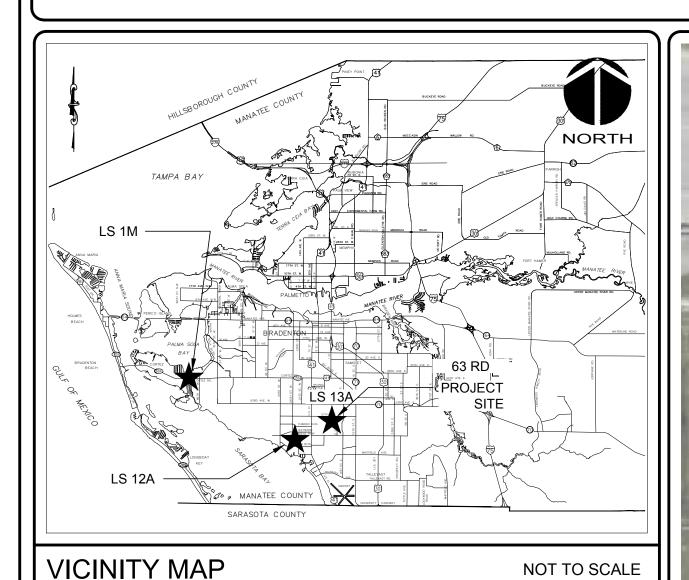
## LIFT STATION 13A ELECTRICAL REHABILITATION MANATEE COUNTY

PROJ. NO. 01024-0182 DECEMBER 13, 2021 ISSUED FOR BID



PROJECT NAME: LIFT STATION 13A ELECTRICAL REHABILITATION

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

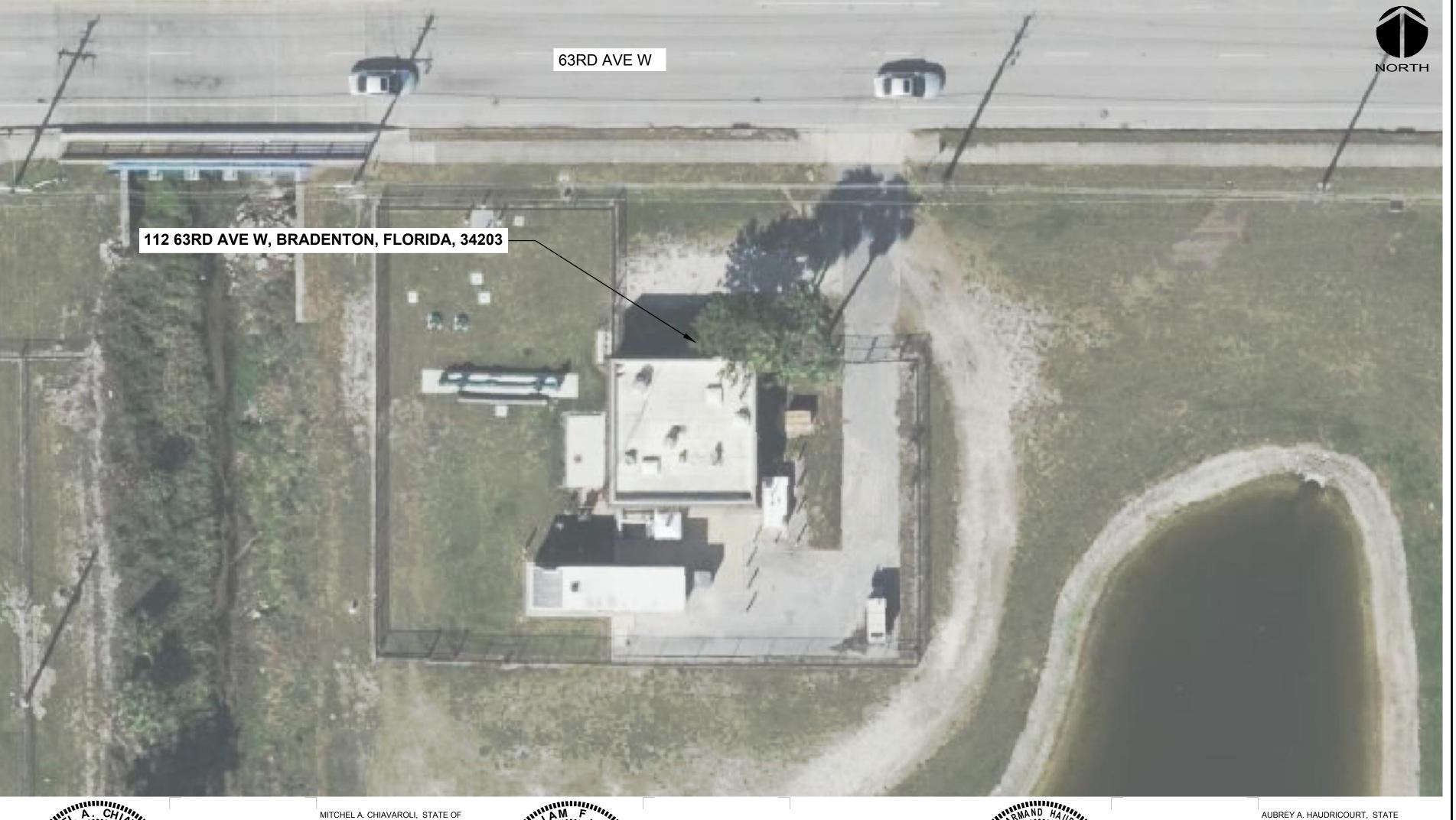




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PROJECT INFORMATION



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MECHANICAL	
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M0.01	DUMP GATE VALVE
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STRUCTURAL	
S00.0	STRUCTURAL GENERAL NOTES, DESIGN LOADS, CRITERIA & LEGEND
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MECHANICAL

M0.00

M0.01

SITE MAP

CIVIL-MECHANICAL-LEAD SHEET

STOP PLATE AND GUIDE REPLACEMENT

MITCHEL A. CHIAVAROLI, STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 56335

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DUMP GATE VALVE
WETWELL INTAKE AND EXHAUST FAN REPLACEMENT

S1.01
S1.02

No 87173

S00.0

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No 67838

No 67838

No 67838

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SHEET NUMBER

STRUCTURAL

FLORIDA, PROFESSIONAL
ENGINEER, LICENSE NO. 67838

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WILLIAM F. BAND, STATE OF

MICHAEL FADINI, STATE OF

HERE. DECEMBER 13, 2021

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STRUCTURAL GENERAL NOTES, DESIGN LOADS, CRITERIA & LEGEND LIFT STA. MODS & ELECTR. BLDG. FDN. PLAN, SECTIONS & DETAILS LIFT STATION WET WELL MODS PLAN, SECTIONS & DETAILS LIFT STA. MODS ADD'L SECTIONS & DETAILS

INSTRUMENTATION SYMBOL SHEET 1
INSTRUMENTATION SYMBOL SHEET 2
PROCESS AND INSTRUMENT DIAGRAM
CONTROL PANEL

No 66861

No 66861

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SHEET NUMBER SHEET NAME
GENERAL
G0.01 GENERAL NOTES
CIVIL: CIVIL SITE
C00.0 SITE PLAN
ELECTRICAL

C00.0 ELECTRICAL SYMBOLS, ABBREVIATIONS AND NOTES SYMBOLS SYMBOLS E0.02 DEMOLITION PLAN E1.00 SINGLE LINE DIAGRAM E1.01 ELECTRICAL SITE PLAN ELECTRICAL BUILDING POWER PLAN E1.03 E1.04 ELECTRICAL BUILDING LAYOUT E1.05 EXISTING BUILDING POWER PLAN GROUNDING AND LIGHTNING PLAN E1.06 MCB ATS MCC ELEVATIONS LIGHTING PLAN E1.09 ELECTRICAL INTERCONNECTION DIAGRAM PANELBOARD SCHEDULES E1.10 E1.11 E1.12 ELECTRICAL CONTROL SCHEMATICS E1.13



SCALE: 1" = 200'

OF FLORIDA, PROFESSIONAL

HAUDRICOURT THE DATE

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SHEET INDEX

#### **GENERAL NOTES** 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. 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 TESTING. 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. 2. WHERE SURFACE IMPROVEMENTS ARE TO BE REPLACED IN KIND, AS INDICATED ON THE DRAWINGS, THE 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
- 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
- 4. INLET PROTECTION SHALL BE PLACED AT ALL INLETS IN OR ADJACENT TO THE PROJECT AREA.

SEDIMENT TRANSPORT PRIOR TO THE COMMENCEMENT OF WORK.

- 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.
- 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.

#### **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.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPE SUPPORTS WHETHER SHOWN ON THE CONTRACT DOCUMENTS OR NOT. PIPE SUPPORTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS FOR SPACING AND SUPPORT. ADDITIONALLY, PROVIDE SUPPORT WHERE ABOVE GRADE PIPING CHANGES DIRECTION, IS ADJACENT TO FLANGED VALVES OR OTHER APPURTENANCES OR AT EQUIPMENT CONNECTIONS AND HEAVY FITTINGS.
- 5. NOTE: ALL NON-POTABLE/PLANT WATER USERS MUST BE CLEARLY LABELED AS "NON-POTABLE", NOT FOR HUMAN CONSUMPTION.
- 5. 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
- 7. 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.
- 3. THE CONTRACTOR SHALL CAREFULLY SUPPORT AND PROTECT ANY UTILITIES STRUCTURES, POWER POLES, PIPE LINES AND CONDUITS WHICH MAY BE ENCOUNTERED DURING COMPLETION OF THE WORK AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL APPLY NECESSARY MEANS TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION . ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR OR UTILITY OWNER (WHERE REQUIRED) TO THE SATISFACTION OF THE ENGINEER AND UTILITY OWNER AT THE CONTRACTOR'S

#### AS NEEDED NOTES

0 ISSUED FOR BID AUBREY A. HAUDRICOURT, F REVISIONS

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**LIFT STATION 13A ELECTRICAL REHABILITATION** 

> **GENERAL GENERAL NOTES**

PROJ. START DATE: 2020. JUN 01024-0182 ORIZONTAL AAH DESIGNED **VERTICAL** AAH PROJ. MGR.

#### **ABBREVIATIONS** 1 STORY FRAMED DWELLING 1 STORY BRICK BUSINESS 1SBKBUS ASBESTOS CEMENT AL OR ALUM IALUMINUM AIR RELEASE VALVE ASPHALT BACK OF CURB BUTTERFLY VALVE BRICK BLIND BOLLARD BLOW OFF VALVE BALL VALVE CATV CABLE TELEVISION CATCH BASIN CURB AND GUTTER CURB INLET CENTERLINE CORRUGATED METAL PIPE CONCRETE MASONRY UNIT CLEAN OUT CONCENTRIC CONC CONCRETE CPLG COUPLING CORRUGATED PLASTIC PIPE COMPOST SOCK COMBO SILT / TREE PROTECTION FENCE CHECK VALVE CLEAN WATER TEMPORARY DIVERSION DROP INLET / DUCTILE IRON DUCTILE IRON PIPE DUCT BANK DRIVE WAY DRAWING ELEVATION EDGE OF GRAVEL END OF INFORMATION EDGE OF PAVEMENT EYEWASH EXISTING EXPANSION LIGHT POLE FLANGE COUPLING ADAPTER FLOOR DRAIN FIRE DEPARTMENT CONNECTOR FINISHED FLOOR ELEVATION FIRE HYDRANT FIRE HYDRANT ASSEMBLY FINISHED FLANGE FLEXIB LE LOOR FORCE MAIN FIBERGLASS REINFORCED PIPE FIBER OPTIC FLAT ON TOP GUTTER LINE IGAS METER GRAV GRAVEL GAS TEST STATION GAS VALVE GATE VALVE GUY WIRE HOSE BIB нот вох HIGH-DENSITY POLYETHYLENE HIGH POINT HIGH WATER LEVEL INVERT ELEVATION IRON POST FOUND JUNCTION BOX LINEAR FEET LIMITS OF DISTURBANCE LOW POINT LONG RADIUS LANDSC APE AREA LOW WATER LEVEL MAIL BOX MAXIMUM MANHOLE MINIMUM MECHANICAL JOINT MOTOR OPERATED VALVE METAL NORMALLY CLOSED NORMALLY OPEN NOT IN CONTRACT NORMAL WATER LEVEL OHE/OE OVER HEAD ELECTRIC OVERFLOW OVER HEAD UTILITIES PLAIN END POST INDICATOR VALVE POLYMER PRESSURE REDUCING VALVE POLYTETRAFLUOROETHYLENE PLUG VALVE POLY VINYL CHLORIDE POTABLE WATER REINFORCED CONCRETE PIPE PER RECORD

1	ABBF	REVIATIONS CONTINUED
RFC A		RESTRAINED FLANGE COUPLING ADAPTER
RJ		RESTRAINED JOINT
RK		ROCK
R/W, RO	W	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		TYPIC AL
UNO		UNLESS NOTED OTHERWISE
UNK		UNKNOWN
VAR		VARIABLE
VCP		VITRIFIED CLAY PIPE
WD		WOOD
WL		WATER LINE
WM		WATER METER
WV		WATER VALVE
XP		CROSS LIGHT POLE
WWF		WELDED WIRE FABRIC
YI		YARD INLET

**EXISTING SYMB** 

**DESCRIPTION** 

11.25° HORIZONTAL BEND
22.50° HORIZONTAL BEND

45° HORIZONTAL BEND

90° HORIZONTAL BEND

AC UNIT

BENCH MARK

TEMP. BENCH MARK

BLOW OFF VALVE

BOLLARD

CABLE TV PEDISTAL

CATCH BASIN

CLEAN OUT

CONCRETE MONUMENT FOUND

CONTROL POINT

CROSS

ELECTRIC BOX

ELECTRIC MANHOLE

END OF INFORMATION

FLAG POLE

GAS METER

GUY POLE

GUY WIRE

HANDHOLE

HYDRANT

IRON POST FOUND

IRON ROD FOUND

LIGHT POLE

MAIL BOX

MONITOR WELL

POWER POLE

WATER MANHOLE

PK FOUND

RAIL ROAD SPIKE

SANITARY SEWER MANHOLE

SIGN

STORM DRAIN MANHOLE

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

CURB INLET

TEST BORE HOLE LOCATION

DESCRIPTION	LINETYPE
UNDERGROUND CABLE TV -	TV
	TV(R) -
	— — È -
	E(R) -
	— — FO—
	— — FO(R)—
	— — FM—
	— — FM(R)—
	— — G -
	- $  G(R)-$
OVER HEAD UTILITIES -	OU
	— — R— -
	R(R) $-$
GRAVITY SANITARY SEWER	———SS—
	— — — SS(R) —
STORM DRAINAGE	
	— — T— -
	— — T(R) —
	— — U— -
	— — — w— -
	- — — 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	— — Z1 —
RIPARIAN BUFFER ZONE 2	— — Z2—
TOP OF BANK	· ·
TREELINE -	
WATERCOURSE &	
WETLAND BOUNDARY -	WLB

EXISTING LINE LEGEND

OL	LEGEND		4	PRO
	SYMBOL			DE
	LI			11.25° F
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	<u>_</u>			90° HC
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4	PROPOSED SYMB	OL LEGENI
	DESCRIPTION	SYMBOL
	11.25° HORIZONTAL BEND	Н
	22.50° HORIZONTAL BEND	4
	45° HORIZONTAL BEND	4
	90° HORIZONTAL BEND	Ч
	VERTICAL BEND	II
	AIR RELEASE VALVE	A
	VALVE	H
	BLOWOFF VALVE	He
	HYDRANT	·\$\psi
	YARD HYDRANT	
	CROSS	中
	TEE	(전 표 표
	TAPPING SLEEVE AND VALVE	墨
	REDUCER	<b>•</b>
	C AP/PLUG	
PO	OTABLE WATER SERVICE METER	M
RE	CLAIMED WATER SERVICE METER	R
EXISTIN	NG UTILITY SERVICE RECONNECTION	_
CONC	ENTRIC SANITARY SEWER MANHOLE	<b>©</b>
ECCE	NTRIC SANITARY SEWER MANHOLE	© •
FLAT	TOP SANITARY SEWER MANHOLE	<b>O</b>
	CLEAN OUT	<b>⊕</b>
	ARC FILTER	8
	CHECK DAM	
	INLET PROTECTION	
	PIPE INLET PROTECTION	<u> </u>
	SILT FENCE OUTLET	
	WATTI F	Ð

	DESC RIPTION	LINETYPE
	PERMANENT EASEMENT	
	TEMPORARY EASEMENT	
S/	ANITARY SEWER FORCE MAIN	FM
	RECLAIMED WATER LINE	
	GRAVITY SANITARY SEWER	SS
	WATER LINE	—— w ——
	TO BE ABANDONED	. /. /. /. /. /. /. /. /. /.
	DIVERSION DITCH	$\longrightarrow$
LIMITS C	OF DISTURBANCE/CLEARING LIMITS	LOD
COMBINATION SILT FENCE/TREE PROTECTION		
TE	MPORARY SUPER SILT FENCE	
TEMPO	PRARY TREE PROTECTION FENCE	——— TPF———
	COMPOST SOCK	
	PERMANENT FENCE	<del></del>
	GUARD RAIL	0 0

	8	PROCESS ABBREVIATIONS
	A	PROCESS AIR
· · —	ALUM	WTP ALUM SLUDGE
	AS	ACTIVATED SLUDGE
	BW	BACKWASH
	B WD	BACKWASH DRAIN
. —	BWS	BACK WASH SUPPLY
	BWW	BACK WASH WASTE
	D	DRAIN
	EXP	EXPANSION
	FA	FOUL AIR
END	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
	NRC Y	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
—— I	SRP	SCRUBBER RECIRCULATION PUMP
	SRS	SCRUBBER RECIRCULATION SUCTION
	SUP	
		DIGESTER SUPERNATANT
	SW	SEAL WATER
	UV	ULTRAVIOLET

PROFILE LINE LEGEND

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**DESCRIPTION** 

EXISTING GRADE PAVEMENT PROFILE

AREA LEGEND

WETLANDS

RIP-RAP

TEMP. SLOPE STABILIZATION

STRAW WITH NET LINER

# 9 MECHANICAL SYMBOLS VALVE SYMBOL BUTTERFLY VALVE CHECK VALVE GATE VALVE PLUG VALVE BALL VALVE

GLOBE VALVE

WAS WASTE ACTIVATED SLUDGE

#### 10 GENERAL NOTES

#### **GENERAL NOTES:**

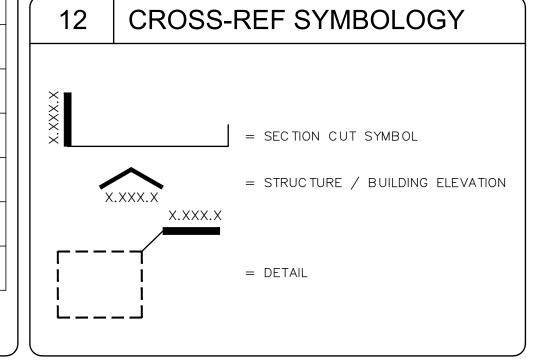
- THE CONTRACTOR SHALL REVIEW AND VERIFY ALL LAYOUTS, DIMENSIONS AND ELEVATIONS ON THE PLANS WITH FINAL APPROVED EQUIPMENT DRAWINGS AS WELL AS ALL TECHNICAL SPECIFICATIONS PRIOR TO STARTING CONSTRUCTION AND SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEERS CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- 2. THE CONTRACTOR SHALL COORDINATE ALL RELATED DISCIPLINE DRAWINGS TO ENSURE ACCURATE INSTALLATION OCCURS, INCLUDING P&ID'S.
- 3. CONTRACTOR SHALL MAINTAIN A CLEAR PATH FOR ALL SURFACE WATER DRAINAGE STRUCTURES AND DITCHES DURING CONSTRUCTION.
- 4. ALL PIPE LINES SHALL HAVE A MINIMUM COVER OF 36" UNLESS OTHERWISE NOTED OR DIRECTED.
- 5. 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.
- 6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PIPE SUPPORTS WHETHER SHOWN ON THE CONTRACT DOCUMENTS OR NOT. PIPE SUPPORTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS FOR SPACING AND SUPPORT. ADDITIONALLY, PROVIDE SUPPORT WHERE ABOVE GRADE PIPING CHANGES
- DIRECTION, IS ADJACENT TO FLANGED VALVES OR OTHER APPURTENANCES OR AT EQUIPMENT CONNECTIONS AND HEAVY FITTINGS.
- 7. NOTE: ALL NON-POTABLE/PLANT WATER USERS MUST BE CLEARLY LABELED AS "NON-POTABLE", NOT FOR HUMAN CONSUMPTION
- 8. 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.
- 9. CONTRACTOR SHALL RESTRAIN ALL UNDERGROUND PRESSURE PIPING AT ALL FITTINGS AND PIPE JOINTS.

#### **EXISTING UTILITIES:**

- 1. 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.
- 2. THE CONTRACTOR SHALL FIELD VERIFY SIZE, DEPTH, LOCATION AND MATERIAL OF ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- 3. THE CONTRACTOR SHALL CAREFULLY SUPPORT AND PROTECT ANY UTILITIES, STRUCTURES, POWER POLES, PIPE LINES AND CONDUITS WHICH MAY BE ENCOUNTERED DURING COMPLETION OF THE WORK AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL APPLY NECESSARY MEANS TO PROTECT EXISTING UTILITIES DURING CONSTRUCTION. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY THE CONTRACTOR OR UTILITY OWNER (WHERE REQUIRED) TO THE SATISFACTION OF THE ENGINEER AND UTILITY OWNER AT THE CONTRACTOR'S EXPENSE.

#### 1 PIPING SCHEDULE

ABBREVIATION	DESIGNATION	PIPE MATERIAL	NOTES
INF	INFLUENT	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK
EFF	EFFLUENT	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK, PROVIDE PIPE WITH PROTECTIVE LINING — ENTIRE NETWORK
D or SS	DRAIN OR SANITARY SEWER	DUCTILE IRON / SCH. 80 PVC	>=4" DIP / <=3" SCH. 80 PVC SOLVENT WELD, RESTRAIN ALL FITTINGS
FM	FORCE MAIN	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK
NPW	NON-POTABLE WATER	RESTRAINED DUCTILE IRON / SCH. 80 PVC	>=4" DIP / <=3" SCH. 80 PVC SOLVENT WELD, RESTRAIN ENTIRE NETWORK
Α	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
FA	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
	WASTE/RETURN ACTIVATED SLUDGE	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK



.NO.	DESCRIPTION	DATE
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Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588

www.mckimcreed.com



## LIFT STATION 13A ELECTRICAL REHABILITATION

GENERAL

CIVIL-MECHANICAL-LEAD SHEET

PROJ. START DATE:	2020. JUN	SCA
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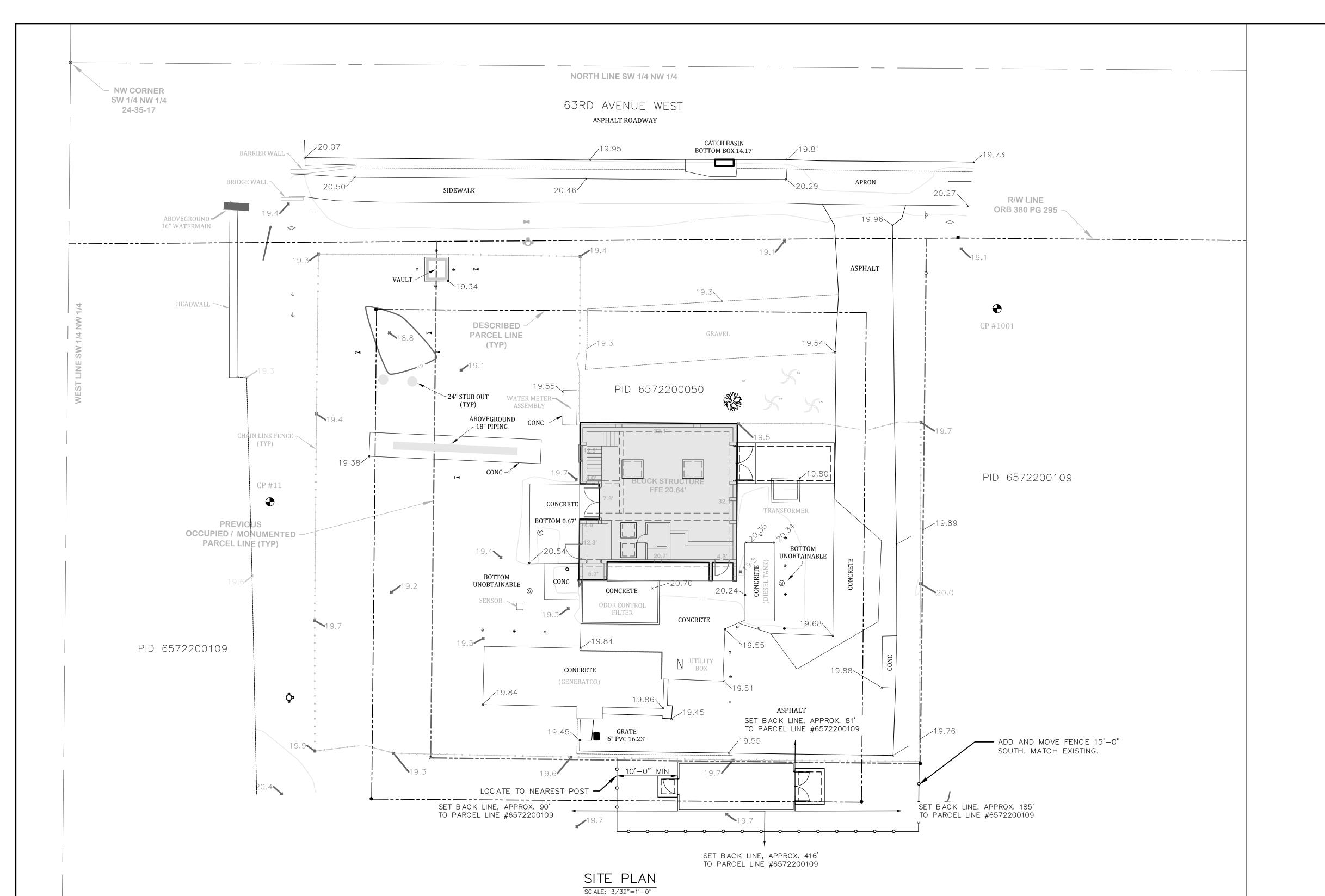
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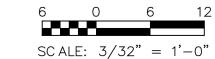
TBD

DRAWING NU

REVISION







#### SITE CONTROL

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

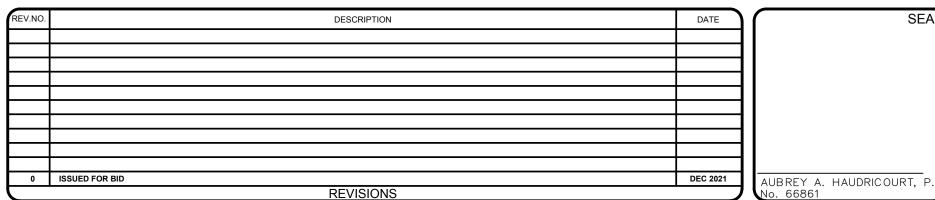
#### LEGEND

CONTROL POINT PID PARCEL IDENTIFICATION CP CONTROL POINT UTILITY POLE R/W RIGHT OF WAY GUY WIRE ND NAIL W/ DISC ➤ SEWER VALVE IR IRON ROD ₩ WATER VALVE ORB OFFICIAL RECORDS BOOK S SANITARY MANHOLE PG PAGE LIGHT POLE FFE FINISHED FLOOR ELEVATION ⊙ BOLLARD 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 APPROXI**m**ate.
- 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.



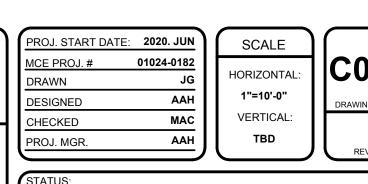






CIVIL SITE

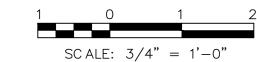
SITE PLAN

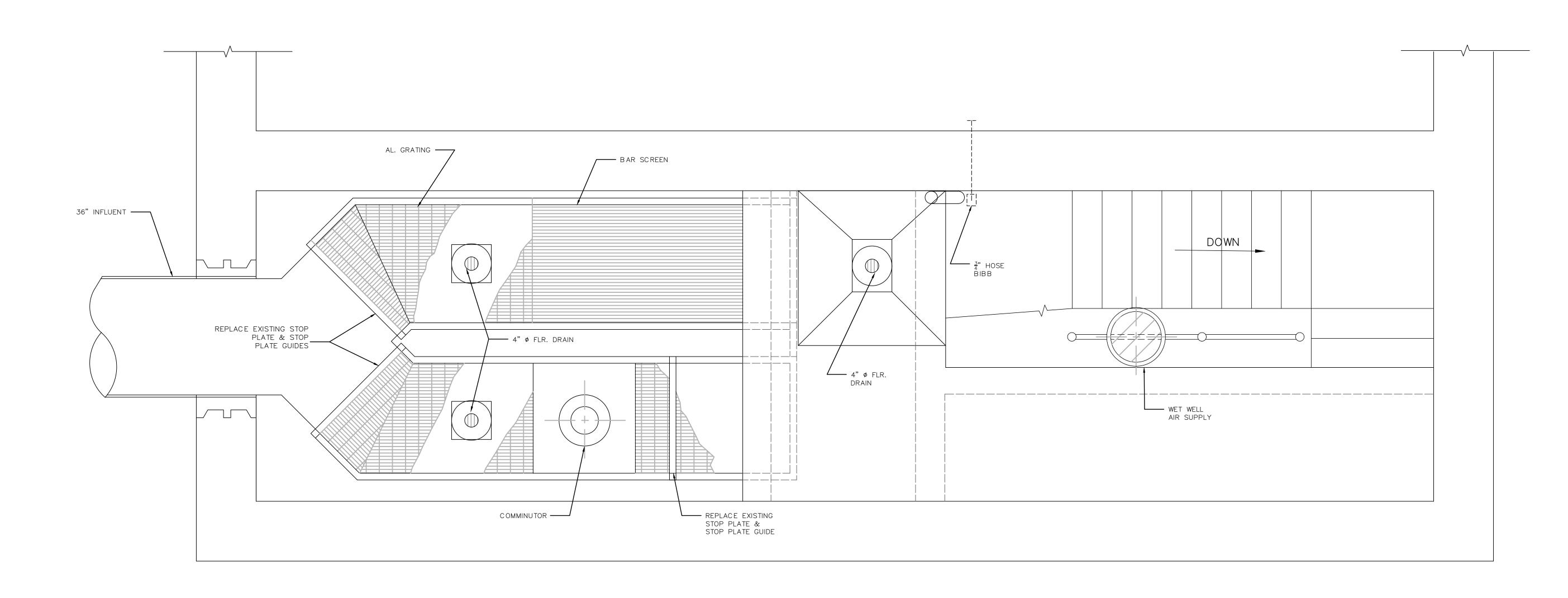


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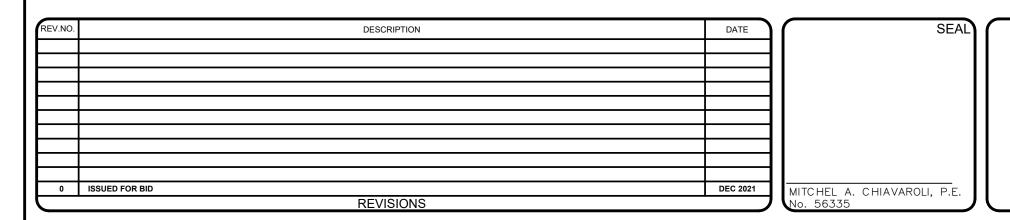
GRATE INLET







WET WELL PLAN - INTERMEDIATE LEVEL







LIFT STATION 13A ELECTRICAL REHABILITATION
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MECHANICAL
STOP PLATE AND GUIDE REPLACEMENT

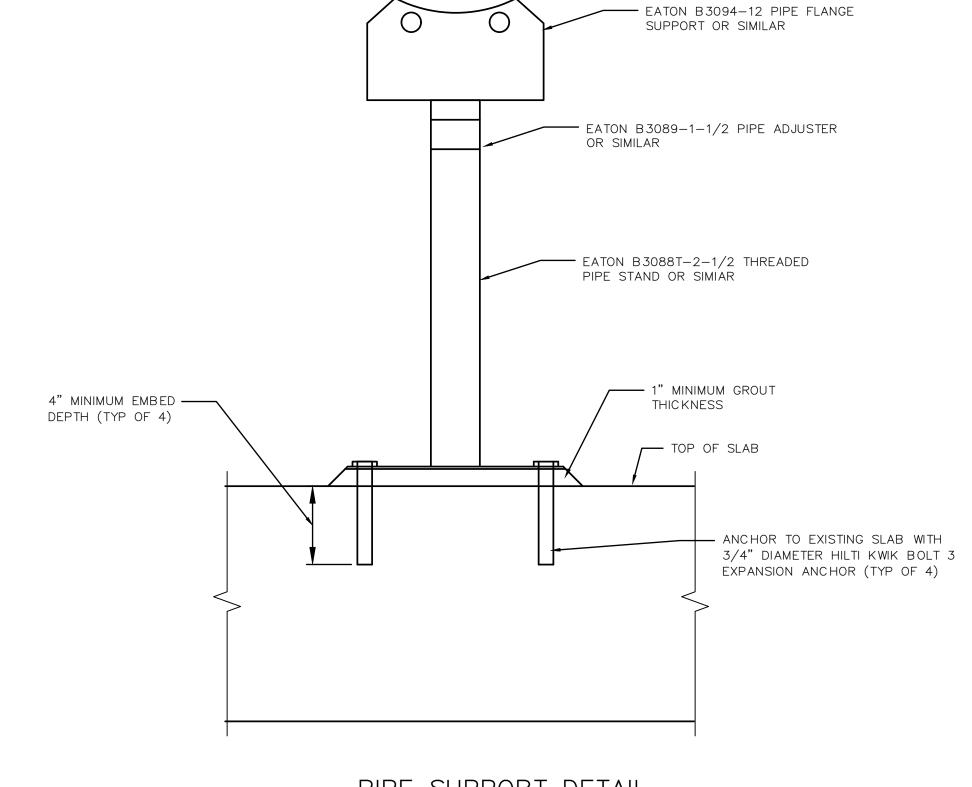
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NOTES:

- 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 REQUIRED.

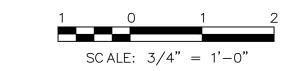


EQUIPMENT TO BE DEMOLISHED

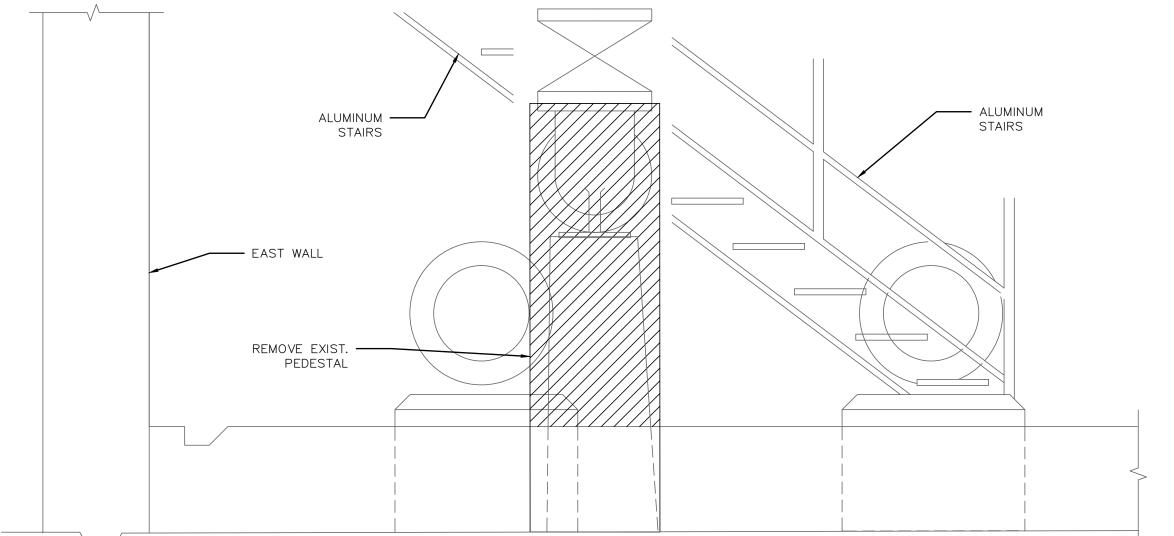


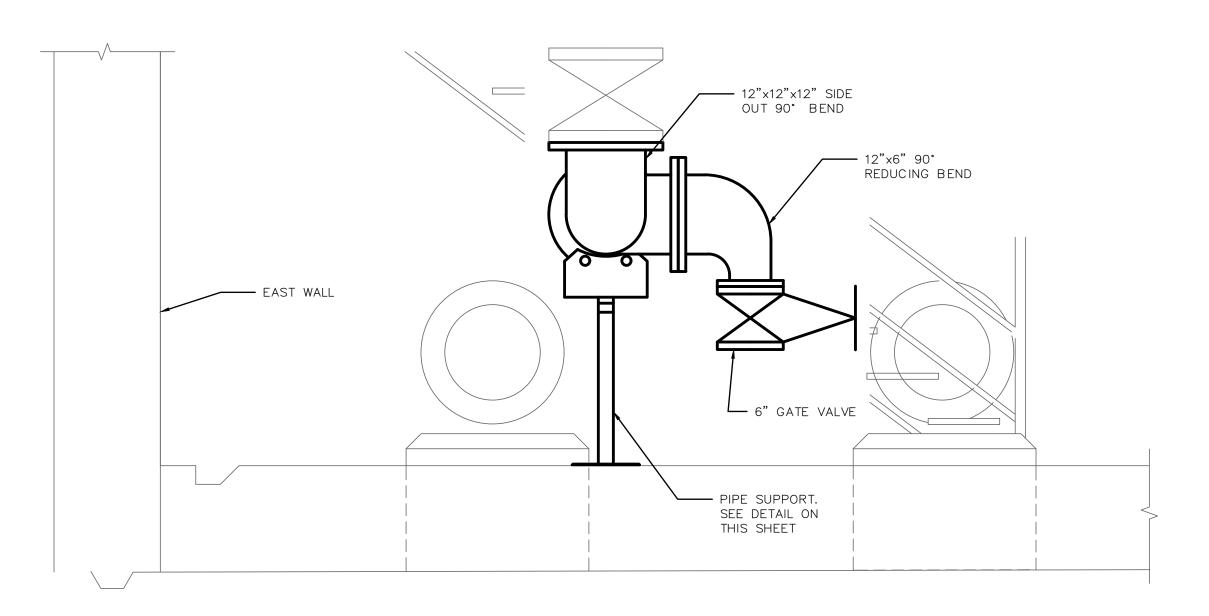
PIPE SUPPORT DETAIL

SCALE: NTS









DRYWELL SECTION (EXISTING)

DRYWELL SECTION (PROPOSED)

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

REV.NO. DESCRIPTION DATE

DATE

DESCRIPTION

DATE

DEC 2021

MINOR

MITCHEL A. CHIAVAROLI, P.E.
No. 56335



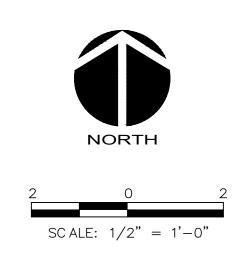


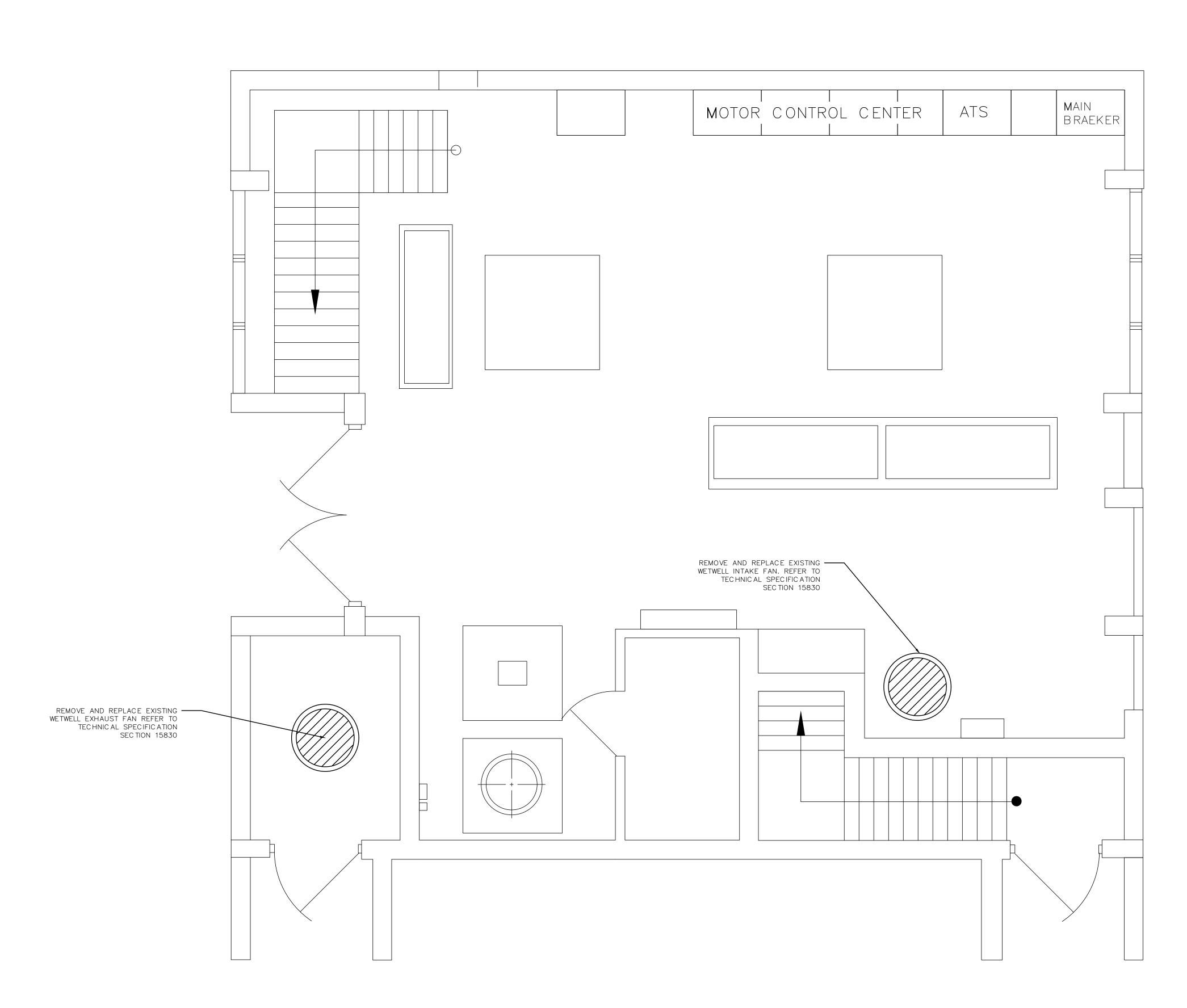
## LIFT STATION 13A ELECTRICAL REHABILITATION

MECHANICAL

DUMP GATE VALVE

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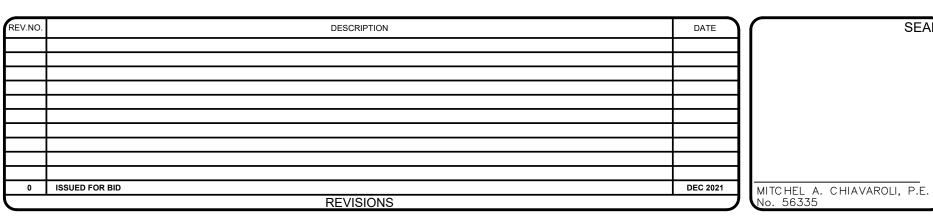




NOTE:

CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE ROOFING SYSTEM RESULTING FROM REMOVING AND REPLACING THE INTAKE AND EXHAUST FANS.

PARTIAL FLOOR PLAN







## LIFT STATION 13A ELECTRICAL REHABILITATION

MECHANICAL

WETWELL INTAKE AND EXHAUST FAN REPLACEMENT

PROJ. START DATE:	2020. JUN	
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SCALE

HORIZONTAL:

1/2"=1'-0"

VERTICAL:

N/A

SCALE

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DRAWING NUM

REVISION

#### **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

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 II — 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.

#### 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.

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 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".

5.1 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.

CONCRETE

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 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).

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

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.

WILLIAM F. BAND, P.E.

67838

#### 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 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. 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

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 = ADDITIONALAL = ALUMINUMALT. = ALTERNATE BLDG. = BUILDING

BLK. = BLOCKBM. = BEAMB.O. = BOTTOM OF

BRG. = BEARING C.I.P. = CAST-IN-PLACECLR. = CLEARCMU = CONC. MAS. UNIT

C.O. = CLEAN OUTCOL. = COLUMNCONC. = CONCRETE

CONN. = CONNECTION CONST. = CONSTRUCTION CONT. = CONTINUOUS COORD.= COORDINATE

CTR. = CENTERCTR'D. = CENTEREDDBL. = DOUBLE DIR. = DIRECTION DWG. = DRAWING

DWG.'s. = DRAWINGS EA. = EACH= ELEVATION E.O. = EDGE OFEQ. = EQUAL

EQUIP. = EQUIPMENEXIST. = EXISTINGFXP. = FXPANSION FLG. = FLANGE

FDN. = FOUNDATION F.S. = FAR SIDEFT. = FEETFTG. = FOOTING

GA. = GAGEGALV. = GALVANIZED GALV'D = GALVANIZEDHORZ. = HORIZONTAL

H.P. = HIGH POINTHRS. = HOURS I/F = INSIDE FACEINFO. = INFORMATION

INTR. = INTERIOR JST. = JOIST JT. = JOINTKB = KNEE BRACE

LCS = LIQUID CONTAINMENT STRUCTURES LLH = LONG LEG HORIZONTAL

LLV = LONG LEG VERTICAL L.P. = LOW POINTLSL = LONG SLOTTED MAS. = MASONRY MAT'L. = MATERIAL

MFG. = MANUFACTURER = MINIMUM MIN. MTL. = METALN/A = NOT APPLICABLE

NA = NOT APPLICABLENOM. = NOMINAL N.S. = NEAR SIDEN.T.S. = NOT TO SCALE

O.C. = ON CENTERO/F = OUTSIDE FACEO/H = OVERHANG= OUT TO OUT OPNG. = OPENING

OPP. = OPPOSITE ORIENT.= ORIENTATION PLCS. = PLACES P.P. = PUMP PAD

RAD. = RADIUSREF. = REFERENCE REINF. = REINFORCING REQ'D. = REQUIRED

RET. = RETAINING ROT. = ROTATESIM. = SIMILAR SPA. = SPACED

SPECS. = SPECIFICATIONS S.S. = STAINLESS STEEL SSL = SHORT SLOTTED STD. = STANDARD

STL. = STEEL T&B = TOP & BOTTOMT/D = TURN DOWN

THK. = THICKTHK'D = THICKENEDT.O. = TOP OFT.O.S = TOP OF STEEL

TYP. = TYPICALU.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 125 PSF (ELECTRICAL BLDG. FLOOR), 100 PSF (ACCESS STAIRS & LANDING) 65 PSF (ELECTRICAL BLDG.)

LIVE LOAD: ROOF LOAD: SNOW LOAD: N/A

WIND LOAD: 160 mi/hr, EXPOSURE C, OCCUPANCY/RISK CATEGORY III

CALCULATED WIND BASE SHEARS: Vx = 12.6 k & Vy = 4.5 k

> COMPONENTS & 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 REF. "FOUNDATIONS" NOTE 3.1 DWG. S0.00

#### **DESIGN CRITERIA**

CONCRETE 28 DAY COMPRESSIVE STRENGTH: f'c = 4,000 PSISLABS-ON-GRADE & NON LCS SLABS PIPE ENCASEMENTS f'c = 3,000 PSI (N/A)f'c = 4,500 PSI (N/A)SLABS & WALLS OF LCS: BEAMS & COLUMNS OF LCS: f'c = 4,500 PSI (N/A)f'c = 4,000 PSI (N/A)NON-LCS FOOTINGS & PIERS: BELOW GRADE & RETAINING WALLS: f'c = 4,000 PSI (N/A)f'c = 3,000 PSI (N/A)SIDEWALK, DRIVEWAY, CURB & GUTTER: REINFORCING STEEL: ASTM A615, GRADE 60 WELDED WIRE FABRIC: ASTM A1064 REF. STRUCTURAL NOTE 8.1 STRUCTURAL STEEL:

REF. STRUCTURAL NOTE 9.2 (N/A) ALUMINUM: REF. STRUCTURAL NOTES 8.3 & 9.2.C BOLTS SHALL BE 3/4"ø ASTM A325 OR TYPE 316 S.S.: (N/A) 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 TO: AWS A5.10 (N/A) REF. "DESIGN LOADS" TABLE SOIL BEARING CAPACITY:

#### LEGEND

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

PROJECT NORTH

NO./SHEET NO. REFERENCE

**ELEVATION DATUM** 

ELEVATION NO./SHEET NO. 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

NORTH

STL. FRAMING COL./BM. MOMENT CONNECTION

#### **LIFT STATION 13A ELECTRICAL** REHABILITATION

**STRUCTURAL** 

STRUCTURAL GENERAL NOTES, DESIGN LOADS, CRITERIA & LEGEND

01024-0182 DAR / WFB WFB / AEA ROJ. MGR.

2020. JUN

SCALE HORIZONTAL: VERTICAL:

**ISSUED FOR BID** 

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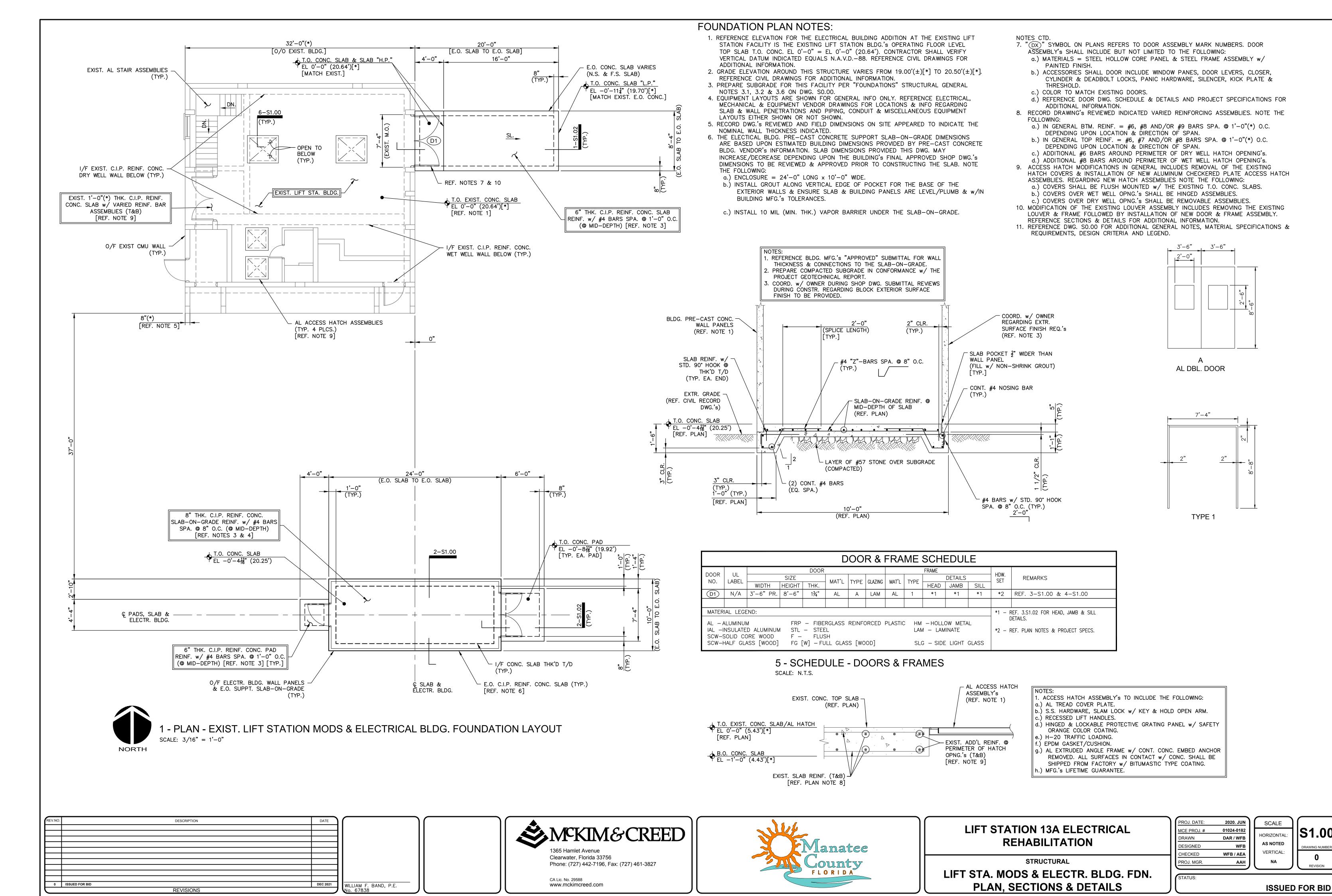
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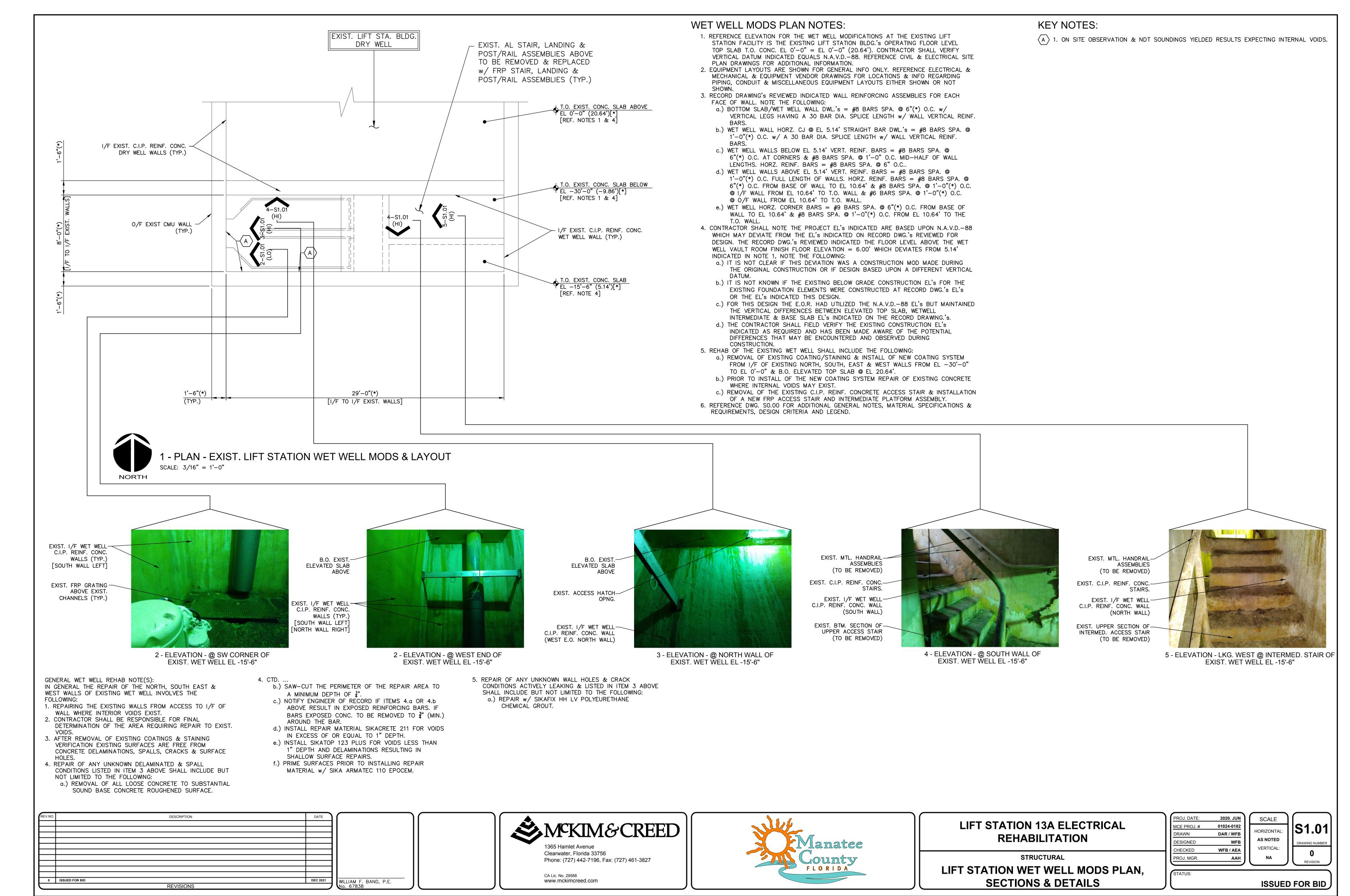


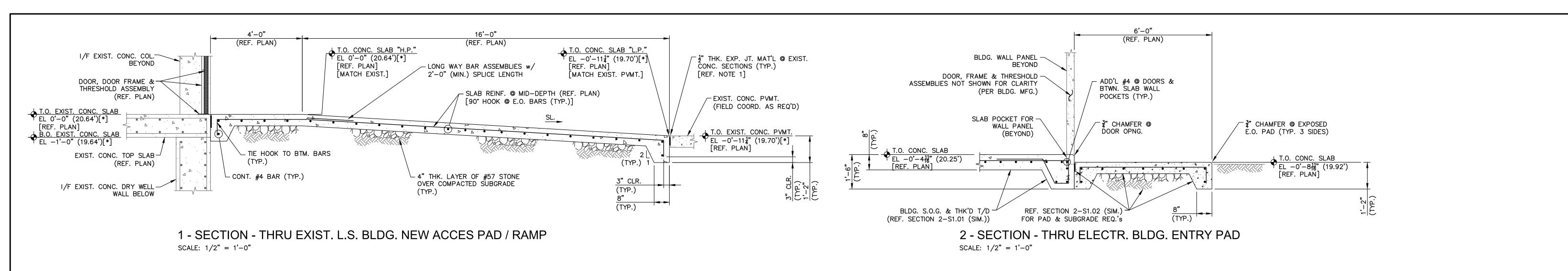
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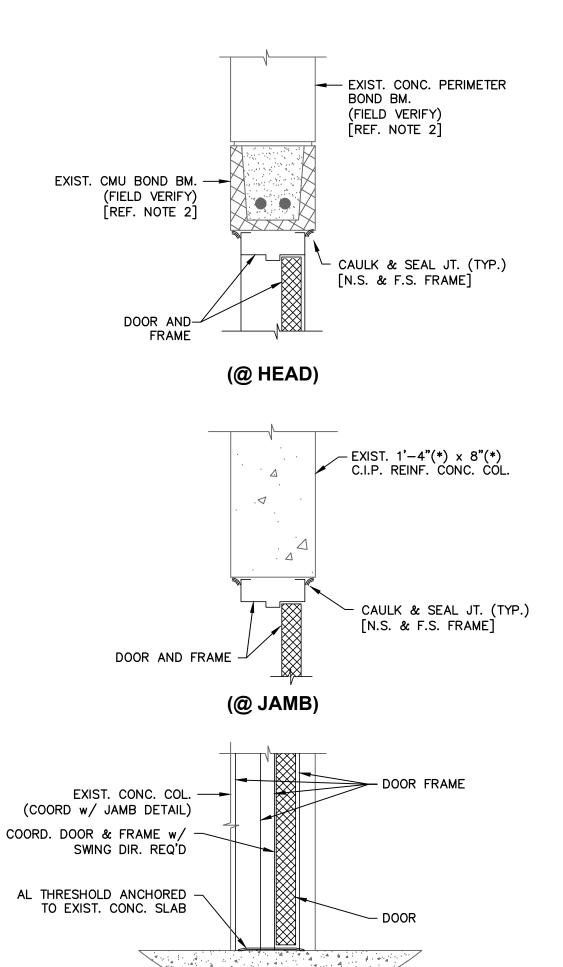
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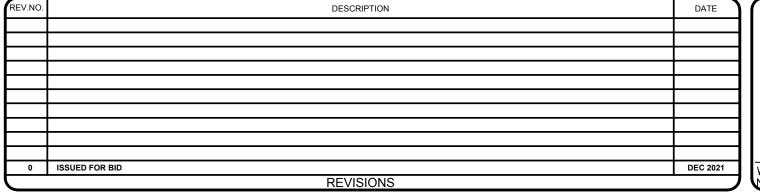
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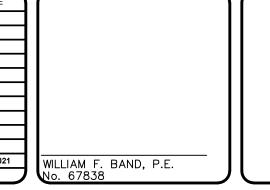
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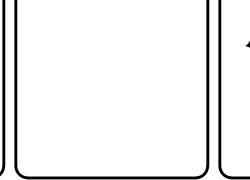
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#### NOTES:

- 1. REGARDING EXPANSION JOINT MAT'L INSTALL W.R. MEADOWS SEALTIGHT FIBRE EXPANSION JOINT IN CONFORMANCE W/ ASTM D1751.
- FIELD VERIFY PRIOR TO REMOVING EXISTING LOUVER & FRAME ASSEMBLY.
   REFERENCE DWG. SO.00 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN CRITERIA AND LEGEND.











LIFT STATION 13A ELECTRICAL REHABILITATION

**DETAILS** 

STRUCTURAL

LIFT STA. MODS ADD'L SECTIONS &

•	7	
11	2020. JUN	PROJ. DATE:
۱t	01024-0182	MCE PROJ.#
Ш	WFB	DRAWN
Ш	WFB	DESIGNED
Ш	WFB / AEA	CHECKED
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HORIZONTAL:

AS NOTED

VERTICAL:

NA

DRAWING NUMBER

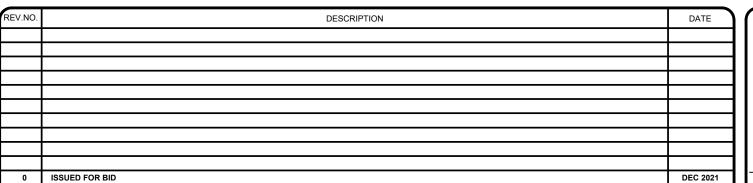
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REVISION

**ISSUED FOR BID** 

SCALE

#### **ABBREVIATIONS GENERAL ELECTRICAL NOTES** FIRE ALARM SYSTEM NOTE: ALL ABBREVIATIONS MAY NOT BE UTILIZED FOR THIS CONTRACTOR RESPONSIBILITIES: PROJEC T AUDIO/VISUAL ALARM INDICATOR (HORN/STROBE) NUMBER INDICATES NON-AUTOMATIC A, AMP AMPERE STROBE CANDELLA RATING WHEN OTHER THAN 15 1.1. 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 ADJUSTABLE FREQUENCY DRIVE NOT APPLICABLE AFD N/A 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. AFF ABOVE FINISHED FLOOR NORMALLY CLOSE 1.2. THE CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS. AFG ABOVE FINISHED GRADE NATIONAL ELECTRIC CODE HORN 1.3. PROVIDE MEANS TO FURNISH AND INSTALL. AHU AIR HANDLING UNIT N, NEU NEUTRAL AIC AMPERE INTERRUPTING CAPACITY NORMALLY OPEN 1.4. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. DO NOT SCALE FROM THESE DRAWINGS AIT ANALYTICAL INDICATION TRANSMITTER NOT IN CONTRACT MANUAL PULL STATION 1.5. 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 ALUMINUM NOT TO SCALE CHANGES WITHOUT ANY ADDITIONAL COST TO THE OWNER. NO OTHER CHANGES MAY BE MADE WITHOUT WRITTEN CONSENT FROM THE ENGINEER AND OWNER. ARMS ARC-FLASH REDUCTION SYSTEM OFCI OWNER FURNISHED, CONTRACTOR INSTALLED 1.6. MOUNTING HEIGHTS INDICATED ARE TO THE CENTER OF THE DEVICE U.O.N. ATS AUTOMATIC TRANSFER SWITCH OVERLOAD RELAY AUX AUXILIARY POLE 1.7. REFERENCE ALL SPECIFICATIONS, DRAWINGS AND CONTRACT DOCUMENTS FOR ADDITIONAL REQUIREMENTS AND CONTRACT RESPONSIBILITIES PRIOR TO COMMENCING WORK. FIRE ALARM CONTROL PANEL FACP AWG AMERICAN WIRE GAUGE PUBLIC ADDRESS 1.8. THE GENERAL NOTES STATED ON THIS DRAWING ARE APPLICABLE TO ALL DRAWINGS AND SCOPE OF WORK UNDER THIS CONTRACT UNLESS NOTED OTHERWISE. AQD ARC QUENCHING DEVICE PUSH BUTTON 1.9. ALL ELECTRICAL WORK SHALL COMPLY WITH THE CURRENT NFPA, NEC. NESC AND LOCAL CODES INCLUDING OWNERS STANDARDS AND REQUIREMENTS. BKR BREAKER PULL BOX BLDG BUILDING PUMP CONTROL PANEL 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 BVBUTTERFLY VALVE POWER FACTOR BELL TEMPORARY UTILITY ACCOUNT TO PROVIDE ELECTRICAL POWER FOR START-UP AND COMMISSIONING. CONDUIT POWER FACTOR CORRECTION CAPACITORS 1.11. THE ELECTRICAL INSTALLATION SHALL EXCEED THE REQUIREMENTS OF ALL APPLICABLE NECA/NEIS STANDARDS. CAB CABINET PULL FUSE DISCONNECT СВ CIRCUIT BREAKER 1.12. CONTRACTOR SHALL PLAN AND COORDINATE ELECTRICAL CONSTRUCTION WITH ALL CRAFT/TRADE TO ACHIEVE AN EFFICIENT AND EFFECTIVE ELECTRICAL INSTALLATION. FAAS FIRE ALARM ANNUNCIATOR STATION CBV CABLE BY VENDOR, INSTALLED BY CONTRACTOR PRESSURE INDICATION TRANSMITTER 1.13. 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 CCTV CLOSED CIRCUIT TELEVISION PLC PROGRAMMABLE LOGIC CONTROLLER REPRESENTATIVE. CKT CIRCUIT FLOW SWITCH CLG CEILING POWER PANEL, POWER POLE CL2 CHLORINE 2. ELECTRICAL EQUIPMENT: СР CONTROL PANEL PRIMARY VALVE TAMPER SWITCH CPT CONTROL POWER TRANSFORMER PRESSURE SWITCH CR CONTROL RELAY, CORROSION RESISTANT 2.1. 600V RATED ELECTRICAL EQUIPMENT SHALL HAVE AN AMPERE INTERRUPTING CAPACITY (AIC) RATINGS AS SHOWN ON THE CONTRACT DRAWINGS POTENTIAL TRANSFORMER CS CONTROL STATION PAN-TILT-ZOOM 2.2. EQUIPMENT SHALL BE ARRANGED AND INSTALLED TO COMPLY WITH ALL CODE—REQUIRED, MANUFACTURER—RECOMMENDED AND HEAT—DISSIPATION CLEARANCES. CURRENT TRANSFORMER END OF LINE RESISTOR POLYVINYL CHLORIDE 2.3. EQUIPMENT INSTALLATIONS AND PLACEMENTS SHALL COMPLY WITH NEC ARTICLE 110 FOR ALL CLEARANCE REQUIREMENTS. C TRL CONTROL RECEPTACLE COPPER 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. REQUIRED CV CONTROL VALVE RIGID GALVANIZED STEEL FLAME DETECTOR 2.5. CONTRACTOR SHALL PROVIDE ALL NECESSARY COMPONENTS REQUIRED FOR MAKING FINAL CONNECTIONS FOR ALL EQUIPMENT INSTALLED AND/OR MODIFIED UNDER CONTRACT. DECIBEL RMC RIGIDREMOTE TELEMETRY UNIT DIRECT CURRENT R/S RUN/STOP HAND SWITCH DCS DISTRIBUTED CONTROL SYSTEM 3. POWER AND CONTROL SYSTEM RACEWAYS: **RVSS** REDUCED VOLTAGE SOFT STARTER DETD DUAL ELEMENT TIME DELAY SHORT CIRCUIT CURRENT RATING SCCR SMOKE DETECTOR, MULTISENSOR DISC DISCONNECT SC ADA SUPERVISORY CONTROL AND DATA ACQUISITION DN 3.1. EXPOSED CONDUIT SHALL BE RIGID ALUMINUM CONDUIT (RAC), GRS, IMC AND EMT ARE NOT ACCEPTABLE. SEC SECONDARY DPDT DOUBLE POLE DOUBLE THROW SPARE 3.2. CONCEALED CONDUIT EMBEDDED IN CONCRETE SHALL BE SCH-40 PVC DISCONNECT SWITCH SPEC SPECIFIC ATION SMOKE DETECTOR IONIZATION 3.4. DIRECT-BURIED CONDUIT SHALL BE DIRECT-BURIED SCH-80 PVC DRAWING SPD SURGE PROTECTION DEVICE EMPTY CONDUIT 3.5. TRANSITIONS THROUGH FINISHED GRADE AND/OR CONCRETE SHALL BE PVC-COATED RAC CONDUIT. SELECTOR SWITCH EXHAUST FAN SST STAINLESS STEEL 3.6. 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 EHH ELECTRICAL HANDHOLE SOLENOID VALVE FORMATS. THE CONTRACTOR SHALL REFERENCE ALL EQUIPMENT SPECIFICATIONS AND MANUFACTURER INSTRUCTIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS. ELEVATION SMOKE DETECTOR PHOTOELECTRIC SWITCH ELECTRONIC TRIP UNIT 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, ELTU SWBD SWITCHBOARD **EMER** 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 EMERGENC Y SWGR SWITCH GEAR EMH ELECTRICAL MANHOLE INSTALLATION AND/OR ARRANGEMENT LAYOUTS PER THE SPECIFICATIONS FOR ENGINEER REVIEW PRIOR TO INSTALLATION. TELEPHONE ELECTRICAL METALLIC TUBING **TEMP TEMPERATURE** DUCT MOUNTED SMOKE DETECTOR 3.8. 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 ENCL ENCLOSURE TEW THERMOCOUPLE EXTENSION WIRE CONDUCTOR TERMINATIONS. **EPRF** EXPLOSION PROOF TMTU THERMAL-MAGNETIC TRIP UNIT 3.9. 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 **EQUIP FQUIPMENT** TEMPERATURE SWITCH MEANS OF LARGE RADII FITTINGS. THERMAL DETECTOR EWC ELECTRIC WATER COOLER TYPIC AL EWH ELECTRIC WATER HEATER (FIXED AND RATE OF RISE) 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 **UNDERGROUND** EXIST H-HIGH TEMPERATURE EXISTING UNIT HEATER FΑ FIRF ALARM UON UNLESS OTHERWISE NOTED 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 FAAP FIRE ALARM ANNUNCIATOR PANEL UPS UNINTERRUPTIBLE POWER SUPPLY BE INDICATED ON THE DRAWINGS. FACP FIRE ALARM CONTROL PANEL СТ SIGNAL INPUT MODULE 3.12. SPARE CONDUITS SHALL BE CAPPED OR PLUGGED WITH A PVC FITTING AND INCLUDE 200# TEST POLYPROPYLENE PULL STRING. FDR FEEDER VAC VOLTS ALTERNATING CURRENT FIXT FIXTURE VARIABLE FREQUENCY DRIVE FLA FULL LOAD AMPS WATT-HOUR **FLOUR FLUORESCENT** SIGNAL MODULE WEATHERPROOF 4. CABLES/CONDUCTORS/WIRES: FLEXIBLE METALLIC CONDUIT TRANSFORMER FLOW SWITCH EXPLOSION PROOF FEET OR FOOT FUT **FVNR** 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 FULL VOLTAGE NON-REVERSING STARTER FWE FURNISHED WITH EQUIPMENT 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. GALVANIZED 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. GEC GROUNDING ELECTRODE CONDUCTOR 4.2. POWER/FEEDER GENERATOR GROUND FAULT INTERRUPTER 4.2.1. CONTRACTOR SHALL NOT EXCEED CABLE MANUFACTURER SPECIFICATIONS FOR SIDE—WALL AND TENSION LIMITS WHEN DRAWING POWER CABLES INTO RACEWAYS. GFIC GROUND FAULT CIRCUIT INTERRUPTER 4.2.2. CONTRACTOR SHALL DRAW POWER CABLES AND CONDUCTORS WITHIN RACEWAYS UTILIZING POLYWATER LUBRICANT J OR APPROVED EQUAL. HOT DIPPED GALVANIZED 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. НН HANDHOLE HOA HAND-OFF-AUTO HORSE POWER 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 HIGH POWER FACTOR HIGH PRESSURE SODIUM HEATER 5. HARDWARE AND SUPPORTS: HIGH VOLTAGE HERTZ INTERIOR DIAMETER 5.1. ALL FASTENERS AND HARDWARE SHALL BE STAINLESS—STEEL 316L. INTERMEDIATE METALLIC CONDUIT (GALVANIZED) 5.2. STRUT—CHANNEL SHALL NOT BE BENT, DRILLED, CUT OR OTHERWISE MODIFIED TO PRODUCE FITTINGS, BRACES OR BRACKETS FOR CONDUIT AND EQUIPMENT SUPPORTS. INTERMEDIATE METALLIC 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. INCHES INSTRUMENT TERMINAL BOX 5.4. CONTRACTOR SHALL PROVIDE ALL SUPPORTS AND FASTENING HARDWARE FOR SWITCHBOARDS, PANELBOARDS, TRANSFORMERS, CONTROL PANELS, ETC., AS REQUIRED IN THE SPECIFICATIONS. JUNCTION BOX 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. THOUSAND 5.6. STRUCTURAL MEMBERS SHALL NOT BE DRILLED, CUT, WELDED TO, OR OTHERWISE MODIFIED WITHOUT PRIOR APPROVAL OF THE ENGINEER OF RECORD. KILOVOLT AMPERE THOUSAND AMPERES INTERRUPTING CURRENT KAIC KCMIL THOUSAND CIRCULAR MILLS 6. RECEPTACLES/SWITCHES: THOUSAND VOLT AMPERES ΚVA KWKILOWATTS KWH KILOWATT-HOURS 6.1. GENERAL LIGHTNING ARRESTOR 6.2.0.2. INDOORS OR NON PROCESS AREAS SHALL BE INSTALLED CONCEALED AND FLUSH WITH STAINLESS—STEEL DEVICE COVER PLATES. LOCAL CONTROL PANEL 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. LED LIGHT-EMITTING DIODE LIQUIDTIGHT FLEXIBLE METAL CONDUIT 6.3. RECEPTACLES/GROUND FAULT CURRENT INTERRUPTING (GFCI) LFNC LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT 6.3.1. SHALL BE INDIVIDUAL GFCI RECEPTACLE DEVICES RATED FOR 20A/120V WITH LED POWER INDICATOR. LEVEL INDICATION TRANSMITTER LIGHTING PANEL, LIGHT POLE 6.3.2. GFCI RECEPTACLE DEVICES SHALL NOT SHARE NEUTRAL CONDUCTORS ON THREE-PHASE SYSTEMS LEVEL SWITCH LIGHTING LOW VOLTAGE MOTOR MILLIAMPERE MCB MAIN CIRCUIT BREAKER MOTOR CONTROL CENTER MCP MOTOR CIRCUIT PROTECTOR MDP MAIN DISTRIBUTION PANEL MFR MANUFAC TURER MANHOLE MH MIN MINIMUM MAIN LUGS ONLY MSB MAIN SWITCHBOARD MTD MOUNTED/MOUNTING MTG MOUNTING MTS MANUAL TRANSFER SWITCH MVMEDIUM VOLTAGE



REVISIONS

AUBREY A. HAUDRICOURT, P.E.





www.mckimcreed.com



### LIFT STATION 13A ELECTRICAL REHABILITATION

 PROJ. START DATE:
 2020. JUN

 MCE PROJ. #
 01024-0182

 DRAWN
 JG

 DESIGNED
 SS

 CHECKED
 MAC

 PROJ. MGR.
 AAH

SCALE

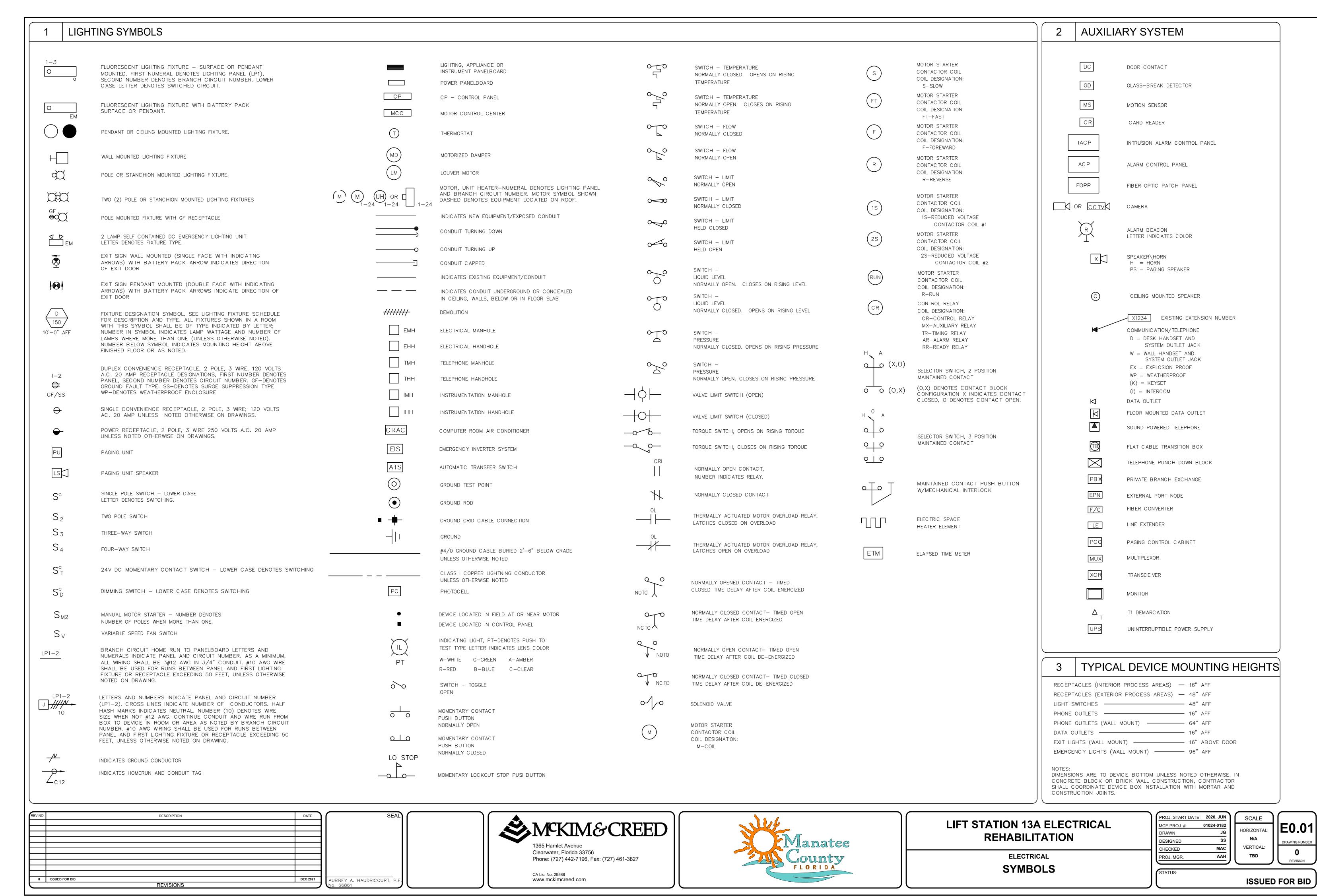
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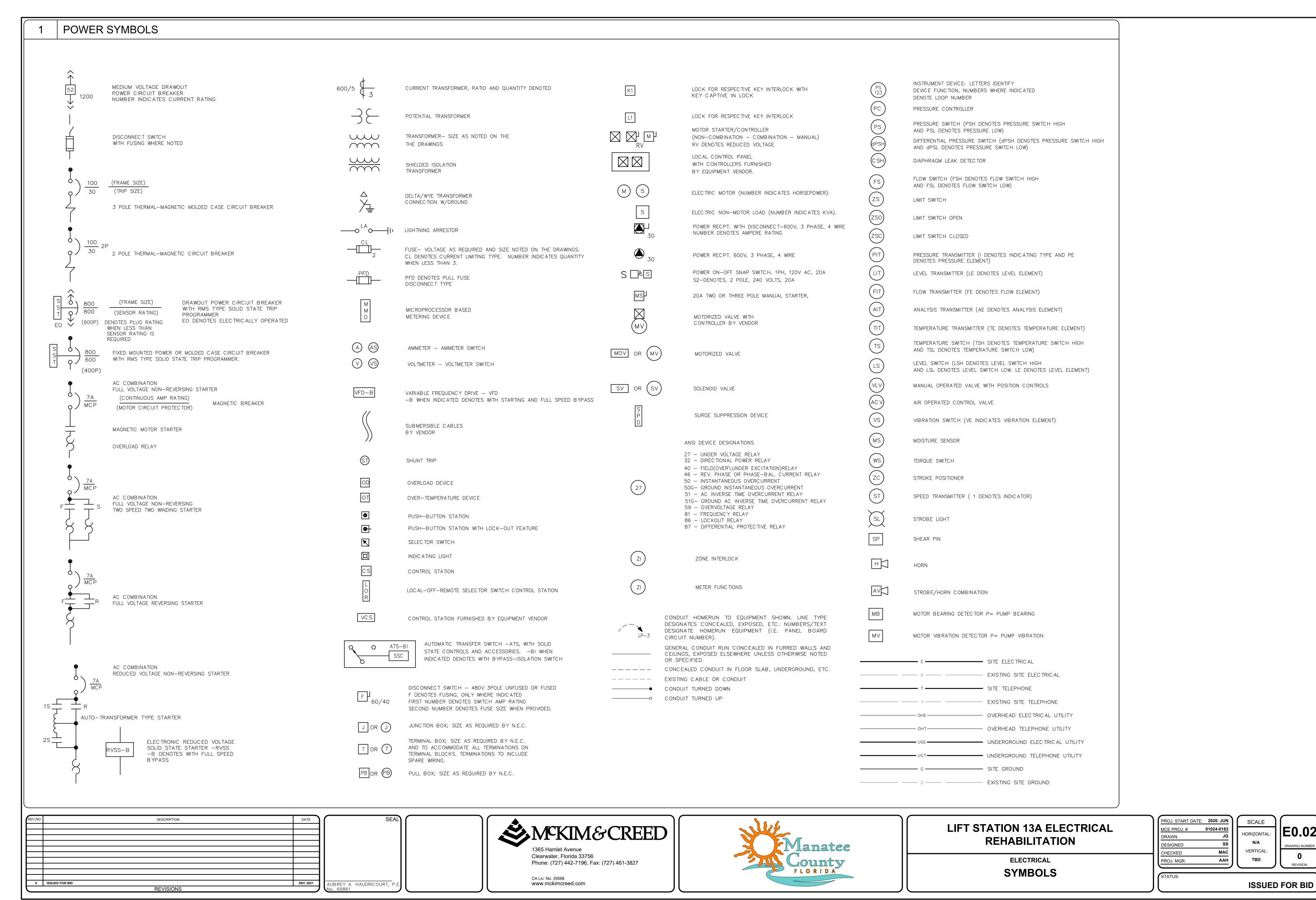
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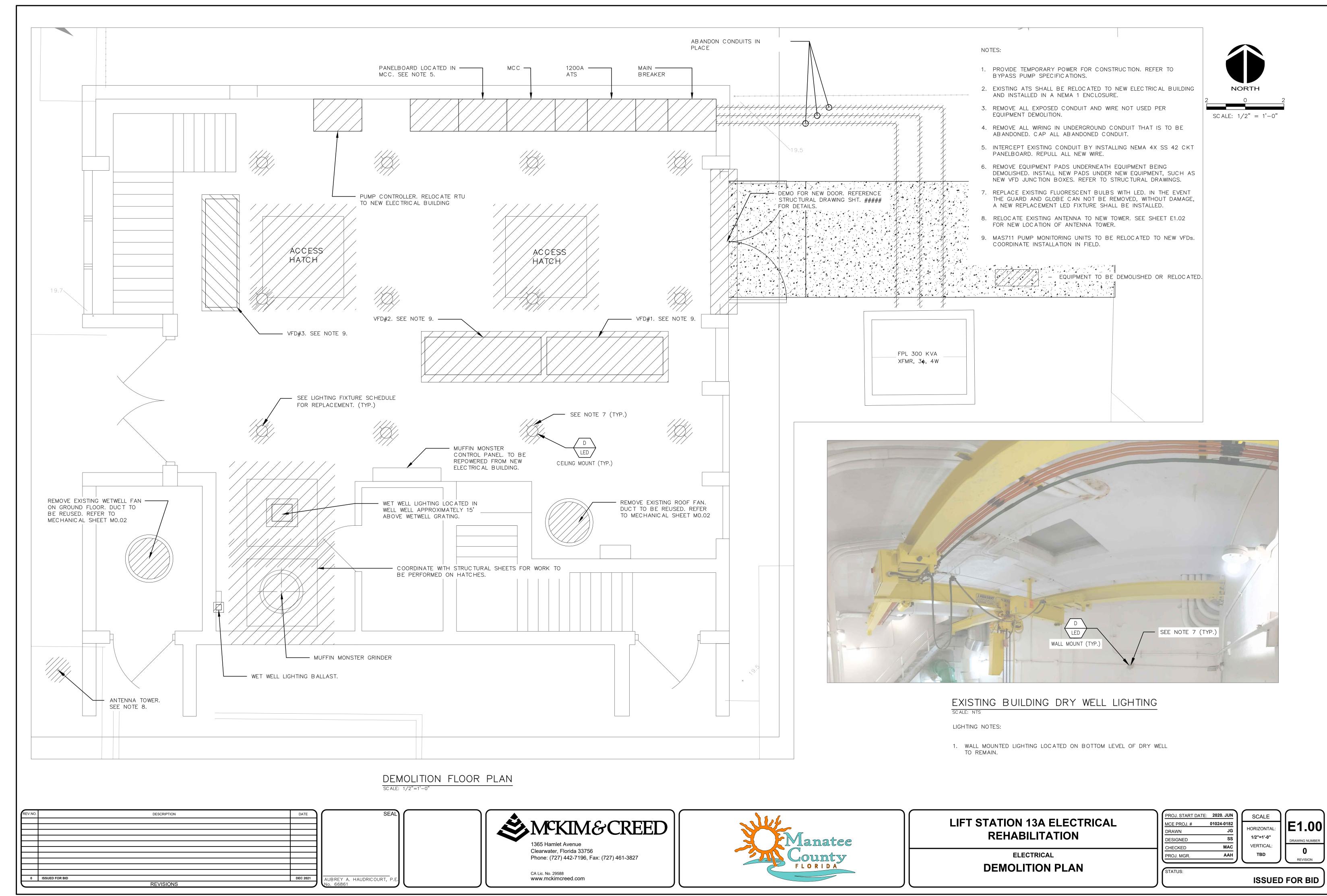
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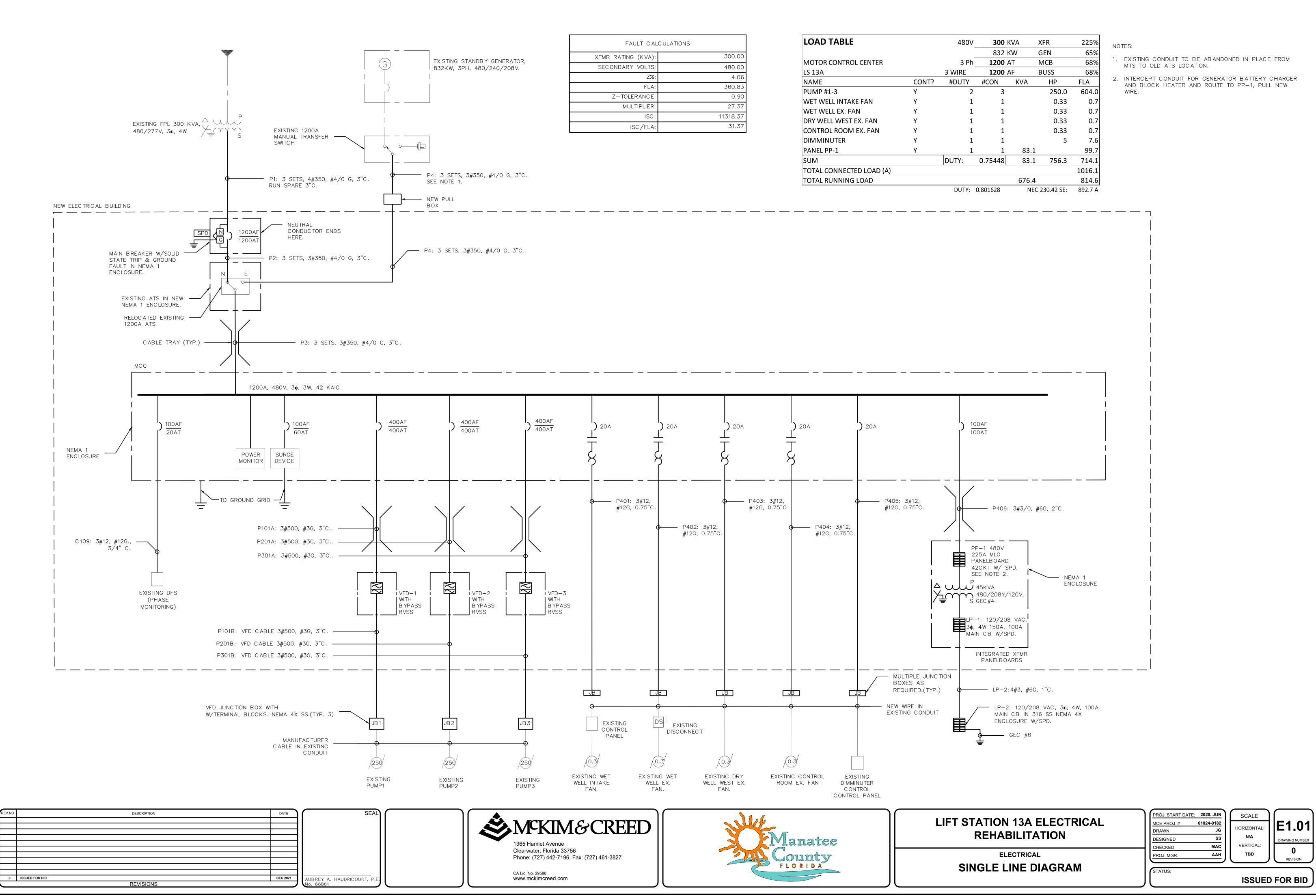
TBD

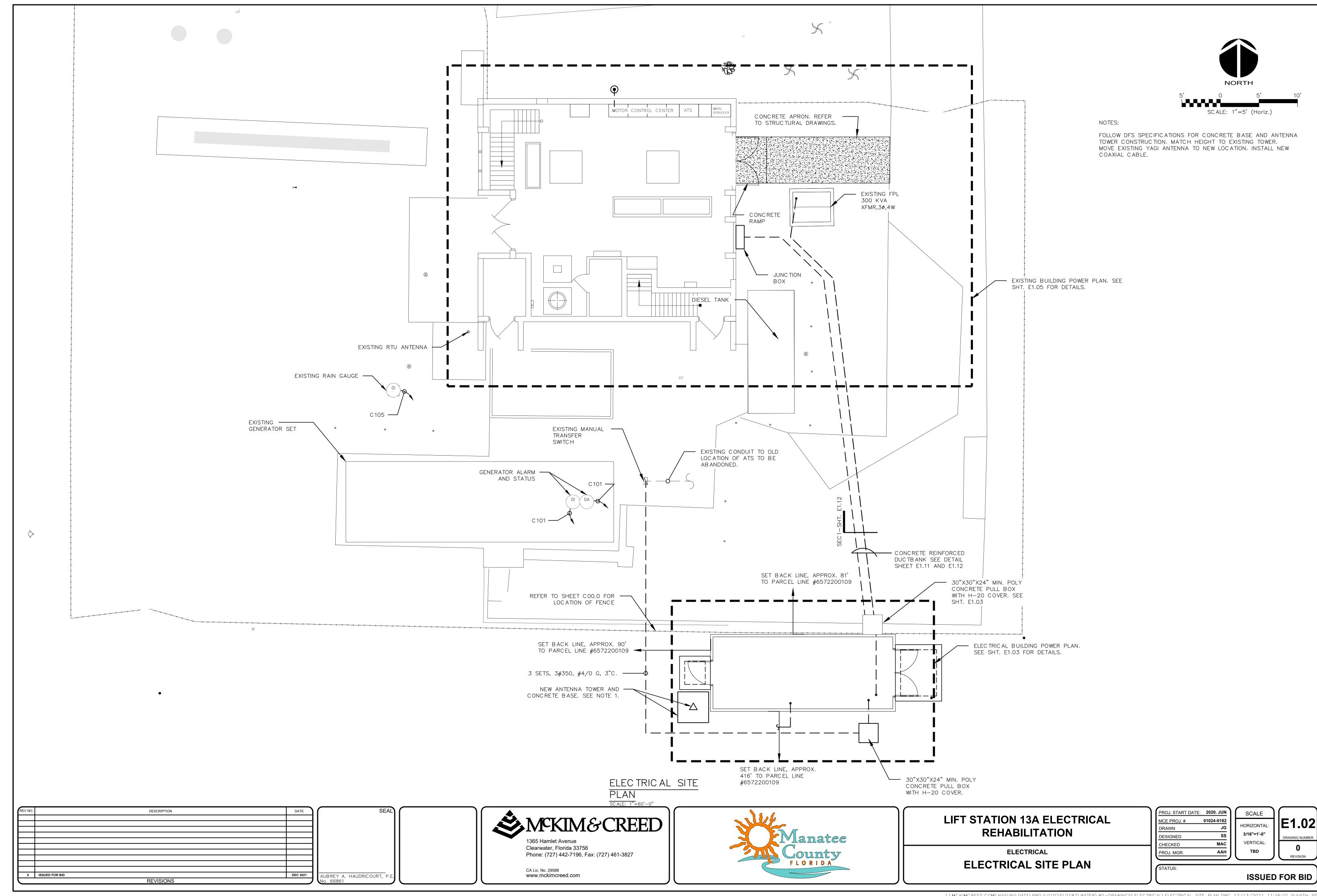
SYMBOLS, ABBREVIATIONS AND NOTES

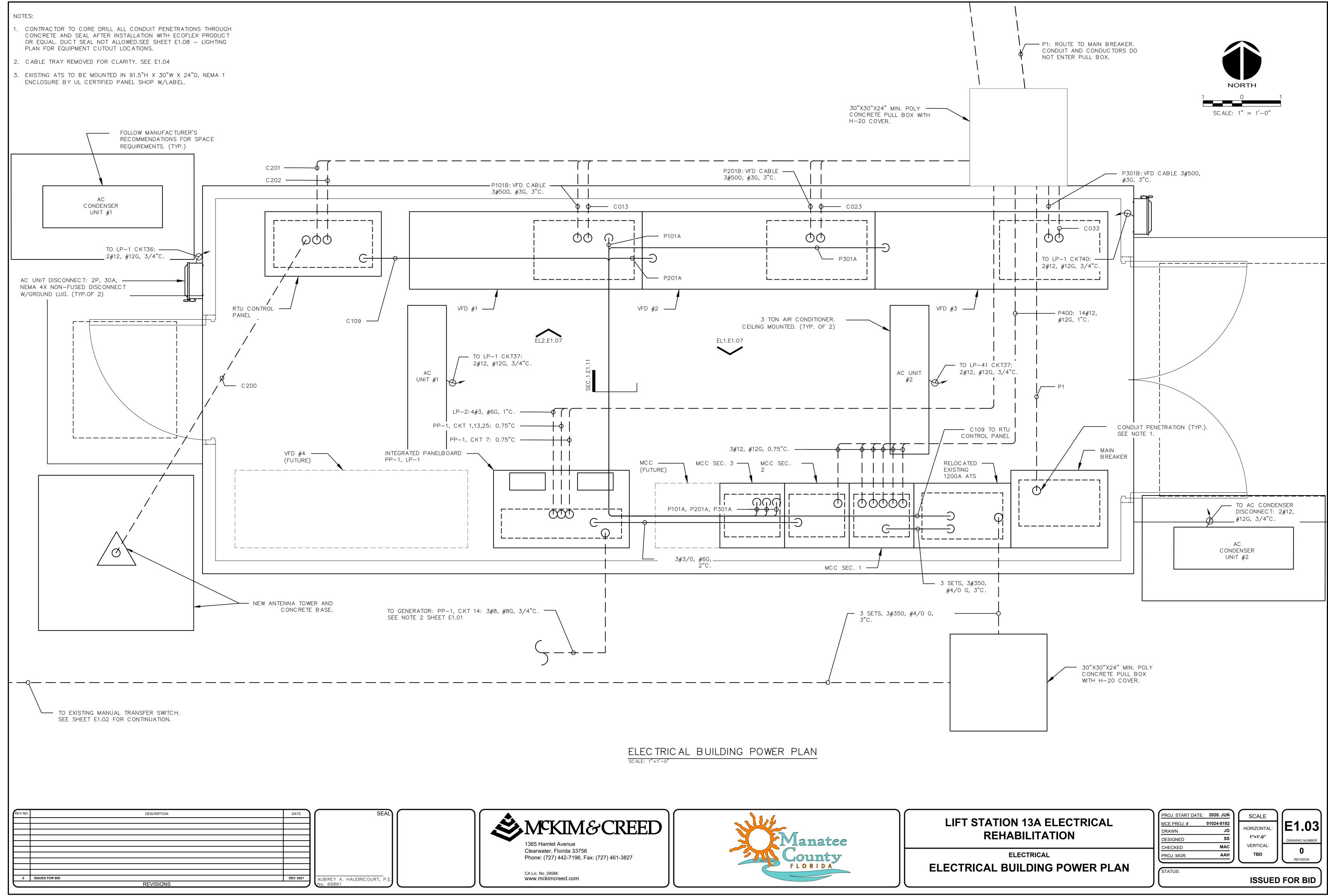


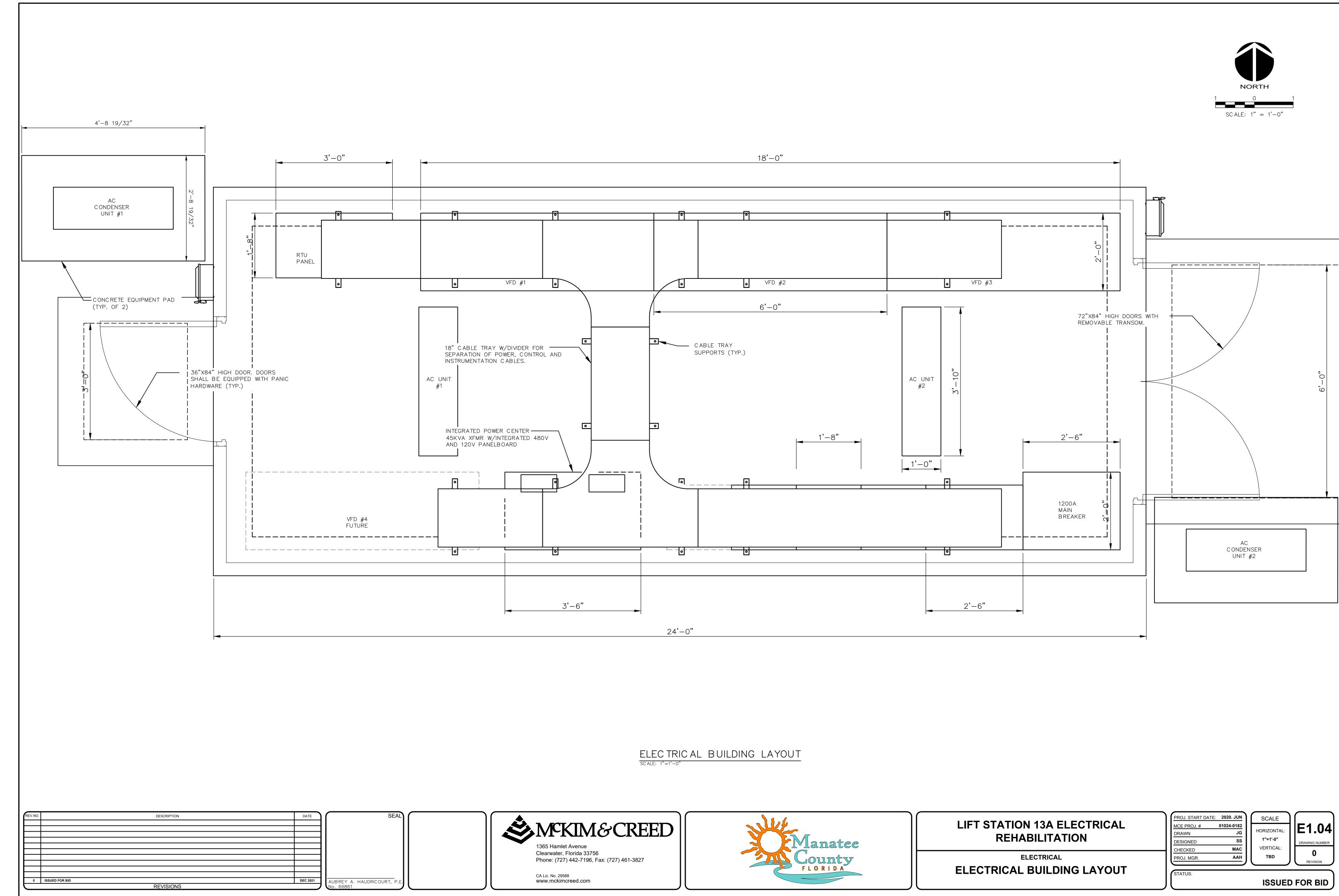


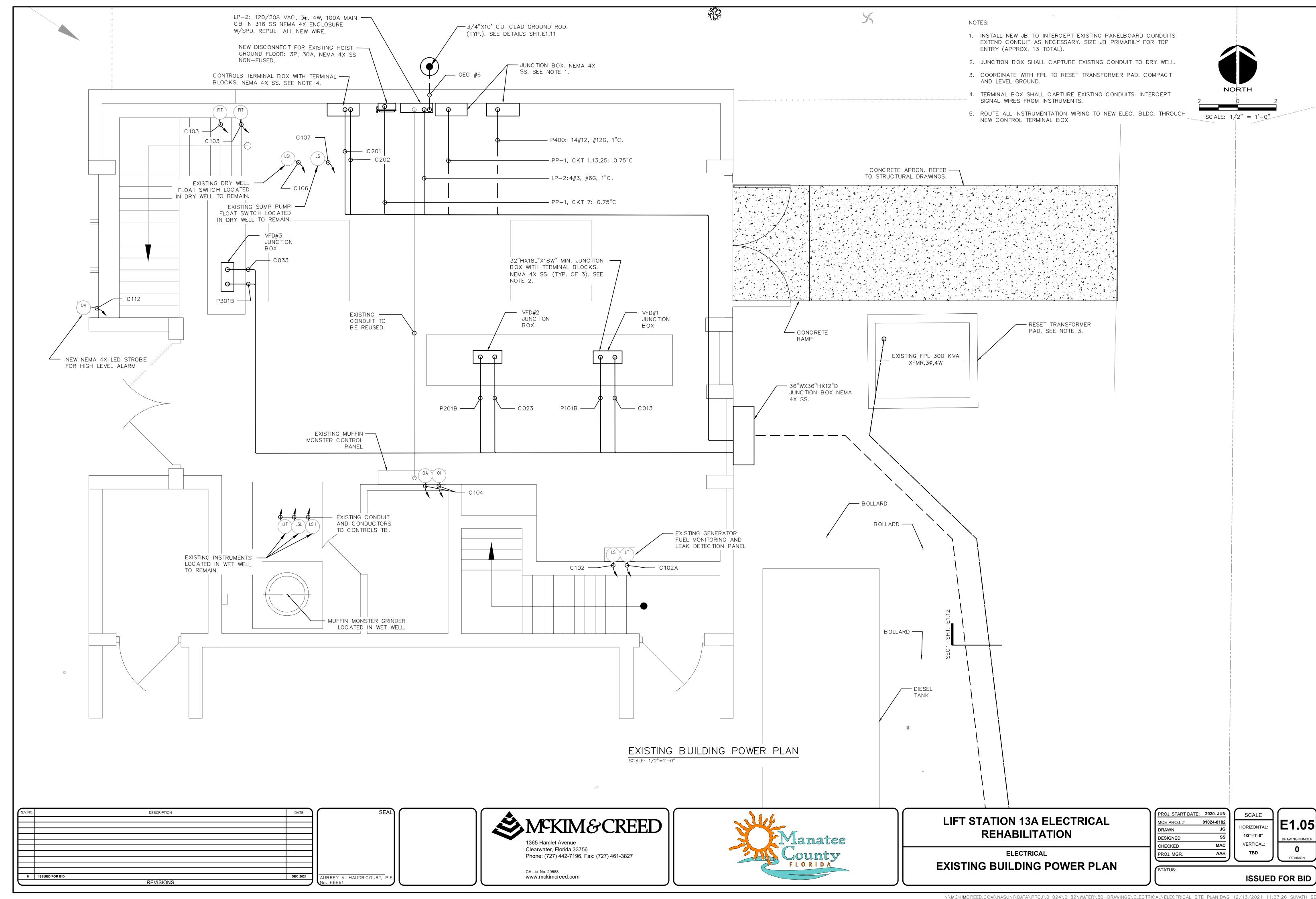


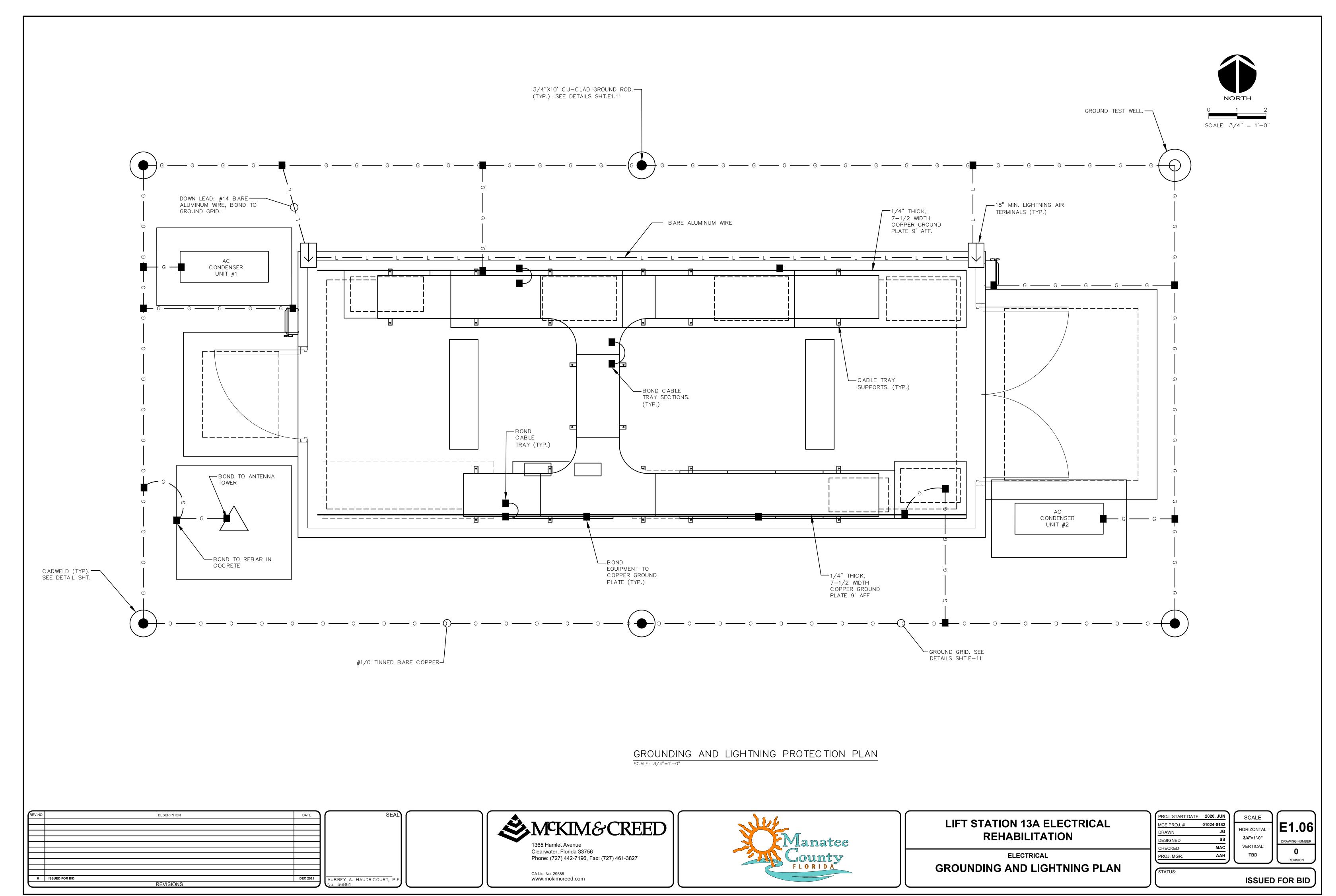






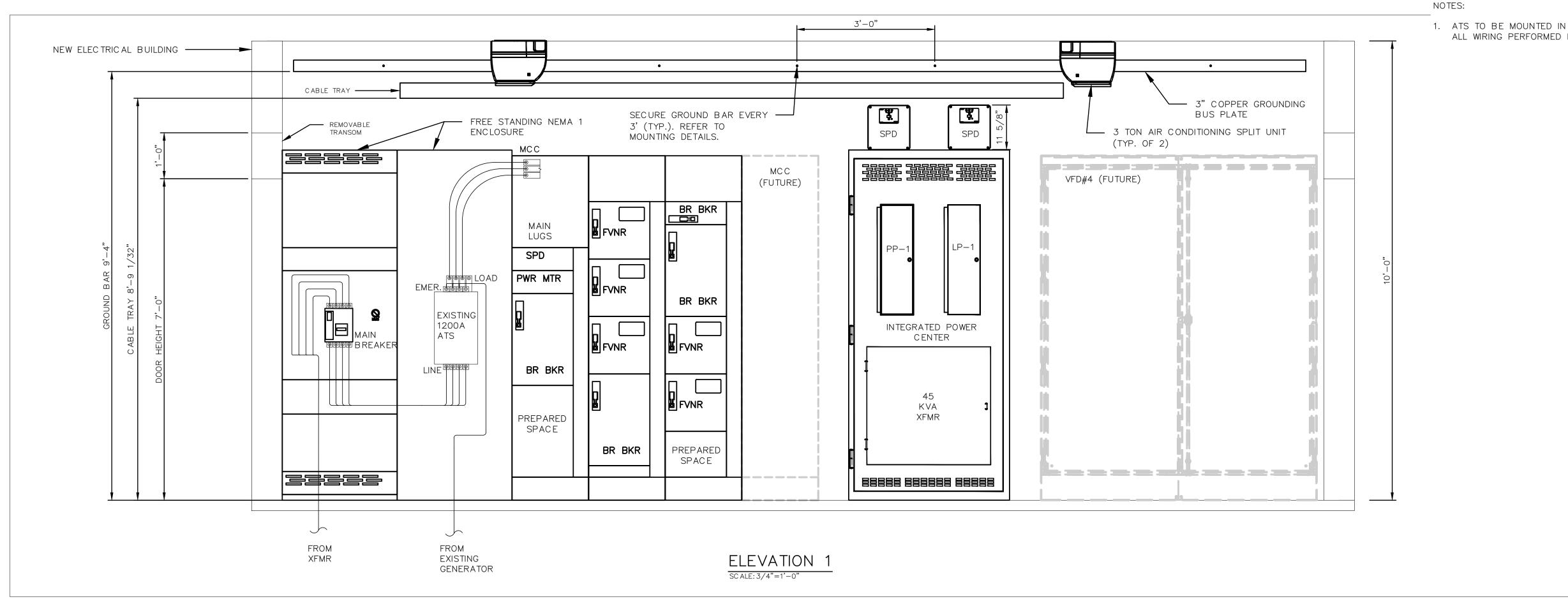


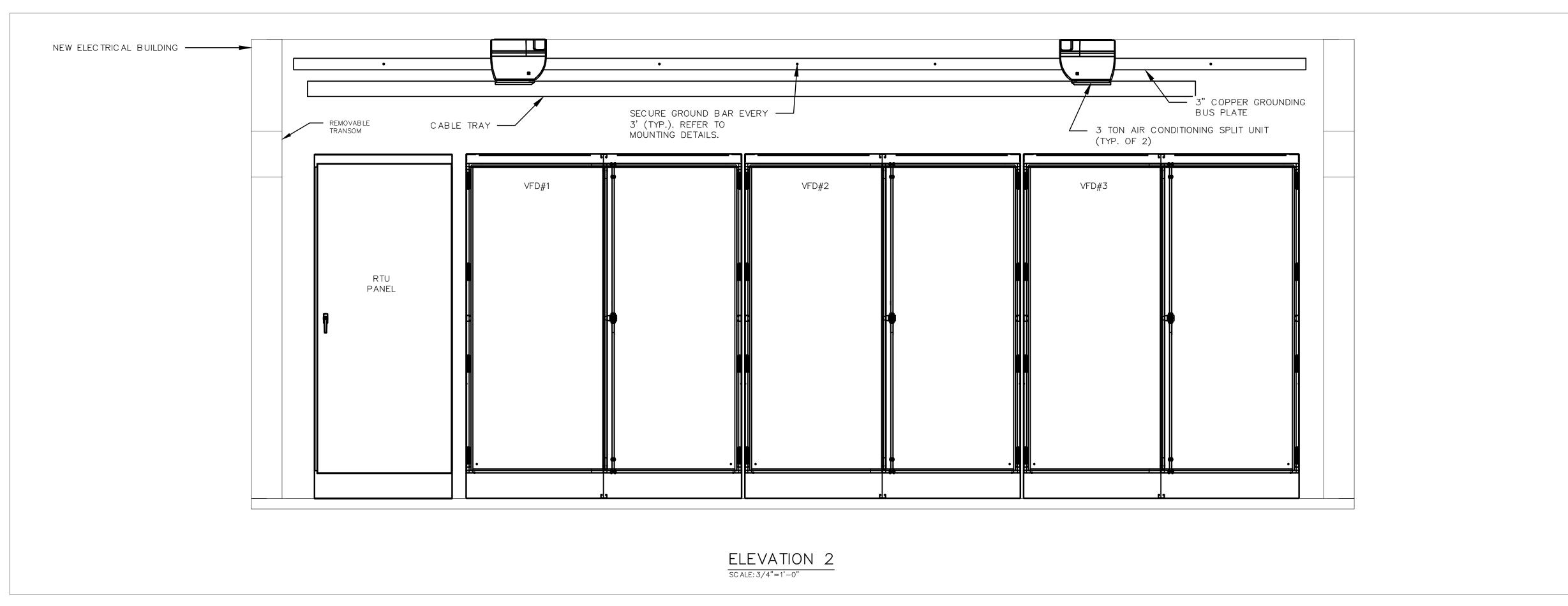


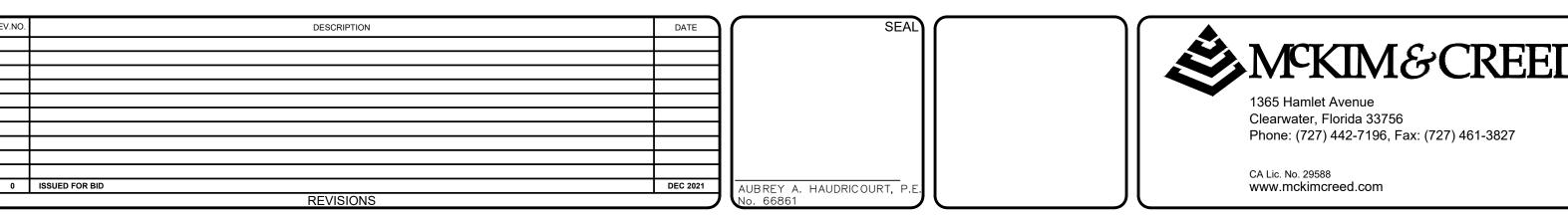




1. ATS TO BE MOUNTED IN THE FIELD BY UL CERTIFIED PANEL SHOP. ALL WIRING PERFORMED IN FIELD BY CONTRACTOR.









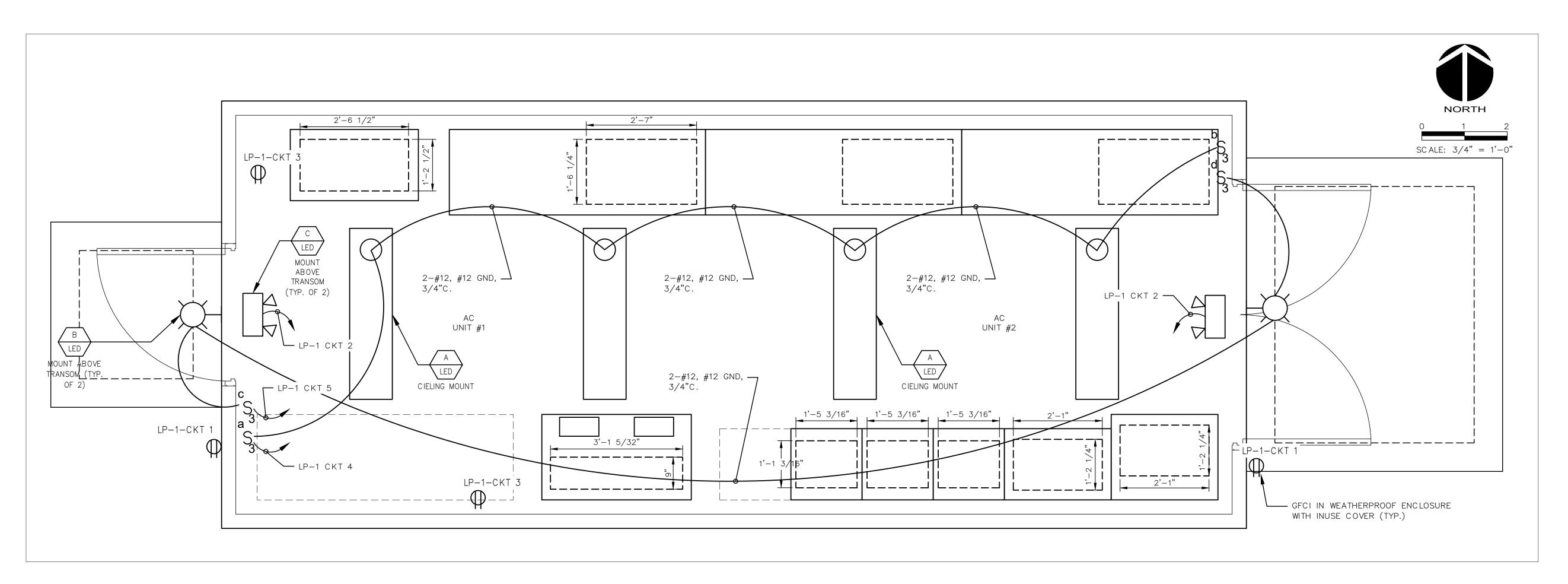
**LIFT STATION 13A ELECTRICAL REHABILITATION** 

ELECTRICAL MCB ATS MCC ELEVATIONS

PROJ. START DA	TE: 2020. JUN	SCALE	
MCE PROJ. # DRAWN	01024-0182 JG	HORIZONTAL:	E1.07
DESIGNED CHECKED	SS MAC	<b>N/A</b> VERTICAL:	DRAWING NUMBER
PROJ. MGR.	ААН	TBD	REVISION

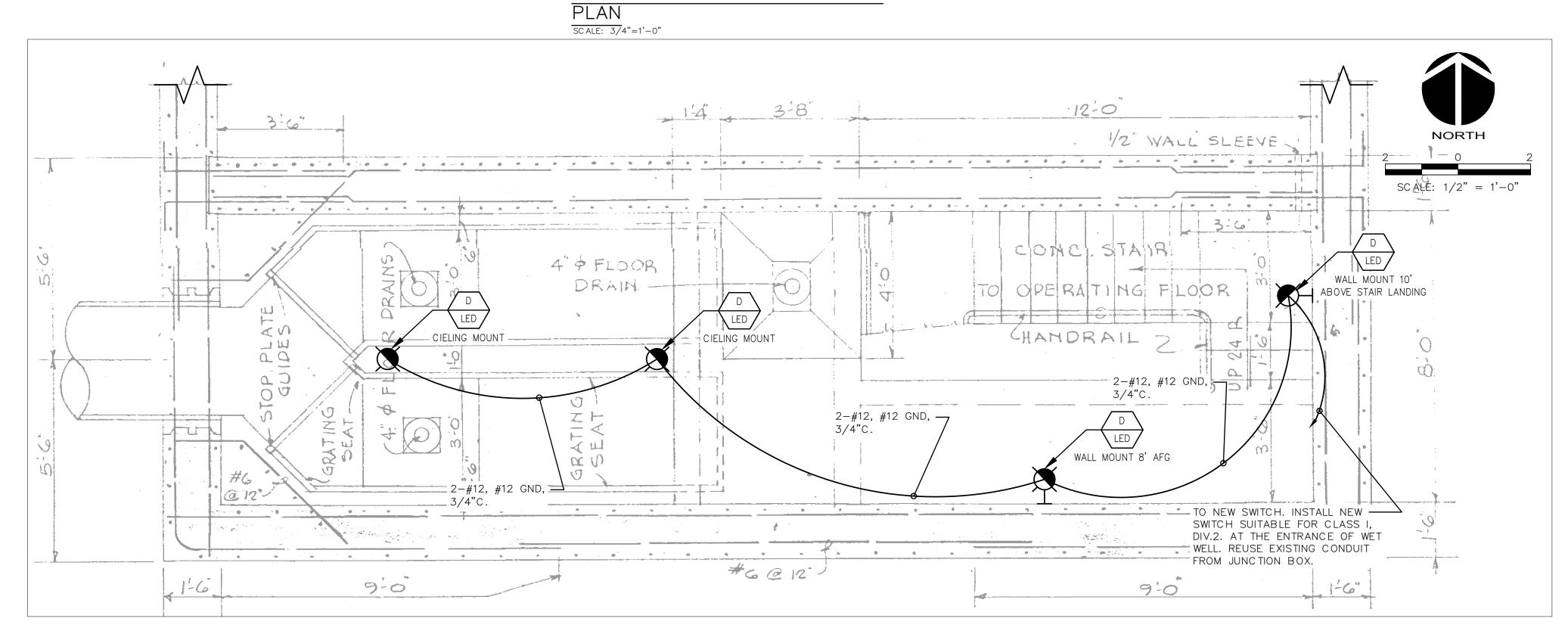
**ISSUED FOR BID** 

STATUS:

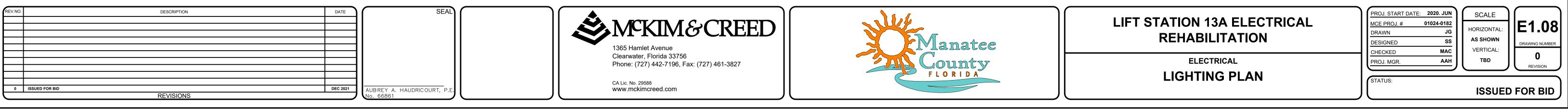


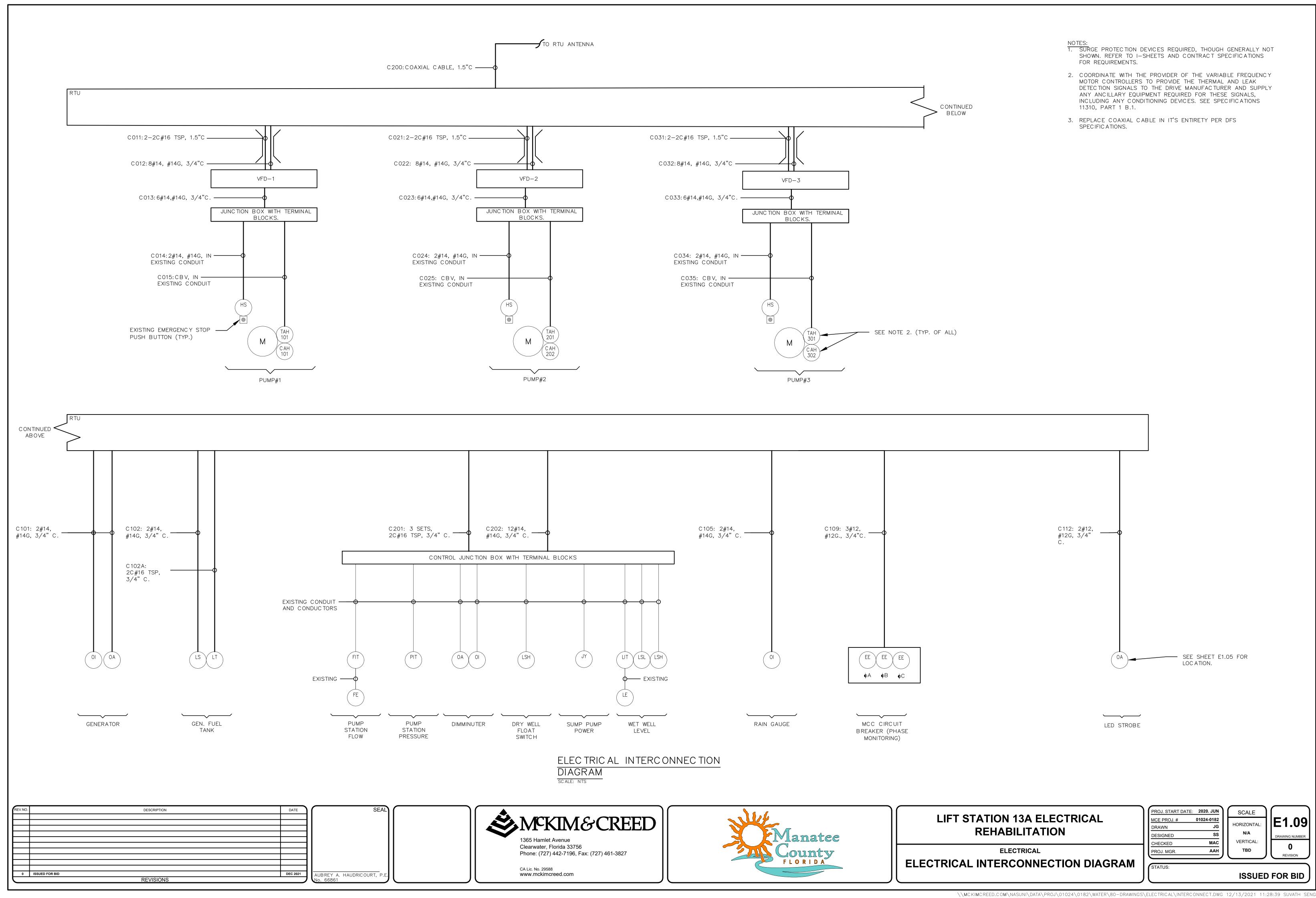
#### ELECTRIC AL BUILDING LIGHTING

	LIGHTIN	NG SCHEDULE		
LETTER	DESC RIPTION	REMARKS	SYMBOL	
А	4' SURFACE MOUNT LED LUMINAIRE. ROLLED STEEL HOUSING. IMPACT MODIFIED LINEAR FACETED REFRACTOR. INTEGRAL OCCUPANCY SENSOR.	LED MIN CRI 82, L90/60,000HRS, 39W, 4000K	LITHONIA LIGHTING MOD. WL4-40L-LP840-NES7-SC OR APPROVED EQUAL.	0
В	LED OUTDOOR RATED WALL PACK. TYPE II/WIDE DISTRIBUTION. INTEGRAL BALLAST & PHOTOCELL. FULL CUTOFF. DARK BRONZE.	20 LED 73W 4000K	LITHONIA LIGHTING DSXW2 LED, LSI INDUSTRIES XGB WM3, OR APPROVED ALTERNATE	HX
С	WALL MOUNT EMERGENCY EXIT LIGHT W/SIGN. INJECTION-MOLDED, FLAME-RETARDANT, HIGH-IMPACT, THERMOPLASTIC HOUSING. BATTERY BACKUP. TEST SWITCH FOR MANUAL ACTIVATION OF 30-SECOND DIAGNOSTIC TESTING. SELF DIAGNOSTIC TESTING EVERY 30 DAYS.	LED, RED LENS <1W, 120V	LITHONIA LIGHTING MOD. LHQM OR APPROVED EQUAL	<b>4 D</b>
D	LED, CLASS 1, DIV 2 RATED, EXPLOSION PROOF FIXTURE WITH DOME REFLECTOR AND GLOBE GUARD.	LED, 40W, 120V.	KILLARK MODEL NO. EMLC -50-30 OR APPROVED EQUAL. WALL MOUNT AND CEILING MOUNT AS NECESSARY.	X



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





CKT NO.	TRIP	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES		KVA PER PHAS	E	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO
	⊢ A			7	PO	Α	В	С	PC	7			⊢ A	
1	20	HOIST DRY WELL	0.27	1.0	3	2.1			3	6.5	1.8	ODOR CONTROL	20	2
			0.27				2.1		•		1.8			
			0.27					2.1			1.8			
7	20	HOIST GROUND FLOOR	0.27	1.0	3	10.3			3	36.1	10	30KVA EXISITNG GENERATOR	50	8
			0.27				10.3				10	TRANSFORMER		
			0.27					10.3			10			
13	20	HOIST OVER WET WELL	0.27	1.0	3	15.3			3	54.1	15	45KVA TRANSFORMER	70	14
			0.27				15.3		ļ		15			
			0.27					15.3			15			ļ
19	20	SPARE			3	0.0			3			SURGE PROTECTION DEVICE	20	20
							0.0							
								0.0						
25	20	INTAKE EAST DRY FAN	0.075	0.3	3	0.1			3			SPARE	30	26
			0.075				0.1							
			0.075					0.1						
31		SPARE			3	0.0			3			SPACE		32
							0.0							
								0.0						
37		SPARE			3	0.0			3			SPACE		38
							0.0							
								0.0						
	PANEL	. PP-1	ТС	OTAL KVA		27.7	27.7	27.7		VOLTS:	480	SERVICE CHARACTERISTICS	225	A MLO
		I MANATEE COUNTY LS13A G ELECTRICAL BUILDING	GRANI	D CONNECT	TED TO	OTAL KVA	83	3.1		PHASE: WIRE:	3	-	0	_ A MCB
		: INTEGRATED PANELBOARD					1		_			SYMM, FULLY RATED ASSEMBLY		

PANEL SCHEDULE PP-1

20 20 15	ELEC. BUILDING RECEPTACLES OUTSIDE  ELEC. BUILDING RECEPTACLES INSIDE  ELEC. BUILDING OUTSIDE WALL PACKS  ELEC. BUILDING AC INDOOR UNIT #1  ELEC. BUILDING AC INDOOR UNIT #2  SURGE PROTECTION DEVICE	0.36 0.72 0.5 0.1 0.1 0.1 0.1 0.1 0.1	3.0 6.0 4.2 1.0 1.0	1 1 1 2	0.5 1.7 8.9	1.5	2.1	1 2 2	1.5 6.7 15.4	0.18 0.8 1.6 1.6	ELEC. BUILDING EMERG. EXIT LIGHT  ELEC. BUILDING LIGHTING INSIDE  ELEC. BUILDING AC OUTDOOR UNIT #1  ELEC. BUILDING AC OUTDOOR UNIT #2	20 20 25 25	2 4 6
20 15 15 20 20	ELEC. BUILDING OUTSIDE WALL PACKS ELEC. BUILDING AC INDOOR UNIT #1 ELEC. BUILDING AC INDOOR UNIT #2	0.5 0.1 0.1 0.1 0.1 0.1	4.2 1.0 1.0	1 2 2				2	15.4	1.6 1.6	ELEC. BUILDING AC OUTDOOR UNIT #1	25	6
15 15 20 20	ELEC. BUILDING AC INDOOR UNIT #1  ELEC. BUILDING AC INDOOR UNIT #2	0.1 0.1 0.1 0.1 0.1	1.0	2		1.7				1.6			
15 20 20	ELEC. BUILDING AC INDOOR UNIT #2	0.1 0.1 0.1 0.1	1.0	2		1.7	1.7	2	15.4		FLEC. BUILDING AC OUTDOOR UNIT #2	25	10
20 20		0.1 0.1 0.1			8.9	1.7	1.7	2	15.4	1.6	FLEC. BUILDING AC OUTDOOR UNIT #2	25	10
20 20		0.1			8.9		1.7				22201 201221110 110 00 120 011 112		
20	SURGE PROTECTION DEVICE	0.1	0.8		8.9					1.6			
20	SURGE PROTECTION DEVICE		0.8					3	73.3	8.8	PANEL LP-2	100	14
		0.1		3		8.9				8.8			
20							8.9			8.8			
		0.1			1.6			1	12.5	1.5	RTU CONTROL PANEL	20	20
	SPARE			1		0.0		1			SPARE	20	22
	SPARE			1			0.0	1			SPARE	20	24
	SPARE			1	0.0			1			SPARE	20	26
	SPARE			1		0.0		1			SPARE	20	28
	SPARE			1			0.0	1			SPARE	20	30
	SPARE			1	0.0			1			SPARE	20	32
	SPARE			1		0.0		1			SPARE	20	34
	SPARE			1			0.0	1			SPARE	20	36
	SPARE			1	0.0			1			SPARE	20	38
	SPARE			1		0.0		1			SPARE	20	40
	SPARE			1			0.0	1			SPARE	20	42
PANEL	LP-1	то	TAL KVA		12.7	12.1	12.7		VOLTS:	208Y/120	SERVICE CHARACTERISTICS		_ A MLO
IILDING	ELECTRICAL BUILDING	GRANI	D CONNECT	TED TO	OTAL KVA	37.	6		WIRE:	4	- - SYMM FILLY RATED ASSEMBLY	150	_ A MCB
CA	TION DING	SPARE	SPARE GRANI	SPARE	SPARE         1           TOTAL KVA         TOTAL KVA           DING ELECTRICAL BUILDING         GRAND CONNECTED TO	SPARE         1         0.0           SPARE         1         1           SPARE         1         0.0           SPARE         1         0.0 </td <td>SPARE       1       0.0         SPARE       1       0</td> <td>SPARE       1       0.0         SPARE       1       0.0         TOTAL KVA       12.7       12.1       12.7         TION MANATEE COUNTY LS13A DING ELECTRICAL BUILDING       GRAND CONNECTED TOTAL KVA       37.6</td> <td>SPARE       1       0.0       1         SPARE       1       0.0       1         TOTAL KVA       12.7       12.1       12.7         TION MANATEE COUNTY LS13A DING       GRAND CONNECTED TOTAL KVA       37.6</td> <td>SPARE       1       0.0       1         SPARE       1       0.0       1<td>SPARE       1       0.0       1<!--</td--><td>  SPARE</td><td>  SPARE   1   0.0   1   SPARE   20   20   SPARE   20   SP</td></td></td>	SPARE       1       0.0         SPARE       1       0	SPARE       1       0.0         TOTAL KVA       12.7       12.1       12.7         TION MANATEE COUNTY LS13A DING ELECTRICAL BUILDING       GRAND CONNECTED TOTAL KVA       37.6	SPARE       1       0.0       1         TOTAL KVA       12.7       12.1       12.7         TION MANATEE COUNTY LS13A DING       GRAND CONNECTED TOTAL KVA       37.6	SPARE       1       0.0       1         SPARE       1       0.0       1 <td>SPARE       1       0.0       1<!--</td--><td>  SPARE</td><td>  SPARE   1   0.0   1   SPARE   20   20   SPARE   20   SP</td></td>	SPARE       1       0.0       1 </td <td>  SPARE</td> <td>  SPARE   1   0.0   1   SPARE   20   20   SPARE   20   SP</td>	SPARE	SPARE   1   0.0   1   SPARE   20   20   SPARE   20   SP

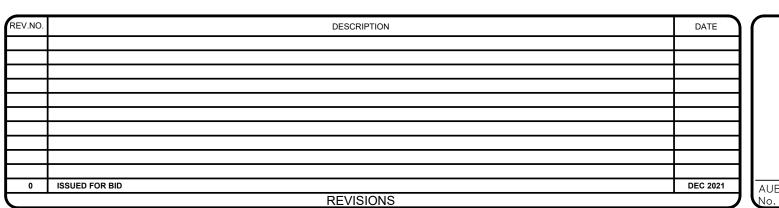
PANEL SCHEDULE LP-1

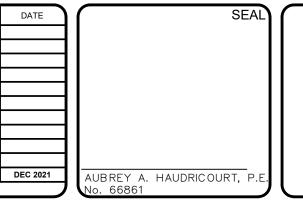
SCALE: NTS

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	А	KVA 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		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			1			0.0	1			SPARE	20	42
		LP-2	тс	OTAL KVA		9.1	10.7	4.7			208Y/120	SERVICE CHARACTERISTICS		_ A MLO
	BUILDING	N MANATEE COUNTY G OLD PUMP BUILDING	GRAN	D CONNECT	TED TO	OTAL KVA	24.	4		PHASE: WIRE:	4	- - - 	100	_ A MCB
NOTES: 10K MIN AIC SYMM, FULLY RATED ASSEMBLY														

PANEL SCHEDULE LP-2

SCALE: NTS









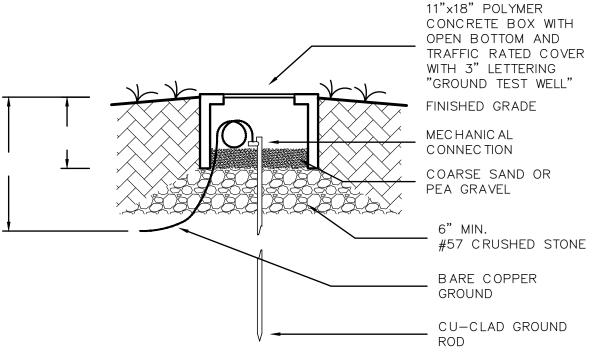
## LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL
PANELBOARD SCHEDULES

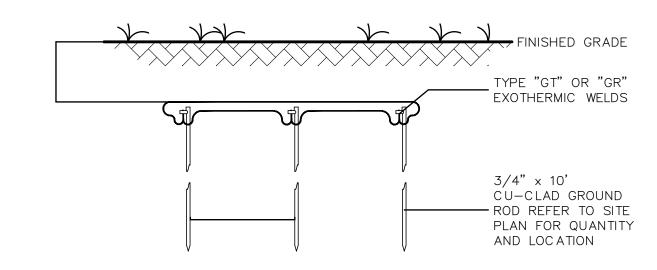
PROJ. START DATE:	2020. JUN	1	SCALE	1	
MCE PROJ. #	01024-0182				E1.
DRAWN	JG		HORIZONTAL:		<b>-</b>
DESIGNED	SS		N/A		DRAWING N
CHECKED	MAC		VERTICAL:		0
PROJ. MGR.	AAH		TBD		DE1/10
		' '		'	REVIS
STATUS:					

#### NOTES:

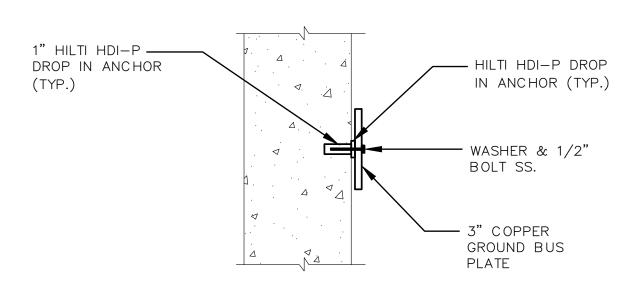
- 1. MINIMUM WIRE SIZE FOR ALL POWER CIRCUITS IS #12AWG CU UNLESS OTHERWISE NOTED.
- 2. MINIMUM CONDUIT SIZE IS 3/4" TRADE SIZE.
- 3. SWAB CLEAN EXISTING CONDUITS PRIOR TO PULLING NEW CIRCUITS.
- 4. FOR LOW VOLTAGE DUCTBANKS MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 2".



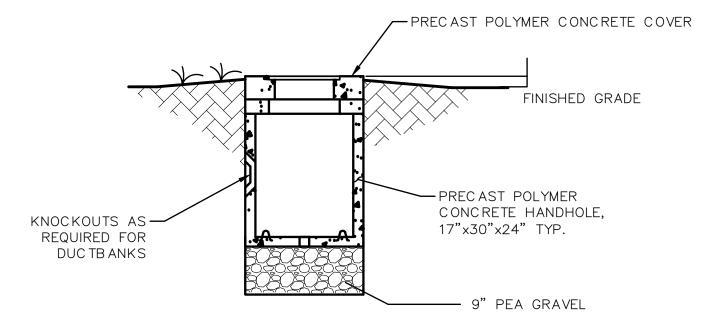
GROUND ROD TEST WELL



BELOW GRADE GROUND ROD/CABLE CONNECTION DETAIL

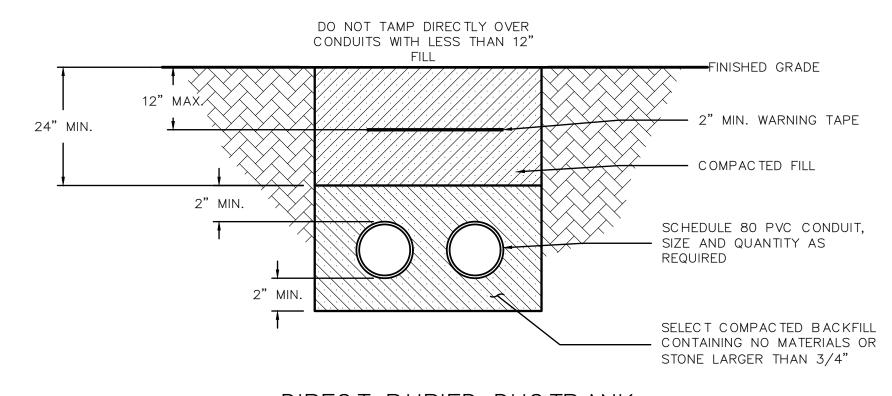


COPPER GROUND BUS PLATE MOUNTING DETAIL

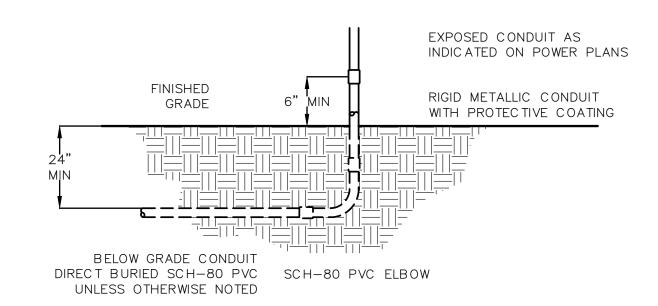


#### SMALL HANDHOLE NOTES:

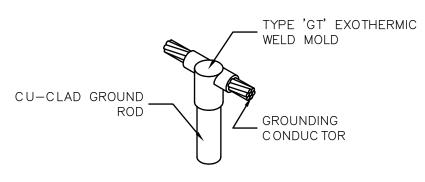
- 1. PROVIDE PRODUCTS OF ONE OF THE FOLLOWING:
- A. STRONGWELL QUAZITE
- B. OLD CASTLE C. OR APPROVED EQUAL
- 2. MATERIAL: PRECAST POLYMER CONCRETE. 3. DUCT ENTRANCES SIZED AND LOCATED TO SUIT
- 4. ENCLOSURES AND COVERS SHALL BE UL-LISTED. 5. ENCLOSURES, BOXES, AND COVERS SHALL COMPLY WITH TEST PROVISIONS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



DIRECT BURIED DUCTBANK

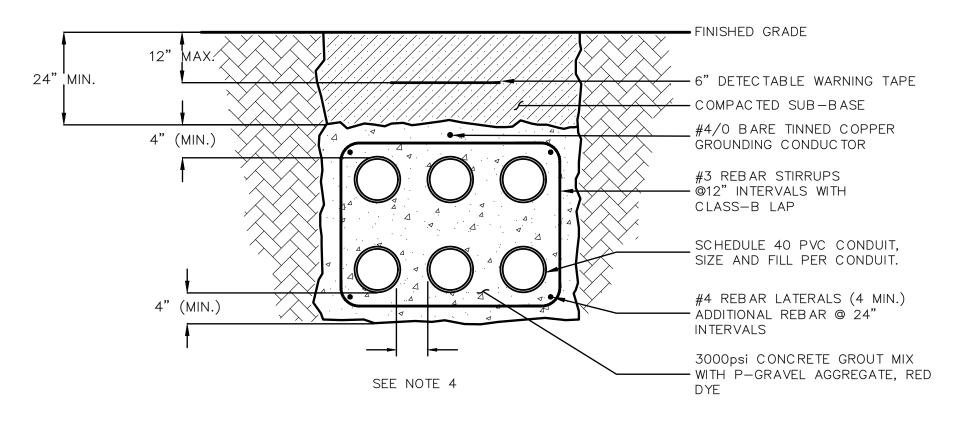


CONDUIT TRANSITION DETAIL

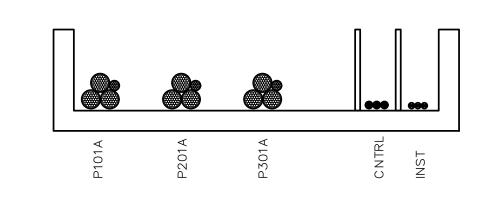


SMALL HANDHOLE DETAIL

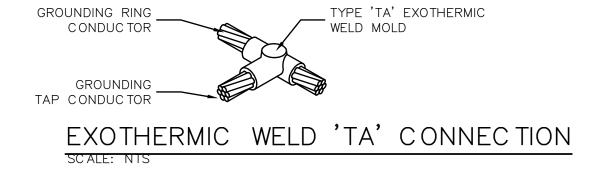


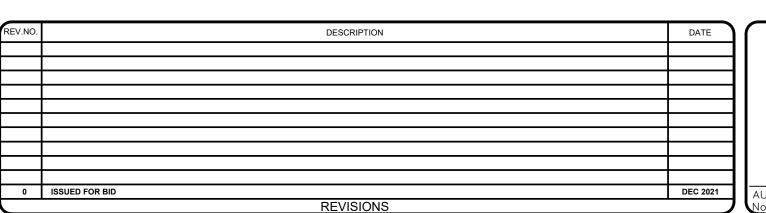


REINFORCED CONCRETE DUCTBANK













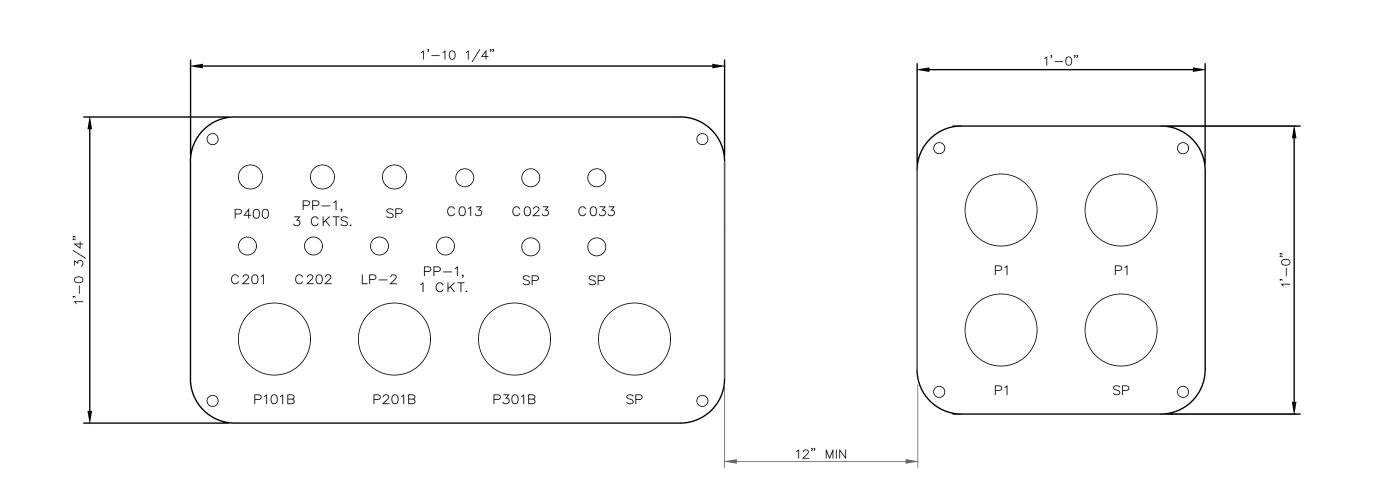


ELECTRICAL	
<b>DETAILS I</b>	

)	PROJ. START DATE:	2020. JUN	1	SCALE	
	MCE PROJ. #	01024-0182	lt		E1
	DRAWN	JG		HORIZONTAL:	
	DESIGNED	SS		N/A	DRAWING
4	CHECKED	MAC		VERTICAL:	
	PROJ. MGR.	AAH	П	TBD	
1			_		REVI

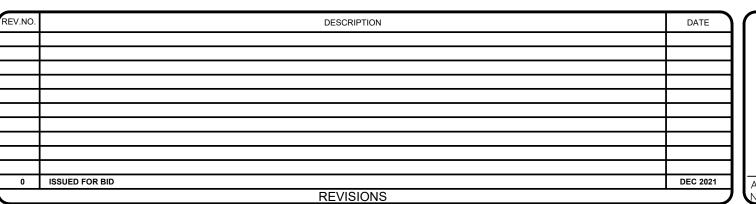
**ISSUED FOR BID** 

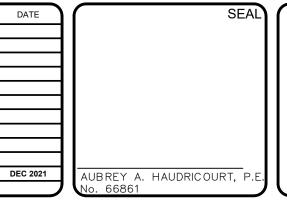
STATUS:



1 E1.05E1.12 **DU**(

DUCTBANK - SECTION 1
SCALE: NTS







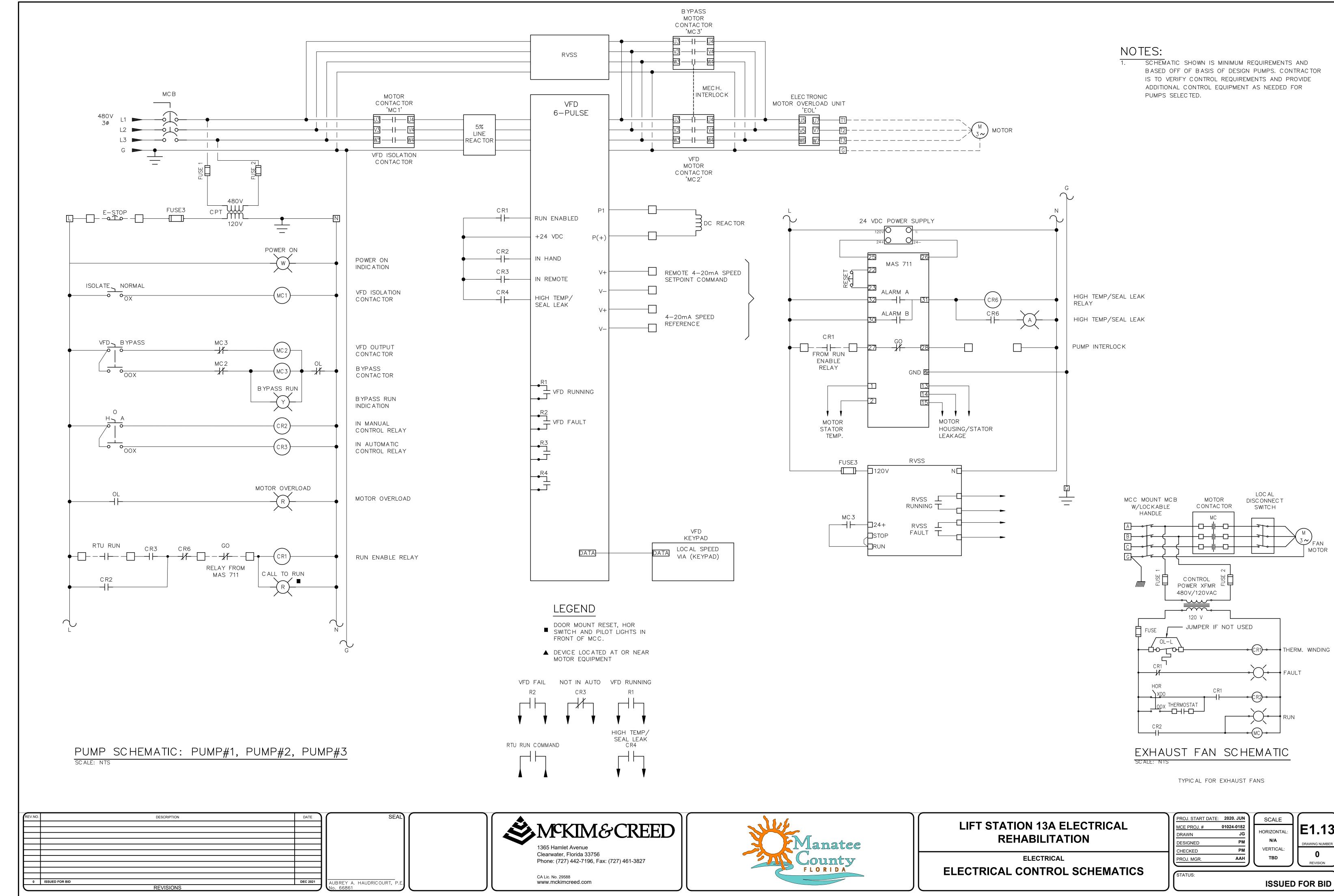


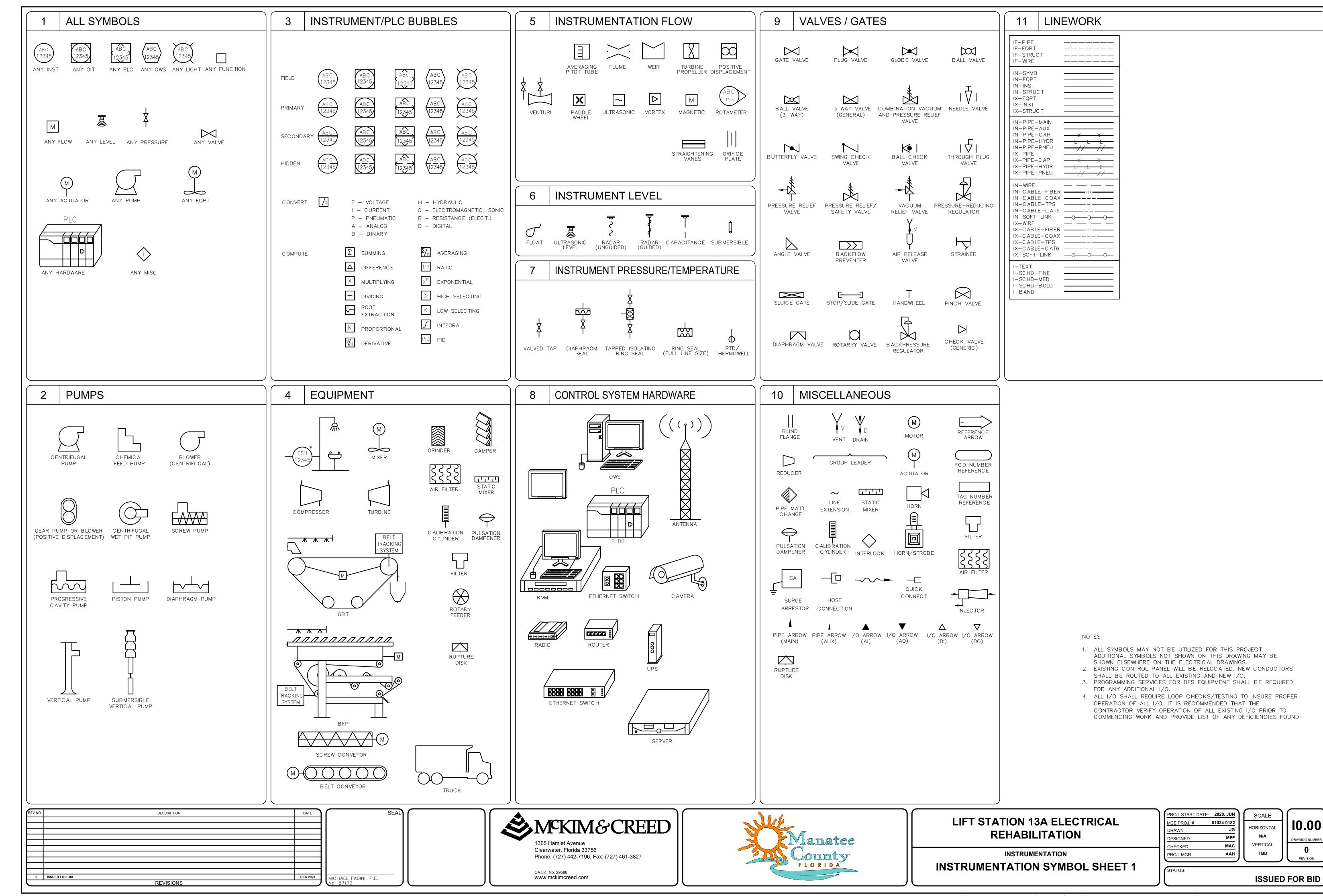
## LIFT STATION 13A ELECTRICAL REHABILITATION

ELECTRICAL

DETAILS II

)	PROJ. START DAT	E: 2020. JUN	SCALE	
	MCE PROJ. #	01024-0182		IE!
	DRAWN	JG	HORIZONTAL:	┞
	DESIGNED	PM	N/A	DRAV
	CHECKED	PM	VERTICAL:	
	PROJ. MGR.	AAH	TBD	





#### 1 PID FUNCTION SYMBOLS

	FIRST LETT	ER		SUC C EEDING — LETTER	RS
	MEASURED OR		READOUT OR	OUTPUT	
	INITIATING VARIABLE	MODIFIER	PASSIVE FUNCTION	FUNCTION	MODIFIER
А	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
ı	Current (Electrical)		Indicate		
J	Power	Scan			
K	Time, Time Schedule			Control Station	
L	Level		Light (Pilot)		Low
М	Motor				Middle,
					Intermediate
N	Vibration				
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 REVISIONS	DEC 2021



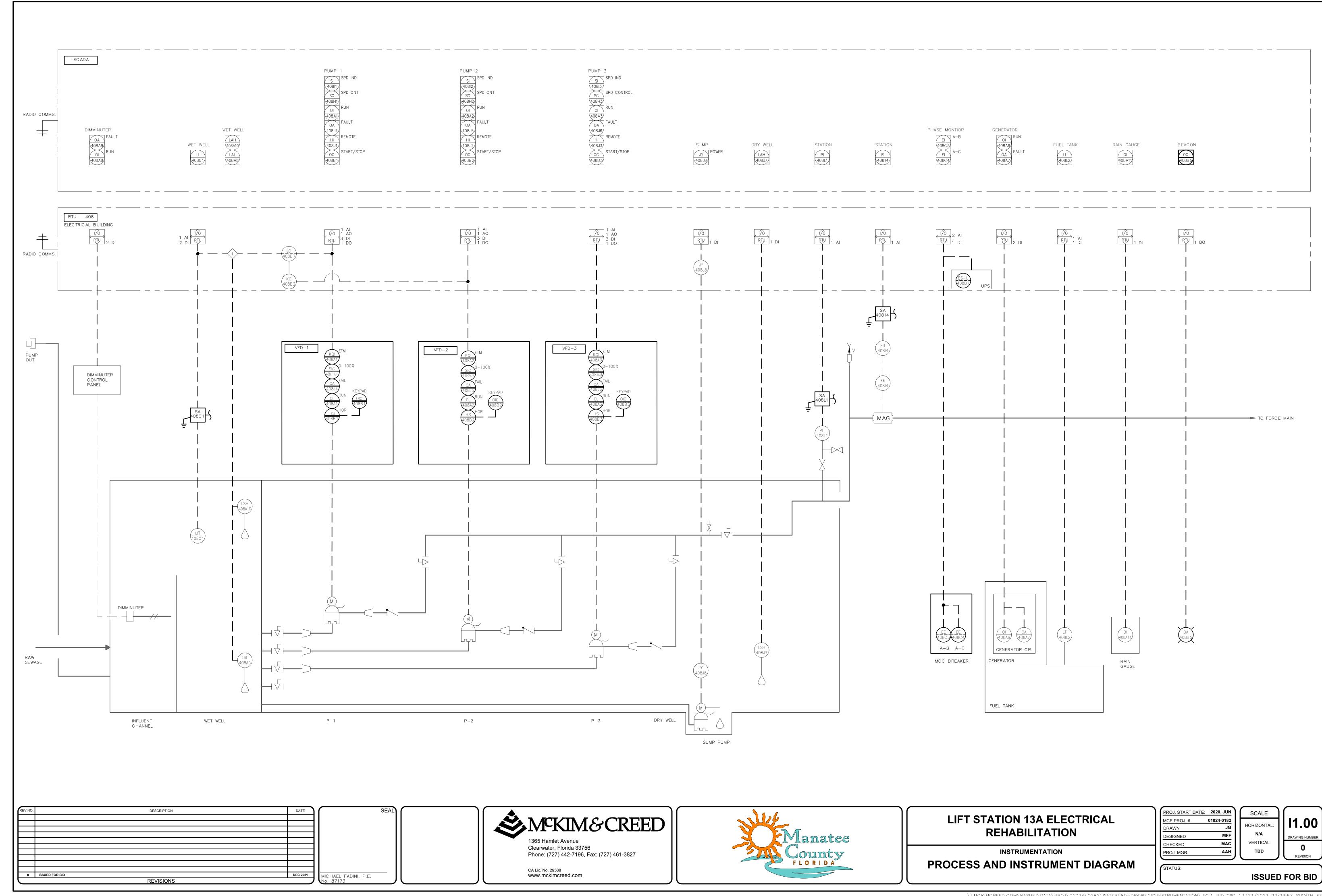




## LIFT STATION 13A ELECTRICAL REHABILITATION

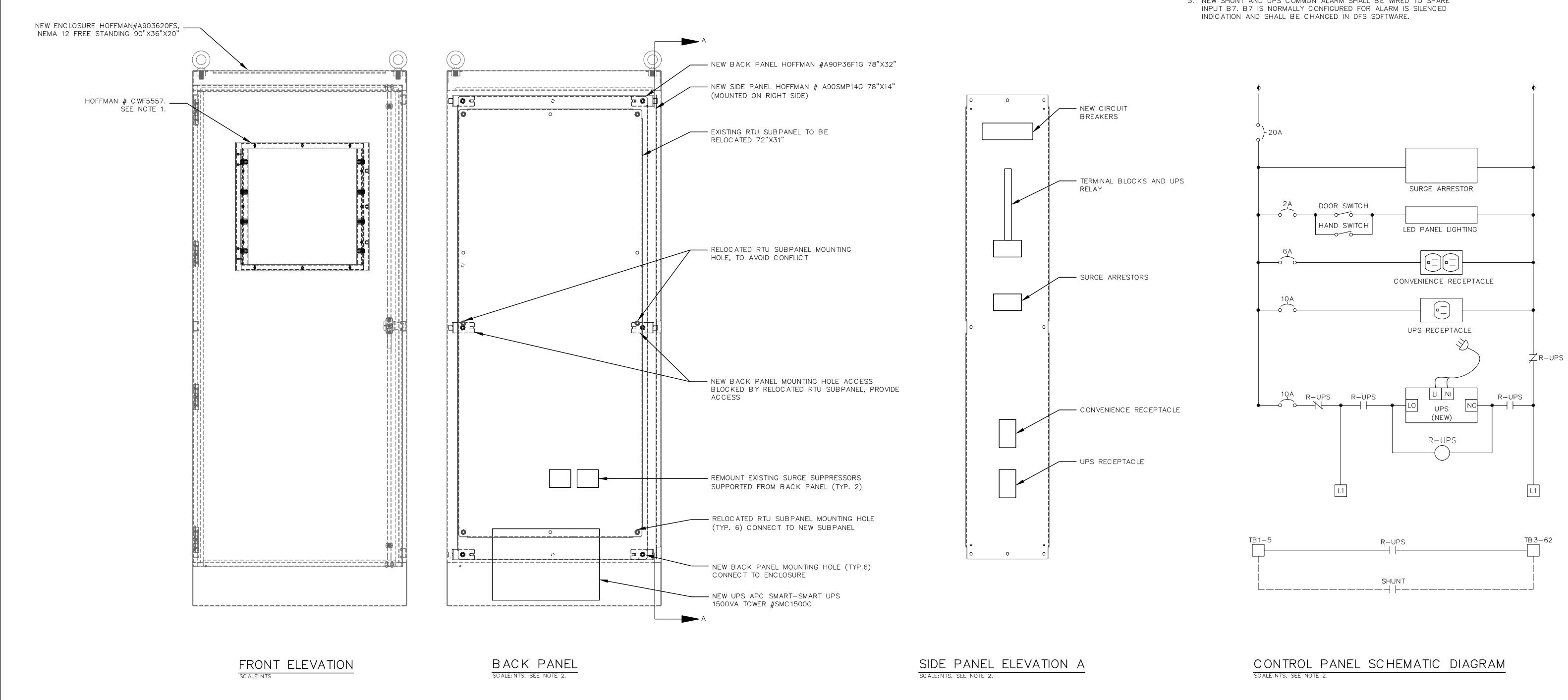
INSTRUMENTATION
INSTRUMENTATION SYMBOL SHEET 2

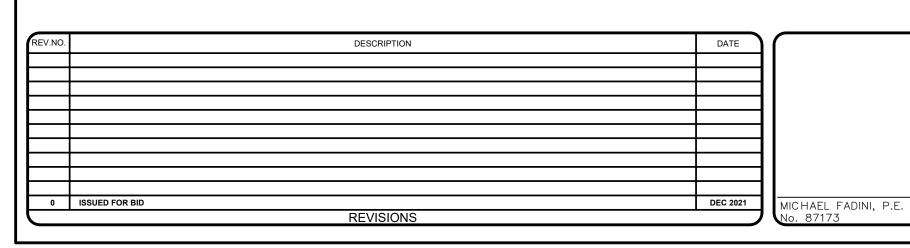
PROJ. START DA	TE: 2020. JUN	SCALE	
MCE PROJ. #	01024-0182		П
DRAWN	JG	HORIZONTAL:	
DESIGNED	MFF	N/A	
CHECKED	MAC	VERTICAL:	Г
PROJ. MGR.	AAH	TBD	



#### 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











INSTRUMENTATION **CONTROL PANEL** 

