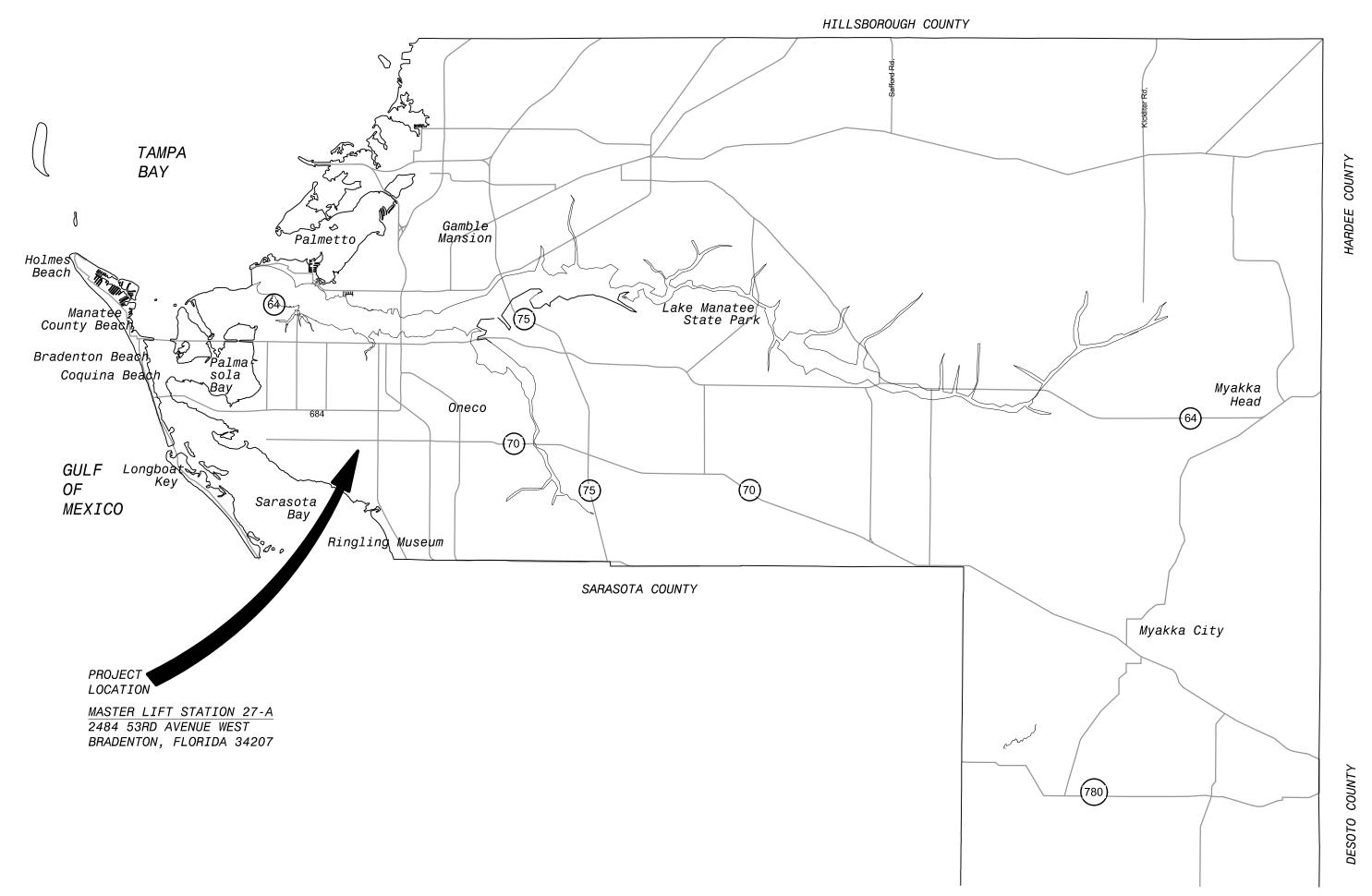
MANATEE COUNTY IMPROVEMENTS AT MASTER LIFT STATION 27-A





2484 53rd Ave W
Bradenton, FL 34207

Beanly 2 ARTM

South Sty W

South

LOCATION MAP

48 HOURS BEFORE YOU DIG CALL SUNSHINE 1-800-432-4770 or 811 IT'S THE LAW IN FLORIDA

FLORIDA LAW REQUIRES
EXCAVATORS TO NOTIFY
OWNERS OF UNDERGROUND
FACILITIES NO LESS THAN TWO
(2) DAYS PRIOR TO EXCAVATION

THIS DRAWING WAS
ORIGINALLY APPROVED
FOR CONSTRUCTION BY
MICHAEL N. TACHE, ON
09/16/2022 AND SEALED
BY MICHAEL N. TACHE, A
LICENSED PROFESSIONAL
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OF FLORIDA, NO. 83893

GENERAL, DEMOLITION, CIVIL & MECHANICAL THIS DRAWING WAS
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PHILIP D RISHEL, ON
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REGISTERED ARCHITECT
IN THE STATE OF
FLORIDA, NO. AR101040

ARCHITECTURAL

100% SUBMITTAL
SEPTEMBER 2022
PROJECT #402142
MANATEE COUNTY CIP 6097480 & 6097481



BLACK & VEATCH

Black & Veatch Corporation 3405 W. Dr. M. L. King Jr. Blvd, Suite 125 Tampa, Florida Certificate No. 8132 VICINITY MAP
NOT TO SCALE

THIS DRAWING WAS
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MICHELE ROTH, ON
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BY MICHELE ROTH, A
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OF FLORIDA, NO. 82002

ORIGINALLY APPROVED
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ENGINEER IN THE STATE
OF FLORIDA, NO. 86822

THIS DRAWING WAS

STRUCTURAL

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RYAN BINKLEY, ON
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BY RYAN BINKLEY, A
LICENSED PROFESSIONAL
ENGINEER IN THE STATE
OF FLORIDA, NO. 89014

ELECTRICAL

THIS DRAWING WAS
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LARRY BROUILLETTE, ON
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BY LARRY BROUILLETTE, A
LICENSED PROFESSIONAL
ENGINEER IN THE STATE

<u>INSTRUMENTATION</u>

OF FLORIDA, NO. 57973

ISSUED FOR CONSTRUCTION

<u>DISCIPLINE</u>	DRAWING NO.	DRAWING TITLE
<u>GENERAL</u>		
1	-	COVER SHEET AND VICINITY MAP
2	G-01	GENERAL - INDEX OF DRAWINGS
3	G-02	GENERAL - NOTES, LEGEND AND ABBREVIATIONS
<u>DEMOLITION</u>		
<i>4</i> 5	D-01 D-02	DEMOLITION - PUMP BUILDING PLAN DEMOLITION - PUMP AND PIPING, STORM SHELTER PLAN AND ELEVATION
6	D-02 D-03	DEMOLITION - FUMP AND FIFING, STORM SHELTER FLAN AND ELEVATION DEMOLITION - PUMP BUILDING PHOTOS
ů	2 00	DEMOCIFIENT POINT BOILDING PRIORE
SITEWORK		
7	C-01	CIVIL - SITE PLAN
8	C-02	CIVIL - TYPICAL DETAILS
•	0 0-	
ARCHITECTURAL		
9	A-01	ARCHITECTURAL - FLOOR PLAN, LIFE SAFETY PLAN AND CODE ANALYSIS
10	A-02	ARCHITECTURAL - BUILDING ELEVATIONS
11	A-03	ARCHITECTURAL - SCHEDULES AND DETAILS
STRUCTURAL		
12	S-01	STRUCTURAL - GENERAL NOTES
13	S-02	STRUCTURAL - LOADING CRITERIA
14	S-03	STRUCTURAL - MASTER LIFT STATION PLAN AND DETAILS
15	S-04	STRUCTURAL - STANDARD CONCRETE REINFORCEMENT AND CMU DETAIL
<u>MECHANICAL</u>		
16	M - O 1	MECHANICAL - PLAN AND SECTION
<u>HVAC</u>		
17	H-01	HVAC - LEGEND, ABBREVIATIONS AND GENERAL NOTES
18	H-02	HVAC - PLAN
19	Н-03	HVAC - SCHEDULES AND DETAILS
EL EGEDTOM.		
ELECTRICAL		
20	E-01	ELECTRICAL APPRENTATIONS AND NOTES
21 22	E-02 E-03	ELECTRICAL - ABBREVIATIONS AND NOTES ELECTRICAL - SITE AND POWER PLAN
23	E-04	ELECTRICAL - SITE AND FOWER FEAN ELECTRICAL - EXISTING MCC DEMO ONE-LINE DIAGRAMS
24	E-05	ELECTRICAL - BOTTOM LEVEL POWER PLAN
25	E-06	ELECTRICAL - ENLARGED PLAN - ELECTRICAL ROOM - POWER AND GROUNDING PLA
26	E-07	ELECTRICAL - SWBD-1 ONE-LINE DIAGRAMS
27	E-08	ELECTRICAL - MISCELLANEOUS ONE-LINE DIAGRAMS
28 29	E-09 E-10	ELECTRICAL - OPERATING LEVEL LIGHTING PLAN ELECTRICAL - DRYWELL LIGHTING PLAN
30	E-10 E-11	ELECTRICAL - DATWELL LIGHTING FLAN ELECTRICAL - SCHEMATICS
31	E-12	ELECTRICAL - SCHEDULES
32	E-13	ELECTRICAL - STANDARD DETAILS 1
33	E-14	ELECTRICAL - STANDARD DETAILS 2
<u>INSTRUMENTATION</u>	<u>I</u>	
34	- I-01	INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 1 OF 3
34 35	I-01 I-02	INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 2 OF 3
34 35 36	I-01 I-02 I-03	INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 2 OF 3 INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 3 OF 3
34 35	I - 01 I - 02 I - 03 I - 04	INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 2 OF 3 INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 3 OF 3 INSTRUMENTATION - P&ID MASTER LIFT STATION PUMPS
34 35 36 37	I-01 I-02 I-03	INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 2 OF 3 INSTRUMENTATION - LEGEND & ABBREVIATIONS SHEET 3 OF 3

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	SEPT 2022	3Y MAY 2022) OCT 2019	DATE		G-01.dwg	SAVED:DUT48884,	, PLOTTED: DUT4888	USER: DUT48884
THIS DRAWING WAS	ORIGINALLY APPROVE	FOR CONSTRUCTION B	ON 09/16/2022 AND	SEALED BY	MICHAEL N. TACHE,	PROFESSIONAL	ENGINEER IN THE	STATE OF FLORIDA,	NO. 83893
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777		To Tallan			LEY BLACK & VEATCH	•	Black & Veatch Corporation	3405 W. Dr. M. L. King Jr. Blvd, Suite 125	Tampa, Florida
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GENERAL

- 1. COUNTY INSPECTOR SHALL BE NOTIFIED AT LEAST SEVEN (7) DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY WITHIN PROXIMITY OF ANY UTILITIES, INCLUDING TIE-IN AND VALVE OPERATIONS.
- 2. THE CONTRACTOR SHALL KEEP EXISTING MASTER LIFT STATION IN OPERATION THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL COORDINATE ALL PUMP STATION OPERATION AND SHUT DOWN CONTROL WITH A UTILITIES INSPECTOR. THE CONTRACTOR SHALL PROVIDE FOR BYPASSING AND/OR HAULING OF WASTEWATER DURING THE INTERRUPTION OF FLOWS AND CONNECTIONS WITH EXISTING WASTEWATER SYSTEMS. BY-PASS PIPING AND PUMPING REQUIREMENTS ARE SPECIFIED IN SECTION 01650 AND 02720. PROJECT CONSTRAINTS ARE SPECIFIED IN SECTION 01310.
- 3. THE COUNTY SHALL BE RESPONSIBLE FOR OPERATING ALL EXISTING VALVES AND EQUIPMENT. CONTRACTOR SHALL ADEQUATELY COORDINATE NEEDS WITH THE COUNTY TO SUPPORT THE PROJECT.
- 4. THE UTILITY IMPROVEMENTS AND ADJUSTMENTS SHOWN ON THESE PLANS ARE INTENDED TO MAINTAIN THE INTEGRITY OF THE MANATEE COUNTY WATER, WASTEWATER AND RECLAIMED WATER SYSTEMS. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. THE PLANS DO NOT INCLUDE WORK PERFORMED ON OR FOR UTILITY SYSTEMS OWNED BY OTHERS UNLESS STATED OTHERWISE ON THE PLANS.
- EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, OR OVERHEAD) ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS KNOWN, OR MADE AVAILABLE TO, OR DISCOVERED BY THE ENGINEER IN PREPARING THE DRAWINGS. THE LOCATIONS, CONFIGURATIONS, AND ELEVATIONS OF SUBSURFACE FACILITIES AND UTILITIES ARE APPROXIMATE, AND NOT ALL UTILITIES AND FACILITIES MAY BE INDICATED. THE CONTRACTOR SHALL VERIFY THE EXACT HORIZONTAL AND VERTICAL LOCATION OF UNDERGROUND UTILITIES IN THE AREA OF CONSTRUCTION PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS AND PAY ALL COSTS ASSOCIATED WITH THE TEMPORARY RELOCATION, SUPPORT, MONITORING, PROTECTION, OR OTHER INTERACTION WITH UTILITY FEATURES WHICH MIGHT BE AFFECTED BY THE WORK. PROVIDE REQUIRED NOTICE TO OTHERS FOR SUCH WORK TO ALLOW THE PROJECT TO CONTINUE IN ACCORDANCE WITH THE CONTRACT SCHEDULE. THE COST OF SUCH WORK SHALL BE INCORPORATED INTO THE VARIOUS ITEMS OF WORK REQUIRED AND RELATED TO SUCH RELOCATION, SUPPORT, MONITORING OR PROTECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGE WHICH MIGHT RESULT FROM HIS FAILURE TO EXACTLY LOCATE AND PROTECT ANY AND ALL UTILITIES, WHETHER ABOVE OR BELOW GRADE. ANY DAMAGE SHALL BE REPAIRED AT NO ADDITIONAL COST TO OWNER.
- NEW OR RELOCATED UNDERGROUND WATER MAINS SHALL BE CONSTRUCTED TO PROVIDE HORIZONTAL AND VERTICAL SEPARATION DISTANCES FROM SANITARY OR STORM SEWERS, MANHOLES, WASTEWATER FORCE MAINS, RECLAIMED WATER PIPELINES, AND ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEMS IN ACCORDANCE WITH F.A.C. 62-555.
- 7. CONTRACTOR SHALL EMPLOY A LAND SURVEYOR LICENSED IN THE STATE OF FLORIDA TO MARK ALL CONSTRUCTION AREAS, CONSTRUCTION EASEMENTS, PROPERTY LINES AND CONFIRM EXISTING CONDITIONS AS DOCUMENTED ON THESE DRAWINGS, PRIOR TO CONSTRUCTION.
- 8. EXISTING UTILITIES AND STRUCTURES (UNDERGROUND, SURFACE, OR OVERHEAD) ARE INDICATED ONLY TO THE EXTENT THAT SUCH INFORMATION WAS KNOWN, OR MADE AVAILABLE TO, OR DISCOVERED BY THE ENGINEER IN PREPARING THE DRAWINGS. NOTE ALL UTILITIES AND FACILITIES MAY BE INDICATED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE WHICH RESULTS FROM HIS FAILURE TO ADEQUATELY LOCATE AND PROTECT ANY AND ALL UTILITIES OF FACILITIES, WHETHER ABOVE OR BELOW GROUND. ALL DAMAGE SHALL BE REPAIRED AT NO ADDITIONAL COST TO OWNER.
- 9. ONLY UTILITIES SHALL OPERATE WATER. WASTEWATER. AND RECLAIMED WATER VALVES. COORDINATE VALVE OPERATION WITH APPROPRIATE COUNTY INSPECTOR.
- 10. CONTRACTOR'S STAGING, PARKING AND MATERIAL STORAGE SHALL BE LIMITED TO THE SPACE (S) INSIDE LIMITS OF THE PROPERTY SITE. PROVIDING ADDITIONAL STORAGE OR PARKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 11. CONTRACTOR SHALL INSTALL ALL PIPELINES, PAVING, AND WALKWAYS AT A UNIFORM GRADE BETWEEN ELEVATIONS DEPICTED ON THE DRAWINGS.
- 12. THE MANATEE COUNTY UTILITIES, STANDARD FOR DESIGN AND CONSTRUCTION OF WATER, WASTEWATER AND RECLAIMED WATER FACILITIES (LATEST EDITION) SHALL BE USED FOR DETAILS AND INFORMATION NOT SHOWN HEREIN.
- 13. COATINGS AND LININGS SHALL BE AS SPECIFIED IN SECTION 09940. OTHER BUILDING FINISHES (E.G. INTERIOR PAINTING OF EXISTING PUMP BUILDING) ARE COVERED IN OTHER DIVISION 9 SPECIFICATIONS.
- 14. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO THE WORK THROUGHOUT THE PERIOD OF CONSTRUCTION, AND AT NO TIME SHALL HIS
- 15. FOR ALL SITE GRADING, SMOOTH PARABOLIC TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE.
- 16. SITE BACKGROUND IS BASED ON SURVEY WORK OBTAINED JUNE 2019. BUILDING BACKGROUND INFORMATION IS BASED ON RECORD DRAWINGS. CONTRACTOR SHALL EMPLOY A LAND SURVEYOR LICENSED IN THE STATE OF FLORIDA TO MARK ALL CONSTRUCTION AREAS, CONSTRUCTION EASEMENTS AND PROPERTY LINES PRIOR TO CONSTRUCTION.
- 17. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING. PIPING AND UTILITY LOCATIONS SHOWN ON PLANS ARE NOT EXACT OR GUARANTEED. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.
- 18. "SCREENED" (LIGHT) DELINEATION INDICATED ON THE DRAWINGS DENOTES EXISTING FACILITIES. "SCREENED" INFORMATION WAS TAKEN FROM EXISTING CONSTRUCTION DRAWINGS AND DATA, AND IS FOR REFERENCE ONLY, AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE ORDERING OF MATERIALS AND BEGINNING OF CONSTRUCTION. "BOLD" DELINEATION IS NEW WORK TO BE CONSTRUCTED UNDER THIS CONTRACT.
- 19. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING TREES, SHRUBS, AND PLANTS, UNLESS OTHERWISE NOTED.

OPERATIONS BLOCK OR RESTRICT ACCESS TO COUNTY O&M STAFF WITHOUT ADVANCED NOTIFICATION AND APPROVAL.

- 20. CONTRACTOR SHALL PROTECT EXISTING INFRASTRUCTURE / EQUIPMENT FROM DAMAGE DURING THE DURATION OF CONSTRUCTION. THE CONTRACTOR, AT THE CONTRACTOR'S EXPENSE, SHALL IMMEDIATELY REPAIR ALL DAMAGES TO UTILITIES, MAINS AND FACILITIES. IF THE REPAIR IS NOT MADE IN A TIMELY MANNER, AS DETERMINED BY OWNER, OWNER MAY PERFORM REQUIRED REPAIRS AND CLEANUP. THE CONTRACTOR WILL BE CHARGED FOR ALL EXPENSES ASSOCIATED WITH THE REPAIR.
- 21. CONTRACTOR SHALL NOT ADVERSELY IMPACT DRAINAGE SYSTEMS DURING CONSTRUCTION. TEMPORARILY RECONFIGURE THE DRAINAGE SYSTEM, AS NEEDED AS THE CONSTRUCTION WORK PROGRESSES, TO NOT CAUSE ADVERSE IMPACTS TO SURFACE WATER DRAINAGE EFFICIENCY. DO NOT IMPAIR SURFACE WATER DRAINAGE CAPACITY. FOLLOW THE REQUIREMENTS OF THE APPROVED POLLUTION PREVENTION PLAN FOR THE PROJECT.
- 22. THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO CONNECTING TO OR DISRUPTING ANY EXISTING SERVICES (PIPING, ELECTRICAL, ETC). COUNTY INSPECTOR SHALL BE NOTIFIED BY CONTRACTOR TWENTY-ONE (21) DAYS IN ADVANCE OF CONNECTING INTO EXISTING FACILITIES / PIPING.
- 23. THE UTILITY IMPROVEMENTS AND ADJUSTMENTS SHOWN ON THESE PLANS ARE INTENDED TO MAINTAIN THE INTEGRITY OF THE MANATEE COUNTY WATER, WASTEWATER AND RECLAIMED WATER SYSTEMS. ALL MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS. THE PLANS DO NOT INCLUDE WORK PERFORMED ON OR FOR UTILITY SYSTEMS OWNED BY OTHERS UNLESS STATED OTHERWISE ON THE PLANS.
- 24. THE CONTRACTOR SHALL PROVIDE AT LEAST 48-HOURS NOTICE TO THE VARIOUS UTILITIES COMPANIES IN ORDER TO PERMIT THE LOCATION OF EXISTING UNDERGROUND UTILITIES IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE UTILITIES NOTIFICATION CENTER, SUNSHINE STATE ONE CALL OF FLORIDA.
- 25. THE COUNTY SHALL HAVE RIGHT OF FIRST REFUSAL FOR ANY SALVAGED MATERIALS. IF REFUSED, MATERIAL / EQUIPMENT SHALL BE BECOME THE CONTRACTOR'S RESPONSIBILITY AND DISPOSED IN ACCORDANCE WITH THE DEMOLITION SPECIFICATION.
- 26. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL SURPLUS EXCAVATION MATERIALS AND DEBRIS FROM THE SITE AND SHALL MAINTAIN THE SITE IN A NEAT AND ORDERLY CONDITION.
- 27. THE SOIL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED PRIOR TO CONSTRUCTION, MAINTAINED THROUGHOUT CONSTRUCTION AND UNTIL THE SITE IS PERMANENTLY STABILIZED. THE CONTRACTOR SHALL PROVIDE AND INSTALL SILT SCREENS AROUND THE PROPOSED CONSTRUCTION ACTIVITY, AS NECESSARY, TO PREVENT THE TRANSPORT OF SEDIMENT DOWNSTREAM INTO STREET, STORM SEWERS, OPEN DITCHES, LAKES, DETENTION PONDS, ETC., AND SHALL PERFORM ALL NECESSARY INSPECTIONS AT A MINIMUM.

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TYP TYPICAL	
IN FINISHED	
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ELG FLANGE USGS UNITED STATES GEOLOG FM FORCE MAIN	GICAL SURVEY
RP FIBERGLASS REINFORCED PLASTIC V VALVE, VENT	
TO FOOT VCP/VC VITRIFIED CLAY PIPE	
WD FORWARD VERT VERTICAL	
VR AIR/VACUUM RELEASE V	/ALVE
GAS VV VENT VALVE	
GA GAUGE	
GALLON W WEST, WATER WALV GALVANIZED W/ WITH	
GALV GALVANIZED W/ WITH SPM GALLONS PER MINUTE WAS WASTE ACTIVATED SLUI	OGE
RR GRADE WAS WASTE ACTIVATED SLOP	JUL
TO GATE VALVE WATER METER	
W/O WITHOUT	
IB HOSE BIBB WT WEIGHT	
IF HOSE FAUCET WW WET WELL	
IMC HARNESSED MECHANICAL COUPLING	
HORIZ HORIZONTAL X BY,TIMES HP HORSEPOWER	
IV HOT WATER YH YARD HYDRANT	
WY HIGHWAY	
& AND	
D INSIDE DIAMETER @ AT	
N INCHES ° DEGREE	
NC INCORPORATED < DEFLECTION ANGLE	
NV INVERT # NUMBER % PER CENT	
AT LATERAL	
BR LIMEROCK BEARING RATIO	
B(S) POUNDS	
OC LIMITS OF CONSTRUCTION	
T LEFT	

MAXIMUM

MANHOLE

MINIMUM

NORTH

MGD

NTS

MAGNETIC FLOWMETER

MILLION GALLONS PER DAY

MANUFACTURER(S)

MISCELLANEOUS

NOT APPLICABLE

NORMALLY OPEN

NOT TO SCALE

NUMBER(S)

ON CENTER

OVERFLOW **OVERHEAD**

OUNCE

NORMALLY CLOSED

NATIONAL PIPE THREAD

NONPOTABLE WATER

OUTSIDE DIAMETER

MECHANICAL JOINT

GENERAL LEGEND

	NEW PIPING
	UNDERGROUND PIPING
	EXISTING PIPING
	PROPERTY LINE
	EASEMENT LINE
-XX-	FENCE
	CENTERLINE
	SILT FENCE
$\longrightarrow \underbrace{(G)}_{(W)}$	WATER OR GAS VALVE
	WATER OR GAS METER
Ø)	TELEPHONE OR POWER POLE WITH GUY ANCHOR
	MANHOLE (MH)
\forall_{FH}	FIRE HYDRANT (FH)
A ^A	YARD, POST HYDRANT (YH)
¤	STREET LIGHT POLE
	HEDGE, BRUSH, SHRUBS, WOODS
	TREE
AC45	SECTION NUMBER OR DETAIL LETTER DRAWING NUMBER ON WHICH SECTION OR DETAIL APPEARS; OR WHERE SECTION IS CUT OR DETAIL IS NOTED
	DEMOLISH AND DISPOSE
	NEW CMU INFILL
→	DRAINAGE ARROW (FLOW DIRECTION)

EXISTING SPOT ELEVATION

PROPOSED SPOT ELEVATION

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NOTE

MATERIALS LEGEND

EARTH OR GRADE

GRANULAR FILL (CRUSHED STONE OR GRAVEL)

χ 57.50

CONCRETE

ASPHALT PAVEMENT

NOT TO FULL SCALE PROJECT NO. 402142 G-02 SHEET

DESIGNED: AZ

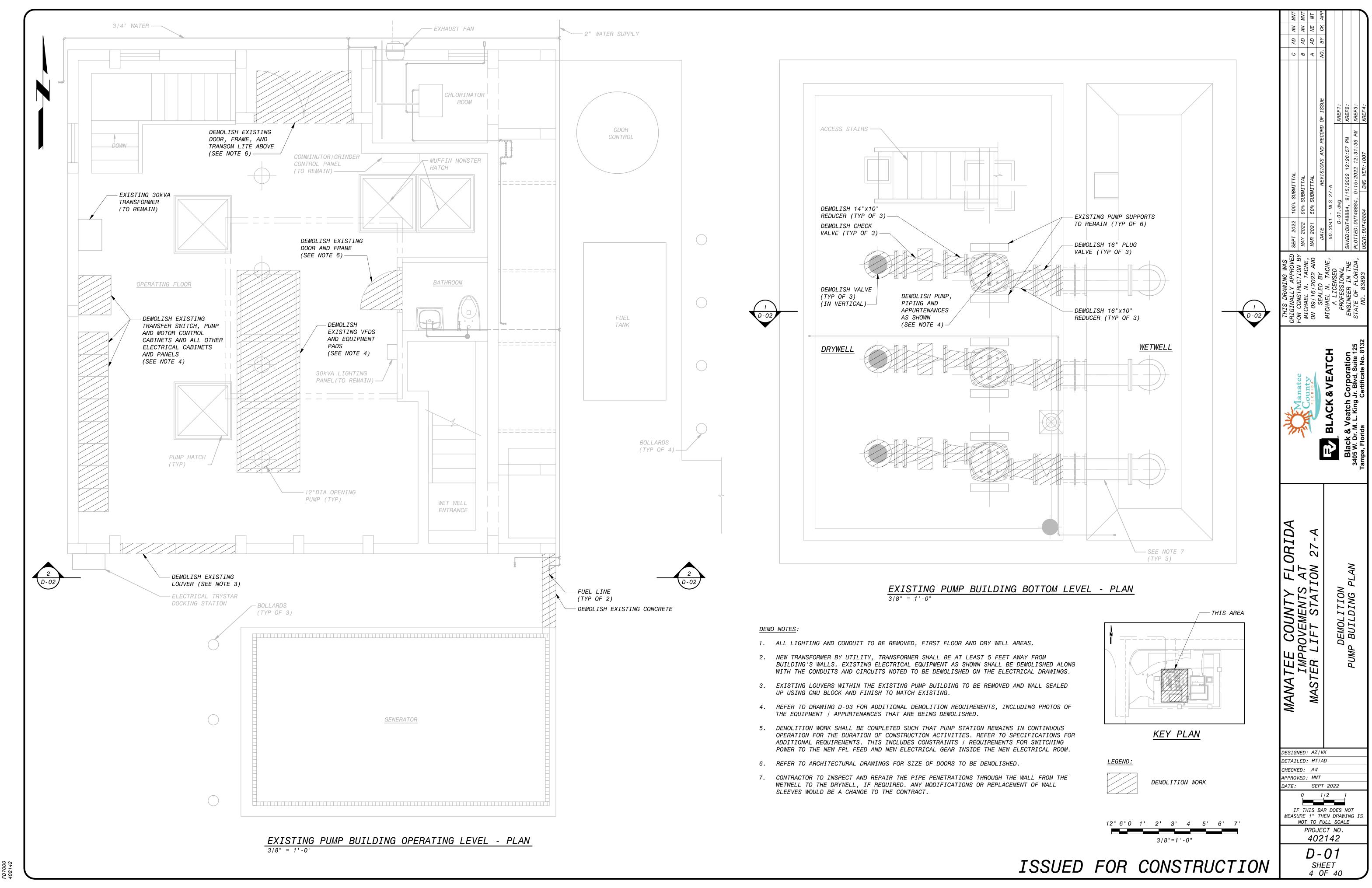
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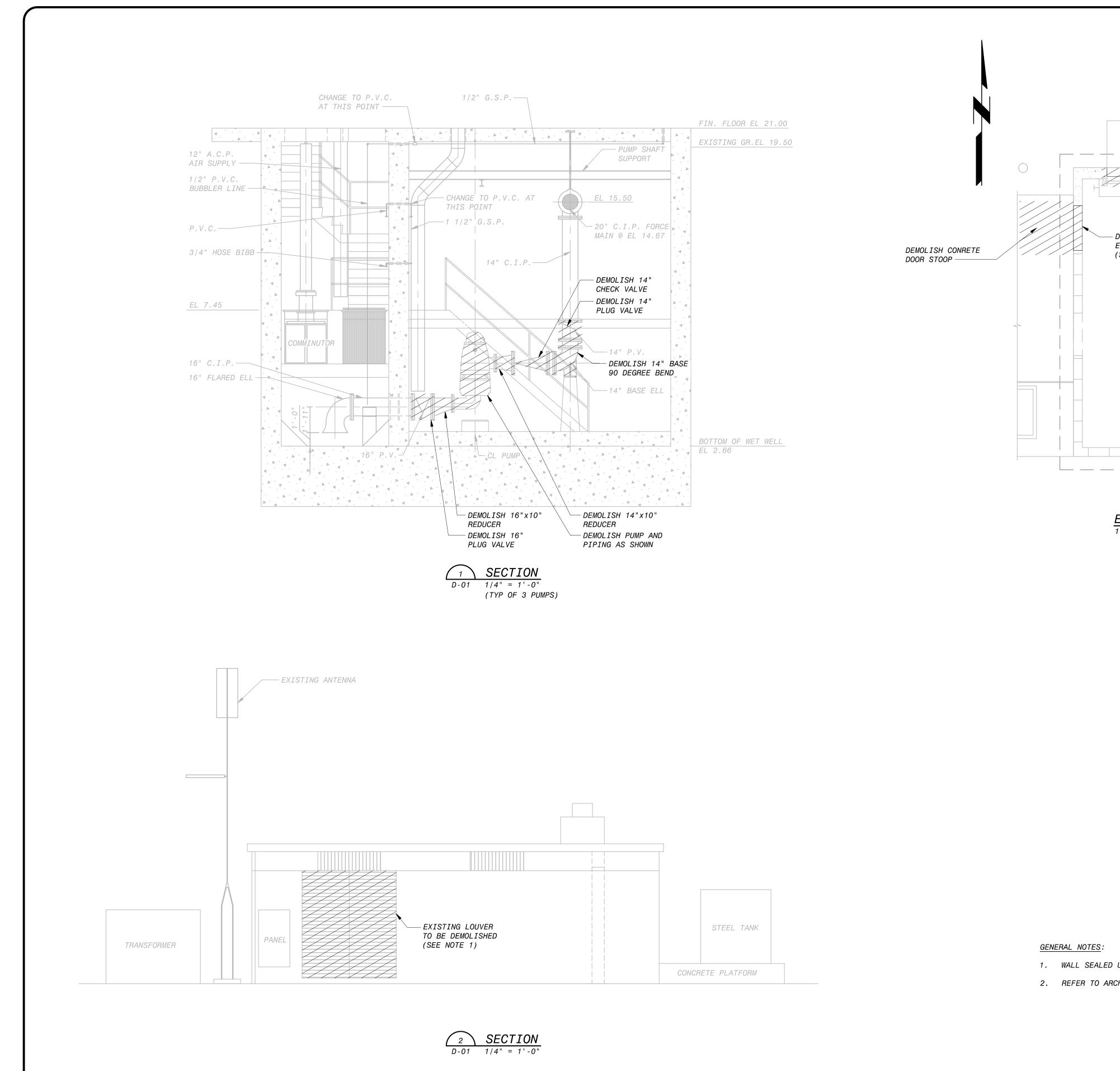
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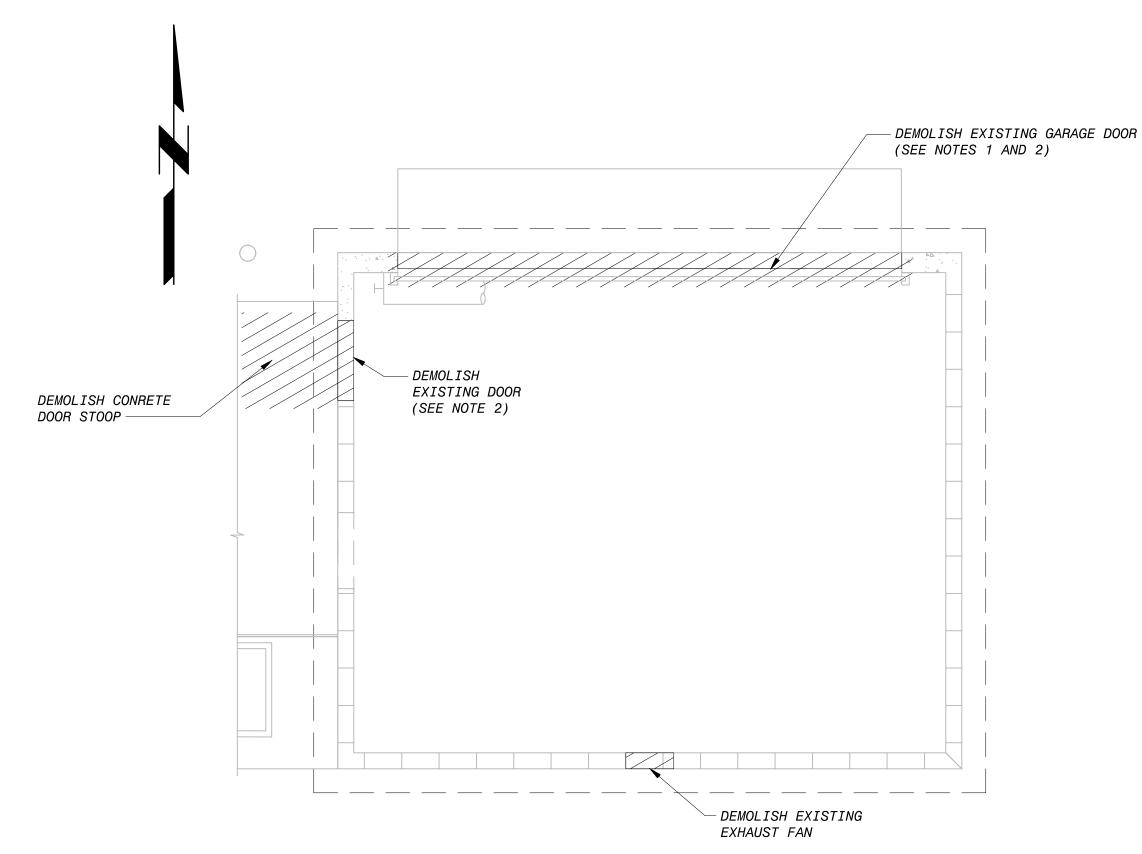
1/2 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS

3 OF 40

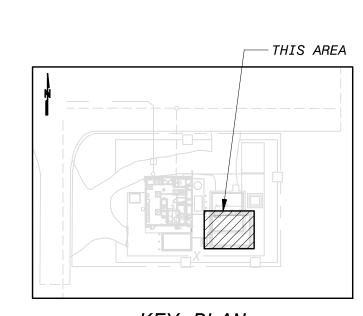
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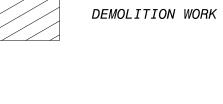


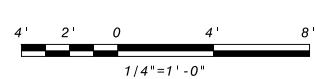
EXISTING STORM SHELTER BUILDING PLAN



KEY PLAN

- 1. WALL SEALED UP USING CMU BLOCK AND FINISHED TO MATCH EXISTING.
- 2. REFER TO ARCHITECTURAL DRAWINGS FOR SIZE OF DOORS TO BE DEMOLISHED.





ISSUED FOR CONSTRUCTION

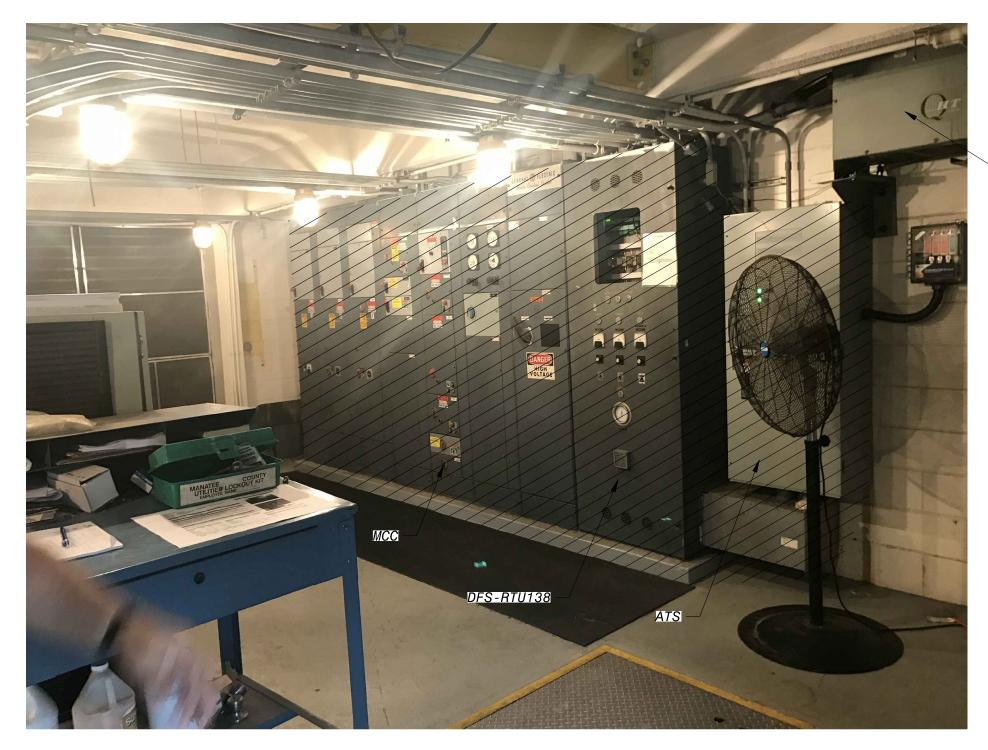
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	22 100% SUBMITTAL	2 90% SUBMITTAL	1 50% SUBMITTAL	REVISIONS AND RECORD OF	50.3041 - MLS 27-A	D-02.dwg	SAVED:DUT48884, 9/15/2022 12:30:42 PM	PLOTTED:DUT48884, 9/15/2022 12:30:45 PM	748884 DWG VER:1005
	SEPT 2022	MAY 2022	MAR 2021	DATE	50.30		SAVED:DUT	PLOTTED: L	USER: DUT48884
THIS DRAWING WAS	ORIGINALLY APPROVED	MICHAEL N TACHE	ON 09/16/2022 AND	SEALED BY	MICHAEL N. TACHE,	PROFESSIONA!	ENGINEER IN THE	STATE OF FLORIDA,	NO. 83893
23/26		Infanatee	FLORIDA		トン BLACK & VEATCH		Black & Veatch Corporation	L. King	Tampa, Florida Certificate No. 8132
MANATEE COUNTY ELOBIDA	TOTION INCOME TO THE TANKEN	IMPROVEMENTS AT	MASTER LIFT STATION 27-A	1			PUMP AND PIPING, STORM SHELTER	孨	
	270	VED :							
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MCC, ATS, AND RTU DEMOLITION
NO SCALE

— EXISTING 30kVA TRANSFORMER (TO REMAIN) TRANSFORMER SHOULD BE RE-ENERGIZED FROM NEW SWITCHBOARD



EXISTING PUMPS (SEE NOTE 1)——

PUMP DEMOLITION
NO SCALE



— DEMOLISH EXISTING VFDS AND EQUIPMENT PAD (SEE NOTE 2)

EXISTING AFD DEMOLITION
NO SCALE



DEMOLITION WORK

- 1. CONTRACTOR SHALL REUSE EXISTING EQUIPMENT PADS FOR THE THREE NEW PUMPS.
- 2. HOUSEKEEPING PADS FOR ELECTRICAL GEAR SHALL BE DEMOLISHED AS SHOWN. CONCRETE FLOOR SHALL HAVE A SMOOTH FINISH TO MATCH EXISTING.

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DESIGNED: DG/VK DETAILED: HT/AD

CHECKED: AW APPROVED: MNT DATE: SEPT 2022

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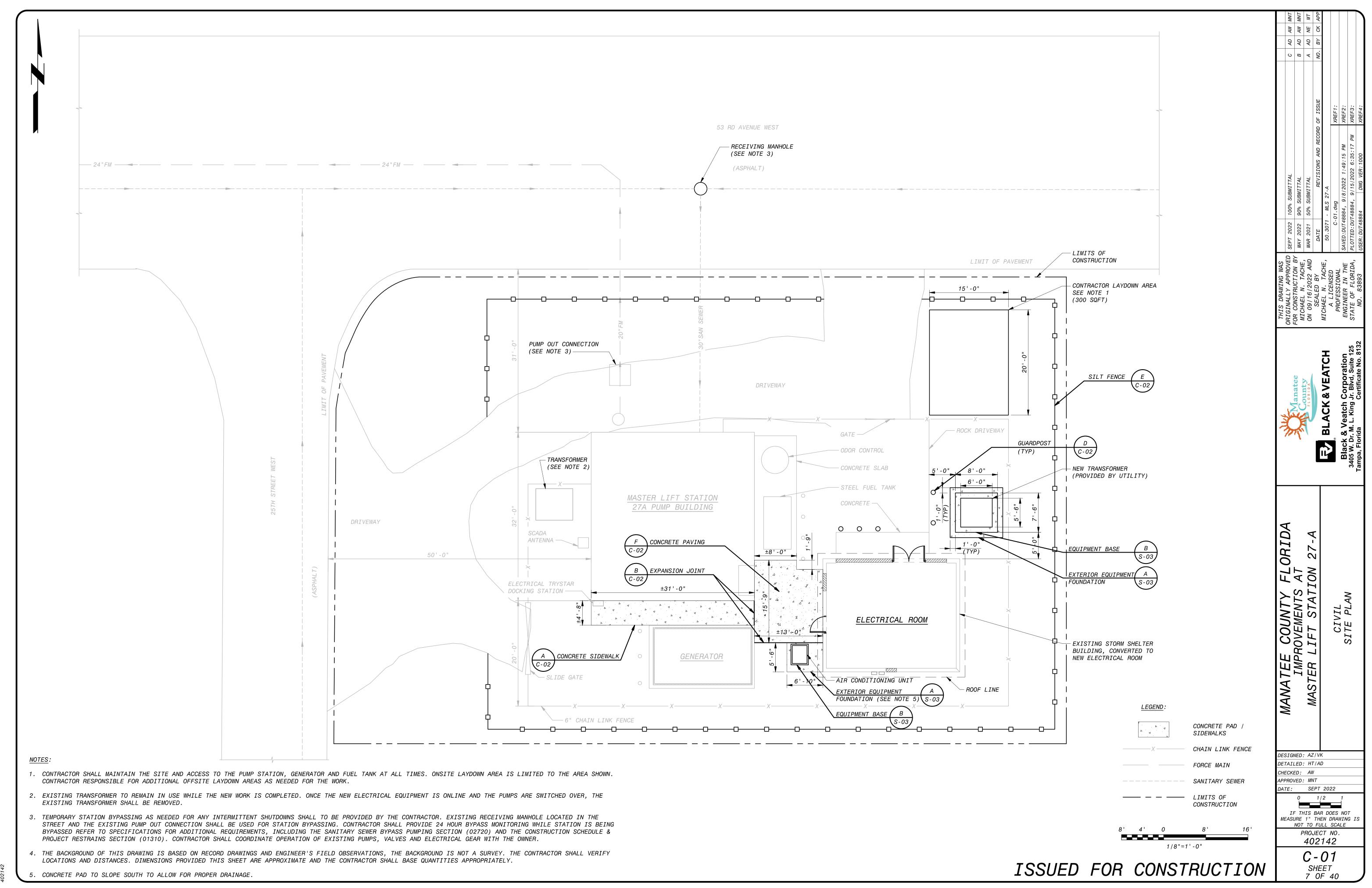
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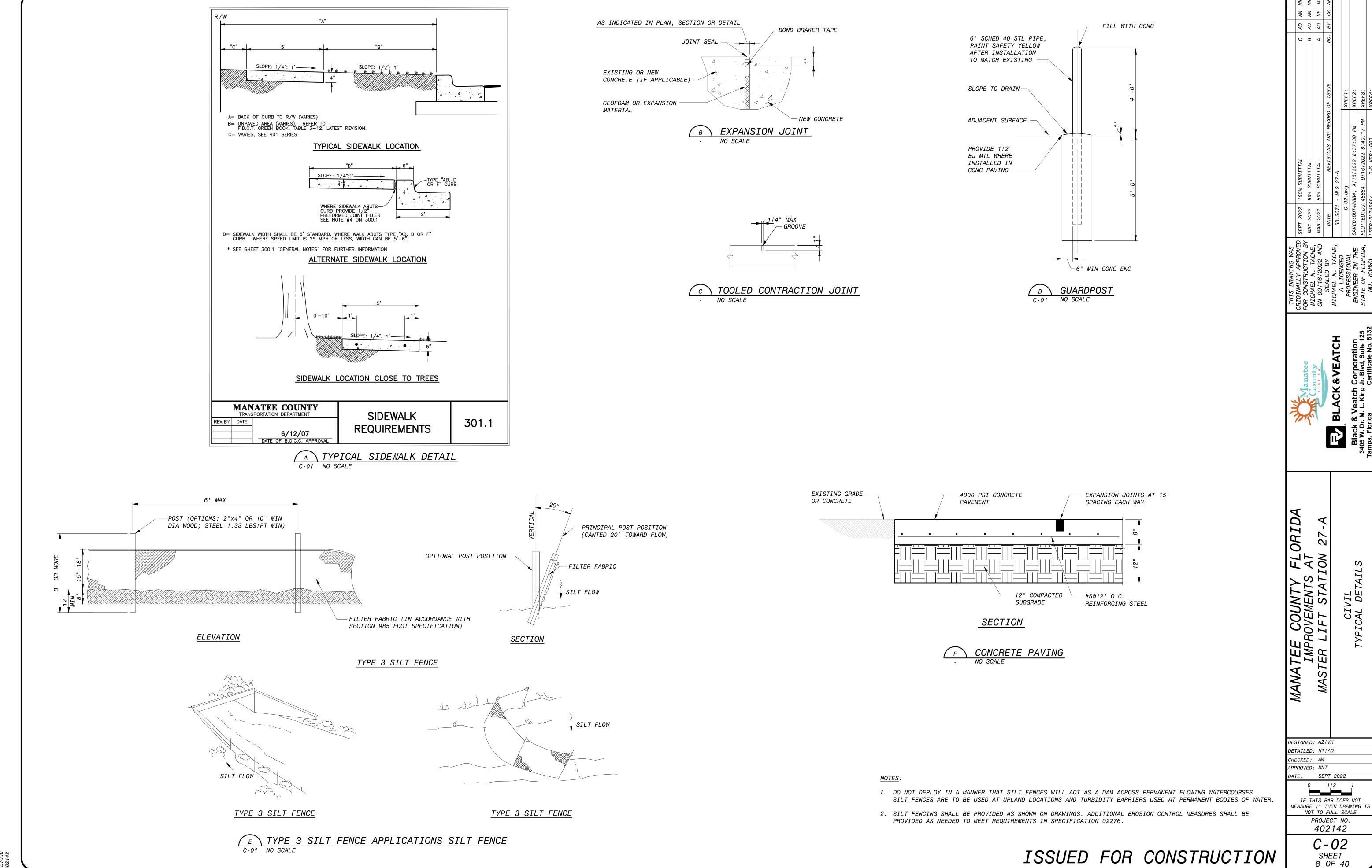
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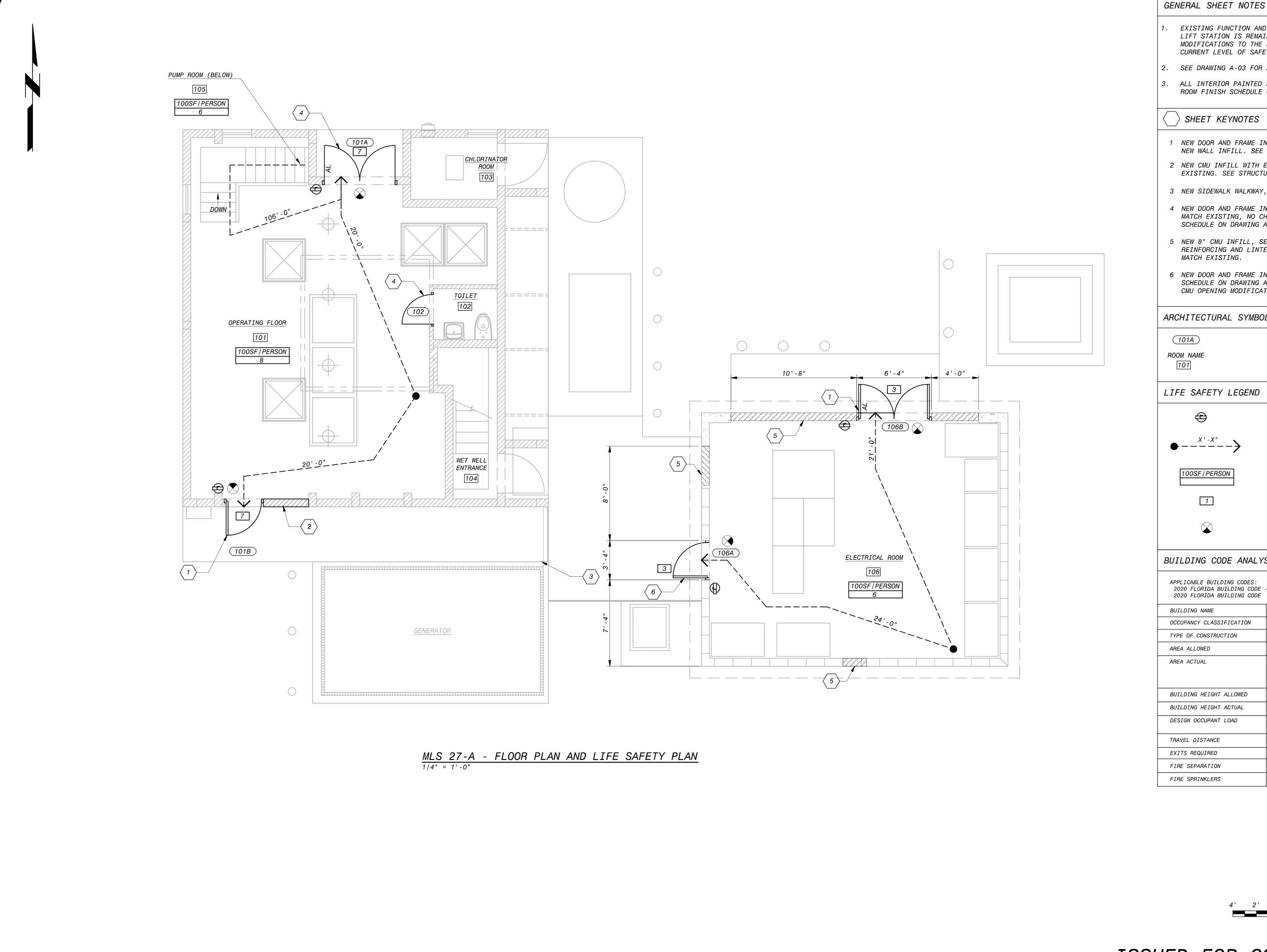
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PROJECT NO.

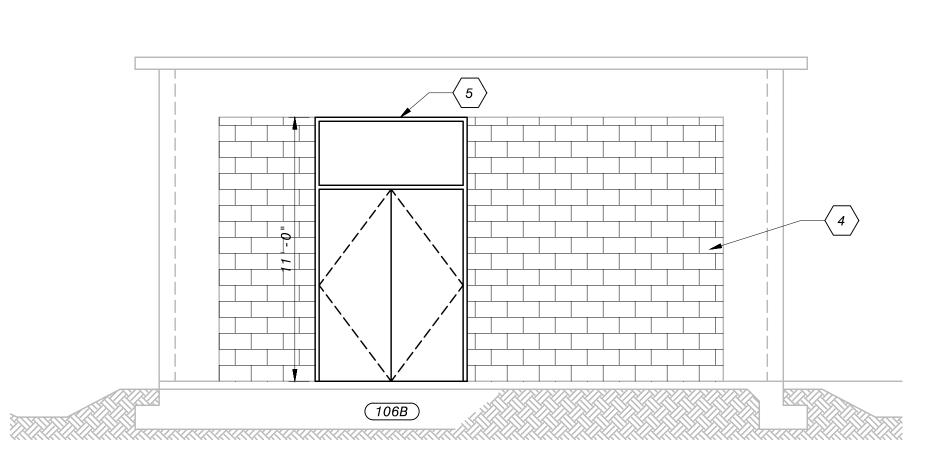
402142 **D-03**SHEET
6 OF 40



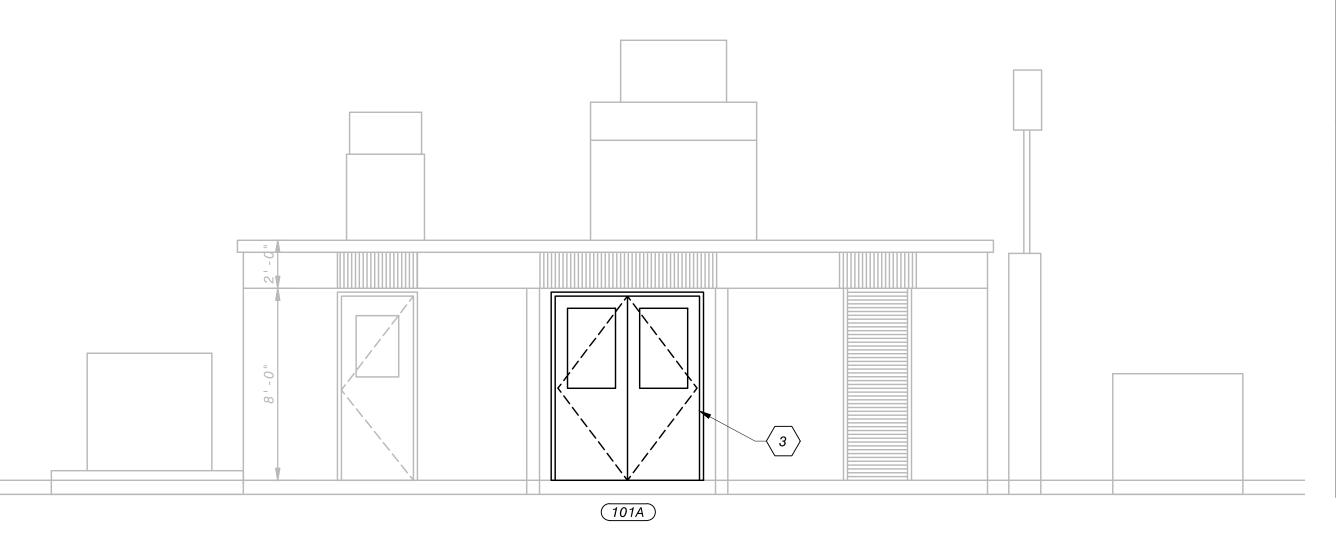




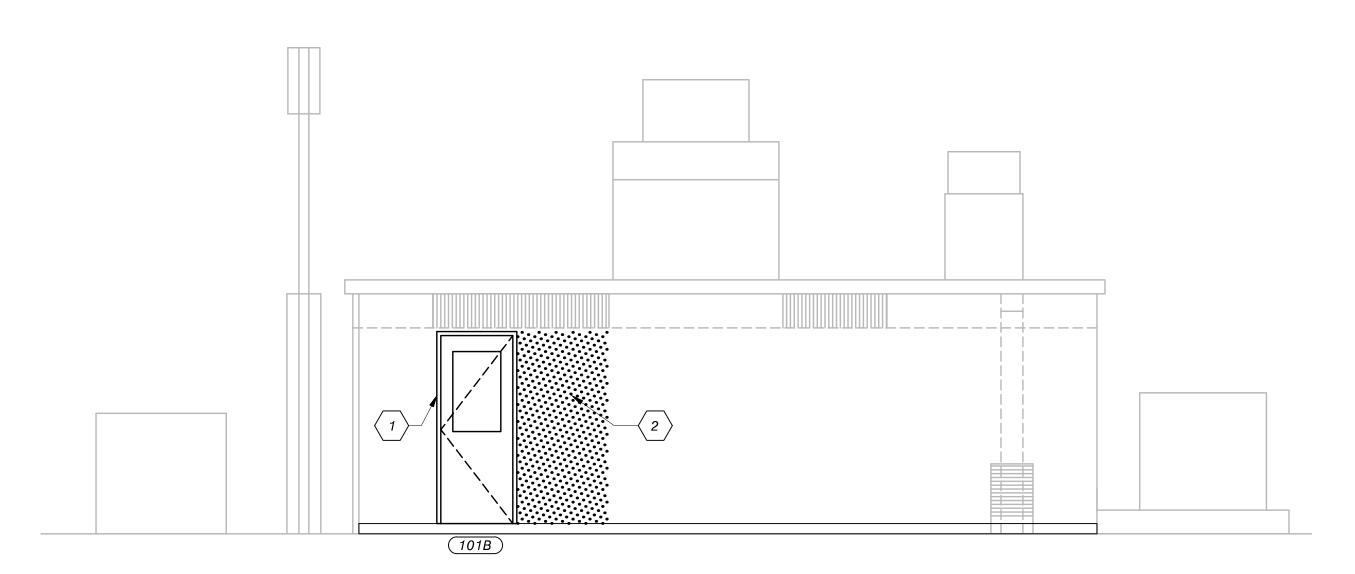
| E | E | E | 1. EXISTING FUNCTION AND OCCUPANCY CLASSIFICATION FOR LIFT STATION IS REMAINING SAME AS IT'S CURRENT USE. MODIFICATIONS TO THE BUILDING ARE MAINTAINING THE OBA CURRENT LEVEL OF SAFETY FOR EGRESS. 2. SEE DRAWING A-03 FOR ARCHITECTURAL ABBREVIATION LEGEND. 3. ALL INTERIOR PAINTED SURFACES TO BE REPAINTED, SEE ROOM FINISH SCHEDULE ON DRAWING A-03. 1 NEW DOOR AND FRAME IN EXISTING OPENING ADJACENT TO NEW WALL INFILL. SEE DOOR SCHEDULE ON DRAWING A-03. 2 NEW CMU INFILL WITH EXTERIOR STUCCO FINISH TO MATCH EXISTING. SEE STRUCTURAL FOR CMU REINFORCING. 3 NEW SIDEWALK WALKWAY, SEE CIVIL DRAWINGS. 4 NEW DOOR AND FRAME IN EXISTING WALL OPENING, SIZE TO MATCH EXISTING, NO CHANGE TO WALL OPENING. SEE DOOR SCHEDULE ON DRAWING A-03. 5 NEW 8" CMU INFILL, SEE STRUCTURAL DRAWINGS FOR REINFORCING AND LINTEL INFORMATION. PAINT CMU TO 6 NEW DOOR AND FRAME IN NEW WALL OPENING. SEE DOOR SCHEDULE ON DRAWING A-03. SEE STRUCTURAL DRAWINGS FOR CMU OPENING MODIFICATIONS. ARCHITECTURAL SYMBOL LEGEND *DOOR* ROOM NAME & NUMBER FIRE EXTINGUISHER TRAVEL DISTANCE OCCUPANTS PER SF OCCUPANT LOAD CUMULATIVE OCCUPANT LOAD EXIT BUILDING CODE ANALYSIS 2020 FLORIDA BUILDING CODE - EXISTING BUILDING OR 27 MASTER LIFT STATION 27-A F-2 (EXISTING) II-B 23,000 SF 1,924 SF TOTAL (EXISTING) 440 SF LIFT STATION @ LOWER LEVEL 924 SF LIFT STATION @ GRADE LEVEL 560 SF ELECTRICAL ROOM @ GRADE LEVEL 3 STORIES, 55 SFT 1 STORY, 14 FT 100 SF/PERSON (INDUSTRIAL) 20 TOTAL OCCUPANTS MAST EXISTING BUILDING, SEE NOTE 1 NONE EXISTING NONE EXISTING .00R DESIGNED: PR DETAILED: MVS/AD CHECKED: RB APPROVED: MNT DATE: SEPT 2022 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING I PROJECT NO. 402142 1/4"=1'-0" A-01 ISSUED FOR CONSTRUCTION SHEET 9 OF 40



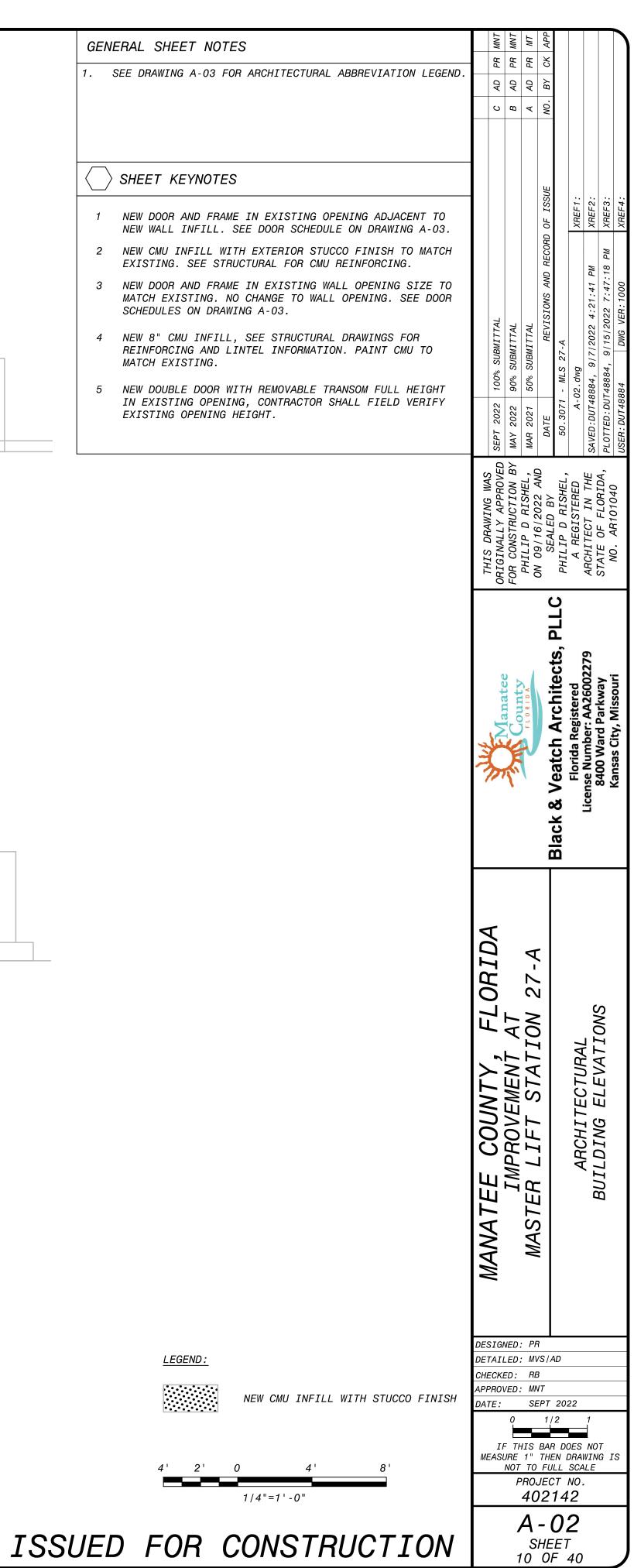
NORTH ELEVATION-EXISTING STORM SHELTER BUILDING (ELECTRICAL ROOM)



NORTH ELEVATION - EXISTING PUMP STATION BUILDING

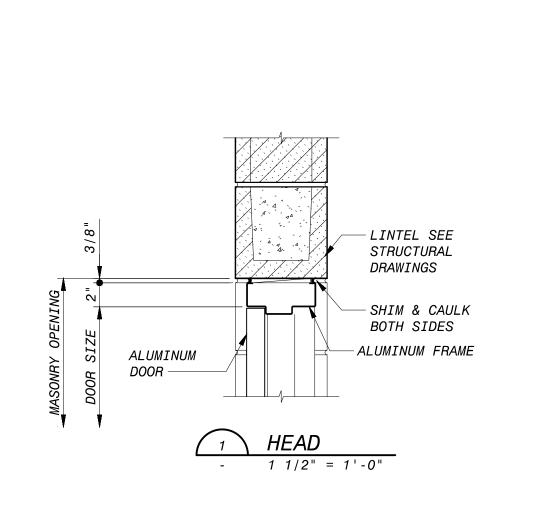


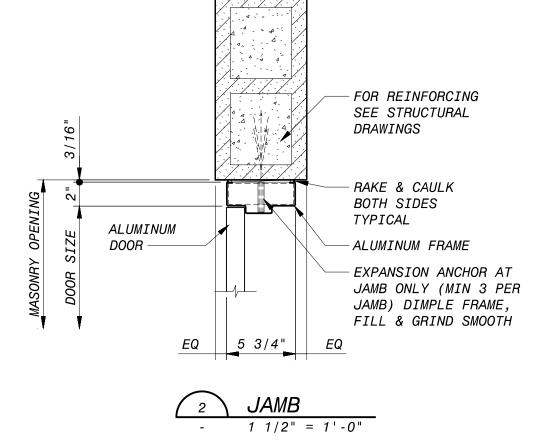
SOUTH ELEVATION - EXISTING PUMP STATION BUILDING

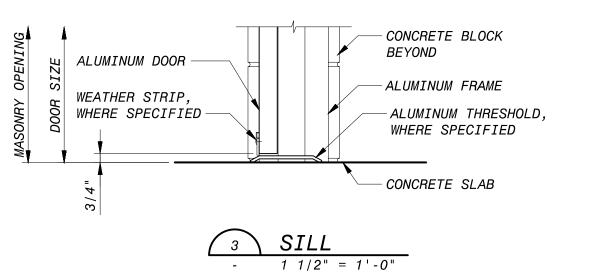


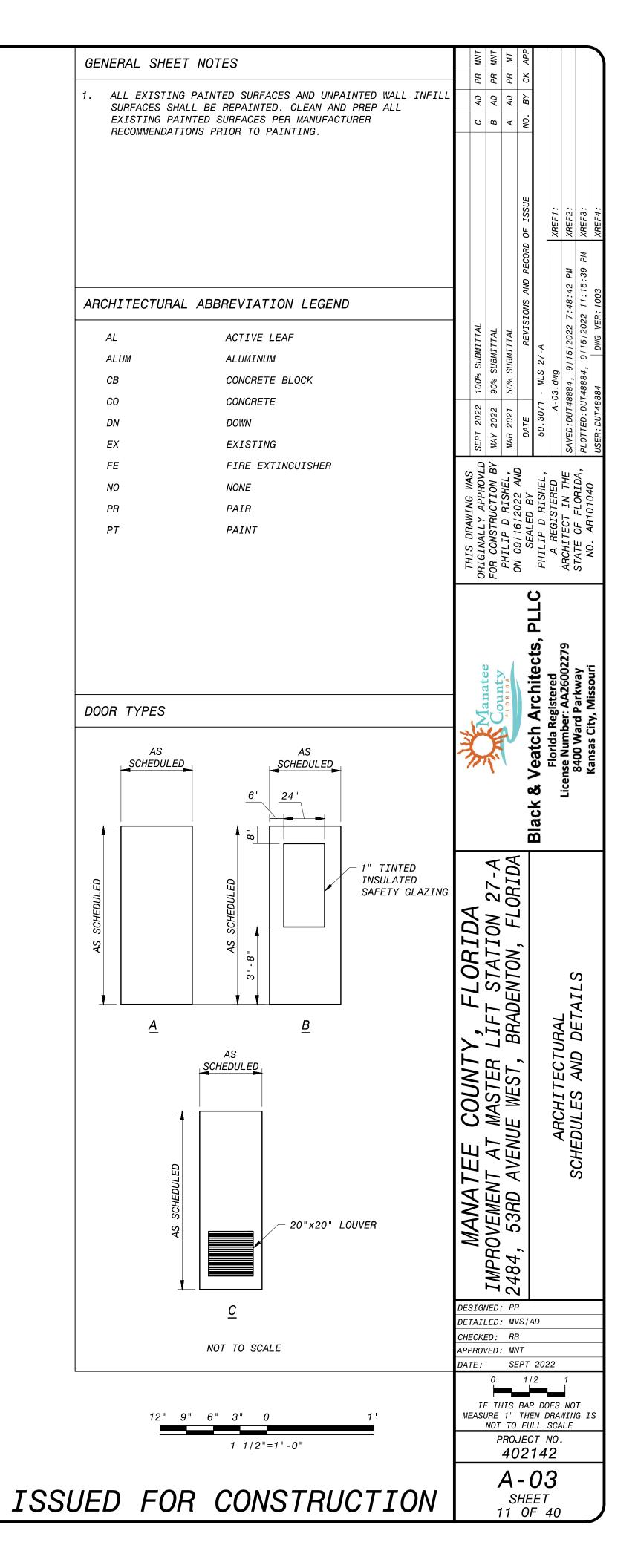
								R	OOM FINI	SH SCHEDUL	E								
		FLC	DOR .						<u>W</u>	<u>ALLS</u>							CEILING		
ROOM NO.	ROOM NAME	MATERIAL	FINISH		<u>NORTH</u>			<u>EAST</u>			<u>SOUTH</u>			<u>WEST</u>					<u>REMARKS</u>
		MATERIAL	<u> </u>	MATERIAL	<u>FINISH</u>	<u>BASE</u>	MATERIAL	<u>FINISH</u>	<u>BASE</u>	MATERIAL	<u>FINISH</u>	<u>BASE</u>	MATERIAL	<u>FINISH</u>	<u>BASE</u>	MATERIAL	<u>FINISH</u>	<u>HEIGHT</u>	
101	OPERATING FLOOR	со	EX	CB/CO	PT	NO	CB/CO	PT	NO	CB/CO	PT	NO	CB/CO	PT	NO	со	PT	11'-6"	
102	TOILET	со	EX	СВ	PT	NO	CB/CO	PT	NO	CB/CO	PT	NO	СВ	PT	NO	со	PT	11'-6"	
103	CHLORINATION ROOM	со	EX	CB/CO	PT	NO	CB/CO	PT	NO	CB/CO	PT	NO	СВ	PT	NO	со	PT	11'-6"	
104	WET WELL ENTRANCE	со	EX	СВ	PT	NO	CB/CO	PT	NO	CB/CO	PT	NO	СВ	PT	NO	со	PT	11'-6"	
105	PUMP ROOM	со	EX	со	PT	NO	со	PT	NO	со	PT	NO	со	PT	NO	со	PT	21'-6"	
106	ELECTRICAL ROOM	со	EX	CB/CO	PT	NO	CB/CO	PT	NO	CB/CO	PT	NO	CB/CO	PT	NO	со	PT	VARIES	

									DOOR S	CHEDULE						
	DOOR ID		DOOR SIZE					<u>DOOR</u>					FRA	AME		
<u>LEVEL</u>	NO.(D)		<u>WIDTH</u>	<u>HEIGHT</u>	<u>MATERIAL</u>	<u>HEAD</u>	<u>JAMB</u>	SILL	<u>TYPE</u> <u>(D)</u>	<u>HARDWARE</u>	<u>RATING</u>	MATERIAL	<u>HEAD</u>	<u>JAMB</u>	<u>DEPTH</u>	<u>REMARKS</u>
OPERATING LEVEL	101A	PR	3'-0"	7' - 10"	ALUM	1 SIM	2 SIM	3 SIM	В	1	-	ALUM	2"	2"	6"	CONTRACTOR SHALL FIELD VERIFY EXISTING OPENING DIMENSIONS
OPERATING LEVEL	101B		3'-0"	7' - 10"	ALUM	1 SIM	2 SIM	3 SIM	В	2	-	ALUM	2"	2"	6"	CONTRACTOR SHALL FIELD VERIFY EXISTING OPENING DIMENSIONS
OPERATING LEVEL	102		2'-4"	6'-8"	ALUM	1 SIM	2 SIM	3 SIM	С	3	-	ALUM	2"	2"	6"	CONTRACTOR SHALL FIELD VERIFY EXISTING OPENING DIMENSIONS
OPERATING LEVEL	106A		3'-0"	7'-2"	ALUM	1	2	3	Α	4	-	ALUM	2"	2"	6"	
OPERATING LEVEL	106B	PR	3'-0"	8'-0"	ALUM	1 SIM	2	3	Α	1	-	ALUM	2"	2"	6"	WITH 2'-8" REMOVABLE TRANSOM









STRUCTURAL NOTES

STRUCTURAL STEEL

- 1. THE APPLICABLE BUILDING CODE IS THE 2020 FLORIDA BUILDING CODE (FBC) BASED ON IBC 2018.
- 2. THE REQUIREMENTS INDICATED ON THIS SHEET ARE INTENDED AS A BASIC SUMMARY OF THE MATERIAL AND CONSTRUCTION REQUIREMENTS FOR THE PROJECT. ADDITIONAL, MORE STRINGENT REQUIREMENTS ARE GIVEN IN THE PROJECT DETAIL DRAWINGS AND SPECIFICATIONS.
- 3. ALL STRUCTURAL RELATED SHOP DRAWINGS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONSTRUCTION.

GENERAL

- 4. STRUCTURES MAY BE BUOYANT WHEN EMPTY DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT STRUCTURES AGAINST FLOTATION UNTIL CONSTRUCTION IS COMPLETE.
- 5. STRUCTURES MAY BE UNSTABLE UNTIL THEY ARE CONSTRUCTED IN THIER ENTIRETY. CONTRACTOR IS RESPONSIBLE FOR DESIGNING TEMPORARY STRUCTURAL SUPPORTS TO RESIST WIND LOADS, CONSTRUCTION LOADS, AND ANY OTHER TEMPORARY CONDITIONS THAT MAY OCCUR DURING CONSTRUCTION, IN ORDER TO MAINTAIN STABILITY OF THE CONSTRUCTION WORK. ANCHORS FOR CONTRACTOR'S TEMPORARY SUPPORT SYSTEMS THAT ATTACH TO CONCRETE OR MASONRY SHALL BE LOCATED TO AVOID DAMAGING EMBEDDED REINFORCEMENT OR UTILITIES.

CAST-IN-PLACE CONCRETE

- 1. A MINIMUM 28 DAY COMPRESSIVE STRENGTH (F'C) OF 4,000 PSI WAS UTILIZED IN THE DESIGN OF STRUCTURAL REINFORCED CONCRETE. SEE SPECIFICATIONS FOR CONSTRUCTION STRENGTH
- THE LOCATION OF ALL CONSTRUCTION JOINTS AND OTHER TYPES OF JOINTS, OTHER THAN THOSE SPECIFIED OR SHOWN ON THE PLANS, SHALL BE ACCEPTABLE TO THE ENGINEER PRIOR TO PLACING

REINFORCING STEEL

BE PLACED ON A SIMILAR SLOPE SO THAT SPECIFIED COVER IS MAINTAINED.

POST-INSTALLED ANCHORS

- 1. ALL REINFORCING BAR SHALL BE GRADE 60, DEFORMED, ASTM A615, UNLESS NOTED OTHERWISE.
- DIMENSIONS TO REINFORCING BARS ARE TO BAR CENTERLINES, UNLESS NOTED OTHERWISE. BAR COVER IS THE CLEAR DISTANCE BETWEEN THE BAR AND THE CONCRETE SURFACE.
- 3. NO WELDING OF REINFORCING BARS SHALL BE PERMITTED UNLESS APPROVAL IS OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION. 4. FOR CONCRETE SLABS THAT HAVE A SLOPING TOP FACE, THE TOP LAYERS OF REINFORCEMENT SHALL

- 1. POST-INSTALLED ANCHORS SHALL INCLUDE ADHESIVE ANCHORS (THREADED RODS, BOLTS OR REINFORCING BARS), EXPANSION ANCHORS, AND UNDERCUT ANCHORS INSTALLED INTO HARDENED CONCRETE OR MASONRY. SEE THE ANCHORAGE IN CONCRETE AND MASONRY SPECIFICATION SECTION FOR ADDITIONAL REQUIREMENTS.
- 2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE INDICATED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
- 3. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING STEEL AND OTHER EMBEDDED ITEMS WHEN DRILLING HOLES. REINFORCING BARS SHALL NOT BE DAMAGED DURING DRILLING OR ANCHOR INSTALLATION. HOLES SHALL BE DRILLED AND CLEANED PER THE PRODUCT MANUFACTURER'S INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PER THE PRODUCT MANUFACTURER'S INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACING INDICATED IN THE MANUFACTURER'S LITERATURE.
- SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE LISTED IN THE SPECIFICATION OR INDICATED ON THE DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL. PRODUCT ICC-ESR EVALUATION REPORTS SHALL BE INCLUDED WITH THE SUBMITTAL PACKAGE. IF REQUESTED, CALCULATIONS PREPARED BY A REGISTERED PROFESSIONAL ENGINEER USING METHODS AND PROCEDURES REQUIRED BY THE BUILDING CODE MAY BE REQUIRED AS PART OF THE SUBMITTAL
- 5. UNLESS NOTED OTHERWISE, THE MINIMUM EMBEDMENT PROVIDED FOR ADHESIVE ANCHORED
- REINFORCING BARS SHALL DEVELOP THE FULL TENSILE STRENGTH OF THE BAR. 6. SPECIAL INSPECTION WILL BE PROVIDED FOR ALL POST-INSTALLED ANCHORS.

STAINLESS STEEL

- 1. STAINLESS STEEL BOLTS SHALL CONFORM TO ASTM F593, ALLOY GROUP 1 OR 2, UNLESS NOTED
- OTHERWISE. MINIMUM YIELD STRENGTH SHALL BE 45 KSI 2. STAINLESS STEEL PLATES SHALL CONFORM TO ASTM A240, TYPE 316L.
- 3. STAINLESS STEEL STRUCTURAL SHAPES SHALL CONFORM TO ASTM A1069 OR ASTM A276. TYPE 316L.

ALUMINUM

- 1. UNLESS NOTED OTHERWISE, ALUMINUM ALLOY IN ALL ALUMINUM STRUCTURAL MATERIALS SHALL BE 6061-T6. PIPE AND TUBING FOR GUARDRAIL AND HANDRAIL SHALL BE ALLOY 6061-T6 OR 6005A-T61.
- 2. ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS SHALL BE COATED OR COVERED WITH A HEAVY COAT OF BITUMINOUS PAINT TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION.

MASONRY

- 1. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90. THE TOTAL MASONRY ASSEMBLAGE SHALL HAVE A COMPRESSIVE STRENGTH EQUAL TO 2500 PSI AT 28 DAYS.
- 2. MASONRY MORTAR SHALL CONFORM TO ASTM C270, TYPE S.
- 3. ALL BOND BEAMS AND ANY BLOCK CELLS CONTAINING REINFORCING STEEL SHALL, ANCHORS OR OTHER EMBEDMENTS SHALL BE FILLED WITH GROUT MEETING THE REQUIREMENTS OF ASTM C476. WALLS SHALL BE FULLY GROUTED WHEN INDICATED ON THE DRAWINGS.
- 4. BOND BEAM REINF SHALL BE CONTINUOUS AT CORNERS, INTERSECTIONS AND CONTROL JOINTS.

1. ROLLED WIDE FLANGE SHAPES SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI; CHANNELS, PLATES, AND ANGLES A MINIMUM OF 36 KSI; STRUCTURAL PIPES A MINIMUM OF 35 KSI;

ROUND STRUCTURAL TUBES A MINIMUM OF 46 KSI; RECTANGULAR STRUCTURAL TUBES A MINIMUM OF 50 KSI.

- WELDING SHALL BE DONE WITH A FILLER MATERIAL HAVING A MINIMUM TENSILE STRENGTH OF 70 KSI. BOLTED CONNECTIONS SHALL USE 3/4" DIA ASTM F3125, GRADE A325 BOLTS OR GRADE F1852 TWIST-OFF
- BOLTS, WITH THE THREADS EXCLUDED FROM THE SHEAR PLANE, UNLESS NOTED OTHERWISE. 4. CARBON STEEL OR GALVANIZED STEEL ANCHOR RODS AND ANCHOR BOLTS SHALL CONFORM TO ASTM F1554
- HOLES FOR ANCHOR RODS AND ANCHOR BOLTS IN COLUMN BASE PLATES USING ASTM F844 OR F436 FLAT CIRCULAR WASHERS SHALL BE AS FOLLOWS:

BOLTS/RODS 3/4" TO 1" - 5/16" OVERSIZE

BOLTS/RODS 1" TO 2" - 1/2" OVERSIZE BOLTS/RODS OVER 2" - 1" OVERSIZE

AT THE CONTRACTORS OPTION, OVERSIZE HOLES LARGER THAN THOSE LISTED ABOVE MAY BE USED, PROVIDED THAT 3/8" PLATE WASHERS ARE USED WITH STANDARD HOLES AND FIELD WELDED WITH A 5/16" FILLET WELD TO THE BASE PLATE ALONG A MIN OF 3 SIDES.

6. STEEL LEGEND

INDICATES ANGLE OR PLATE TO BE WELDED ON THREE SIDES

INDICATES TWO BOLT ATTACHMENT OF HORIZONTAL BRACING TO UNDERSIDE OF BEAM. SHIM AS REQUIRED

1

INDICATES FOUR BOLT ATTACHMENT OF MONORAIL TO UNDERSIDE OF SUPPORT BEAM. SPACER OR STANDOFF DETAIL AS REQUIRED.

INDICATES NONSTANDARD FRAMING CONNECTION

INDICATES HORIZONTAL OR VERTICAL BRACING CONNECTION DETAIL

INDICATES MOMENT CONNECTION VERTICAL BRACING IS SHOWN ON PLANS THUS:

EXTENDING UP FROM THE ELEVATION INDICATED.

EXTENDING DOWN FROM THE ELEVATION INDICATED.

EXCAVATION, BACKFILL, AND FOUNDATIONS

EXTENDING UP AND DOWN FROM THE ELEVATION INDICATED.

- 1. FOUNDATION CONSTRUCTION SHALL NOT BEGIN UNTIL ANY REQUIRED SPECIAL INSPECTION HAS BEEN COMPLETED AND THE CONTRACTOR NOTIFIED TO PROCEED.
- 2. TO FACILITATE SCHEDULING, AT LEAST 48 HOURS ADVANCE NOTICE SHALL BE GIVEN TO THE ENGINEER
- PRIOR TO THE REQUIRED INSPECTIONS. 3. UNLESS NOTED OTHERWISE, BACKFILL SHALL NOT BE PLACED AGAINST WALLS WHICH SUPPORT A CONCRETE SLAB OR WALKWAY UNTIL THE TOP SLAB OR WALKWAY HAS BEEN PLACED IN ITS ENTIRETY AND ALL
- CONCRETE HAS REACHED THE SPECIFIED DESIGN STRENGTH. 4. OVER-EXCAVATION OF SOIL, OR OVER-BREAKING OF ROCK, THAT WOULD RESULT IN A STRUCTURAL CONCRETE THICKNESS GREATER THAN INDICATED ON THE DRAWINGS SHALL BE CLASSIFIED AS UNAUTHORIZED EXCAVATION. CONTRACTOR SHALL SELECT ONE OF TWO METHODS TO ADDRESS UNAUTHORIZED
 - EXCAVATION. REPLACE UNAUTHORIZED EXCAVATION MATERIAL WITH LEAN CONCRETE THAT IS PLACED SEPARATELY FROM THE STRUCTURAL CONCRETE INDICATED ON THE DRAWINGS. CONTRACTOR WILL RECEIVE NO ADDITIONAL PAYMENT FOR THE LEAN CONCRETE.

REPLACE UNAUTHORIZED EXCAVATION MATERIAL WITH STRUCTURAL CONCRETE THAT IS PLACED MONOLITHICALLY WITH THE STRUCTURAL CONCRETE INDICATED ON THE DRAWINGS. CREATING AN ENLARGED SECTION. CONTRACTOR SHALL NOTIFY ENGINEER FOR DIRECTION PRIOR TO PERFORMING THIS WORK. THE INCREASED CONCRETE THICKNESS MAY REQUIRE ADDITIONAL REINFORCEMENT AND/OR OTHER DESIGN MODIFICATIONS. IF THE INCREASED CONCRETE THICKNESS EXCEEDS 36 INCHES. ENGINEER MAY REQUIRE CONTRACTOR TO IMPLEMENT MASS CONCRETE HEAT MITIGATION PROCEDURES. CONTRACTOR WILL RECEIVE NO ADDITIONAL PAYMENT FOR EXTRA STRUCTURAL CONCRETE, ADDITIONAL REINFORCEMENT, OTHER DESIGN MODIFICATIONS, OR MASS CONCRETING PROCEDURES.

THE FOLLOWING NET ALLOWABLE BEARING PRESSURES WERE UTILIZED IN THE DESIGN OF THE FOUNDATIONS. MAT FOUNDATIONS......1000 PSF (ASSUMED)

SPECIAL INSPECTIONS

1. THRESHOLD INSPECTIONS ARE NOT REQUIRED FOR THIS PROJECT

EXISTING STRUCTURES

- 1. THE DRAWINGS DEPICT WORK AT EXISTING STRUCTURES. ALL DIMENSIONS AND ALL DEPICTIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS, STARTING FABRICATION, OR STARTING CONSTRUCTION.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE, REPAIRS OR STRUCTURAL MODIFICATIONS THAT ARE REQUIRED DUE TO DEMOLITION BEYOND THE LIMITS IDENTIFIED ON THE DRAWINGS.
- 3. REINFORCEMENT FOR ANY EXISTING CONCRETE OR MASONRY ELEMENT SHALL NOT BE DAMAGED UNLESS THE ELEMENT IS TO BE DEMOLISHED. WHEN LOCATING EXISTING REINFORCEMENT IS REQUIRED, IT SHALL BE LOCATED USING NON-DESTRUCTIVE METHODS. REINFORCING STRANDS IN EXISTING PRESTRESSED CONCRETE SHALL NOT BE CUT, UNLESS INDICATED ON THE DRAWINGS OR OTHERWISE AUTHORIZED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE, REPAIRS OR STRUCTURAL MODIFICATIONS THAT ARE REQUIRED DUE TO DAMAGE OF CONCRETE, MASONRY OR REINFORCEMENT THAT HAS BEEN IDENTIFIED ON THE DRAWINGS TO REQUIRE FIELD VERIFICATION.
- 4. CORE DRILLING AND SAW CUTTING SHALL NOT BE PERFORMED UNLESS INDICATED ON THE DRAWINGS OR APPROVED BY ENGINEER.
- 5. EXPOSED CONCRETE SURFACES THAT REMAIN AFTER DEMOLITION SHALL BE REPAIRED TO MATCH ADJACENT CONCRETE SURFACES.
- 6. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, EXPOSED CONCRETE SURFACES WITH REINFORCEMENT, ANCHOR BOLTS, HANGER RODS, OR OTHER EXPOSED METAL EMBEDMENTS SHALL BE REPAIRED BY CUTTING OFF THE METAL AT THE FACE OF THE CONCRETE, GRINDING SMOOTH, AND COATING. COATING SHALL EXTEND A MINIMUM OF 1" BEYOND THE EDGE OF ANY EXPOSED METAL

DELEGATED DESIGN

1. THE FOLLOWING ITEMS ARE IDENTIFIED IN THE DRAWINGS AND SPECIFICATIONS AS BEING DESIGNED AND SEALED BY OTHERS. SUBMITTALS FOR THESE ITEMS SHALL BE PREPARED BY THE SUPPLIERS AND SUBMITTED TO ENGINEER AND CODE OFFICIAL FOR REVIEW.

SECTION 05550 - EQUIPMENT ANCHORAGE

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NATEE COL IMPROVI MASTER LIFT

DESIGNED: JCG DETAILED: BPT CHECKED: JCG APPROVED: MNT DATE: SEPT 2022

1/2 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING I NOT TO FULL SCALE PROJECT NO.

> 402142 S-01 SHEET 12 OF 40

LOADING CRITERIA

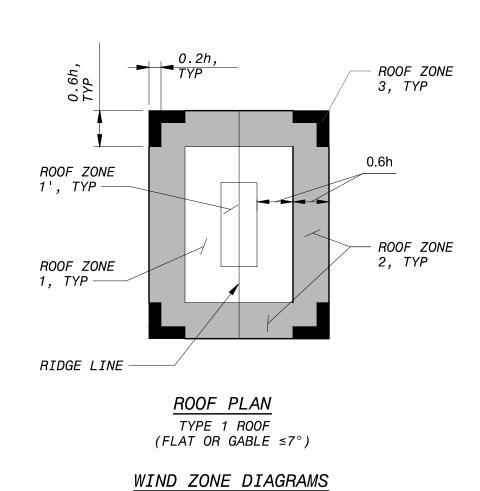
BASIC LOADING CRITERIA THE APPLICABLE BUILDING CODE IS THE 2018 INTERNATIONAL BUILDING CODE (IBC). 1. DEAD LOAD CALCULATED 2. LIVE LOADS: OPERATING AND PROCESS FLOORS...... 150 PSF STAIRS, SERVICE PLATFORMS & LANDINGS...... 100 PSF ROOF...... 20 PSF(UNREDUCED) 3. HYDROSTATIC FLUID PRESSURE...... 63 PSF/FT GROUND SNOW LOAD (Pg)..... 0 PSF MAPPED MCE SHORT PERIOD SPECTRAL DESIGN SPECTRAL RESPONSE ACCELERATION SITE CLASS..... D 6. WIND LOAD: EXPOSURE...... C 7. FEMA FLOOD RISK...... OUTSIDE THE 100 YEAR FLOODPLAIN

SPECIAL INSPECTIONS

1. THRESHOLD INSPECTIONS ARE NOT REQUIRED FOR THIS PROJECT.

			ELECT	TRICAL	ROOM								
INTERNAL PRESSURE COEFFICIENT												. ±0.55	
DIMENSION "a" FOR WALLS						. <i></i> .						. 3.00 F	- T
DIMENSION "h" FOR ROOF						. <i></i>						. 13.00	FT
ROOF TYPE												. 1	
COMPONENT	AND C	CLADDIN	IG WINL	D PRES	SURES,	PSF							
EFFECTIVE WIND AREA (SQR FT)		<=2	4	10	20	50	100	150	200	250	300	500	1000-
ROOF NEG PRESSURE, ZONE 1		-102.4	-102.4	-102.4	-96.8	-89.3	-83.7	-80.4	-78.0	-76.2	-74.7	-70.6	- 70.
ROOF NEG PRESSURE, ZONE 1'		-66.0	-66.0	-66.0	-66.0	-66.0	-66.0	-62.0	-59.2	-57.0	-55.2	-50.1	-43.
ROOF NEG PRESSURE, ZONE 2		-129.8	-129.8	-129.8	-122.5	-112.9	-105.6	-101.4	-98.4	-96.0	-94.1	-88.8	-88.
ROOF NEG PRESSURE, ZONE 3		-170.7	-170.7	-170.7	-156.2	-137.0	-122.5	-114.0	-108.0	-103.3	-99.5	-88.8	-88.
ROOF POS PRESSURE, ZONES 1, 1'		38.7	38.7	38.7	37.3	35.5	34.1	34.1	34.1	34.1	34.1	34.1	34.
ROOF POS PRESSURE, ZONES 2, 3		38.7	38.7	38.7	37.3	35.5	34.1	34.1	34.1	34.1	34.1	34.1	34.
WALL ZONE 4	(+)	66.0	66.0	66.0	63.8	61.0	58.8	57.5	56.6	56.6	56.6	53.7	53.7
WALL ZOIVE 4	(-)	-70.1	-70.1	-70.1	-67.9	-65.1	-62.9	-61.6	-60.7	-60.7	-60.7	-57.8	-57.8
WALL ZONE 5	(+)	66.0	66.0	66.0	63.8	61.0	58.8	57.5	56.6	56.6	56.6	53.7	53.
WALL ZUIVE 3	(-)	-82.4	-82.4	-82.4	-78.1	-72.3	-67.9	-65.4	-63.6	-63.6	-63.6	-57.8	-57.8

- 1. POSITIVE PRESSURES ACT TOWARDS THE SURFACE. NEGATIVE PRESSURES ACT AWAY FROM THE SURFACE.
- 2. LINEARLY INTERPOLATE PRESSURES FOR EFFECTIVE WIND AREAS BETWEEN THOSE SCHEDULED OR USE
- PRESSURES FOR THE SMALLER EFFECTIVE WIND AREA. 3. ALL ROOF OVERHANG PRESSURES ACT UPWARD.
- 4. SOFFITS BELOW ROOF OVERHANGS ARE DESIGNED FOR THE PRESSURE ON THE WALL BELOW THE SOFFIT.
- 5. PARAPET PRESSURES ARE THE TOTAL OF THE WINDWARD AND LEEWARD PARAPET FACE VALUES.



/ FLORID/ T AT TION 27-A STRUCTURAL LOADING CRITERIA MANATEE COUNTY IMPROVEMENT , MASTER LIFT STATIC DESIGNED: JCG

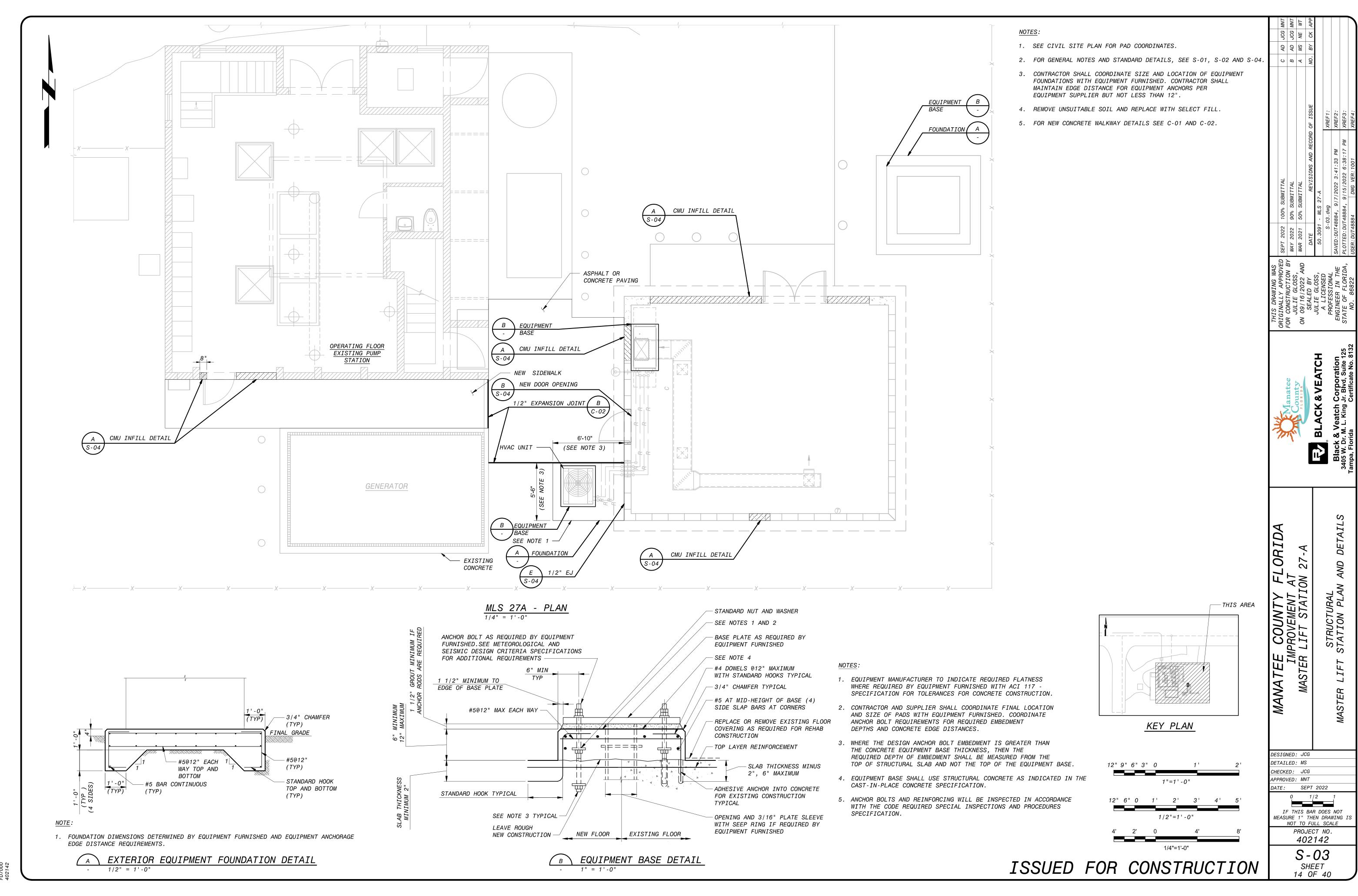
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MEASURE 1" THEN DRAWING I

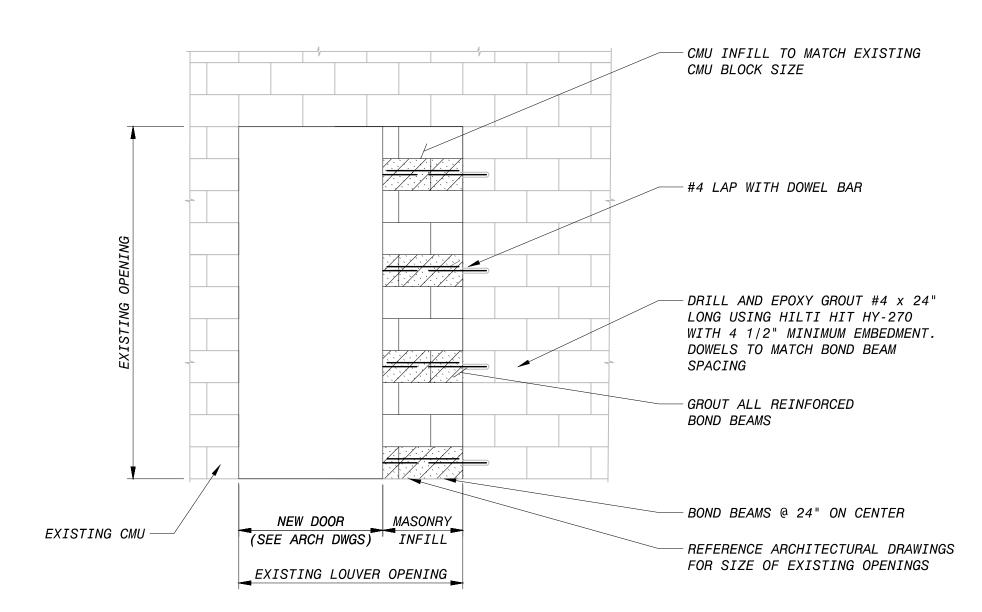
PROJECT NO. 402142

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LINTEL AND JAMB SCHEDULE

BUILDING	WALL	L	LINTEL				JAMB	
BOILDING	WILL	CLEAR SPAN	DEPTH	REINFOR TOP	RCEMENT BOTTOM	OPENING SIZE	WIDTH	REINFORCEMENT PER CELL
PUMP STATION	SOUTH	3'-4"	8"		1 - #5	3'-4"	8"	1 - #5
ELECTRICAL	ALL	3'-4"	8"		1 - #5	3'-4"	8"	1 - #5
BUILDING	NORTH	6'-4"	8"		1 - #5	6'-4"	8"	1 - #5



CMU INFILL DETAIL 1/2" = 1'-0"

CONCRETE IS CAST IN THE MEMBER BELOW THE BAR. HORIZONTAL BARS

IN WALLS ARE TO BE PROVIDED WITH LAP LENGTHS AS REQUIRED FOR

TOP BARS. VERTICAL BARS MAY BE CONSIDERED AS OTHER BARS.

	LENGTH OF LA	P SPLICES FOR	REINFORCEMENT	(INCHES)
	(f',	_n 2500 PSI, IBC 2012,	2015 & 2018)	
BAR SIZE	8" CONCRETE	MASONRY UNIT	12" CONCRETE MASO	NRY UNIT
DAN SIZE	SINGLE REINFORCEMENT	DOUBLE REINFORCEMENT	SINGLE REINFORCEMENT	DOUBLE REINFORCEMENT
4	12	20	12	17
5	18	32	12	27
6	34	-	21	51
7	47	-	29	(71)
8	(71)	-	45	(110)

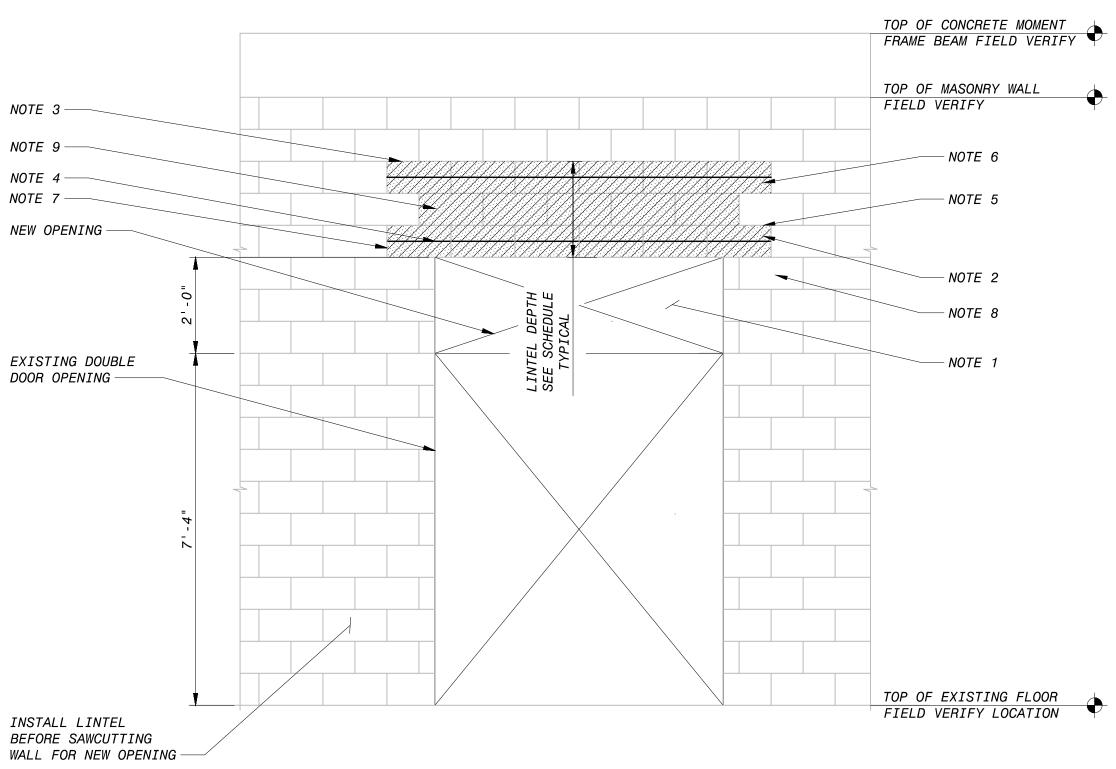
1. NON-CONTACT LAP SPLICES SHALL NOT BE USED.

2. ()BRACKETED SPLICE LENGTHS NOT RECOMMENDED. USE MECHANICAL CONNECTORS OR A FULL HEIGHT REINFORCEMENT BAR.

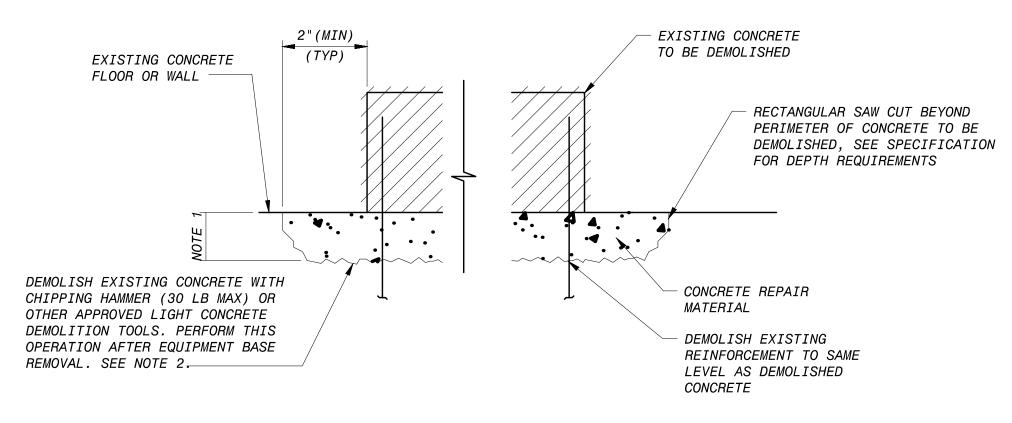
7 C=40	000 PSI) (011 <u></u>	SO NOTED OTHER	WISE ON THE DRA			LOCATION MINIMU	M COVE
BAR	BEAMS &	COLUMNS	WALLS &	& SLABS	BAR	UNFORMED SURFACES ADJACENT TO EXCAVATION	3"
SIZE *	**TOP BARS	OTHERS	**TOP BARS	OTHERS	SIZE	SURFACES INSIDE OF OZONE CONTACTORS EXPOSED TO OZONE IN WATER OR AIR TOP SURFACES OF SLABS THAT ARE SUBMERGED	3" 3"
3	16	16	16	16	3	THE SOME THE SERVICE	J
4	19	16	19	16	4	FORMED SURFACES THAT ARE SUBMERGED, AND FORMED	
5	24	18	24	18	5	OR TOP SURFACES EXPOSED TO WEATHER, SATURATED	2"
6	33	26	29	22	6	AIR, OR EARTH.	
7	55	42	48	37	7		
8	69	53	60	46	8	OTHER LOCATIONS:	
9	84	65	74	57	9	BEAMS OR GIRDERS SLABS, WALLS AND JOISTS	1 1/2
10	103	79	91	70	10	#6 AND LARGER	1 1/2
11	122	94	108	83	11	#5 AND SMALLER	1"

TOLERANCES FOR CONCRETE COVER AND THE FABRICATION

AND PLACING OF REINFORCEMENT SHALL CONFORM TO ACI 117.



INSTALLATION OF NEW OPENING IN EXISTING WALL 1/2" = 1'-0"



NOTES:

- 1. DEPTH OF CONCRETE DEMOLITION SHALL BE THE LESSER OF 2" OR THE DEPTH OF CONCRETE COVER OVER THE EXISTING REINFORCEMENT. DO NOT DAMAGE EXISTING REINFORCEMENT PARALLEL TO REPAIRED SURFACE.
- 2. CARE SHALL BE TAKEN TO AVOID DAMAGING CONCRETE SUBSTRATE DURING CHIPPING OPERATION.

CONCRETE FLOOR OR WALL REPAIR FOLLOWING DEMOLITION

- 1. AFTER INSTALLING NEW LINTEL, SAWCUT AND REMOVE EXISTING CMU WALL AS REQUIRED TO PROVIDE NEW OPENING.
- 2. IN THE AREA OF THE REPAIR, SAWCUT AND REMOVE EXISTING FACE SHELLS AND CLEAN OUT ALL CELLS TO RECEIVE NEW REINFORCEMENT AND GROUT. REMOVE ALL DEBRIS, INSULATION, LOOSE MORTAR, AND MORTAR WHICH OBSTRUCTS THE FLOW OF GROUT PRIOR TO INSTALLATION OF REINFORCEMENT. REFERENCE LINTEL SCHEDULE FOR WIDTH AND REINFORCING. SPLICE BARS IN 6'-0" TO 8'-0" LENGTHS.
- 4. IF EXISTING VERTICAL WALL REINFORCING IN GROUTED CELL IS PRESENT, INSTALL LINTEL DOWELS PER JAMB SCHEDULE TO MATCH SIZE AND QUANTITY OF NEW CMU LINTEL REINFORCING. EMBED HORIZONTAL DOWELS 8" INTO EXISTING REINFORCED CELL WITH HILTI HIT HY-270 ADHESIVE AND CONTACT LAP SPLICE DOWEL WITH NEW CMU LINTEL REINFORCEMENT.
- 5. REPLACE LINTEL BLOCKS AND GROUT SOLID WITH FINE OR COARSE GROUT. SURFACE TREATMENT RESTORE THE FACE OF THE CMU BY INSTALLING SOAP BLOCKS AND NEW BLOCKS AS NECESSARY, SURFACE TREATMENT OF NEW BLOCK TO MATCH ORIGINAL (SPLIT FACE OR SMOOTH FACE).
- 6. GROUT SOLID ALL CELLS CONTAINING REINFORCING WITH FINE OR COARSE GROUT USING THE LOW LIFT METHOD. GROUT TO BE CONSOLIDATED USING VIBRATORS.
- 7. RE-POINT ALL AFFECTED MORTAR JOINTS.
- 8. ELEVATION SHOWN IS FROM INSIDE OF BUILDING.
- 9. HATCHED AREA INDICATES LOCATION OF REPAIR TO INSTALL REINFORCEMENT AND GROUT. ACTUAL AREA OF REPAIR MAY VARY BASED ON FIELD CONDITIONS. CONTRACTOR TO BRACE AND/OR SHORE WALL AS REQUIRED TO PERFORM THE WORK.

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WAS						
	SEPT 2022	SEPT 2022 100% SUBMITTAL		S	AD	う
A RY	MAY 2022	MAY 2022 90% SUBMITTAL		В	AD	う
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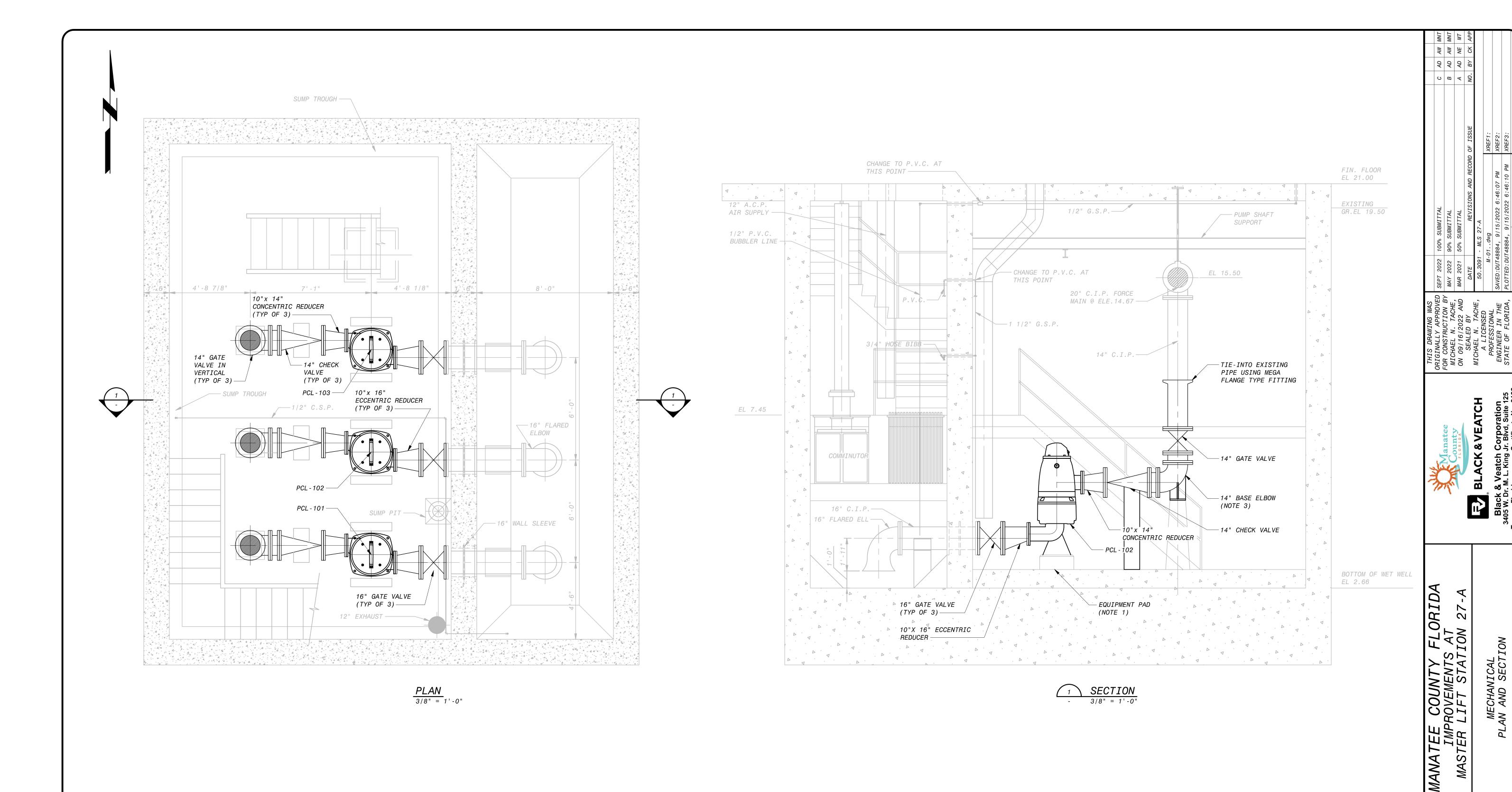
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DATE: SEPT 2022 1/2 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE PROJECT NO.

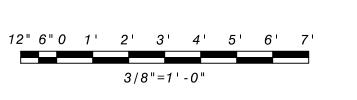
> 402142 S-04 SHEET 15 OF 40

12" 6" 0 1' 2' 3' 4' 5'

1/2"=1'-0"



- 1. CONTRACTOR SHALL REUSE EXISTING EQUIPMENT PAD FOR NEW PUMPS. CONTRACTOR SHALL MAKE MODIFICATIONS TO EXISTING EQUIPMENT PAD AS REQUIRED TO SUPPORT THE NEW PUMP.
- 2. CONTRACTOR SHALL MAINTAIN CONTINUOUS OPERATION OF THE MASTER LIFT STATION FOR THE DURATION OF CONSTRUCTION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, INCLUDING THE SANITARY SEWER BYPASS PUMPING SECTION (02720) AND THE CONSTRUCTION SCHEDULE AND PROJECT RESTRAINS SECTION (01310).
- 3. CONTRACTOR SHALL REUSE EXISTING CONCRETE SUPPORT THAT NEW BASE ELBOW IS CONNECTED TO.



ISSUED FOR CONSTRUCTION

DETAILED: HT/AD CHECKED: AW APPROVED: MNT DATE: SEPT 2022 1/2 1 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE PROJECT NO. 402142 M-01

SHEET 16 OF 40

DESIGNED: AZ



THIS IS GENERAL LEGEND AND ABBREVIATION SHEET FOR HVAC DRAWINGS. SOME ITEMS

2. ALL MECHANICAL HVAC WORK SHALL BE IN ACCORDANCE WITH THE FOLLOWING APPLICABLE

"SCREENED" DELINEATION DENOTES EXISTING AND NEW FACILITIES AND IS FOR REFERENCE ONLY. "LIGHT" LINE DELINEATION DENOTES EXISTING MECHANICAL INFORMATION WAS TAKEN FROM PREVIOUS DRAWINGS, CONSTRUCTION RECORDS, DATA AND FIELD SURVEY INFORMATION. ACTUAL LOCATION, ARRANGEMENT, AND DIMENSIONS SHALL BE FIELD VERIFIED AND WORK INSTALLED TO MEET ACTUAL CONDITIONS AND

6. ALL MATERIALS, FITTINGS, COVERS, AND EQUIPMENT INSTALLED IN RETURN AIR PLENUMS SHALL BE NONCOMBUSTIBLE AND UL LISTED FOR USE IN RETURN AIR PLENUMS.

7. ALL PIPE AND DUCT PENETRATIONS THROUGH FIRE RESISTANCE RATED ASSEMBLIES SHALL BE PROVIDED WITH FIRE STOP SYSTEMS. EQUIPMENT AND ACCESSORIES TO RESIST THE PASSAGE OF FIRE. SMOKE AND OTHER GASES. THE ORIGINAL FIRE RESISTANCE RATING OF THE ASSEMBLY PENETRATED SHALL BE MAINTAINED FOR ALL TYPES OF

METAL ROOF DECKING OR BOTTOM CHORD OF BAR JOISTS SHALL NOT BE USED FOR THE

9. ALL HANGERS, BRACKETS, OR BRACES FOR DUCTWORK, EQUIPMENT, AND PIPING ARE NOT INDICATED ON THE DRAWINGS. REFER TO THE SPECIFICATIONS FOR SUPPORT

10. OUTSIDE AIR INLETS SHALL BE LOCATED A MINIMUM OF 10' AWAY FROM ANY EXHAUST

11. ALL EQUIPMENT. PIPING. AND DUCTWORK FINAL LOCATIONS SHALL BE COORDINATED TO AVOID INTERFERENCES WITH STRUCTURE, OTHER PIPING, EQUIPMENT, DUCTWORK, AND CONDUIT. UNLESS SPECIFICALLY DIMENSIONED, THE PIPE AND DUCTWORK ROUTING SHOWN IS INTENDED TO INDICATE GENERAL LOCATION ONLY. INSTALL DUCTWORK TO

12. ALL PIPING AND DUCTWORK SHALL BE ROUTED AS HIGH AS POSSIBLE WITH A MINIMUM HEIGHT OF 8'-0" ABOVE THE WALKING SURFACE UNLESS OTHERWISE INDICATED BY A

OPERATING PRESSURES INDICATED IN THE SCHEDULES FOR THE EQUIPMENT IT SERVES. ALL DUCTWORK SHALL HAVE A MINIMUM SMACNA PRESSURE CLASSIFICATION

14. DUCT SIZES INDICATED ARE CLEAR DIMENSIONS INSIDE THE DUCT OR DUCT LINING.

MINIMUM INSULATION THICKNESSES FOR DUCTWORK SHALL BE AS INDICATED IN THE SPECIFICATIONS UNLESS OTHERWISE INDICATED ON THE PLANS WITH A "L" OR "W" DESIGNATION. WHERE AN INSULATION THICKNESS IS INDICATED ON THE DRAWINGS.

W,W1 - 1 INCH EXTERNALLY WRAPPED W15 - 1.5 INCH EXTERNALLY WRAPPED W2 - 2 INCH EXTERNALLY WRAPPED

17. THE LOCATION OF PIPING AND VALVES TO THE AIR HANDLING EQUIPMENT SHALL NOT

SEISMIC RESTRAINTS/BRACING SHALL BE PROVIDED FOR ALL EQUIPMENT, DUCTWORK, PIPING AND ACCESSORIES IN ACCORDANCE WITH THE LATEST SMACNA SEISMIC RESPONSIBLE FOR ALL SEISMIC SUPPORTS AND ADDITIONAL/MISCELLANEOUS STEEL REQUIRED FOR PROPER INSTALLATION OF SUPPORTS. SUPPORTS AND SEISMIC RESTRAINTS DESIGN SUBMITTALS SHALL BEAR THE STAMP AND SIGNATURE OF A

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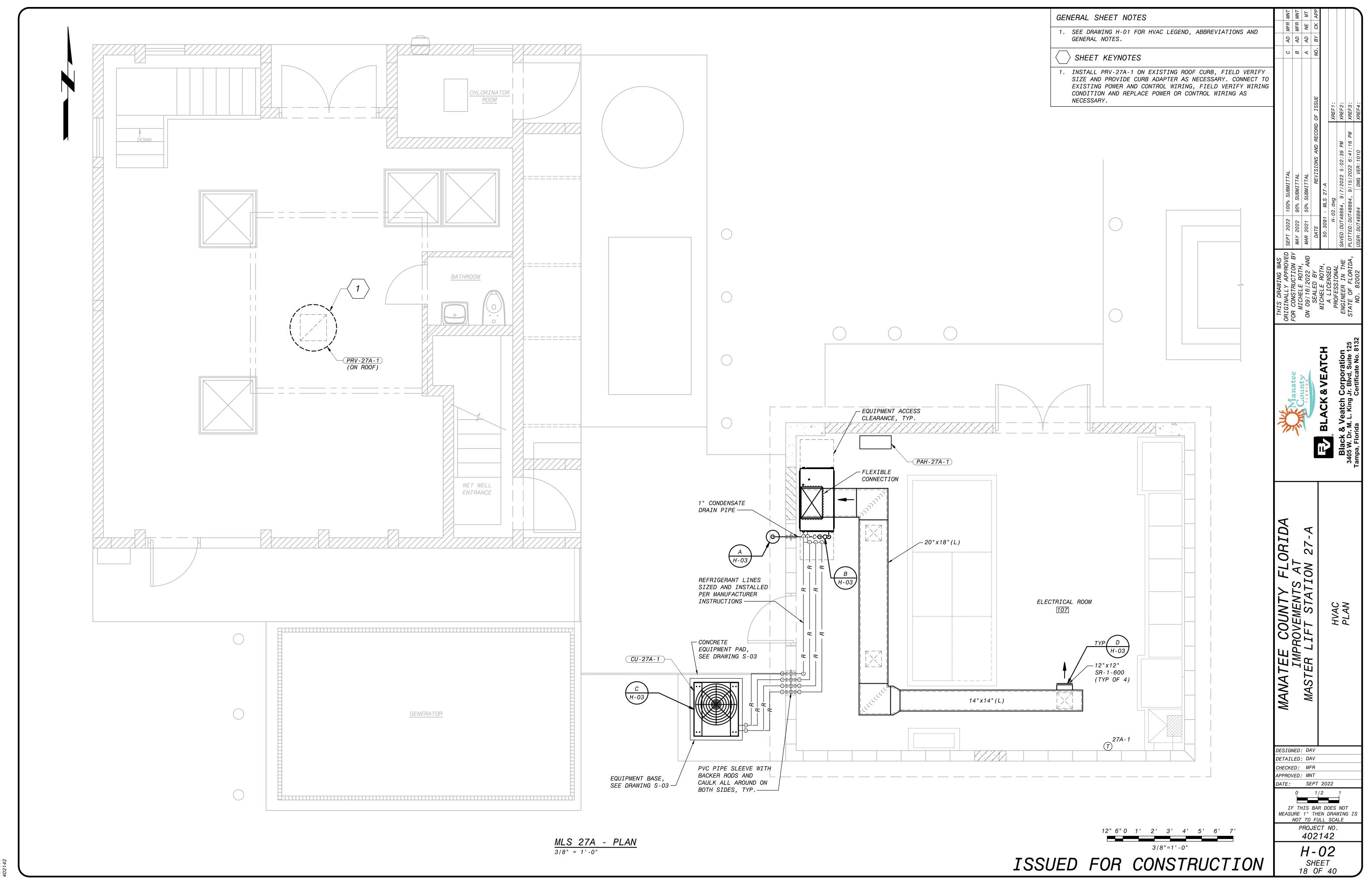
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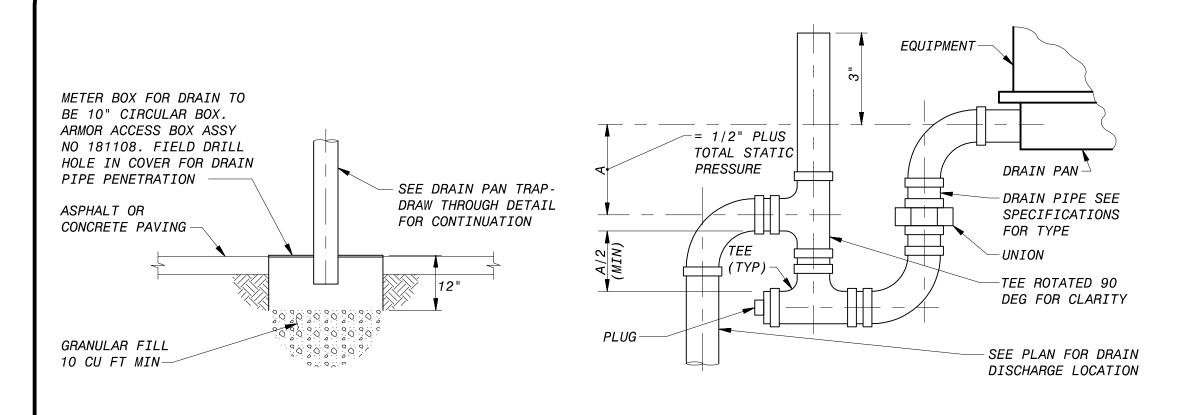
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> 402142 H - 01SHEET

17 OF 40

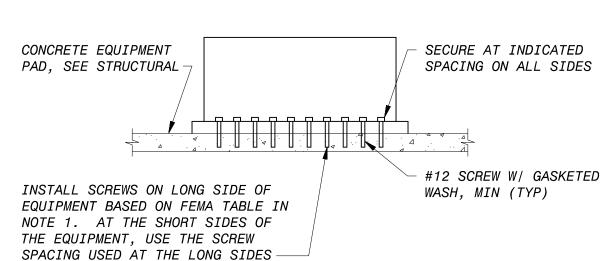
PROJECT NO.





CONDENSATE DRAIN SUMP NO SCALE

DRAIN PAN TRAP - DRAW THROUGH NO SCALE



<u>NOTE:</u>

OUTDOOR MOUNTED EQUIPMENT SHALL BE ANCHORED TO THE CONCRETE EQUIPMENT PAD PER 2020 FBCM 301.15. SCREW SPACING PER FEMA P-424 TABLE 6.1 HVAC UNIT AND 143 MPH WIND SPEED.

OUTDOOR MOUNTED EQUIPMENT SECUREMENT NO SCALE

DUCT LINER WHERE INDICATED—
DUCT - SIN -
DUCT LINER WHERE INDICATEDEXPOSED DUCT
DUCT -
FACE OF SPONGE OR RUBBER GASKET ALL AROUND
OR WALL — CEILING OR WALL — REGISTER/GRILLE

REGISTER / GRILLE NO SCALE

OUTDOOR COIL ENTERING AIR TEMPERATURE: 96.1 F (COOLING)

1. UNIT IS SUBJECT TO CORROSION FROM A HYDROGEN SULFIDE LADEN AND COASTAL ATMOSPHERE. ALL HOUSINGS, AIRSTREAM COMPONENTS AND EXPOSED HEAT TRANSFER COMPONENTS SHALL BE GIVEN A PROTECTIVE FACTORY COATING OF HERESITE OR SEACOAST PROTECTION OR APPROVED EQUALS. CONTROL PANELS, WIRING CONNECTIONS AND OTHER SENSITIVE ELECTRONICS SHALL HAVE A CONFORMAL COATING APPLIED.

1. SEE DRAWING H-01 FOR HVAC LEGEND, ABBREVIATIONS AND

1. SEE DRAWINGS FOR DEVICE LENGTH, WIDTH, AND SUPPLY

AIR HANDLING UNIT (PACKAGED) SCHEDULE:

2. PROVIDE SIDE INLET RETURN GRILLE.

3. SINGLE ZONE VARIABLE AIR VOLUME UNIT.

4. PROVIDE EQUIPMENT SUBBASE ACCESSORY.

1. FILTER VELOCITY SHALL NOT EXCEED 350 FPM.

2. PROVIDE HAIL GUARDS.

FAN SCHEDULE

FAN TYPE ABBREVIATIONS: PRV - POWER ROOF VENTILATOR

CONDENSING UNIT SCHEDULE:

GENERAL SHEET NOTES

GENERAL NOTES.

SCHEDULE NOTES

AIR DEVICE SCHEDULE:

PATTERN.

WHEEL TYPE ABBREVIATIONS:

C - CENTRIFUGAL

1. FAN REPLACING EXISTING UNIT IN-KIND. EXISTING ROOF CURB TO BE REUSED, PROVIDE CURB ADAPTER AS NECESSARY. CONNECT NEW FAN TO EXISTING FAN CONTROLS AND POWER

2. ALUMINUM CONSTRUCTION.

3. UNIT IS SUBJECT TO CORROSION FROM A HYDROGEN SULFIDE LADEN AND COASTAL ATMOSPHERE. ALL HOUSINGS, AIRSTREAM COMPONENTS SHALL BE GIVEN A PROTECTIVE FACTORY COATING OF HERESITE OR SEACOAST PROTECTION OR APPROVED EQUALS. WIRING CONNECTIONS AND OTHER SENSITIVE ELECTRONICS SHALL HAVE A CONFORMAL COATING APPLIED.

4. EXPLOSION PROOF MOTOR.

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DESIGNED: DAV DETAILED: DAV CHECKED: MFR APPROVED: MNT

DATE: SEPT 2022 1/2 IF THIS BAR DOES NOT

> NOT TO FULL SCALE PROJECT NO. 402142

H-03 SHEET 19 OF 40

MEASURE 1" THEN DRAWING IS

	AIR DEVICE SCHEDULE													
SYMBOL	BASIS OF DESIGN MANUFACTURER	MODEL	FRAME/BORDER	MODULE SIZE	MATERIAL	FINISH	DAMPER TYPE	NOTES						
SR - 1	TITUS	272FS	SURFACE MOUNT		ALUMINUM	BAKED ALUM ENAMEL	OPPOSED BLADE	1						

					AIR	<i>HANDLING</i>	UNIT	(PAC	KAGEL) SC	HEDU	ILE							
							INDOOR		POWER	SUPPLY			COOLING		FILTE	R DATA			
LINITT		DACTO OF DECION		AIRFLOW	ESP		FAN MOTOR				E,	AT	CAPACIT	Y (BTUH)		 THICKNESS	VIBRATION	APPROX WEIGHT	
UNIT NUMBER	LOCATION	BASIS OF DESIGN MANUFACTURER	MODEL			ORIENTATION		DRIVE	VOLTS	PHASE	(FDB)	(FWB)	SENSIBLE	TOTAL	TYPE	(IN)	ISOLATION	(LBS)	NOTES
PAH-27A-1	27-A ELECTRICAL ROOM	TRANE	TWE	2400	0.625	UPFLOW	2	BELT	480	3	85	65.7	70,000	73,000	PLEATED	2	INTERNAL	400	1, 2, 3, 4

		NDENS1	ING UNI	TT SCHEDU	JLE										
UNIT NUMBER	LOCATION	BASIS OF DESIGN MANUFACTURER	MODEL	CAPACITY (BTUH)	COOL MINIMUM CAPACITY STEPS	ING SUCT TEMPERAT MINIMUM		HEATING CAPACITY (BTUH)	POW SUPI VOLTS	PLY	MINIMUM CIRCUIT AMPACITY	ARI MINIMUM EFFICIENCY	MATCHED WITH INDOOR UNIT	APPROX WEIGHT (LBS)	NOTES
CU-27A-1	27-A ELECTRICAL ROOM	TRANE	TTA	73,000	2	38	48		480	3	14	12.0 EER	PAH - 27A - 1	350	1, 2

								FA	AN SCI	HEDUL	.E						
٨	UNIT NUMBER	LOCATION	BASIS OF DESIGN MANUFACTURER	MODEL	FAN TYPE	AIRFLOW (CFM)	ESP (IN WC)	BRAKE HP	MOTOR HP	POWER VOLTS	SUPPLY PHASE	MINIMUM WHEEL DIA (IN)	WHEEL TYPE	DRIVE	VIBRATION ISOLATION	APPROX WEIGHT (LBS)	NOTES
PR	RV - 27A - 1	27-A MLS ROOF	GREENHECK	GB	PRV	2200	1.0	0.62	3/4	120	1	18.5	С	BELT	INTERNAL	140	1, 2, 3, 4

HVAC SEQUENCE OF OPERATION

1. AIR CONDITIONING SYSTEMS.

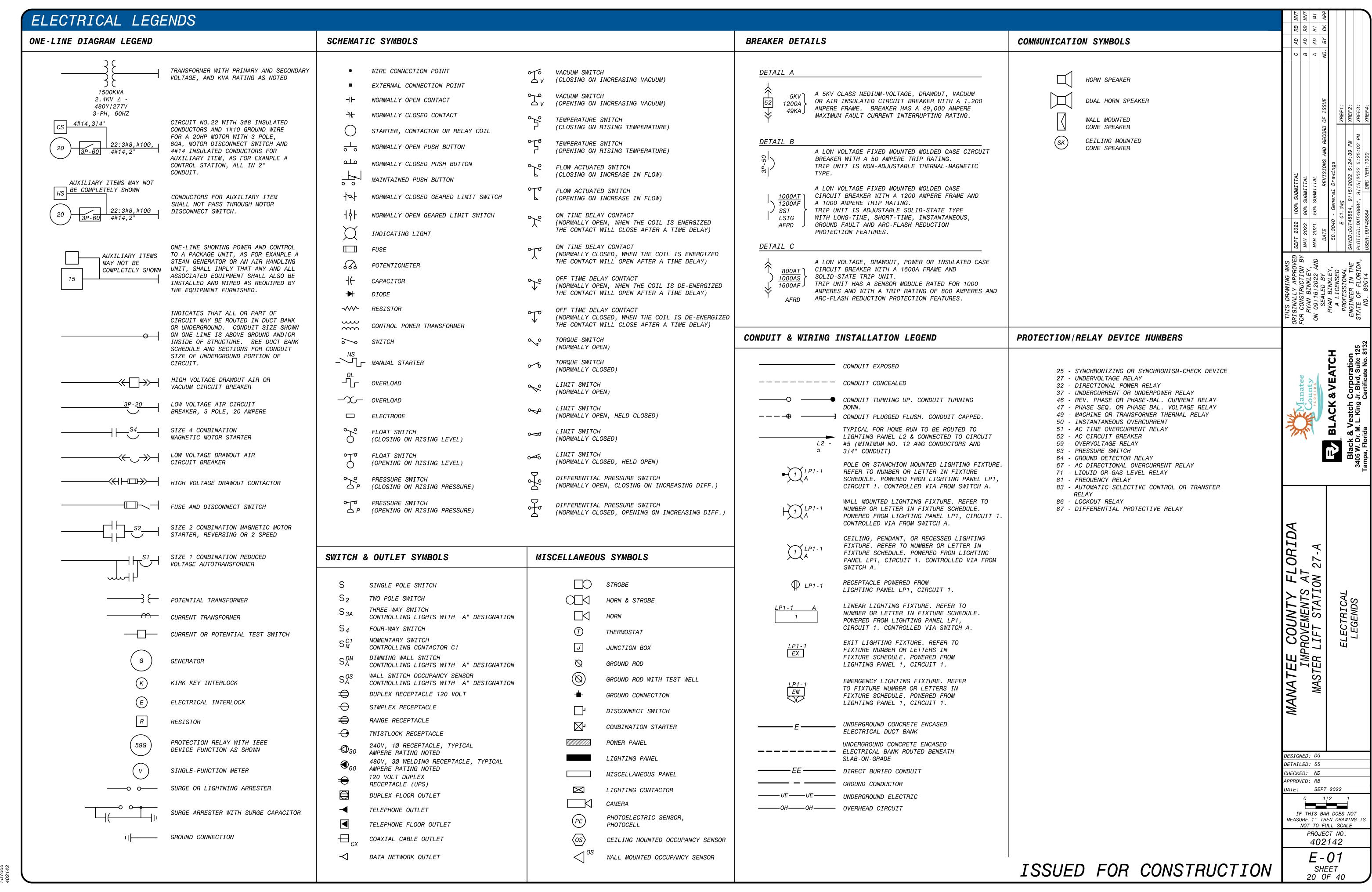
1.1. SINGLE ZONE VARIABLE VOLUME SYSTEMS. COOLING ONLY SINGLE ZONE VARIABLE VOLUME SYSTEMS SHALL BE CONTROLLED BY THEIR RESPECTIVE PROGRAMMABLE THERMOSTAT. SYSTEM OPERATION SHALL BE CONTROLLED BY "OFF-AUTO-COOL" MODES AND "AUTO-ON" FAN MODES SELECTED FROM THE THERMOSTAT TOUCHSCREEN INTERFACE. WHEN THE "AUTO" FAN MODE IS SELECTED, THE RESPECTIVE EQUIPMENT FAN SHALL BE ENERGIZED UPON A CALL FOR COOLING AS REQUIRED TO MAINTAIN THE DESIRED ROOM TEMPERATURE. WHEN "ON" FAN MODE IS SELECTED, THE FAN SHALL BE ENERGIZED. WHEN THE INDOOR TEMPERATURE IS GREATER THAN THE INDOOR TEMPERATURE SETPOINT, THE FAN SHALL BE ENERGIZED AND HELD AT THE MINIMUM SPEED REQUIRED TO MEET THE COOLING DEMAND. THE FAN SPEED SHALL INCREASE AS THE COOLING DEMAND INCREASES AND THE COMPRESSORS SHALL BE STAGED AND ENERGIZED AS REQUIRED TO MAINTAIN THE DESIRED INDOOR TEMPERATURE. UPON ALARM SIGNAL FROM FIRE ALARM CONTROL PANEL (FACP), PAH-27A-1 AND CU-27A-1 SHALL BE DE-ENERGIZED.

EQUIPMENT THERMOSTAT PAH-27A-1, CU-27A-1 T-27A-1

2. THERMOSTAT SETPOINTS

2.1. THERMOSTAT SETPOINTS SHALL BE AS INDICATED BELOW, UNLESS THE SETPOINT HAS BEEN DESCRIBED PREVIOUSLY IN THIS SEQUENCE OF OPERATIONS.

AIR CONDITIONED AREAS - 85 F



ELECTRICAL ABBREVIATIONS & NOTES RB RB RT **ELECTRICAL ABBREVIATIONS** ELECTRICAL GENERAL NOTES 8 8 8 O B A 1. SOLID LINES (—) INDICATE NEW WORK OR EQUIPMENT 2. SCREENED LINES (——— ———) INDICATE EXISTING WORK OR EQUIPMENT I/OAMBER. AMPERE. ALARM INPUT/OUTPUT SHORT-TIME, SHIELDED, STARTER INSTANTANEOUS SURGE ARRESTER, SPEAKER AMPLIFIER ALTERNATING CURRENT 3. DASHED LINES (-----) INDICATE FUTURE WORK OR EQUIPMENT. **ACB** AIR CIRCUIT BREAKER IJBINTERCOM JUNCTION BOX SCADA SUPERVISORY CONTROL AND ACR DATA ACQUISITION ACCESS CARD READER 4. REFER TO INDIVIDUAL DISCIPLINE CONTRACT DRAWINGS FOR ADDITIONAL ABBREVIATIONS, DETAILS, AND GENERAL ΑF SULFUR HEXAFLOURIDE *AMPERE FRAME* AFD ADJUSTABLE FREQUENCY DRIVE SPACE HEATER JUNCTION BOX SN AFRD ARC-FLASH REDUCTION DEVICE SOLID NEUTRAL 5. LEGEND SHEETS ARE GENERAL. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT. AM*AMMETER* S0 SOLENOID OILER ANNUNCIATOR SINGLE POLE 6. INFORMATION RELATED TO CIRCUIT IDENTIFICATION, WIRE & CONDUIT SIZES, AND ROUTING, IS ON THE FOLLOWING ALARM RELAY SPD SURGE PROTECTION DEVICE KEY INTERLOCK DRAWING TYPES. AS AMMETER SWITCH, AMPERE SENSOR SPDT SINGLE POLE DOUBLE THROW THOUSAND AMPERES INTERRUPTING CURRENT ΑT AMPERE TRIP SINGLE POLE SINGLE THROW KCMIL THOUSAND CIRCULAR MIL A. ONE-LINE DIAGRAMS SHOW CIRCUIT IDENTIFICATION, WIRE QUANTITY AND SIZES, AND CONDUIT SIZE WITHIN ATS AUTOMATIC TRANSFER SWITCH SELECTOR SWITCH, START/STOP, STAINLESS STEEL KO KEY OPERATED STRUCTURES. ONE-LINE DIAGRAMS ALSO INDICATE ORIGIN AND DESTINATION OF CIRCUITS, AND IDENTIFY AUX *AUXILIARY* SSM SOLID-STATE METERING KILOVOLT ΚV CIRCUITS ROUTED UNDERGROUND. AMERICAN WIRE GAUGE SSS SOLID STATE STARTER KVA KILOVOLT AMPERE SST SOLID-STATE TRIP B. FOR CIRCUITS WITHOUT UNDERGROUND PORTIONS, BUILDING FLOOR PLANS SHOW LOCATION OF EQUIPMENT FOR KVAR KILOVAR SUPV SUPERVISORY CONTROL DETERMINING CIRCUIT LENGTH WITHIN THE STRUCTURE. FOR CIRCUITS WITH UNDERGROUND PORTIONS, KILOWATT SV SOLENOID VALVE KWH KILOWATT HOUR ANTICIPATED PENETRATION OF UNDERGROUND CONDUITS ARE SHOWN ON STRUCTURE PLANS FOR DETERMINING THE SWB.SWBD SWITCHBOARD BATTERY CHARGER LENGTH OF THE IN-STRUCTURE PORTIONS OF CIRCUITS. BUILDING FLOOR PLANS MAY ALSO SHOW HOME RUNS FOR SWG, SWGR SWITCHGEAR LIGHTING. RECEPTACLE. AND OTHER MISCELLANEOUS EQUIPMENT CIRCUITS. BREAKER BRAKE LOW, LEVEL, LONG-TIME BEARING TEMPERATURE C. SITE PLANS INDICATE THE GENERAL ROUTING OF UNDERGROUND CONDUITS AND DUCT BANKS. CIRCUITS ROUTED IN LIGHTNING ARRESTER UNDERGROUND CONDUITS OR DUCT BANKS ARE INDICATED IN DUCT BANK SECTIONS REFERENCED ON THE SITE PLAN. THERMOSTAT, TIMER, TOTALIZER, LAN LOCAL AREA NETWORK **TRANSFORMER** LIGHTING CONTRACTOR TACH TACHOMETER D. DUCT BANK SECTIONS AND SCHEDULES IDENTIFY CONDUIT SIZE, CONDUIT MATERIAL, ARRANGEMENT OF THE LIGHTING CONTACTOR ENCLOSURE CLOSE, COUNTER, CONTACTOR, CONTROL, LCE TB UNDERGROUND CONDUITS, AND CIRCUITS ROUTED IN EACH UNDERGROUND CONDUIT. TERMINAL BLOCK CCTV CAMERA LIGHTING CONTROL ENCLOSURE TIMER CLUTCH CAPCAPACITOR LOCAL CONTROL PANEL TIME DELAY RELAY LOCAL CONTROL STATION CBCIRCUIT BREAKER LCS *TEMPERATURE* CIRCUIT BREAKER AUXILIARY CONTACT LOA CB"A" LOCAL - OFF - AUTO TIMER MOTOR LOCAL - OFF - REMOTE AREA DESIGNATIONS (OPEN WHEN BREAKER IS OPEN) LOR *TORQUE* LOS CIRCUIT BREAKER AUXILIARY CONTACT LOCK OUT STOP TIMER RELAY, TRIAD LIGHTING PANEL (CLOSED WHEN BREAKER IS OPEN) TEMPERATURE SWITCH CDCONTROL DAMPER LS LIMIT OR LEVEL SWITCH TELEPHONE TERMINAL BOARD THE SPECIAL AREA DESIGNATION BOXES, AS DEFINED BELOW, ARE LOCATED ON THE PLAN DRAWINGS TO DEFINE CILTG LIGHTING CELL INTERLOCK ELECTRICAL INSTALLATION REQUIREMENTS. DESIGNATION BOXES ARE LOCATED WITHIN ROOM OR BELOW ROOM NUMBER. CKT LWCO LOW WATER CUTOFF CIRCUIT ALL INDOOR AREAS NOT INDICATED OTHERWISE ARE AREA TYPE 1 AND MINIMUM NEMA TYPE 1 ENCLOSURES. CL2 CHLORINE UNDERGROUND COS CABLE OPERATED SWITCH CORROSIVE CHEMICAL FEED AND STORAGE ROOMS. CONDUIT SYSTEM SHALL BE EXPOSED SCHEDULE **AREA TYPE 1A** CP UNINTERRUPTIBLE POWER SUPPLY CONTROL PANEL 80 PVC RIGID NON-METALLIC CONDUIT WITH PVC FITTINGS, BOXES AND ACCESSORIES. CPTCONTROL POWER TRANSFORMER MAGNETIC MOTOR STARTER INDOOR WET LOCATIONS SUCH AS VAULTS, HOSEDOWN AREAS, BASEMENTS, ETC. MINIMUM NEMA CURRENT OF CONTROL RELAY, CARD READER AREA TYPE 4 MILLIAMPERE TYPE 4 ENCLOSURE FOR EQUIPMENT AND GASKETED FITTINGS IN A CONDUIT SYSTEM. CONTROL STATION MCBMAIN CIRCUIT BREAKER VOLTS, VOLTAGE RESTRAINED CTCYCLE TIMER OR CURRENT TRANSFORMER MCC MOTOR CONTROL CENTER VA*VOLT AMPERE* CLASS I, DIVISION 1 AREA AS DEFINED BY NEC. ALL EQUIPMENT AND CONDUIT SYSTEMS SHALL CTCCYCLE TIMER CLUTCH AREA TYPE 7A Ø MOTOR CONTROL LINEUP MCLU VARMETER BE RATED FOR USE IN THIS AREA. CTMCYCLE TIMER MONITOR MDMOISTURE DETECTOR, MOTION DETECTOR VARIABLE FREQUENCY DRIVE 2/C 2 CONDUCTOR **VACUUM INTERRUPTER** CLASS I, DIVISION 2, GROUP C AND D (METHANE, GASOLINE) AS DEFINED BY NEC. EQUIPMENT MDLMAGNETIC DOOR LOCK VIAREA TYPE 7B 4" CONDUIT AND CONDUITS SYSTEMS SHALL BE RATED FOR USE IN THIS AREA. MFR **MANUFACTURER** VLS VALVE LIMIT SWITCH MANHOLE, MOUNTING HEIGHT VM*VOLTMETER* INDOOR, DRY, DIRTY AREA. REQUIRES MINIMUM NEMA TYPE 12 GASKETED ENCLOSURES FOR ALL $\mathbf{\Omega}$ MOV MOTOR OPERATED VALVE VALVE POSITION INDICATOR AREA TYPE 12 EQUIPMENT AND GASKETED FITTINGS IN CONDUIT SYSTEMS. DIRECT CURRENT, DOOR CONTACT MOTOR PROTECTION RELAY MPR**VOLTMETER SWITCH** DOOR INTERLOCK DIMS MANUAL MOTOR STARTER DM DAMPER MOTOR, DEMAND METER, MOISTURE DETECTOR MSH DIMMER SWITCH MANUAL TRANSFER SWITCH WHITE, WATTS DOUBLE POLE DOUBLE THROW MILLIVOLT, MEDIUM VOLTAGE GENERAL REQUIREMENTS WATTHOUR METER DPST DOUBLE POLE SINGLE THROW MEGAVOLT AMPERE WATT METER DIFFERENTIAL PRESSURE REGULATOR **WEATHERPROOF** DIFFERENTIAL PRESSURE SWITCH WEATHERPROOF IN-USE 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING ALL CONDUITS NOT SHOWN ON THE PLANS. THIS SHALL INCLUDE ALL DISCONNECT SWITCH, DOOR SWITCH, NEUTRAL WALL STATION CONDUITS SHOWN ON THE ONE-LINES AND HOME-RUNS SHOWN ON THE PLAN DRAWINGS. CONDUITS SHALL BE ROUTED AS DESKTOP STATION NEUTRAL GROUNDING RESISTOR DEFINED IN THE SPECIFICATION. DISCHARGE VALVE LIMIT SWITCH NEUTRAL GROUNDING TRANSFORMER NORMALLY CLOSED 2. SPARE WIRES SHALL BE TAPED AND COILED AND LABELED TO INDICATE WHERE OTHER END OF SPARE WIRE IS LOCATED. NORMALLY OPEN. NUMBER AUXILIARY RELAY TRANSFORMER ELECTRIC OPERATOR FOR CONTROL DAMPER 3. IF EQUIPMENT SUPPLIED BY MANUFACTURER HAS A LARGER LOAD THAN VALUE SHOWN, THE CABLE CONDUIT AND ELECTRICAL EXPLOSION PROOF *OR VALVE* EQUIPMENT SHALL BE ENLARGED, AS REQUIRED, TO ACCOMMODATE THE HIGHER VALUE. EMPTY CONDUIT OPEN ELECTRICAL DOOR STRIKE 0 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING PROPERLY SIZED STARTER OVERLOADS FOR EQUIPMENT FURNISHED. OVERLOAD 2 ELEVATION. EMERGENCY LIGHT EL YELLOW ON-OFF-AUTO FL ON 00A ELECTRICAL MANHOLE 5. LIGHTING AND RECEPTACLE CIRCUITS DESIGNATED ON THE FLOOR PLANS ARE NOT SHOWN ON THE ONE-LINES. CONDUCTORS 00R ON-OFF-REMOTE ER ELECTRODE RELAY FOR LIGHTING. RECEPTACLES. AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM NO. 12AWG. CONDUIT FOR OCCUPANCY SENSOR ES END SWITCH, REQUEST TO EXIT SENSOR LIGHTING, RECEPTACLES, AND MISCELLANEOUS 120VAC CIRCUITS SHALL BE MINIMUM 3/4". OVER/UNDER 1> SF E-STOP EMERGENCY STOP AUXILIARY RELAY, IMPEDANCE ETMELAPSED TIME METER ZS POSITION SWITCH COUNT OVEMENT IFT STA 6. IN AREAS WHERE THERE ARE OVERHEAD BRIDGE CRANES, HOISTS, ETC. NO CONDUITS SHALL BE RUN OVERHEAD THAT WILL ΕX EXISTING ZERO SPEED SWITCH INTERFERE WITH THE OPERATION OF THE EQUIPMENT. ZSS EXPLOSION PROOF PRIMARY, POWER, POLE 1-1PR#16S ONE, SINGLE PAIR, TWISTED PCS PLANT CONTROL SYSTEM SHIELDED #16 CABLE PUSH BUTTON, PULL BOX 3-7/C#14 THREE, SINGLE, SEVEN CONDUCTOR #14 FORWARD, FIELD PHOTOELECTRIC SENSOR, PHOTOCELL MULTICONDUCTOR CONTROL CABLES POWER FACTOR F0 FIBER OPTIC PFCC POWER FACTOR CORRECTION CAPACITOR FPR FEEDER PROTECTION RELAY PHASE FLOW SWITCH PLPILOT LIGHT PROGRAMMABLE LOGIC CONTROLLER S PLCPOWER PANEL GREEN, GROUND, GENERATOR, PAIRGROUND FAULT PROXIMITY SWITCH

GROUND DETECTOR

#8 GROUND WIRE

HIGH, HUMIDISTAT

HAND-OFF-AUTO

HORSEPOWER

HAND STATION

HERTZ (CYCLE)

HAND-OFF-REMOTE

HIGH WATER CUTOFF

HIGH MOTOR TEMPERATURE

GROUND FAULT CURRENT INTERRUPTOR,

GROUND FAULT INTERRUPTOR

GENERATOR PROTECTION RELAY

GEARED LIMIT SWITCH

GENERATOR

GROUND

HANDHOLE

GEN

GPR

GND

HOA

HOR

HP

HS

HΖ

HWCO

GFCI,GFI

PRESSURE SWITCH

NOT USED

RECEPTACLE

REMOTE HANDSET

REPEATING TIMER

REMOTE TERMINAL UNIT

RESISTOR

RECP

RES

RH

RT

RTD

RTU

POTENTIAL TRANSFORMER, PROGRAM TIMER

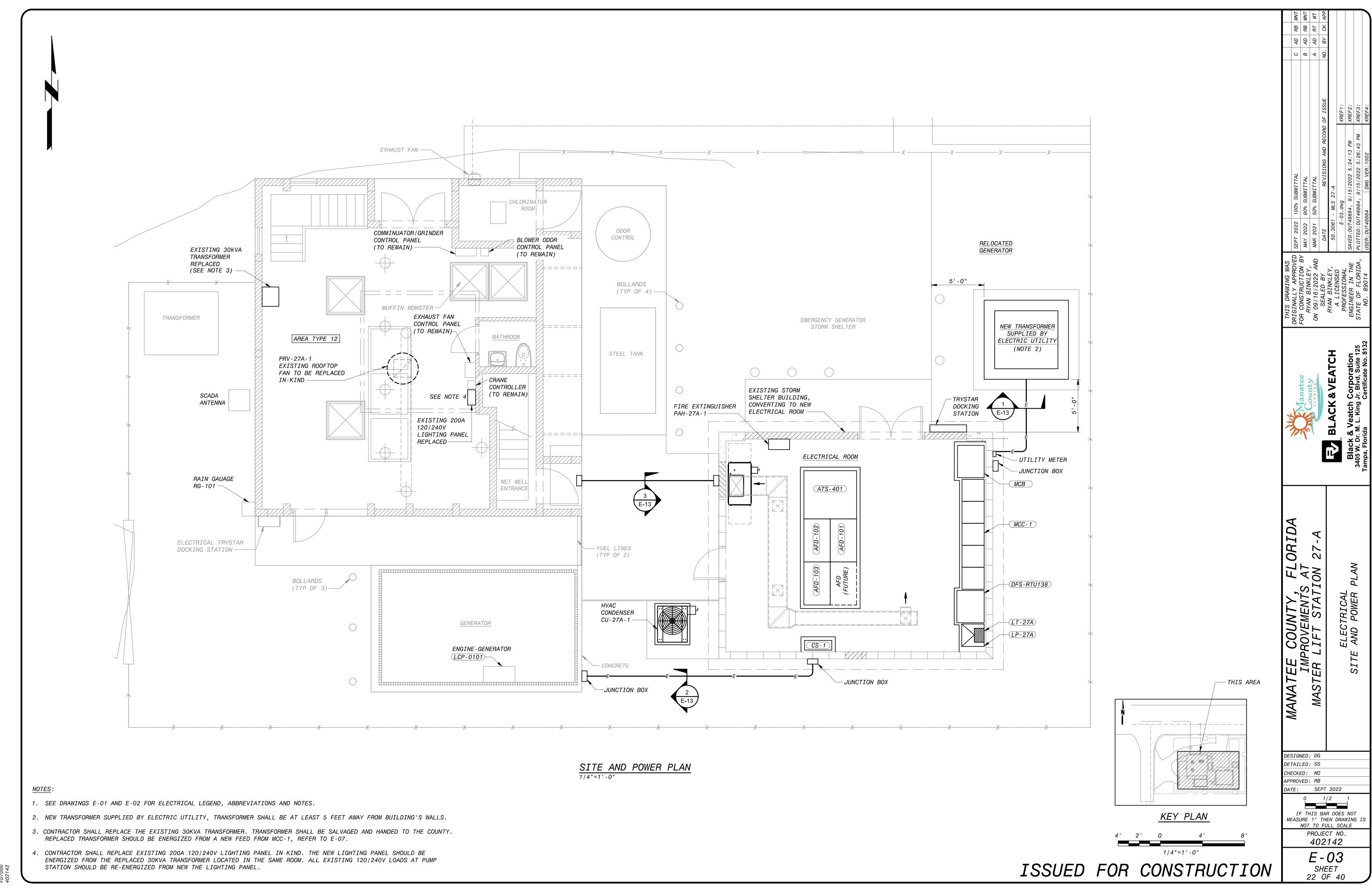
RED, RAISE, RELAY, REVERSE

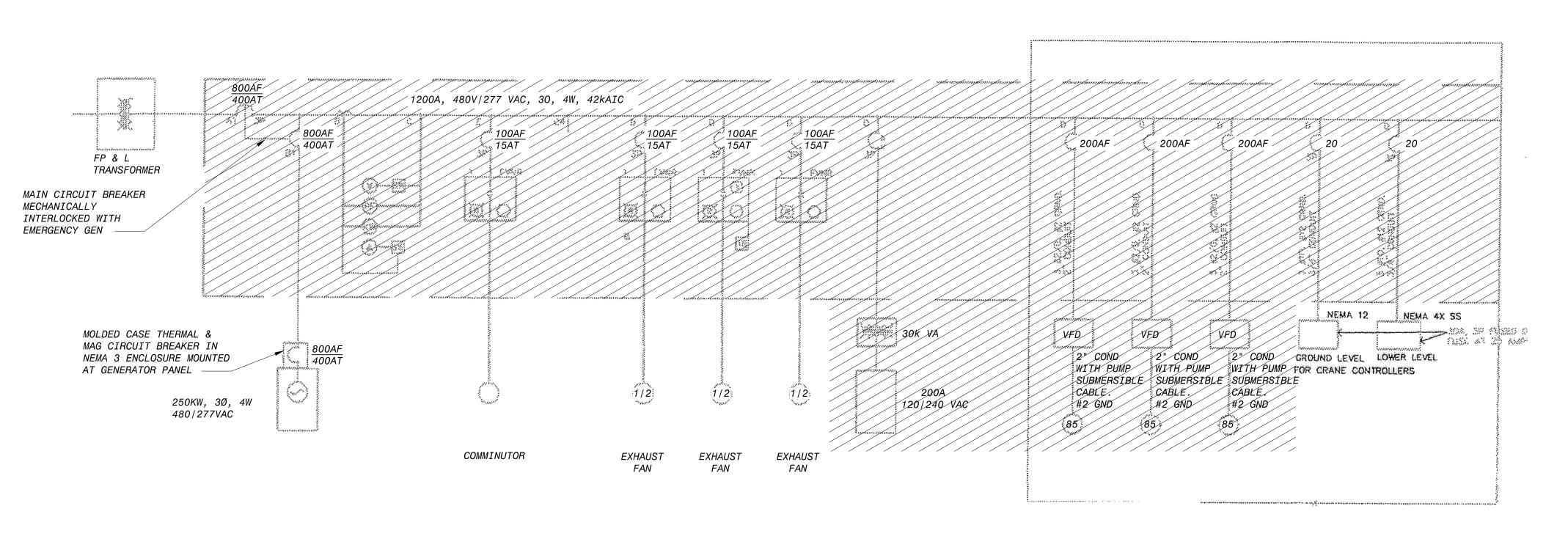
RESISTANCE TEMPERATURE DETECTOR

REDUCED VOLTAGE SOLID STATE STARTER

IF THIS BAR DOES NOT
MEASURE 1" THEN DRAWING IS
NOT TO FULL SCALE
PROJECT NO.
402142

E - 02 SHEET 21 OF 40





EXISTING MCC DEMOLITION ONE-LINE DIAGRAM NO SCALE

H)	G	F	E	0	C	B	A
SPACE	SPACE	SPACE	COMMINUTOR	STARTER	INSTRUMENTS	regista ir negami i galanisi igalania galipari igalana eregistari	CONTROLLER
250A CB	250A CB	250A CB	30A CRANE 30A CRANE	EXHAUST FAN	phiningshamingshamaghamaghamaghamaghamaghamaghamagham	nglacanglacanglacanglacianglacanglacanglac	
			SPACE	DRYWELL EXHAUST	SPACE		
#3 VARIABLE SPEED PUMP	#2 VARIABLE SPEED PUMP	#1 VARIABLE SPEED PUMP			ŞPAÇE		
			SPACE	WETWELL BLOWER			
				DRY XMFR			
				CB			

EXISTING LIFT STATION 27A MCC DEMOLITION
NO SCALE

NOTE:

1. SEE DRAWINGS E-01 AND E-02 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES.

ISSUED FOR CONSTRUCTION

PAGE CONSTRUCTION BY RYAN BINKLEY, ON 09/16/2022 AND SEALED BY RYAN BINKLEY, ON 09/16/2022 AND SEALED BY RYAN BINKLEY, A LICENSED PROFESSIONAL ENGINEER IN THE ENGINEER IN THE STATE OF FLORIDA, LISER-DILTARBRA DING VER 1002

RB RB RT

| A | A | 9

C B A S

MANATEE COUNTY, FLORIDA IMPROVEMENTS AT MASTER LIFT STATION 27-A

DESIGNED: DG
DETAILED: SS
CHECKED: ND
APPROVED: RB

OATE: SEPT 2022

0 1/2

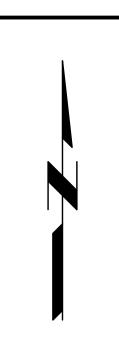
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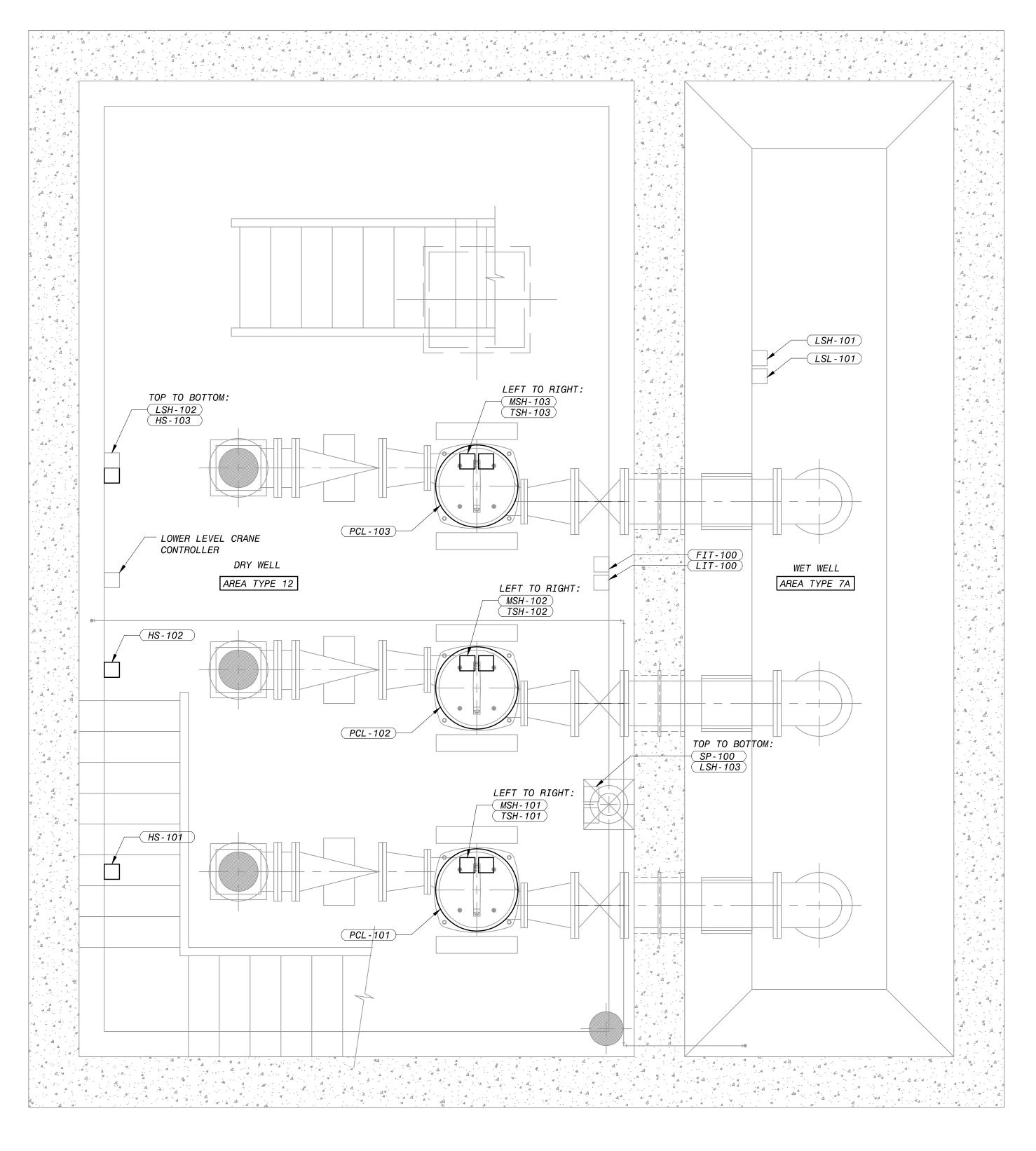
IF THIS BAR DOES NOT EASURE 1" THEN DRAWING NOT TO FULL SCALE

PROJECT NO.

402142

E - 04 SHEET 23 OF 40



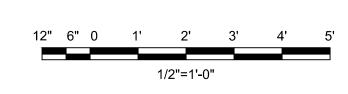


BOTTOM LEVEL POWER PLAN

<u>NOTES</u>:

1. SEE DRAWINGS E-01 AND E-02 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND NOTES.

2. CONTRACTOR SHALL PROVIDE A NEW #6AWG GROUND CONNECTION FROM NEW MOTORS TO EXISTING GROUND RING.



ISSUED FOR CONSTRUCTION

		9	¥		_	3 125	. 8132
FOR CONSTRUCTION BY	ON 09/16/2022 AND	SEALED BY	HYAN BINKLEY,	A LICENSED PROFFSSTONA!	ENGINEER IN THE	STATE OF FLORIDA,	NO. 89014
MAY 2022 90% SUBMITTAL	MAR 2021 50% SUBMITTAL	DATE	1908.09	E-(SAVED:DUT48	PLOTTED: DUT	USER: DUT48884
80% SUBN	VBNS %09		50.3061 - MLS 27-A	E-05.dwg	3884, 9/1	748884, 9	884
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		OF ISSUE		XREF1:	XREF2:	XREF3:	XREF4:
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B B B &

Black & Veatch Corporation

FLORIDA

ELECTRICAL BOTTOM I EVEL POWER PI AN

DESIGNED: DG

DETAILED: SS

CHECKED: ND

APPROVED: RB

DATE: SEPT 2022

MANATEE (IMPE MASTER L

APPROVED: RB
DATE: SEPT 2022

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IF THIS BAR DOES NOT

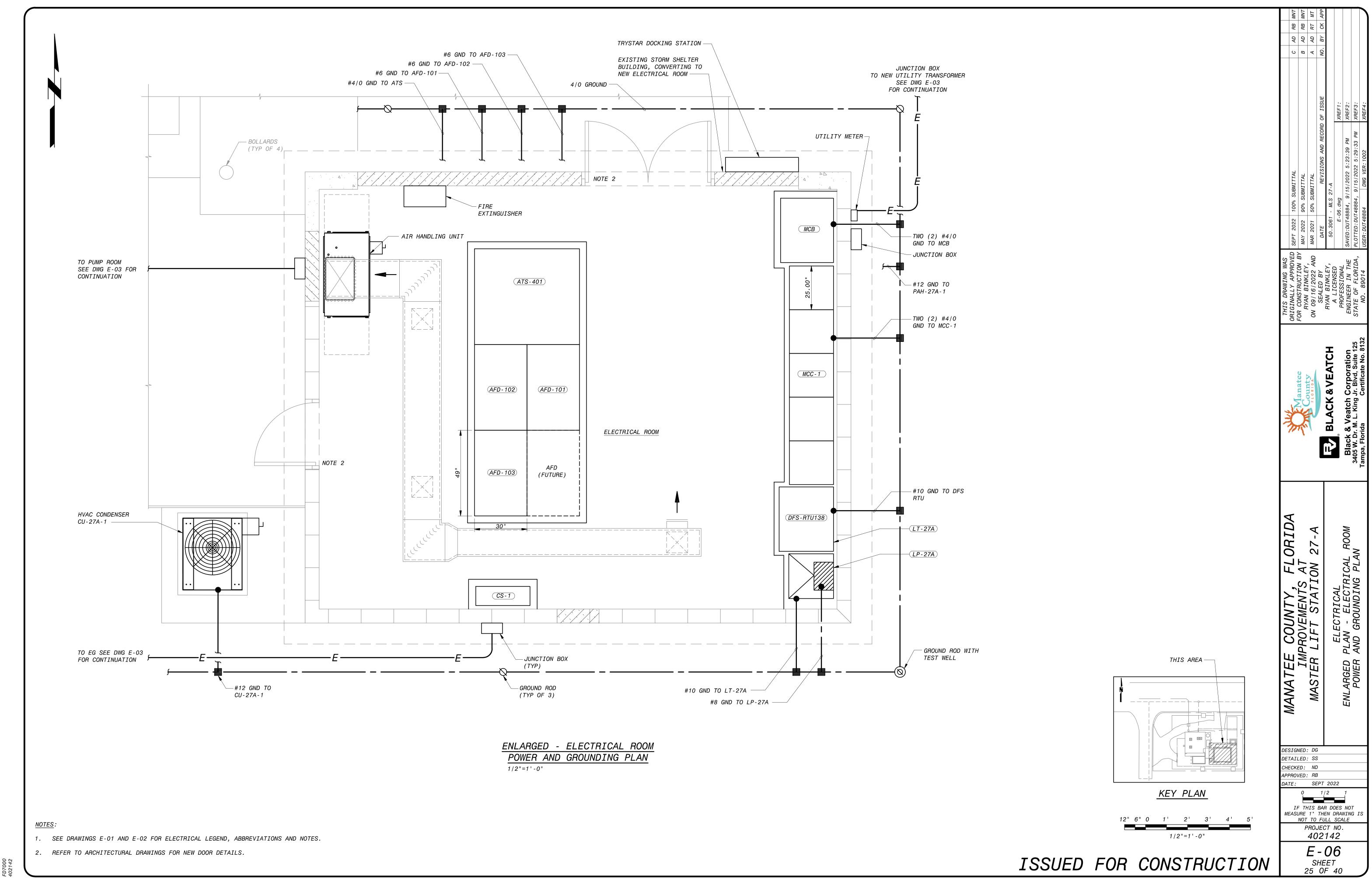
MEASURE 1" THEN DRAWING IN

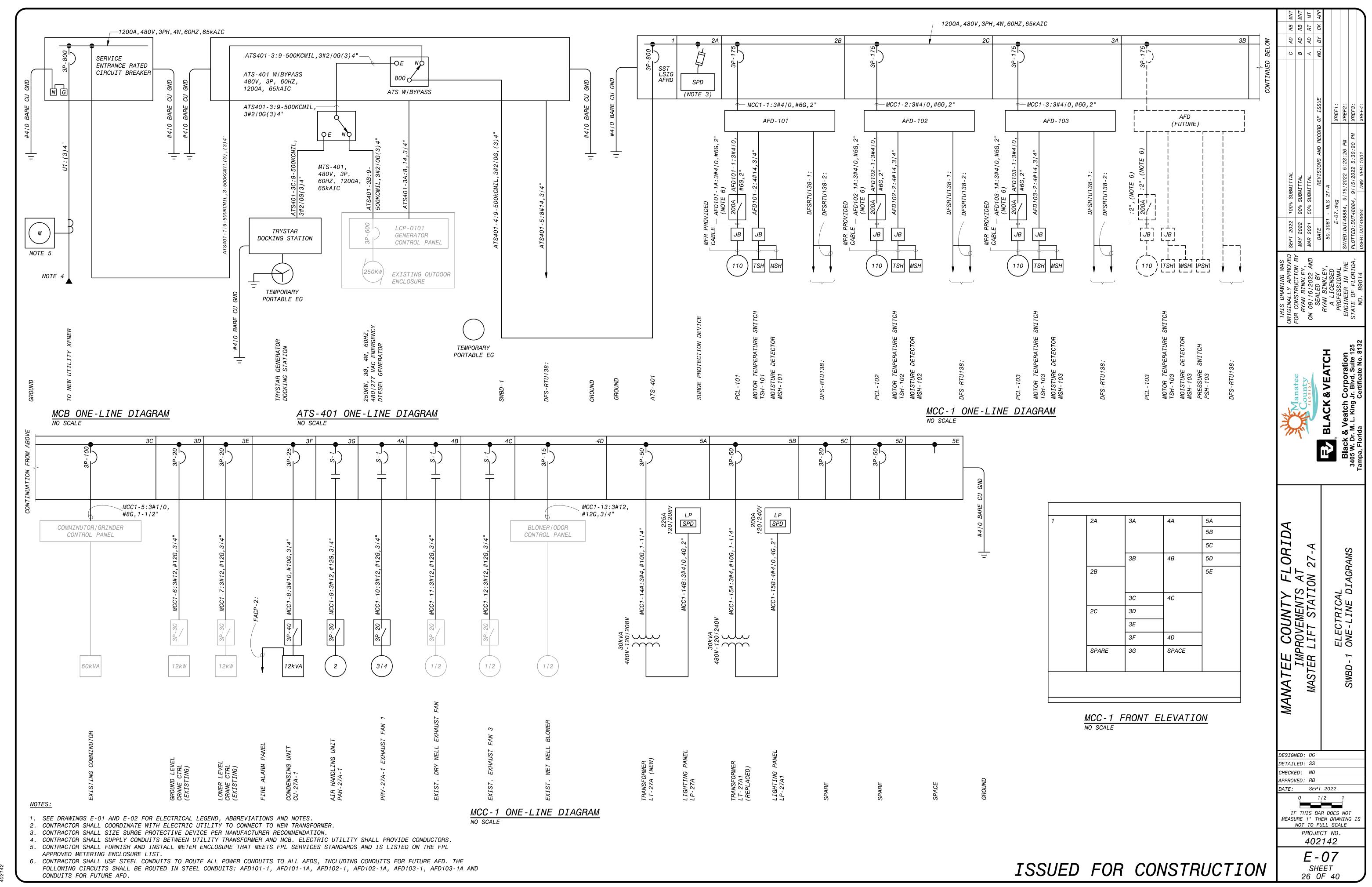
NOT TO FULL SCALE

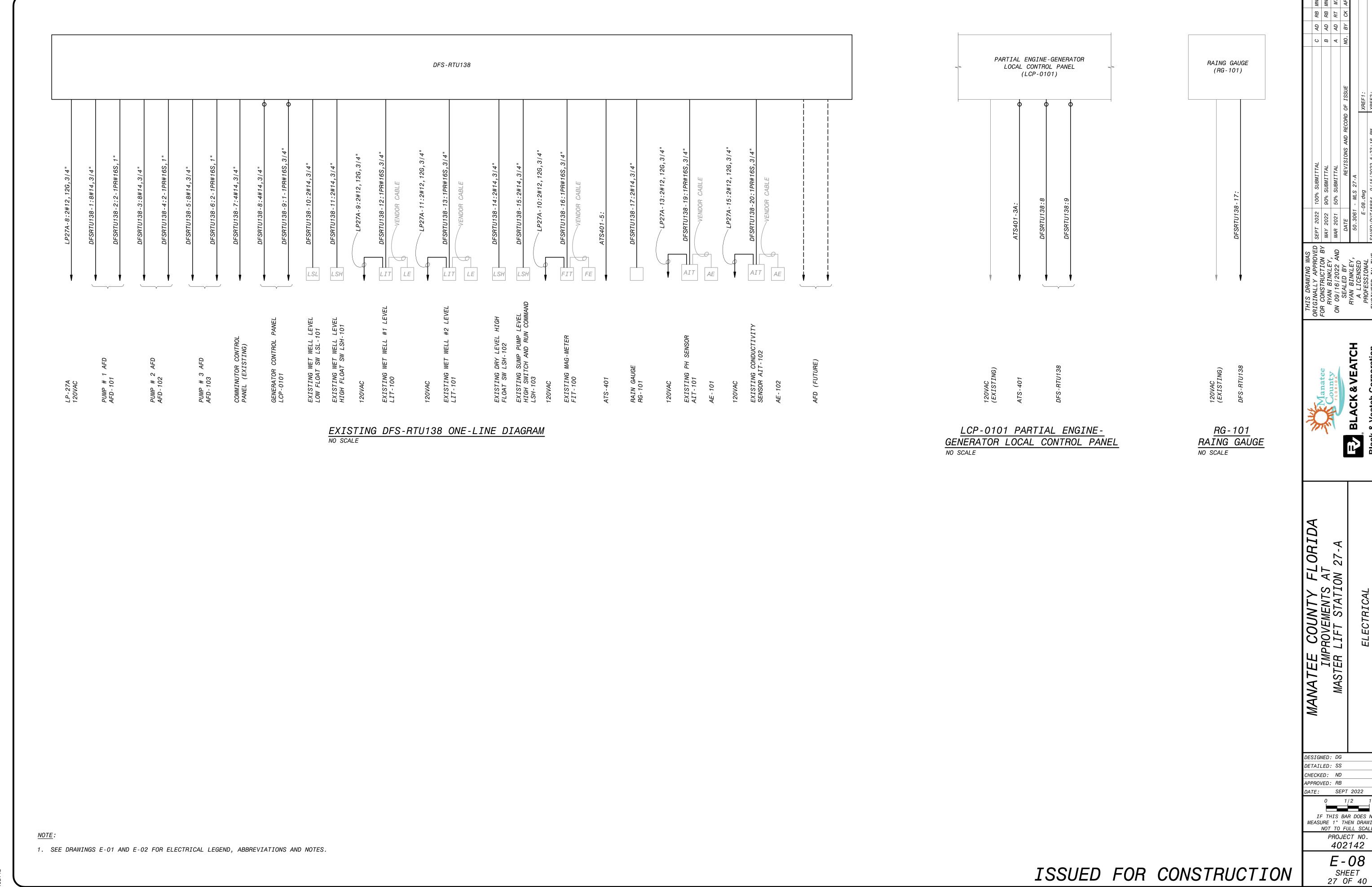
PROJECT NO.

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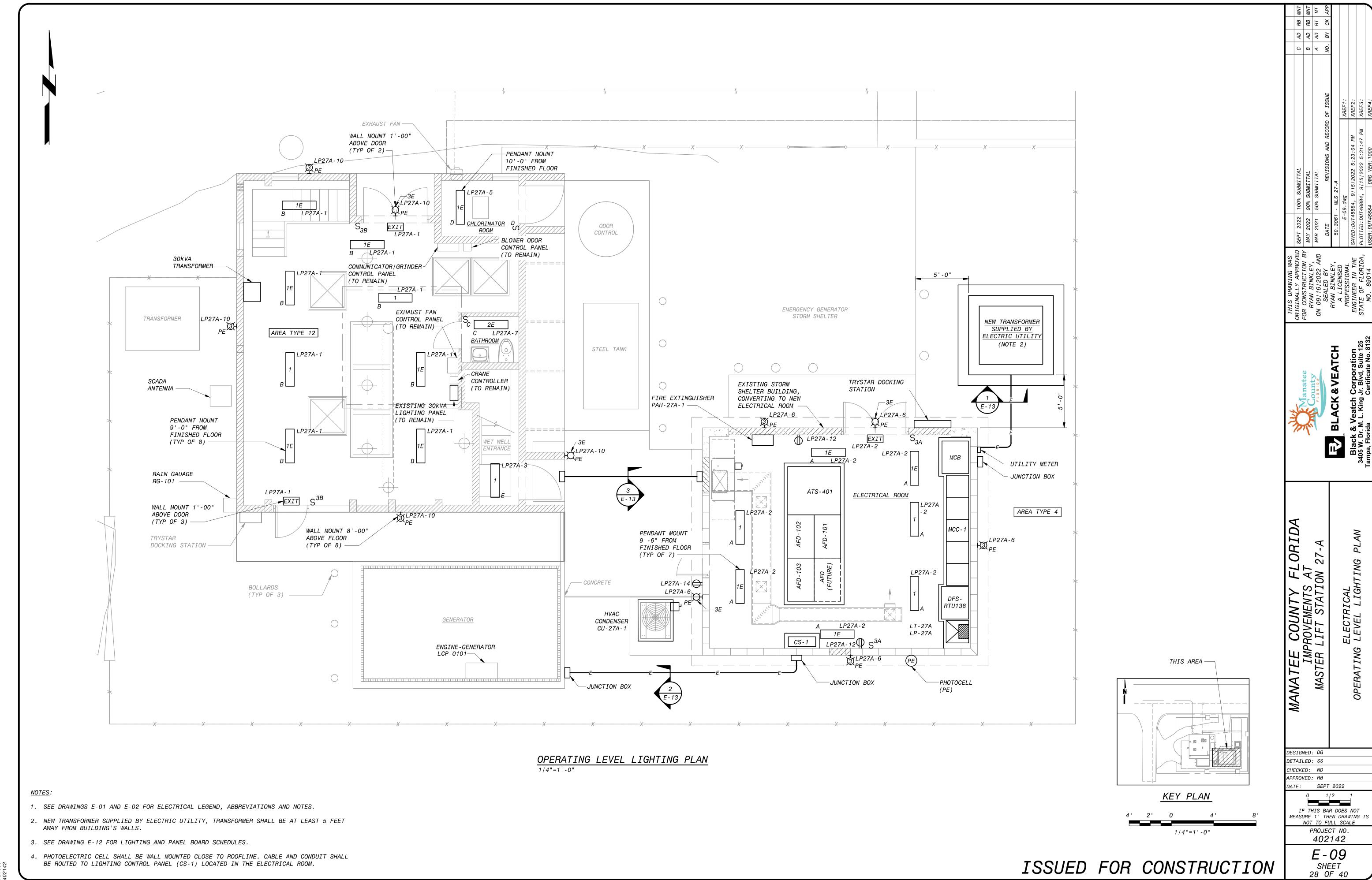
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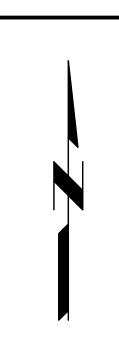


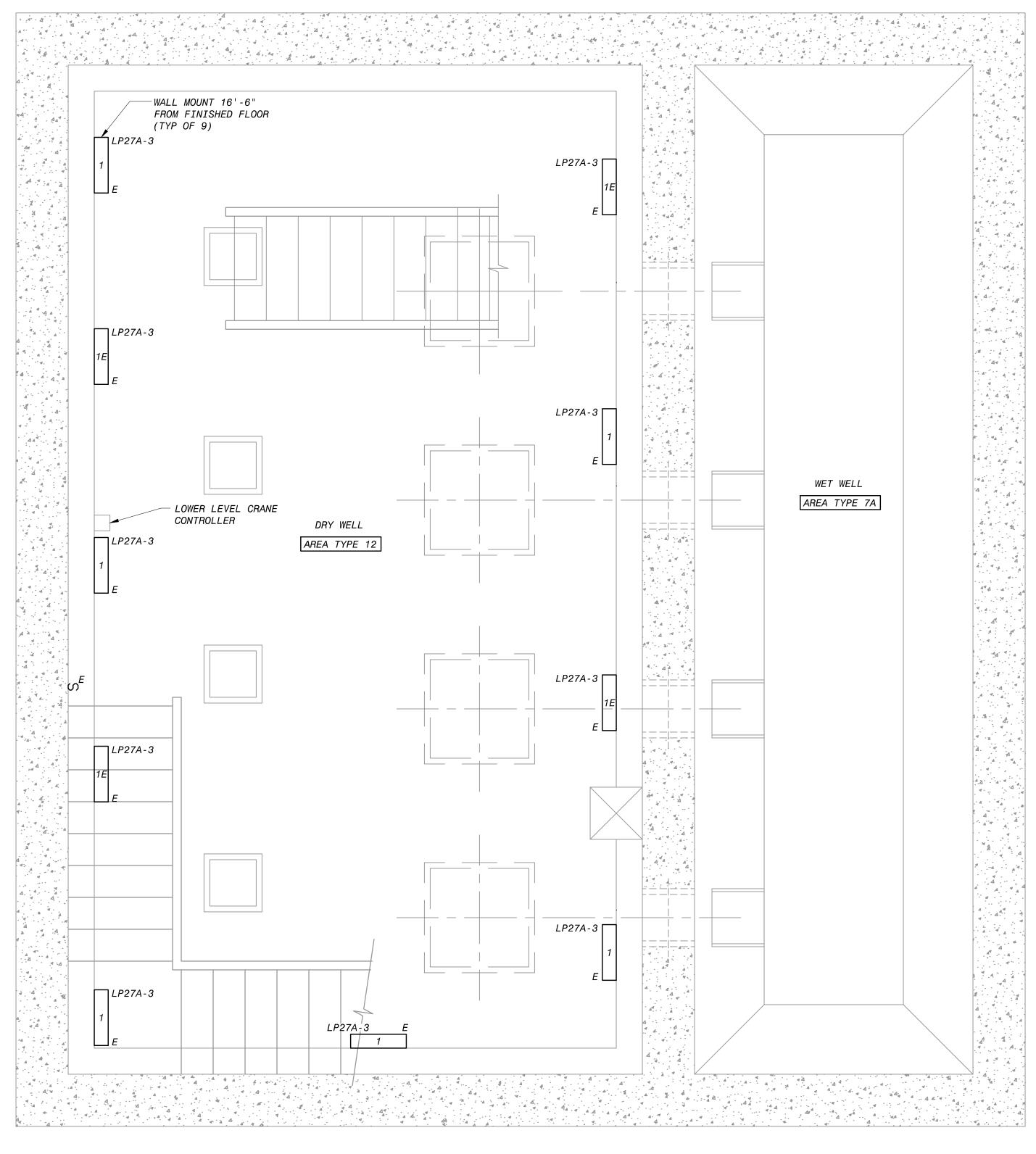




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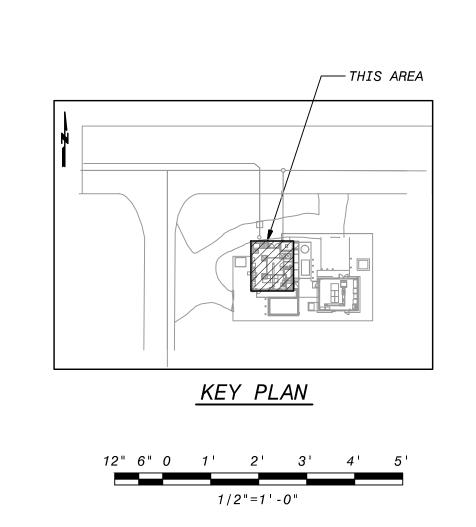




DRYWELL LIGHTING PLAN

<u>NOTES</u>:

- 1. SEE DRAWINGS E-01 AND E-02 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES.
- 2. SEE DRAWING E-12 FOR LIGHTING AND PANEL BOARD SCHEDULES.



ISSUED FOR CONSTRUCTION

MANATEE COUNTY FLORIDA

IMPROVEMENTS AT

IMPROVEMENTS AT

INPROVEMENTS AT

INPROVEMENT AT

INPROVEMENT STATION 27-A

BETT 2025

PROJECT NO.
402142

E-10

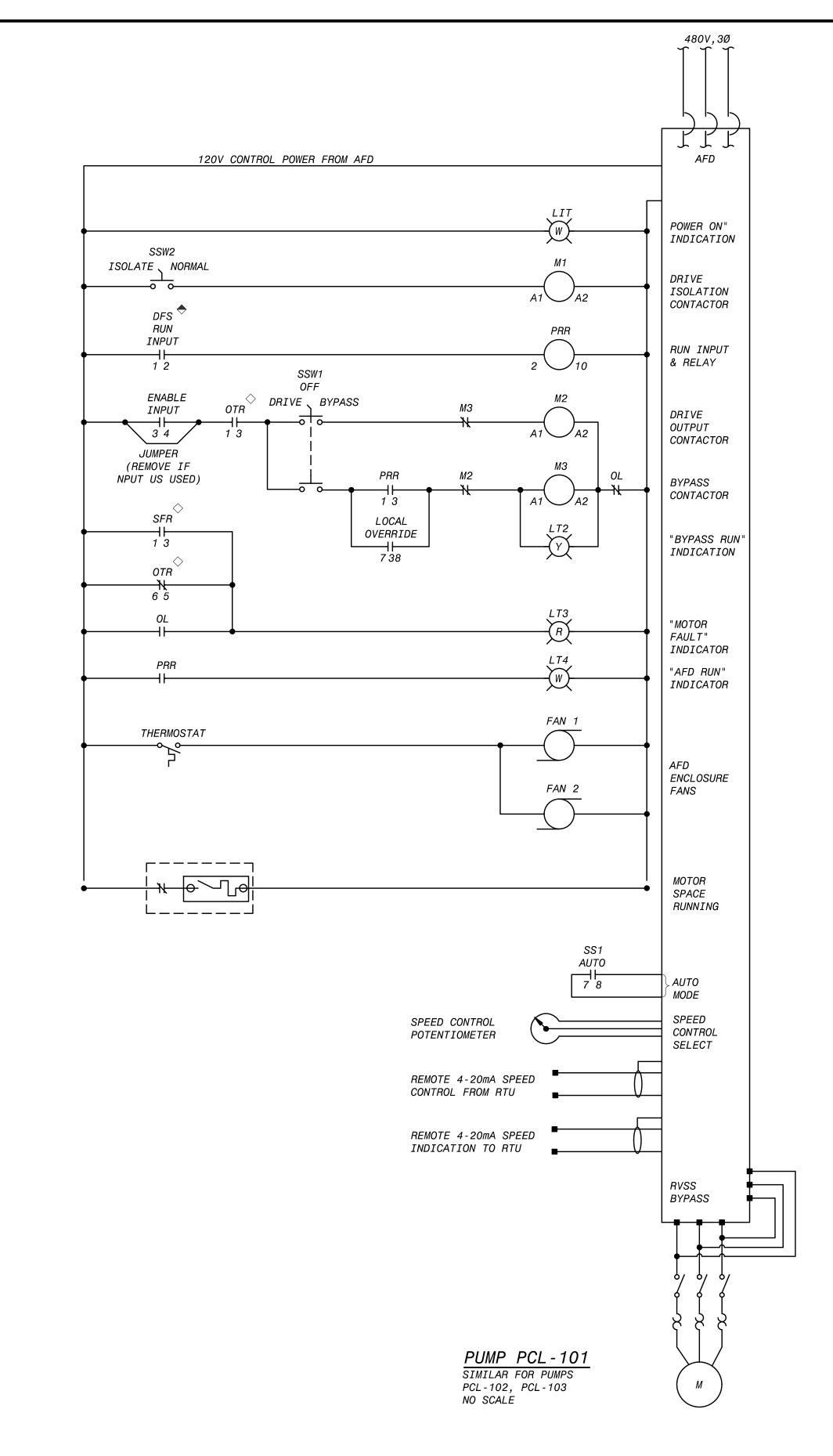
SHEET
29 OF 40

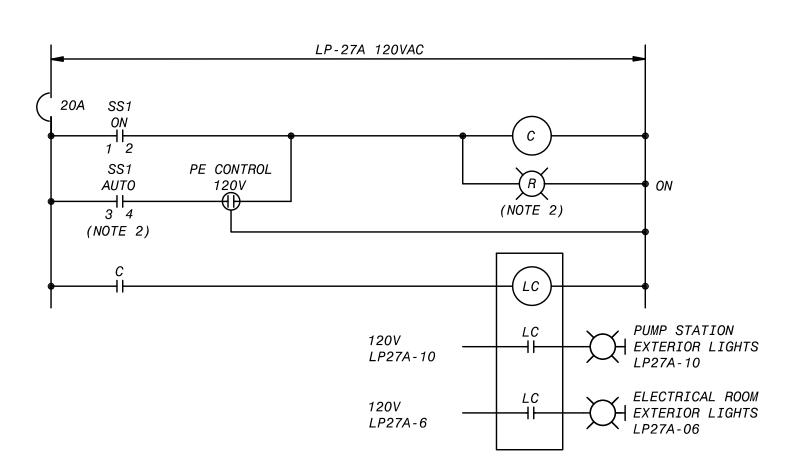
BLACK & VEATCH

RB RB RT

A A A

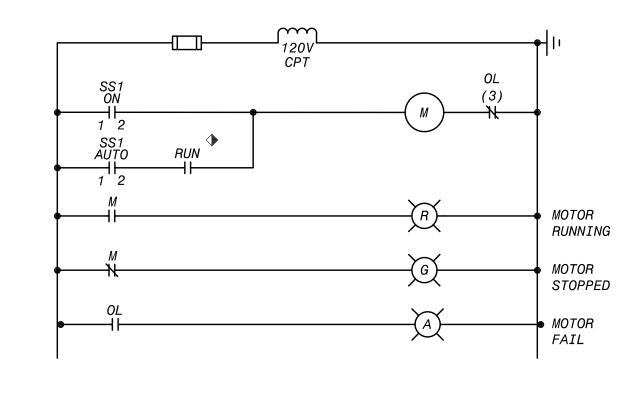
O B A





BUILDING EXTERIOR & SITE LIGHTING CONTROL PANEL CS-1

NO SCALE



PRV-27A-1 EXHAUST FAN NO SCALE

SS1 SWITCH

<u>337 3W1701</u>	I DL VLL	OI WEIVI	
CONTACTS		POSITION	
CONTACTS	HAND	OFF	AUTO
1-2	Х		
3-4			Χ
5-6			X
7-8			Χ

H DEVELOPMENT	
POSTTION	

31 3W11C	7 DEVEL	UPMENT	
00474070		POSITION	
CONTACTS	HAND	OFF	AUTO
1-2	X		
3-4			Х
5-6			Х
7-8			Х

<u>LEGEND</u>:

- ◆ FROM DFS RTU
- ◆ FROM THERMOSTAT T-1

- 1. SEE DRAWINGS E-01 AND E-02 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES.
- 2. THE ON-OFF-AUTO SELECTOR SWITCH AND INDICATING LIGHT SHALL BE MOUNTED SEMI-FLUSH ON THE DOOR OF THE LIGHTING CONTROL PANEL (CS-1).
- 3. OFF-ON SWITCH MOUNTED ON FRONT OF DISCONNECT SWITCH.
- 4. TEMPERATURE AND MOISTURE RELAY SHALL BE ABLE TO WORK BOTH IN AFD AND BYPASS MODE.

ISSUED FOR CONSTRUCTION

MANATEE COUNTY, FLORIDA IMPROVEMENTS AT IN PROVEMENTS AT IN PROVEMENTS AT IN PROVEMENT WATER APPROVED SEALED BY A LICENSED PROFESSIONAL SEALED BY A LICENSED PROFESSIONAL SEALED BY A LICENSED PROFESSIONAL SAVED: A LICENSED PROFESSIONAL B LOCAL SAVED: A LICENSED PROFESSIONAL A LICENSED PROFESSIONAL A LICENSED PROFESSIONAL B LOCAL SAVED: A LICENSED PROFESSIONAL A LICENSED PROFESSIONAL B LOCAL SAVED: A LICENSED PROFESSIONAL B LOCAL SAVED: A LICENSED PROFESSIONAL B LOCAL SAVED: A LICENSED PROFESSIONAL B LOCAL SAVED B LOCAL SAVED B LOCAL SAVED B LOCAL SA		SEPT 2022 100% SUBMITTAL	MAY 2022 90% SUBMITTAL	021 50% SUBMITTAL	E REVISIONS AND REC	50.3061 - MLS 27-A	E-11.dwg	SAVED:DUT48884, 9/15/2022 5:22:44 PM	PLOTTED:DUT48884, 9/15/2022 5:33:40 PM	USER: DUT48884 DWG VER: 1002	
ORIDA 27-A Black & Veatch 3405 W. Dr. M. L. King Tampa, Florida	THIS DRAWING WAS			ON 09/16/2022 AND MAR 2021	SEALED BY DATE		PROFESSIONAL				
MANATEE COUNTY, FLORIDA IMPROVEMENTS AT MASTER LIFT STATION 27-A ELECTRICAL SCHEMATICS	771		To la	FLORIDA			•	Black & Veatch Corporation	3405 W. Dr. M. L. King Jr. Blvd, Suite 125		
		AUTHOUT , I LOUNT THE ENGLISH	IMPROVEMENTS AT	MASTER LIFT STATION 27-A			FI FCTRTCAI				
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PROJECT NO. 402142

E-11

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	SERVICE: 120/208V 2PH 4W S/N										1		
	PHASE	1	SERVICE: 120/208V, 3PH, 4W, S/N	'	RATING	: 225A			LOC	ATION: ELECTRICAL ROOM			
"A"	"B"	"C"	MOUNTING: SURFACE								"A"	"B"	"C"
V.A.	V.A.	V.A.	LOAD	P	BKR	СКТ	#	BKR	P	LOAD	V.A.	V.A.	V.A.
289			LIGHTS-PUMP STATION OPERATING	1	20	1	2	20	1	LIGHTS-ELECTRICAL ROOM	289		
	371		LIGHTS-DRY WELL AREA	1	20	3	4	20	1			1	
		41	LIGHT-CHLORINATOR ROOM	1	20	5	6	20	1	LIGHTS - ELECTRICAL ROOM EXTERIOR			172
25			LIGHT-TOILET	1	20	7	8	20	1	DFS-RTU138	1000		
	250		EXHAUST FAN CONTROL PANEL	1	20	9	10	20	1	LIGHTS - PUMP STATION EXTERIOR		172	
		200	LIGHTING CONTROL PANEL	1	20	11	12	20	1	RECEP-ELECTRICAL ROOM			360
			SPARE	1	20	13	14	20	1	RECEP-OUTDOOR ELECTRICAL ROOM	180		
			SPARE	1	20	15	16	20	1	SPARE			
			SPARE	1	20	17	18	20	1	SPACE			
			SPARE	1	20	19	20	20	1	SPACE			
			SPACE	1	20	21	22	20	1	SPACE			
			SPACE	1	20	23	24	20	1	SPACE			
			SPACE	1	20	25	26	20	1	SPACE			
			SPACE	1	20	27	28	20	1	SPACE			
			SPACE	1	20	29	30	20	1	SPACE		X ////////////////////////////////////	
			SPACE	1	20	31	32	20	1	SPACE			
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			SPACE	1	20	37	38	20	1	SPACE			
			SPACE	1		39	40		1	SPACE			
			SPACE	1		41	42		1	SPACE			
313.8			TOTAL "A"	•		178	33	•		TOTAL "A"	1469	V //////	
	621		TOTAL "B"			79	3			TOTAL "B"	· ///////	172	
		241.3	TOTAL "C"			77	3			TOTAL "C"	- ////////////////////////////////////	1//////	532

PANELBOARD SCHEDULE LP-27A
NO SCALE

	DUCT BANK SCHEDULE						
COND. NO.	SIZE	CIRCUIT NUMBER	REMARKS				
4	4"	ATS401 - 3B	FROM GENERATOR TO MTS401, POWER				
5	4"	ATS401 - 3B	FROM GENERATOR TO MTS401, POWER				
6	4"	ATS401 - 3B	FROM GENERATOR TO MTS401, POWER				
7	3"	ATS401-5, ATS401-3A, DFSRTU138-8:	FROM GENERATOR TO ATS401 AND DFSRTU138, COMMS DISCRETE				
8	2"	DFSRTU138-9:	FROM GENERATOR TO DFSRTU138, COMMS ANALOG				
9	3"	SPARE	SPARE				

6	9	8

CECTION	
SECTION	
NO SCALE	
	SECTION NO SCALE

DUCT BANK SCHEDULE

FROM UTILITY TRANSFORMER TO MCB, POWER
FROM UTILITY TRANSFORMER TO MCB, POWER
FROM UTILITY TRANSFORMER TO MCB, POWER

CIRCUIT NUMBER

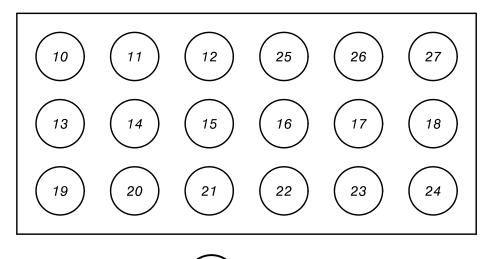
COND. NO. SIZE

	<u> </u>
$\overline{}$	SECTION
E-03 F-10	NO SCALE

FIXTURE	LAMP	MANUFACTURER	REMARK		
1	LED 30 WATT 4342 LUMENS	AS NOTED ON PLANS	EMS LED, LINEAR L48, PENDANT MOUNT, FIBERGLASS HOUSING WITH NEMA 4X GASKET, IP65, IP66 AND IP67 RATED, SUTAIBLE FOR DAMP LOCATIONS, DIFFUSER WITH ACRYLIC CLEAR DEEP LENS, MEDIUM DISTRIBUTION, GZ10 DRIVER, 4000K, 80CRI, MVOLT, 60HZ	HOLOPHANE #EMS L48 4000LM IMACD MD MVOLT GZ10 40K 80CRI	ELECTRICAL BUILDING, PUMP STATION LOWER AND UPPER LEVELS
1 <i>E</i>	LED 30 WATT 4342 LUMENS	AS NOTED ON PLANS	SAME AS FIXTURE NO.1, EXCEPT WITH BODINE EMERGENCY LED BATTERY PACK BSL520	HOLOPHANE #EMS L48 4000LM IMACD MD MVOLT GZ10 40K 80CRI BSL520	ELECTRICAL BUILDING, PUMP STATION LOWER AND UPPER LEVELS
2E	LED 12 WATT 1659 LUMENS	AS NOTED ON PLANS	FEM LED, LINEAR L48, FIBERGLASS HOUSING WITH NEMA 4X GASKET, IP65 RATED, SUITABLE FOR WET LOCATION, DIFFUSER WITH ACRYLIC, CLEAR DEEP LENS, MEDIUM DISTRIBUTION, GZ10 DRIVER, 4000K, MVOLT, 60HZ, WITH LITHONIA EMERGENCY BATTERY PACK E10WCP.	LITHONIA #FEM L48 IMACD MD MVOLT GZ10 40K 80CRI E10WCP	RESTROOM
3	LED 25 WATT 3511 LUMENS		WST WALL MOUNT LED, DIE-CAST ALUMINUM HOUSING, IP65 RATED, POWDER COAT FINISH, WELL CRAFTED REFLECTOR OPTICS, SUPERIOR WIDE VISUAL COMFORT DISTRIBUTION, ZERO UPLIGHT AND QUALIFES AS A NIGHTTIME FRIENDLY PRODUCT, WITH PERFORMANCE PACKAGE 2, WITH DARK BRONZE FINISH, 4000K, MVOLT, 60HZ.	LITHONIA #WST LED P2 40K VW MVOLT DDBXD	ELECTRICAL BUILDING EXTERIOR, PUMP STATION EXTERIOR
3E	LED 25 WATT 3511 LUMENS	AS NOTED ON PLANS	SAME AS FIXTURE NO.2, EXCEPT WITH LITHONIA EMERGENCY BATTERY PACK E7WH	LITHONIA #WST LED P2 40K VW MVOLT E7WH DDBXD	ELECTRICAL BUILDING EXTERIOR, PUMP STATION EXTERIOR
EXIT	LED	WALL MOUNT 1'-0" ABOVE DOOR	INDUSTRIAL EMERGENCY EXIT SIGN, WHITE THERMOPLASTIC HOUSING, STENCIL FACE, RED LETTERS, UNIVERSAL MOUNTING CANOPY, NICKEL-CADMIUM BATTERY, TYPE WITH 3 NUMBER OF FACES, DUAL VOLTAGE INPUT CAPABILITY, 60HZ.	LITHONIA #LQM S W 3 R 120/277 ELN	

LIGHTING FIXTURE SCHEDULE
NO SCALE

		CONDUIT SO	CHEDULE
COND. NO.	SIZE	CIRCUIT NUMBER	REMARKS
10	2"	AFD101-1	FROM AFD-101 TO PCL-101, POWER
11	2"	AFD102-1	FROM AFD-102 TO PCL-102, POWER
12	2"	AFD103-1	FROM AFD-102 TO PCL-102, POWER
13	2"	AFD, FUTURE	CONDUIT FOR FUTURE AFD
14	1"	AFD101-2, AFD101-3	FROM AFD-101 TO PCL-101, INSTRUMENTS
15	1"	AFD102-2, AFD102-3	FROM AFD-102 TO PCL-102, INSTRUMENTS
16	1"	AFD103-2, AFD103-3	FROM AFD-103 TO PCL-103, INSTRUMENTS
17	1-1/2"	MCC1 - 5	FROM MCC1 TO EXISTING COMMINUTOR LCP
18	3/4"	MCC1 - 6	FROM MCC1 TO EXISTING OPERATING LEVEL CRANE
19	3/4"	MCC1 - 7	FROM MCC1 TO EXISTING BOTTOM LEVEL CRANE
20	1-1/2"	MCC1-10, MCC1-11	FROM MCC1 TO EXHISTING EXHAUST FANS
21	1-1/2"	MCC1-12, MCC1-13	FROM MCC1 TO EXHISTING EXHAUST FANS
22	1-1/2"	MCC1 - 15	FROM MCC1 TO EXISTING 30KVA TRANSFORMER
23	1-1/2"	DFSRTU138-7/10/11/14/15/17	FROM DFSRTU138 TO EXISTING INSTRUMENTS, DISCRETE
24	2"	DFSRTU138-12/16	FROM DFSRTU138 TO EXISTING INSTRUMENTS, ANALOG
25	2"	SPARE	SPARE
26	2"	SPARE	SPARE
27	2"	SPARE	SPARE

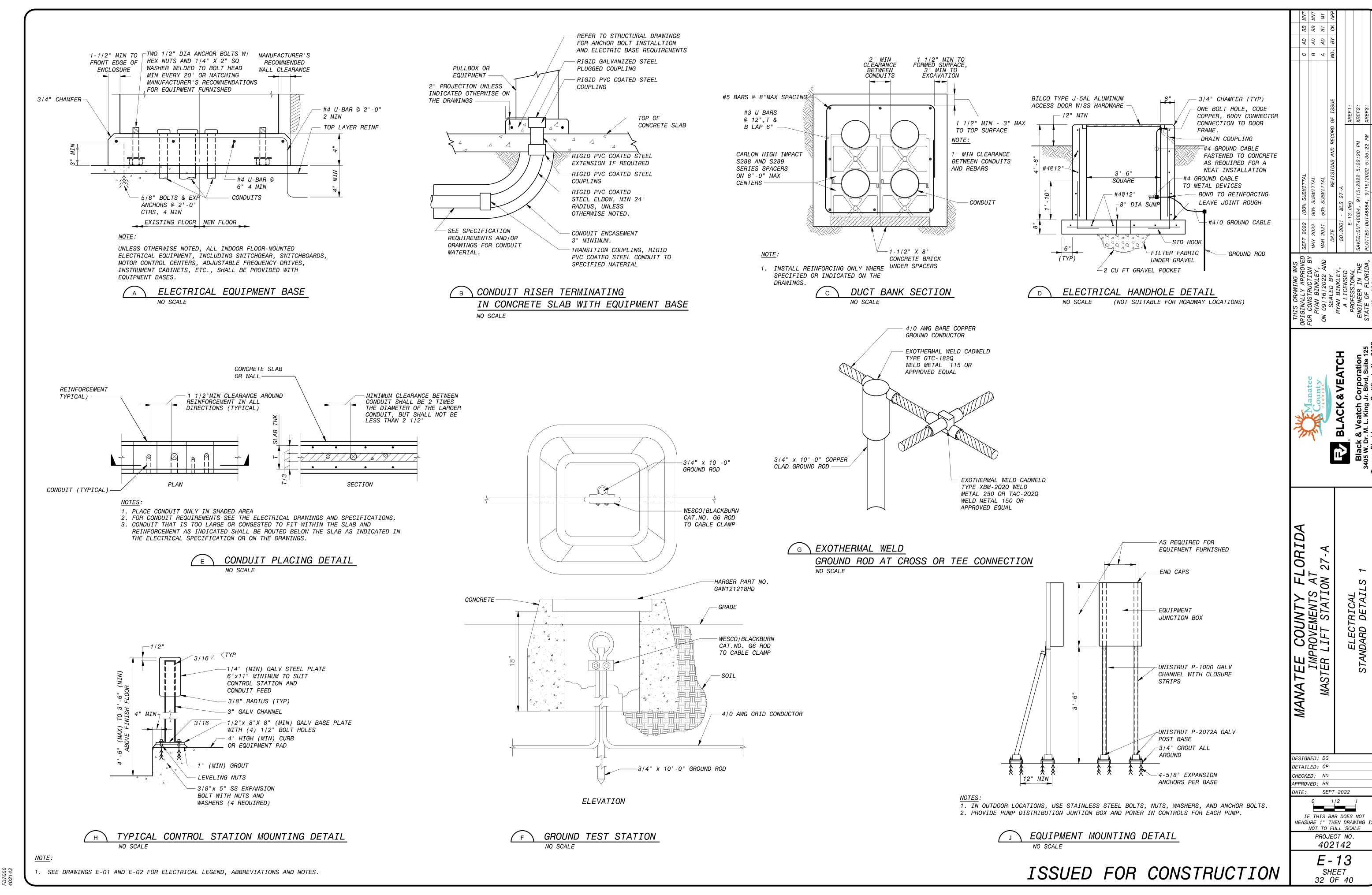


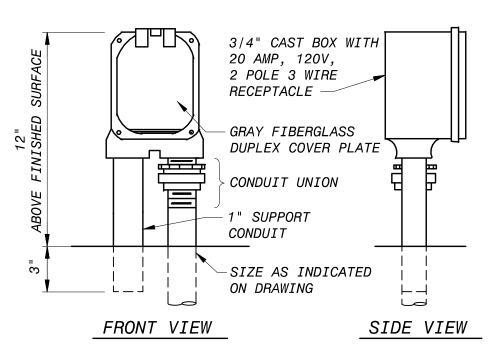
(3)	SECTION
E-03/ E-10	NO SCALE

MANATEE COUNTY FLORIDA

IMPROVEMENTS AT

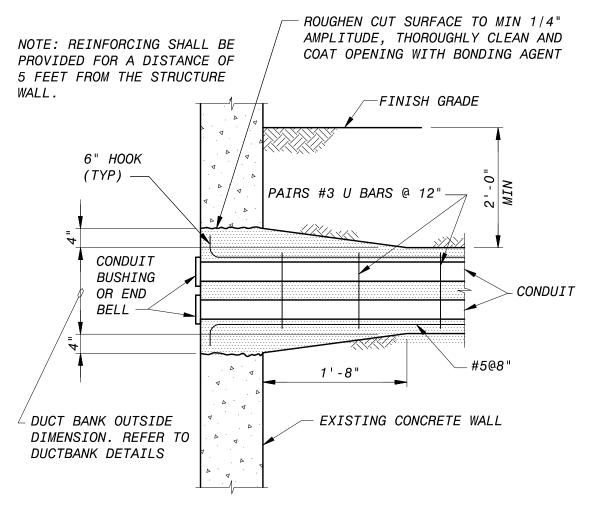
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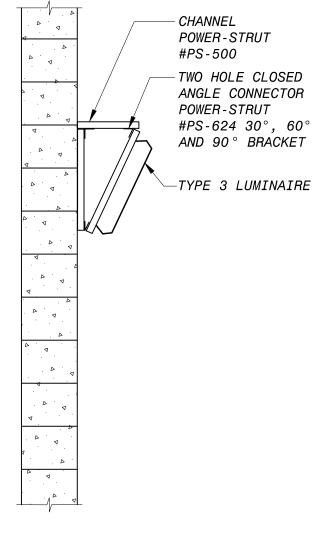


NOTE: ALL EXPOSED CONDUIT SHALL BE PVC SCHEDULE 80.

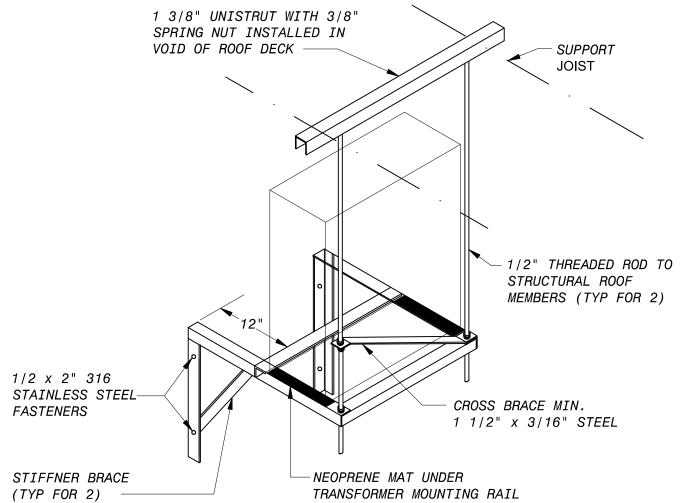
K WEATHERPROOF RECEPTACLE MOUNTING DETAIL NO SCALE



UNDERGROUND DUCT BANK ENTRANCE DETAIL NOTE: FOR EXISTING WALL



M TYPE 3 LUMINAIRE INSTALLATION DETAIL NO SCALE



NOTES:
1. FRAME TO BE MINIMUM 2" x 2"x 1/4".
2. FULL WELD AT ALL JOINTS.
3. EPOXY ENAMEL PAINT ASSEMBLY PRIOR TO INSTALLATION.

N TYPICAL WALL MOUNTED TRANSFORMER SUPPORT FOR UP TO 50KVA UNITS NO SCALE

ISSUED FOR CONSTRUCTION

FLORIDA S AT TON 27-A MANATEE COUNTY IMPROVEMENT MASTER LIFT STAT DESIGNED: DG CHECKED: ND APPROVED: RB MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

PROJECT NO. 402142

E-14

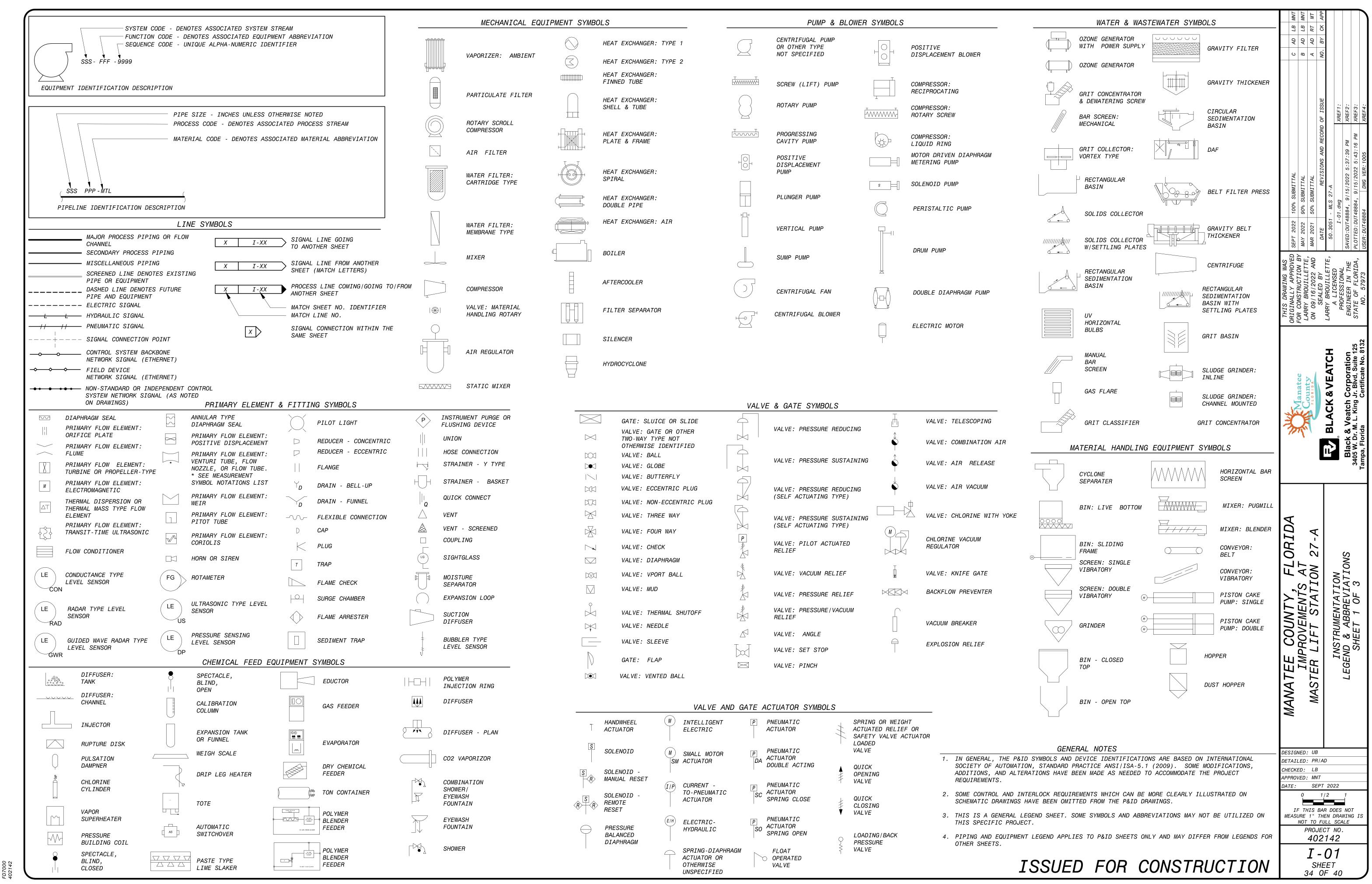
SHEET 33 OF 40

RB RB R7

| B | B | g

C B A S

1. SEE DRAWINGS E-01 AND E-02 FOR ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES.



INSTRUMENT AND I/O ABBREVIATIONS MEANINGS OF IDENTIFICATION LETTERS

<i></i>	FIRST LE	TTER	SUCCEEDING LETTERS				
LETTER	MEASURED OR INITIATING VARIABLE	VARIABLE MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT OR ACTIVE FUNCTION	FUNCTION MODIFIER		
Α	ANALYSIS		ALARM				
В	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE		
С	USER'S CHOICE			CONTROL	CLOSE		
D	USER'S CHOICE	DIFFERENTIAL			DEVIATION		
Ε	VOLTAGE (EMF)		SENSOR, PRIMARY ELEMENT				
F	FLOW, FLOW RATE	RATIO (FRACTION)					
G	USER'S CHOICE		GLASS, GAUGE, VIEWING DEVICE				
Н	HAND (MANUALLY INITIATED)				HIGH		
I	CURRENT (ELECTRICAL)		INDICATE				
J	POWER		SCAN				
K	TIME OR TIME-SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION			
L	LEVEL		LIGHT		LOW		
М	USER'S CHOICE	MOMENTARY			MIDDLE OR INTERMEDIATE		
N	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE		
0	USER'S CHOICE		ORIFICE (RESTRICTION)		OPEN		
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)				
Q	QUANTITY	INTEGRATE OR TOTALIZE	INTEGRATE OR TOTALIZE				
R	RADIATION		RECORD		RUN		
S	SPEED OR FREQUENCY	SAFETY		SWITCH	STOP		
Т	TEMPERATURE			TRANSMIT			
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION			
V	VIBRATION OR MECHANICAL ANALYSIS			VALVE, DAMPER OR LOUVER			
W	WEIGHT OR FORCE		WELL, PROBE				
Х	UNCLASSIFIED	X-AXIS	ACCESSORY DEVICES OR UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED		
Υ	EVENT, STATE, OR PRESENCE	Y-AXIS		AUXILIARY DEVICES			
Z	POSITION, DIMENSION	Z-AXIS		DRIVE, ACTUATOR OR FINAL CTRL ELEMENT			

GENERAL NOTES

- 1. IN GENERAL, THE P&ID SYMBOLS AND DEVICE IDENTIFICATIONS ARE BASED ON INTERNATIONAL SOCIETY OF AUTOMATION, STANDARD PRACTICE ANSI/ISA-5.1 (2009). SOME MODIFICATIONS, ADDITIONS, AND ALTERATIONS HAVE BEEN MADE AS NEEDED TO ACCOMMODATE THE PROJECT REQUIREMENTS.
- 2. SOME CONTROL AND INTERLOCK REQUIREMENTS WHICH CAN BE MORE CLEARLY ILLUSTRATED ON SCHEMATIC DRAWINGS HAVE BEEN OMITTED FROM P&ID DRAWINGS.
- 3. THIS IS A GENERAL LEGEND SHEET. SOME SYMBOLS AND ABBREVIATIONS MAY NOT BE UTILIZED ON THIS SPECIFIC PROJECT. PIPING AND EQUIPMENT LEGEND APPLIES TO P&ID SHEETS.

PIPELINE MATERIAL CODE ABBREVIATIONS

PCCP	SECTION 40	05	39.14, PRESTRESSED CONCRETE CYLINDER PIPE
CBWS	SECTION 40	05	39.16, CONCRETE BAR-WRAPPED, STEEL CYLINDER PIPE
RCP	SECTION 40	05	39.24, CONCRETE PIPE
PVC	SECTION 40	05	31.12, POLYVINYL CHLORIDE PIPE
DIP	SECTION 40	05	19, DUCTILE IRON PIPE
SP	SECTION 40	05	24, STEEL PIPE
SS-XX1	SECTION 40	05	23, STAINLESS STEEL PIPE, TUBING, AND ACCESSORIES
CSG-XX			24.43, MISC. STEEL PIPE, TUBING, AND ACCESSORIES
CS-XX			24.43, MISC. STEEL PIPE, TUBING, AND ACCESSORIES
FRPE-XX	SECTION 40	05	36.11, FIBERGLASS REINFORCED PLASTIC PIPE (EXHAUST AIR
	SERVICE)		
FRP-XX	SECTION 40	05	32, MISCELLANEOUS PLASTIC PIPE, TUBING, AND ACCESSORIES
PVC-XX			32, MISCELLANEOUS PLASTIC PIPE, TUBING, AND ACCESSORIES
CPVC-XX	SECTION 40	05	32, MISCELLANEOUS PLASTIC PIPE, TUBING, AND ACCESSORIES
PE-XX	SECTION 40	05	32, MISCELLANEOUS PLASTIC PIPE, TUBING, AND ACCESSORIES
PP-XX	SECTION 40	05	32, MISCELLANEOUS PLASTIC PIPE, TUBING, AND ACCESSORIES
PVDF-XX	SECTION 40	05	32, MISCELLANEOUS PLASTIC PIPE, TUBING, AND ACCESSORIES
RPT-XX	SECTION 40	05	32, MISCELLANEOUS PLASTIC PIPE, TUBING, AND ACCESSORIES
CI-XX	SECTION 22	13	17, CAST IRON SOIL PIPE AND ACCESSORIES
CU-XX	SECTION 40	05	17, COPPER TUBING AND ACCESSORIES
BR-XX	SECTION 40	05	41, MISCELLANEOUS PIPING AND PIPE ASSEMBLY
HS-XX	SECTION 40	05	41, MISCELLANEOUS PIPING AND PIPE ASSEMBLY
TG-XX	SECTION 40	05	41, MISCELLANEOUS PIPING AND PIPE ASSEMBLY
CRP - XX	SECTION 40	05	41, MISCELLANEOUS PIPING AND PIPE ASSEMBLY

1. XX= numbers 01-20

	INSTRUMENT AND I/O ABB	BREVI	ATION DEFINITIONS
AAH	ANALYZER ALARM HIGH	PDIT	DIFFERENTIAL PRESSURE INDICATING
AAHH	ANALYZER ALARM HIGH ANALYZER ALARM HIGH-HIGH		TRANSMITTER
AAL	ANALYZER ALARM HIGH-HIGH ANALYZER ALARM LOW ANALYZER ALARM LOW-LOW	PDAH	DIFFERENTIAL PRESSURE ALARM HIGH
AALL	ANALYZER ALARM LOW-LOW	PDAHH	DIFFERENTIAL PRESSURE ALARM HIGH-HIGH
AAX	ALARM HORN	PDSH	DIFFERENTIAL PRESSURE SWITCH HIGH
AAL	STROBE ALARM LIGHT	PDSHH	DIFFERENTIAL PRESSURE SWITCH HIGH-HIGH
ΑE		PDSL	DIFFERENTIAL PRESSURE SWITCH LOW
AI			DIFFERENTIAL PRESSURE SWITCH LOW-LOW
AIT			PRESSURE SENSOR
ASH	ANALYZER SWITCH HIGH	PG	PRESSURE GAUGE
ASHH			
CB	CONTROL BLOCK REFERENCE (SCADA LEVEL)	PIT	PRESSURE INDICATING TRANSMITTER
FAL	FLOW ALARM LOW	PSL	PRESSURE SWITCH LOW
FAH	FLOW ALARM HIGH	PSH	PRESSURE SWITCH HIGH
FC	FLOW CONTROLLER	SI	SPEED INDICATION
FI	FLOW DIGITAL INDICATOR (LFD OR SCREEN)	SC	SPEED CONTROL
FIC	FLOW INDICATING CONTROLLER	SIT	SPEED INDICATING TRANSMITTER
FE	PRIMARY FLOW FLEMENT/SENSOR	SSL	SPEED SWITCH LOW
FG	FLOW DIGITAL INDICATOR (LED OR SCREEN) FLOW INDICATING CONTROLLER PRIMARY FLOW ELEMENT/SENSOR FLOW SIGHT GAUGE	SIT	SPEED INDICATING TRANSMITTER
FIT	FLOW INDICATING TRANSMITTER	TAH	TEMPERATURE ALARM HIGH
FQG	FLOW INDICATING TRANSMITTER FLOW TOTALIZING GAUGE	TAHH	TEMPERATURE ALARM HIGH-HIGH
FQIT	FLOW TOTALIZING INDICATING TRANSMITTER	TAL	TEMPERATURE ALARM LOW
FSH	FLOW SWITCH HIGH	TDI	DIFFERENTIAL TEMPERATURE INDICATOR
FSL	FLOW SWITCH LOW		(LED OR SCREEN)
FY	FLOW SWITCH LOW FLOW SIGNAL CONVERTER, REPEATER, OR ISOLATOR		DIFFERENTIAL TEMPERATURE TRANSMITTER
•	TSOLATOR	TDIT	TEMPERATURE SENSOR/RESISTANCE
HIC	HAND INDICATING CONTROLLER	TE	TEMPERATURE DETECTOR
HMS	MOMENTARY PUSHBUTTON OR SELECTOR	TSH	TEMPERATURE SWITCH HIGH
	SWITCH		TEMPERATURE SWITCH HIGH HIGH
HS	HAND SWITCH	TSL	TEMPERATURE SWITCH LOW
ΙE			TEMPERATURE GAUGE
IAH	CURRENT ALARM HIGH (MOTOR OVERLOAD)		
ISH	CURRENT SWITCH HIGH USED TO DETECT	TIT	TEMPERATURE INDICATING TRANSMITTER
	HIGH TORQUE)	UA	MULTIVARIABLE/COMMON ALARM/COMMON
JA	POWER FAILURE ALARM		FAULT
JI	POWER INDICATOR	UCR	RUN COMMAND
JL	POWER INDICATING LIGHT	UCS	STOP COMMAND
JIT	POWER INDICATING TRANSMITTER	VAH	VIBRATION ALARM HIGH
KQI	TIME TOTALIZING INDICATOR	WAH	TORQUE ALARM HIGH
LAL	LEVEL ALARM LOW	WAHH	TORQUE ALARM HIGH HIGH
LALL	LEVEL ALARM LOW-LOW	WSH	TORQUE SWITCH HIGH
LAH	LEVEL ALARM HIGH	WSHH	TORQUE SWITCH HIGH-HIGH
LAHH	LEVEL ALARM HIGH-HIGH	WE	PRIMARY WEIGHT SENSOR/LOAD CELL
LE	PRIMARY LEVEL ELEMENT/SENSOR	WG	WEIGHT GAUGE
LG	LEVEL SIGHT GAUGE	WIT	WEIGHT INDICATING TRANSMITTER
LI	LEVEL INDICATOR (LED OR SCREEN)	YA	GENERAL ALARM EVENT
LSL	LEVEL SWITCH LOW	YΙ	EVENT INDICATION (LED OR SCREEN)
LSLL	LEVEL SWITCH LOW LOW	YIR	RUNNING INDICATION
LSH	LEVEL SWITCH HIGH	YIS	STOPPED INDICATION
LSHH	LEVEL SWITCH HIGH-HIGH	YL	EVENT INDICATING LIGHT
LY	LEVEL SIGNAL CONVERTER, ISOLATOR, OR	YLR	RUNNING INDICATING LIGHT
	REPEATER	YLS	STOPPED INDICATING LIGHT
PAL	PRESSURE ALARM LOW	ZI	POSITION INDICATOR
PALL	PRESSURE ALARM LOW-LOW	ZIC	CLOSED INDICATION
PAH	PRESSURE ALARM HIGH	ZIO	OPEN INDICATION
PAHH	PRESSURE ALARM HIGH-HIGH	ZLC	CLOSED INDICATING LIGHT
PDG	DIFFERENTIAL PRESSURE GAUGE	ZLO	OPEN INDICATING LIGHT
DDT	NIEEEDENTIAL DDESSIDE INDICATOD /LED	700	CLOSED DOSTITON SWITCH

DIFFERENTIAL PRESSURE INDICATOR (LED

OR SCREEN)

CLOSED POSITION SWITCH

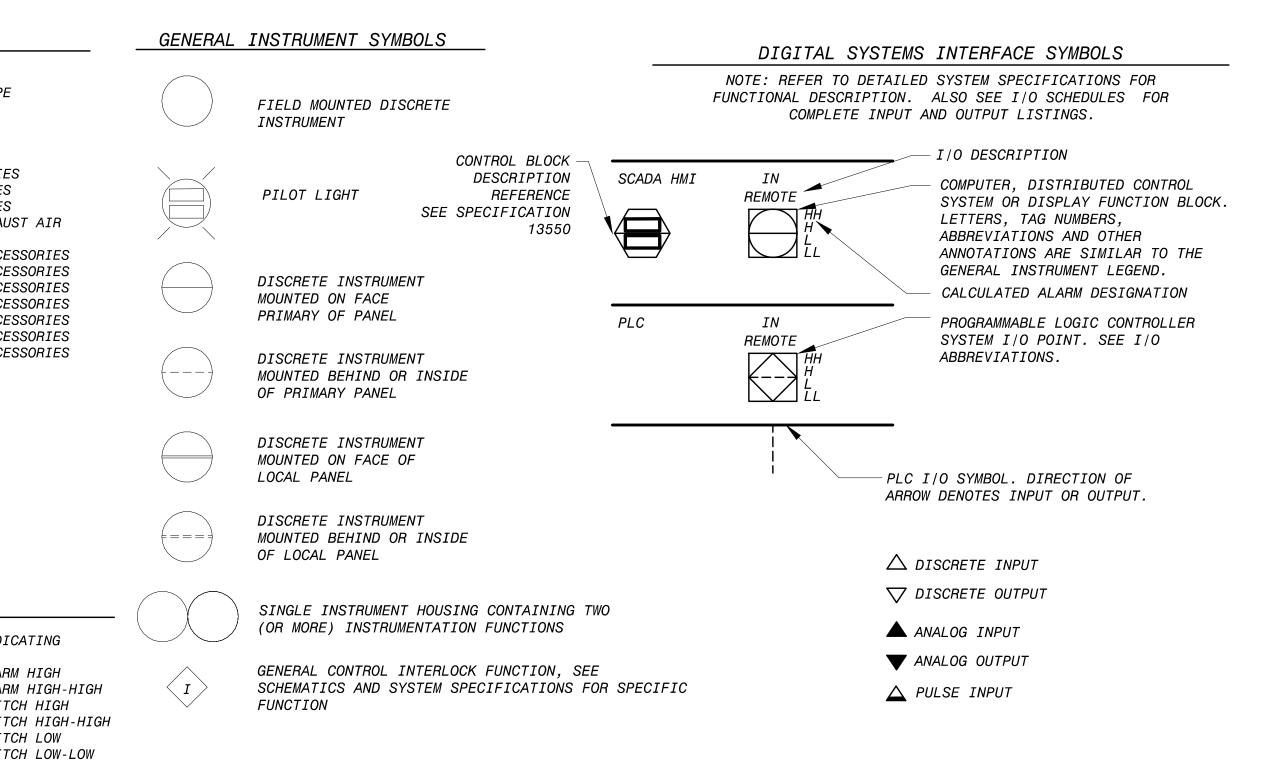
ZIT POSITION INDICATING TRANSMITTER

OPEN POSITION SWITCH

ZT POSITION TRANSMITTER

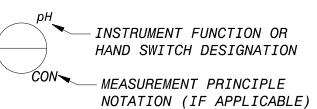
ZSC

ZS0





TRC 011A	INSTRUMENT ABBREVIATION NUMBER AFTER DASH (-1, -2, ETC) DENOTES MULTIPLE DEVICES USED IN IDENTICAL DUPLICATE SYSTEMS. A LETTER AFTER THE LOOP NUMBER (31A, 31B, ETC) IS USED TO DISTINGUISH MULTIPLE SIMILAR DEVICES IN THE SAME INSTRUMENT LOOP.	PH INSTRUM HAND SW CON MEASURE NOTATIO
	- LOOP DESIGNATION NUMBER	



LNM TNM 1B 1B 1B 1B

| B | B | B |

O B A 5

& VEATCH

NOT TO FULL SCALE

PROJECT NO.

402142

I-02

SHEET 35 OF 40

LOOP DESIGNATION NUMBER

		F	UNCTION DESIGNATIONS AND AB	BREVIATIONS				34 Tar
	MENT PRINCIPLE OTATIONS	I	NSTRUMENT FUNCTIONS	HAND	SWITCH DESIGNATIONS			
CON DP FLN FLT GWR RAD US VENT	CONDUCTANCE DIFFERENTIAL PRESSURE SENSING FLOW NOZZLE FLOW TUBE GUIDED WAVE RADAR RADAR ULTRASONIC VENTURI TUBE LATED ALARM IGNATIONS	$ \frac{1}{K} $ $ -K $ $ \Sigma $ $ \Delta $ $ $ $ \div $ $ F(X) $ $ < $	GAIN OR ATTENUATE (INPUT:OUTPUT) GAIN AND REVERSE ADD OR SUM (ADD AND SUBTRACT) SUBTRACT (DIFFERENCE) EXTRACT SQUARE ROOT DIVIDE CHARACTERIZE SIGNAL HIGH-SELECT LOW-SELECT		FORWARD - REVERSE HAND - OFF - AUTO HAND - OFF - REMOTE LOCAL - OFF - REMOTE LOCAL REMOTE LOCAL REMOTE OPEN - CLOSE - AUTO ON - OFF - AUTO OPEN - CLOSE ON - OFF ON - OFF - REMOTE OPEN - STOP - CLOSE ON - OFF / RESET ISOLATE / NORMAL DRIVE / OFF / BYPASS	VTY, FLORIDA	MENTS AT STATION 27-A	AENTATION BBREVIATIONS 2 OF 3
L LL H HH	LOW LOW-LOW HIGH HIGH-HIGH NG LIGHT/ALARM IGNATIONS	X S CH4 CL2 CO2 DO FL	MULTIPLY INTEGRATE (TIME INTEGRAL) METHANE CHLORINE RESIDUAL CARBON DIOXIDE DISSOLVED OXYGEN FLUORIDE	TRANSDUCER E FSK H I P PD PF R	& CONVERTER DESIGNATION VOLTAGE FREQUENCY SHIFT KEYING HYDRAULIC CURRENT PNEUMATIC PULSE PULSE DURATION PULSE FREQUENCY RESISTANCE (ELECTRICAL) LE: I/P = CURRENT TO PNEUMATIC TRANSDUCER		IMPROVEM MASTER LIFT S	NSTRUM ID & A SHEET
OVRLD TRQ HI TRQ HI-HI	OVERLOAD TORQUE HIGH TORQUE HIGH-HIGH	H2S LEL MCC	HYDROGEN SULFIDE LOWER EXPLOSIVE LIMIT MOTOR CONTROL CENTER	POWER AS ES	SUPPLY ABBREVIATIONS AIR SUPPLY ELECTRIC SUPPLY	M		
		MLSS 02 03 PCN	MIXED LIQUOR SUSPENDED SOLIDS OXYGEN (PURITY) OZONE PARTICLE COUNTER	GS HS NS SS WS 120V	GAS SUPPLY HYDRAULIC SUPPLY NITROGEN SUPPLY STEAM SUPPLY WATER SUPPLY 120VAC	DETAIL CHECKE		- 2022 /2 1
		pH SCD	pH STREAMING CURRENT DETECTOR		SUPPLY SOURCE LABEL. USED HERE NECESSARY TO HELP	MEASU	IRE 1" TH	R DOES NOT IEN DRAWING IS

HIGH RANGE TURBIDITY

TURBIDITY

TURB

HI RNG

ISSUED FOR CONSTRUCTION

FUNCTION.

CLARIFY AN INSTRUMENT OR SYSTEM

SYSTEM CODE ABBREVIATIONS			PROCESS CODE ABBREVIATIONS			
ACE ACETIC ACID ACT ACETYLENE GAC ACTIVATED CARBON - GRANULAR AIR AERATION AIR/PROCESS AIR AER AERATION SYSTEM AW AIR WASH ALS ALUMINUM SULFATE NSO4 AMMONIUM SULFATE NSO4 AMMONIUM SULFATE NHOH AQUA AMMONIA AS ANTI-SEALANT NHOH AQUA AMMONIA ABG ARGON ASH ASH BWH BACKWASH - MEMBRANE/FILTER BAL BALLASTED FLOCCULATION BIO BIOSOLIDS BIT BIOTOWER BLS BLENDED SLUDGE BNR BNR BRN BRINE CACL CALCIUM THTOSULFATE CO2 CARBON DIOXIDE CAS CARBON SLURRY HCO3 CARBONIC ACID CEN CENTRATE CL2 CHLORINE CL2 CHLORINE CL2 CHLORINE CL02 CHLORINE DIOXIDE CA CITRIC ACID CTP CLEAN IN PLACE COA COAGULATION CAI COMPRESSED AIR - INSTRUMENT CMS COMPRESSED AIR - SERVICE CUS COPPER SULFATE CI CORROSION INHIBITOR DCL DECHLORINATION DET DETERGENT DWT DEWATERING FUE DIESEL FUEL DGG DIGESTER SLUDGE DGA DIGESTER SLUDGE DGA DIGESTER SLUDGE DGA DIGESTION - ARABOBIC DIG DIGESTER SLUDGE DGA DIGESTION - ARABOBIC DGB DISNIFECTION CONTACT BASIN DAF DISSOLVED AIR FLOTATION DBR DAISNAGE EFP EFFLUENT PUMPING EG ENGINE GENERATOR EXH ENGINE EXHAUST EOB EQUALIZATION BASIN FEC FERRIC CHLORIDE FES FERRIC SULFATE FIT FILTRATION	FLC FLOCCULATION GOX GASEOUS OXYGEN GSL GASOLINE GRS GREASE GRT GRIT HEL HELIUM HFL HYDRAULIC FLUID HCL HYDROCHLORIC ACID HFS HYDROFLUOSILIC ACID (FLUORIDE) HYD HYDROGEN PER HYDROGEN PEROXIDE INC INCINERATION INFP INFLUENT PUMPING INT INTAKE LAG LAGOON STORAGE LAP LAND APPLICATION CAH LIME - HYDRATED CAO LIME - QUICKLIME LIM LIME STABILIZATION LOX LIQUID OXYGEN LPG LP GAS OR PROPANE GAS MGOH MAGNESIUM HYDROXIDE MEM MEMBRANE MEG METHANE GAS MLS MASTER LIFTSTATION MTH METHANOL	R AESIDUALS RAS RETURN ACTIVATED SLUDGE ROS REVERSE OSMOSIS SCR SCREENINGS SCL SECONDARY CLARIFICATION SSC SECONDARY SOUM SED SEDIMENTATION BASINS SEP SEPTAGE SET SETTLED WATER SEW SEWAGE NAC SODA ASH NAL SODIUM ALUMINATE NAM SODIUM ALUMINATE NAM SODIUM BISULFITE NCL SODIUM BISULFITE NCL SODIUM CHLORIDE NCL2 SODIUM CHLORIDE NAF SODIUM FLUORIDE NAX SODIUM HEXAMETAPHOSPHATE NAGH SODIUM HYPOCHLORITE NASF SODIUM HYPOCHLORITE NASF SODIUM SILICOFLUORIDE STM STEAM STS STORM SEWER STW STORM SEWER STW STORM SATER SOU SULFURIC ACID SW SURFACE WASH TERT TERTIARY TREATMENT TPRS THICKENED WASTE ACTIVATED SLUDGE THAS THICKENED WASTE THICKENING TW TREATED WATER THE TRICKLING FILTER UV ULTRAVIOLET VAC VACUUM WW WASH WATER WAS WASTE ACTIVATED SLUDGE WAWW WASTE WASH WATER COW WATER - COOLING DW WATER - COOLING DW WATER - DISTILLED WATER FW WASTE ACTIVATED SLUDGE WAWW WASTE WASH WATER COW WATER - COOLING DW WATER - DISTILLED WATER FW WATER - FIRE IRW MATER - BIRIGATION OZW WATER - OZONATED SWTER PLANT EFFLUENT PW WATER DEJONIZED NPW WATER DEJONIZED NPW WATER PLANT EFFLUENT PW WATER PLANT EFFLUENT	ACE X ACETIC ACID ACT X ACTIVATED CARBON - GRANULAR AIR X AERATION AIR/PROCESS AIR AER X AERATION SYSTEM ARW X AIR WASH ALS X ALUMINUM SULFATE NSO4 X AMMONIUM SULFATE NSO4 X AMMONIUM SULFATE NHOH X AQUA AMMONIA AS X ANTI-SEALANT NHOH X AGNA ARGON ASH X ASH BWH X BACKWASH - MEMBRANE/FILTER BAL X BALLASTED FLOCCULATION BNR X BIOSOLIDS BIO X BIOTOWER BIT X BLENDED SLUDGE BLS X BNR BRN X BISON BRN X BOSOLIDS BIO X CARCON HYPOCHLORITE CATS X CALCIUM HYPOCHLORITE CATS X CARGON DIOXIDE CAS X CARBON DIOXIDE CAS X CARBON SLURRY HOO3 X CARBON SLURRY HOO3 X CARBON SLURRY COP X CENTRATE CEB X CHEMICAL ENHANCED BACKWASH - MEMBRANE CL2 X CHLORINE CL02 X CHLORINE CL02 X CHLORINE CL02 X CHLORINE CL02 X COAGULATION CAI X COMPRESSED AIR - INSTRUMENT CMS X COMPRESSED AIR - SERVICE CUS X COPPER SULFATE CL X COCA X COAGULATION DET X DETERGENT DWT X DEWATERING FUE X DIESEL FUEL DGG X DIGESTER GAS MIXING DGS X D	FLC_X FLOCCULATION GOX_X GASCOUS OXYGEN GSL_X GASOLINE GRS_X GREASE GRT_X GRIT HEL_X HELIUM HFL_X HYDROCHLORIC ACID HCL_X HYDROCHLORIC ACID (FLUORIDE) HYD_X HYDROGEN PER_X HYDROGEN PEROXIDE INC_X INCINERATION INFP_X INFLUENT PUMPING INT_X INTAKE LAG_X LAGOON STORAGE LAP_X LAND APPLICATION CAH_X LIME - HYDRATED CAO_X LIME - QUICKLIME LIM_X LIME STABILIZATION LOX_X LIQUID OXYGEN LPG_X LP GAS OR PROPANE GAS MGOH_X MAGNESIUM HYDROXIDE MEM_X MEMBRANE MEG_X METHANE GAS MIT_X NITROUS OXIDE ODC_X ODOR CONTROL FO_X OIL OIL_X OIL - FUEL OZN_X OZONE OZD_X OZONE OZD_X PROSPHORIC ACID PCL_X POLYMENT POL_X PROSPHORIC ACID PCL_X POLYMENT POL_X POLYMENT POL_X POLYMENT POL_X POLYMENT POL_X POLYMENT POL_X POLYMER KMN_X POTASSIUM PERMANGANATE PAC_X POWDERED ACTIVATE CARBON PAR_X PRE-AERATION PSD_X PRESEDIMENTATION PSC_X PRIMARY SCUM PRS_X PRIMARY SCUM PRS_	RES_X RESIDUALS RAS_X RETURN ACTIVATED SLUDGE ROS_X REVERSE OSMOSIS SCR_X SCREENINGS SCL_X SECONDARY CLARIFICATION SSC_X SECONDARY SCUM SEP_X SEPTAGE SET_X SETTLED WATER SEW_X SEWAGE NAC_X SODA ASH NAL_X SODIUM ALUMINATE NAM_X SODIUM ALUMINATE NAM_X SODIUM BISULFITE NCL_X SODIUM BISULFITE NCL_X SODIUM CHLORIDE NCL_2 X SODIUM CHLORIDE NCL_2 X SODIUM HEAMETAPHOSPHATE NAG_X SODIUM HYPOCHLORITE NAG_X SODIUM HYPOCHLORITE NAG_X SODIUM SILICOFLUORIDE STM_X STEAM STS_X STORM SEWER STW_X STORM WATER SOQ_X SULFURIC ACID SW_X THICKENED PRIMARY SLUDGE THCK_X THICKENED WASTE ACTIVATED SLUDGE THCK_X THICKENED PRIMARY SLUDGE THCK_X WASTE THE THICKENED THOM THE THE SUBJECT THOM THE THE SUBJECT THOM THE THE SUBJECT THOM THE SUBJECT THE SUBJECT THOM THE SUBJECT THOM THE SUBJECT THOM THE SUBJECT THE SUBJECT THOM THE SUBJECT	
ACMB ACTIVATION CHAMBER AFD ADJUSTABLE FREQUENCY DRIVE ACD AERATOR, COARSE BUBBLE DIFFUSED AEFD AERATOR, FINE PORE DIFFUSED AFS AERATOR, FLOATING SURFACE AES AERATOR, SURFACE AFC AFTERCOOLER AD AIR DRYER AF AIR FILTER AR AIR RECEIVER OR REGULATOR AS AIR SEPARATOR AST AIR STRIPPER BFP BACKFLOW PREVENTER BSNA BASIN, AERATION BSNX BASIN, ANOXIC/OXIC BNR BASIN, BNR BSNC BASIN, CHLORINE CONTACT BSNO BASIN, OXIC RBSN BASIN, RECTANGULAR SEDIMENTATION BFPS BELT FILTER PRESS B BIN (STORAGE - ALL TYPES) BA BIN ACTIVATOR BLC BLOWER, CENTRIFUGAL	DWS DEWATERING SCREW DPS DIAPHRAGM SEAL DIF DIFFUSER, CHANNEL DFB DIFFUSER BANK DIP DIFFUSER, PIPELINE DIR DIFFUSER, TANK DGE DIGESTER, AEROBIC DGAP DIGESTER, ANAEROBIC PRIMARY DGAS DIGESTER, ANAEROBIC SECONDARY DSUV DISINFECTION UNIT, UV DAF DISSOLVED AIR FLOTATION THICKENER DUC DUST COLLECTOR EDC EDUCTOR EG ENGINE GENERATOR EQPE ELECTRICAL EQUIPMENT, GENERAL EWSH EMERGENCY EYE WASH FOUNTAIN ESHR EMERGENCY SHOWER EMEW EMERGENCY SHOWER EQPB EQUIPMENT, BUILDING SERVICES EQPT EQUIPMENT, GENERAL OR UNSPECIFIED EV EVAPORATOR EXC EXPANSION CHAMBER FAX FAN, AXIAL FLOW	FUNCTION CODE ABBREVIATIONS HSC HOIST, CHAIN HSE HOIST, WIRE ROPE HYDF HYDRANT, FIRE HYDW HYDRANT, WALL HYC HYDROCYCLONE INJ INJECTOR, CHEMICAL LS LIME SLAKER LCP LOCAL CONTROL PANEL MFM MEMBRANE MBMF MEMBRANE, MICROFILTRATION MBNF MEMBRANE, NANOFILTRATION MBRO MEMBRANE, REVERSE OSMOSIS MBUF MEMBRANE, ULTRAFILTRATION MXC MIXER, CARBON FLM MIXER, FLOCCULATION M MOTOR MXI MIXER, IN-LINE MXPG MIXER, PUGMILL MXR MIXER, RAPID MXS MIXER, STATIC MXP MIXER, SUBMERSIBLE, PROP OR BLENDER MM MUFFIN MONSTER ORD OVERFLOW ROOF DRAIN	RSV RESERVOIR RCO RESIDUAL COLLECTOR RM ROTAMETER RD RUPTURE DISK SAMP SAMPLER SCL SCALE SC SCALE, WEIGHT SCRHT SCREEN, HORIZONTAL SCRI SCREEN, INLINE SLUDGE SCRA SCREEN, MANUAL OR MECH CLEANED BAR SCRS SCREEN, STEP SCT SCREEN, TRAVELLING WATER SCR SCREEN, VIBRATORY SCU SCRUBBER SMC SCUM COLLECTOR SCW SCUM WEIR - ROTATING SEP SEPARATOR, MOISTURE OR CYCLONE SGT SIGHT GLASS - TALL SG SIGHT GAUGE SIL SILENCER SLC SLUDGE COLLECTOR, CIRCULAR GCLR SLUDGE COLLECTOR, FLOC-CLARIFYING	VB VACUUM BREAK VRG VACUUM REGULATOR AVR VALVE, AIR RELEASE CAV COMBINATION AIR/VACUUM VALVE VAG VALVE, ANGLE BV AWWA BALL VALVE BFV AWWA BUTTERFLY VALVE VBFP VALVE, BACKFLOW PREVENTER VBM VALVE, BALL MISCELLANEOUS VC CHECK VALVE VCN VALVE, CONE VDG VALVE, DIAPHRAGM OPERATED VGD VALVE, DOUBLE DISC GATE EPV VALVE, ECCENTRIC PLUG VER VALVE, EXPLOSION RELIEF VFW VALVE, FOUR WAY GV GATE VALVE V VALVE, GENERAL OR UNSPECIFIED VGL VALVE, GLOBE VBI VALVE, INDUSTRIAL BUTTERFLY VKG VALVE, MATERIAL HANDLING ROTARY VMD VALVE, MUD		

SCS

SSC

SLCS

GRD

SBL

STR

STRB

STRY

SRCH

TSA

TCN

TCR

DWT

TSE

ΤX

TNK

TNK

TCP

SMPT

TCS

TSW

TRP

TRK

TB

TBC

TBG

UPS

UVE

UVL

TRPS

SLUDGE COLLECTOR, SEC CLARIFIERS

SLUDGE COLLECTOR, SOLIDS CONTACT

SLUDGE COLLECTOR, STRAIGHT LINE

SOLIDS BLENDER-INLINE

STRAINER BASKET TYPE

TANK, AMMONIA STORAGE

TANK, ELEVATED STORAGE

TANK, CRYOGENIC STORAGE

TANK, ABOVE GROUND STORAGE

TANK, FRP CHEMICAL STORAGE

TANK, CHLORINE CONTACTOR

TANK, FLAT TOP STEEL WATER

UNINTERRUPTABLE POWER SUPPLY

UV REACTOR, HORIZONTAL OR VERTICAL

TANK, GENERAL OR UNSPECIFIED

STRAINER Y TYPE

TANK, DOUBLE WALL

TANK, EXPANSION

TANK, METHANOL

TANK, SAMPLER

TRAP, SEDIMENT

TURBINE ENGINE

TURBINE COMPRESSOR

TRAP, DRIP

UV REACTOR

TRUCK

TURBINE

SURGE CHAMBER

STRAINER

SLUDGE GRINDER, INLINE OR CHANNEL

VALVE, NEEDLE

VALVE, PILOT

VALVE, PINCH

VALVE, PROCESS

VALVE, SAFETY

VALVE, SLEEVE

VALVE, SOLENOID

VALVE, TELESCOPING

VALVE, THREE WAY

VALVE, THERMAL SHUTOFF

VALVE, VACUUM BREAKER

VALVE, VACUUM RELIEF

VALVE, V-PORT BALL

VAPORIZER

VESSEL, BOOT

WEIR, CIPOLETTI

WEIR, V-NOTCH

WELL, VERTICAL

WEIR, RECTANGULAR

WLHC WELL, HORIZONTAL COLLECTOR

VALVE, PISTON OPERATED

VALVE, PRESSURE RELIEF

NON-ECCENTRIC PLUG VALVE

VALVE, PRESSURE REDUCING

VALVE, PRESSURE SUSTAINING

VALVE, PRESSURE/VACUUM RELIEF

VALVE, RESILIENT SEATED GATE

PTV

VP0

PV

VPC

VSPV

VGR

VSLV

VSL

VTV

VTS

VTW

VVB

VSV

VVP

VAP

WC

WR

WV

WLV

VSLB

VS

OZONE POWER SUPPLY UNIT

POLYMER INJECTOR RING

PRESSURE BUILDING COIL

PUMP, DIAPHRAGM METERING

PUMP, PROGRESSING CAVITY

PUMP, SUBMERSIBLE CHOPPER

PUMP, POSITIVE DISPLACEMENT

PUMP, VERTICAL END SUCTION PUMP, VERTICAL WET PIT

ROTARY, DRUM OR BELL MOUNTED

PUMP, VERTICAL DIFFUSION VANE

PUMP, SUBMERSIBLE SUMP

PUMP, SCREW ENCLOSED

PULSATION DAMPNER

PUMP, AIR DIAPHRAGM

PUMP, HEATING WATER

PUMP, PERISTALTIC

PUMP, SCREW OPEN

PUMP, PLUNGER

SUMP PUMP

PROGRAMMABLE LOGIC CONTROLLER

PUMP, CENTRIFUGAL SUBMERSIBLE

PUMP, HORIZONTAL END SUCTION

PUMP, HORIZONTAL SPLIT CASE

OZONE GENERATOR

PACKAGED PLANT

PLATE SETTLER

PELLETIZER

PENSTOCK

PIPE

PARTICLE COUNTER

OGEN

PSU

PP

PCN

PLT

PLC

PS

PSE

INJ

PBC

PD

PAD

PCL

PDM

PHW

PHE

PSC

PPS

PPL

PPC

PSE

PSE

PCH

PSS

PVE

PIPE

THIS ORIGINATION CON CON LARRY ON 09,	LARRY A	ENGIN STATE NC
Manatee County	ELACK & VEATCH	Black & Veatch Corporation 3405 W. Dr. M. L. King Jr. Blvd, Suite 125 Tampa, Florida Certificate No. 8132
MANATEE COUNTY, FLORIDA IMPROVEMENTS AT MASTER LIFT STATION 27-A	INSTRUMENTATION	LEGEND & ABBREVIATIONS SHEET 3 OF 3
DESIGNED: UB DETAILED: PR/A CHECKED: LB	AD.	
	2022	1
IF THIS BA MEASURE 1" TH NOT TO FE	R DOES IEN DRA ULL SCA	WING IS ALE
	142	
_	03	

SHEET 36 OF 40

8 8 8

BL

BLR

BDZ

CCLM

CFG

CHF

CGS

PCLR

SCLR

CGR

CW

CMP

CMB

CMR

CMPS

CTR

COB

cos

CFA

CFD

CFL

DCG

DCM

CRN

CRG

CRJ

CRP

CRT

CYL

BOILER

BULLDOZER

CENTRIFUGE

CLEARWELL

COMPRESSOR

CALIBRATION COLUMN

CHLORINE GAS SCRUBBER

CLARIFIER, SECONDARY

COMPRESSOR, LIQUID RING

COMPRESSOR, ROTARY SCREW

COVER, ALUMINUM DOME BASIN

COVER, FLOATING DIGESTER

COVER, FIXED DIGESTER

CRANE, PORTABLE GANTRY

CRANE, TRAVELLING BRIDGE

CLARIFIER, PRIMARY

CLASSIFIER, GRIT

COMPRESSOR, STEAM

CONTAINER, PROCESS

CONVEYOR, BELT

CONVEYOR, SCREW

COVER, GAS HOLDER

CYLINDER, CHLORINE

COVER, MEMBRANE

CRANE, GANTRY

CRANE, JIB

CYG CYLINDER, GAS

CRANE

CHEMICAL FEEDER

FAN, CENTRIFUGAL

FILTER GAS PARTICULATE

FILTER, CARTRIDGE TYPE

FITTING, MISCELLANEOUS

FLOCCULATOR, HORIZONTAL

FLOCCULATOR, VERTICAL

FILTER, UNDERDRAINS OR PRESSURE

FILTER. SURFACE WASH EQUIPMENT

FENCE STIRRER

FLAME ARRESTER

FLAME CHECK

FLOOR DRAIN

FORKLIFT

GAS FEEDER

GAS FLARE

GATE, FLAP

SLIDE GATE

SLUICE GATE

GATE, WEIR

FLOW SPLITTER

FLUME, PARSHALL

FOAM SEPARATOR

GAS WATER HEATER

GRAVITY BELT THICKENER

GRIT BASIN, VORTEX TYPE

GRIT SCREW CONCENTRATOR

GRAVITY THICKENER

GRINDER PULVERIZER

HEAT EXCHANGER

HOIST

FST

FLC

FLT

FSW

FAR

FC

FLCH

FLCV

FD

FS

FΕ

FL

CHF

GWH

GFL

SLG

SG

GBT

GVT

GRD

GRB

GRV

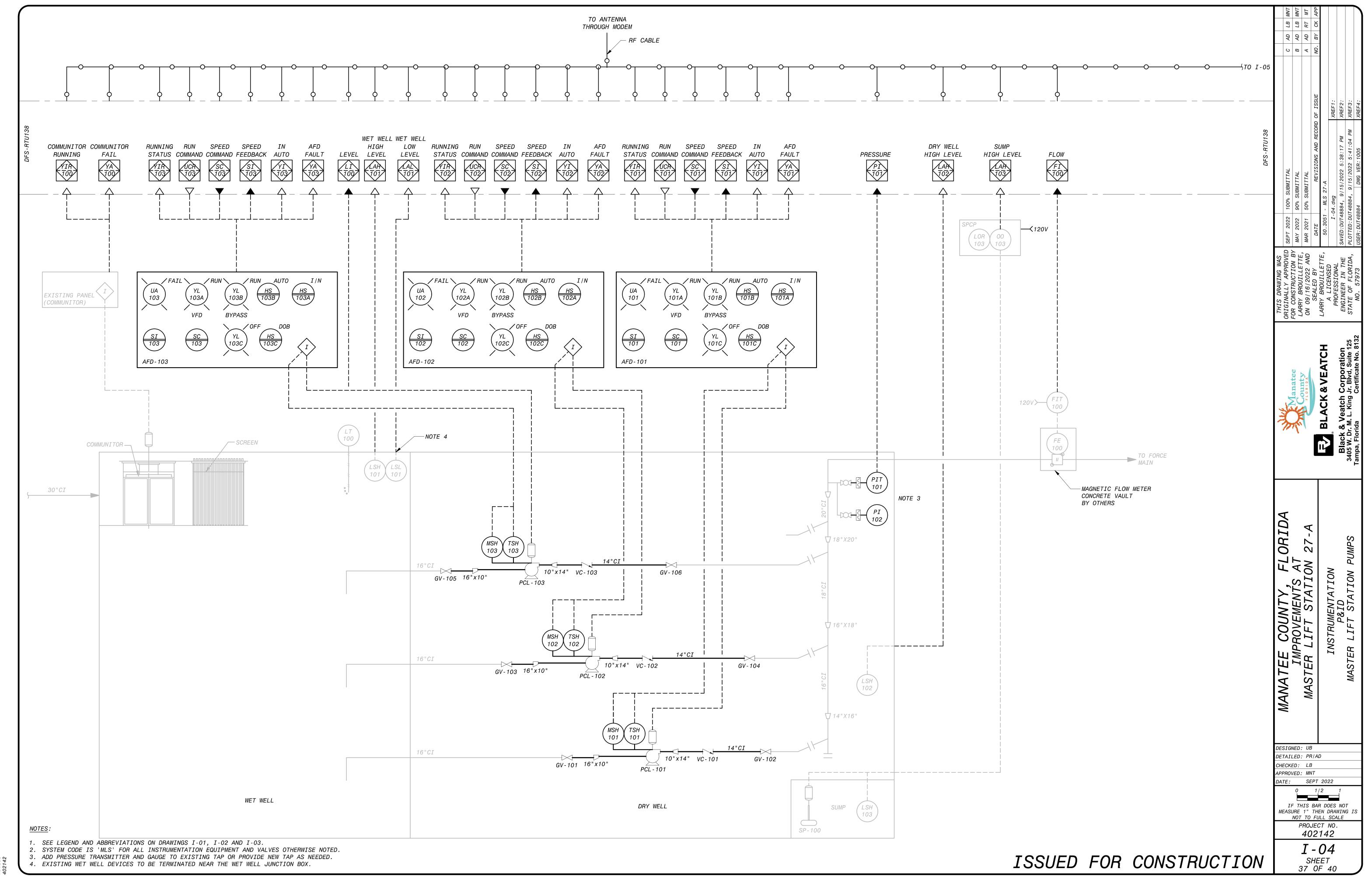
HEX

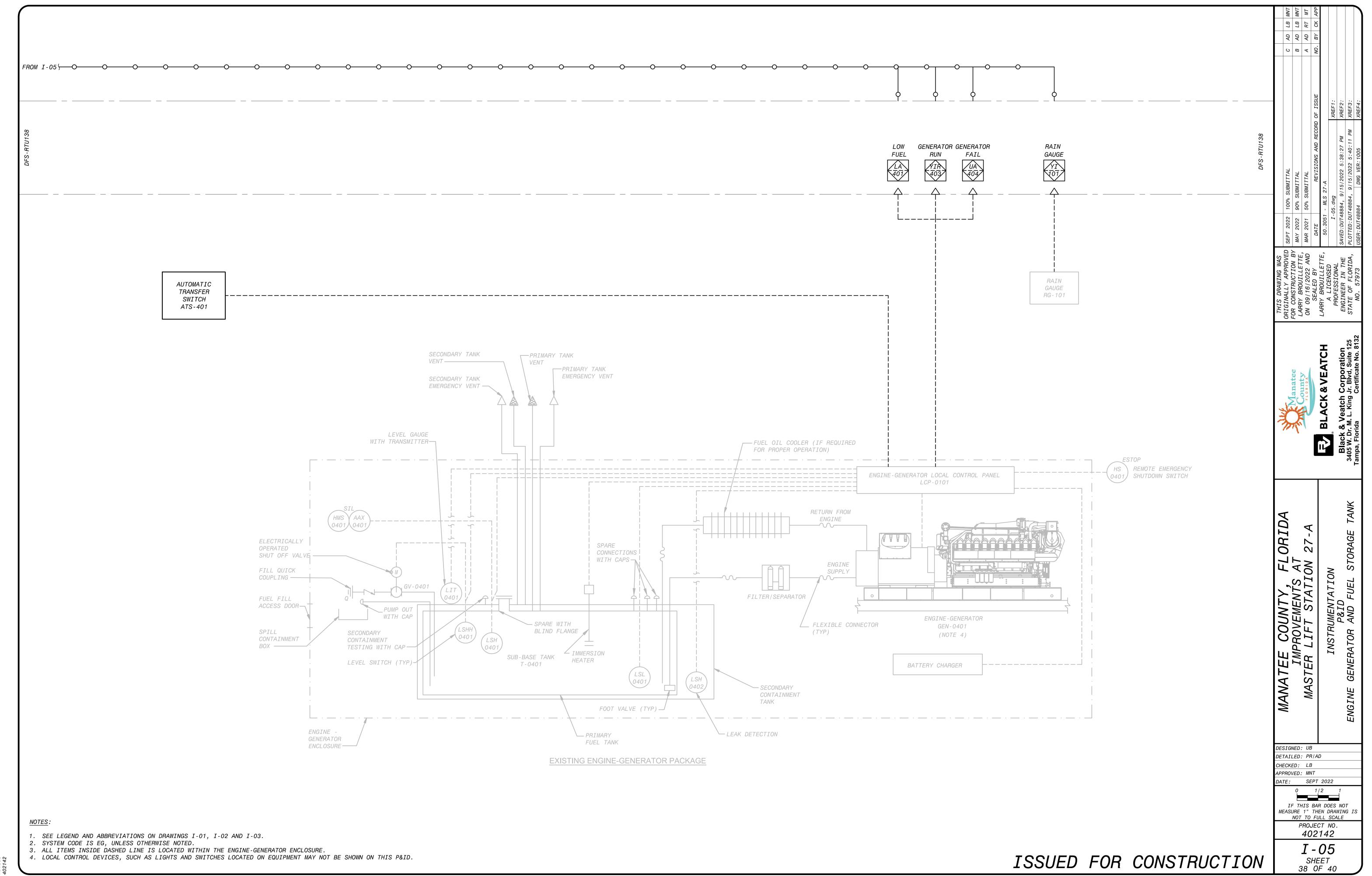
HST

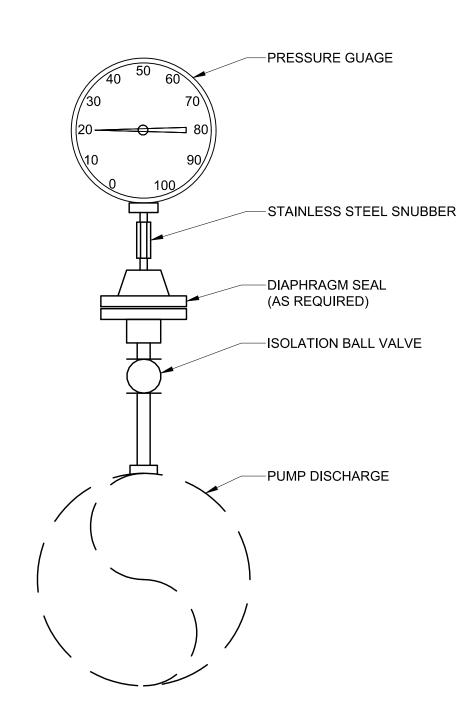
FMSP

FTTNG

FTSP



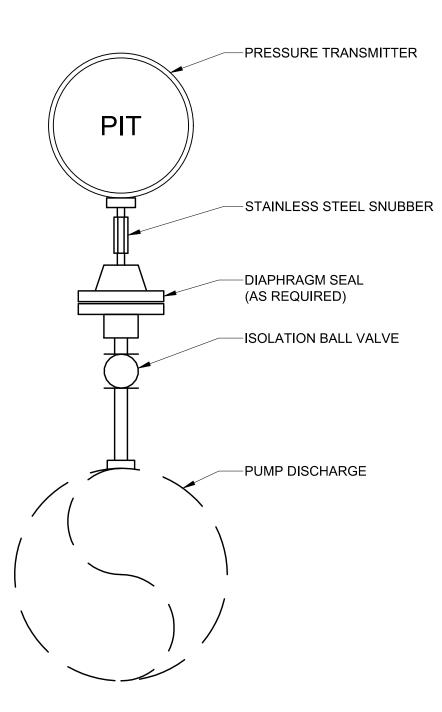




A PRESSURE GAUGE

INSTALLATION DETAIL

NO SCALE



B PRESSURE TRANSMITTER

INSTALLATION DETAIL

NO SCALE

A A A OBA

MANATEE COUNTY, FLORIDA IMPROVEMENTS AT MASTER LIFT STATION 27-A

DESIGNED: UB

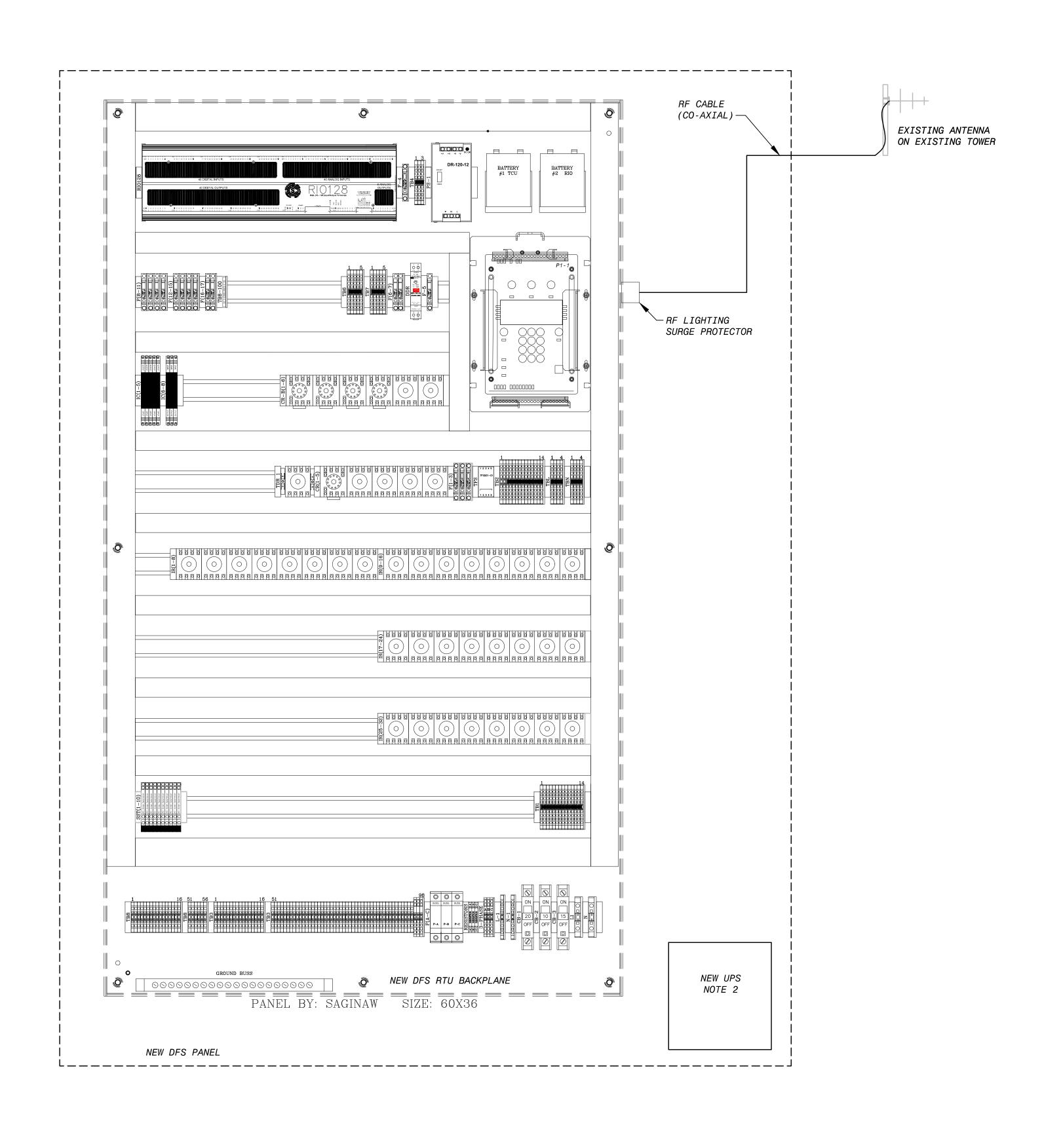
DETAILED: PR/AD

CHECKED: LB

APPROVED: MNT

IF THIS BAR DOES NOT
MEASURE 1" THEN DRAWING IS
NOT TO FULL SCALE
PROJECT NO.
402142

I - 06 SHEET 39 OF 40



	5	_							•
	LB MNT	LB MNT	RT MT	CK APF					
	C AD LB	AD LB	AD RT	NO. BY CK APP					
	S	В	4	NO.					
				D OF ISSUE		XREF1:	XREF2:	XREF3:	XBEF4:
	SEPT 2022 100% SUBMITTAL	90% SUBMITTAL	0% SUBMITTAL	REVISIONS AND RECORD OF ISSUE	MLS 27-A	. dwg	SAVED:DUT48884, 9/15/2022 5:38:46 PM	PLOTTED: DUT48884, 9/15/2022 5:38:54 PM	4 DWG VER: 1005
	SEPT 2022 1	MAY 2022 9	MAR 2021 50% SUBMITTAL	DATE	50.3051 - MLS 27-A	I - 07 . dwg	SAVED:DUT488	PLOTTED: DUT4	USER: DUT48884
THIS DRAWING WAS	= .	I ARRY BROUTLI FTTE	ON 09/16/2022 AND	SEALED BY	LARRY BROUILLETTE,	A LICENSED PROFESSIONAL	ENGINEER IN THE	STATE OF FLORIDA,	NO. 57973
791		Lanatee	FLORIDA		FY BLACK & VEATCH	8	Black & Veatch Corporation	. L. King	-Iorida Certificate No. 8132
							<u>8</u>	3405 \	Tampa, Florida
	HANAI EL COON I 1, TLORIDA	IMPROVEMENTS AT	MASTER LIFT STATION 27-A			INSTRIMENTATION		METWORN BLOCK DIAGRAM 34051	Tampa, F
	SIGHTALL PROVIDENCE OF THE PRO	NED:	NOTTATS TATI STATION	3 3 7/AL)			N BLUCA DIAGRAM	
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I - 07 SHEET 40 OF 40

<u>NOTES</u>

1. PROVIDE NEW RTU BACKPLANE IN NEW PANEL.

2. PROVIDE NEW "NEWMAR AC UPS 48-2000 IN A CABINET MOUNTED CONFIGURATION.

3. PANEL IS TO BE MODELED ON THE SOUTHEAST MASTER LIFTSTATION 677E PANEL MODIFIED TO ACCOMMODATE THE UPS.