE ALL REQUIRED PULL BOXES, TERMINAL BOXES AND JUNCTION BOXES FOR INSTALLATION FOR THE WIRING SYSTEMS IN ACCORDANCE WITH THE SPECIFICATIONS THOUGH ALL BOXES MAY
- NOT BE INDICATED ON THE DRAWINGS.
- 3.12. SPARE CONDUITS SHALL BE CAPPED OR PLUGGED WITH A PVC FITTING AND INCLUDE 200# TEST POLYPROPYLENE PULL STRING.

4. CABLES/CONDUCTORS/WIRES:

4.1. GENERAL

- 4.1.1. QUANTITY AND SIZING OF CONDUCTORS, CABLING, WIRING AND RESPECTIVE RACEWAYS DEPICTED ON THE DRAWINGS ARE BASED UPON SELECTED STANDARD ELECTRICAL COMPONENTS OR EQUIPMENT WITH DIRECT ROUTED CONNECTIONS. CONTRACTOR MAY SUBMIT FOR REVIEW BY ENGINEER AND PRIOR TO INSTALLATION, LOGICAL CONDUCTOR AND RACEWAY GROUPINGS IN COMPLIANCE WITH APPLICABLE CODES, STANDARDS AND SPECIFICATIONS WITHOUT ADDITIONAL COST TO OWNER.
- 4.1.2. CONTRACTOR SHALL PROVIDE A CIRCUIT IDENTIFICATION LABEL AT EACH END OF EACH POWER, BRANCH, CONTROL AND INSTRUMENTATION CIRCUIT CABLE ASSEMBLY, CONDUCTOR OR WIRE.
- 4.2.1. CONTRACTOR SHALL NOT EXCEED CABLE MANUFACTURER SPECIFICATIONS FOR SIDE-WALL AND TENSION LIMITS WHEN DRAWING POWER CABLES INTO RACEWAYS.
- 4.2.2. CONTRACTOR SHALL DRAW POWER CABLES AND CONDUCTORS WITHIN RACEWAYS UTILIZING POLYWATER LUBRICANT J OR APPROVED EQUAL.
- 4.2.3. NO SPLICES TO POWER CONDUCTORS AND/OR CABLING SHALL BE MADE WITHOUT ENGINEER APPROVAL. NO JUNCTIONS SHALL BE MADE BELOW GRADE WITHOUT APPROVAL OF ENGINEER.
- 4.3. POWER/BRANCH
- 4.3.1. RACEWAY AND WIRING FOR LIGHTING, RECEPTACLES AND BRANCH CIRCUITS ARE NOT TYPICALLY SHOWN ON THE CONTRACT DRAWINGS BUT SHALL BE PROVIDED AS REQUIRED UNDER THIS CONTRACT

5. HARDWARE AND SUPPORTS:

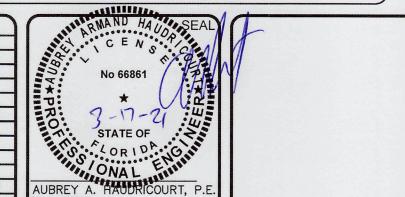
- 5.1. ALL FASTENERS AND HARDWARE SHALL BE STAINLESS-STEEL 316L.
- 5.2. STRUT-CHANNEL SHALL NOT BE BENT, DRILLED, CUT OR OTHERWISE MODIFIED TO PRODUCE FITTINGS, BRACES OR BRACKETS FOR CONDUIT AND EQUIPMENT SUPPORTS.
- 5.3. MANUFACTURED STRUT-CHANNEL BRACES, BRACKETS, FITTINGS OR POST BASES SHALL BE PROVIDED AND INSTALLED WITH ASSOCIATED HARDWARE AND FASTENERS FOR CONDUIT AND EQUIPMENT SUPPORTS.
- 5.4. CONTRACTOR SHALL PROVIDE ALL SUPPORTS AND FASTENING HARDWARE FOR SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CONTROL PANELS, ETC., AS REQUIRED IN THE SPECIFICATIONS.
- 5.5. CONTRACTOR SHALL PROVIDE AND INSTALL CONCRETE EMBEDDED LEVELING CHANNEL SUPPORTS FOR FLOOR MOUNTED EQUIPMENT SPANNING DISTANCES 48" AND GREATER IN LENGTH OR 36" AND GREATER IN DEPTH. 5.6. STRUCTURAL MEMBERS SHALL NOT BE DRILLED, CUT, WELDED TO, OR OTHERWISE MODIFIED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD.

6. RECEPTACLES/SWITCHES:

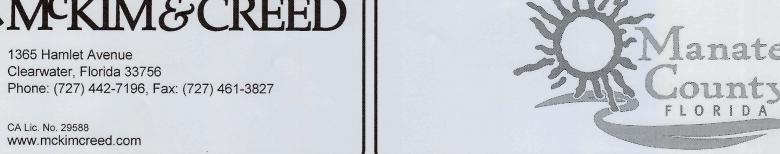
6.1. GENERAL

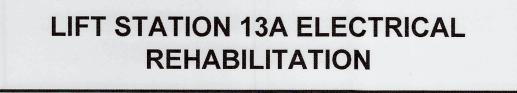
- 6.2.0.2. INDOORS OR NON PROCESS AREAS SHALL BE INSTALLED CONCEALED AND FLUSH WITH STAINLESS-STEEL DEVICE COVER PLATES.
- 6.2.0.3. OUTDOORS OR IN PROCESS AREAS SHALL BE INSTALLED WITHIN WEATHER-PROOF, CORROSION RESISTANT DEVICE BOXES WITH METALLIC IN-USE AND/OR WATER-TIGHT DEVICE COVER PLATES.
- 6.3. RECEPTACLES/GROUND FAULT CURRENT INTERRUPTING (GFCI)
- 6.3.1. SHALL BE INDIVIDUAL GFCI RECEPTACLE DEVICES RATED FOR 20A/120V WITH LED POWER INDICATOR.
- 6.3.2. GFCI RECEPTACLE DEVICES SHALL NOT SHARE NEUTRAL CONDUCTORS ON THREE-PHASE SYSTEMS

.NO.	DESCRIPTION	DATE
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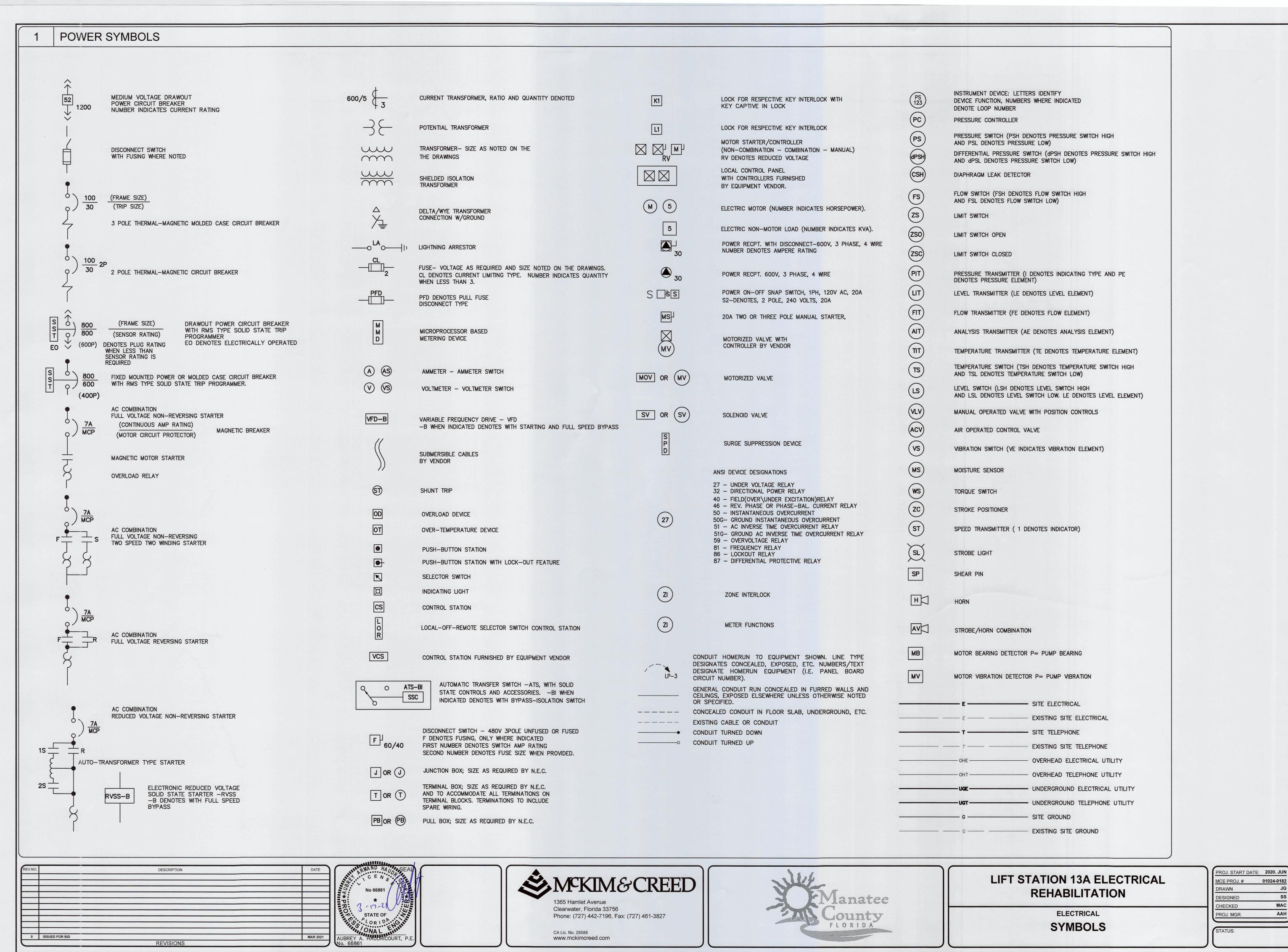
PROJ. START DATE: 2020. JUN SCALE MCE PROJ. # 01024-0182 HORIZONTAL DRAWN N/A **VERTICAL** MAC AAH TBD PROJ. MGR.

ISSUED FOR BID

ELECTRICAL SYMBOLS, ABBRIVIATIONS AND NOTES

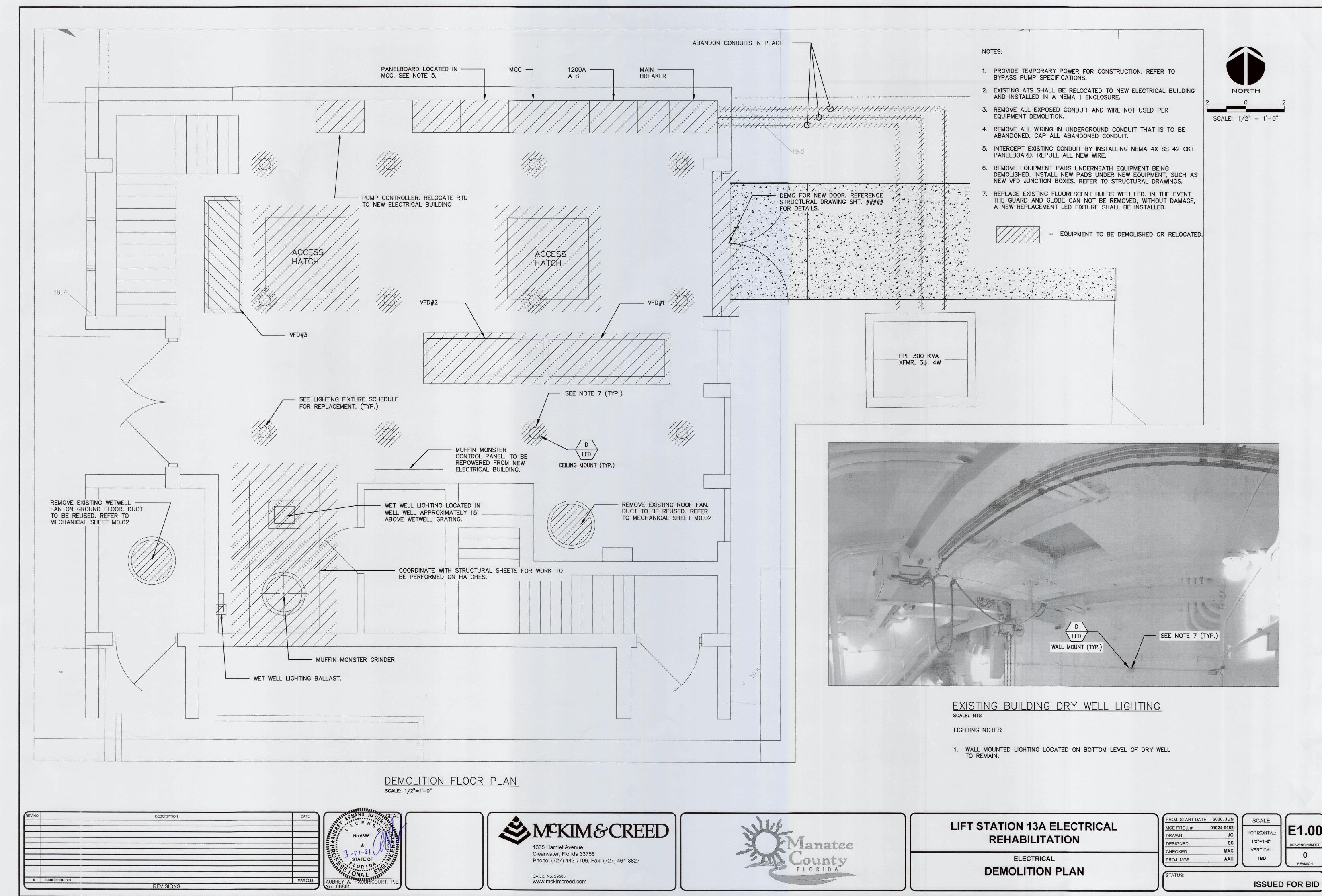
1 LIGH	ITING SYMBOLS							2 AUXILIARY	SYSTEM	
1-3 O	FLUORESCENT LIGHTING FIXTURE — SURFACE OR PENDANT MOUNTED. FIRST NUMERAL DENOTES LIGHTING PANEL (LP1), SECOND NUMBER DENOTES BRANCH CIRCUIT NUMBER. LOWER		LIGHTING, APPLIANCE OR INSTRUMENT PANELBOARD POWER PANELBOARD	950	SWITCH — TEMPERATURE NORMALLY CLOSED. OPENS ON RISING TEMPERATURE	S	MOTOR STARTER CONTACTOR COIL COIL DESIGNATION:		CONTACT	
0	CASE LETTER DENOTES SWITCHED CIRCUIT. FLUORESCENT LIGHTING FIXTURE WITH BATTERY PACK SURFACE OR PENDANT.	СР	CP - CONTROL PANEL		SWITCH — TEMPERATURE NORMALLY OPEN. CLOSES ON RISING	FT	S-SLOW MOTOR STARTER CONTACTOR COIL COIL DESIGNATION:		S-BREAK DETECTOR ON SENSOR	
EM	PENDANT OR CEILING MOUNTED LIGHTING FIXTURE.	MCC T	MOTOR CONTROL CENTER THERMOSTAT	o Lo	TEMPERATURE SWITCH - FLOW NORMALLY CLOSED	F	FT-FAST MOTOR STARTER CONTACTOR COIL	CR CAR) READER	
	WALL MOUNTED LIGHTING FIXTURE.	MD	MOTORIZED DAMPER	00	SWITCH - FLOW NORMALLY OPEN		COIL DESIGNATION: F-FOREWARD MOTOR STARTER		SION ALARM CONTROL PANEL	
a a	POLE OR STANCHION MOUNTED LIGHTING FIXTURE.	LM	LOUVER MOTOR MOTOR, UNIT HEATER-NUMERAL DENOTES LIGHTING PANEL	00	SWITCH - LIMIT NORMALLY OPEN	R	CONTACTOR COIL COIL DESIGNATION: R-REVERSE		OPTIC PATCH PANEL	
CF.	TWO (2) POLE OR STANCHION MOUNTED LIGHTING FIXTURES	(M) (M) (UH) OR [1-24 1-24 1-24 1-24 1-24 1-24 1-24 1-24	AND BRANCH CIRCUIT NUMBER. MOTOR SYMBOL SHOWN DASHED DENOTES EQUIPMENT LOCATED ON ROOF.	0~10	SWITCH - LIMIT NORMALLY CLOSED	(15)	MOTOR STARTER CONTACTOR COIL COIL DESIGNATION:	OR CCTV CAME		
GF OCC	POLE MOUNTED FIXTURE WITH GF RECEPTACLE		INDICATES NEW EQUIPMENT/EXPOSED CONDUIT	000	SWITCH - LIMIT HELD CLOSED		1S-REDUCED VOLTAGE CONTACTOR COIL #1		A DEAGON	
S D EM	2 LAMP SELF CONTAINED DC EMERGENCY LIGHTING UNIT. LETTER DENOTES FIXTURE TYPE.		CONDUIT TURNING DOWN CONDUIT TURNING UP	00	SWITCH - LIMIT HELD OPEN	2 S	MOTOR STARTER CONTACTOR COIL COIL DESIGNATION:	LETTI	M BEACON R INDICATES COLOR	
፟ 💆	EXIT SIGN WALL MOUNTED (SINGLE FACE WITH INDICATING ARROWS) WITH BATTERY PACK ARROW INDICATES DIRECTION OF EXIT DOOR		CONDUIT CAPPED		SWITCH -		2S-REDUCED VOLTAGE CONTACTOR COIL #2		KER\HORN = HORN = PAGING SPEAKER	
	EXIT SIGN PENDANT MOUNTED (DOUBLE FACE WITH INDICATING ARROWS) WITH BATTERY PACK ARROWS INDICATE DIRECTION OF		INDICATES EXISTING EQUIPMENT/CONDUIT INDICATES CONDUIT UNDERGROUND OR CONCEALED	9	LIQUID LEVEL NORMALLY OPEN. CLOSES ON RISING LEVEL	RUN	MOTOR STARTER CONTACTOR COIL COIL DESIGNATION: R-RUN			
D	EXIT DOÓR FIXTURE DESIGNATION SYMBOL. SEE LIGHTING FIXTURE SCHEDULE FOR DESCRIPTION AND TYPE. ALL FIXTURES SHOWN IN A ROOM	//////	IN CEILING, WALLS, BELOW OR IN FLOOR SLAB DEMOLITION	oTo	SWITCH — LIQUID LEVEL NORMALLY CLOSED. OPENS ON RISING LEVEL	CR	CONTROL RELAY COIL DESIGNATION: CR—CONTROL RELAY	© CEIL	ING MOUNTED SPEAKER 34 EXISTING EXTENSION NUMBER	
150 10'-0" AFF	WITH THIS SYMBOL SHALL BE OF TYPE INDICATED BY LETTER; NUMBER IN SYMBOL INDICATES LAMP WATTAGE AND NUMBER OF	ЕМН	ELECTRICAL MANHOLE	0_0	SWITCH -		MX-AUXILIARY RELAY TR-TIMING RELAY	COMA	UNICATION/TELEPHONE	
	LAMPS WHERE MORE THAN ONE (UNLESS OTHERWISE NOTED). NUMBER BELOW SYMBOL INDICATES MOUNTING HEIGHT ABOVE FINISHED FLOOR OR AS NOTED.	ЕНН	ELECTRICAL HANDHOLE	4	PRESSURE NORMALLY CLOSED. OPENS ON RISING PRESSURE	H A	AR-ALARM RELAY RR-READY RELAY		DESK HANDSET AND SYSTEM OUTLET JACK WALL HANDSET AND	
	DUPLEX CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE, 120 VOLTS	тмн	TELEPHONE MANHOLE	000	SWITCH — PRESSURE	(X,0)	SELECTOR SWITCH, 2 POSITION	EX	SYSTEM OUTLET JACK = EXPLOSION PROOF	
	A.C. 20 AMP RECEPTACLE DESIGNATIONS, FIRST NUMBER DENOTES PANEL, SECOND NUMBER DENOTES CIRCUIT NUMBER. GF—DENOTES GROUND FAULT TYPE. SS—DENOTES SURGE SUPPRESSION TYPE	тнн	TELEPHONE HANDHOLE		NORMALLY OPEN. CLOSES ON RISING PRESSURE		MAINTAINED CONTACT	(K)	= WEATHERPROOF = KEYSET	
GF/SS	WP-DENOTES WEATHERPROOF ENCLOSURE	IMH	INSTRUMENTATION MANHOLE	$- \phi $	VALVE LIMIT SWITCH (OPEN)	○ ○ (0,X)	CONFIGURATION X INDICATES CONTACT CLOSED, O DENOTES CONTACT OPEN.		= INTERCOM OUTLET	
$ \hspace{.1cm} $	SINGLE CONVENIENCE RECEPTACLE, 2 POLE, 3 WIRE; 120 VOLTS AC. 20 AMP UNLESS NOTED OTHERWISE ON DRAWINGS.	П ІНН	INSTRUMENTATION HANDHOLE	+0+	VALVE LIMIT SWITCH (CLOSED)	H O A			R MOUNTED DATA OUTLET	
←	POWER RECEPTACLE, 2 POLE, 3 WIRE 250 VOLTS A.C. 20 AMP UNLESS NOTED OTHERWISE ON DRAWINGS.	CRAC	COMPUTER ROOM AIR CONDITIONER	-08-	TORQUE SWITCH, OPENS ON RISING TORQUE	0_0	SELECTOR SWITCH, 3 POSITION	SOUN	D POWERED TELEPHONE	
PU	PAGING UNIT	EIS	EMERGENCY INVERTER SYSTEM	-0_0-	TORQUE SWITCH, CLOSES ON RISING TORQUE	0 0	MAINTAINED CONTACT	TB FLAT	CABLE TRANSITION BOX	
LS	PAGING UNIT SPEAKER	ATS (O)	AUTOMATIC TRANSFER SWITCH	CRI 	NORMALLY OPEN CONTACT, NUMBER INDICATES RELAY.	0 0			PHONE PUNCH DOWN BLOCK ATE BRANCH EXCHANGE	
Sª	SINGLE POLE SWITCH — LOWER CASE LETTER DENOTES SWITCHING.		GROUND TEST POINT GROUND ROD	*	NORMALLY CLOSED CONTACT	o To J	MAINTAINED CONTACT PUSH BUTTON W/MECHANICAL INTERLOCK	EPN EXTE	RNAL PORT NODE	
S ₂	TWO POLE SWITCH	■ -	GROUND GRID CABLE CONNECTION	OL 	THERMALLY ACTUATED MOTOR OVERLOAD RELAY, LATCHES CLOSED ON OVERLOAD		ELECTRIC SPACE HEATER ELEMENT	.,,,,,	CONVERTER	
S ₃	THREE-WAY SWITCH	- 1	GROUND	OL	THERMALLY ACTUATED MOTOR OVERLOAD RELAY		HEATEN ELLINENT		IG CONTROL CABINET	
54	FOUR-WAY SWITCH		#4/0 GROUND CABLE BURIED 2'-6" BELOW GRADE UNLESS OTHERWISE NOTED		THERMALLY ACTUATED MOTOR OVERLOAD RELAY, LATCHES OPEN ON OVERLOAD	ETM	ELAPSED TIME METER		PLEXOR	
ST	24V DC MOMENTARY CONTACT SWITCH - LOWER CASE DENOTES SWITCHING		CLASS I COPPER LIGHTNING CONDUCTOR UNLESS OTHERWISE NOTED	Q 0	NORMALLY OPENED CONTACT — TIMED			XCR TRAN	SCEIVER	
Sp	DIMMING SWITCH - LOWER CASE DENOTES SWITCHING	PC	PHOTOCELL	NOTC	CLOSED TIME DELAY AFTER COIL ENERGIZED			MONI	TOR	
S _{M2}	MANUAL MOTOR STARTER — NUMBER DENOTES NUMBER OF POLES WHEN MORE THAN ONE. VARIABLE SPEED FAN SWITCH	•	DEVICE LOCATED IN FIELD AT OR NEAR MOTOR DEVICE LOCATED IN CONTROL PANEL	NCTO	NORMALLY CLOSED CONTACT— TIMED OPEN TIME DELAY AFTER COIL ENERGIZED			T	EMARCATION TERRUPTIBLE POWER SUPPLY	
S _v	BRANCH CIRCUIT HOME RUN TO PANELBOARD LETTERS AND	(IL)	INDICATING LIGHT, PT-DENOTES PUSH TO TEST TYPE LETTER INDICATES LENS COLOR	0	NORMALLY OREN CONTACT. THERE ORELL					
<u>LP1-2</u>	NUMERALS INDICATE PANEL AND CIRCUIT NUMBER. AS A MINIMUM, ALL WIRING SHALL BE 3#12 AWG IN 3/4" CONDUIT. #10 AWG WIRE SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING	PT	W-WHITE G-GREEN A-AMBER	√ NOTO	NORMALLY OPEN CONTACT— TIMED OPEN TIME DELAY AFTER COIL DE—ENERGIZED			3 TYPICAL DI	SVICE MOUNTING LICIO	216
	SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50 FEET, UNLESS OTHERWISE NOTED ON DRAWING.		R-RED B-BLUE C-CLEAR SWITCH - TOGGLE	V NCTC	NORMALLY CLOSED CONTACT— TIMED CLOSED TIME DELAY AFTER COIL DE—ENERGIZED				EVICE MOUNTING HEIGH	115
LP1-2	LETTERS AND NUMBERS INDICATE PANEL AND CIRCUIT NUMBER		OPEN	1				RECEPTACLES (INTERIOR PROCE RECEPTACLES (EXTERIOR PROC	ESS AREAS) — 48" AFF	
10 J ////V -	(LP1-2). CROSS LINES INDICATE NUMBER OF CONDUCTORS. HALF HASH MARKS INDICATES NEUTRAL. NUMBER (10) DENOTES WIRE SIZE WHEN NOT #12 AWG. CONTINUE CONDUIT AND WIRE RUN FROM	0 0	MOMENTARY CONTACT PUSH BUTTON	0/10	SOLENOID VALVE			PHONE OUTLETS —		
	BOX TO DEVICE IN ROOM OR AREA AS NOTED BY BRANCH CIRCUIT NUMBER. #10 AWG WIRING SHALL BE USED FOR RUNS BETWEEN PANEL AND FIRST LIGHTING FIXTURE OR RECEPTACLE EXCEEDING 50		NORMALLY OPEN	M	MOTOR STARTER CONTACTOR COIL			PHONE OUTLETS (WALL MOUNT	64" AFF	
	FEET, UNLESS OTHERWISE NOTED ON DRAWING.	0 1 0	MOMENTARY CONTACT PUSH BUTTON NORMALLY CLOSED		COIL DESIGNATION: M-COIL			EXIT LIGHTS (WALL MOUNT) — EMERGENCY LIGHTS (WALL MOUNT)	16" ABOVE DOOR	
/	INDICATES GROUND CONDUCTOR	LO STOP						NOTES:	, 90 AFF	
Z _{C12}	INDICATES HOMERUN AND CONDUIT TAG	-010-	MOMENTARY LOCKOUT STOP PUSHBUTTON					DIMENSIONS ARE TO DEVICE BO CONCRETE BLOCK OR BRICK WA	TTOM UNLESS NOTED OTHERWISE. IN LL CONSTRUCTION, CONTRACTOR INSTALLATION WITH MORTAR AND	
REV.NO.	DESCRIPTION	AND HARMAND HARMAND								
INLY,INU.	DESCRIPTION DATE	C E N S	& MCKIM&	CREED	Wy.		LIFT STATION 13	A ELECTRICAL	PROJ. START DATE: 2020. JUN MCE PROJ. # 01024-0182 HORIZONTA	
		No 66861 * D STATE OF COR 1 D COR 1	1365 Hamlet Avenue		Manate	e	REHABILI	TATION	DESIGNED SS N/A	DR
		STATE OF STATE OF	Clearwater, Florida 33756 Phone: (727) 442-7196, Fax: (72	27) 461-3827	County County		ELECTR		CHECKED MAC PROJ. MGR. AAH TBD	
0 ISSUED FOR BID	MAR 2021	AUBREY A. HAUDRICOURT, P.E.	CA Lic. No. 29588 www.mckimcreed.com		FLORIDA		SYMB	OLS	STATUS:	UED FO

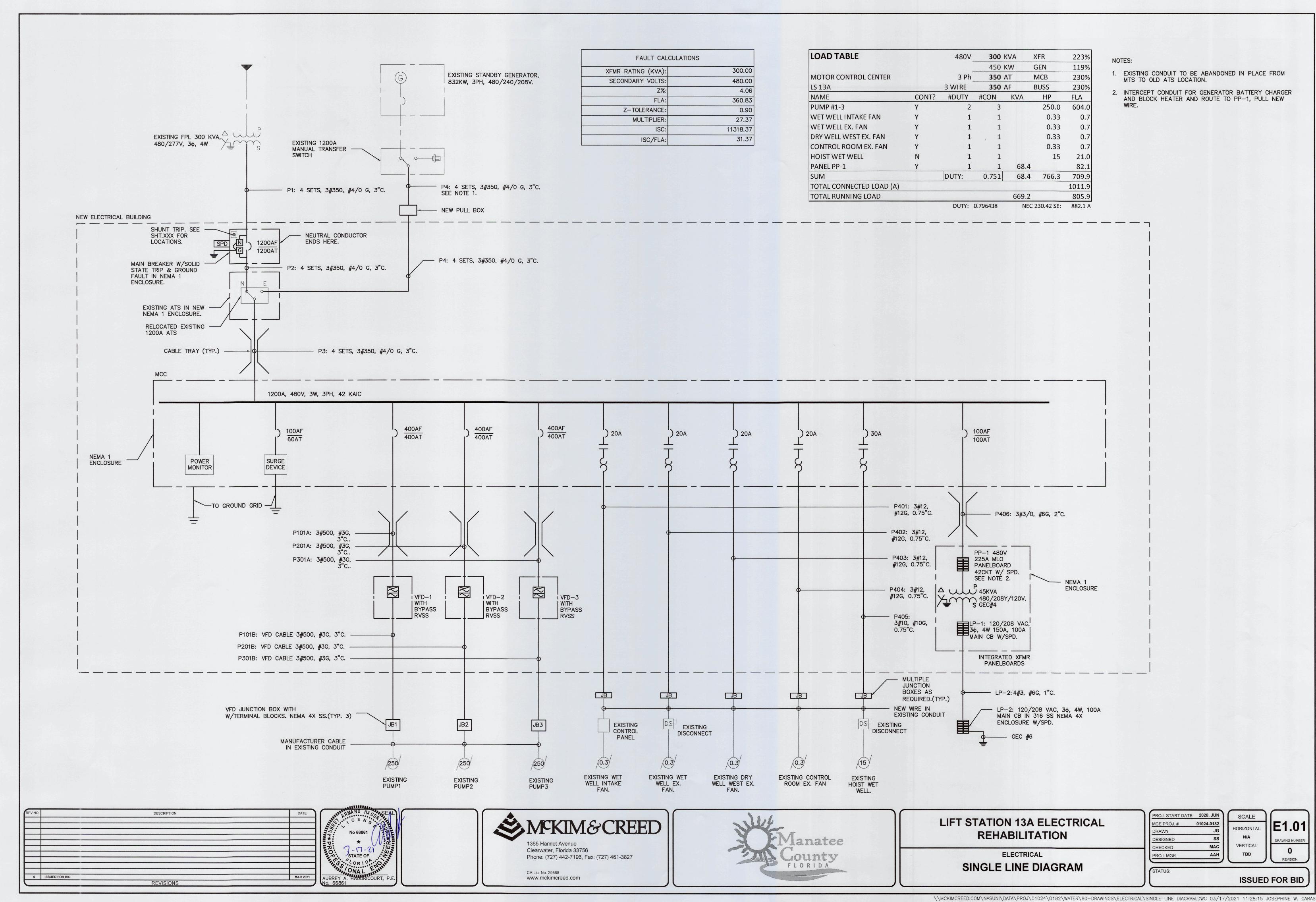
REVISIONS

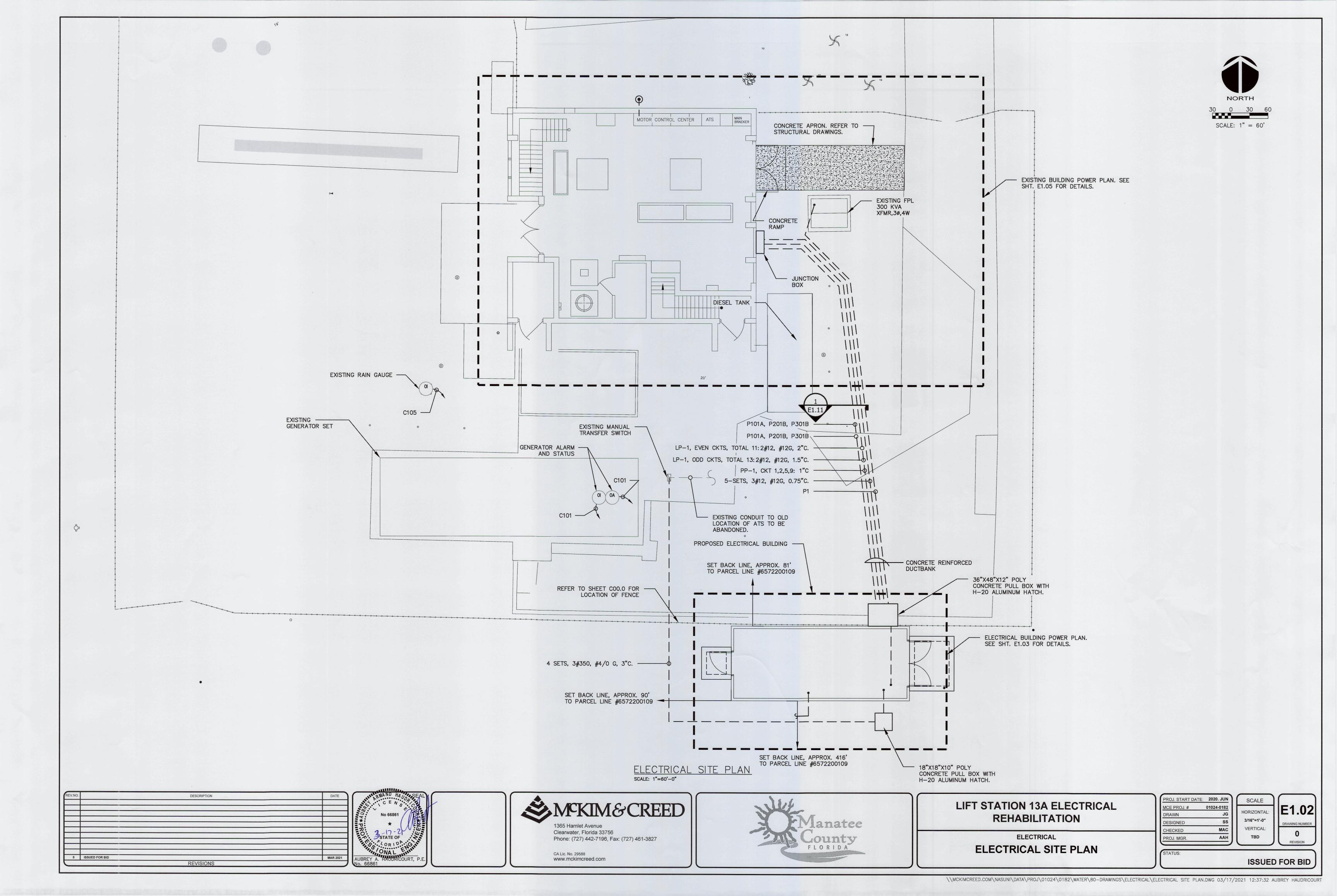


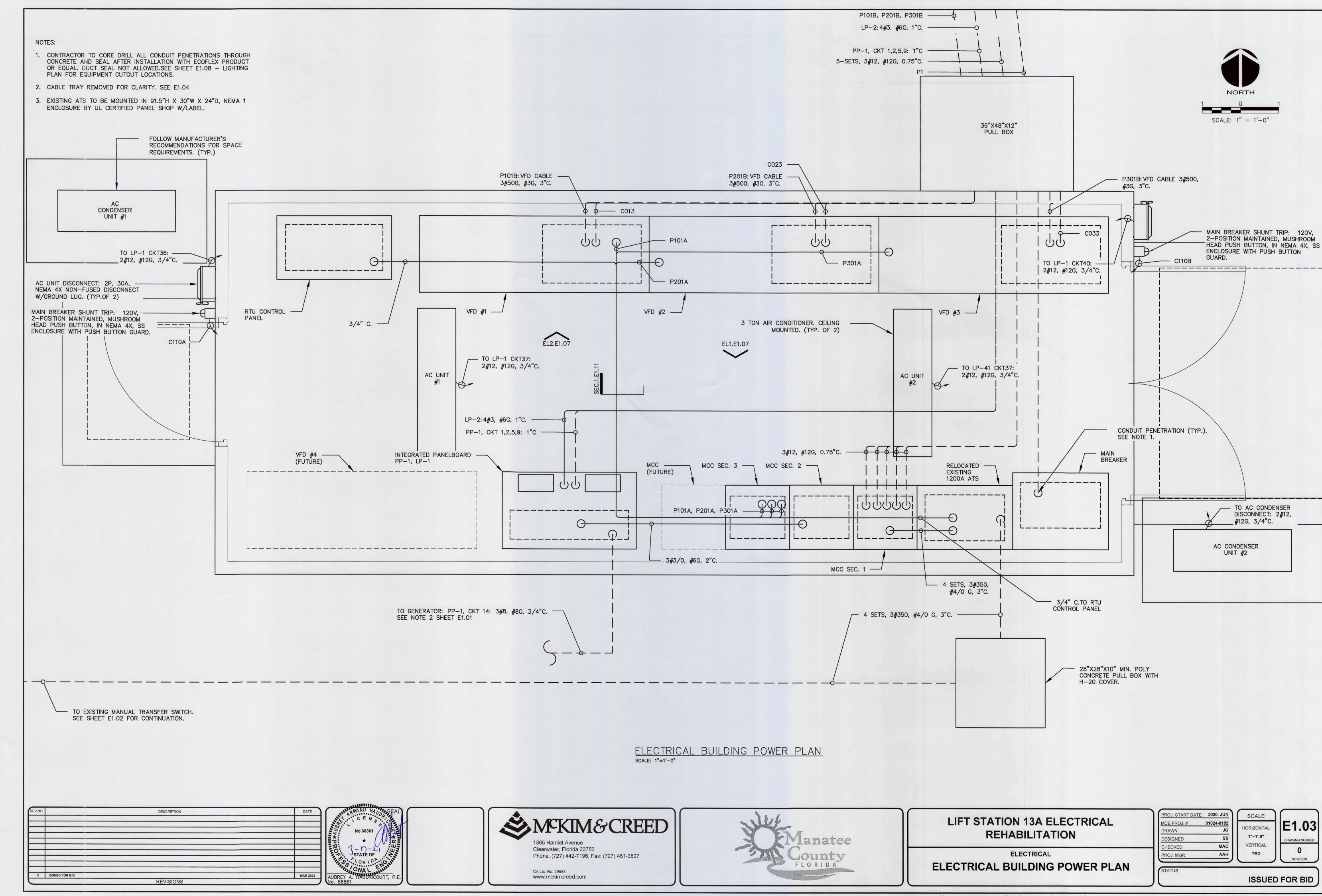
HORIZONTAL

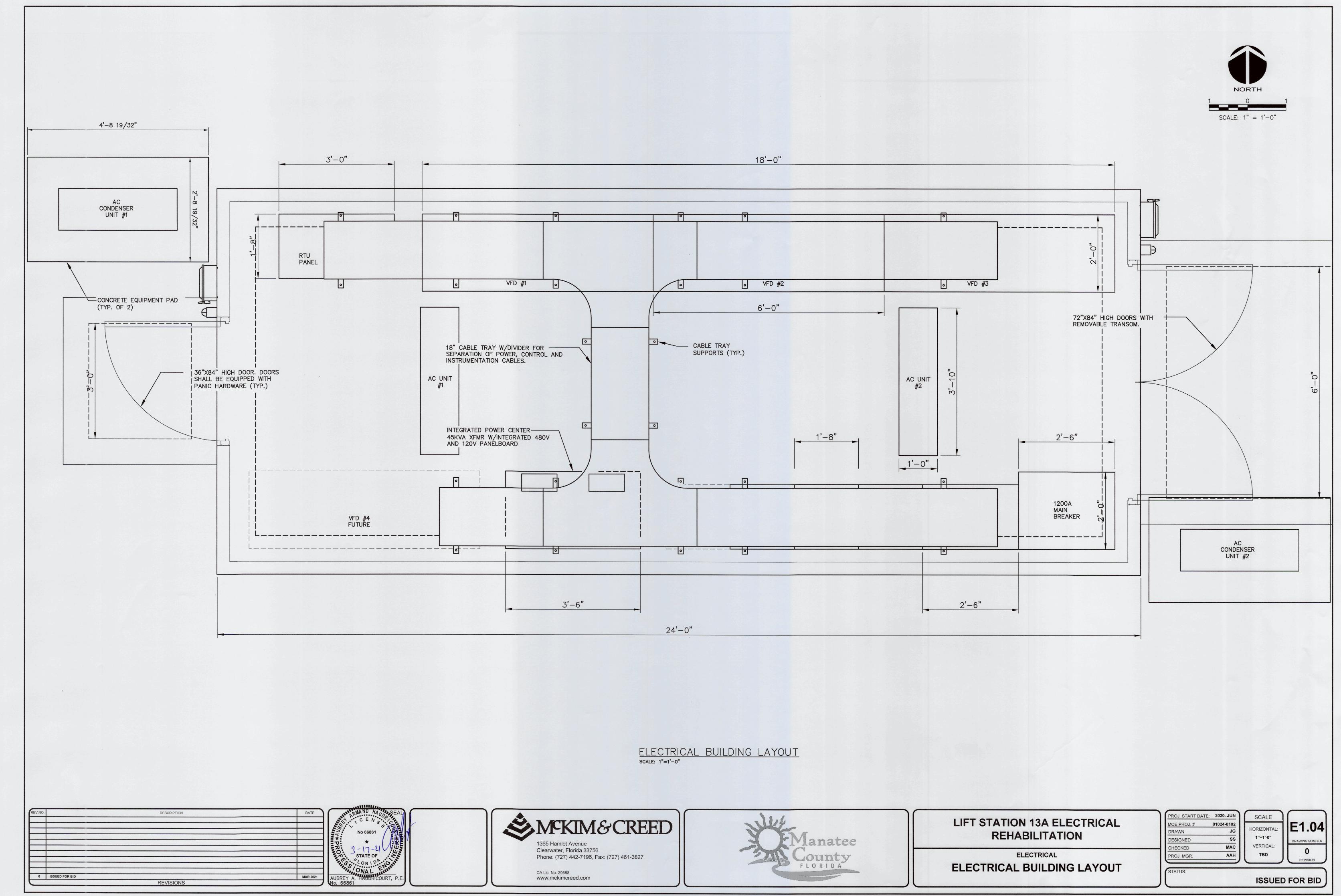
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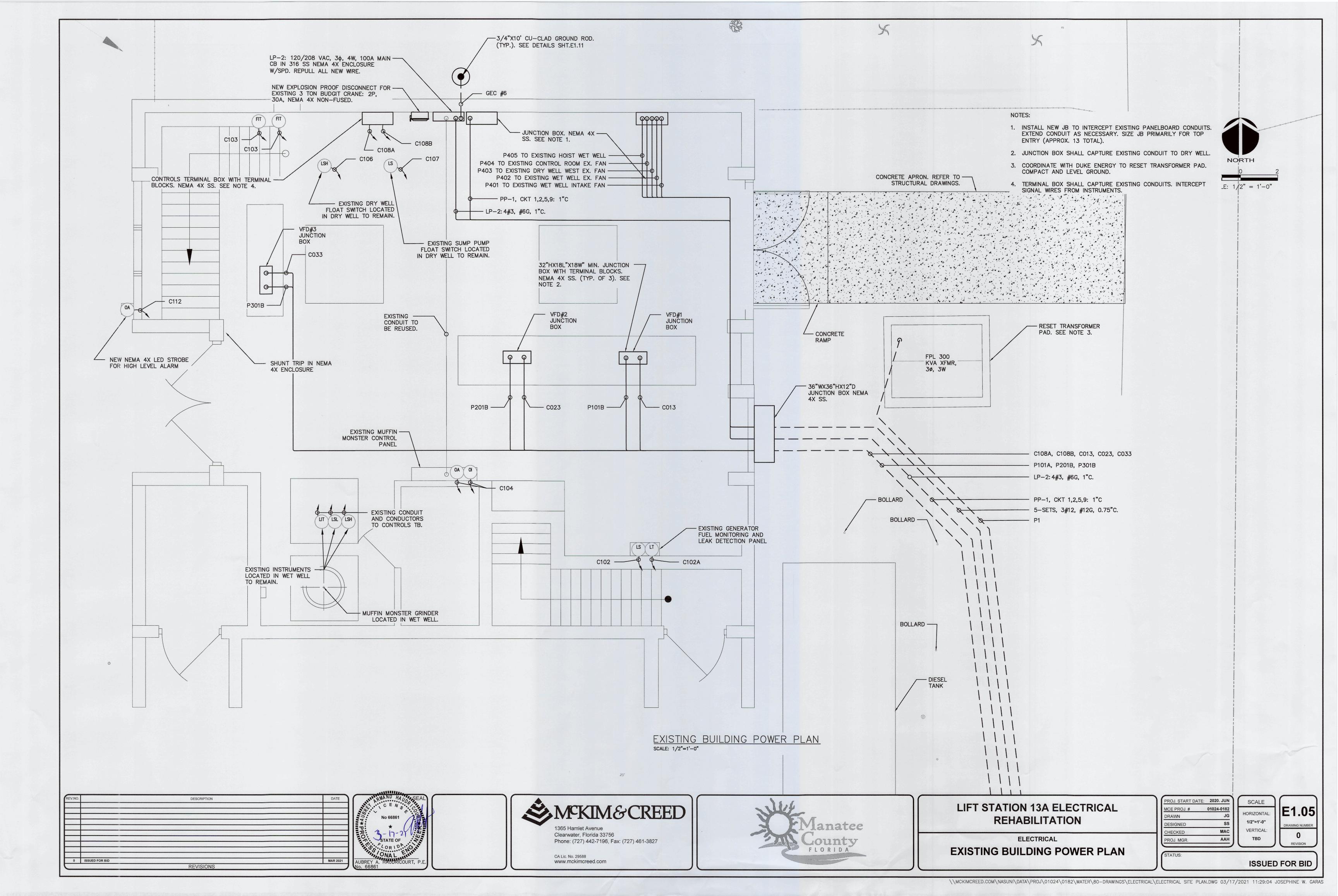


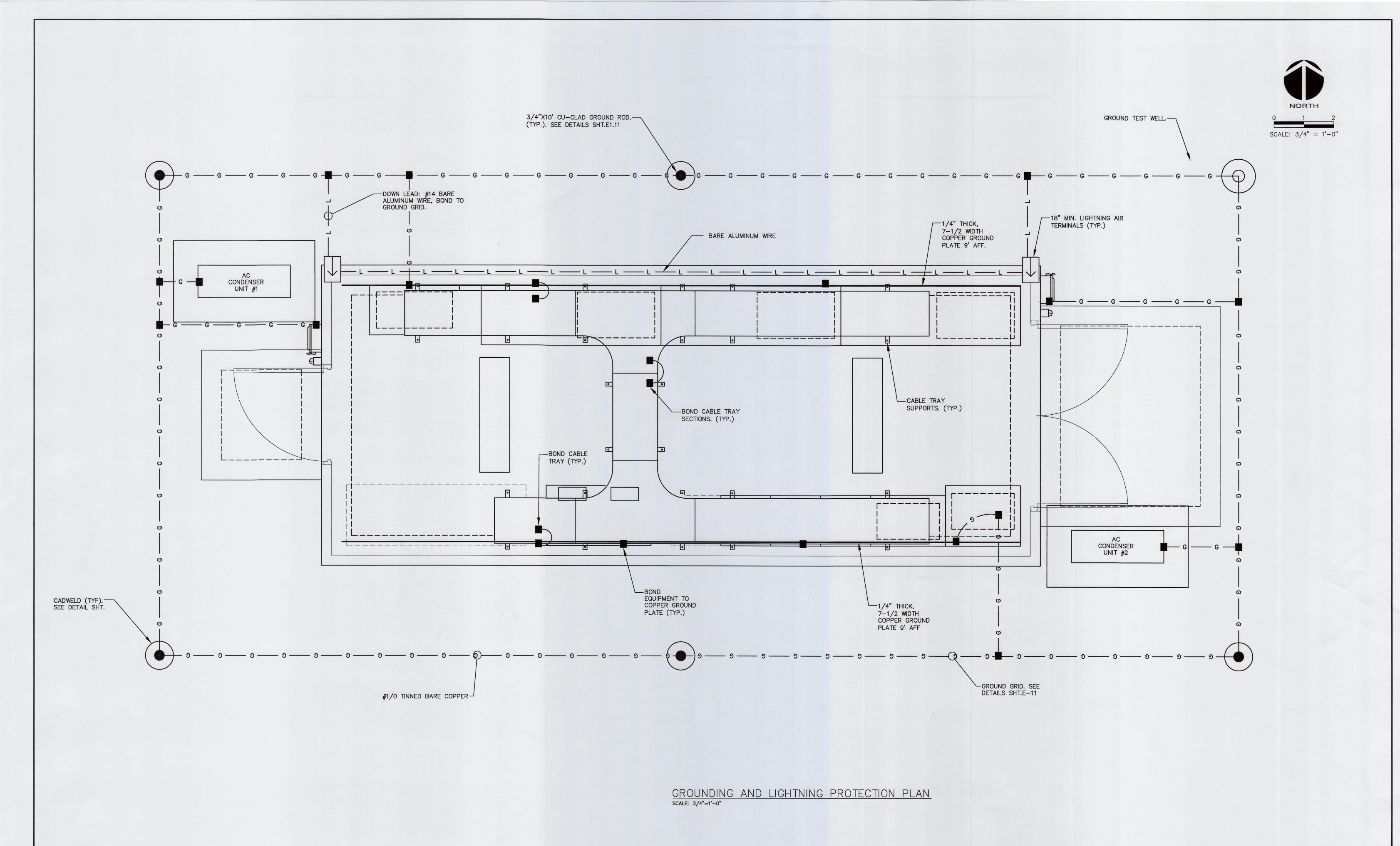


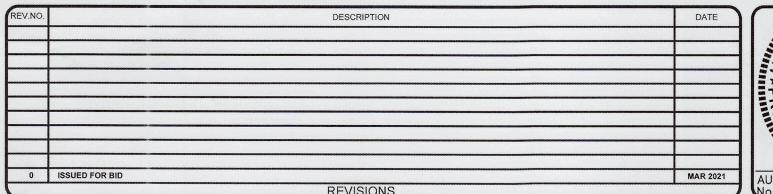


















LIFT STATION 13A ELECTRICAL REHABILITATION

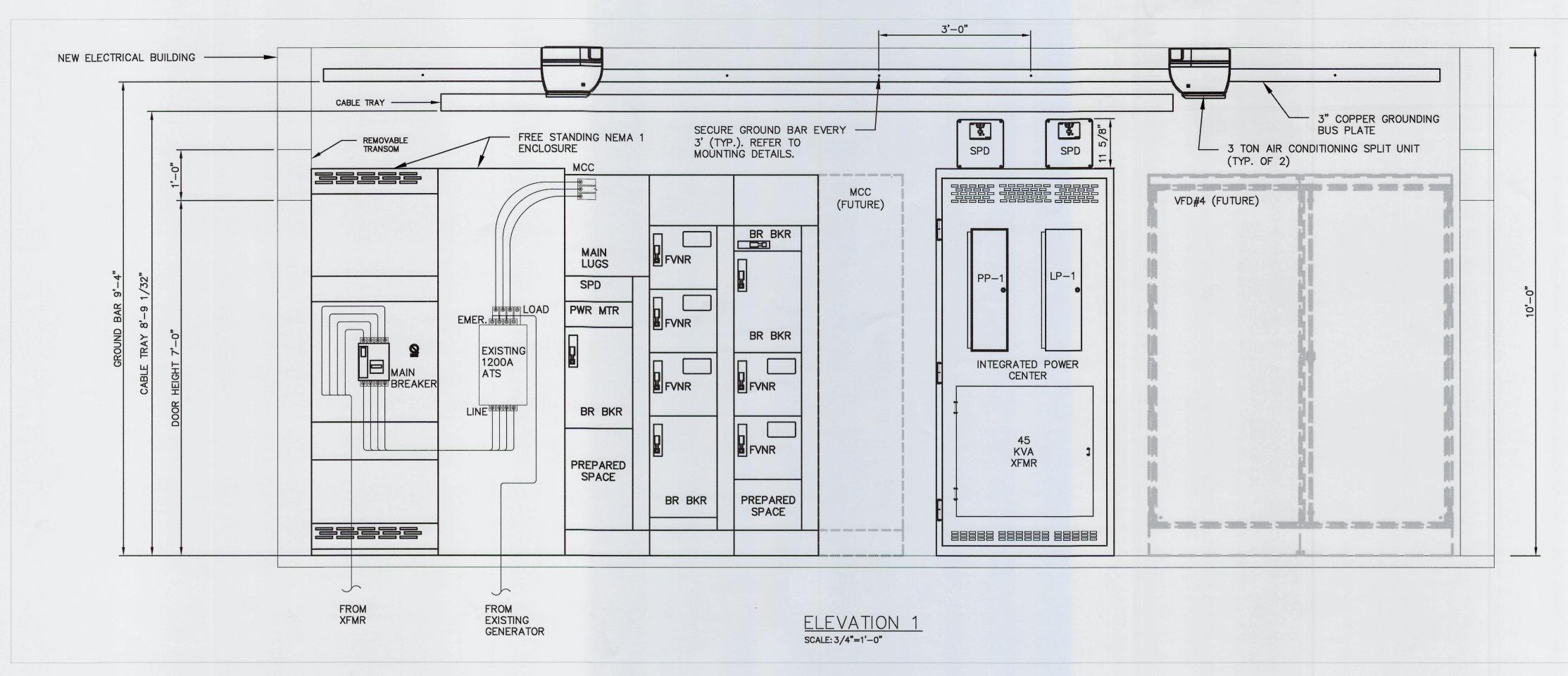
ELECTRICAL

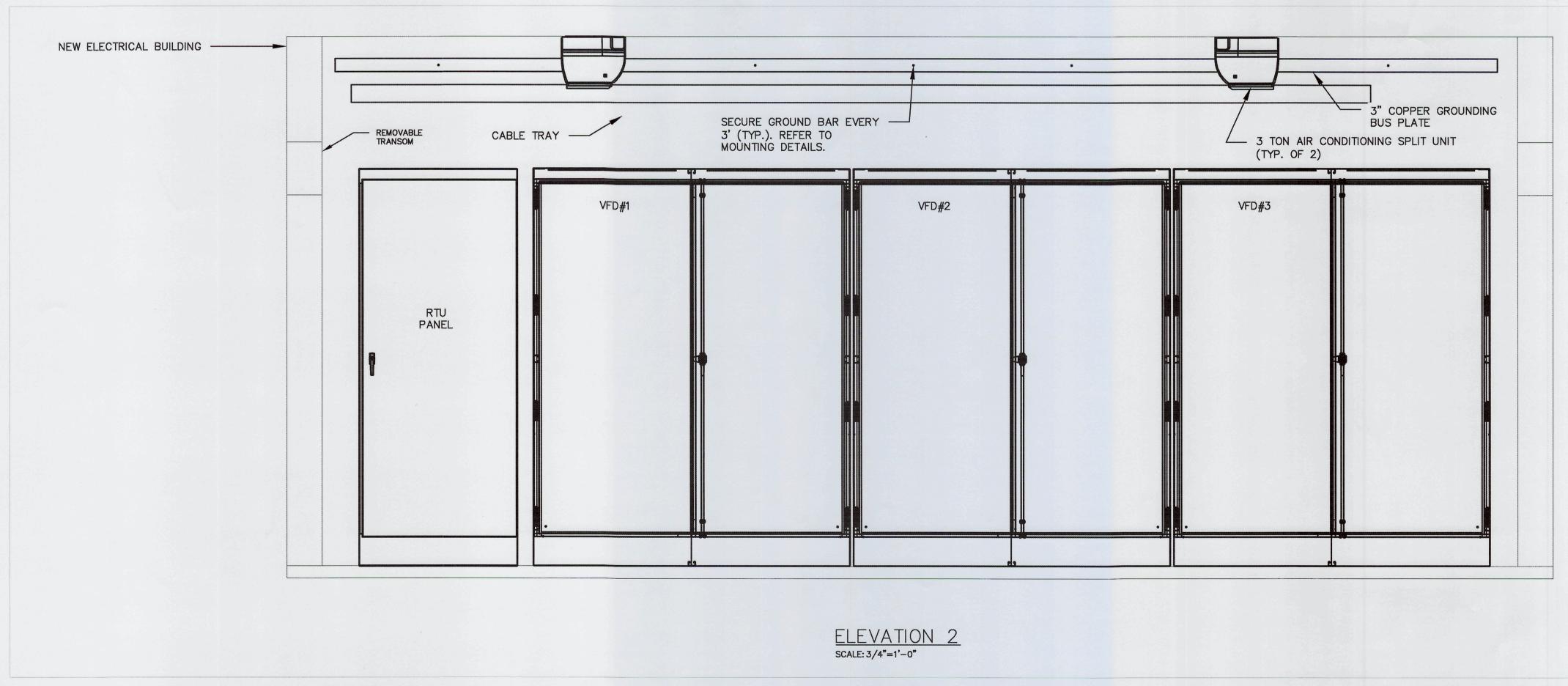
GROUNDING AND LIGHTNING PLAN

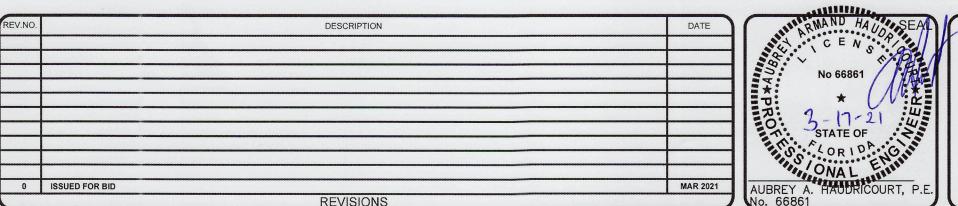
PROJ. START DATE:	2020. JUN	SCALE	-
MCE PROJ. #	01024-0182		
DRAWN	JG	HORIZONTAL:	20000000
DESIGNED	SS	3/4"=1'-0"	-
CHECKED	MAC	VERTICAL:	diameter
PROJ. MGR.	AAH	TBD	MINISTER STATES

NOTES:

 ATS TO BE MOUNTED IN THE FIELD BY UL CERTIFIED PANEL SHOP. ALL WIRING PERFORMED IN FIELD BY CONTRACTOR.









www.mckimcreed.com



LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL

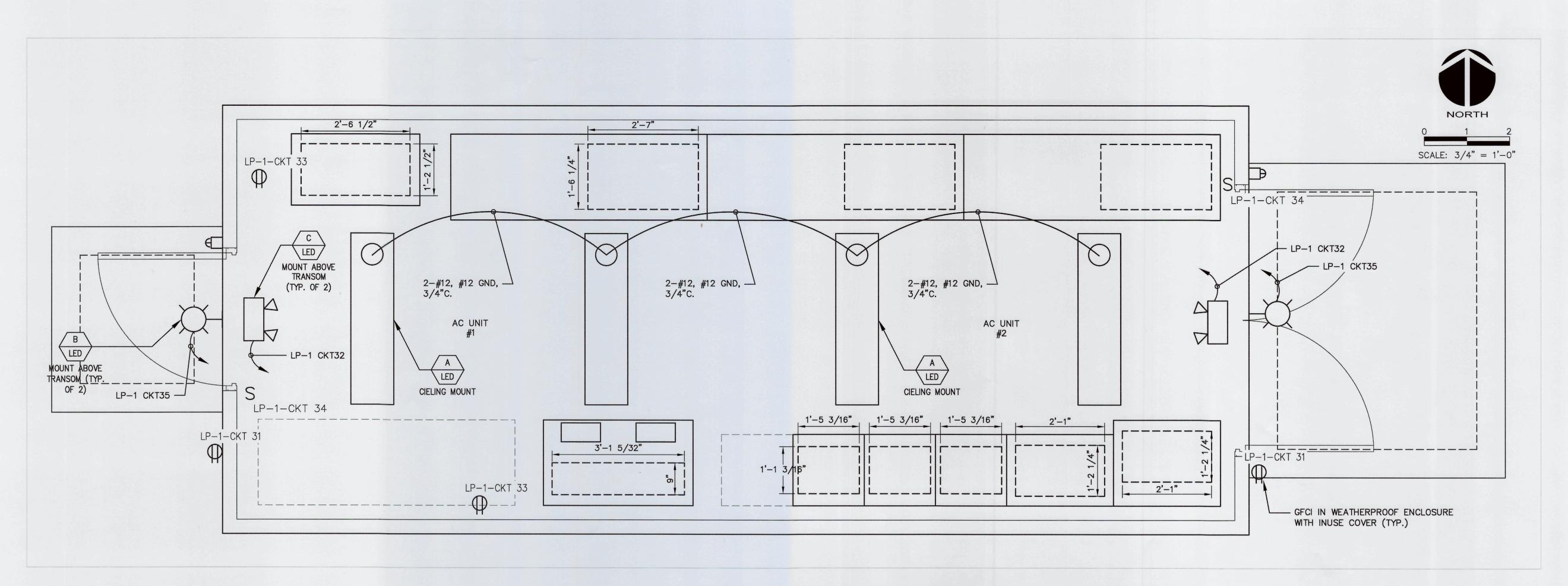
MCB ATS MCC ELEVATIONS

1	PROJ. START DATE:	2020. JUN	
	MCE PROJ. #	01024-0182	
	DRAWN	JG	H
-	DESIGNED	SS	
	CHECKED	MAC	
	PROJ. MGR.	AAH	
1			

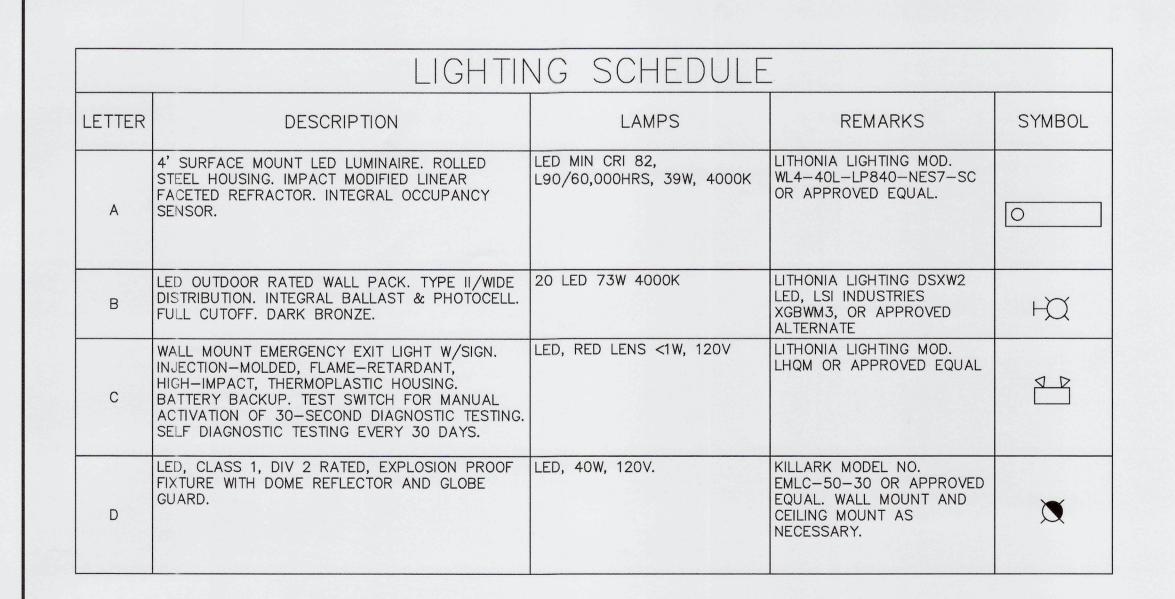
HORIZONTAL:
N/A
VERTICAL:
TBD

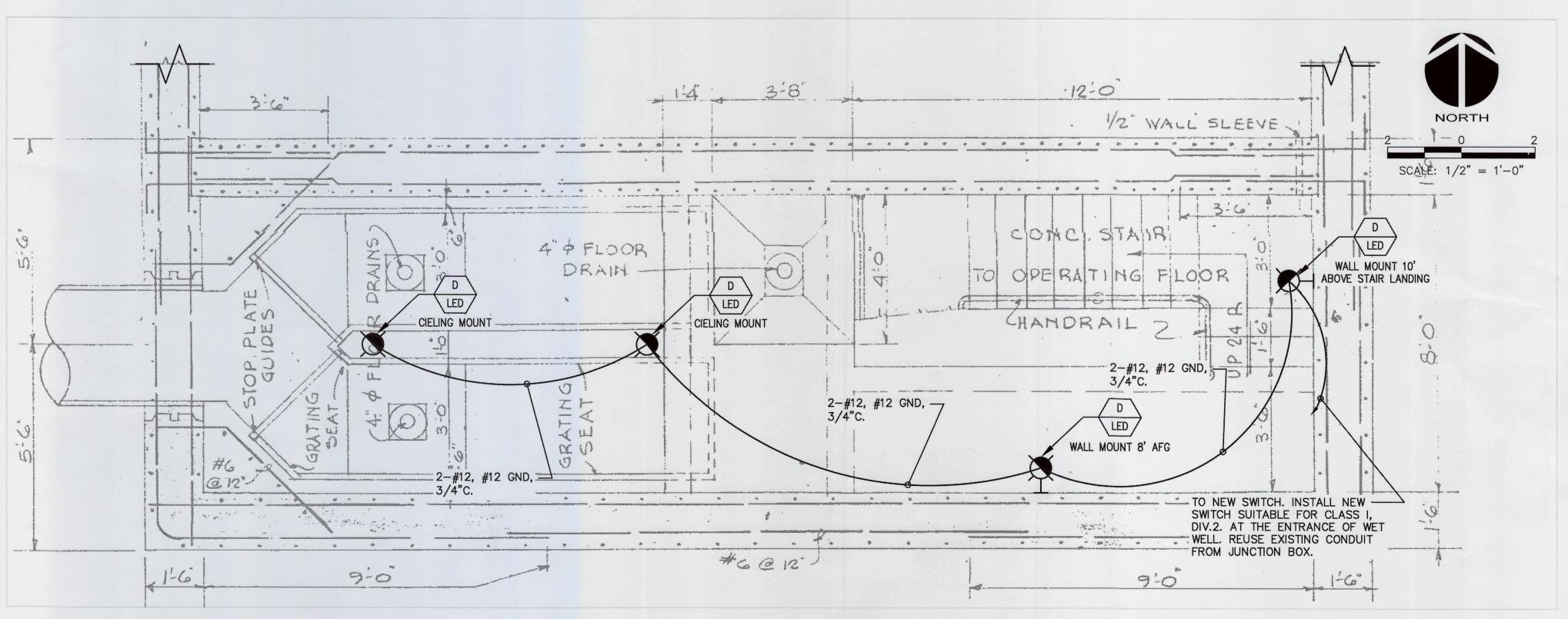
LANGUAGE
DRAWING NUMBER

O
REVISION



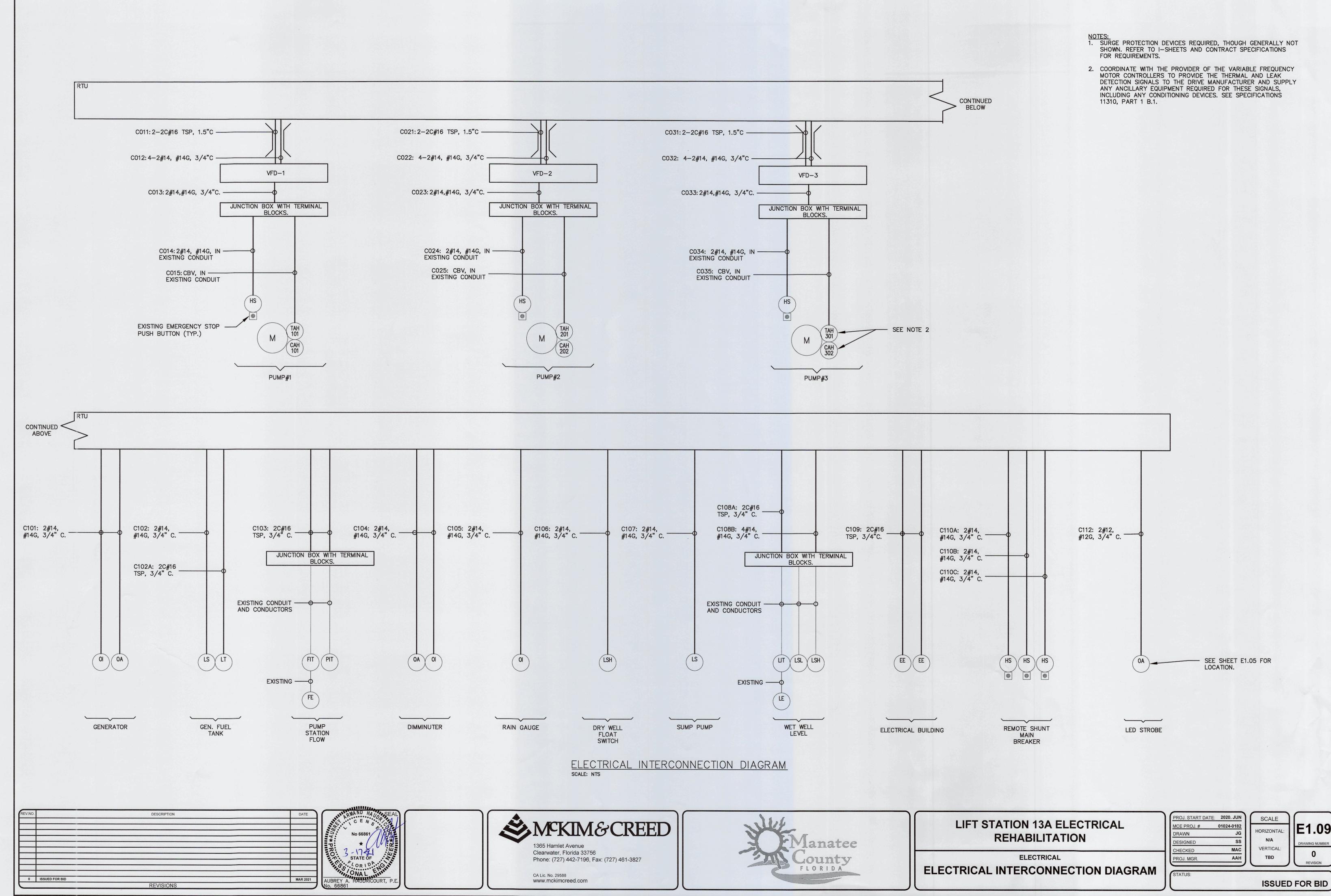
ELECTRICAL BUILDING LIGHTING PLAN SCALE: 3/4"=1'-0"





WET WELL LIGHTING PLAN
SCALE: 1/2"=1'-0"





CKT NO.	TRIP	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	A	KVA PER PHAS	C	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO
1	30	HOIST DRY WELL	5.5	22.9	2	5.6			3	0.3	0.075	INTAKE EAST DRY WELL FAN	20	2
			5.5				5.6				0.075			
5	30	HOIST UPSTAIRS	5.5	22.9	2	4		5.6			0.075			
			5.5			20.5			3	54.1	15	TRANSFORMER 45KVA	70	8
9	20	DIMMINUTER	0.4	1.4	3		15.4				15			
			0.4					15.4			15			
			0.4			10.4			3	36.1	10	30KVA EXISITNG GENERATOR	50	14
15	20	SPARE			3		10.0				10	TRANSFORMER		
								10.0			10			
~4		CDADS			_	0.0	2.0		3			SURGE PROTECTION DEVICE	20	20
21	30	SPARE			3		0.0	0.0						
						0.0		0.0	2			SPARE	30	26
27	30	SPARE			3	0.0	0.0		2			SPARE	30	20
2.1	30	J. A.L.			,		0.0	0.0	2					30
						0.0		0,0				SPACE		
33		SPACE			3		0.0		3			SPACE		34
								0.0						
						0.0								
39		SPACE			2		0.0		2			SPACE		40
					A DECEMBER			0.0						
			тс	TAL KVA		36.5	31.0	31.0			*	SERVICE CHARACTERISTICS		
	PANEI	PP-1								VOLTS		-	225	_ A MLO
		MANATEE COUNTY	GRANI	D CONNECT	TED TO	OTAL KVA	98	3.4		PHASE			0	_ A MCB
		ELECTRICAL BUILDING : INTEGRATED PANELBOARD								WIRE:		SYMM, FULLY RATED ASSEMBLY		

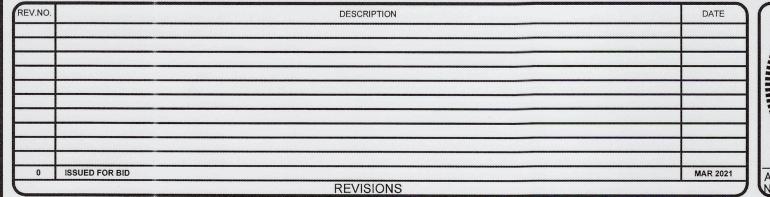
PANEL SCHEDULE PP-1
scale: NTS

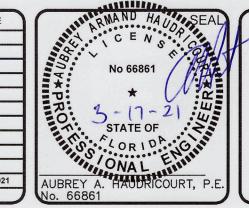
	PS PS				ES	1	(VA PER PHASE		ES				PS PS	
CKT NO.	TRIP	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	Α	В	С	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO
1	20	ELEC. BUILDING RECEPTACLES OUTSIDE	0.36	3.0	1	0.5			1	1.5	0.18	ELEC. BUILDING EMERG. EXIT LIGHT	20	2
3	20	ELEC. BUILDING RECEPTACLES INSIDE	0.72	6.0	1		1.5		1	6.7	0.8	ELEC. BUILDING LIGHTING INSIDE	20	4
5	20	ELEC. BUILDING OUTSIDE WALL PACKS	0.5	4.2	1			2.1	2	15.4	1.6	ELEC. BUILDING AC OUTDOOR UNIT #1	25	6
7	15	ELEC. BUILDING AC INDOOR UNIT #1	0.1	1.0	2	1.7					1.6			
			0.1				1.7		2	15.4	1.6	ELEC. BUILDING AC OUTDOOR UNIT #2	25	10
11	15	ELEC. BUILDING AC INDOOR UNIT #2	0.1	1.0	2			1.7			1.6			
			0.1			8.9			3	73.3	8.8	PANEL LP-2	100	14
15	20	SURGE PROTECTION DEVICE	0.1	0.8	3		8.9				8.8			
	20		0.1					8.9			8.8			
	20		0.1			0.1			1			SPARE	20	20
21		SPARE			1		0.0		1			SPARE	20	22
23		SPARE			1			0.0	1			SPARE	20	24
25		SPARE			1	0.0			1			SPARE	20	26
27		SPARE			1		0.0		1			SPARE	20	28
29		SPARE			1			0.0	1			SPARE	20	30
31		SPARE			1	0.0			1			SPARE	20	32
33		SPARE			1		0.0		1			SPARE	20	34
35		SPARE			1			0.0	1			SPARE	20	36
37		SPARE			1	0.0			1			SPARE	20	38
39		SPARE			1		0.0		1			SPARE	20	40
41		SPARE			1			0.0	1			SPARE	20	42
	PANEL	LP-1	тс	OTAL KVA		11.2	12.1	12.7		VOLTS:	208Y/120	SERVICE CHARACTERISTICS		A MLO
		MANATEE COUNTY ELECTRICAL BUILDING	GRAN	D CONNEC [*]	TED TO	TAL KVA	36	.1		PHASE: WIRE:	4		150	_ A MCB
	NOTES	: INTEGRATED PANELBOARD								10K	MIN AIC S	SYMM, FULLY RATED ASSEMBLY		

PANEL SCHEDULE LP-1 scale: NTS

CKT NO.	TRIP	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	A	(VA PER PHASE B	С	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO.
1	50	HOT WATER	4	38.5	2	4.2			1	1.7	0.2	OPER FL RECEPT	20	2
	***************************************		4				4.2	- 15 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1	1.7	0.2	OPER FL RECEPT	20	4
5	20	EMERGENCY LIGHTING	0.2	1.7	1			1.0	1	6.9	0.83	SUMP PUMP 0.33 HP	20	6
7	20	OPER FL LIGHTING	0.2	1.7	1	0.8			1	5.0	0.6	ALARM SYSTEM PANEL	20	8
9	20	OPER FL LIGHTING	0.2	1.7	1		0.9		1	5.6	0.67	FUEL TRANSFER PUMP	20	10
11	20	OUTDOOR LIGHTING	0.5	4.2	1			1.8	1	10.8	1.3	ENG. HEATERS	20	12
13	20	CHLOR STR. LIGHTING	0.2	1.7	1	0.5			1	2.3	0.28	TOILET FAN	20	14
15	20	DRY WELL LIGHTING	1.2	10.0	1		2.7		1	12.5	1.5	WATER HEATER	20	16
17	20	DRY WELL LIGHTING	1.6	13.3	1			1.7	1	0.4	0.05	SPRINKLER SYSTEM	20	18
19	20	WET WELL LIGHTING	1.5	12.5	1	2.2			1	5.6	0.67	WET WELL SUPPLY	30	20
21	20	CHLOR RM & TOILET LIGHTING	0.2	1.7	1		1.5		1	10.8	1.3	OPERATION FLOOR EXHAUST FAN	20	22
23	20	DRY WELL SUPPLY & EX. FAN TIMER	0.1	0.8	1			0.1	1			SPARE	20	24
25	20	WET WELL SUPPLY	1.3	10.8	1	1.3			1			SPARE	20	26
27	30	OPERATION FLOOR EXHAUST FAN	1.3	10.8	1		1.3		1			SPARE	20	28
29	20	SURGE PROTECTION DEVICE	0.1	0.8	3			0.1	1			SPARE	20	30
			0.1			0.1			1			SPARE	20	32
			0.1				0.1		1			SPARE	20	34
35	20	SPARE			1			0.0	1			SPARE	20	36
37	20	SPARE			1	0.0			1			SPARE	20	38
39	20	SPARE			1		0.0		1			SPARE	20	40
41	20	SPARE			\$			0.0	1			SPARE	20	42
	PANEL	LP-2	то	TAL KVA		9.1	10.7	4.7		VOLTS:	208Y/120	SERVICE CHARACTERISTICS		_ A MLO
		MANATEE COUNTY COLD PUMP BUILDING	GRANI	O CONNECT	TED TO	TAL KVA	24.	4		PHASE: WIRE: 10K	4	SYMM, FULLY RATED ASSEMBLY	100	_ A MCB

PANEL SCHEDULE LP-2 scale: NTS









LIFT STATION 13A ELECTRICAL REHABILITATION

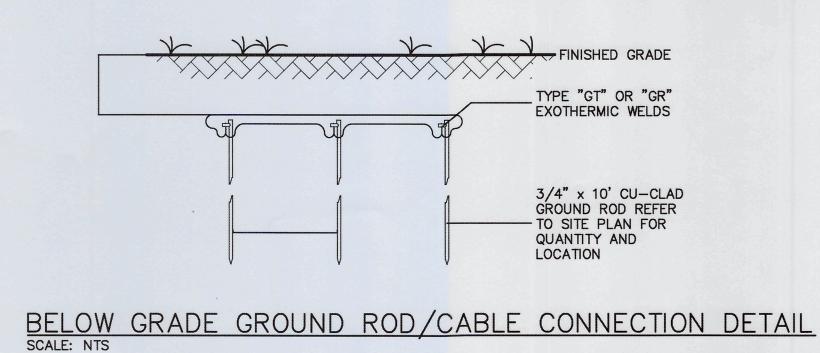
PANEL SCHEDULES

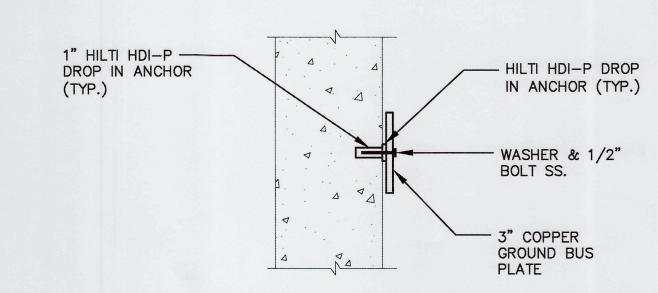
PROJ. START DATE:	2020. JUN	SCALE	1
MCE PROJ. #	01024-0182		
DRAWN	JG	HORIZONTAL:	
DESIGNED	SS	N/A	
CHECKED	MAC	VERTICAL:	r
PROJ. MGR.	AAH	TBD	
			-
CTATUC:			

ISSUED FOR BID

\ 0.189\ WATED\ 80 DDAWINGS\ ELECTRICAL\ SCHEDILLES AND TABLES DWG 0.7/17/2021 11.20.40 LOSEDHINE W. CADA

11"x18" POLYMER CONCRETE BOX WITH OPEN BOTTOM AND TRAFFIC RATED COVER WITH 3" LETTERING "GROUND TEST WELL" FINISHED GRADE MECHANICAL CONNECTION COARSE SAND OR PEA GRAVEL #57 CRUSHED STONE BARE COPPER GROUND CU-CLAD GROUND ROD GROUND ROD TEST WELL SCALE: NTS





1. MINIMUM WIRE SIZE FOR ALL POWER CIRCUITS IS #12AWG CU UNLESS OTHERWISE NOTED.

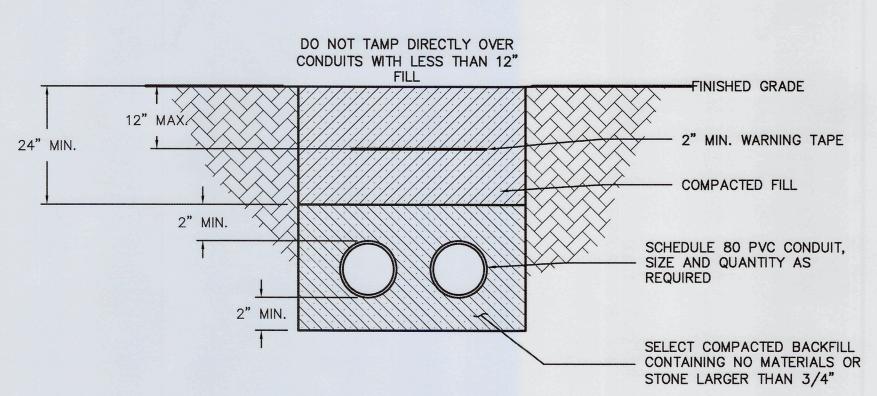
4. FOR LOW VOLTAGE DUCTBANKS MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 2".

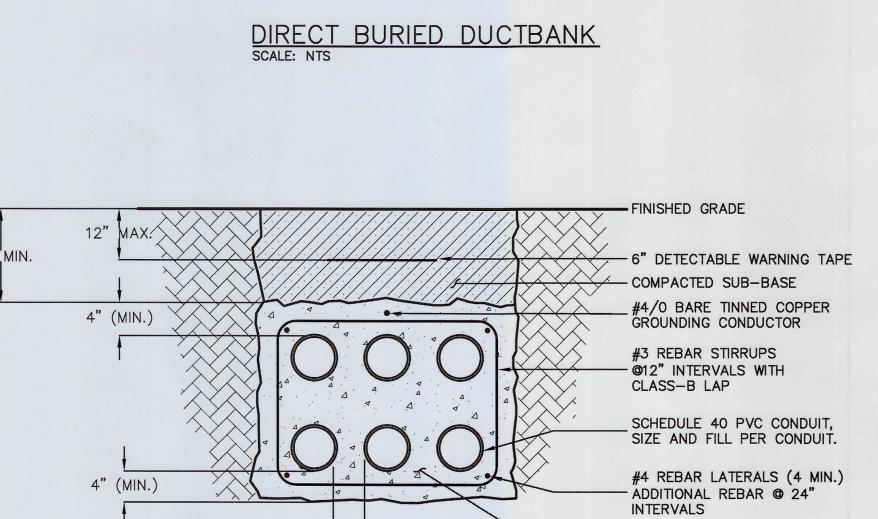
3. SWAB CLEAN EXISTING CONDUITS PRIOR TO PULLING NEW CIRCUITS.

NOTES:

2. MINIMUM CONDUIT SIZE IS 3/4" TRADE SIZE.

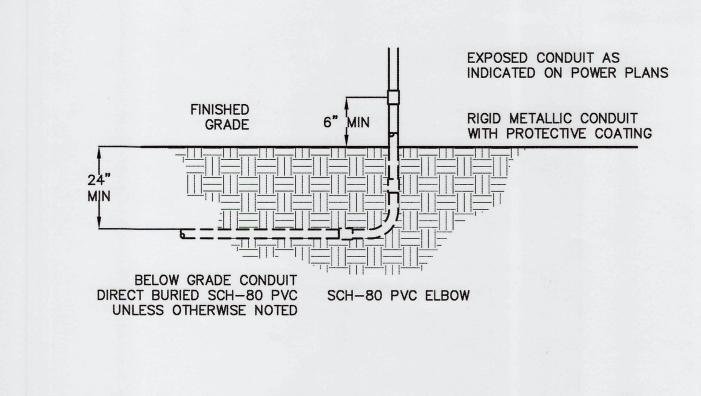
COPPER GROUND BUS PLATE MOUNTING DETAIL



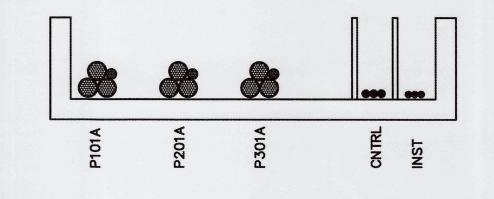


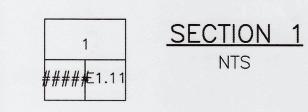
REINFORCED CONCRETE DUCTBANK SCALE: NTS

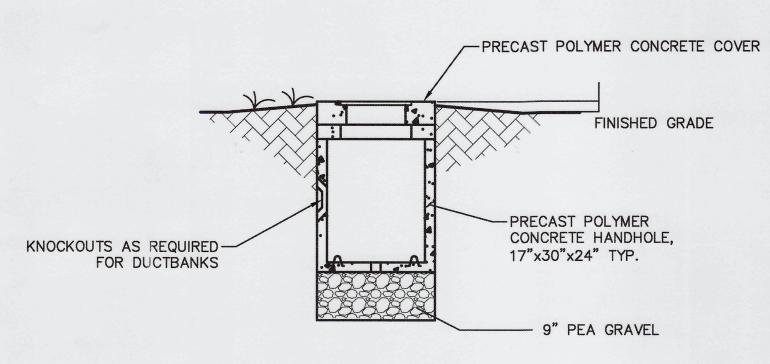
SEE NOTE 4



CONDUIT TRANSITION DETAIL



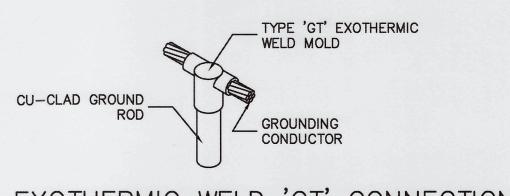




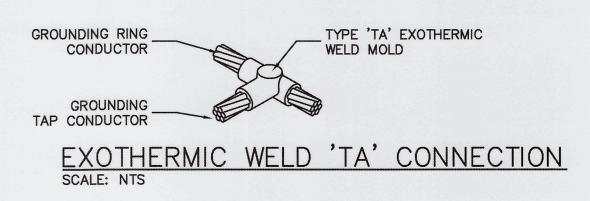
SMALL HANDHOLE NOTES:

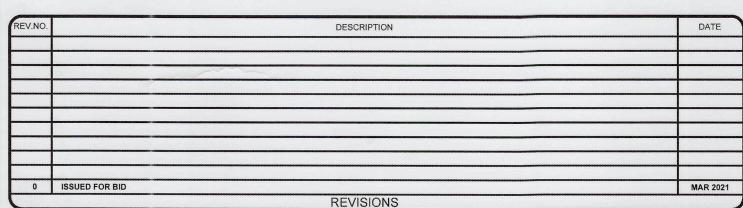
- 1. PROVIDE PRODUCTS OF ONE OF THE FOLLOWING:
- A. STRONGWELL QUAZITE
- B. OLD CASTLE C. OR APPROVED EQUAL
- 2. MATERIAL: PRECAST POLYMER CONCRETE.
- 3. DUCT ENTRANCES SIZED AND LOCATED TO SUIT DUCTBANKS.
- 4. ENCLOSURES AND COVERS SHALL BE UL-LISTED. 5. ENCLOSURES, BOXES, AND COVERS SHALL COMPLY WITH TEST PROVISIONS OF ANSI/SCTE 77 FOR TIER 15 & 22
- 6. COVERS SHALL HAVE COEFFICIENT OF FRICTION OF NOT LESS THAN 0.50, IN ACCORDANCE WITH ASTM C1028.

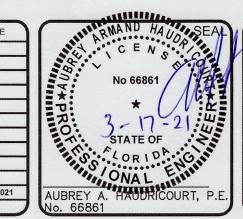
SMALL HANDHOLE DETAIL



EXOTHERMIC WELD 'GT' CONNECTION SCALE: NTS









4" (MIN.)

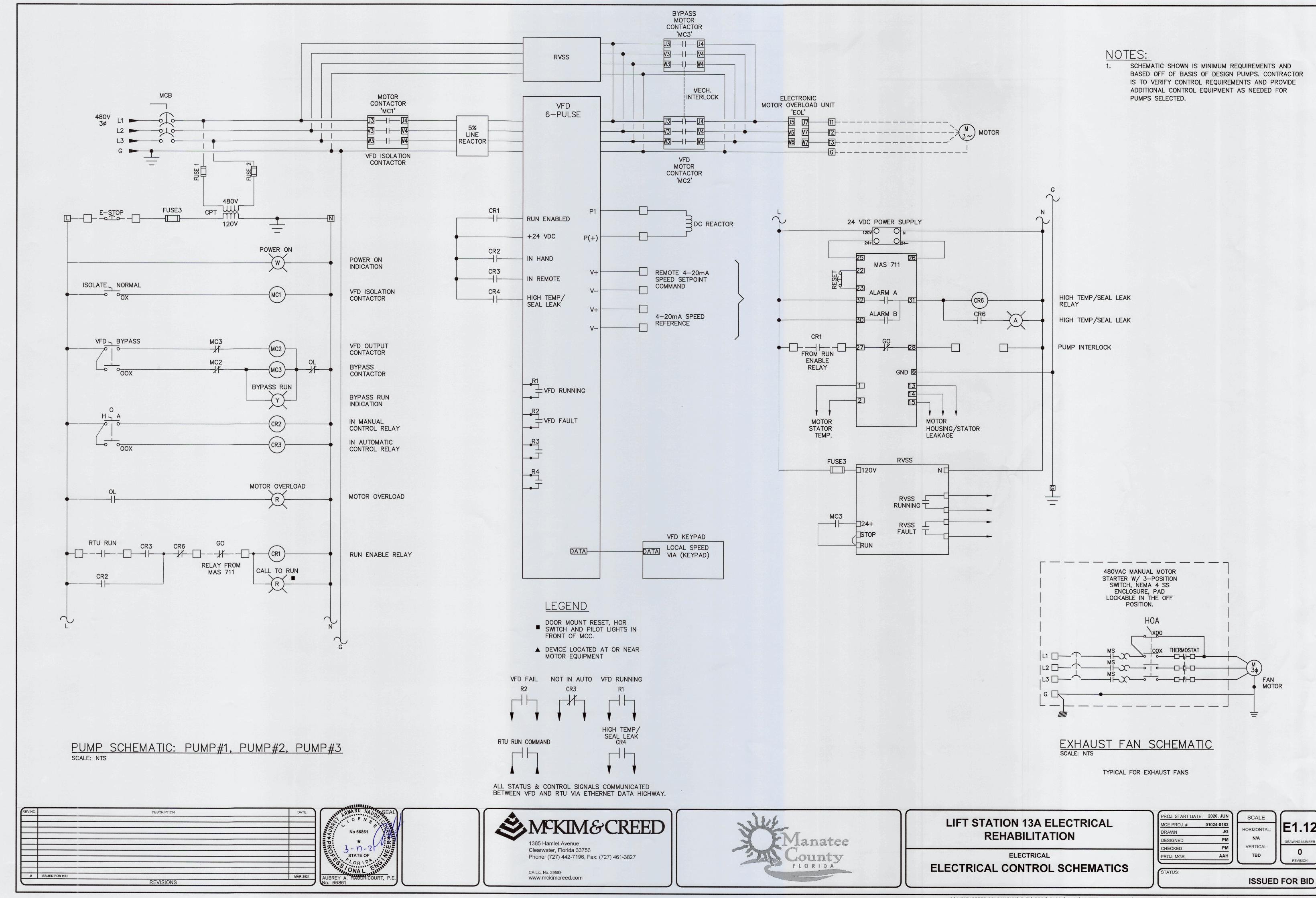


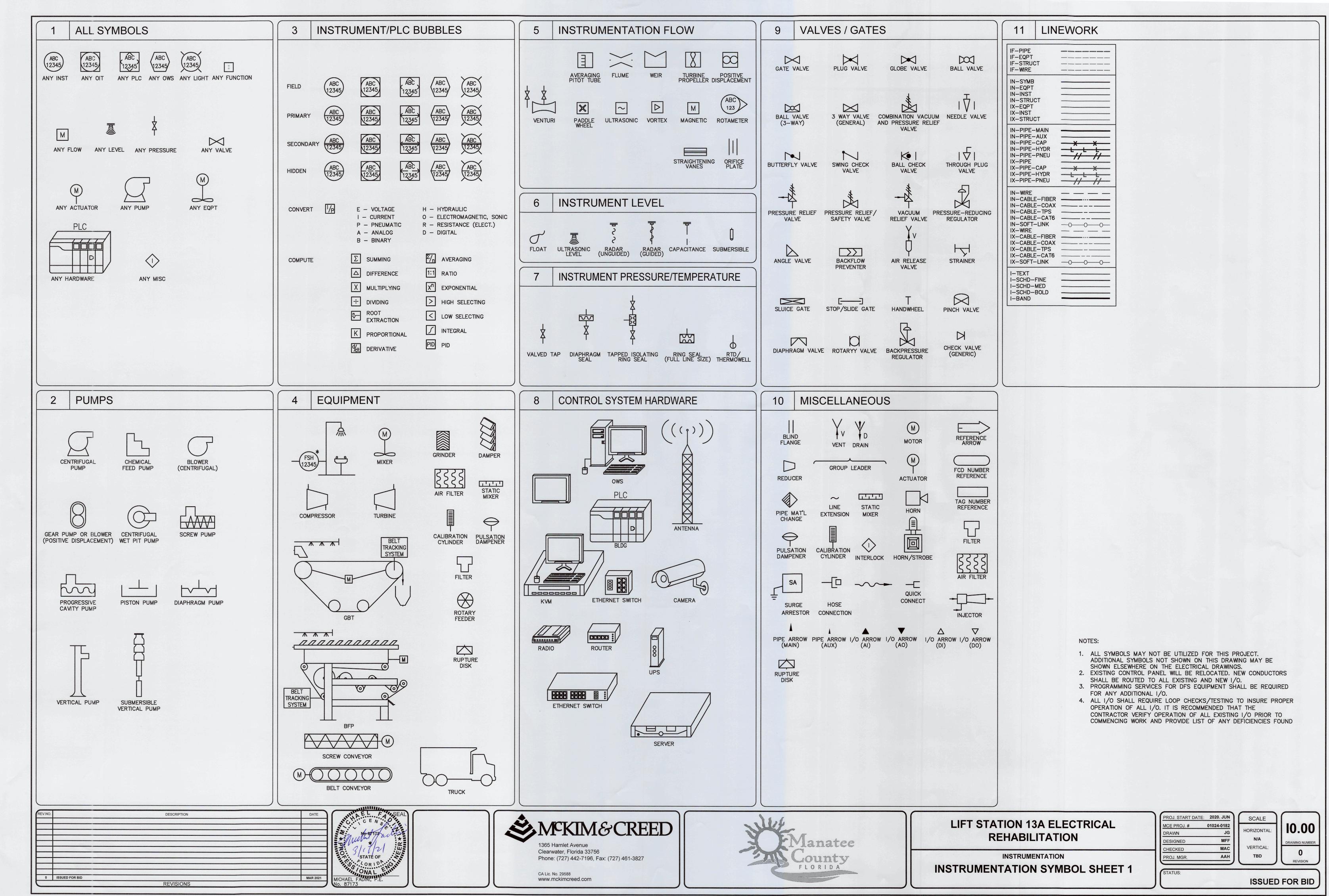
3000psi CONCRETE GROUT MIX WITH P-GRAVEL AGGREGATE,

RED DYE

LIFT STATION 13A ELECTRICAL REHABILITATION

> ELECTRICAL **DETAILS**

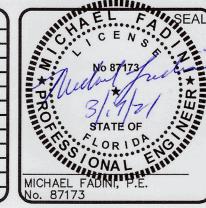




1 PID FUNCTION SYMBOLS

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

REV.NO.	DESCRIPTION	DATE
0 ISSUED FOR BID		MAR 2021
	REVISIONS	







LIFT STATION 13A ELECTRICAL REHABILITATION

INSTRUMENTATION SYMBOL SHEET 2

1	PROJ. START DATE:	2020. JUN	
	MCE PROJ. #	01024-0182	
	DRAWN	JG	НО
	DESIGNED	MFF	
4	CHECKED	MAC	V
	PROJ. MGR.	AAH	

SCALE

HORIZONTAL:

N/A

VERTICAL:

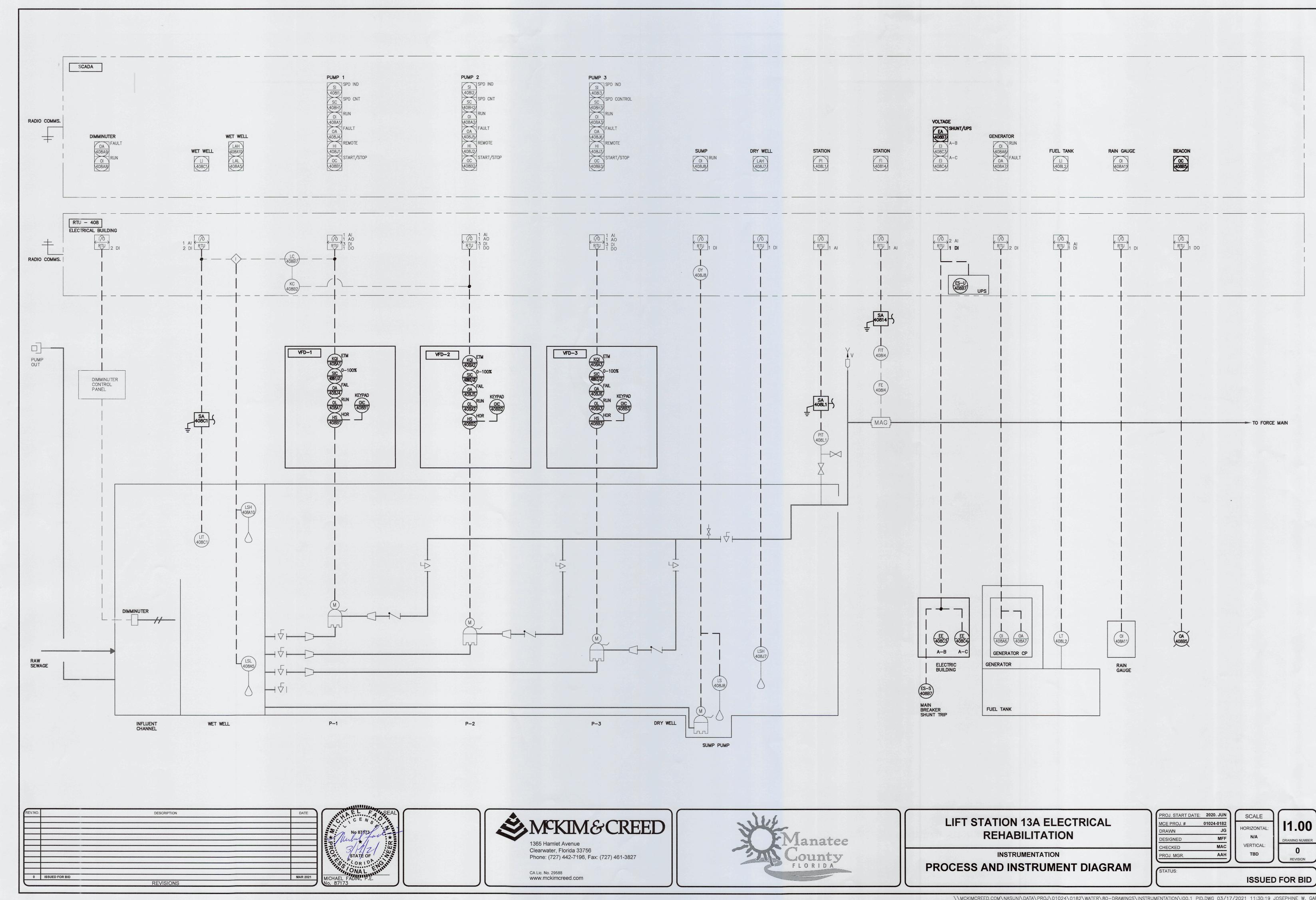
TBD

DRAWING NUM

ORANGE NUM

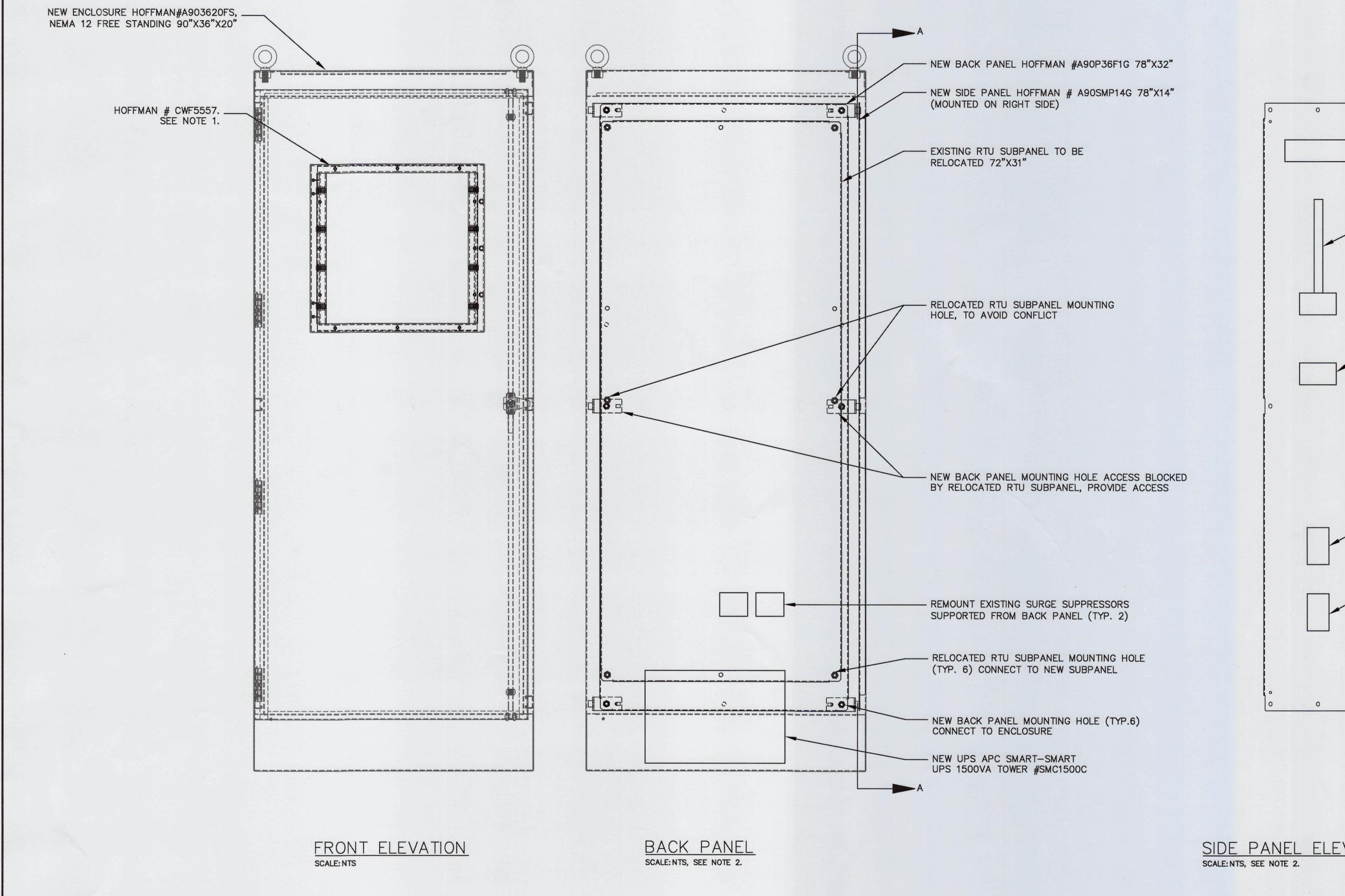
ISSUED FOR BID

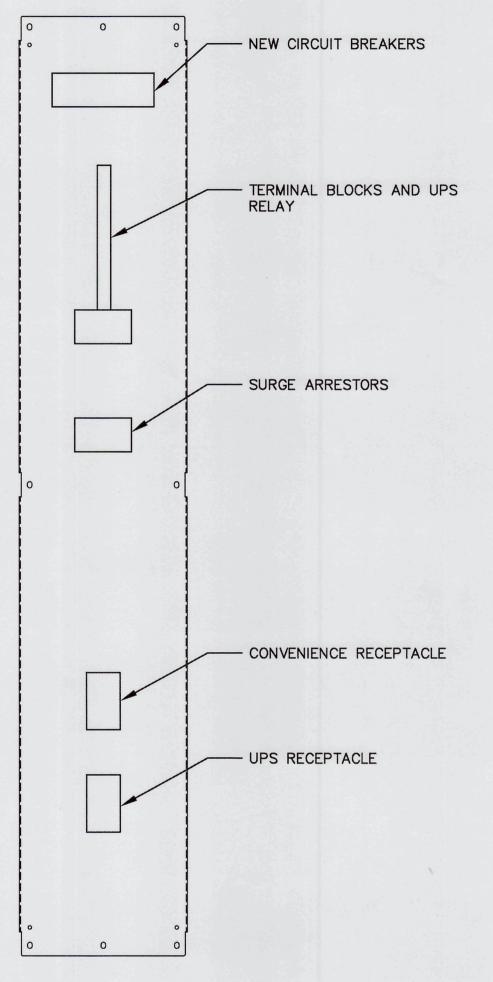
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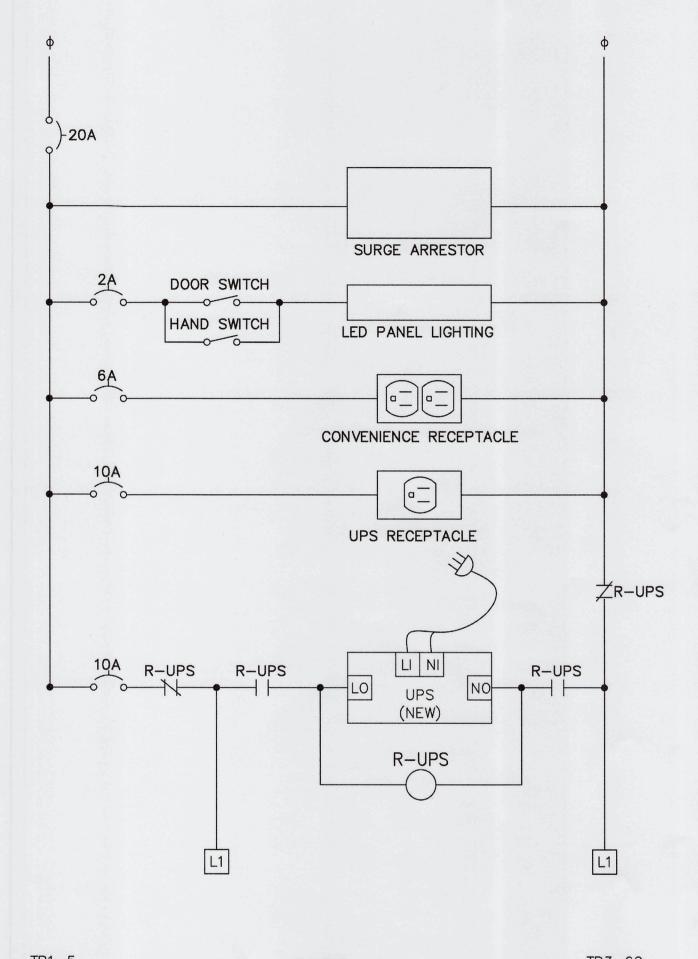


NOTES:

- 1. LOCATE WINDOW IN POSITION WHICH ALLOWS DFS-RTU TO BE VISIBLE WITHOUT OPENING THE PANEL DOOR
- 2. SUBPANEL LAYOUT AND SCHEMATIC ARE DIAGRAMATTIC TO CONVEY MINIMUM REQUIREMENTS FOR FABRICATION AND INSTALLATION.
- 3. NEW SHUNT AND UPS COMMON ALARM SHALL BE WIRED TO SPARE INPUT B7. B7 IS NORMALLY CONFIGURED FOR ALARM IS SILENCED INDICATION AND SHALL BE CHANGED IN DFS SOFTWARE.



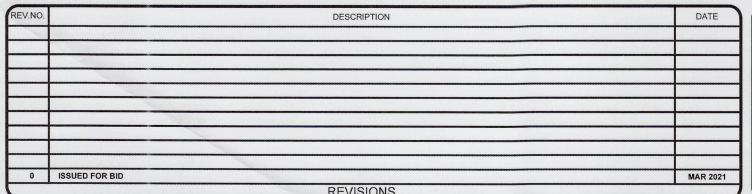


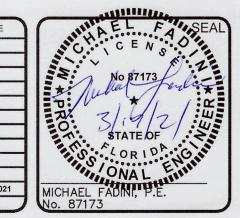


R-UPS SHUNT

SIDE PANEL ELEVATION A SCALE: NTS, SEE NOTE 2.

CONTROL PANEL SCHEMATIC DIAGRAM







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LIFT STATION 13A ELECTRICAL REHABILITATION

INSTRUMENTATION **CONTROL PANEL**

DESIGNED N CHECKED M		SCALE HORIZONTAL: N/A VERTICAL: TBD	DRAWING NUMBER O REVISION
STATUS:			REVISION