## STANDBY GENERATOR NOTES

1. SPECIFICATION:

IT IS THE INTENT OF THIS SPECIFICATION TO SECURE AN EMERGENCY GENERATOR SYSTEM THAT HAS BEEN PROTOTYPE TESTED, FACTORY BUILT, PRODUCTION TESTED, SITE TESTED, OF THE LATEST COMMERCIAL DESIGN, TOGETHER WITH ALL ACCESSORIES NECESSARY FOR A COMPLETE INSTALLATION AS SHOWN ON THE PLANS AND DRAWINGS, AND SPECIFICATIONS HEREIN. THE EQUIPMENT SUPPLIED AND INSTALLED SHALL MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. ALONG WITH ALL APPLICABLE LOCAL CODES AND REGULA-TIONS. ALL EQUIPMENT SHALL BE NEW, OF CURRENT PRODUCTION OF A NATIONAL FIRM WHICH MANUFACTURES THE GENERATOR AND CONTROLS, TRANSFER SWITCH, AND ASSEMBLES THE STANDBY GENERATOR SETS AS A MATCHED UNIT SO THAT THERE IS ONE-SOURCE RESPONSIBILITY FOR WARRANTY, PARTS, AND SERVICE THROUGH A LOCAL REPRESENTATIVE WITH FACTORY-TRAINED SERVICEMEN.

#### 2. SUBMITTAL

AND SITE TEST.

SUBMITTAL SHALL INCLUDE PROTOTYPE TEST CERTIFICATION AND SPECIFICATION SHEETS SHOWING ALL STANDARD AND OPTIONAL ACCESSORIES TO BE SUPPLIED, SCHEMATIC WIRING DIAGRAMS, DIMENSION DRAWINGS, AND INTERCONNECTION DIAGRAMS IDENTIFYING EACH REQUIERED INTERCONNECTION BETWEEN GENERATOR SET, THE TRANSFER SWITCH, AND THE REMOTE ANNUNCIATOR PANEL.

### THERE SHALL BE THREE TEST: A DESIGN PROTOTYPE TEST, FINAL PRODUCTION TEST,

PROTOTYPE TEST PROGRAMS SHALL INCLUDE THE REQUIEREMENTS OF NFPA 110 AND THE FOLLOWING: MAXIMUM KW; MAXIMUM MOTOR STARTING(KVA) AT 30% INSTANTANEOUS VOLTAGE DIP; ALTERNATOR TEMPERATURE RISE BY EMBEDDED THERMOCOUPLE AND RESISTANCE METHOD PER NEMA MG1-22.40 AND 16.40; GOVERNER SPEED REGULATION UNDER S.S. AND TRANSIENT CONDITIONS; VOLTAGE REGULATION AND GENERATOR TRANSIENT RESPONSE; FUEL CONSUMPTION AT .25, .50, .75, AND FULL LOAD; COMPLETE HARMONIC ANAL-YSIS; SINGLE PHASE SHORT CIRCUIT TEST; ALTERNATOR COOLING AIR FLOW; TORSIONAL ANALYSIS TESTING TO VERIFY THAT THE GENERATOR SET IS FREE OF HARMFUL TORSIONAL STRESSES; ENDURANCE TESTING; COMPLETE FINAL PRODUCTION TEST WITH VARIOUS LOADS AND EXHAUST SYSTEM IN PLACE. TEST SHALL INCLUDE: SINGLE STEP PICKUP; TRANSIENT AND STEADY STATE GOVERNING, SAFETY SHUTDOWN DEVICE TESTING; VOLTAGE REGULATION; RATED POWER; MAXIMUM POWER;

SITE TEST: AN INSTALLATION CHECK, START-UP, AND BUILDING LOAD TEST SHALL BE PER-FORMED BY THE MANUFACTURER'S LOCAL REPRESENTATIVE. THE ENGINEER, REGULAR OPERATORS AND THE MAINTENANCE STAFF SHALL BE NOTIFIED OF THE TIME AND DATE OF THE SITE TEST. THE TEST SHALL INCLUDE: FUEL, LUBRICATING OIL, AND ANTIFREEZE SHALL BE CHECKED FOR CONFORMITY TO THE MANUFACTURER'S RECOMMENDATIONS, UNDER THE ENVIROMENTAL CONDITIONS PRESENT AND EXPECTED. ACCESSORIES CHECK SHALL IN-CLUDE, BUT NOT BE LIMITED TO, BLOCK HEATERS, BATTERY CHARGER, GENERATOR STRIP HEATERS, REMOTE ANNUNCIATOR; UNDER START-UP MODE: CHECK FOR EXHAUST LEAKS, PATH OF EXHAUST PASSES AWAY FROM THE BUILDING, COOLING AIR FLOW, MOVEMENT DURING STARTING AND STOPPING, VIBRATION DURING RUNNING, NORMAL AND EMERGENCY LINE-TO-LINE VOLTAGE, AND PHASE ROTATION. AUTOMATIC START-UP TEST BY MEANS OF SIMULATED POWER OUTAGE TO TEST REMOTE-AUTOMATIC STARTING, TRANSFER OF THE LOAD, AND AUTO-MATIC SHUTDOWN. PRIOR TO THIS TEST, ALL TRANSFER SWITCH TIMERS SHALL BE SET FOR PROPER SYSTEM COORDINATION. ENGINE COOLANT TEMPERATURE, OIL PRESSURE, AND BATTERY CHARGE LEVEL ALONG WITH GENERATOR VOLTAGE, AMPERES, AND FREQUENCY SHALL BE MONITORED THROUGHOUT THE TEST. AN EXTERNAL LOAD BANK SHALL BE CON-NECTED TO THE SYSTEM IF SUFFICIENT BUILDING LOAD IS UNAVAILABLE TO LOAD THE GENE-RATOR TO THE NAMEPLATE KW RATING.

#### 4. WARRANTY AND MAINTENANCE

THE EMERGENCY GENERATOR SYSTEM SHALL BE WARRANTED BY THE MANUFACTURER FOR ONE YEAR OR 2,000 HOURS, WHICHEVER COMES FIRST, FROM THE DATE OF FINAL ACCEP-TANCE. OPTIONAL TWO YEAR AND FIVE YEAR WARRANTIES SHALL BE AVAILABLE UPON RE-QUEST. THE SERVICE CONTRACT SHALL INCLUDE THE FURNISHING OF FACTORY TRAINED PERSONNEL AND MAINTAIN A 24-HOUR PARTS AND SERVICE CAPABILITY AND SHOW AT TIME OF SUBMITTAL THAT THEY ARE REGULARLY ENGAGED IN A MAINTENANCE CONTRACT PROGRAM TO SEMI-ANNUALLY INSPECT AND TEST RUN THE ENGINE TO PERFORM MANUFAC-TURERS RECOMMENDED PREVENTIVE MAINTENANCE SERVICE ON THE EQUIPMENT FURNISHED. THIS SERVICE CONTRACT SHALL INCLUDE OPERATION OF THE EQUIPMENT UNDER SIMULATED POWER FAILURE CONDITIONS, ADJUSTMENT OF GENERATOR AND TRANSFER SWITCH CONTROLS AS REQUIRED AND CERTIFICATION IN THE OWNER'S MAINTENANCE LOG OF REPAIRS MADE AND PROPER FUNCTIONING OF ALL ENGINE AND AUXILIARY SYSTEMS. THIS SERVICE CON-TRACT SHALL BE PROVIDED AT NO ADDITIONAL CHARGE FOR A PERIOD OF TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE. AT THE OWNER'S OPTION, THE SERVICE CONTRACT SHALL BE RENEWABLE ON A YEAR-TO-YEAR BASIS THEREAFTER WITH COSTS BEING PAID

#### 5. THIS PROJECT WAS DESIGNED BASED ON MTU 150KW STANDBY GENERATOR, MODEL #MTU-6R012-DS150 120/208/V, 3-PHASE. 520 AMPERE OUTPUT. PROVIDE CONNECTION TO DIESEL SUPPLY.

PROVIDE THE FOLLOWING COMPONENTS AND ACCESSORIES: RESIDENTIAL GRADE SILENCER, EXHAUST CAP, BATTERY, BATTERY RACK, AND CABLES. EQUALIZE/FLOAT TYPE CHARGER, HEAVY DUTY AIR CLEANER, OIL DRAIN KIT, AIR CLEANER RESTRICTION INDICATOR, SPRING ISOLATORS, 1% VOLTAGE REGULATION, DECISION MONITOR — OVER VOLTAGE PROTECTION. PRE-HIGH ENGINE TEMPERATURE SENDER AND LAMP, PRE-OIL PRESSURE SENDER

AND LAMP, AND LOW WATER LEVEL SENDER AND LAMP, PRIMARY FUEL FILTERS. INSTALLATION SHALL COMPLY WTIH NFPA 37, NFPA 110 AND UL2200. EXHAUST PIPING SHALL BE HIDDEN INSIDE ENCLOSURE.

6. WHEN APPLICABLE CONTRACTOR TO FURNISH AND INSTALL SIGN ON ALL VISIBLE SIDES OF

## FUEL TANK STATING TYPE OF FUEL AND CAPACITY OF TANK (IN GALLONS).

7. GENERATOR TO BE LEVEL 2, CLASS 6 & TYPE 30 EPSS.

8. ALL WIRING FOR CONNECTIONS TO THE CONTROL PANEL SHALL BE HARNESSED OR FLEXIBLY ENCLOSED, SHALL BE SECURELY MOUNTED ON THE PRIME MOVER TO PREVENT CHAFING AND VIBRATION DAMAGE, AND SHALL TERMINATE AT THE CONTROL PANEL IN AN ENCLOSED BOX OR PANEL.

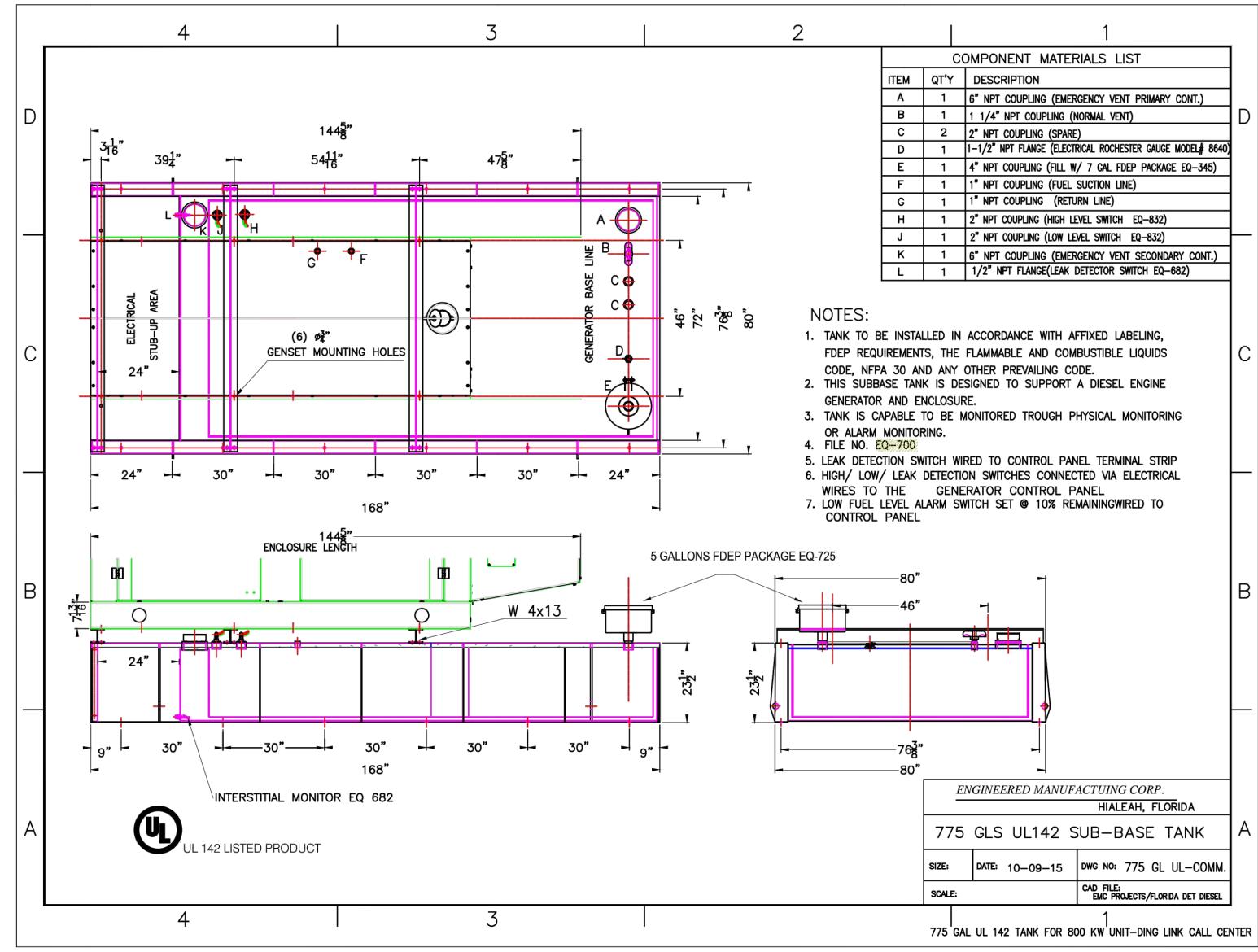
#### 9. WHEN APPLICABLE CONTRACTOR TO FURNISH AND INSTALL NFPA 704 SIGNS ON ALL VISIBLE SIDES OF THE FUEL TANK.

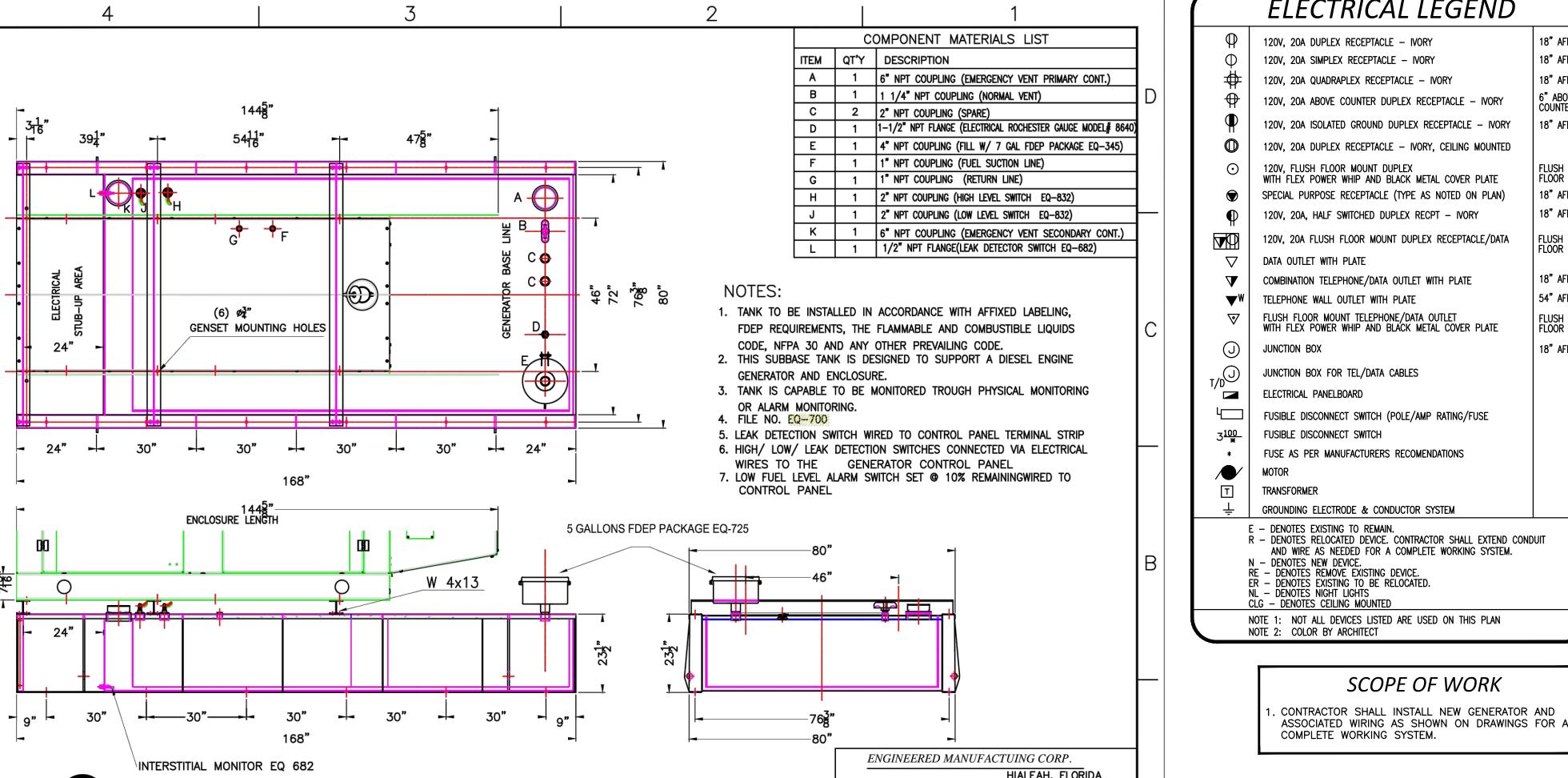
10. THE PRIME MOVER AND GENERATOR SHALL BE FACTORY MOUNTED ON A COMMON BASE OF SUFFICIENT RIGIDITY IN ORDER TO MAINTAIN SATISFACTORY DYNAMIC ALIGNMENT OF THE ROTATING ELEMENT OF THE SYSTEM PRIOR TO SHIPMENT TO THE INSTALLATION SITE.

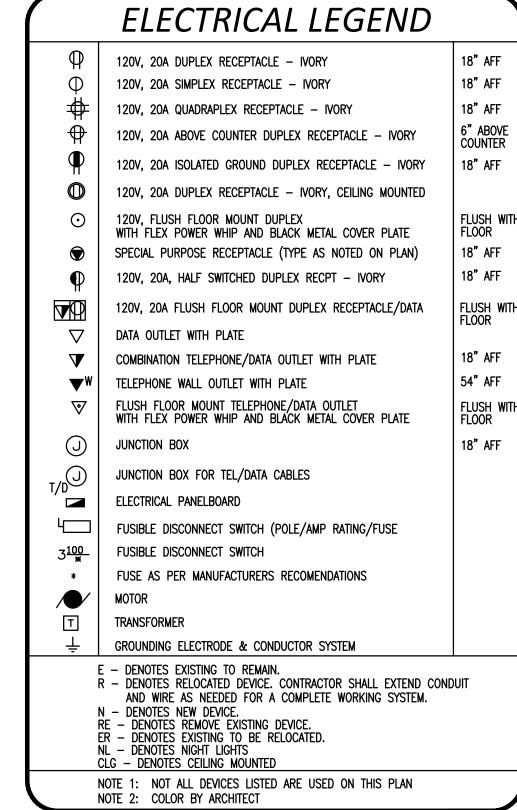
11. AT START UP CERTIFICATION SHALL BE SUPPLIED WITH THE UNIT THAT VERIFIES THE TORSIONAL VIBRATION COMPATIBILITY OF THE ROTATING ELEMENT OF THE PRIME MOVER AND GENERATOR FOR THE INTENDED USE OF THE ENERGY CONVERTER.

12. AT START UP GENERATOR SUPPLIER SHALL STIPULATE COMPLIANCE WITH THIS STANDARD AND SATISFACTORY PERFORMANCE OF THE ENTIRE UNIT WHEN INSTALLED. WHERE REQUESTED THE SHORT-CIRCUIT CURRENT CAPABILITY AT THE GENERATOR OUTPUT TERMINALS

SHALL BE FURNISHED. 13. SOUND ANTENUATION ENCLOSURE SHALL NOT EXCEED 75dB SOUND LEVEL AT 23 FEET







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CA# 27754

DATE: 8/17/2017

JOB#: 171074

NEW GENERATOR FOR

441 SOUTH STATE ROAD 7

441 BUILDING

MARGATE, FL 33068 PROJECT NO. 171074

DATE: 07-20-2017

R E V I S I O N S ISSUED FOR PAD PERMIT 08-17-2017

- TANK VENT THRU ROOF OR NOTE: PROVIDE COLLISION BARRIERS, CONC. HOUSING SIZED PER NFPA. FILLED 4" GALV. STEEL PIPE W/4' IN GROUND AND 4' ABV. GRADE FOR ALL EXPOSED AREAS. - FLEXIBLE FUEL LINE FROM GEN SET TANK TO GENSET FILTER. SPRING VIBRATION ISO-LATOR W/SIDE STIFFENERS TOP OF SUB-BASE TANK S.V.I.'S AT — 4 LOCATIONS. OUTER WALL OF CONTAINMENT TANK. BOLT TANK TO SLAB EACH —TANK WITHIN RUPTURE BASIN. CORNER. COMPLY WITH FLORIDA BUILDING CODE CHAPTER 1609 WIND ---INTERNAL TANK SUPPORTS, TYP. LOAD REQUIREMENTS -STRUCTURAL SLAB GENSET ON SUB-BASE TANK DETAIL THE ABOVE GROUND FUEL SUPPLY TANK SHALL COMPY WITH UL 142, NFPA 30 CHAPTER 3, NFPA 30.31.37.54 AND 58 FOR PIPING SYSTEMS AND WITH NFPA 37. COMPLY WITH NFPA 30 2-3.4.1 FOR SIPHON FLOW. THIS TANK SHALL HAVE FLORIDA DEPARTMENT OF

ENVIRONMENTAL PROTECTION APPROVAL.

**ELECTRICAL NOTES** AND LEGEND

CONSTRUCTION DOCUMENTS

ENLARGED GENERATOR PAD - ELECTRICAL

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



1. <u>Scope:</u> Furnish all labor and materials necessary for the installation of the complete electrical system as specified herein and indicated on the contract

2. <u>APPLICABLE CODES:</u> THE INSTALLATION SHALL COMPLY WITH THE 2011 EDITION OF THE NATIONAL ELECTRICAL CODE. 2014 FLORIDA BUILDING CODE 5TH EDITION, 2014 FLORIDA FIRE PREVENTION CODE 5TH EDITION. 2009 LIFE SAFETY CODE

3. <u>MATERIALS AND SUBSTITUTIONS:</u> THE CONTRACTOR SHALL SUBMIT A LIST OF ALL MAJOR EQUIPMENT AND FIXTURES TO THE ARCHITECT FOR REVIEW. NO SUBSTITUTIONS WILL BE ALLOWED WITHOUT THE PERMISSION OF THE ARCHITECT IN WRITING. ALL EQUIPMENT SHALL BE NEW AND BEAR THE MANUFACTURER'S NAME AND TRADE NAME. ALL EQUIPMENT SHALL BE U.L. LISTED.

4. <u>PERMITS:</u> CONTRACTOR SHALL PAY ALL REQUIRED FEES AND SHALL OBTAIN ALL NECESSARY PERMITS FOR INSTALLATION OF THE WORK.

5. WORKMANSHIP: ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. EXPOSED CONDUITS AND/OR CABLES, WHERE PERMITTED, SHALL BE RUN PARALLEL AND AT RIGHT ANGLE TO MAJOR BUILDING CONSTRUCTION MEMBERS. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EQUIPMENT AND DEVICES WITH THE ARCHITECT AT THE TIME OF INSTALLATION.
6. CONDUIT SYSTEMS: CONDUIT SHALL BE EMT CONCEALED IN WALLS AND SUSPENDED CEILINGS AND EXPOSED IN UNFINISHED AREAS. EXTERIOR CONDUIT SHALL BE GALVANIZED RIGID STEEL. ALUMINUM CONDUIT SHALL NOT BE PERMITTED. MINIMUM SIZE CONDUIT SHALL BE 3/4". CONNECTIONS TO MOTORS AND OTHER VIBRATING EQUIPMENT SHALL BE MADE WITH LIQUIDTIGH

FLEXIBLE METAL CONDUIT.

7. OUTLET BOXES: FOUR INCH SQUARE FOR SWITCHES AND RECEPTACLES AND FOUR INCH OCTAGONAL FOR LIGHTING FIXTURES, WITH APPROVED PLASTER RINGS AND COVERPLATES. WHERE MULTIPLE NUMBER OF SWITCHES OCCUR IN ONE LOCATION ON THE PLANS, PROVIDE A MULTI-GANG OUTLET BOX AND A COMMON COVERPLATE. PROVIDE BARRIERS WITHIN THE BOX AS MAY BE

REQUIRED BY CODE. MIN. DEPTH 2 INCHES.

8. <u>WIRE AND CABLE:</u> TYPE THW, OR THWN, 600 VOLT AC, COPPER CONDUCTORS, COLOR CODED, WITH THE MINIMUM SIZE TO BE #12 A.W.G. WITH INSULATED GROUND. TYPE "MC" METAL CLAD CABLE MAY BE USED WHERE PERMITTED BY APPLICABLE CODES.

9. <u>WIRING DEVICES:</u> "ARROW HART" OR APPROVED EQUAL, AS FOLLOWS: DUPLEX RECEPTACLE—#5362; GFI RECEPTACLE—#GF5342; 1P TOGGLE SWITCH—#1991; 3—WAY TOGGLE SWITCH—#1993. COVERPLATES SHALL BE PAINTABLE PLASTIC. EDGES OF PLATES SHALL MAKE FULL CONTACT WITH BOX AND COMPLETELY COVER WALL OPENING. ALL WATER FOUNTAINS, AND VENDING MACHINES SHALL HAVE GFCI TYPE RECEPTACLES AS PER NEC 422.51. ALL RECEPTACLES WITHIN 6 FEET OF WET BAR OR ANY SINK SHALL HAVE GFCI TYPE RECEPTACLES AS PER NEC 201.8.

10. LIGHTING FIXTURES: AS SPECIFIED ON THE DRAWINGS, COMPLETE WITH LAMPS.

11. PANELBOARDS AND CIRCUIT BREAKERS: PANELBOARDS SHALL BE SQ DRAWINGS. CIRCUIT BREAKERS SHALL BE BOLT—ON TYPE. PLUG—IN BREAKERS SHALL NOT BE PERMITTED. MULTI—POLE BREAKERS SHALL HAVE COMMON TRIP WITH INTEGRAL TIE MECHANISM. HANDLE TIES SHALL NOT BE PERMITTED. PANELBOARDS SHALL HAVE COPPER BUS WITH FULL CAPACITY NEUTRAL. WHERE SPACES AND/OR PROVISIONS ARE INDICATED, BUS ASSEMBLY SHALL EXTEND TO FULL LENGTH WITH ALL NECESSARY HARDWARE TO ACCOMMODATE CIRCUIT BREAKERS. PROVIDE TYPEWRITTEN DIRECTORY ON INSIDE OF DOOR. WHEN NEW WORK IS CALLED FOR IN EXISTING PANELBOARDS, NEW BREAKERS SHALL MATCH EXISTING AND DIRECTORY SHALL BE UPDATED TO REFLECT ANY CHANGES. ALL ELECTRICAL EQUIPMENT WILL BE LABELED TO INDICATE POTENTIAL ELECTRIC ARC FLASH HAZARDS AS PER NEC 110.16

12. <u>GROUNDING:</u> ALL SYSTEMS SHALL BE GROUNDED AND BONDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES, THE UTILITY COMPANIES, SPECIAL SYSTEMS AND EQUIPMENT AS REQUIRED.

13. <u>EXISTING CONDITIONS:</u> THE CONTRACTOR SHALL VISIT THE SITE AND CAREFULLY EXAMINE

ALL EXISTING CONDITIONS THAT MAY AFFECT HIS BID.

14. EXISTING ELECTRICAL INSTALLATION: ALL EXISTING ELECTRICAL WORK WHICH WILL NOT BE RENDERED OBSOLETE AND WHICH MAY BE DISTURBED DUE TO ANY CHANGES REQUIRED UNDER THIS CONTRACT SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION. OTHER ELECTRICAL MATERIAL OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS AND OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. EXCEPT AS OTHERWISE SPECIFIED, ALL DISCONNECTED MATERIAL THAT IS NOT TO BE REUSED

SHALL BE REMOVED FROM THE SITE.

15. <u>INTERRUPTION OF SERVICE:</u> THE CONTRACTOR SHALL NOT DISCONTINUE ANY ELECTRICAL
SERVICE TO THE BUILDING WITHOUT FIRST OBTAINING APPROVAL FROM THE ARCHITECT AND OWNER.

16. <u>SCHEDULING OF WORK:</u> THE CONTRACTOR SHALL ARRANGE WITH THE ARCHITECT FOR

SCHEDULING OF WORK.

17. COORDINATION AND REPAIR: WHERE EXISTING ELECTRICAL INSTALLATIONS INTERFERE WITH NEW WORK AND WHERE SUCH INSTALLATIONS ARE TO REMAIN IN USE, THE INSTALLATIONS SHALL BE DISCONNECTED AND RELOCATED AND/OR RECONNECTED TO COORDINATE WITH THE WORK

INDICATED ON THE CONTRACT DRAWINGS AND AS SPECIFIED.

18. <u>WATERPROOFING:</u> WHERE ANY WORK PIERCES WATERPROOFING, INCLUDING WATERPROOF CONCRETE AND/OR MASONRY EXTERIOR WALLS, CONTRACTOR SHALL PROVIDE ALL NECESSARY SLEEVES, CAULKING, AND FLASHING REQUIRED TO MAKE OPENINGS ABSOLUTELY WATERTIGHT.

19. <u>FIREPROOFING:</u> OPENINGS AND PASSAGE OF CONDUITS THROUGH FLOOR SLABS AND FIRE RATED WALLS OR PARTITIONS SHALL BE SEALED WITH U.L. LISTED FIRE STOPPING METHODS TO

MAINTAIN THE FIRE RESISTANCE RATING.

20. <u>EQUIPMENT IDENTIFICATION:</u> EXCEPT WHERE OTHER MEANS OF IDENTIFICATION ARE SPECIFIED, PANELBOARDS, METERS, SAFETY SWITCHES, REMOTE CONTROL SWITCHES, AND MOTOR CONTROL PUSHBUTTON STATIONS SHALL BE IDENTIFIED WITH BLACK PHENOLIC NAMEPLATES WITH WHITE LETTERS, MINIMUM 1/4" HIGH, TO SHOW THE NAME AND NUMBER, IF ANY, OF THE EQUIPMENT

21. TESTS: THE CONTRACTOR SHALL TEST ALL OF THE EQUIPMENT INSTALLED UNDER THIS CONTRACT AND DEMONSTRATE ITS PROPER OPERATION TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED LABOR, MATERIAL AND INSTRUMENTS FOR THE TESTS. TEST ALL ELECTRICAL WIRING DEVICES FOR CONTINUITY TESTING FREE FROM ANY SHORTS AND CHECK FOR LOAD CIRCUIT BALANCING TO ENSURE NO NEUTRAL CURRENT IS PRESENT.

22. OPERATING INSTRUCTIONS: UPON COMPLETION OF ALL WORK AND OF ALL TESTS, FURNISH THE NECESSARY SKILLED LABOR AND HELPERS FOR OPERATING ALL ELECTRICAL SYSTEMS AND EQUIPMENT IN ORDER TO INSTRUCT AND TRAIN THE OWNER'S REPRESENTATIVE IN THE OPERATION AND MAINTENANCE OF ALL EQUIPMENT FURNISHED.

23. CONTRACTOR SHALL MAINTAIN AS-BUILT RECORD DRAWINGS DURING CONSTRUCTION. THESE RED LINES AS-BUILT DRAWINGS SHALL BE SUBMITTED TO OWNER AND ENGINEER AT THE END OF PROJECT. ANY AS-BUILTS NEEDED FOR FINAL INSPECTIONS SHALL BE SUBMITTED TO ENGINEER (10) DAY PRIOR TO INSPECTION.



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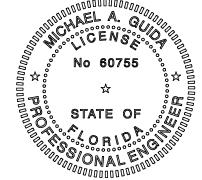
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DESIGNED MAG
DRAWN VICE

CHECKED MAG

MICHAEL GUIDA, P.E.
PE 60755



DATE: 8/17/2017

JOB#: 171074

NEW GENERATOR FOR 441 BUILDING

441 SOUTH STATE ROAD 7 MARGATE, FL 33068

PROJECT NO. <u>171074</u>

DATE: <u>07-20-2017</u>

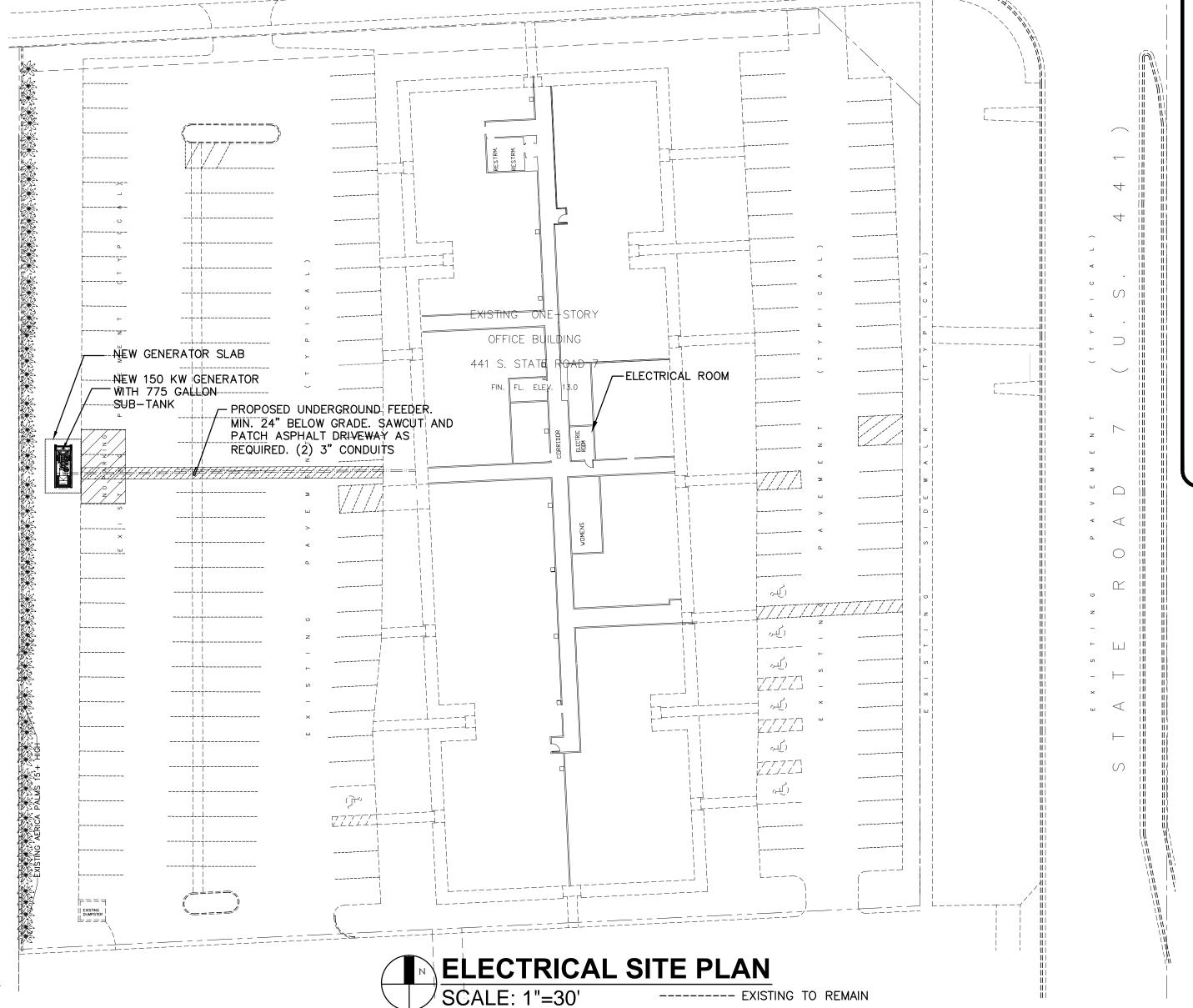
08-17-2017

R E V I S I O N S

ELECTRICAL SITE AND ENLARGED PLANS

CONSTRUCTION DOCUMENTS

**E-2** 



----- NEW CONSTRUCTION

						_		
TYPE: SQ.D I-LINE HCW SERVICE: 120/208V, 3ø, 4W MOUNTING:FLOOR		DIST	RIBU		N PA EXISTING)			200 AMP XISITNG 1200A MCB
CKT. NO.	NAMEPLATE DESIGNATION	KVA	AMP		ROTECTION FRAME		WIRE AND CONDUIT	REMARKS
1	SPACE							
2	EX. PANEL G	35.1	97.5	3	150	150	SEE RISER DIAGRAM	
3	EX. PANEL EDP VIA ATS	146.7	407.5	3	600	600	SEE RISER DIAGRAM	2
4	SPACE							
5	SPACE							
6	SPACE							
7	EX. PANEL H	23.4	65.0	3	100	100	SEE RISER DIAGRAM	
8	SPACE							
9	EX. PANEL D	46.8	130.0	3	200	200	SEE RISER DIAGRAM	
10	SPARE	_	_	3	200	200	1	
11	EX. PANEL E	40.7	113.0	3	200	200	SEE RISER DIAGRAM	
12	SPARE	_	_	3	200	200	1	
13	EX. PANEL F	46.8	130.0	3	200	200	SEE RISER DIAGRAM	
14	SPARE	_	_	3	200	200	1	
15	SPACE							
	TOTAL LOAD	339.5	943.0					7
$\simeq$	KISTING LOAD REMOVED.  EW LOAD AND C.B ADDED TO	EXISTING	PANEL	-				

	DIESEL FUEL TANK FDEP EQ#'S
•	775 GALLONS SUB-BASE TANK: EQ#700; 5 GAL SPILL BUCKET E#725. OVERFILL PROTECTION: EQ#832 LEAK DETECTION DEVICES: EQ#682

GENERATOR SE	PECIFICATIONS							
MANUFACTURER	MTU							
MDDEL	MTU-6R0120-DS150							
KW/KVA/HZ RATING	150KW/187.5KVA/60HZ							
VOLTAGE RATING	120/208V, 3PHASE							
AMPERAGE RATING	520 AMPS							
ALTERNATOR	130°C							
FUEL / TANK	DIESEL/775 GALLONS							
FUEL CONSUMPTION	%LOAD 25 50 75 100							
	GAL/HR 2.9 6.7 9.2 11.8							
DIMENSIONS(LXWXH) (FT)	112" X 48" X 50.5"							
WEIGHT(LBS)	3510							
MAX. RUN TIME AT 100%	65.7 HRS							

PROVIDE 3 PHASE REGULATOR.
 PROVIDE DUAL FUEL FILTERS ISOLATION VALVE.

.6 20	00-3		GRD	DUIT	REMARKS EX. PANEL "A"	CKT ND.	А	CKT.	PLAN EMERGI REMARKS		GRD	WIRE	CA: 65 TRIP POLE	KVA
					EX. PANEL "A"	1 3	+	2	_					
					EX. PANEL "A"	3	I -							
.4 20	00-3	(1)					В	4	EX. PANEL C			(1)	200-3	25.9
.4 20	00-3	(1)				45	С	6	<u> </u>					
.4 20	00-3	(1)				<del>  7</del>	+	8	SPACE					
					EX. PANEL "B"	9	В	10	<u> </u>			1		
						4 11	C	12						
-	0-1	12	12	<u> </u>	BATTERY CHARGER	13	-	14	PANEL UPA VIA	3"	4	350	300-3	36.8
20	0-1	12	12	1/2		15	В	16	BYPASS UPS					
					SPACE	17	С	18						
					SPACE	19	Α	20	h					
					SPACE	21	В	22						
					SPACE	23	С	24	UPS 10-80KVA	3"	4	350	300-3	
					SPACE	25	Α	26						
					SPACE	27	В	28						
					SPACE	29	С	30						
0		TC	TAI	CONN	JECTED LOAD = 146	6 7 KVA			TOTAL CONNEC	TFD AMP	S. 2	 		62.7
						SPACE	SPACE         17           SPACE         19           SPACE         21           SPACE         23           SPACE         25           SPACE         27           SPACE         29	SPACE         17 C           SPACE         19 A           SPACE         21 B           SPACE         23 C           SPACE         25 A           SPACE         27 B           SPACE         29 C	SPACE       17       C       18         SPACE       19       A       20         SPACE       21       B       22         SPACE       23       C       24         SPACE       25       A       26         SPACE       27       B       28         SPACE       29       C       30	SPACE   17	SPACE   17	SPACE 17 C 18 SPACE 19 A 20 SPACE 21 B 22 SPACE 23 C 24 UPS 10-80KVA 3" 4 SPACE 25 A 26 SPACE 27 B 28 SPACE 29 C 30 SPACE 29 C 30	SPACE   17   C   18	SPACE   17   C   18

REFER TO RISER DIAGRAM FOR FEEDER SIZE.
 NEW LOAD AND C.B ADDED TO EXISTING PANEL

### KEY NOTES

- CONTRACTOR SHALL FURNISH AND INSTALL GENERATOR GROUNDING AS PER NEC CODE SECTION 250-20(d) AND TABLE 250-122. CONTRACTOR SHALL COORDINATE INSTALLATION WITH MANUFACTURERS INSTRUCTIONS PRIOR TO ROUGH-IN. PROVIDE NATURAL GAS PIPE BOND AS PER NEC 250.104 WHERE APPLICABLE.
- $\langle 2 \rangle$  GENERATOR OPERATION IS NOT A SEPARATELY DERIVED SYSTEM.
- 3 PROVIDE A PERMANENT SIGN AT TRANSFER SWITCH INDICATING THE LOCATION OF THE GENERATOR.
- PROVIDE A PERMANENT SIGN AT TRANSFER SWITCH INDICATING
  THE SEQUENCE OF OPERATION TO START THE GENERATOR
  AND TRANSFER THE ELECTRICAL LOADS.
- 5 CONTRACTOR SHALL INSTALL GENERATOR EXHAUST MIN. 10FT AWAY FROM ANY OPENING.
- 6 LOCATE GENERATOR STATUS PANEL INSIDE BUILDING.
- PROVIDE CIRCUIT BREAKERS INSIDE EXISTING PANEL FOR BATTERY BLOCK HEATER & CHARGER. FIELD VERIFY

MAG ENGINEERING INC.
CONSULTING ENGINEERS

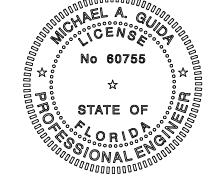
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DESIGNED MAG
DRAWN VICE

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MICHAEL GUIDA, P.E.
PE 60755



DATE:\_ 8/17/2017

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# NEW GENERATOR FOR 441 BUILDING

441 SOUTH STATE ROAD 7 MARGATE, FL 33068

PROJECT NO. <u>171074</u>
DATE: 07-20-2017

R E V I S I O N S

ISSUED FOR PAD PERMIT 08-17-2017

2 SETS OF 3"C EA. WITH 4#350KCMIL, EXTERIOR MAIN ELECTRICAL ROOM -2 SETS OF 3"C EA W/4#350KCMIL, 1#1G 600A FRAME BREAKER -WITH TRIP SET AT 500A. EXISTING EXISTING EXISTING EXISTING EXISTING EXISTING EXISTING EXIST EXIST. EXISTING EXISTING ATS #1 | | PANEL PANEL | | PANEL DISC. | PANEL 600Å | | "ACS" | | "ACN" SUBBASE DIESEL FUEL TANK. — FDEP APPROVED. MANUFACTURER: ` 'EMERGENCY' 'EMERGENCY' 'EMERGENCY' EMERGENCY EMERGENCY ENGINEERED MANUFACTURING CORP. i i 400A 200A | 200A | 200A | 200A | 200A | 150A | 100A 400A TANK: EQ#700 150KW GENERATOR 1 1 120 208V,30 1 2 5 1 | MLO MLO | | MLO 3X4 | MCB | MCB 5 GAL SPILL BUCKET: EQ#725 OVERFILL PROTECTION: EQ#832 [120/208V,3ø] [120/208V,3ø] [120/208V,3ø] PANEL | | | | LEAK DETECTION DEVICES: EQ#682 1200A 600A MCB "EM" MCB 775 GALLON || <u>120/208</u>V,3ø• || <del>□</del> 4#3, 1#8G SUBBASE DIESEL TANK IN 1-1/4"C PROVIDE CONCRETE -**-**---4#3/0, 1#6¢ <del>-----</del>4#3/0, 1#6€ MLO IN 2"C 3#12 IN 1/2"C-/ <u>120/208V,3¢</u> EXISTING GROUNDING **-**4#3/0, 1#6₲ GROUND FLOOR BOND TO CONCRETE SLAB STEEL TO EXISITNG FPL+-----2 SETS OF 3"C EA-└─ 1"C WITH 4#12, FOR ─ 4#1/0, 1#6G IN 2"C 5/8"X8' CUCLAD ──── ≟ GROUND ROD. PROVIDE W/4#350KCMIL, 1#1G START/STOP CONTROL 3/4"C FOR DATA MONITORING **ELECTRICAL RISER DIAGRAM - NEW WORK** BOND TO GENERATOR ENCLOSURE. SCALE: NTS ----EXISTING TO REMAIN

-----NEW CONSTRUCTION

ELECTRICAL PANEL
AND RISER DIAGRAM

CONSTRUCTION DOCUMENTS

**E-3**