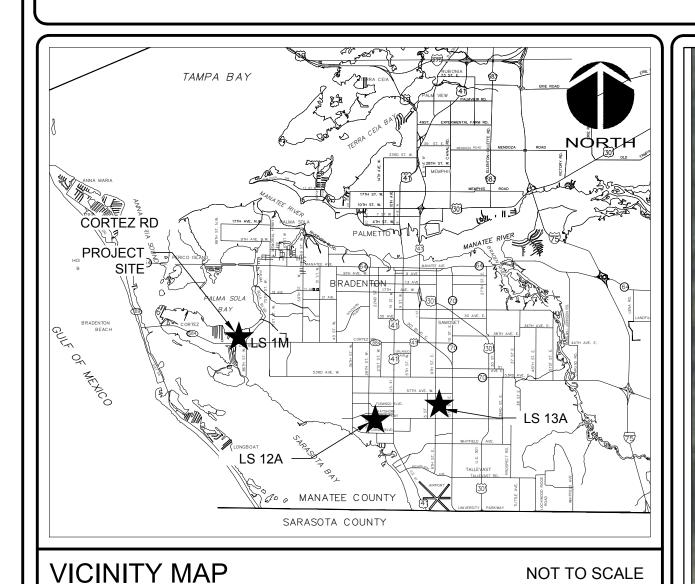
# LIFT STATION 1M ELECTRICAL REHABILITATION MANATEE COUNTY

PROJ. NO. 01024-0180 DECEMBER 13, 2021 ISSUED FOR BID



OWNER/DEVELOPER: 8720 44TH AVE WEST **BRADENTON FLORIDA** 34210 **EMAIL** 





GENERAL G0.02

M0.00

SITE MAP

MECHANICAL

CIVIL-MECHANICAL LEAD SHEET

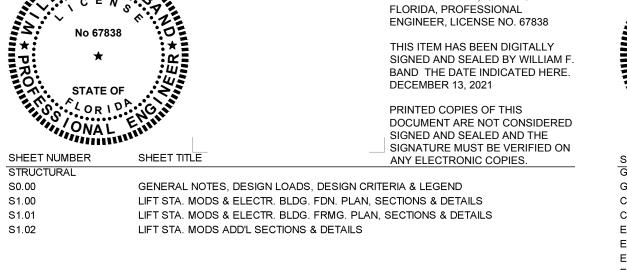
WETWELL INTAKE AND EXHAUST FAN REPLACEMENT

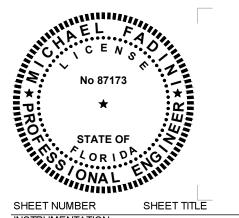
1365 Hamlet Avenue Clearwater, Florida 33756 Phone: (727) 442-7196, Fax: (727) 461-3827

CA Lic. No. 29588 www.mckimcreed.com

PROJECT INFORMATION







11.00

11.01

MITCHEL A. CHIAVAROLI, STATE OF

FLORIDA, PROFESSIONAL

A. CHIAVAROLI THE DATE

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INSTRUMENTATION INSTRUMENTATION SYMBOLS SHEET 1 10.00 10.01 INSTRUMENTATION SYMBOLS SHEET 2 PROCESS AND INSTRUMENT DIAGRAM

CONTROL PANEL

MICHAEL FADINI, STATE OF FLORIDA, PROFESSIONAL ENGINEER, LICENSE NO. 87173 THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY MICHAEL FADINI THE DATE INDICATED HERE. DECEMBER 13, 2021 PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

WILLIAM F. BAND, STATE OF

GENERAL NOTES G0.01 CIVIL: CIVIL SITE C0.00 ELECTRICAL SYMBOLS, ABBREVIATIONS AND NOTES E0.00 E0.01 SYMBOLS E0.02 SYMBOLS ELECTRICAL SITE PLAN POWER AND GROUND DEMOLITION PLAN E1.01 SINGLE LINE DIAGRAM E1.02 E1.06

E1.08

E1.09

PUMP BUILDING POWER PLAN ELECTRICAL BUILDING POWER PLAN ELECTRICAL BUILDING LAYOUT GROUNDING AND LIGHTNING PROTECTION PLAN MCB, ATS AND MCC ELEVATION LIGHTING PLAN ELECTRICAL INTERCONNECTION DIAGRAM PANELBOARD SCHEDULES ELECTRICAL CONTROLS SCHEMATICS

SHEET INDEX SCALE: 1" = 200'

AUBREY A. HAUDRICOURT, STATE

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Sheet Number	Sheet Title
GENERAL	
G0.00	COVER SHEET
G0.01	GENERAL NOTES
G0.02	CIVIL-MECHANICAL LEAD SHEET
CIVIL: CIVIL SITE	
C0.00	SITE PLAN
MECHANICAL	
M0.00	WETWELL INTAKE AND EXHAUST FAN REPLACEMENT
STRUCTURAL	
S0.00	GENERAL NOTES, DESIGN LOADS, DESIGN CRITERIA & LEGEND
S1.00	LIFT STA. MODS & ELECTR. BLDG. FDN. PLAN, SECTIONS & DETAILS
S1.01	LIFT STA. MODS & ELECTR. BLDG. FRMG. PLAN, SECTIONS & DETAIL:
S1.02	LIFT STA. MODS ADD'L SECTIONS & DETAILS
ELECTRICAL	
E0.00	SYMBOLS, ABBREVIATIONS AND NOTES
E0.01	SYMBOLS
E0.02	SYMBOLS
E1.00	ELECTRICAL SITE PLAN POWER AND GROUND
E1.01	DEMOLITION PLAN
E1.02	SINGLE LINE DIAGRAM
E1.03	PUMP BUILDING POWER PLAN
E1.04	ELECTRICAL BUILDING POWER PLAN
E1.05	ELECTRICAL BUILDING LAYOUT
E1.06	GROUNDING AND LIGHTNING PROTECTION PLAN
E1.07	MCB, ATS AND MCC ELEVATION
E1.08	LIGHTING PLAN
E1.09	ELECTRICAL INTERCONNECTION DIAGRAM
E1.10	PANELBOARD SCHEDULES
E1.11	DETAILS
E1.12	ELECTRICAL CONTROLS SCHEMATICS
INSTRUMENTATION	N
10.00	INSTRUMENTATION SYMBOLS SHEET 1
I0.01	INSTRUMENTATION SYMBOLS SHEET 2
I1.00	PROCESS AND INSTRUMENT DIAGRAM

CONTROL PANEL



#### **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. 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

8. ALL PROPOSED WORK SHALL BE COORDINATED WITH MANATEE COUNTY UTILITIES DEPARTMENT AT LEAST

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

10. WATER SHALL NOT BE PERMITTED IN EXCAVATIONS AND TRENCHES DURING CONSTRUCTION. DEWATERING

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

12. ALL EXPOSED NEW PIPING SHALL BE PAINTED WITH DESIGNATED COLORS ASSOCIATED WITH THEIR USAGE

CONTRACTOR TO THE PLANT DRAIN PUMP STATION AT THE WASTEWATER TREATMENT PLANT.

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

CONTRACTOR WITHOUT APPROVED RED-LINE DRAWINGS.

TWO WEEKS IN ADVANCE OF PROPOSED CONSTRUCTION.

FLANGED JOINTS. ALL JOINTS SHALL BE FULLY RESTRAINED.

AS PROVIDED IN THE SPECIFICATIONS.

TESTING.

IS REQUIRED TO A MINIMUM OF 18" BELOW BOTTOM OF EXCAVATION.

#### 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.
- 6. 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 EXPENSE.

#### AS NEEDED NOTES

REVISIONS No. 66861			\\MCKIMCREED.COM\NASUNI\DATA\PROJ\01024\0180\WATER\80-	DRAWINGS\GENERAL\GENERAL NOTES.DWG 12/13/2021 11:22:52 SUVATH SI
DESCRIPTION  DESCRIPTION  DESCRIPTION  DEC 2021  AUBREY A. HAUDRICOURT, P.E.  No. 66861	1365 Hamlet Avenue Clearwater, Florida 33756 Phone: (727) 442-7196, Fax: (727) 461-3827  CA Lic. No. 29588 www.mckimcreed.com	Manatee County FLORIDA	LIFT STATION 1M ELECTRICAL REHABILITATION  GENERAL GENERAL NOTES	PROJ. START DATE: 2020. JUN MCE PROJ. # 01024-0180 DRAWN JG DESIGNED AAH CHECKED MAC PROJ. MGR. AAH  STATUS:  SCALE HORIZONTAL: TBD VERTICAL: TBD ORAWING NUMBER  ORAWING NUMBER  ISSUED FOR BID
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.				
<ul> <li>6. NO EXCAVATION SHALL EXTEND BELOW THE DEPTHS/ELEVATIONS SHOWN ON THE DRAWINGS OR IN THE SPECIFICATIONS WITHOUT PRIOR APPROVAL.</li> <li>7. 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</li> </ul>				
<ol> <li>INLET PROTECTION SHALL BE PLACED AT ALL INLETS IN OR ADJACENT TO THE PROJECT AREA.</li> <li>AS SOON AS PRACTICAL, ALL DRESSED SLOPES AND DISTURBED AREAS SHALL BE SODDED OR SEEDED AND MULCHED TO PREVENT EROSION.</li> </ol>				
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.				
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.				
6. SOIL EROSION & SEDIMENTATION CONTROL NOTES:  1. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE START OF				
CONSTRUCTION PLANS.  5. CONTRACTOR SHALL RESTORE GRADE PRECONSTRUCTION ELEVATIONS UNLESS OTHERWISE NOTED.				
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				
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				
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				
RESTORATION AND MISCELLANEOUS NOTES:  1. THE CONTRACTOR SHALL PROVIDE AN ASPHALT PATCH FOR TRENCH AREAS CONSTRUCTED IN EXISTING				
<ul> <li>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.</li> <li>19. ALL WORK, EQUIPMENT AND MATERIALS SHALL MEET OR EXCEED CURRENT MANATEE COUNTY STANDARDS, UNLESS OTHERWISE STATED IN CONTRACT DOCUMENTS.</li> </ul>				
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.				
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.				
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.				
14. ALL CONCRETE THRUST BLOCKS INSTALLED FOR TESTING PURPOSES AND NOT REQUIRED FOR THE				

#### **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 P, EOP 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 FLEXIBLE 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 WATER LEVEL INVERT ELEVATION IRON POST FOUND JUNCTION BOX LINEAR FEET LIMITS OF DISTURBANCE LOW POINT LONG RADIUS LANDSC APE AREA LOW WATER LEVEL MAXIMUM MANHOLE MINIMUM MECHANICAL JOINT MOTOR OPERATED VALVE NORMALLY CLOSED NORMALLY OPEN NOT IN CONTRACT NORMAL WATER LEVEL OVER HEAD ELECTRIC OVERFLOW OVER HEAD UTILITIES PLAIN END POST INDICATOR VALVE PRESSURE REDUCING VALVE POLYTETRAFLUOROETHYLENE PLUG VALVE POLY VINYL CHLORIDE POTABLE WATER REINFORCED CONCRETE PIPE PER RECORD REDUCER DESCRIPTION

1   1	ABBREVIATIONS CONTINUED
RFC A	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
ТВМ	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
ΥI	YARD INLET

DESCRIPTION	LINETYPE
UNDERGROUND CABLE TV	
	— — TV(R) —
UNDERGROUND ELECTRIC -	— — — E— -
PER RECORD UNDERGROUND ELECTRIC	— — E(R) —
UDERGROUND FIBER OPTIC	— — FO—
	— — FO(R)—
SANITARY SEWER FORCEMAIN	— — FM—
	— — FM(R)—
UNDERGROUND GAS	— — G— -
	— — G(R)—
OVER HEAD UTILITIES	OU
RECLAIMED WATER LINE	— — R— -
PER RECORD RECLAIMED WATER LINE GRAVITY SANITARY SEWER	R(R)-
	— — — SS— · — — — SS(R)—
STORM DRAINAGE	33(R) _
UNDERGROUND TELEPHONE	T
	— — T(R) —
	— — — II— -
WATER LINE .	— — — 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	10050
100 YEAR FLOODPLAIN  DITCH &	——···—100FP—·
MAJOR CONTOUR	
MINOR CONTOUR	
RIPARIAN BUFFER ZONE 1	— — — Z1 — ·
RIPARIAN BUFFER ZONE 2	$  \overline{Z2}$
TOP OF BANK	
TREELINE	
WATERCOURSE &	· ·
WETLAND BOUNDARY	

EXISTING LINE LEGEND

2 EXISTING SYMBOL	LEGEND
DESC RIPTION	SYMBOL
11.25° HORIZONTAL BEND	$\vdash$
22.50° HORIZONTAL BEND	<del> </del>
45° HORIZONTAL BEND	
90° HORIZONTAL BEND	
AC UNIT	ĀŪ
BENCH MARK	•
	<u> </u>
TEMP. BENCH MARK	<del>+</del>
BLOW OFF VALVE	Mo a B o
BOLLARD TEST BORE HOLE LOCATION	∘80 <b>⊕</b> B−#
TEST BORE HOLE LOCATION	
CABLE TV PEDISTAL	
CATCH BASIN	
CLEAN OUT	COO
CONCRETE MONUMENT FOUND	□ C MF
CONTROL POINT	<u>A</u>
CROSS	<u> </u>
CURB INLET	
ELECTRIC BOX	E
ELEC TRIC MANHOLE	E
END OF INFORMATION	•
FLAG POLE	O FP
GAS METER	GM()
GUY POLE	-•
GUY WIRE	$\land$
HANDHOLE	HH
HYDRANT	
IRON POST FOUND	o IPF
IRON ROD FOUND	O IPF
LIGHT POLE	0 LP
MAIL BOX	MB□
MONITOR WELL	×
POWER POLE	OPP
WATER MANHOLE	W
PK FOUND	OPKF
RAIL ROAD SPIKE	o RRSPIKE
SANITARY SEWER MANHOLE	S
SHRUB	9
SIGN	
STORM DRAIN MANHOLE	D
TAPPING SLEEVE AND VALVE	X
TEE	
TELEPHONE MANHOLE	(T)
TELEPHONE PEDESTAL	
TRAFFIC SIGNAL BOX	
TRANSFORMER	
DECIDUOUS TREE	
PINE TREE	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
UTILITY POLE	
	$\square$
VALVE WATER METER	□ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
WATER WELL	
YARD HYDRANT	Ö

# II 4 I PROPOSED SYMBOL LEGENI

DESCRIPTION	SYMBOL
11.25° HORIZONTAL BEND	Н
22.50° HORIZONTAL BEND	7
45° HORIZONTAL BEND	4
90° HORIZONTAL BEND	4
VERTICAL BEND	II
AIR RELEASE VALVE	A
VALVE	H
BLOWOFF VALVE	<b>H•</b>
HYDRANT	<b>~</b>
YARD HYDRANT	Q
CROSS	毌
TEE	凸
TAPPING SLEEVE AND VALVE	墨
REDUCER	<b>•</b>
C AP/PLUG	_
POTABLE WATER SERVICE METER	W
RECLAIMED WATER SERVICE METER	R
EXISTING UTILITY SERVICE RECONNECTION	_
CONCENTRIC SANITARY SEWER MANHOLE	
ECCENTRIC SANITARY SEWER MANHOLE	9
FLAT TOP SANITARY SEWER MANHOLE	<u> </u>
CLEAN OUT	<b>(+)</b>
ARC FILTER	<i>8</i> <sup>22</sup> %
CHECK DAM	
INLET PROTECTION	
PIPE INLET PROTECTION	
SILT FENCE OUTLET	
WATTLE	$\Theta$

#### | PROPOSED LINE LEGEND **DESCRIPTION** LINETYPE PERMANENT EASEMENT \_\_\_\_\_ TEMPORARY EASEMENT SANITARY SEWER FORCE MAIN RECLAIMED WATER LINE GRAVITY SANITARY SEWER WATER LINE TO BE ABANDONED . /. /. /. /. /. /. /. /. DIVERSION DITCH LIMITS OF DISTURBANCE/CLEARING LIMITS COMBINATION SILT FENCE/TREE PROTECTION | TEMPORARY SILT FENCE \_\_\_\_\_SF\_\_\_\_ TEMPORARY SUPER SILT FENCE TEMPORARY TREE PROTECTION FENCE COMPOST SOCK PERMANENT FENCE GUARD RAIL

Α	PROCESS AIR
ALUM	WTP ALUM SLUDGE
ALUM	ACTIVATED SLUDGE
	B ACKWASH
BW	= 1.13 1.1.1.1.1.2.1
B WD	BACKWASH DRAIN
B WS	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
NRC Y	NITRIFIED REC YCLE
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

PROFILE LINE LEGEND

PROCESS ABBREVIATIONS

\_\_\_\_\_

V V V

+ + + + + + +

+ + + + + + +

+ + + + + + + +

V V V

**DESCRIPTION** 

EXISTING GRADE PAVEMENT PROFILE

AREA LEGEND

WETLANDS

RIP-RAP

TEMP. SLOPE STABILIZATION

STRAW WITH NET LINER

9 MECHAN	NICAL SYMBOLS	
VALVE SYMBOL	DESCRIPTION	
H	BUTTERFLY VALVE	
	CHECK VALVE	
	GATE VALVE	
	PLUG VALVE	
	BALL VALVE	
	GLOBE VALVE	

#### GENERAL NOTES

#### **GENERAL NOTES:**

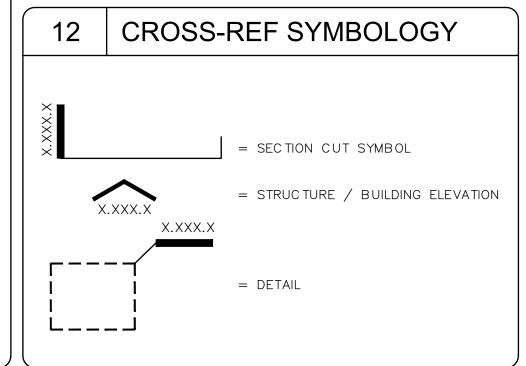
- 1. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL LAYOUTS, DIMENSIONS AND ELEVATIONS ON THE PLANS WITH FINAL APPROVED EQUIPMENT DRAWINGS AS WELL AS ALL TECHNICAL SPECIFICATIONS PRIOR TO STARTING CONSTRUCTION AND SHOULD DISCREPANCIES OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO OBTAIN THE ENGINEERS CLARIFICATION BEFORE COMMENCING WITH CONSTRUCTION.
- 2. THE CONTRACTOR SHALL COORDINATE ALL RELATED DISCIPLINE DRAWINGS TO ENSURE ACCURATE INSTALLATION OCCURS, 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.
- 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.

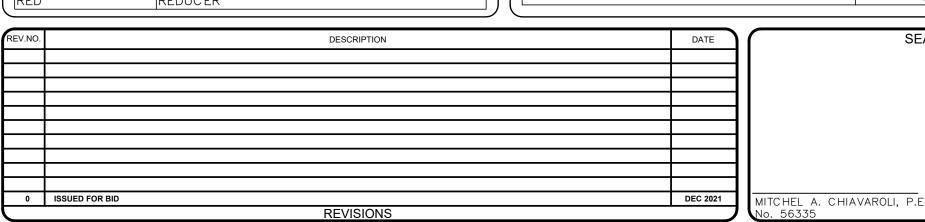
#### **EXISTING UTILITIES:**

- 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.

#### 11 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
RAS/WAS	WASTE/RETURN ACTIVATED SLUDGE	RESTRAINED DUCTILE IRON	RESTRAIN ENTIRE NETWORK







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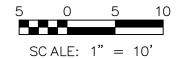
LIFT STATION 1M ELECTRICAL	
REHABILITATION	

**GENERAL CIVIL-MECHANICAL LEAD SHEET** 

PROJ. START DATE:	2020. JUN	SCALE
MCE PROJ. #	01024-0180	
DRAWN	JG	HORIZONTAL
DESIGNED	ААН	N/A
CHECKED	MAC	VERTICAL:
PROJ. MGR.	AAH	N/A

REVISION





SITE CONTROL

DESIGNATION NORTHING EASTING ELEVATION **DESCRIPTION** CP #10 1137677.56 444951.05 IR (LB 7203) CP #11 1137601.39 444884.66 ND (LB 7203)

#### LEGEND

PARCEL IDENTIFICATION RIGHT OF WAY NAIL W/ DISC STATE ROAD ELEVATION FFE FINISHED FLOOR ELEVATION UNKN UNKNOWN 

PALM

CONTROL POINT

← GUY WIRE

SEWER VALVE ₩ATER VALVE

SANITARY MANHOLE

🗘 LIGHT POLE

⊙ BOLLARD

AIR RELEASE VALVE

O UTILITY RISER

**⋈o** BLOW OFF

UTILITY BOX

□ OUTLET

SPIGOT

ANTENNA

PID 7500600007 SET BACK LINE TO PARCEL ---CHAINLINK — FENCE PID 7500610006 ELEVATED CONCRETE BLOCK STRUCTURE E 5.43' ROOF EL 15.6' ≻ CHAINLINK TRANSFORMER -PARCEL LINE -(TYP) PID 7501000059 ET BACK LINE TO PARCEL -AREA OF PARKING × 5.4 SE 24" -9.80' W 24" -10.39' WATER METER SIDEWALK SIDEWALK CONCRETE APRON CONCRETE APRON /4.88 4.68

> CORTEZ ROAD - SR 684 ASPHALT ROADWAY - WESTBOUND LANES

E 18" -8.75'

SITE PLAN SC ALE: 1"=10'-0"

#### GENERAL NOTES

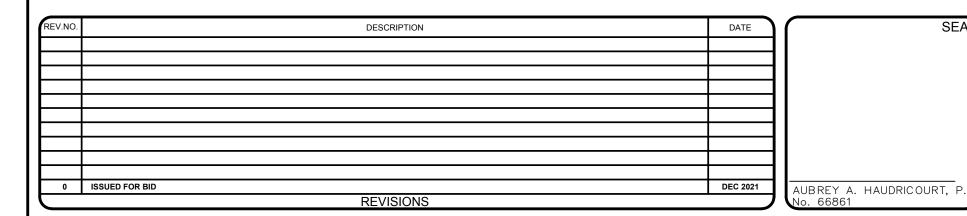
- 1. THE FOLLOWING MANATEE COUNTY VERTICAL CONTROL MONUMENT WAS RECOVERED AND UTILIZED FOR THE ELEVATIONS INDICATED HEREON: "BREVARD" NAVD 1988 ELEVATION 20.00"
- 2. THIS SURVEY IS REFERENCED TO A GRID PROJECTION OF THE FLORIDA STATE PLANE COORDINATE SYSTEM (WEST ZONE NAD 1983/2011 ADJUSTMENT).
- 3. 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.

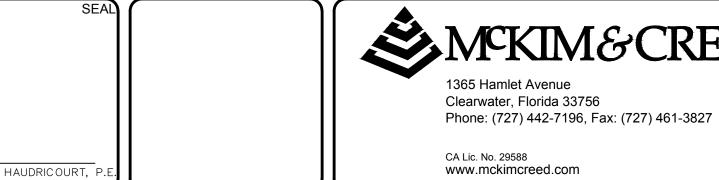
5. THIS SURVEY DRAWING WAS PREPARED FOR THE EXCLUSIVE USE OF THE PARTY OR PARTIES CERTIFIED TO BELOW FOR THE EXPRESS PURPOSE STATED HEREON AND/OR CONTAINED IN THE CONTRACT BETWEEN HYATT SURVEY SERVICES, INC. AND THE CLIENT FOR THIS PROJECT. COPYING, DISTRIBUTING AND/OR USING THIS DRAWING, IN WHOLE OR 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.

GRATE

S 18" RCP -2.25'

4.52

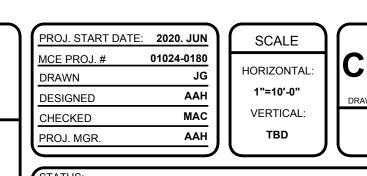






#### LIFT STATION 1M ELECTRICAL **REHABILITATION**

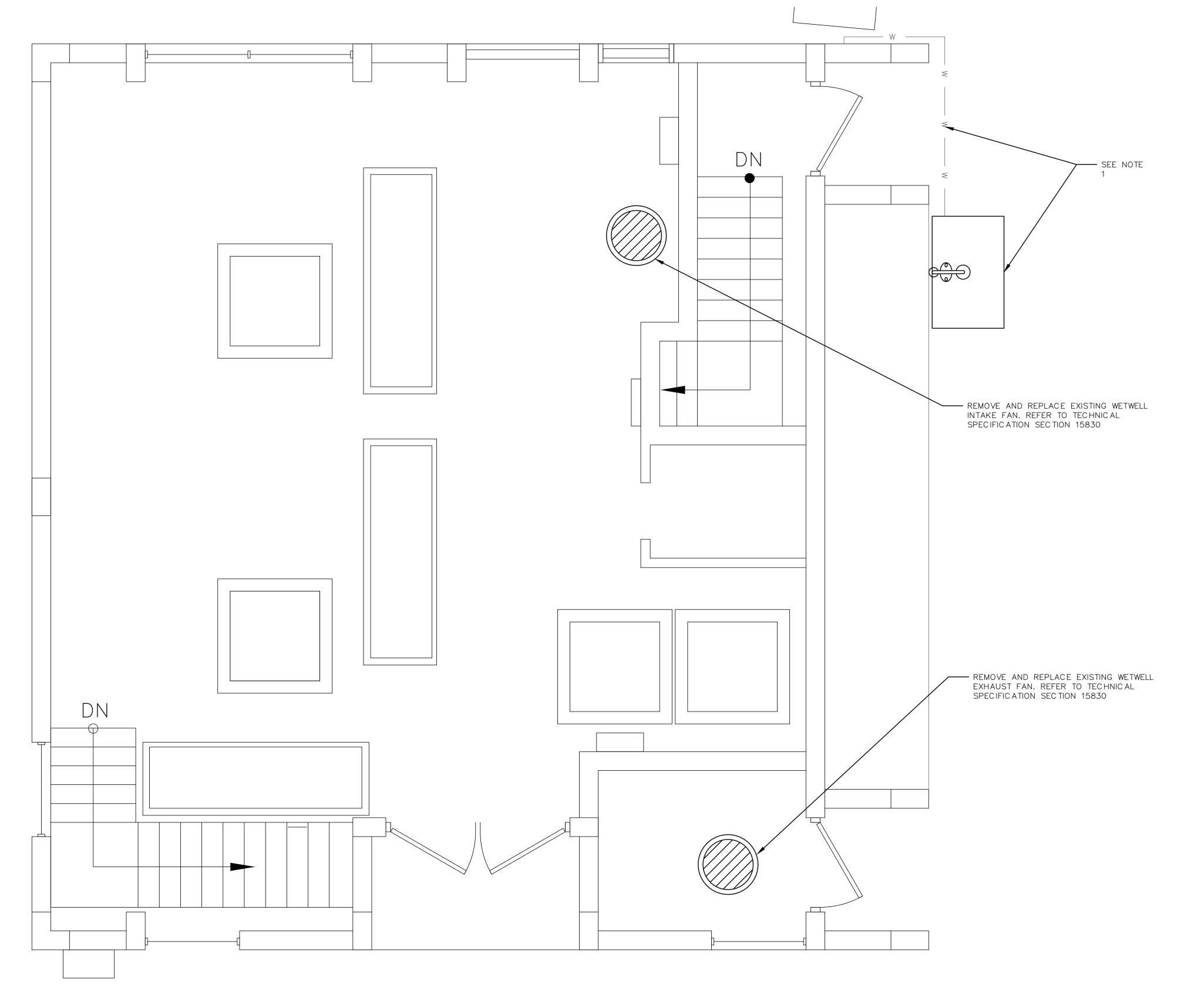
**CIVIL SITE** SITE PLAN



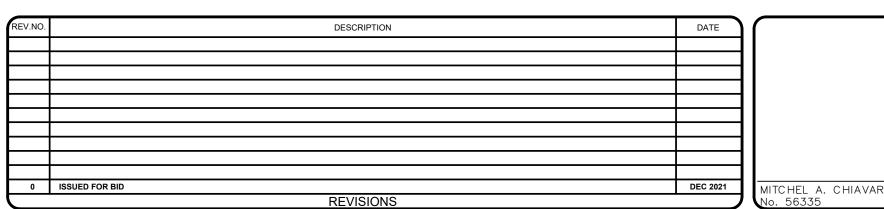


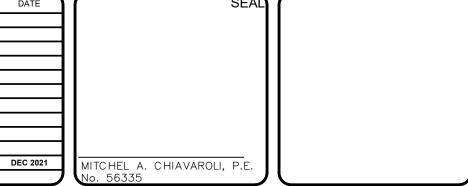


- EXTEND WATER LINE UNDERGROUND WITH NEW SHUTOFF VALVE TO NEW LOCATION. PROVIDE NEW 3'X4' CONCRETE PAD UNDER NEW EYEWASH/SHOWER. ALL EXPOSED PIPING TO BE GALVANIZED.
- CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE ROOFING SYSTEM RESULTING FROM REMOVING AND REPLACING THE INTAKE AND EXHAUST FANS.



PARTIAL FLOOR PLAN
SCALE: 1/2"=1'-0"









## LIFT STATION 1M ELECTRICAL REHABILITATION

MECHANICAL

WETWELL INTAKE AND EXHAUST FAN REPLACEMENT

2020. JUN	PROJ. START DATE:
01024-0180	MCE PROJ. #
CW	DRAWN
DC	DESIGNED
MAC	CHECKED

SCALE

HORIZONTAL:

1/2"=1'-0"

VERTICAL:

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 AND ELECTRICAL 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 AND ELECTRICAL 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 A SECTION III - SEWAGE LIFT STATIONS" BY RUSSELL & AXON, CONSULTING ENGINEERS, INC. (DTD. DECEMBER 1971).

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 208565, DTD. OCTOBER 8, 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 DRIGGÉRS ENGINEERING SERVICES, INC. (PROJECT NO. DES 208565, DTD. OCTOBER 8, 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 FNGINFFR.

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 208565, DTD. OCTOBER 8, 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.

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

#### 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".

#### CONCRETE

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 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.

#### 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" APPROVAL OF THE MANUFACTURER'S DRAWINGS AND CALCULATIONS SUBMITTALS.

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

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

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

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

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

C.I.P. = CAST-IN-PLACECLR. = CLEARCMU = CONC. MAS. UNIT C.O. = CLEAN OUT

COL. = COLUMNCONC. = CONCRETE CONN. = CONNECTION

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

CTR. = CENTERCTR'D. = CENTERED DBL. = DOUBLE DIR. = DIRECTION DWG. = DRAWING

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

EQUIP. = EQUIPMEN EXIST. = EXISTINGEXP. = EXPANSION FLG. = FLANGEFDN. = FOUNDATION

F.S. = FAR SIDE

FT. = FEETFTG. = FOOTINGGA. = GAGEGALV. = GALVANIZED GALV'D = GALVANIZED

HORZ. = HORIZONTAL H.P. = HIGH POINTHRS. = HOURS I/F = INSIDE FACE

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

INFO. = INFORMATION

LCS = LIQUID CONTAINMENT STRUCTURES LLH = LONG LEG HORIZONTAL LLV = LONG LEG VERTICAL L.P. = LOW POINT

LSL = LONG SLOTTED MAS. = MASONRY MAT'L. = MATERIA MFG. = MANUFACTURER

= MINIMUM MIN. MTI. = MFTAI NOM. = NOMINA N/A = NOT APPLICABLENA = NOT APPLICABLE

N.S. = NEAR SIDEN.T.S. = NOT TO SCALEO.C. = ON CENTER

O/F = OUTSIDE FACEO/H = OVERHANG= OUT TO OUT OPNG. = OPENING OPP. = 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 SLOTTED STD. = STANDARD STL. = STEEL T&B = TOP & BOTTOMT/D = TURN DOWN

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

VERT. = VERTICAL

W.P. = WORK POINT

TYP. = TYPICALU.N.O. = UNLESS NOTED OTHERWISE XB = CROSS OR "X"-BRACE

### **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 & PLATFORMS) LIVE LOAD: ROOF LOAD: 65 PSF (ELECTRICAL BLDG.)

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

CALCULATED WIND BASE SHEARS:

Vx = 13.9 k & Vy = 4.9 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 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)NON-LCS FOOTINGS & PIERS f'c = 4,000 PSIBELOW 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 STRUCTURAL STEEL: REF. STRUCTURAL NOTE 8.1 REF. STRUCTURAL NOTE 9.2 (N/A) ALUMINUM: BOLTS SHALL BE 3/4"ø ASTM A325 OR REF. STRUCTURAL NOTE 8.3 TYPE 316 S.S.: ANCHOR BOLTS SHALL BE 3/4" Ø ASTM F-1554 OR ASTM A36 (STEEL); TYPE 316 S.S. (ALUMINUM): REF. STRUCTURAL NOTE 8.8 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, DETAIL (EXISTING) CONC. MASONRY BLOCK (EXISTING) BRICK VENEER (EXISTING) CONC. WALL. SLAB. ETC. . . . . . . (EXISTING) GRATING (EXISTING) X-SY.YY DETAIL OR SECTION NO./SHEET NO. REFERENCE

PROJECT NORTH

**ELEVATION DATUM** ELEVATION NO./SHEET NO.

REFERENCE

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

STEP IN FOOTING ELEVATION

STL. FRAMING COL./BM. MOMENT CONNECTIÓN

ROJ. START DATE: 2020. JUN 01024-0180 DAR / WFB WFB / AEA

SCALE HORIZONTAL: VERTICAL:

**ISSUED FOR BID** 

0 ISSUED FOR BID WILLIAM F. BAND, P.E. REVISIONS 67838

DESCRIPTION



MCKIM& CREED

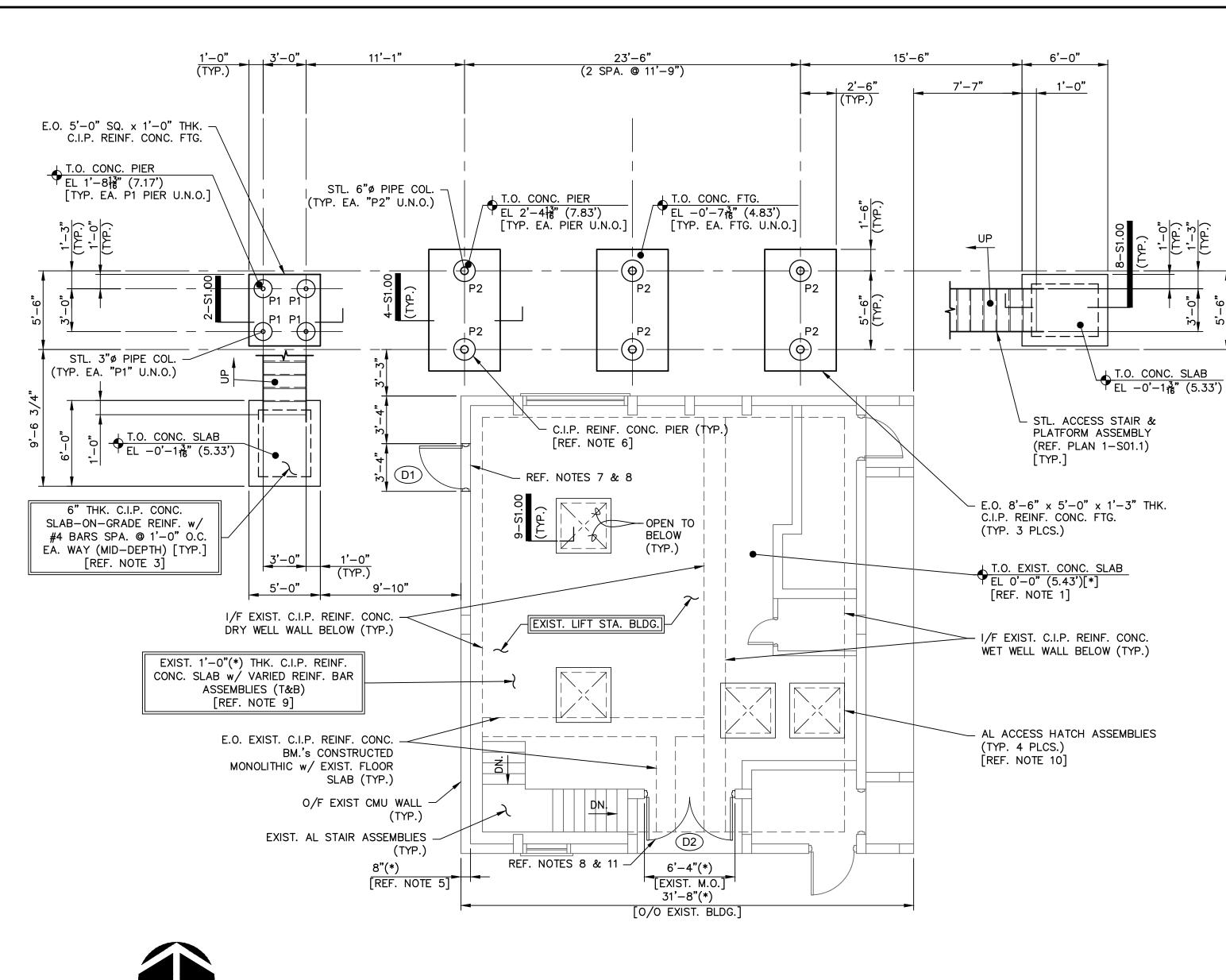
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#### **LIFT STATION 1M ELECTRICAL** REHABILITATION

GENERAL NOTES, DESIGN LOADS, **DESIGN CRITERIA & LEGEND** 

ROJ. MGR.





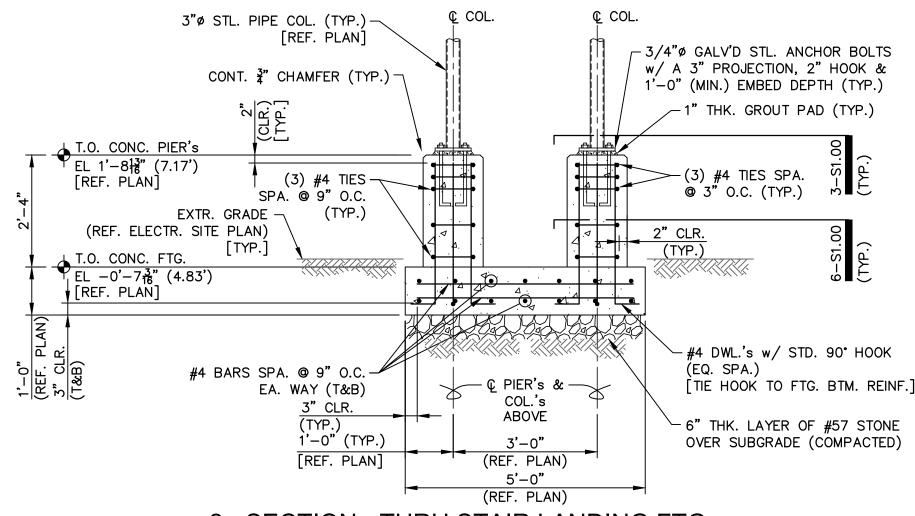
- PLAN - EXIST. LIFT STATION MODS & ELECTRICAL BLDG. FOUNDATION LAYOUT

SCALE: 3/16" = 1'-0"

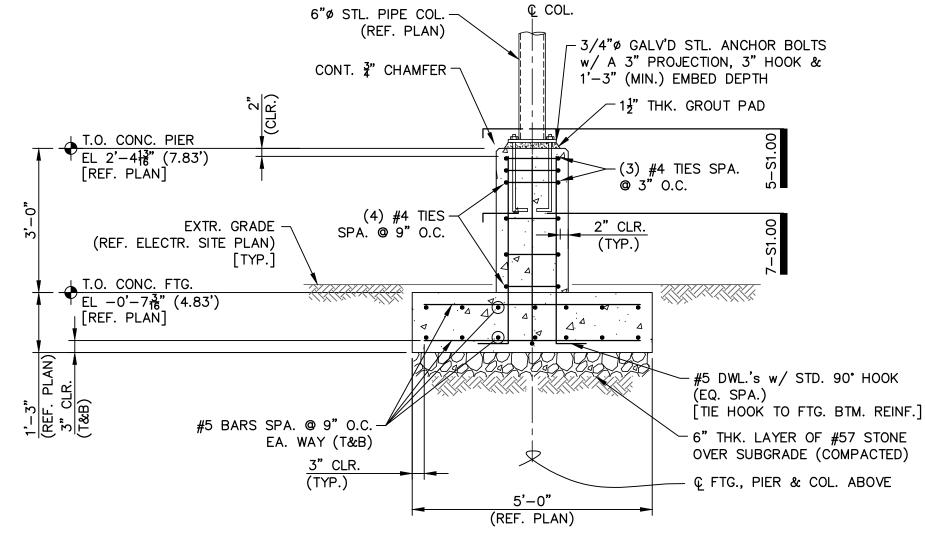
#### FOUNDATION PLAN NOTES:

- 1. REFERENCE ELEVATION FOR THE ELECTRICAL BUILDING ADDITION AT THE EXISTING LIFT STATION FACILITY IS THE EXISTING LIFT STATION BLDG.'s OPERATING FLOOR LEVEL TOP SLAB T.O. CONC. EL 0'-0" = EL 5'-5 $\frac{3}{16}$ " (5.43'). CONTRACTOR SHALL VERIFY VERTICAL DATUM INDICATED EQUALS N.A.V.D.-88. REFERENCE ELECTRICAL SITE PLAN DRAWINGS FOR ADDITIONAL INFORMATION.
- 2. GRADE ELEVATION AROUND THIS STRUCTURE IS  $5.00'(\pm)[*]$ . REFERENCE ELECTRICAL SITE
- PLAN DRAWINGS FOR ADDITIONAL INFORMATION. 3. PREPARE SUBGRADE FOR THIS FACILITY PER "FOUNDATIONS" STRUCTURAL GENERAL
- NOTES 3.1, 3.2 & 3.6 ON DWG. S00.0. 4. EQUIPMENT LAYOUTS ARE SHOWN FOR GENERAL INFO ONLY. REFERENCE ELECTRICAL & EQUIPMENT VENDOR DRAWINGS FOR LOCATIONS & INFO REGARDING SLAB & WALL
- PENETRATIONS AND PIPING, CONDUIT & MISCELLANEOUS EQUIPMENT LAYOUTS EITHER SHOWN OR NOT SHOWN. 5. RECORD DWG.'s REVIEWED AND FIELD DIMENSIONS ON SITE APPEARED TO INDICATE THE
- NOMINAL WALL THICKNESS INDICATED. 6. REGARDING C.I.P. REINFORCED CONCRETE PIER ASSEMBLY'S NOTE THE FOLLOWING:
- a.) P1 = 1'-3''ø CONCRETE SECTIONS. b.)  $P2 = 1'-6'' \phi$  CONCRETE SECTIONS. 7. SAW-CUT EXIST. CMU WALL & EXISTING ELECTRICAL GEAR HOUSEKEEPING PAD FOR
- DOOR & FRAME AND LINTEL BEAM ASSEMBLY'S. REFERENCE SECTIONS & DETAILS FOR ADDITIONAL INFORMATION.
- 8. "(DX)" SYMBOL ON PLANS REFERS TO DOOR ASSEMBLY MARK NUMBERS. DOOR ASSEMBLY'S SHALL INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
- a.) MATERIALS = STEEL HOLLOW CORE PANEL & STEEL FRAME ASSEMBLY w/
- b.) ACCESSORIES FOR DOORS SHALL INCLUDE WINDOW PANES, DOOR LEVERS, CLOSER, CYLINDER & DEADBOLT LOCKS, PANIC HARDWARE, SILENCER, KICK PLATE &
- c.) COLOR TO MATCH EXISTING DOORS.
- d.) REFERENCE DOOR DWG. SCHEDULE & DETAILS AND PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.

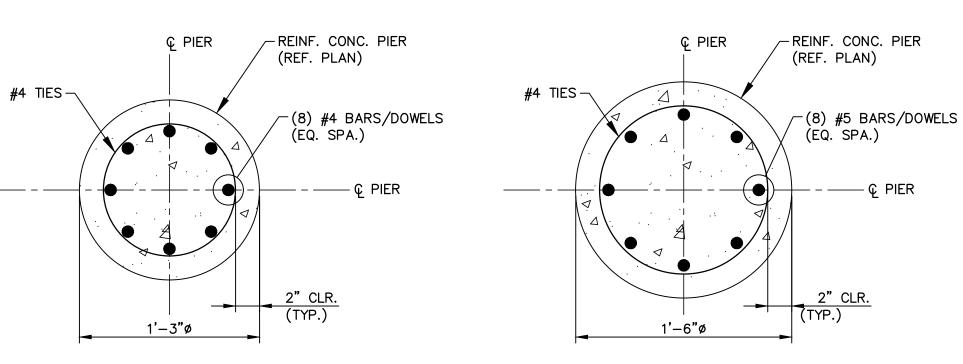
- 9. RECORD DRAWING'S REVIEWED INDICATED VARIED REINFORCING ASSEMBLIES. NOTE THE FOLLOWING:
  - a.) IN GENERAL BTM. REINF. = #6, #8 AND/OR #9 BARS SPA. @ 1'-0"(\*) O.C. DEPENDING UPON LOCATION & DIRECTION OF SPAN.
  - b.) IN GENERAL TOP REINF. = #6, #7 AND/OR #8 BARS SPA. @ 1'-0"(\*) O.C.
  - DEPENDING UPON LOCATION & DIRECTION OF SPAN. c.) ADDITIONAL #6 BARS AROUND PERIMETER OF DRY WELL HATCH OPENING's.
- d.) ADDITIONAL #8 BARS AROUND PERIMETER OF WET WELL HATCH OPENING's. 10. ACCESS HATCH MODIFICATIONS IN GENERAL INCLUDES REMOVAL OF THE EXISTING HATCH COVERS & INSTALLATION OF NEW ALUMINUM CHECKERED PLATE ACCESS HATCH ASSEMBLIES. REGARDING NEW HATCH ASSEMBLIES NOTE THE FOLLOWING:
- a.) COVERS SHALL BE FLUSH MOUNTED w/ THE EXISTING T.O. CONC. SLABS. b.) COVERS OVER WET WELL OPNG.'s SHALL BE HINGED ASSEMBLIES.
- c.) COVERS OVER DRY WELL OPNG.'s SHALL BE REMOVABLE ASSEMBLIES.
- 11. MODIFICATION OF THE EXISTING FRONT DOOR ASSEMBLY INCLUDES REMOVING THE EXISTING FRONT OF BUILDING STEEL DOUBLE LEAF DOORS, FRAME & GLASS TRANSOM, FOLLOWED BY INSTALLATION OF NEW DOOR & FRAME ASSEMBLY. REFERENCE SECTIONS & DETAILS FOR ADDITIONAL INFORMATION.
- 12. REFERENCE DWG. S0.00 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN CRITERIA AND LEGEND.



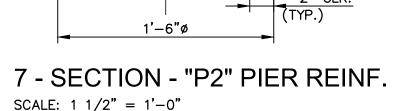
#### 2 - SECTION - THRU STAIR LANDING FTG. SCALE: 1/2" = 1'-0"

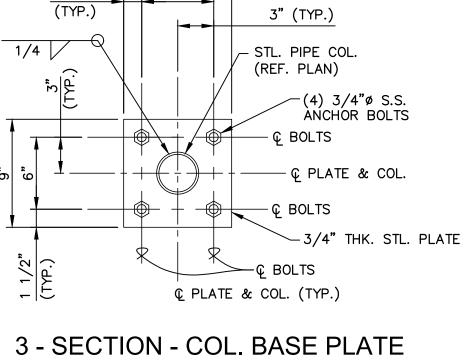


4 - SECTION - THRU ELECTR. BLDG. FTG. SCALE: 1/2" = 1'-0"

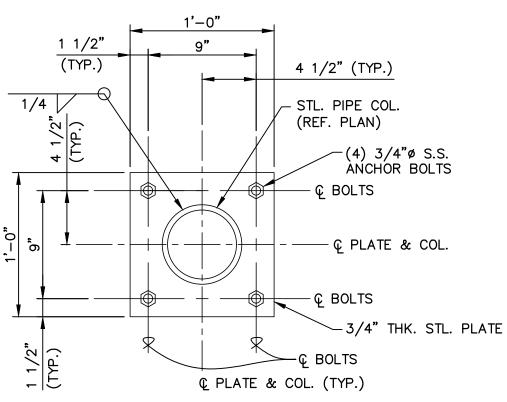


6 - SECTION - "P1" PIER REINF. SCALE:  $1 \frac{1}{2} = 1'-0"$ 

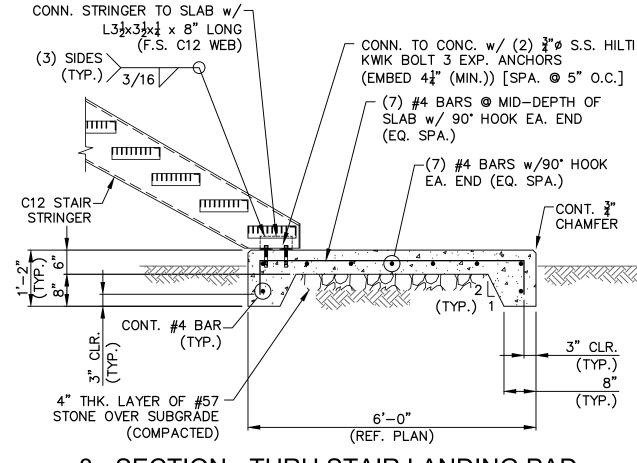




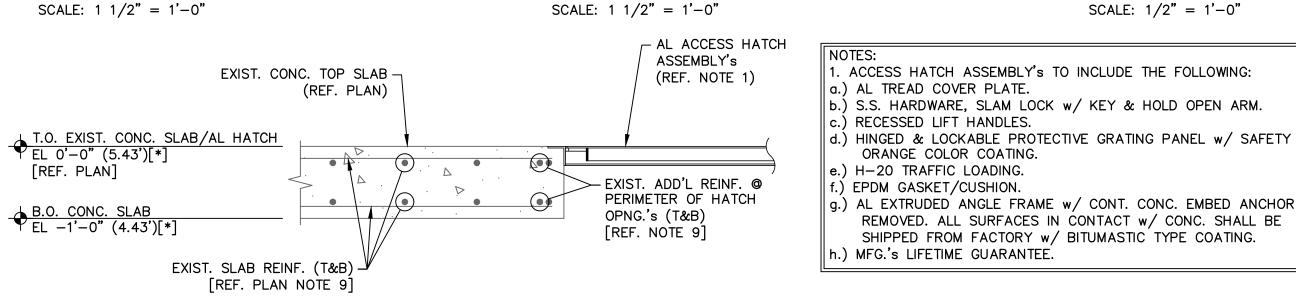
SCALE:  $1 \frac{1}{2} = 1'-0"$ 



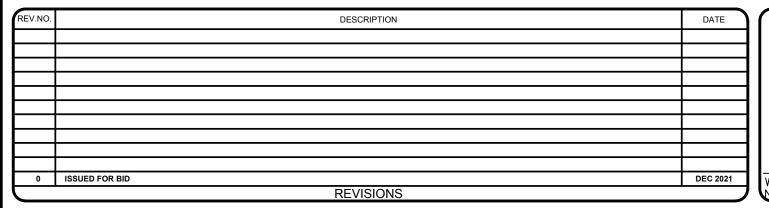
5 - SECTION - COL. BASE PLATE SCALE:  $1 \frac{1}{2} = 1'-0"$ 



8 - SECTION - THRU STAIR LANDING PAD



9 - SECTION - THRU EXIST. ACCESS HATCH MODS SCALE: 3/4" = 1'-0"



WILLIAM F. BAND, P.E. No. 67838





## **LIFT STATION 1M ELECTRICAL**

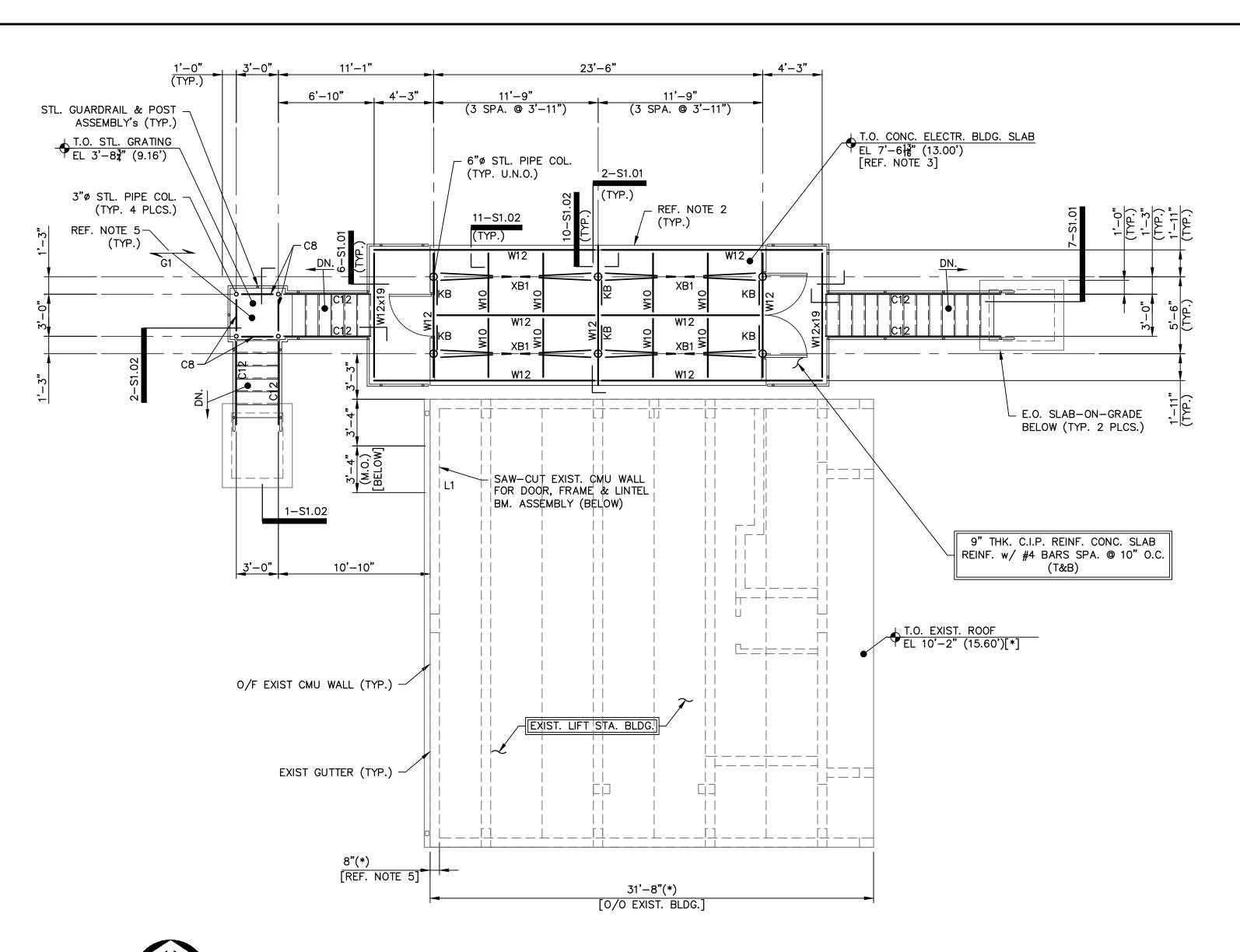
LIFT STA. MODS & ELECTR. BLDG. FDN.

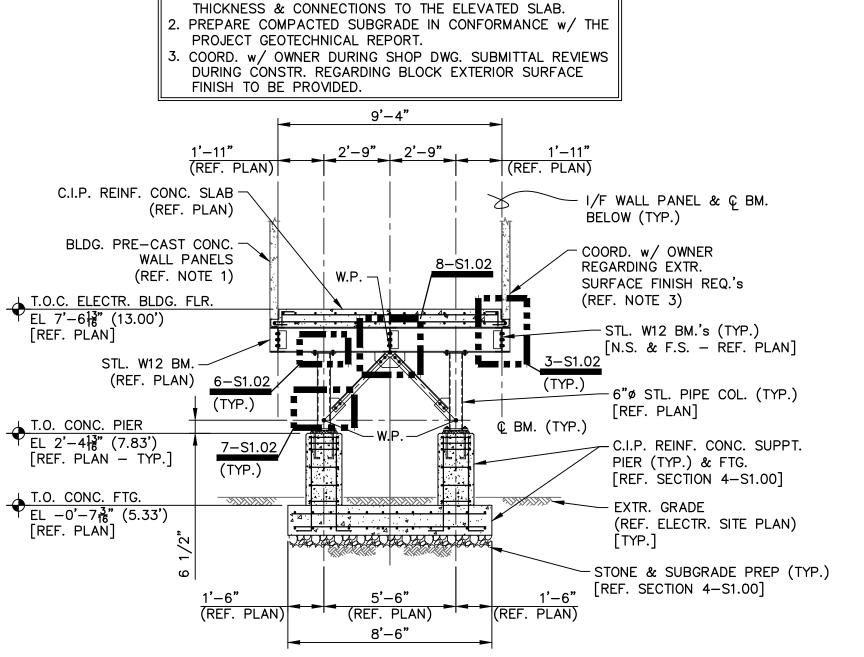
MCE PROJ. DRAWN **REHABILITATION** DESIGNED CHECKED STRUCTURAL PROJ. MGR

_		
	2020. JUN	RT DATE:
┞	01024-0180	. #
Ш	DAR / WFB	
Ш	WFB	)
	WFB / AEA	
Ш	AAH	₹.

SCALE HORIZONTAL: **AS NOTED** VERTICAL

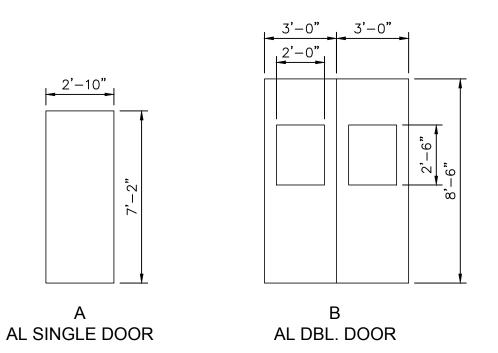
**PLAN, SECTIONS & DETAILS ISSUED FOR BID** 



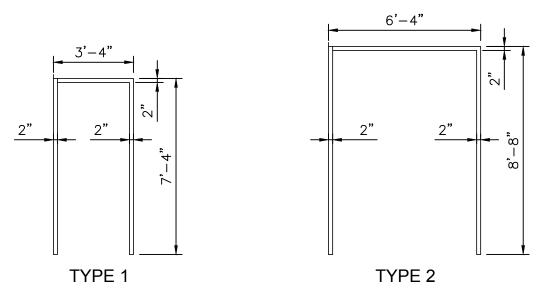


. REFERENCE BLDG. MFG.'s "APPROVED" SUBMITTAL FOR WALL

2 - SECTION - THRU ELECTR. BLDG. SUPPT. ASSEMBLY SCALE: 1/4" = 1'-0"



3 - DETAIL - EXIST. BLDG. MOD.'s DOOR TYPES SCALE: 1/4" = 1'-0"



4 - DETAIL - EXIST. BLDG. MOD's DOOR FRAME TYPES
SCALE: 1/4" = 1'-0"

	DOOR & FRAME SCHEDULE													
DOOR	UL	DOOR SIZE						FRAME DETAILS						REMARKS
NO.	LABEL	WIDTH	HEIGHT	THK.	MAT'L	TYPE	TYPE GLAZING MAT'		TYPE	PE HEAD JAM		SILL	SET	ILLIVIANAS
( <u>1</u>	N/A	2'-10"	7'-2"	1¾"	AL	Α	N/A	AL	1	*1	*1	*1	*2	REF. 3-S1.01 & 4-S1.01
D2	N/A	3'-0" PR.	8'-6"	1¾"	AL	В	LAM	AL	1	*1	*1	*1	*2	REF. 3-S1.01 & 4-S1.01
D2   N/A   3'-0" PR.   8'-6"   1¾"   AL   B   LAM   AL   1   *1   *1   *1   MATERIAL LEGEND:										f 	REF. 13-S1.02 TO 15-S1.02 FOR HEAD, JAMB & SILL DETAILS. REF. PLAN NOTES & PROJECT SPECS.			

5 - SCHEDULE - DOORS & FRAMES SCALE: N.T.S.



- PLAN - EXIST. LIFT STATION MODS & ELECTRICAL BLDG. FRAMING LAYOUT

NORTH

#### FRAMING PLAN NOTES:

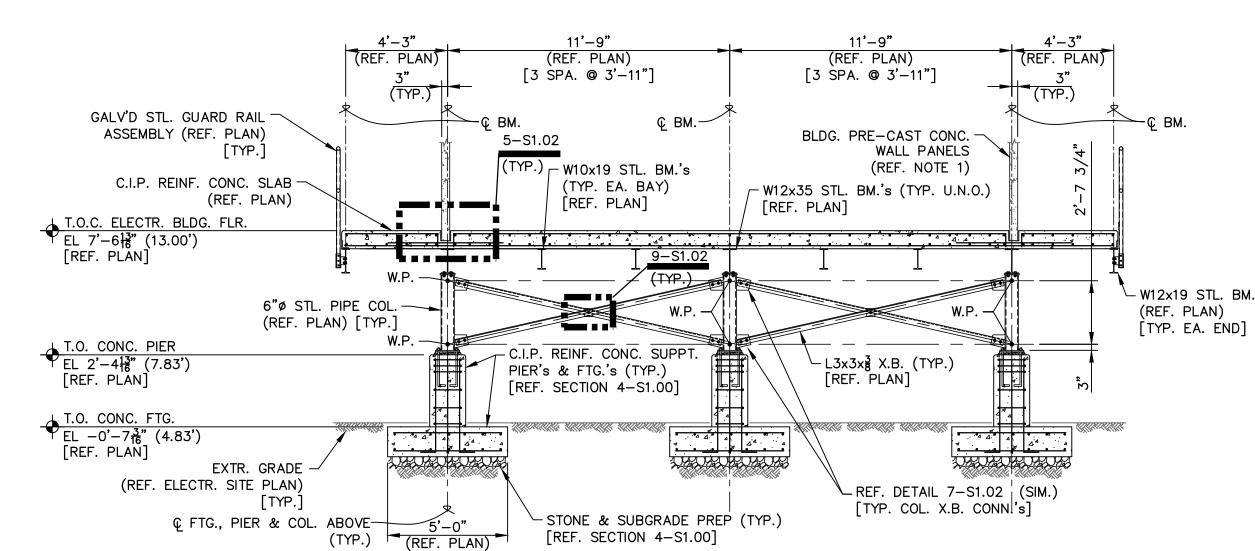
1. REFERENCE ELEVATION FOR THE ELECTRICAL BUILDING ADDITION AT THE EXISTING LIFT STATION FACILITY IS THE EXISTING LIFT STATION BLDG.'s OPERATING FLOOR LEVEL TOP SLAB T.O. CONC. EL  $0'-0''=EL\ 0'-0''\ (5.43')$ . CONTRACTOR SHALL VERIFY VERTICAL DATUM INDICATED EQUALS N.A.V.D.—88. REFERENCE ELECTRICAL SITE PLAN DRAWINGS FOR ADDITIONAL INFORMATION.

SCALE: 3/16" = 1'-0"

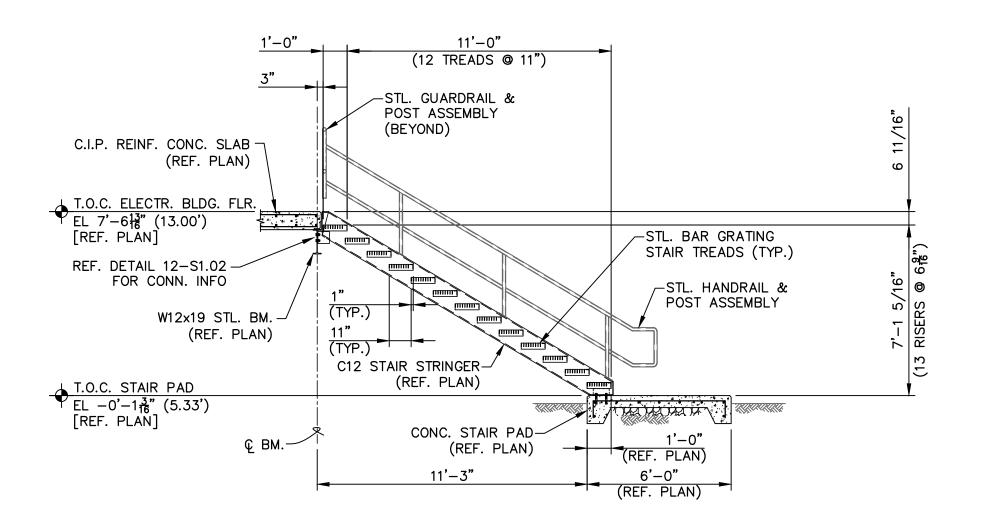
- 2. APPROXIMATE OUTLINE OF 24'-0" LONG x 10'-0" WIDE PRE-CAST CONCRETE ELECTRICAL BUILDING ASSEMBLY. REFERENCE ELECTR. DWG.'s & PROJECT SPECIFICATIONS FOR ADD'L INFO.
- 3. EQUIPMENT LAYOUTS ARE SHOWN FOR GENERAL INFO ONLY. REFERENCE ELECTRICAL & EQUIPMENT VENDOR DRAWINGS FOR LOCATIONS & INFO REGARDING SLAB & WALL PENETRATIONS AND PIPING, CONDUIT & MISCELLANEOUS EQUIPMENT LAYOUTS EITHER SHOWN OR NOT SHOWN.
- 4. REGARDING STEEL FRAMING ASSEMBLIES NOTE THE FOLLOWING:
- W12 = W12x35 WIDE FLANGE SECTION. C12 = C12x20.7 CHANNEL SECTION.
- W10 = W10x19 WIDE FLANGE SECTION. C8 = C8x11.5 CHANNEL SECTION.
- $6"\phi$  = SCHEDULE 80 PIPE SECTION.  $3"\phi$  = SCHEDULE 40 PIPE SECTION.
- $KB = L3x3x\frac{3}{8} \text{ ANGLE SECTION.}$
- XB1 = L3x3x3 ANGLE SECTION.

  5. "SYMBOL ON PLAN INDICATES SPAN DIRECTION OF THE STEEL BAR GRATING ASSEMBLIES MAIN BEARING BARS. IN GENERAL GRATING ASSEMBLIES ARE TO BE MANUFACTURED BY REPUTABLE VENDOR(S) EXPERIENCED IN MANUFACTURING THE ASSEMBLIES REQUIRED. GRATING ASSEMBLIES ARE TO INCLUDE RECTANGULAR MAIN BEARING BARS, RECTANGULAR CROSS BARS OR RODS AND RECTANGULAR BEARING BARS ALONG PERIMETERS OF PANELS AND OPENINGS. FABRICATE ASSEMBLIES w/GALV'D FINISH & CONNECTED TO FORM STANDARD PANEL WIDTHS. REFERENCE PLANS,
- SECTIONS & DETAILS FOR ADD'L INFO & REQUIREMENTS. NOTE THE FOLLOWING:

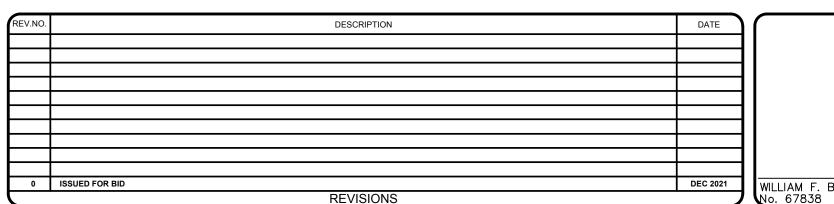
  a.) GRATING "G1" = 1\frac{1}{4}" LIGHT DUTY WELDED STEEL IN ACCORDANCE w/ MFG.'s 19-4
  "W" SERIES SPACE PROFILE .
- b.) GRATING PANELS SHALL BE ANCHORED TO STEEL FRMG. w/ GALV.'D STEEL FASTENERS & TYPE AS RECOMMENDED BY THE MANUFACTURER.
- c.) COORDINATE w/ THE OWNER REGARDING PANEL ASSEMBLIES INCLUDING SERRATED TOP SURFACE SKID FINISH FOR SLIP RESISTANCE.
   6. REFERENCE DWG. SO.00 FOR ADDITIONAL GENERAL NOTES, MATERIAL SPECIFICATIONS & REQUIREMENTS, DESIGN CRITERIA AND LEGEND.

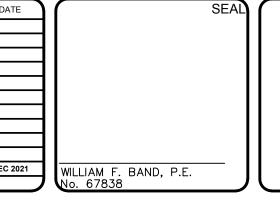


6 - SECTION - THRU ELECTR. BLDG. SUPPT. ASSEMBLY SCALE: 1/4" = 1'-0"



7 - SECTION - THRU EAST ACCESS STAIR ASSEMBLY
SCALE: 1/4" = 1'-0"











## LIFT STATION 1M ELECTRICAL REHABILITATION

**PLAN, SECTIONS & DETAILS** 

STRUCTURAL
LIFT STA. MODS & ELECTR. BLDG. FRMG.

2020. JUN	PROJ. START DATE:
01024-0180	MCE PROJ. #
DAR / WFB	DRAWN
WFB	DESIGNED
WFB / AEA	CHECKED
AAH	PROJ. MGR.

SCALE

HORIZONTAL:

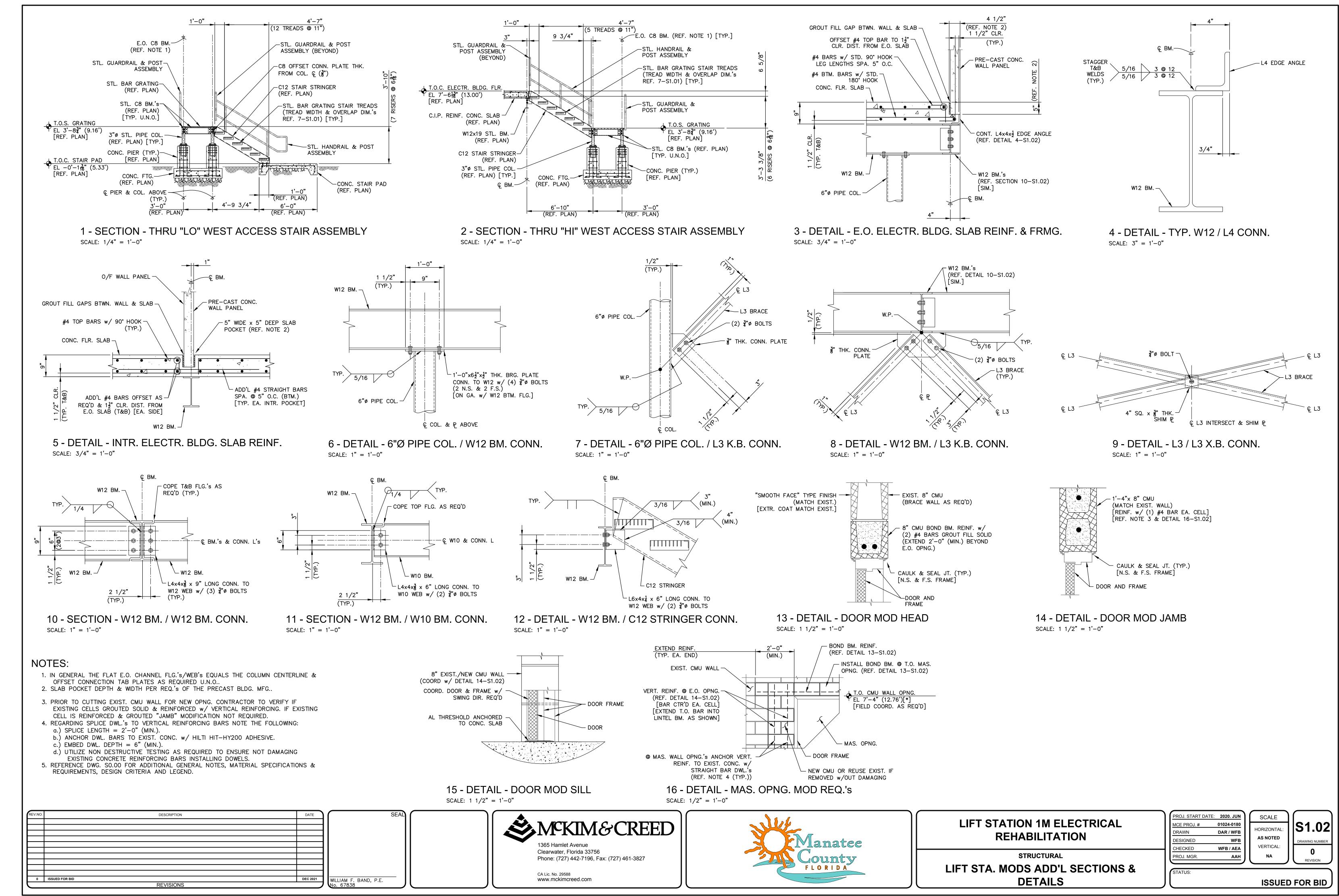
AS NOTED

VERTICAL:

NA

DRAWING NU

O



#### **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 GEN 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



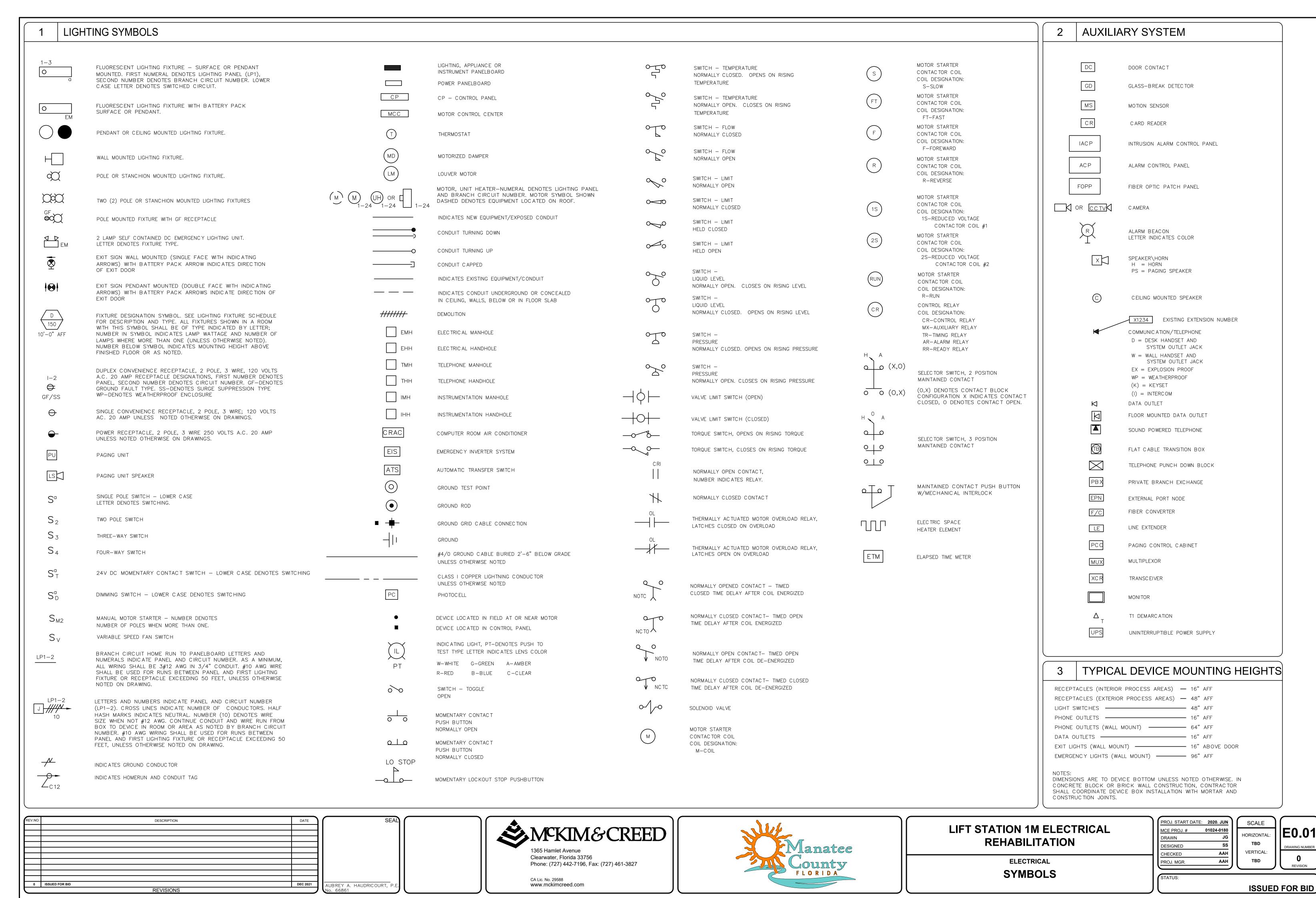
#### LIFT STATION 1M ELECTRICAL **REHABILITATION**

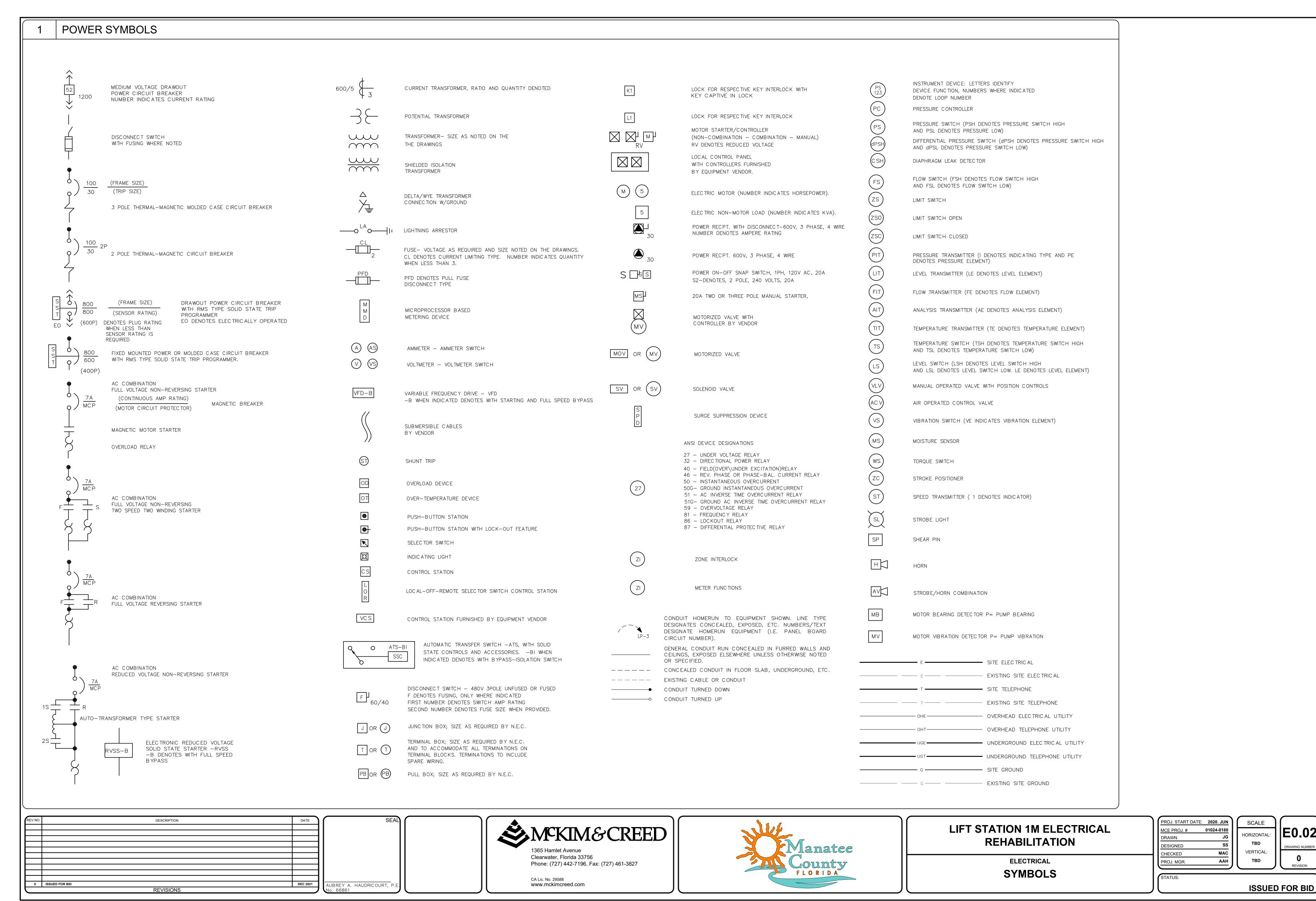
**ELECTRICAL** 

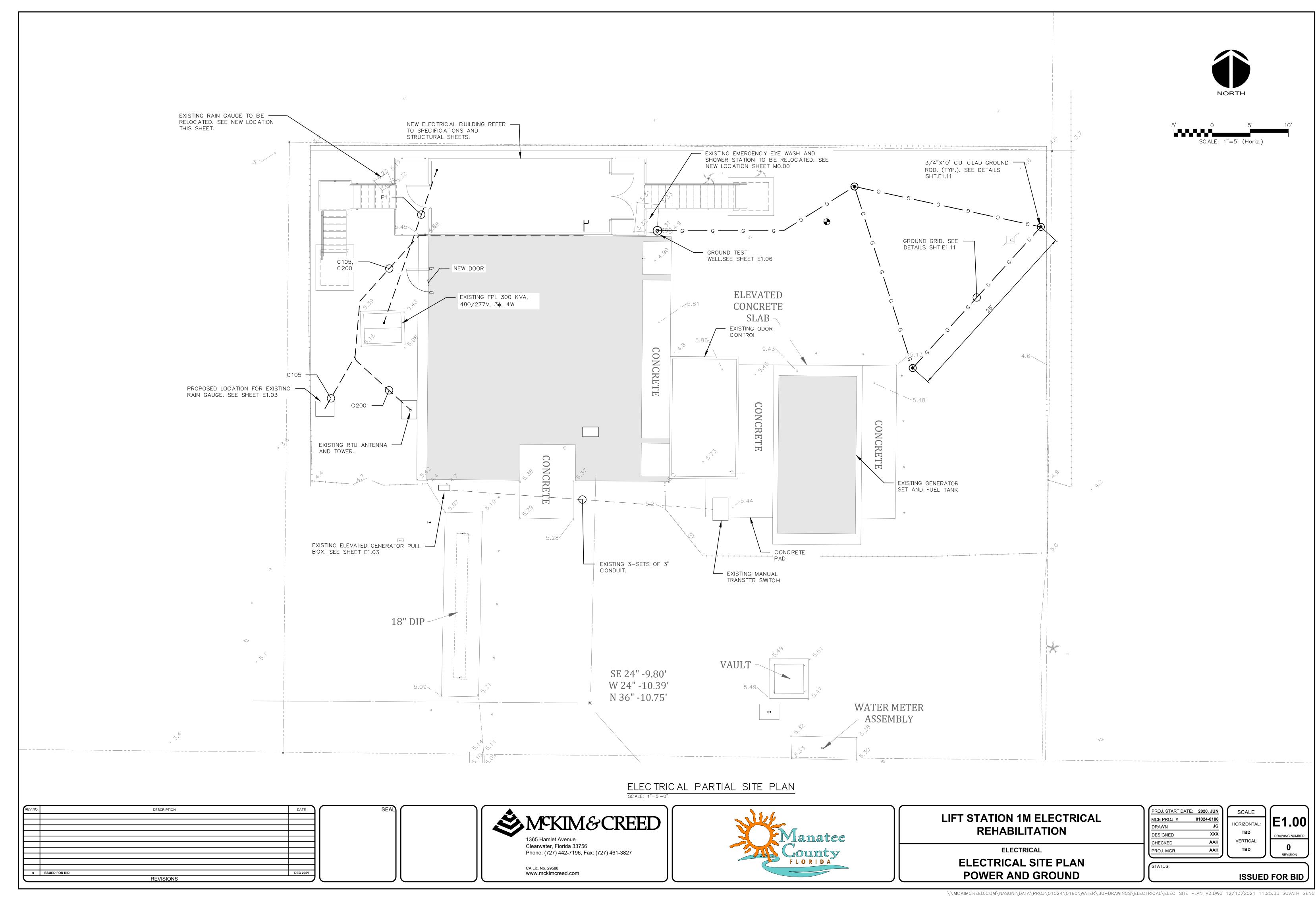
SYMBOLS, ABBREVIATIONS AND NOTES

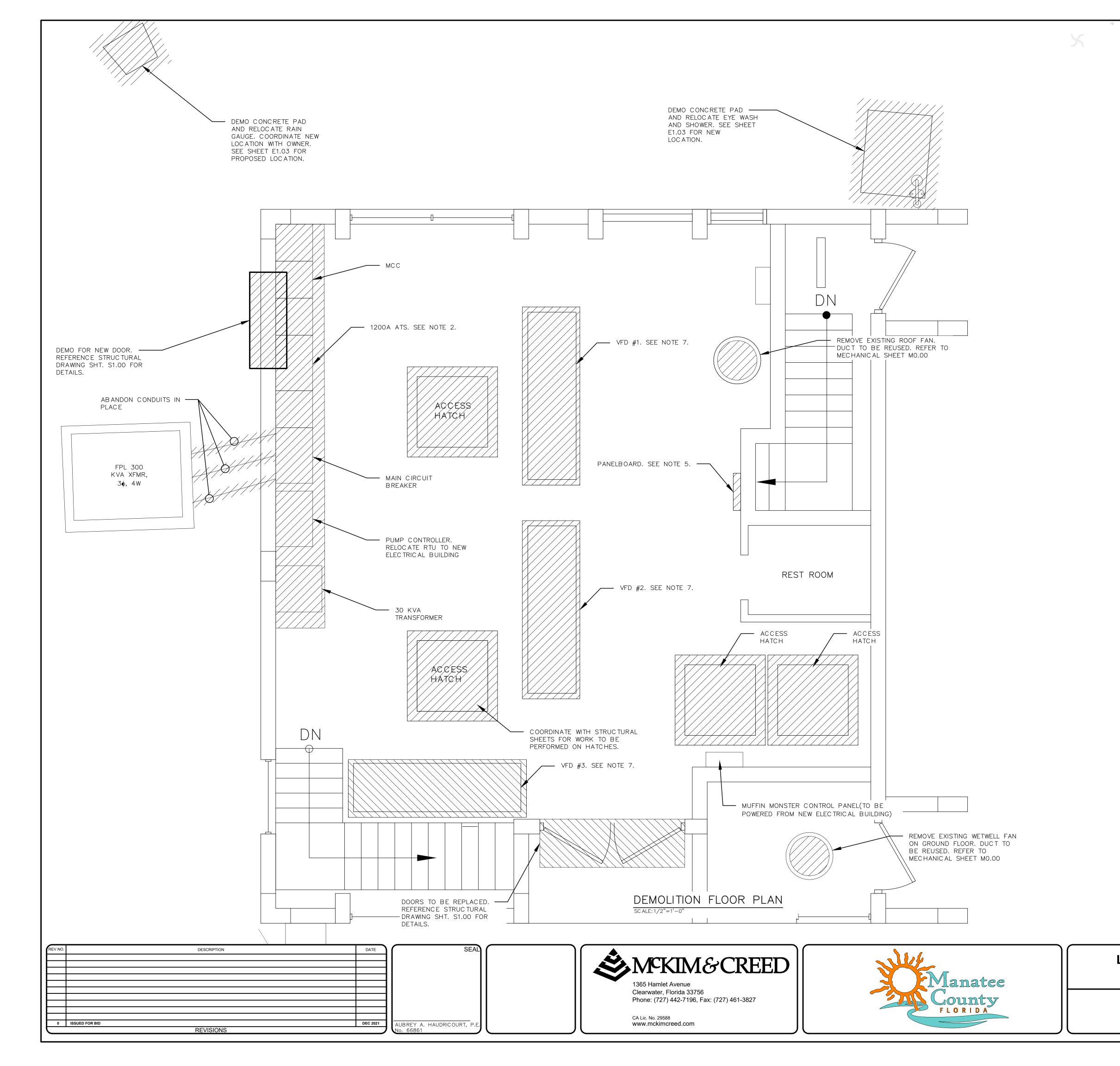
PROJ. START DATE: 2020. JUN 01024-0180 SS DESIGNED MAC AAH PROJ. MGR.

ORIZONTAL VERTICAL:





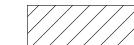




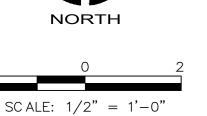
 PROVIDE TEMPORARY POWER FOR CONSTRUCTION. REFER TO BYPASS PUMP SPECIFIC ATIONS.



- REMOVE ALL EXPOSED CONDUIT AND WIRE NOT USED PER EQUIPMENT DEMOLITION.
- 4. REMOVE ALL WIRING IN UNDERGROUND CONDUIT THAT IS TO BE ABANDONED. CAP ALL ABANDONED CONDUIT.
- 5. INTERCEPT EXISTING CONDUIT BY INSTALLING NEMA 4X SS 42 CKT PANELBOARD. REPULL ALL NEW WIRE.
- 6. REMOVE EQUIPMENT PADS UNDERNEATH EQUIPMENT BEING DEMOLISHED. INSTALL NEW PADS UNDER NEW EQUIPMENT, SUCH AS NEW VFD JUNCTION BOXES. REFER TO STRUCTURAL DRAWINGS.
- 7. MAS711 PUMP MONITORING UNITS TO BE RELOCATED TO NEW VFDs. COORDINATE INSTALLATION IN FIELD.



- EQUIPMENT TO BE DEMOLISHED OR RELOCATED.





ELECTRICAL

DEMOLITION PLAN

MCE PROJ. # 01024-0180
DRAWN JG
DESIGNED SS
CHECKED MAC
PROJ. MGR. AAH

PROJ. START DATE: 2020. JUN

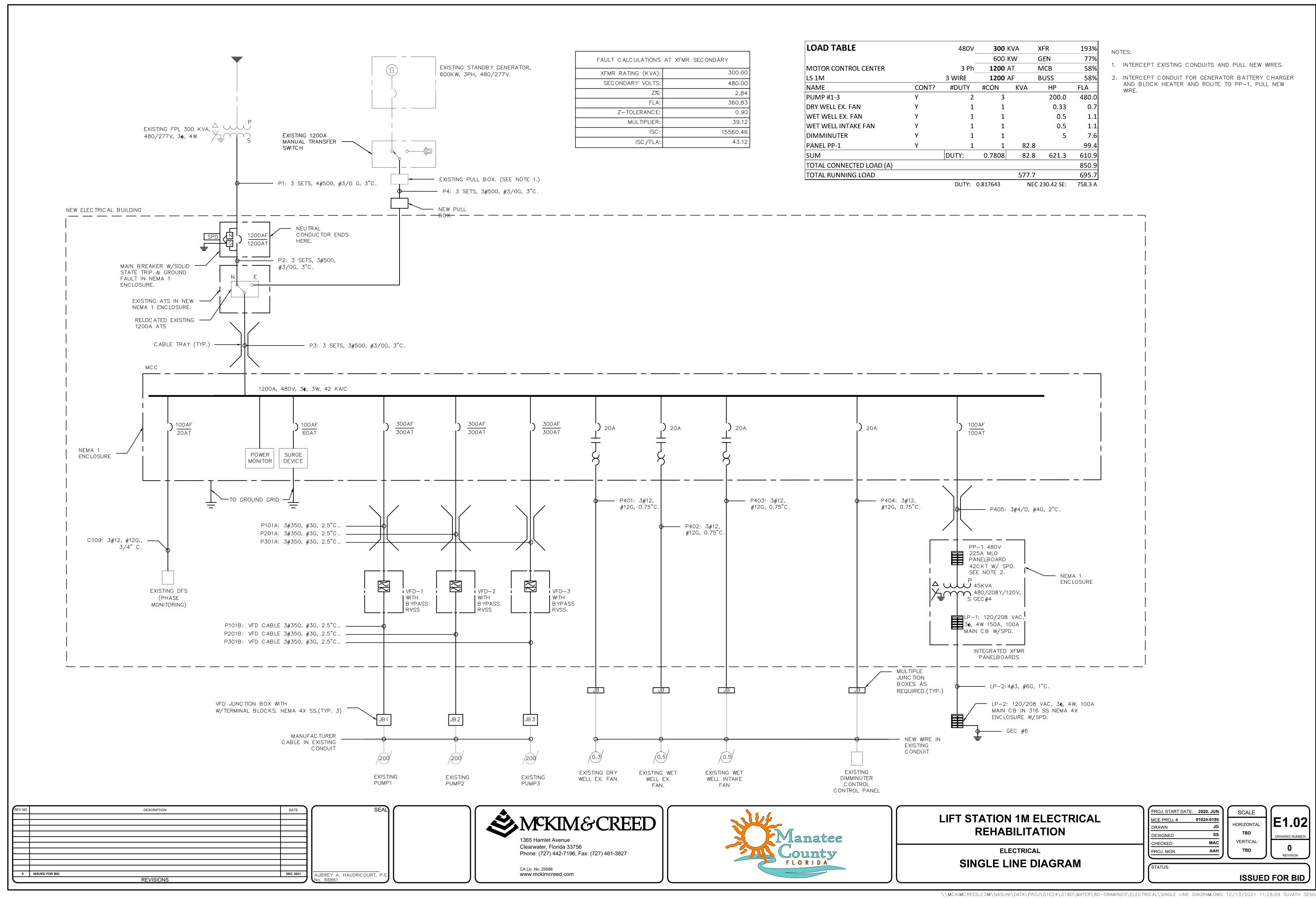
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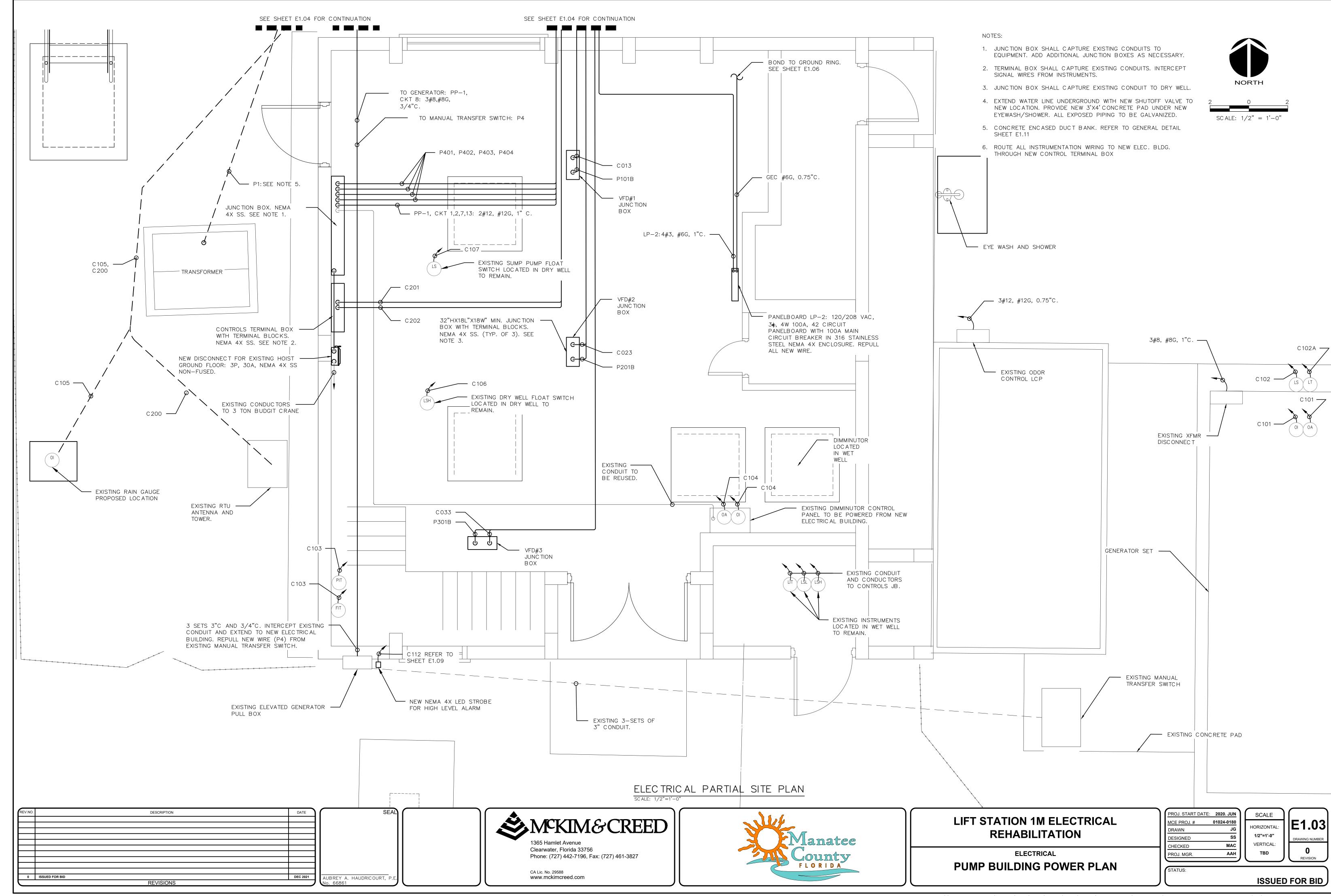
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VERTICAL:

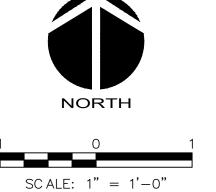
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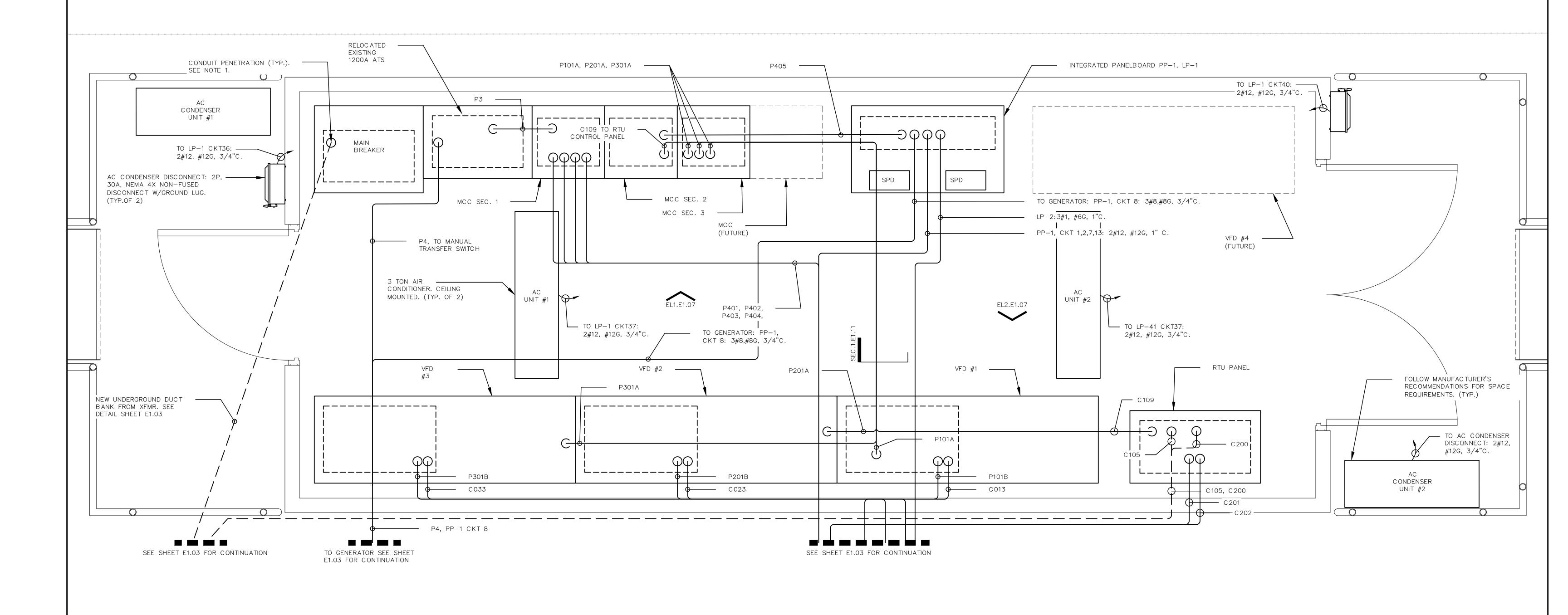
REVISION



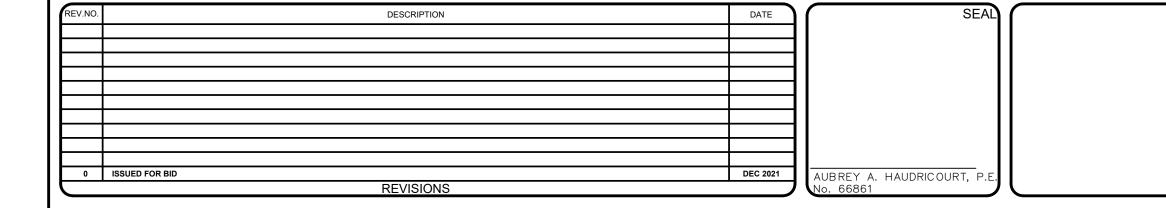


- CONTRACTOR TO CORE DRILL ALL CONDUIT PENETRATIONS THROUGH CONCRETE AND SEAL AFTER INSTALLATION WITH ECOFLEX PRODUCT OR EQUAL. DUCT SEAL NOT ALLOWED. SEE SHEET E1.08 — LIGHTING PLAN FOR EQUIPMENT CUTOUT LOCATIONS.
- 2. CABLE TRAY REMOVED FOR CLARITY. SEE E1.05
- 3. EXISTING ATS TO BE MOUNTED IN 91.5"H X 30"W X 24" D, NEMA 1 ENCLOSURE BY UL CERTIFIED PANEL SHOP W/LABEL





ELECTRICAL BUILDING POWER PLAN



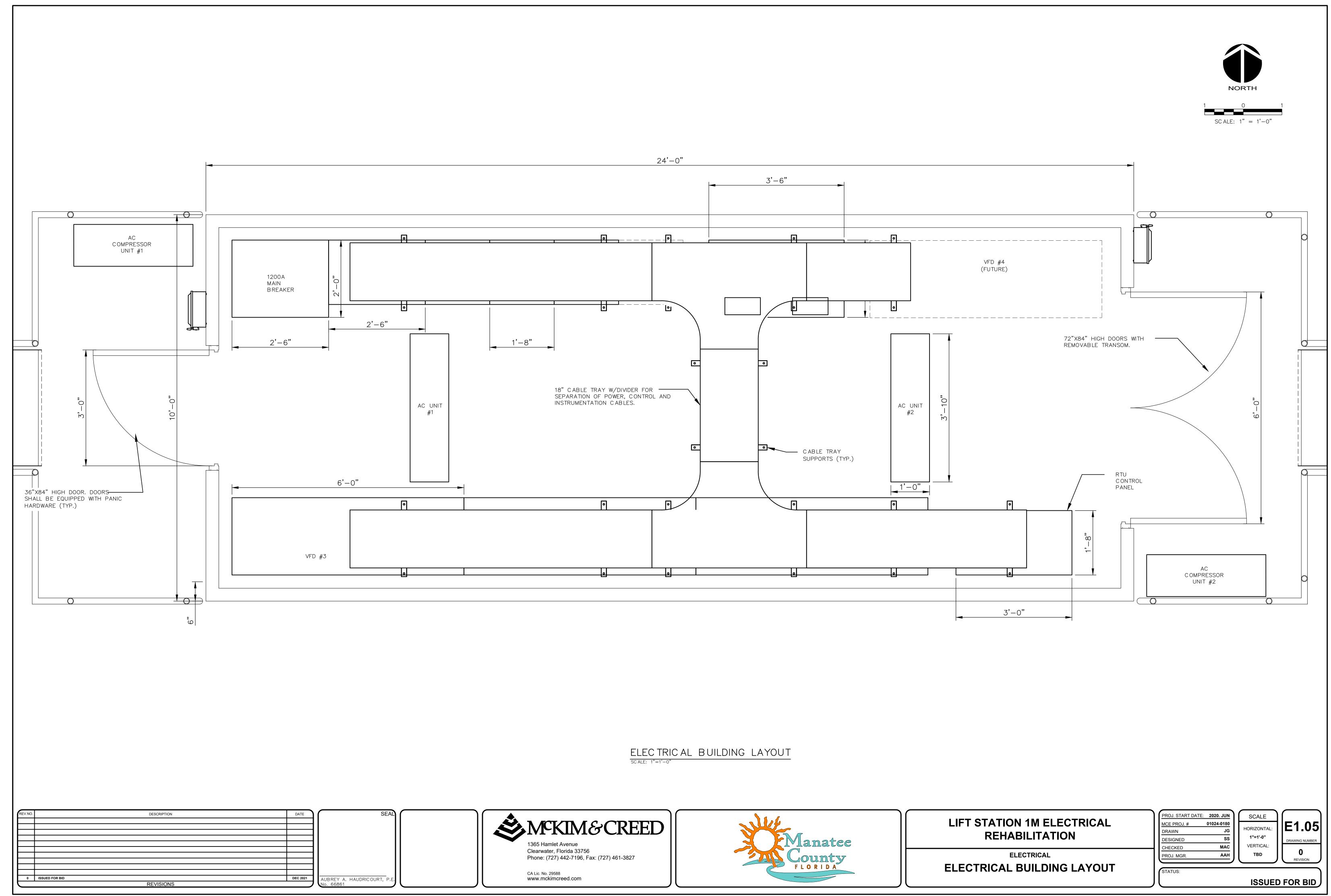


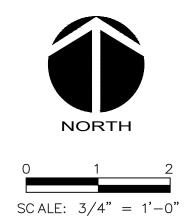


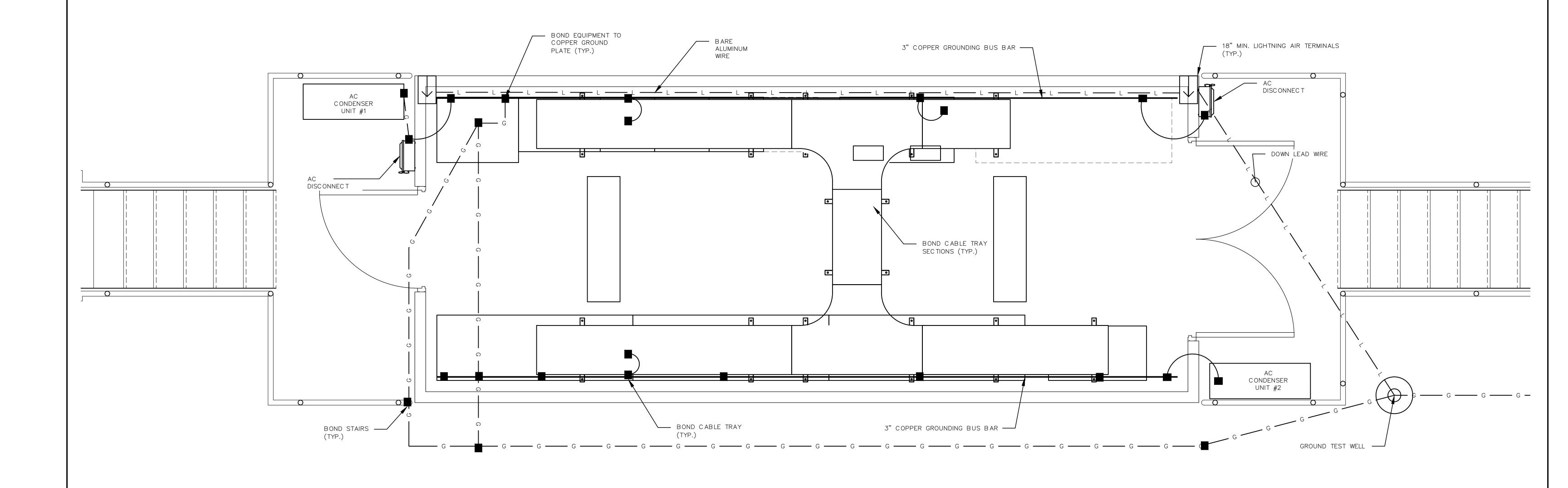
LIFT STATION 1M ELECTRICAL REHABILITATION

ELECTRICAL BUILDING POWER PLAN

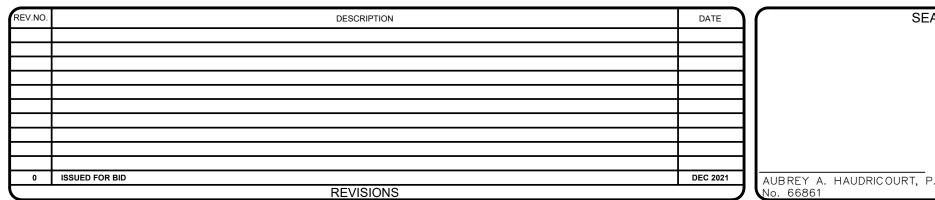
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GROUNDING AND LIGHTNING PROTECTION PLAN SCALE: 3/4"=1'-0"







## LIFT STATION 1M ELECTRICAL REHABILITATION

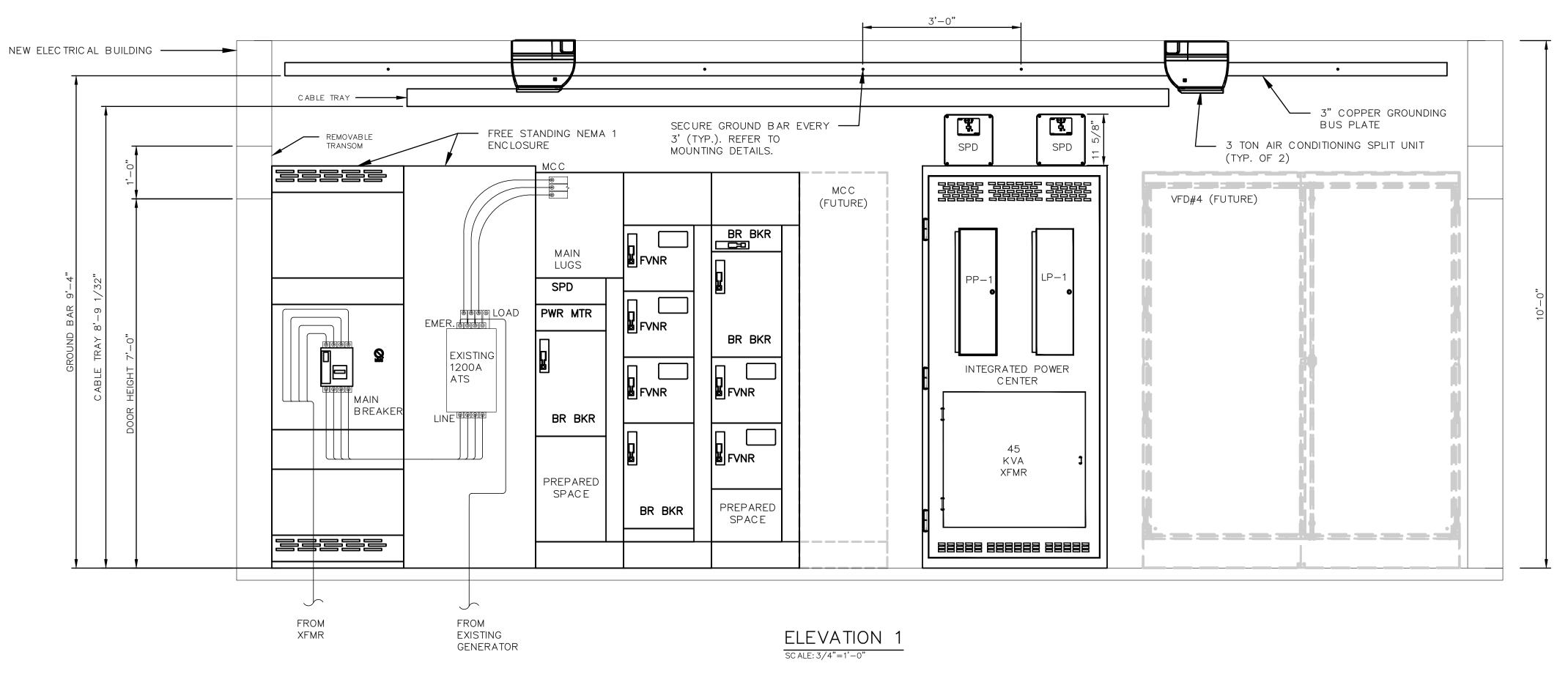
GROUNDING AND LIGHTNING PROTECTION PLAN

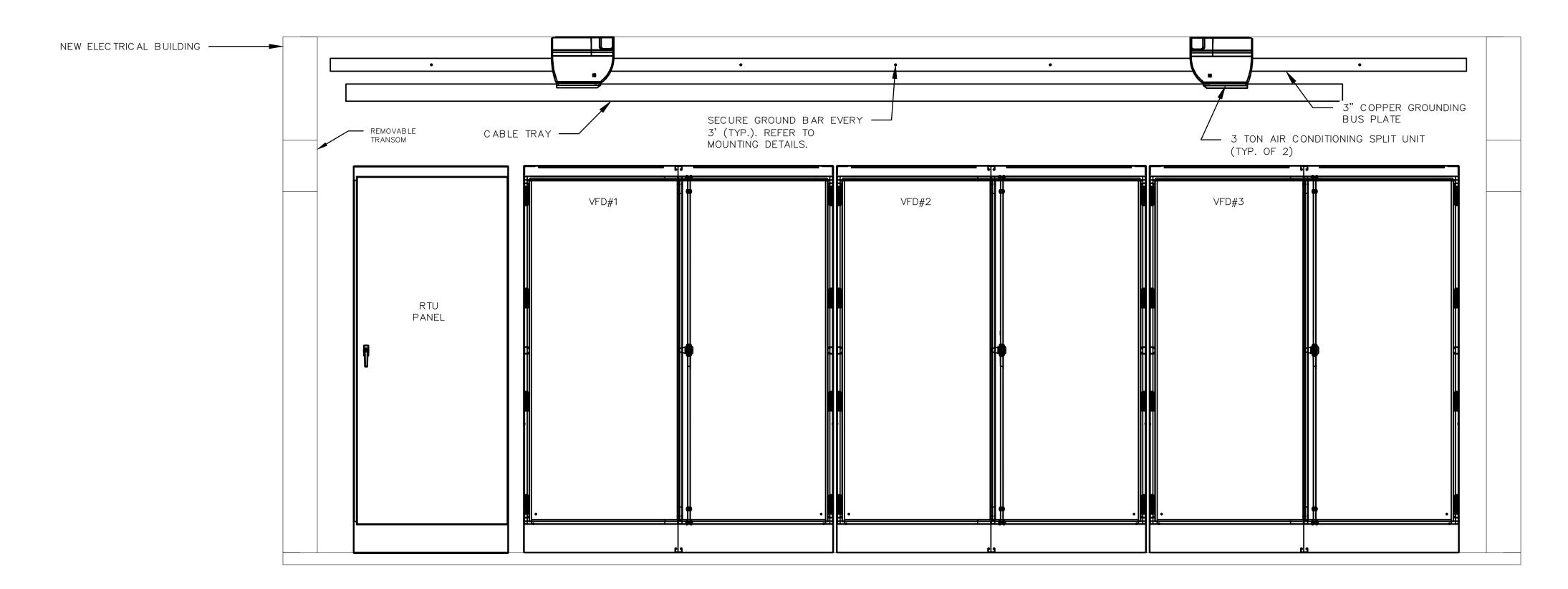
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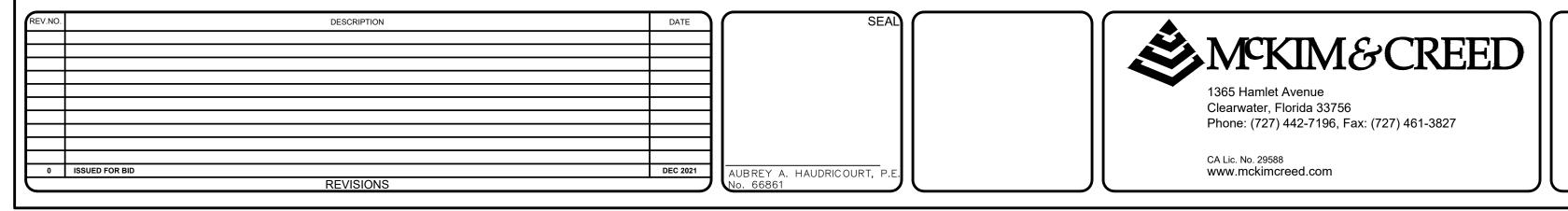
\\MCKIMCREED.COM\NASUNI\DATA\PROJ\01024\0180\WATER\80—DRAWINGS\ELECTRICAL\GROUNDING AND LIGHTNING PLAN.DWG 12/13/2021 11:27:24 SUVATH SENG

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





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

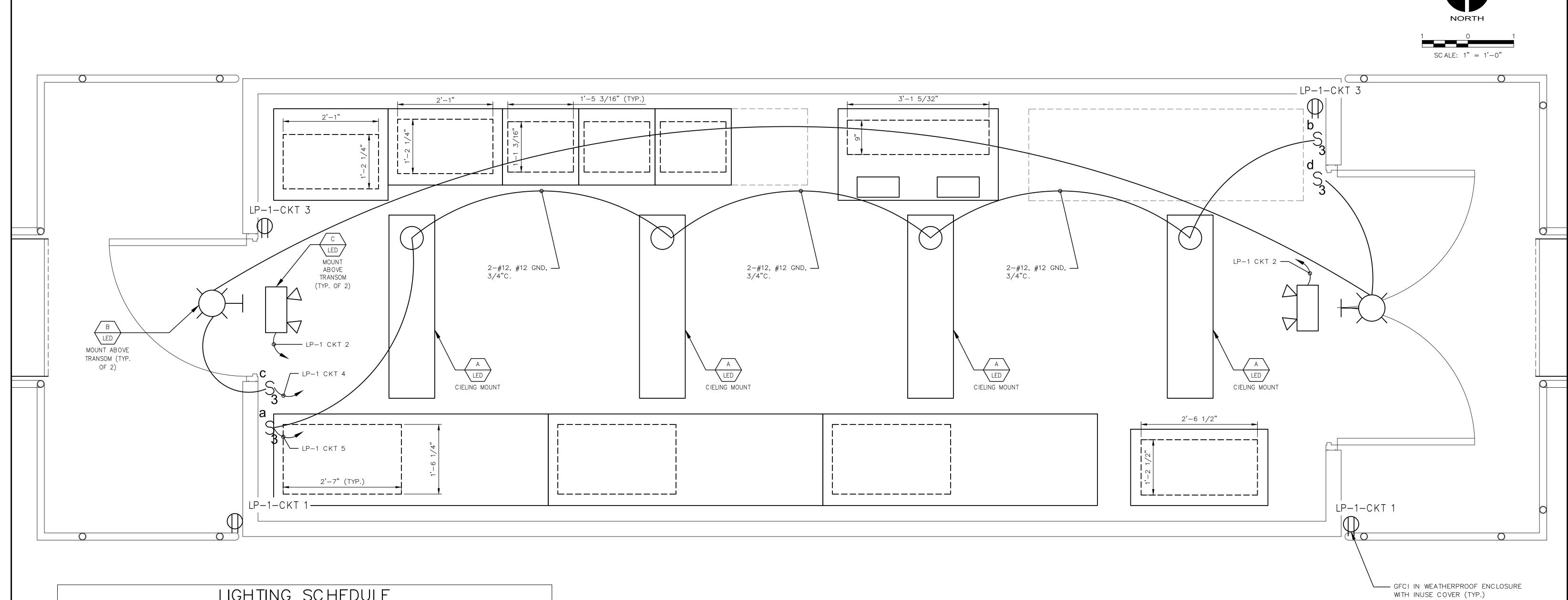






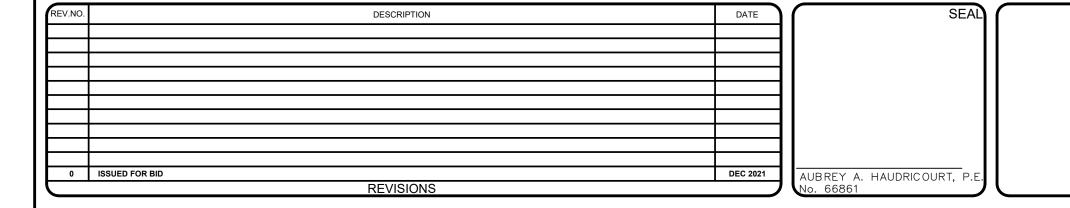
ELECTRICAL
MCB, ATS AND MCC ELEVATION

ROJ. START DATE:	2020. JUN	SCALE	
CE PROJ. #	01024-0180		E1.07
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	LIGHTIN	NG SCHEDULE	-	
LETTER	DESCRIPTION	LAMPS	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	1
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.	

LIGHTING PLAN
SCALE: 1"=1'-0"







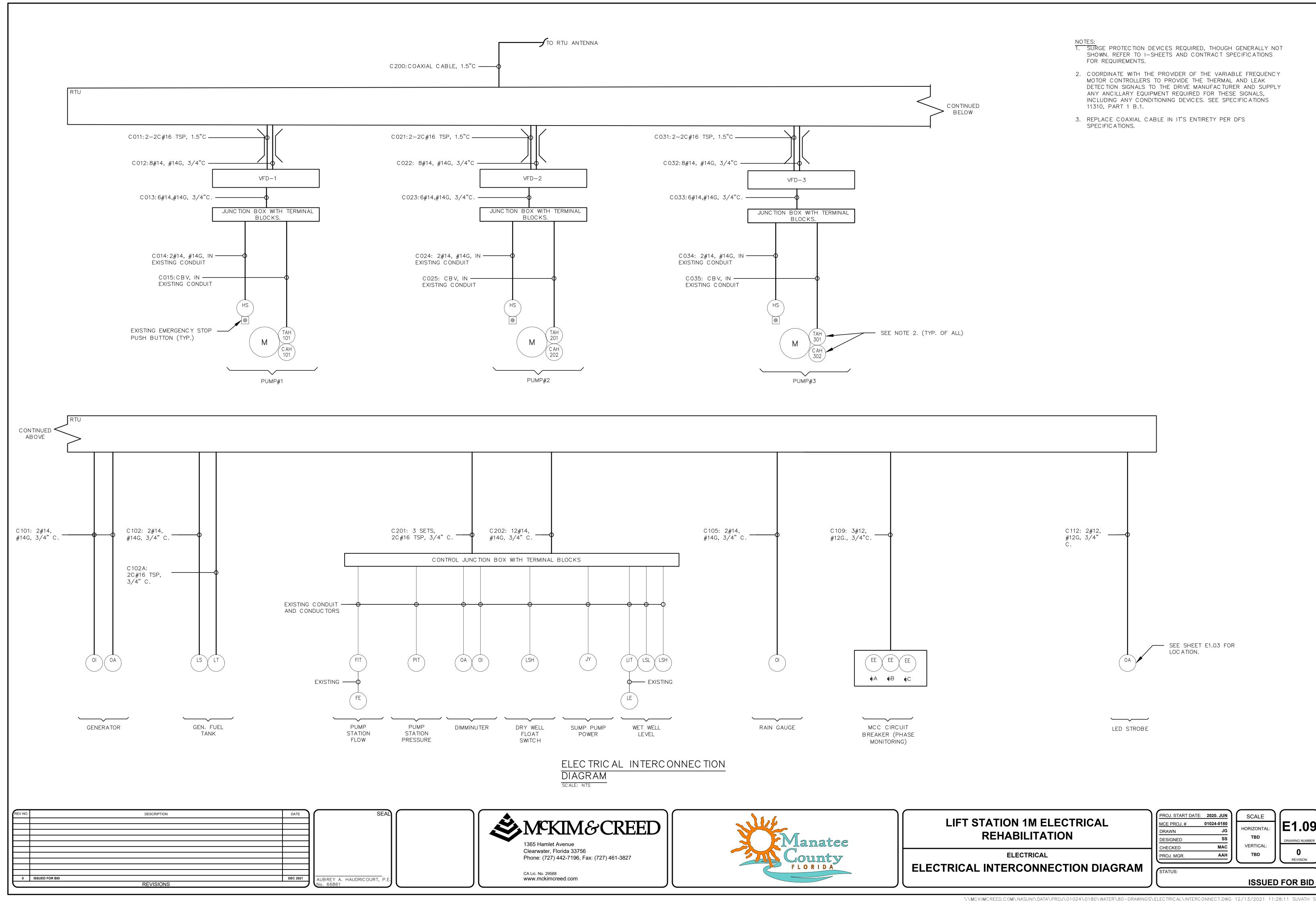
#### LIFT STATION 1M ELECTRICAL **REHABILITATION** ELECTRICAL **LIGHTING PLAN**

1	۱	PROJ. START DATE:	2020. JUN	$\bigcap$
		MCE PROJ. #	01024-0180	
		DRAWN	JG	
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ı		PROJ. MGR.	AAH	1
	,			<u>_</u>
		STATUS:		

1"=1'-0" VERTICAL:

ISSUED FOR BID

\\MCKIMCREED.COM\NASUNI\DATA\PROJ\01024\0180\WATER\80-DRAWINGS\ELECTRICAL\LIGHTING PLAN.DWG 12/13/2021 11:27:59 SUVATH SENG



CKT NO.	TRIP	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	А	KVA PER PHAS	E C	POLES	AMPS	LOAD KVA	DESCRIPTION OF LOAD	TRIP	CKT NO
1	20	HOIST DRYWELL	0.27	1.0	3	2.1	В	C	3	6.5	1.8	ODOR CONTROL	20	2
1	20	THOIST BRYWELL	0.27	1.0		2.1	2.1		3	0.5	1.8	ODON CONTROL	20	
			0.27				2.1	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				15			
			0.27					15.3			15			
19	20	SPARE			3	0.0			3			SURGE PROTECTION DEVICE	20	20
							0.0							
								0.0						
25	20	SPARE			3	0.0			3			SPARE	30	26
							0.0							
								0.0						
31	20	SPARE			3	0.0			3			SPACE	20	32
							0.0							
								0.0						
37	20	SPARE			3	0.0			3					38
							0.0					SPACE		
								0.0				SERVICE CHARACTERISTICS		
	DANIEL	PP-1	ТО	TAL KVA		27.6	27.6	27.6		VOLTC	400	SERVICE CHARACTERISTICS	225	A B 41 C
i		MANATEE COUNTY LS1M							┨	VOLTS: PHASE:		-	225	A MLO
		ELECTRICAL BUILDING	GRANI	CONNEC	TED TO	OTAL KVA	82	2.8		WIRE:		_	0	_ A MCB
			L				I					- SYMM, FULLY RATED ASSEMBLY		
	NOTES	INTEGRATED PANELBOARD								10K	MIN AIC S	SYMM, FULLY RATED ASSEMBLY		

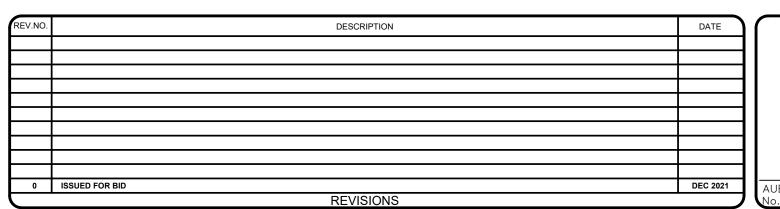
PANEL SCHEDULE PP-1

CKT NO.	TRIP	DESCRIPTION OF LOAD	LOAD KVA	AMPS	POLES	А	KVA PER PHASE B	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			5.4			3	44.1	5.3	PANEL LP-2	100	14
15	20	SURGE PROTECTION DEVICE	0.1	0.8	3		5.5				5.4			
			0.1					5.3			5.2			
			0.1			1.6			1	12.5	1.5	RTU CONTROL PANEL	20	20
21	20	SPARE			1	_	0.0		1			SPARE	20	22
23	20	SPARE			1			0.0	1			SPARE	20	24
25	20	SPARE			1	0.0			1			SPARE	20	26
27	20	SPARE			1		0.0		1			SPARE	20	28
29	20	SPARE			1			0.0	1			SPARE	20	30
31	20	SPARE			1	0.0			1			SPARE	20	32
33	20	SPARE			1		0.0		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-1 MANATEE COUNTY LS1M		TAL KVA		9.2	8.7	9.1		VOLTS: PHASE:	208Y/120		150	_ A MLO A MCB
	BUILDING	NEW ELECTRICAL BUILDING INTEGRATED PANELBOARD	GRANI	O CONNECT	TED TO	OTAL KVA	27.3	1		WIRE:	4	- 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	20	WEST DESK OUTLET	0.18	1.5	1	0.4			1	1.5	0.18	EMERGENCY LIGHTS	20	2
3	15	FLOW METER	0.06	0.5	1		0.1		1			SPARE	20	4
5	20	SPARE			1			0.2	1	1.7	0.2	BATHROOM LIGHT	20	6
7	30	SPARE			1	0.2			1	1.7	0.2	OUTSIDE FLOODS	20	8
9	20	E. WALL DRY LIGHTS	0.2	1.7	1		0.4		1	1.5	0.18	E. OUTLET	20	10
11	20	SUMP PUMP	1.2	10.0	1			1.2	1			SPARE	20	12
13	20	SCUBBER			1	0.0			1			SPARE	20	14
15	20	ENTRANCE LIGHT	0.2	1.7	1		0.4		1	1.7	0.2	WEST DRY WELL LIGHTS	20	16
17	20	CONTROL ROOM LIGHTS E	0.25	2.1	1			0.4	1	1.5	0.18	S. WALL DIMM. OUTLET	20	18
19	20	CONTROL ROOM LIGHTS W	0.2	1.7	1	0.4			1	1.5	0.18	OUTSIDE E. WALL (SKID)	20	20
21	20	SPARE			1		1.8		3	15.0	1.8	3 PHASE, 20AMP, RECEPT E. WALL	20	22
23	20	SPARE			1			1.8			1.8			
25	30	UPS/GFI RECEPTICLE	2.5	20.8	1	4.3					1.8			
27	20	DAY TANK(FUEL)	1.5	12.5	1		2.7		1	10.0	1.2	CONTROL RM. EX.FAN	20	28
29	20	WET WELL LIGHTS	0.2	1.7	1			1.5	1	10.8	1.3	FUTURE EX. FAN CR.	20	30
31	20	SURGE PROTECTION DEVICE	0.1	0.8	3	0.1			1			SPARE	20	32
			0.1				0.1		1			SPARE	20	34
			0.1					0.1	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
	PANEL	LP-2	то	TAL KVA		5.3	5.4	5.2		VOLTS:	208Y/120	SERVICE CHARACTERISTICS		A MLO
	BUILDING	I MANATEE COUNTY G OLD PUMP BUILDING	GRANI	O CONNECT	TED TO	OTAL KVA	16.0	0		PHASE: WIRE:	4	-	100	A MCB
	NOTES								_	10K	MIN AIC S	SYMM, FULLY RATED ASSEMBLY		

## PANEL SCHEDULE LP-2 SCALE: NTS



DATE
SEAL

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



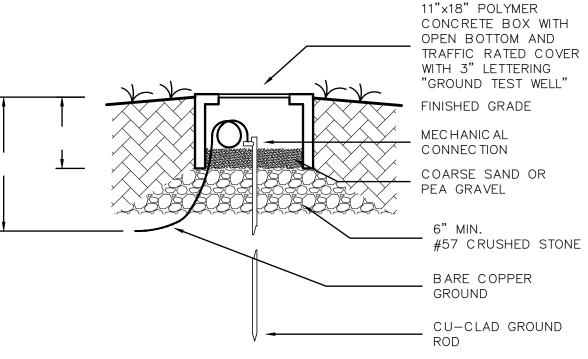


# LIFT STATION 1M ELECTRICAL REHABILITATION

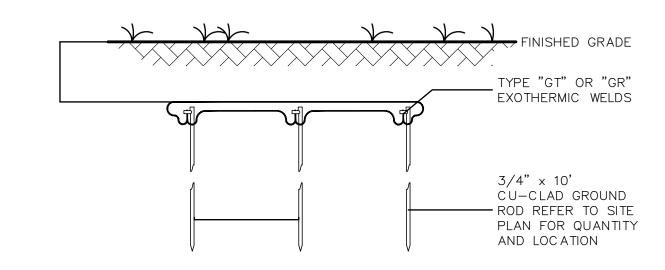
ELECTRICAL
PANELBOARD SCHEDULES

PROJ. START DATE	:: 2020. JUN	SCALE	
MCE PROJ. #	01024-0180		
DRAWN	JG	HORIZONTAL:	ľ
DESIGNED	SS	TBD	
CHECKED	MAC	VERTICAL:	
PROJ. MGR.	AAH	TBD	ı
			•

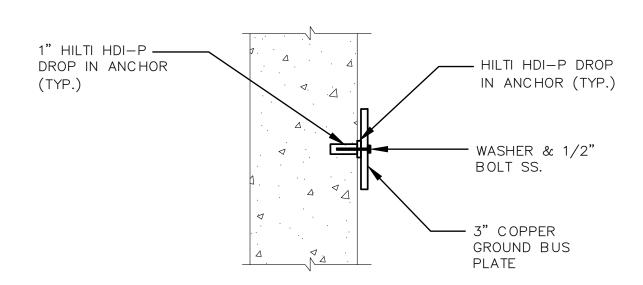
- 1. MINIMUM WIRE SIZE FOR ALL POWER CIRCUITS IS #12AWG CU UNLESS OTHERWISE NOTED.
- 2. MINIMUM CONDUIT SIZE IS 3/4" TRADE SIZE.
- 3. SWAB CLEAN EXISTING CONDUITS PRIOR TO PULLING NEW CIRCUITS.
- 4. FOR LOW VOLTAGE DUCTBANKS MINIMUM SEPARATION BETWEEN CONDUITS SHALL BE 2".



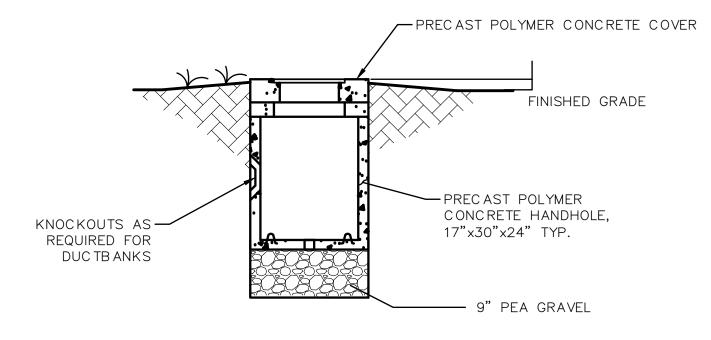
GROUND ROD TEST WELL



BELOW GRADE GROUND ROD/CABLE CONNECTION DETAIL



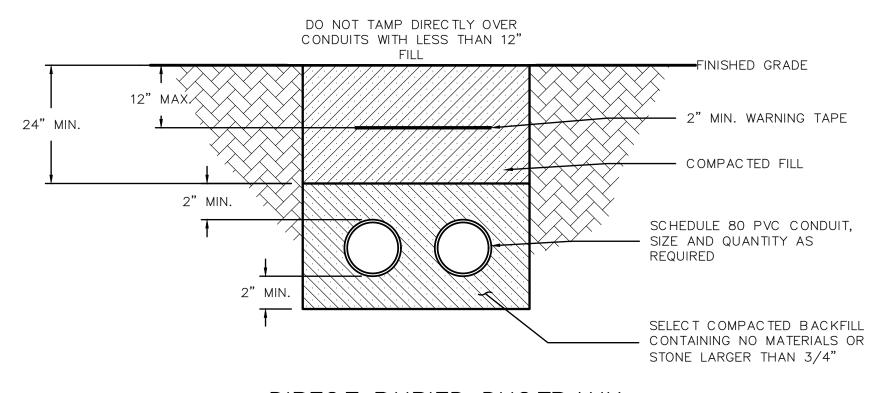
COPPER GROUND BUS PLATE MOUNTING DETAIL



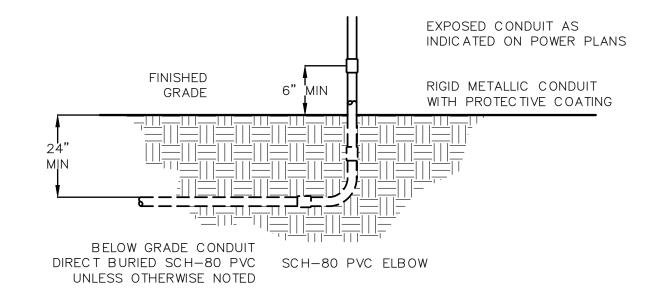
#### SMALL HANDHOLE NOTES:

- 1. PROVIDE PRODUCTS OF ONE OF THE FOLLOWING:
- A. STRONGWELL QUAZITE
- B. OLD CASTLEC. OR APPROVED EQUAL
- MATERIAL: PRECAST POLYMER CONCRETE.
   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
- APPLICATIONS.

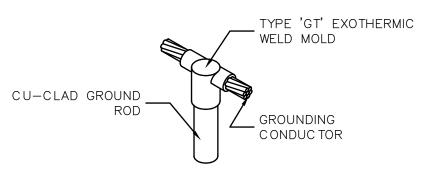
  6. COVERS SHALL HAVE COEFFICIENT OF FRICTION OF NOT LESS THAN 0.50, IN ACCORDANCE WITH ASTM C1028.



DIRECT BURIED DUCTBANK

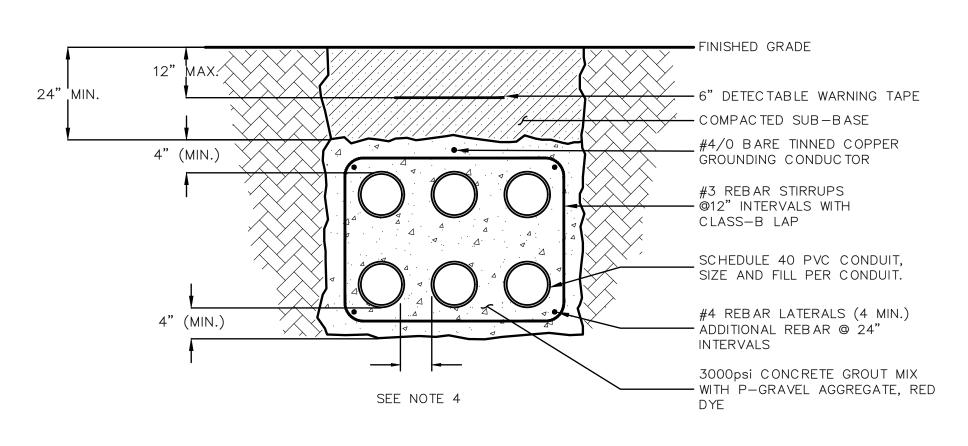


#### CONDUIT TRANSITION DETAIL

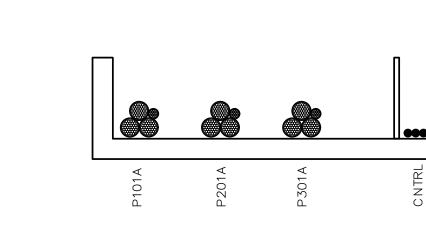


SMALL HANDHOLE DETAIL

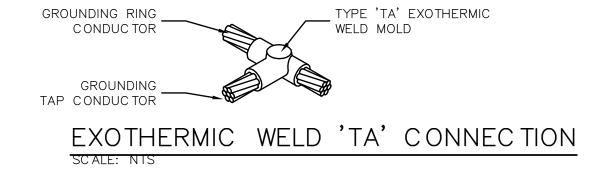
EXOTHERMIC WELD 'GT' CONNECTION

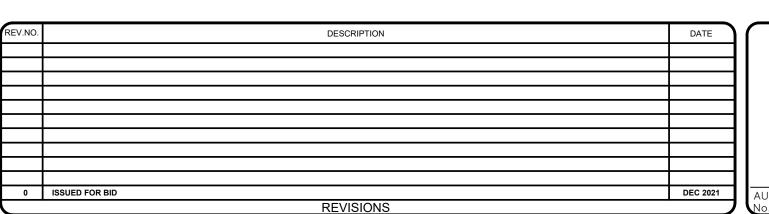


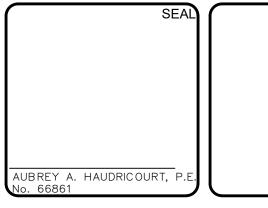
REINFORCED CONCRETE DUCTBANK



1	SECTION	1
E1.04E1.11	NTS	











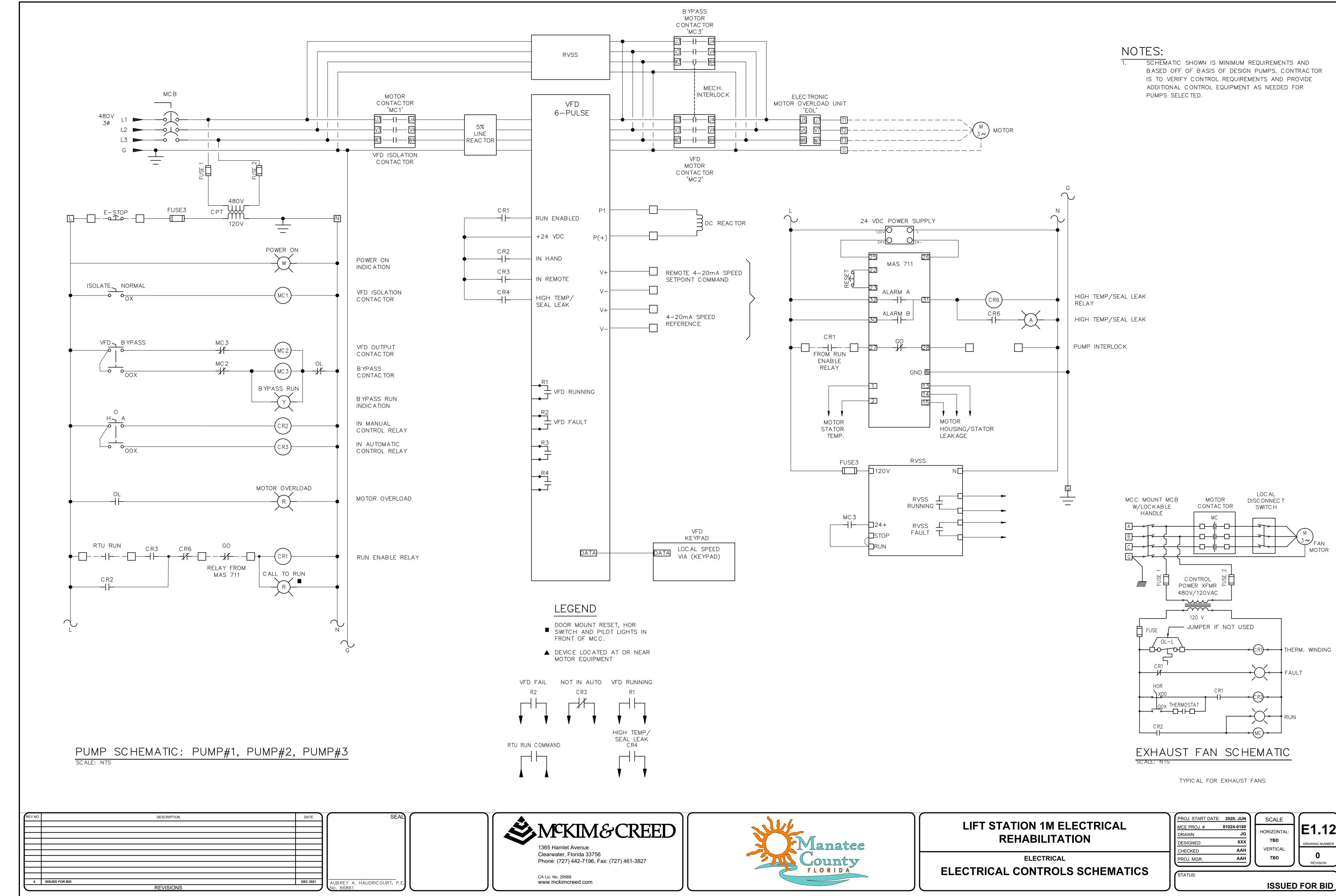
LIFT STATION 1M ELECTRICAL REHABILITATION
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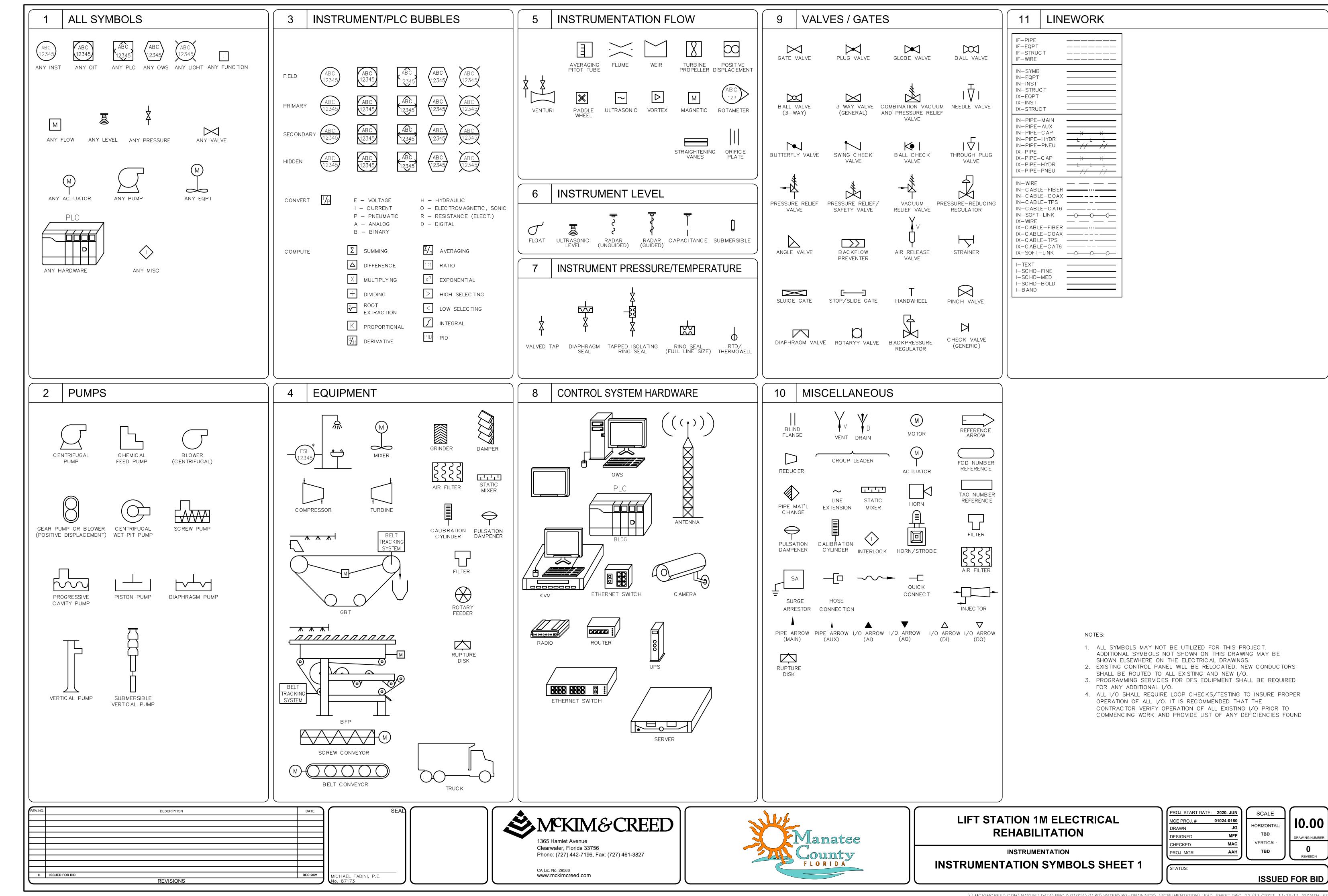
ELECTRICAL DETAILS

)	PROJ. START DATE:	2020. JUN		SCALE	)	
	MCE PROJ. #	01024-0180			1	<b>E1</b>
	DRAWN	JG	H	ORIZONTAL:		
	DESIGNED	SS		TBD		DRAWING
4	CHECKED	MAC		VERTICAL:		
	PROJ. MGR.	AAH		TBD		(
1					,	REV

**ISSUED FOR BID** 

STATUS:

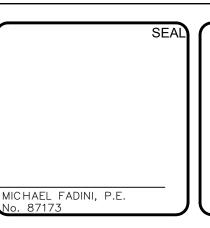




#### 1 PID FUNCTION SYMBOLS

	FIRST LETT	ER		SUC C EEDING-LETTE	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
1	Current (Electrical)		Indicate		
J	Power	Scan			
K	Time, Time Schedule			Control Station	
L	Level		Light (Pilot)		Low
М	Motor				<b>M</b> iddle,
					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	<b>M</b> ultifunction
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	DEC 2021
	REVISIONS	J



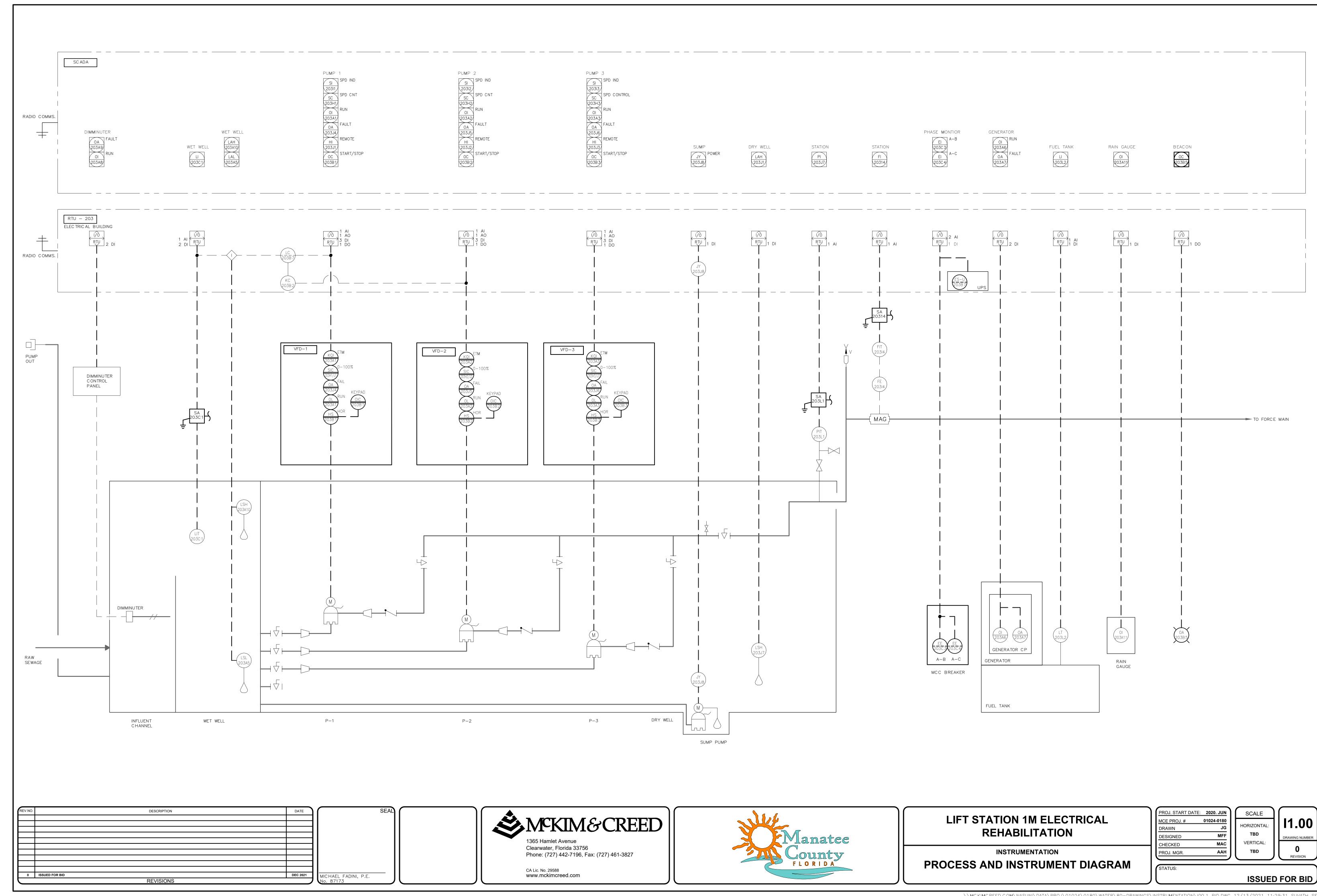




## LIFT STATION 1M ELECTRICAL REHABILITATION

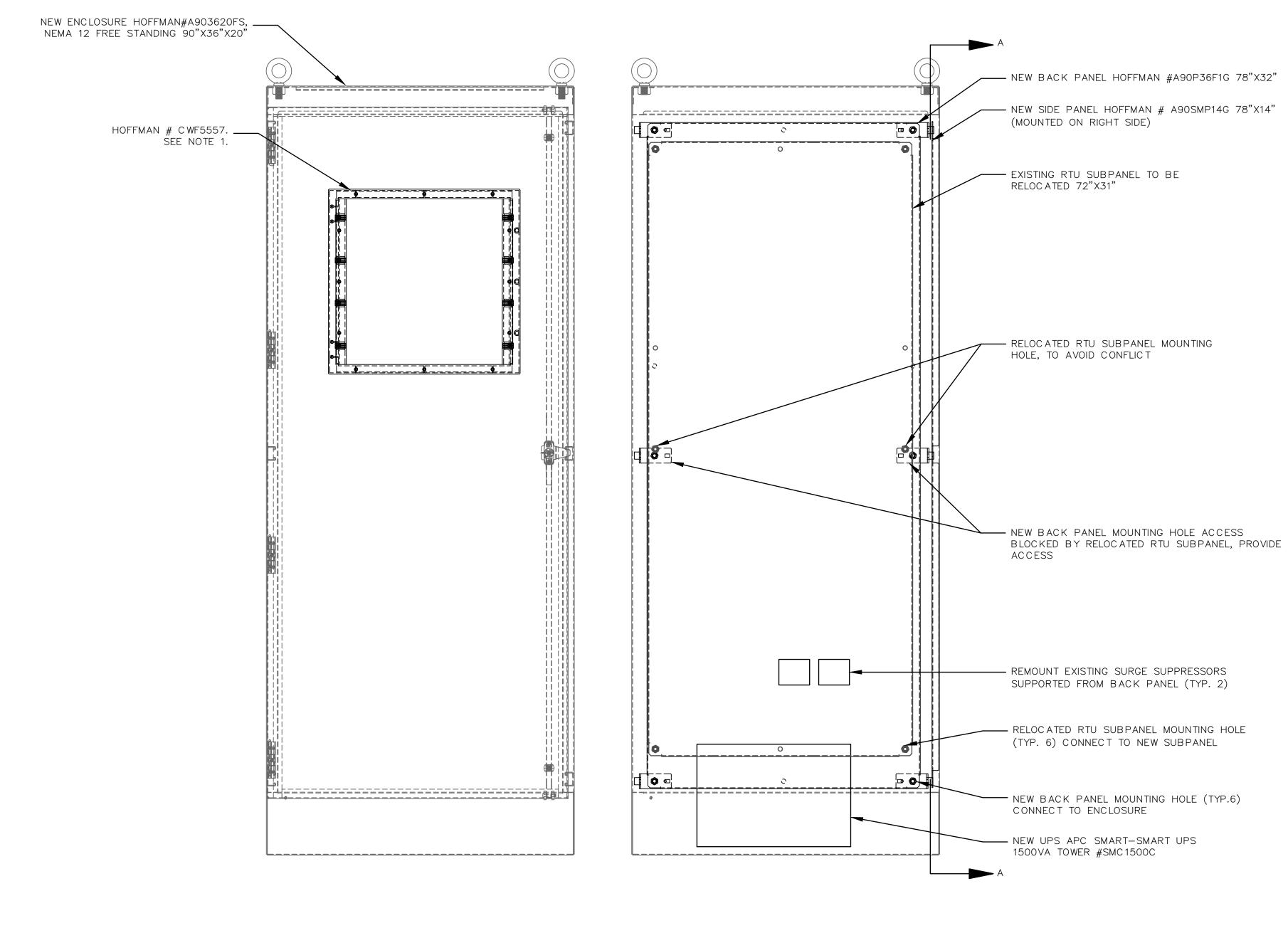
INSTRUMENTATION
INSTRUMENTATION SYMBOLS SHEET 2

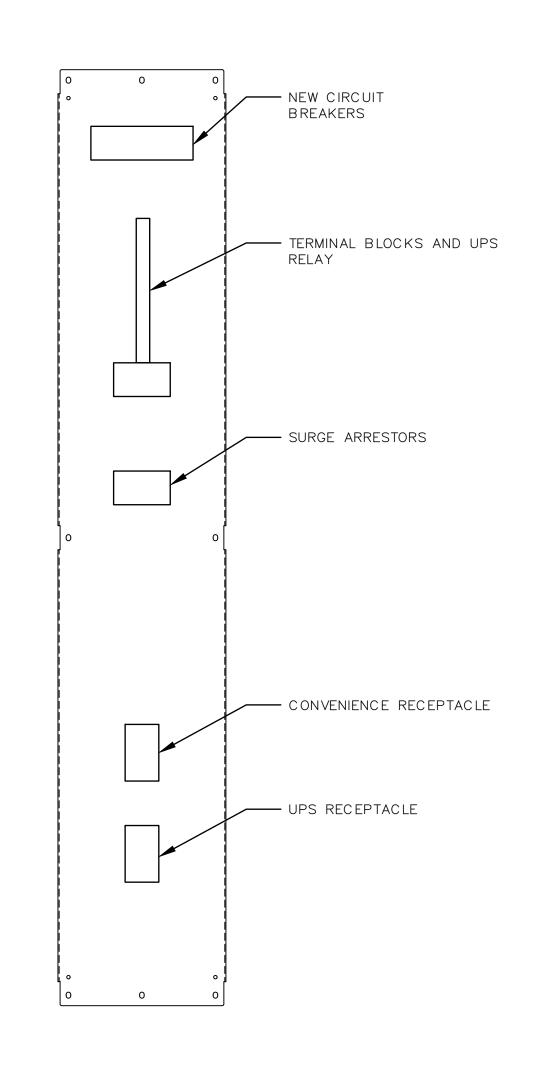
7	PROJ. START DAT	E: 2020. JUN	SCALE	
	MCE PROJ. #	01024-0180		10.01
	DRAWN	JG	HORIZONTAL:	10.0 1
	DESIGNED	MFF	TBD	DRAWING NUMBER
	CHECKED	MAC	VERTICAL:	
	PROJ. MGR.	AAH	TBD	0
				REVISION

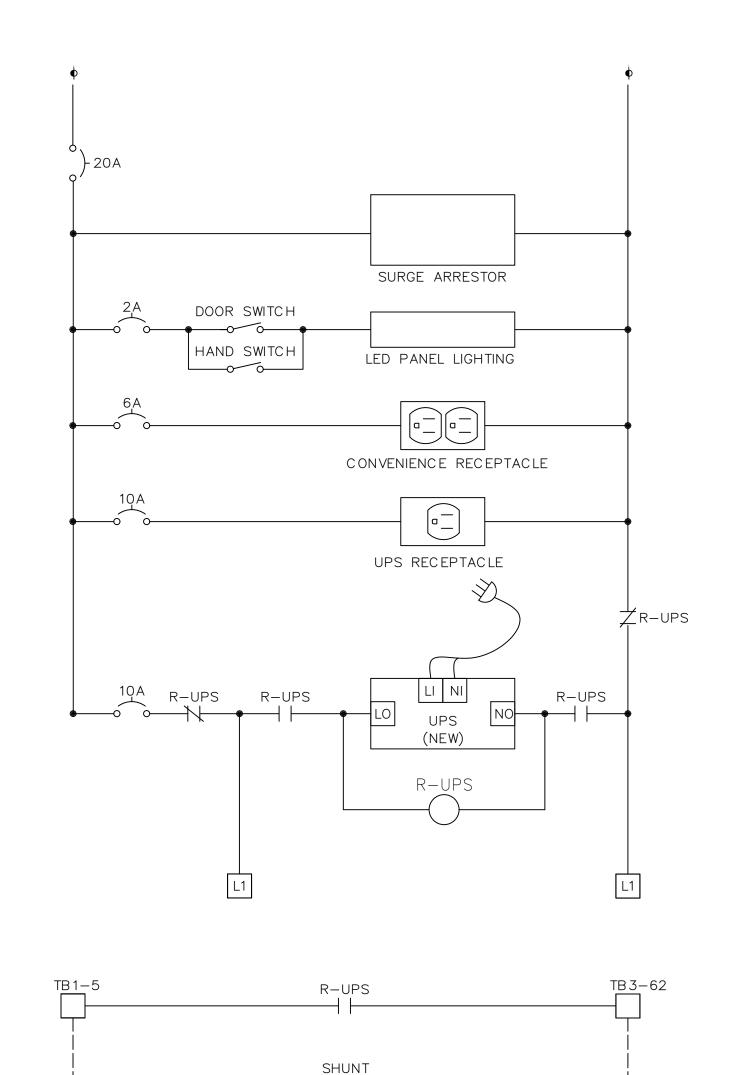




- LOCATE WINDOW IN POSITION WHICH ALLOWS DFS-RTU TO BE VISIBLE WITHOUT OPENING THE PANEL DOOR
- 2. SUBPANEL LAYOUT AND SCHEMATIC ARE DIAGRAMATTIC TO CONVEY MINIMUM REQUIREMENTS FOR FABRICATION AND INSTALLATION.
- 3. NEW SHUNT AND UPS COMMON ALARM SHALL BE WIRED TO SPARE INPUT B7. B7 IS NORMALLY CONFIGURED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







FRONT ELEVATION

BACK PANEL
SCALE: NTS, SEE NOTE 2.

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

CONTROL PANEL SCHEMATIC DIAGRAM
SCALE: NTS, SEE NOTE 2.

DESCRIPTION

DESCRIPTION

DATE

DESCRIPTION

DESCRIPTION

DESCRIPTION

DEC 2021

MICHAEL FADINI, P.E. No. 87173





LIFT STATION 1M ELECTRICAL REHABILITATION

INSTRUMENTATION
CONTROL PANEL

