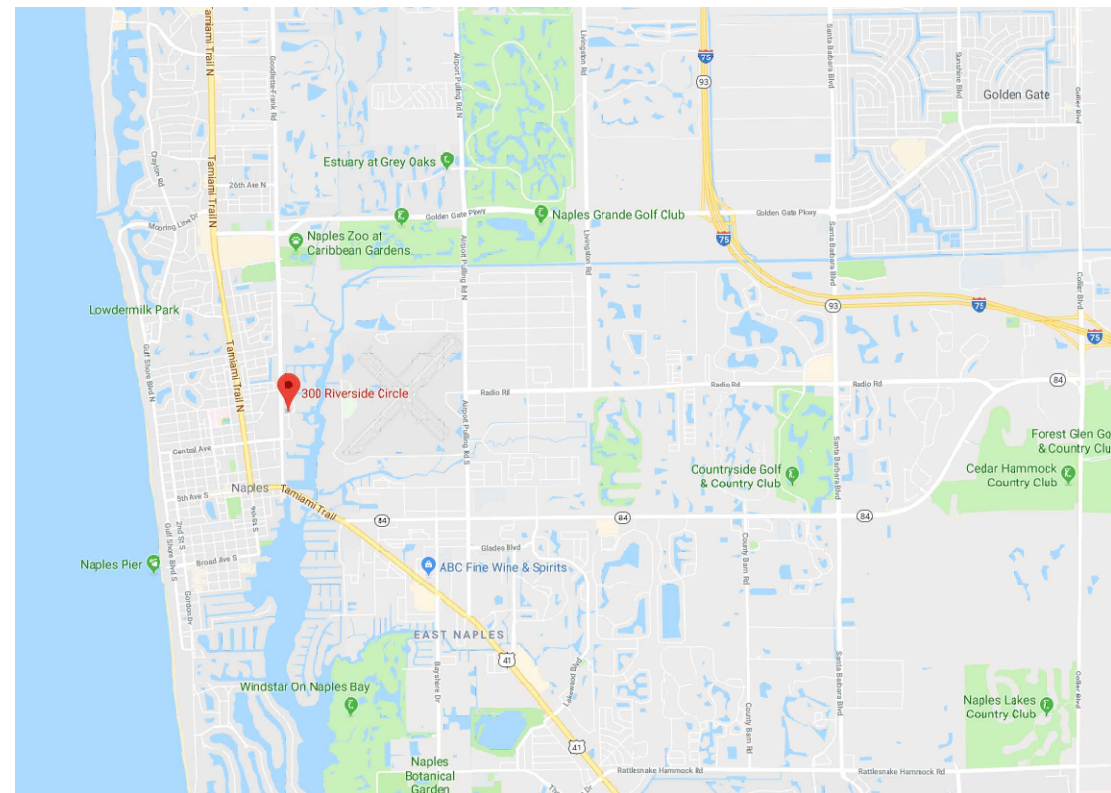
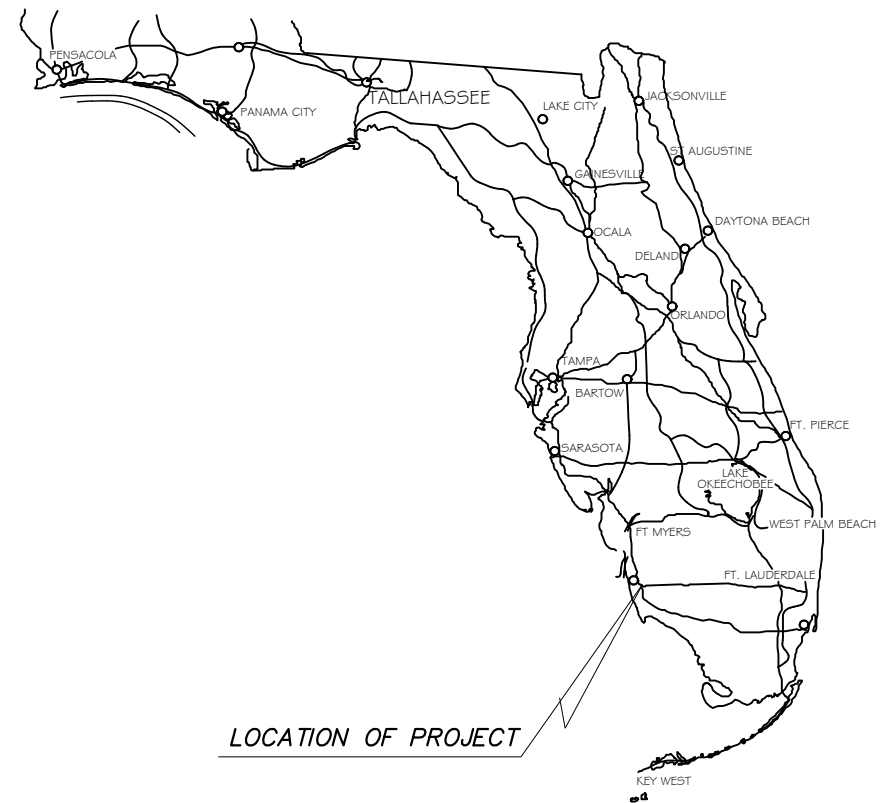
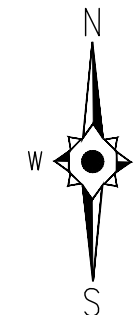


FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 FOR  
 CITY OF NAPLES  
 NAPLES, FL  
 JANUARY 2023



LOCATION MAP



**JOHNSON  
ENGINEERING**

JOHNSON ENGINEERING, INC.  
 2122 JOHNSON STREET  
 P.O. BOX 1550  
 FORT MYERS, FLORIDA 33902-1550  
 PHONE: (239) 334-0046

WAYNE WILDEY WRIGHT, PE  
 FL License No. 58220



FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NONE

COVER SHEET

SHEET NUMBER  
**MC-00**



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

ABBREVIATIONS

A	AMPERES, AMBER OR ALARM
AH	AMP HOUR OR ALARM HORN
AL	ALARM LIGHT
ALM	ALARM
ASR	ALARM SILENCE RELAY
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CURRENT
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
BAT	BATTERY
BPC	BACKUP PUMP CONTROLLER
BOM	BILL OF MATERIAL
CB	CIRCUIT BREAKER
C	CONDUIT
CP	CONTROL PANEL
CPSA	CONTROL PANEL SURGE ARRESTOR
CT	CURRENT TRANSFORMER
CJ	COPPER
DISC	DISCONNECT
DO	DIGITAL OUTPUT
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
EG	EQUIPMENT GROUND
ETM	ELAPSED TIME METER
F	FUSE
FLT	FAULT
FPL	FLORIDA POWER AND LIGHT
FMC	FLEXIBLE METALLIC CONDUIT
FS	FLOAT SWITCH
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND, G	GROUND
GRS	GALVANIZED RIGID STEEL
H	HIGH
HS	HAND SWITCH
HOA	HAND-OFF-AUTOMATIC
HOR	HAND-OFF-REMOTE
HMI	HUMAN MACHINE INTERFACE
I	INDICATOR
I&C	INSTRUMENTATION & CONTROL
INTR	INTRUSION
JB	JUNCTION BOX
L	LEVEL OR LOW
LR	LINE REACTOR
NEUT, N	NEUTRAL
NTS	NOT TO SCALE
O/C	OPEN / CLOSE
OIT	OPERATOR INTERFACE TERMINAL
MOV	MOTOR OPERATED VALVE
NF	NON-FUSIBLE
P	PRESSURE
PB	PUSHBUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
PH, Ø	PHASE
PC	PHOTOCELL
PCP	PUMP CONTROL PANEL
PM	PHASE MONITOR
PS	POWER SUPPLY
PTT	PUSH-TO-TEST
Q	TOTALIZER
RECP.T.	RECEPTACLE
R	RELAY, TREND, RESISTOR
RAC	RIGID ALUMINUM CONDUIT
RIO	REMOTE INPUTS/OUTPUTS
RTU	REMOTE TELEMETRY UNIT
SCCR	SHORT CIRCUIT CURRENT RATING
SHLD	SHIELDED
SPD	SURGE PROTECTION DEVICE
S	SWITCH
SS	SELECTOR SWITCH
SSOL	SOLID STATE OVERLOAD
SV	SOLENOID VALVE
TB	TERMINAL BLOCK
TD	TIME DELAY
TSP	TWISTED SHIELDED PAIR
UG	UNDERGROUND
UPS	UNINTERRUPTABLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
XFMR	TRANSFORMER
Z	POSITION

SYMBOLS

	MAGNETIC FLOW INDICATING TRANSMITTER	
	PRESSURE INDICATING TRANSMITTER	
	FLOW INDICATING TRANSMITTER	
	FLOW ELEMENT	
	LEVEL (FLOAT) SWITCH	
	PRESSURE SWITCH	
	FLOW SWITCH	
	MOTOR OPERATED VALVE (MOV)	
	SOLENOID VALVE (SV)	
	SOLENOID VALVE (SV)	
	DIAPHRAGM VALVE	
	VOLTMETER	
	AMMETER	
	GROUND FAULT INTERRUPTER	
	DRAW-OUT CIRCUIT BREAKER	
	CIRCUIT BREAKER WITH TRIP RATING	
	MOTOR WITH HP RATING	
	EQUIPMENT GROUND	
	DRIVEN ROD-TYPE GROUNDING ELECTRODE	
	DRIVEN ROD-TYPE GROUNDING ELECTRODE WITH GROUND ACCESS WELL	
	NON-FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE INDICATED	
	CURRENT TRANSFORMER	
	TRANSFORMER	
	TRANSFORMER	
	CONDUIT OR WIRE ROUTING; SHORT HASH MARK = PHASE CONDUCTOR LONG HASH MARK = NEUTRAL CONDUCTOR	
	MOTOR OVERLOAD (EUTECTIC ALLOY)	
	DUPLEX RECEPTACLE	
	NORMALLY OPEN CONTACT	
	NORMALLY CLOSED CONTACT	
	LIMIT SWITCH, NORMALLY OPEN	
	LIMIT SWITCH, NORMALLY CLOSED	
	PRESSURE SWITCH, NORMALLY OPEN	
	PRESSURE SWITCH, NORMALLY CLOSED	
	FLOAT SWITCH, NORMALLY OPEN	
	FLOAT SWITCH, NORMALLY CLOSED	
	FLOW SWITCH, NORMALLY OPEN	
	FLOW SWITCH, NORMALLY CLOSED	
	TEMP. SWITCH, NORMALLY OPEN	
	TEMP. SWITCH, NORMALLY CLOSED	
	NORMALLY OPEN TIMED TO CLOSE CONTACT	
	NORMALLY CLOSED TIMED TO OPEN CONTACT	
	NORMALLY CLOSED TIMED TO CLOSE CONTACT	
	NORMALLY OPEN TIMED TO OPEN CONTACT	
	LIMIT SWITCH	
	TORQUE SWITCH	
	PRESSURE SWITCH	
	VIBRATION SWITCH	
	ALARM RELAY	
	CONTROL RELAY	
	MOTOR STARTER	
	TIMING RELAY	
	INDICATING LIGHT WITH COLOR	
	NORMALLY OPEN PUSHBUTTON	
	NORMALLY CLOSED PUSHBUTTON	
	MAINTAINED SWITCH	
	FUSE WITH RATING	
	REMOTE TERMINAL POINT	
	HORN	
	PUMP	
	SURGE SUPPRESSOR (PROTECTED/UNPROTECTED)	
	FUSED LEVER-TYPE TERMINAL BLOCK WITH LED INDICATOR	

GENERAL ELECTRICAL NOTES

- ALL NEW CONSTRUCTION SHALL COMPLY WITH APPLICABLE N.E.C. AND LOCAL CODES.
- CONDUCTORS SHALL NOT BE SPLICED.
- ALL CONDUCTORS SHALL BE 600-VOLT RATED, STRANDED COPPER. #8AWG AND LARGER SHALL BE RATED 90 DEGREE CELSIUS INSULATED STRANDED COPPER CONDUCTORS, THHN-2 OR XHHW-2. ALL MULTICONDUCTOR CONTROL CABLE SHALL BE #14 AWG XHHW-2, OMNISCABLE P/N AF114XX, OR EQ.
- ALL CONDUIT RUNS SHALL BE SCHEDULE 80 PVC CONDUIT.
- ALL BONDING CONDUCTORS SHALL BE ROUTED IN SCHEDULE 80 PVC CONDUIT. GROUND WIRE FROM SERVICE SHALL BE INSTALLED IN SCH. 40 CONDUIT.
- TOP PENETRATIONS OF ELECTRICAL ENCLOSURES ARE NOT PERMITTED, UNLESS NOTED. ALL PENETRATIONS IN ELECTRICAL EQUIPMENT SHALL BE BOTTOM-ENTRY, UNLESS NOTED OTHERWISE.
- ALL RACEWAYS SHALL HAVE AN INSULATED COPPER SYSTEM GROUND CONDUCTOR THROUGHOUT THE ENTIRE LENGTH OF THE CIRCUIT INSTALLED PER N.E.C.
- ALL RACEWAYS WHICH ARE INSTALLED FOR FUTURE USE SHALL HAVE A NYLON PULLCORD.
- PVC CONDUIT JOINTS SHALL BE SOLVENT-WELDED, EXCEPT FOR RIGID METALLIC TO PVC COUPLINGS.
- MINIMUM CONDUIT SIZE SHALL BE 3/4". MINIMUM LIQUIDTIGHT FLEXIBLE STEEL CONDUIT SIZE SHALL BE 1/2".
- ALL RACEWAYS SHALL BE RUN IN NEAT AND WORKMANLIKE MANNER AND SHALL BE PROPERLY SUPPORTED PER N.E.C.
- ALL CONNECTIONS TO MOTORS AND OTHER VIBRATING EQUIPMENT OR AT OTHER LOCATIONS WHERE REQUIRED SHALL BE MADE WITH FLEXIBLE LIQUID-TIGHT STEEL CONDUIT 12" TO 36" IN LENGTH.
- ALL FEEDER AND BRANCH CIRCUIT WIRING SHALL BE COLOR CODED AS FOLLOWS:  
3-PHASE 480Y/277VAC (A/B/C/N/G) : PUR/BRN/YEL/WHT/GRN  
3-PHASE 240/120VAC (A/B(HI)/C/N/G) : BLK/RED(ORG)/BLU/WHT/GRN  
1-PHASE AC POWER : BLK, 12 AWG MIN.  
AC POWER HOT : BLK, 12 AWG MIN.  
AC POWER NEUTRAL : WHT, 12 AWG MIN.  
AC SWITCHED : RED, 16 AWG MIN.  
EXTERNALLY POWERED : YEL, 16 AWG MIN.  
GROUND : GRN, 12 AWG MIN.  
DC + : BLU, 16 AWG MIN.  
DC - : BLU WITH WHT STRIPE, 16 AWG MIN.  
TSP (+/-) : RED/BLK, 16 AWG. MIN., BELDEN 1118A, OR EQ.
- CONTROL PANEL WIRING TO UTILIZE SCREW TYPE TERMINALS WITH LOCKING FORK TONGUE OR RING TONGUE LUGS. MAX. OF ONE WIRE TO BE TERMINATED IN A CRIMP LUG. MAX. OF TWO LUGS TO BE INSTALLED IN A SCREW TERMINAL.  
DC AND AC CIRCUITS SHALL BE ON SEPARATE TERMINAL BLOCK STRIPS.
- ETHERNET CABLE SHALL BE CAT-5e 600V UL AWM RATED
- ALL WIRES AND CABLES SHALL BE MARKED USING WHITE HEAT SHRINK MARKERS.
- BRANCH CIRCUITS EXCEEDING 75' SHALL BE WIRED WITH MINIMUM #10AWG WIRE.
- ALL OUTDOOR ENCLOSURES TO MEET FBC WIND LOAD REQUIREMENTS.
- PROVIDE DESSICANT PACKETS IN DISCONNECT SWITCHES AND CONTROL PANEL ENCLOSURES, SIZED ACCORDINGLY.
- ALL RACEWAYS SHALL BE RUN IN NEAT AND WORKMANLIKE MANNER, PROPERLY SUPPORTED.
- ALL EXISTING EQUIPMENT, CABLING, AND CONDUIT DESIGNATED TO BE REPLACED SHALL BE DEMOED AND REMOVED BY THE CONTRACTOR.
- COORDINATE ALL SERVICE ENTRANCE WORK WITH FP&L, AND ADHERE TO ALL UTILITY STANDARDS.
- PROVIDE TYPED CIRCUIT DIRECTORIES FOR ALL PANELBOARDS.
- CONTRACTOR SHALL APPLY FOR AND SCHEDULE INSTALLATION OF NEW SERVICES AND REQUEST CONFIRMATION PER PLANS OF MAX AVAILABLE FAULT CURRENT FROM THE UTILITY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THE WORK AND FURNISHING ALL MATERIALS OUTLINED IN THESE PLANS AND ANY OTHER MATERIALS AND WORK NECESSARY FOR A FULLY OPERATIONAL SYSTEM.
- ELECTRICAL CONTRACTOR TO PROVIDE AND INSTALL EXTERNALLY-MOUNTED SURGE PROTECTOR AS SHOWN. INSTALL SPD AND CUT SPD LEADS SO THAT LEADS ARE AS SHORT AND STRAIGHT AS POSSIBLE. MOUNT TO ENCLOSURE BOTTOM WITH STATUS LIGHTS FACING FRONT. INSTALL AND BIND THE LEAD WIRES TOGETHER WITH ONE TWIST/INCH TO REDUCE THE LEAD WIRE IMPEDANCE.
- CUSTOM ELECTRICAL ENCLOSURES TO BE UL508A LISTED.
- ALL ELECTRICAL ENCLOSURES TO HAVE PADLOCKING PROVISIONS.
- NAMEPLATES TO BE ADHESIVE BACKED, PHENOLIC, UV RATED.
- PROVIDE 2" MIN. SPACE FROM TERMINAL BLOCKS TO WIRE DUCT.
- DC AND AC CIRCUIT WIRING TO BE TERMINATED ON SEPARATE TERMINAL STRIPS.
- ALL WIRES 10 AWG AND SMALLER TO UTILIZE FORK TONGUE, RING TONGUE, OR FERRULES. WIRE CRIMP LUGS TO HAVE ONLY ONE WIRE, TERMINAL BLOCKS TO HAVE NO MORE THAN TWO WIRES PER LUG.
- ONLY A PORTION OF THE REQUIRED CONDUIT RUNS ARE SHOWN.
- LABEL ALL ELECTRICAL EQUIPMENT USING MIN. 1/2" BLACK LETTERING ON WHITE PLASTIC LABELS SS SCREW MOUNTED ON TO FRONT OF ALL PANELS AND CABINETS.
- MAJOR COMPONENTS AND GENERAL ARRANGEMENT ARE PROVIDED AS A BASIS FOR DESIGN. ALL REQUIRED COMPONENTS ARE NOT SHOWN. CONTRACTOR IS RESPONSIBLE FOR PROVIDING A FULLY FUNCTIONAL SYSTEM.
- ALL BELOW GRADE GROUND CONNECTIONS SHALL BE MADE VIA EXOTHERMIC WELD OR IRREVERSIBLE CONNECTORS.
- ALL ABOVE GRADE BOND CONNECTIONS SHALL BE MADE VIA BOLTED CONNECTION, BURNDY TYPE QDA-QIKLUG.
- ALL REQUIRED CONDUIT AND CONDUCTORS ARE NOT SHOWN. SEE SINGLE LINE DIAGRAM FOR CONDUITS AND CONDUCTORS REQUIRED FOR CONTROL AND POWER CIRCUITS.
- PROVIDE GROUND TEST REPORT VERIFYING RESISTANCE IS < 20 OHMS FROM THE GROUND RODS TO EARTH. CONTRACTOR TO PROVIDE ADDITIONAL GROUNDING, IF NECESSARY, TO ACHIEVE 20 OHMS MAX. GROUND RESISTANCE.
- GROUND POTENTIAL SHALL BE CONSISTENT FOR ENTIRE SITE. GROUNDING JUMPERS AND COUNTERPOISE SHALL BE #4/0 BARE COPPER. GROUND RODS SHALL BE 3/4" X 20' COPPER-CLAD GROUND RODS. EXOTHERMICALLY WELD CONNECTIONS BELOW GRADE. MECHANICALLY CONNECT CONNECTIONS ABOVE GRADE. MECHANICAL LUGS SHALL ONLY HAVE ONE WIRE LANDED IN EACH TERMINATION. EACH LUG SHALL BE FASTENED WITH A STAINLESS STEEL NUT AND BOLT. STACKING OF INDIVIDUAL LUGS WILL NOT BE ACCEPTABLE.
- GROUND BOXES SHALL BE 11" X 18" QUAZITE #PC-1118-CA-00-24. INSTALL LEVEL WITH THE ADJACENT GROUND, PROVIDE 57 STONE OR MATCH SITE STONE IN BOX, WITH GROUND ROD LOCATED OFF CENTER OF BOX. QUAZITE BOX COVER TO READ "GROUND". EXPOSED GROUNDING SHALL BE IN 1" SCHEDULE 80 PVC OR LIQUID TIGHT FLEXIBLE CONDUIT.
- 4/0 AND LARGER CABLES IN CABLE TRAY SHALL BE INSTALLED IN A SINGLE LAYER AND SEGREGATED FROM SMALLER CABLES WITH A CABLE TRAY DIVIDER.

PROJECT ELECTRICAL NOTES

- THIS PROJECT WILL REPLACE EXISTING ELETRICAL ROOM #1 STAND-ALONE GENERATOR WITH TWO GENERATORS CONFIGURED IN PARALLEL AND EXISTING ELECTRICAL ROOM #2 STAND-ALOND GENERATOR WITH TWO GENERATORS CONFIGURED IN PARALLEL.
- DEMO 1200KW GENERATOR #1, DIESEL LINES, AND ALL APPURTANANCES IN GENERATOR ROOM #1. GENERATOR ROOM #1 WILL BE RENAMED "ELECTRICAL ROOM #1 ANNEX".
- DEMO 1500KW GENERATOR #2, DIESEL LINES, AND ALL APPURTANANCES IN GENERATOR ROOM #2. GENERATOR ROOM #2 WILL BE CLEARED OUT AND BECOME AN EXTENSION TO THE BLOWERS ROOM.
- INSTALL (4) 600KW GENERATORS IN LOCATION OF EX. DIESEL TANKS. PROVIDE CONCRETE GENERATOR PAD, CONDUIT, CONCRETE-ENCASED DUCT BANKS, CONDUCTORS, PULLBOXES, CABLE TRAY, AND RELATED EQUIPMENT.
- DEMO EX. OUTDOOR DIESEL TANKS, CONCRETE MOUNTING PAD AND MONITORING WELLS, INCLUDING SOIL REMEDIATION, AS NEEDED.
- NEW GENERATORS AND PLATFORMS WILL BE PROVIDED BY OTHERS. FURNISH AND INSTALL ALL ASSOCIATED GENERATOR ELECTRICAL EQUIPMENT PER PLANS AND SPECIFICATIONS.
- ALL PROGRAMMING, SYSTEM INTEGRATION AND SWITCHGEAR CONTROL WIRING AND MODIFICATIONS WILL BE PROVIDED BY OTHERS.
- REPLACE THE ENTIRE ROOF FOR THE RENAMED ELECTRICAL ROOM #1 ANNEX (OLD GENERATOR ROOM #1) BUILDING.
- DEMOED EQUIPMENT WILL BE DELIVERED TO THE OWNER.
- FURNISH AND INSTALL GENERATOR TAP BOX, RIO CONTROL PANEL "RIO-ANX", TRANSFORMER "XFMR-ANX", DISTRIBUTION PANELBOARD "DP-ANX", AND PULLBOXES #1, #2, #3, AND #4.
- MODIFY EX. GENERATOR PLC CONTROL PANEL.

NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
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SCALE: NONE

ELECTRICAL NOTES

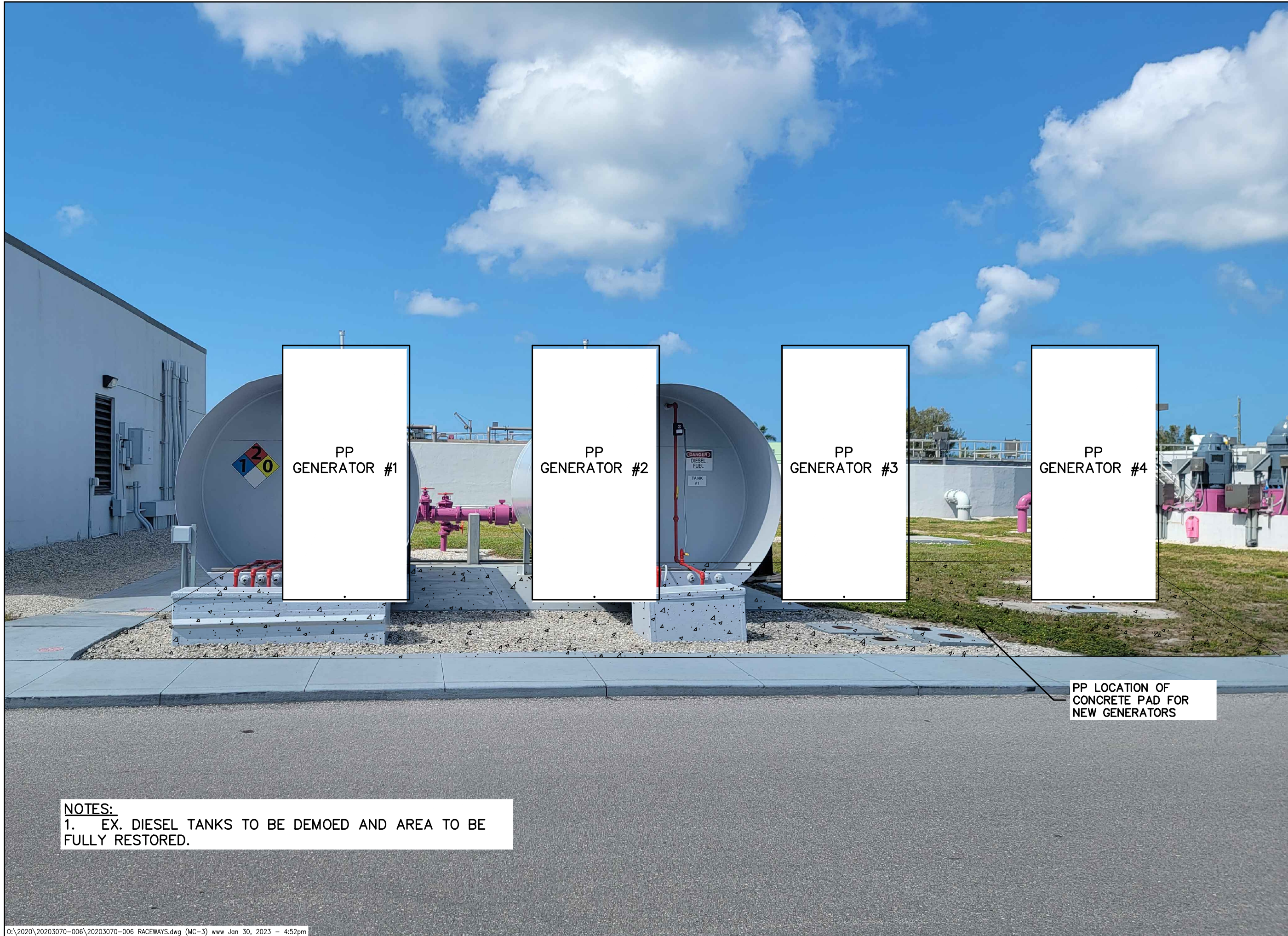
SHEET NUMBER

MC-01





FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA



PP  
GENERATOR #1

PP  
GENERATOR #2

PP  
GENERATOR #3

PP  
GENERATOR #4

PP LOCATION OF  
CONCRETE PAD FOR  
NEW GENERATORS

**NOTES:**  
1. EX. DIESEL TANKS TO BE DEMOED AND AREA TO BE FULLY RESTORED.

NO.	DESCRIPTION	DATE

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**GENERATORS  
CONCEPTUAL  
PLAN**

SHEET NUMBER

**MC-03**







FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

LOAD CALCULATIONS  
(BASED ON PRIOR 24-MONTHS OF ACTUAL USAGE DATA)

1. SERVICE #1 ACTUAL MAX. DAILY USAGE: 13,720 KWH/DAY
2. SERVICE #2 ACTUAL MAX. DAILY USAGE: 16,028 KWH/DAY
3. SERVICE #1 ACTUAL AVG. DAILY USAGE: 12,382 KWH/DAY; (516KW CONT.)
4. SERVICE #2 ACTUAL AVG. DAILY USAGE: 13,513 KWH/DAY; (563KW CONT.)
5. SERVICE #1 ACTUAL PEAK USAGE: 1,084 KWD
6. SERVICE #2 ACTUAL PEAK USAGE: 805 KWD

EMERGENCY POWER SUPPLY (EPS) SPECIFICATIONS

1. TYPE: STATIONARY EMERGENCY STANDBY DIESEL ENGINE-DRIVEN GENSET
2. CONFIGURATION: (2) UNITS IN PARALLEL EACH SERVICE
3. EXCITATION: PERMANENT MAGNET EXCITATION
4. GEN. RATING (EACH): 600 KW GENERATORS WITH UPSIZED 832 KW ALTERNATOR @ 3PH, 4W, 277/480V
5. ENCLOSURE: LEVEL 2 ACOUSTIC ALUMINUM
6. WIND RATING: 170 MPH
7. ANNUNCIATION: NFPA 110 COMPLIANT REMOTE ANNUNCIATOR
8. FUEL CAPACITY (EACH): 4,550 GALS TOTAL; 3,980 GALS USABLE
9. FUEL TANKS: FDEP SUB-BASE FUEL TANK; INTERSTITIAL SPACE WITH LEAK DETECTION SHIPPED UNDER VACUUM PER F.A.C.
10. CERTIFICATIONS: PE CERT. FOR FLOATATION AND LIFT

EMERGENCY POWER SUPPLY SYSTEM (EPSS) DESIGN CRITERIA

1. NFPA 110 EPSS CLASSIFICATION: LEVEL 2
2. TOTAL NAMEPLATE POWER RATING: 2400 KW
3. POWER RESTORATION: TYPE 10
4. RUNTIME CLASS (DESIGN MINIMUM): 96 HRS @ 50% NAMEPLATE CAPACITY
5. FUEL STORAGE TANKS: 4
6. FUEL STORAGE TANKS TOTAL CAPACITY: 18,200 GALS (4,550 GALS/TANK)
7. FUEL STORAGE TANKS USABLE CAPACITY: 15,920 GALS (3,980 GALS/TANK)
8. FUEL STORAGE TANKS MIN. CAPACITY: 8,774 GALS
9. FUEL STORAGE ADD'L CAPACITY PER NFPA 110 SECTION 5.5.3: 2,895 GALS
10. FUEL STORAGE TANKS MIN. DESIGN CAPACITY: 11,669 GALS
11. TOTAL FUEL CONSUMPTION RATE: 165.6 GAL/HR @ 100% NAMEPLATE CAPACITY
12. ENCLOSURE SOUND ATTENUATION: LEVEL 2
13. GENERATOR WEIGHT: 12,500 LBS.
14. TANK DRY WEIGHT: 10,500 LBS.
15. FUEL WEIGHT: 27,860 LBS.
16. TANK SIZE: 276"L x 114"W x 48"H (+5" BEAMS ON TOP OF TANK)
17. DESIGN FLOOD ELEVATION: FEMA ZONE X
18. PAD NAVD ELEVATION: 9.7 NAVD88

**MD600 | 18.1L | 600 kW**

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

**GENERAC** INDUSTRIAL POWER

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**Standby Power Rating**  
600 kW, 750 kVA, 60 Hz

**Prime Power Rating\***  
540 kW, 675 kVA, 60 Hz

\*EPA Certified Prime ratings are not available in the US or its Territories

Image used for illustration purposes only

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**Codes and Standards**

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL6200, UL1236, UL489, UL142
- CSA C22.2, ULC S601
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41
- IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

**Powering Ahead**

For over 60 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

1 of 6

NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
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**EPSS DESIGN CRITERIA**

SHEET NUMBER  
**MC-06**









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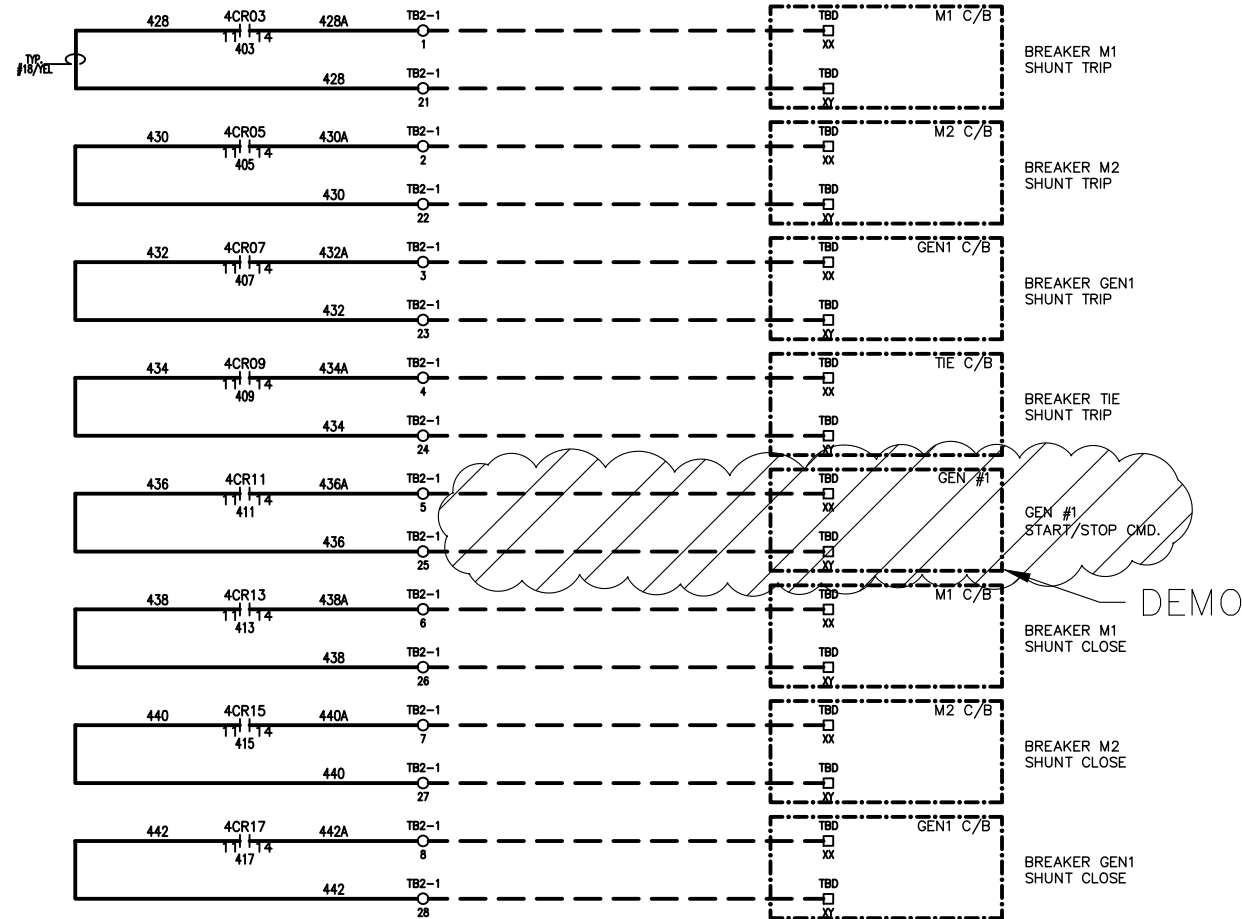
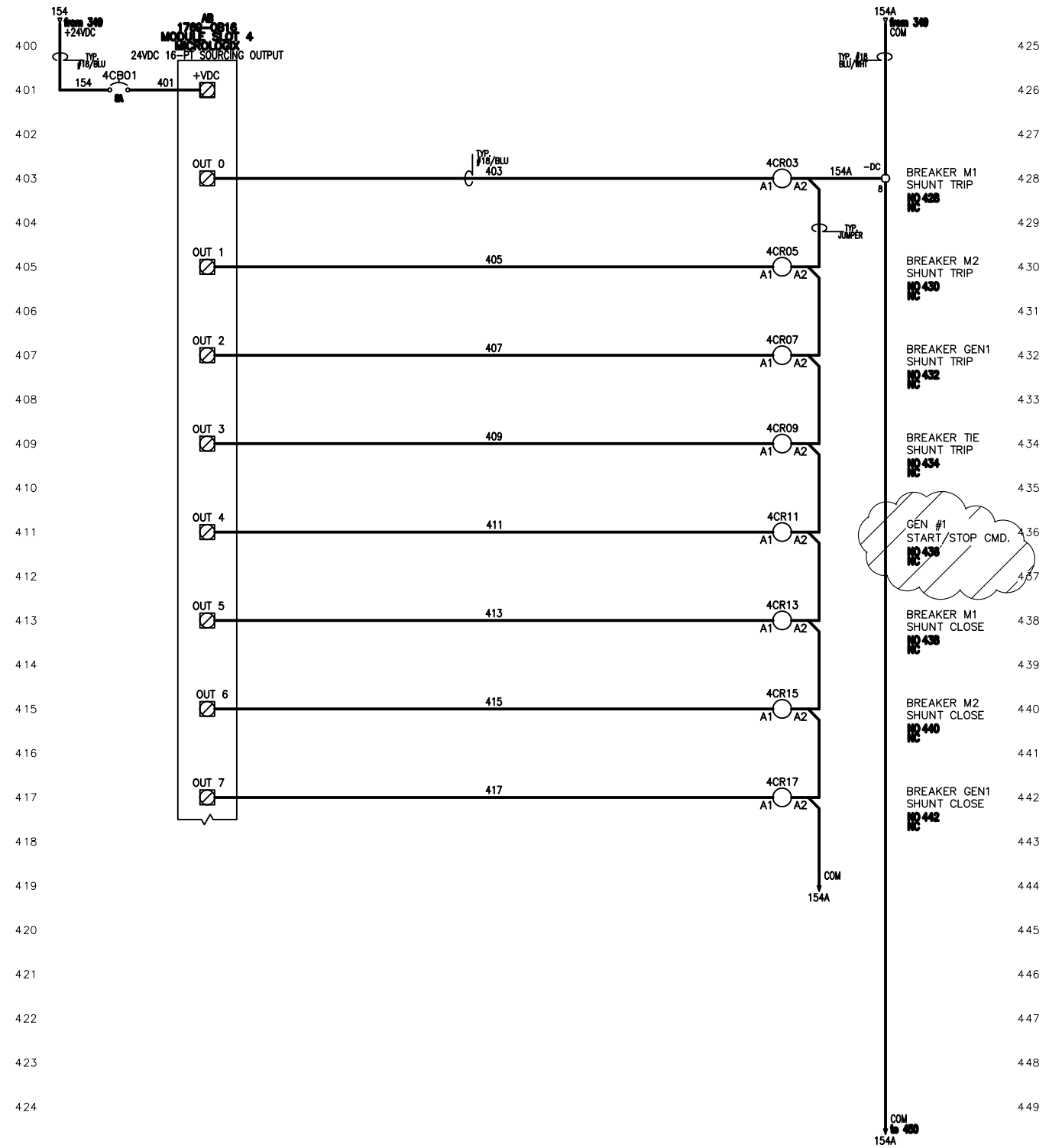
NO.	DESCRIPTION	DATE
1	GENERATORS REPLACEMENT	3/1/22

DATE: JANUARY 2  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

**GENERATOR CONTROL PANEL WIRING SCHEMATIC**

SHEET NUMBER

**CP-03**





FOR CONSTRUCTION  
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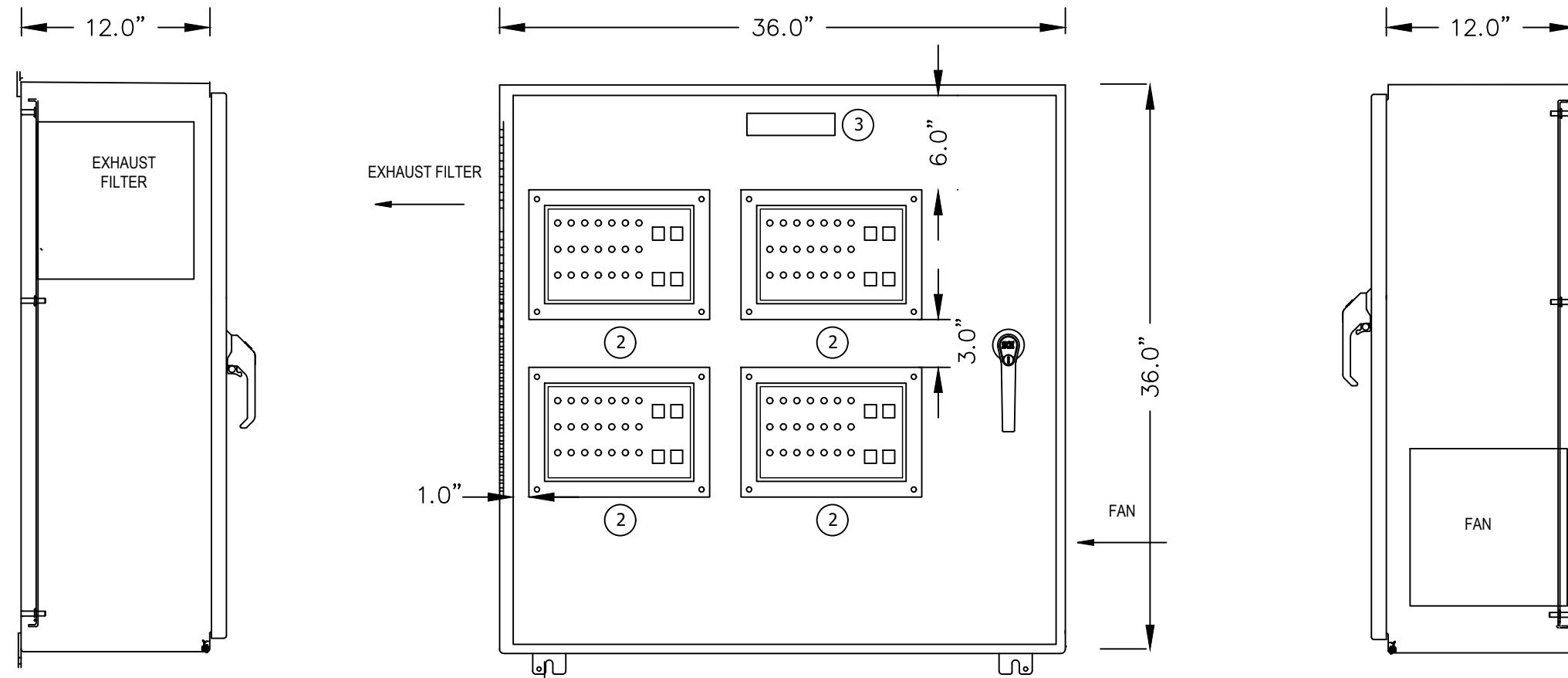
NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: 1" = 10'

RIO CP  
EXTERNAL  
LAYOUT

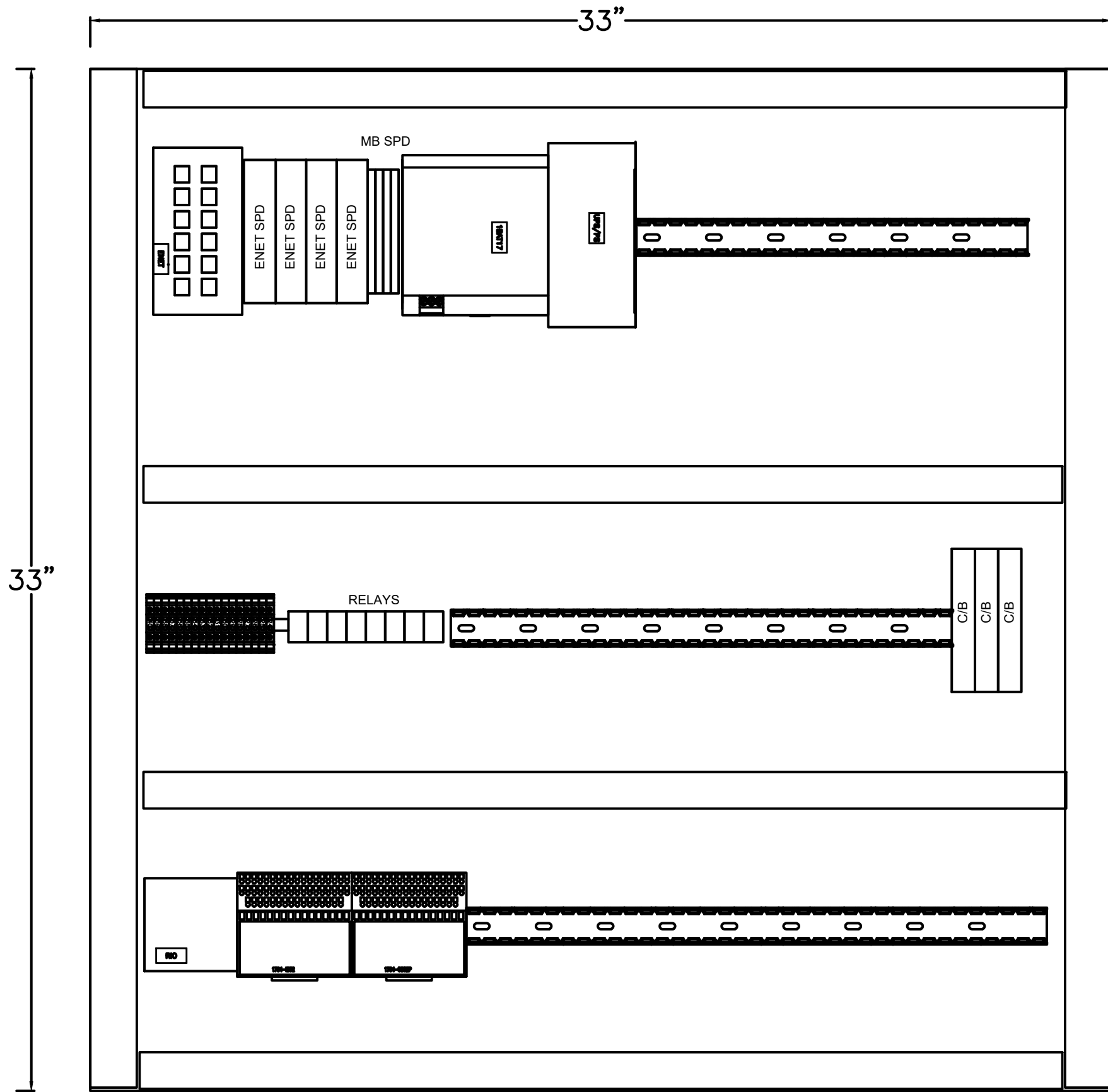
SHEET NUMBER

**RIO-01**



**NOTES:** #

- ENCLOSURE TO BE N1 WITH 3-PT LATCH.
- ANNUNCIATOR MOUNTING BEZEL IS 8.25"H x 11.5"W AND REQUIRES A 6.25"H x 9.5"W CUT-OUT. ANNUNCIATORS PROVIDED BY OTHERS.
- NAMEPLATE: "GENERATORS RIO CONTROL PANEL"



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RIO CP INTERNAL LAYOUT

SHEET NUMBER

RIO-02



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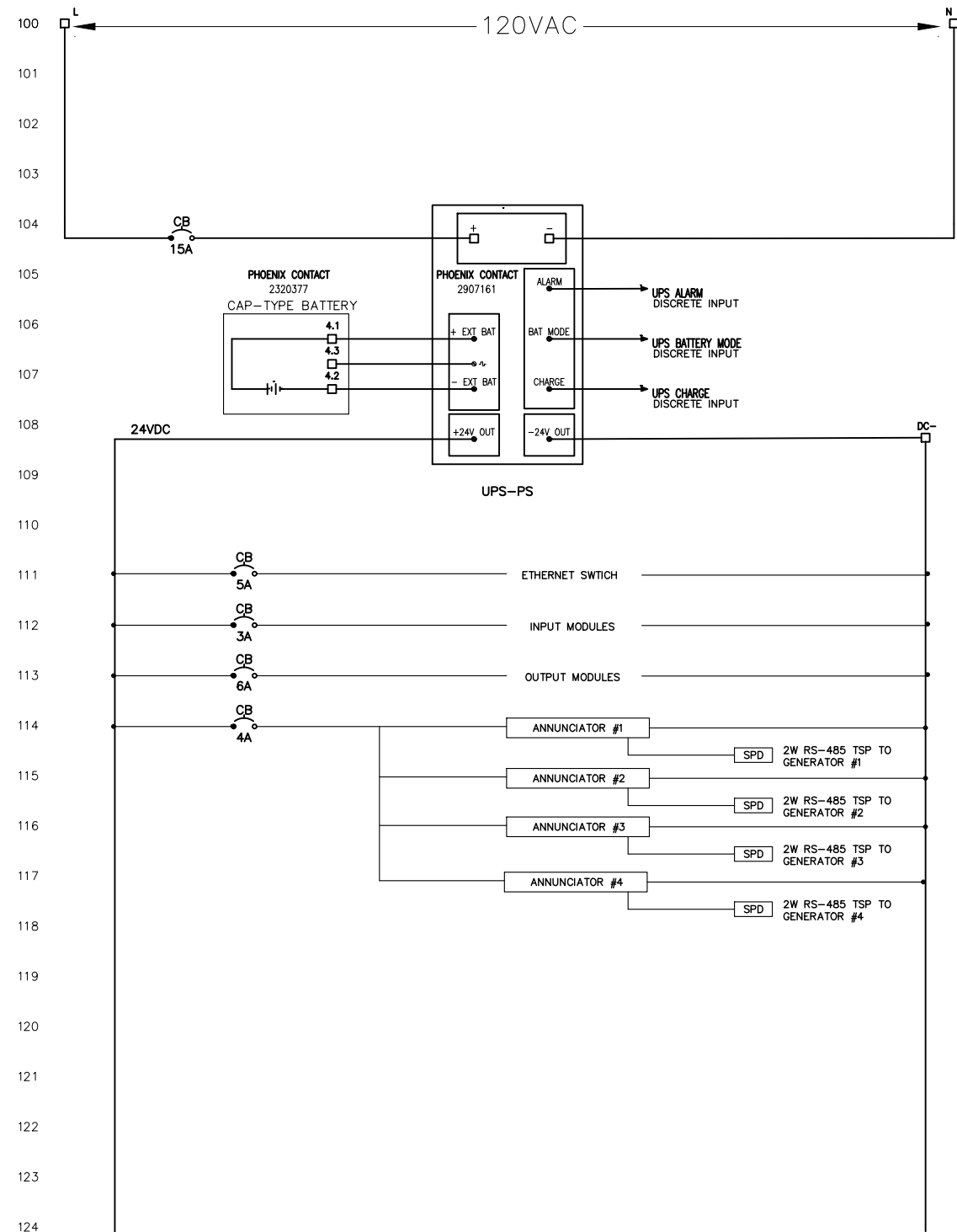
NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
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FILE NO. 03-50-25E  
SCALE: NONE

**RIO CP ELECTRICAL SCHEMATIC**

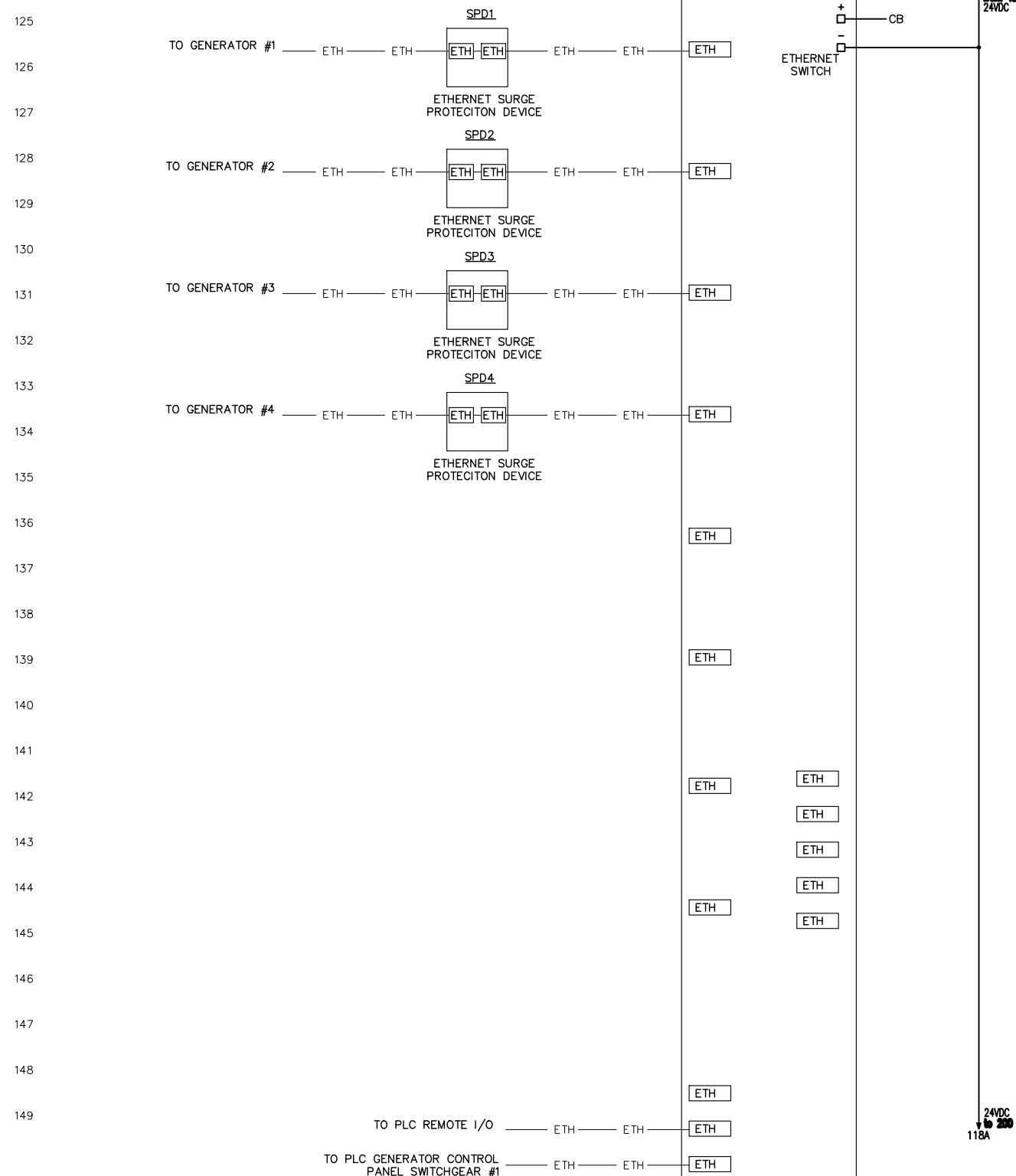
SHEET NUMBER

**RIO-03**



**NOTES:**

1. TERMINATE ALL CONDUCTORS #10 AWG AND LESS WITH WIRE FERRULES









FOR CONSTRUCTION  
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CITY OF NAPLES, FLORIDA

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FILE NO. 03-50-25E  
SCALE: NONE

RIO CP BOM

SHEET NUMBER

**RIO-06**

**GENERATOR RIO CP BILL OF MATERIALS**

ITEM	ID	QTY	DESCRIPTION	MFR.	PART #	
1	CP	1	ENCLOSURE, 36"H X 36"W X 12"D, N1, 3-PT LATCH, PADLOCKABLE HANDLE	SCHAEFFER	SPN12-363612	
2	CP	1	ENCLOSURE SUBPLATE		ES-P3636	
3	CP	1	FAN, AC, 169CFM		PF-43000	
4	CP	1	EXHAUST FILTER		PFA-40000	
5	RIO	1	Flex Ethernet/IP Adapter		1794-AENT	
6	PS1	1	FLEX POWER SUPPLY, 1.3A	Allen-Bradley	1794-PS13	
7	DI0	1	FLEX 32-PT DIGITAL SINK INPUT MOD		1794-IB32	
8	DO1	1	FLEX 8-PT DISCRETE OUTPUT MOD.		1794-OB8EP	
9	DI0	1	FLEX IO MOUNTING BASE		1794-TB32	
10	DO1	1	FLEX IO MOUNTING BASE		1794-TBN	
11	MCB	1	Circuit Breaker, 15A/1P		1489-M1C150	
12	CB-	*	Circuit Breaker, MINIATURE		1489 SERIES	
13	--	--	--			
14	SPD#	4	MODBUS SERIAL SURGE PROTECTOR		PHOENIX	1065316
15	UPS	1	TRIO UPS+PS, 24VDC/10ADC			2907161
16	BAT	1	UPS-CAP/24VDC/10A CAPACITOR BATT	2320377		
17	ENET	1	ETHERNET SWITCH, 16-RJ45	1085255		
18	SPD#	4	ETHERNET SURGE PROTECTOR	2881007		
19	R#	7	RELAY, 24VDC COIL, 2PDT	2987943		
20	R#	7	BASE	2900930		
21	R8	1	RELAY, 24VDC COIL, 4PDT	2903320		
22						
23						

**GENERATOR RIO CP I/O LIST**

MODULE	PT	DESCRIPTION	DEVICE	NOTES
<b>AB 1794-AENT COMMS A DAPTER</b>				
<b>AB 1794-PS13 POWER SUPPLY</b>				
<b>24VDC DISCRETE INPUTS MOD. #0</b>				
<b>AB FLEX 1794-IB32 1794-TB32</b>	0	GEN #1 ON-LINE	GENERATOR #1	CONTACTOR
	1	GEN #1 NOT-IN-AUTO		AUX RELAY #1
	2	GEN #1 LOW BATTERY		AUX RELAY #2
	3	GEN #1 LOW FUEL		AUX RELAY #3
	4	GEN #1 ALARM	GENERATOR #2	AUX RELAY #4
	5	GEN #2 ON-LINE		CONTACTOR
	6	GEN #2 NOT-IN-AUTO		AUX RELAY #1
	7	GEN #2 LOW BATTERY		AUX RELAY #2
	8	GEN #2 LOW FUEL	AUX RELAY #3	
	9	GEN #2 ALARM	AUX RELAY #4	
	10	GEN #3 ON-LINE	GENERATOR #3	CONTACTOR
	11	GEN #3 NOT-IN-AUTO		AUX RELAY #1
	12	GEN #3 LOW BATTERY		AUX RELAY #2
	13	GEN #3 LOW FUEL		AUX RELAY #3
	14	GEN #3 ALARM	AUX RELAY #4	
	15	spare		
	16	GEN #4 ON-LINE	GENERATOR #4	CONTACTOR
	17	GEN #4 NOT-IN-AUTO		AUX RELAY #1
	18	GEN #4 LOW BATTERY		AUX RELAY #2
	19	GEN #4 LOW FUEL		AUX RELAY #3
	20	GEN #4 ALARM	AUX RELAY #4	
	21	UPS ALARM	UPS	
	22	UPS BATTERY MODE		
	23	UPS CHARGE		
	24	spare		
	25	spare		
	26	spare		
	27	spare		
	28	spare		
	29	spare		
	30	spare		
31	spare			
<b>24VDC DISCRETE OUTPUTS MOD. #1</b>				
<b>AB FLEX 1794-OB8EP 1794-TBN</b>	0	SPARE	---	RELAY
	1	GEN #1 REMOTE START	PLC RIO CP	RELAY
	2	GEN #2 REMOTE START	PLC RIO CP	RELAY
	3	GEN #3 REMOTE START	PLC RIO CP	RELAY
	4	GEN #4 REMOTE START	PLC RIO CP	RELAY
	5	spare		RELAY
	6	spare		RELAY
	7	GENERATOR E-STOPS	PLC RIO CP	RELAY





EX. DIESEL TANKS



EX. DIESEL WELL



EX. DIESEL WELL GEN #1



EX. DIESEL WELL GEN #2

**NOTES:**

1. DEMO EX. DIESEL TANKS AND PAD. EX. MONITORING WELLS IN THE AREA OF THE NEW GENERATOR PAD WILL BE DEMOED BELOW PAD, FILLED WITH GROUT OR REMOVED.
2. DEMO ALL DIESEL LINES, DIESEL WELLS, AND DIESEL CONTROLS (CLOUDED AREAS).
3. DEMO (3) DIESEL VALVE WELLS, FILL WITH SOIL, AND RESTORE AREA.
4. PURGE DIESEL LINES WITH GROUT AND ABANDON UG DIESEL LINES IN PLACE.

FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

DIESEL LINES  
DEMO PLAN

SHEET NUMBER  
**DE-01**



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	REVISIONS DESCRIPTION	DATE

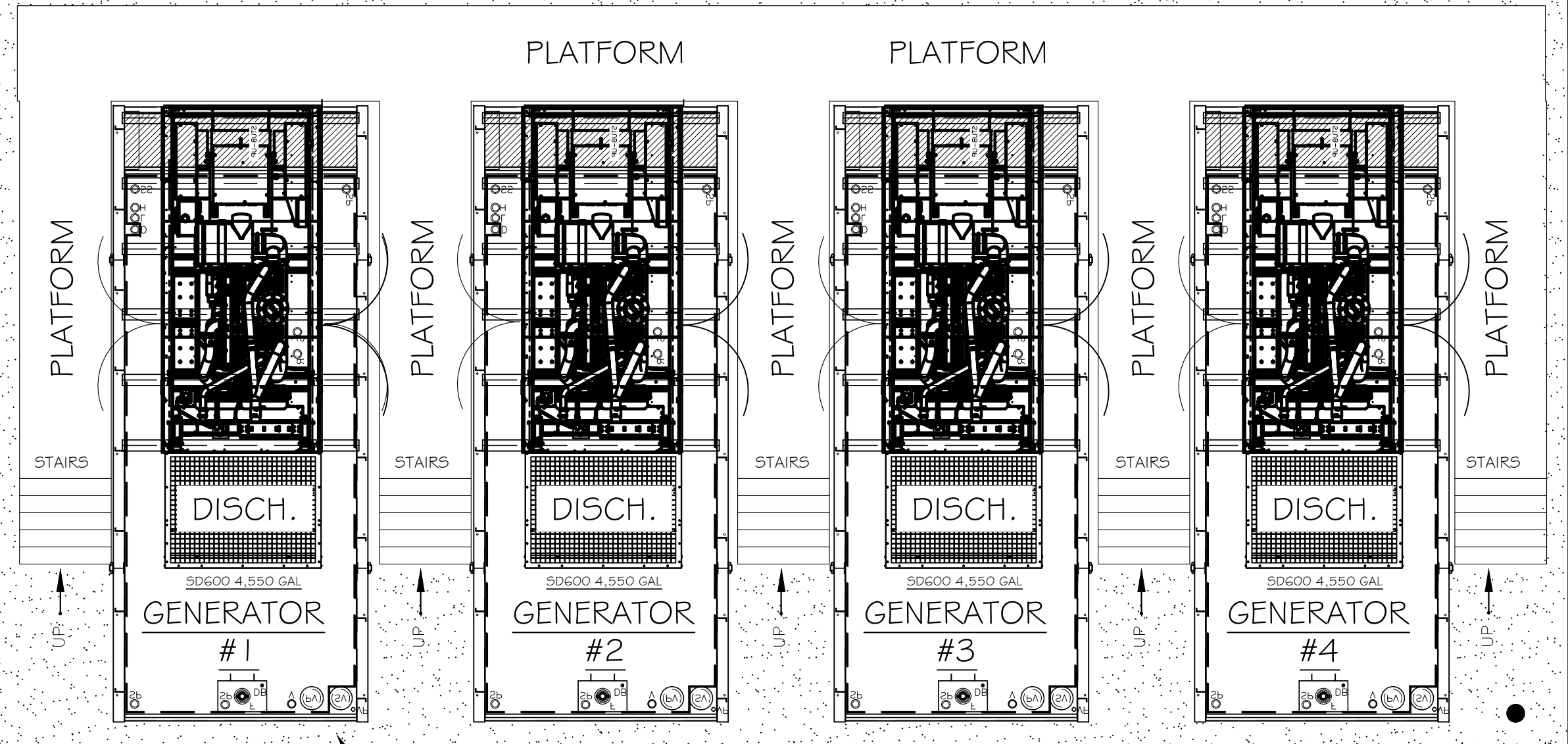
DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: 1" = 60'

**GENERATORS PLAN VIEW**

SHEET NUMBER  
**GN-01**

EX. SIDEWALK

8" IN-PLANT REUSE SKID

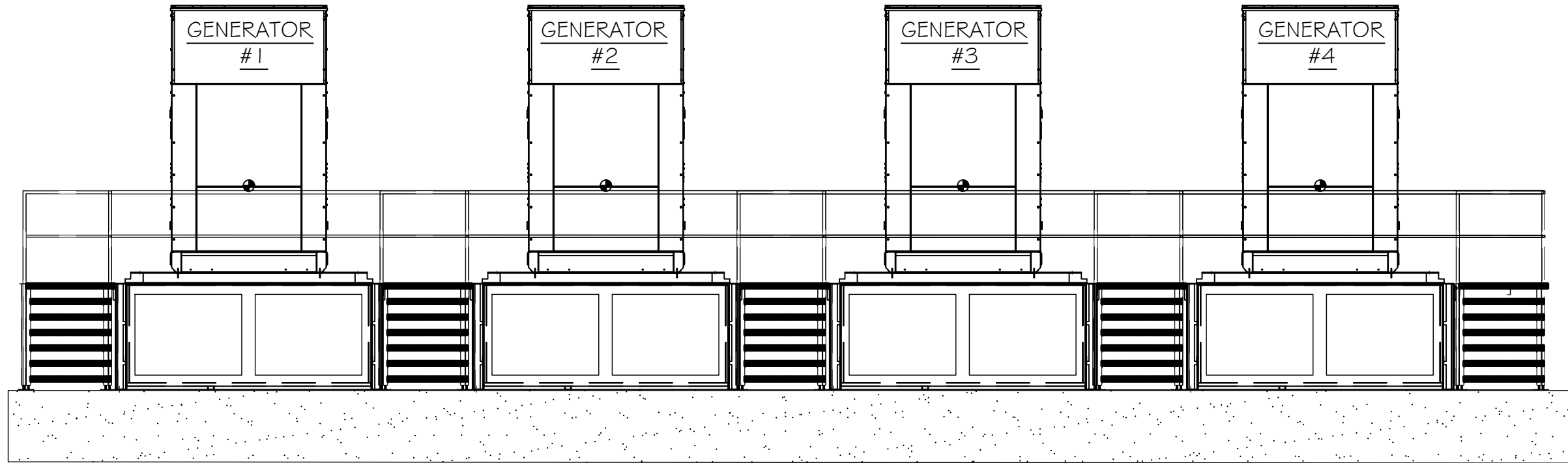


PP. GENERATOR PAD

ROADWAY

EX. SIDEWALK





INTAKE END VIEW

FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: 1" = 60'

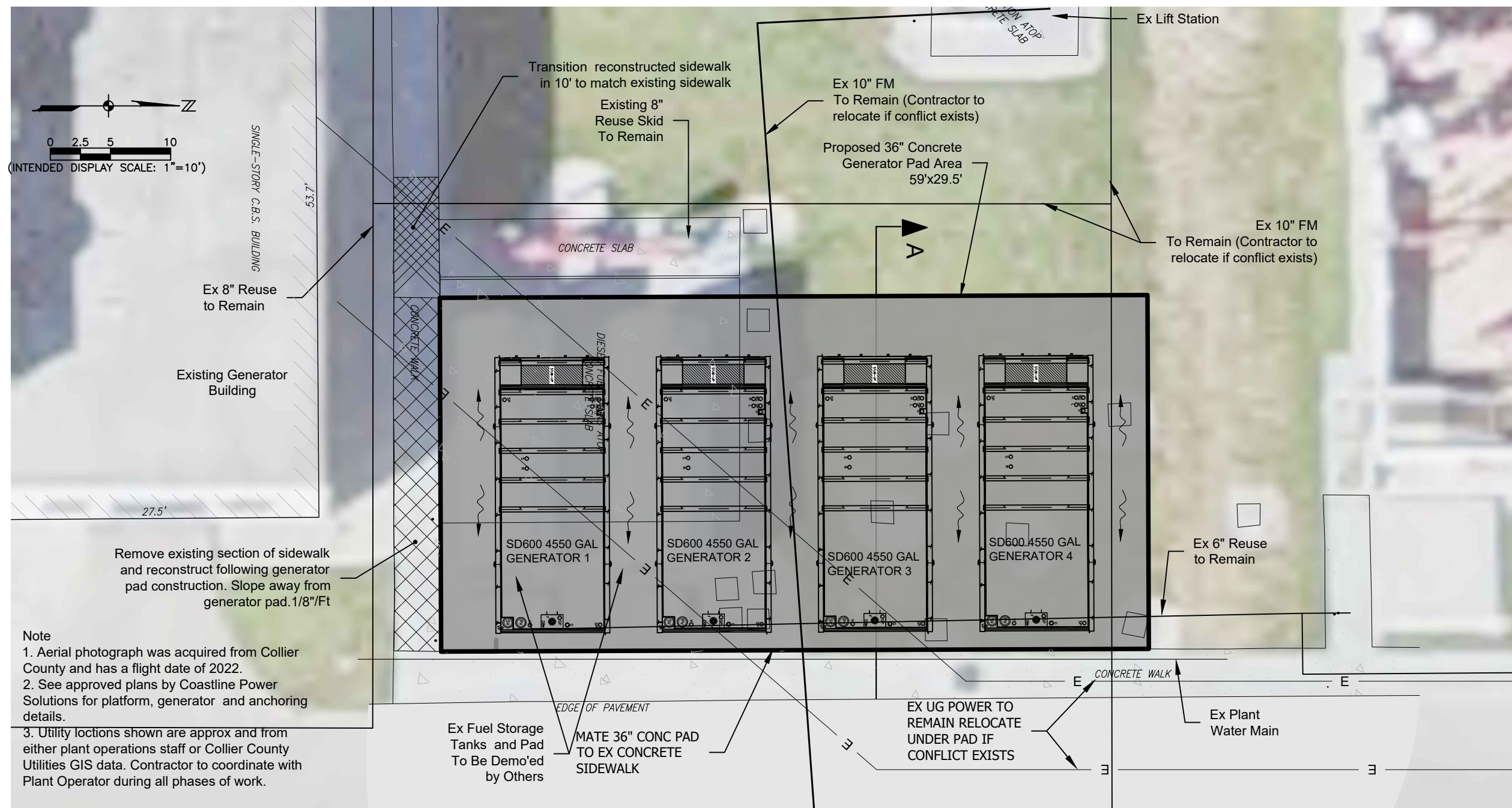
**GENERATORS  
ELEVATION  
VIEW**

SHEET NUMBER

**GN-02**



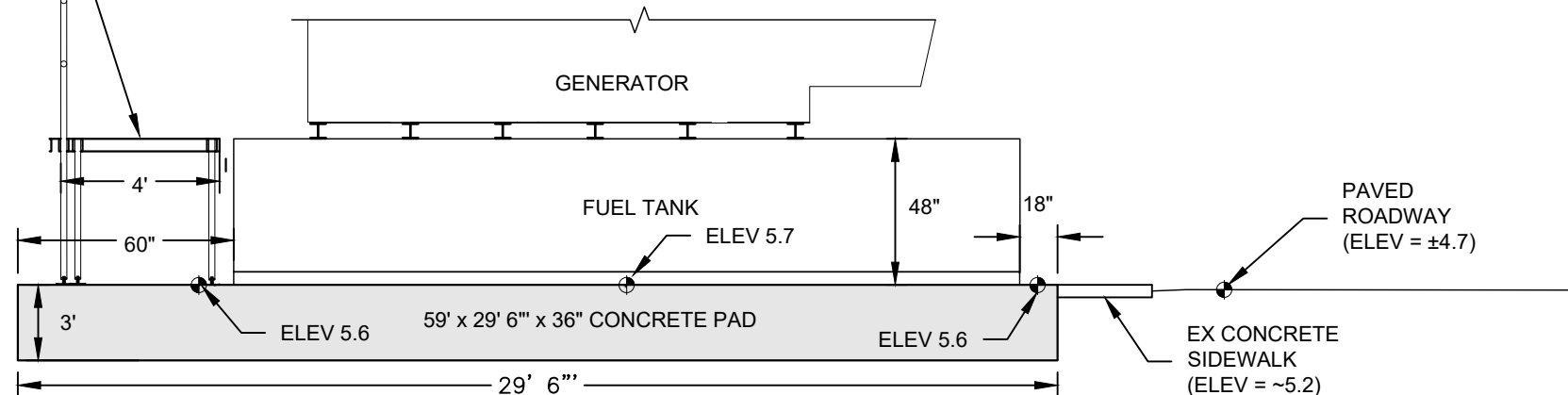




Note

1. Aerial photograph was acquired from Collier County and has a flight date of 2022.
2. See approved plans by Coastline Power Solutions for platform, generator and anchoring details.
3. Utility locations shown are approx and from either plant operations staff or Collier County Utilities GIS data. Contractor to coordinate with Plant Operator during all phases of work.

ELEVATED PLATFORM (SEE COASTLINE PLANS)



SECTION A-A  
N.T.S.

ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) ADD 1.27' TO NAVD 88 ELEVATIONS.



FOR CONSTRUCTION PLANS  
GENERATOR REPLACEMENTS  
WATER REPLACEMENT FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: AUGUST, 2022  
PROJECT NO. 20203070-000  
FILE NO. 3-25-50  
SCALE: AS SHOWN

CONCRETE PAD  
SITE PLAN

SHEET NUMBER  
**GN-05**



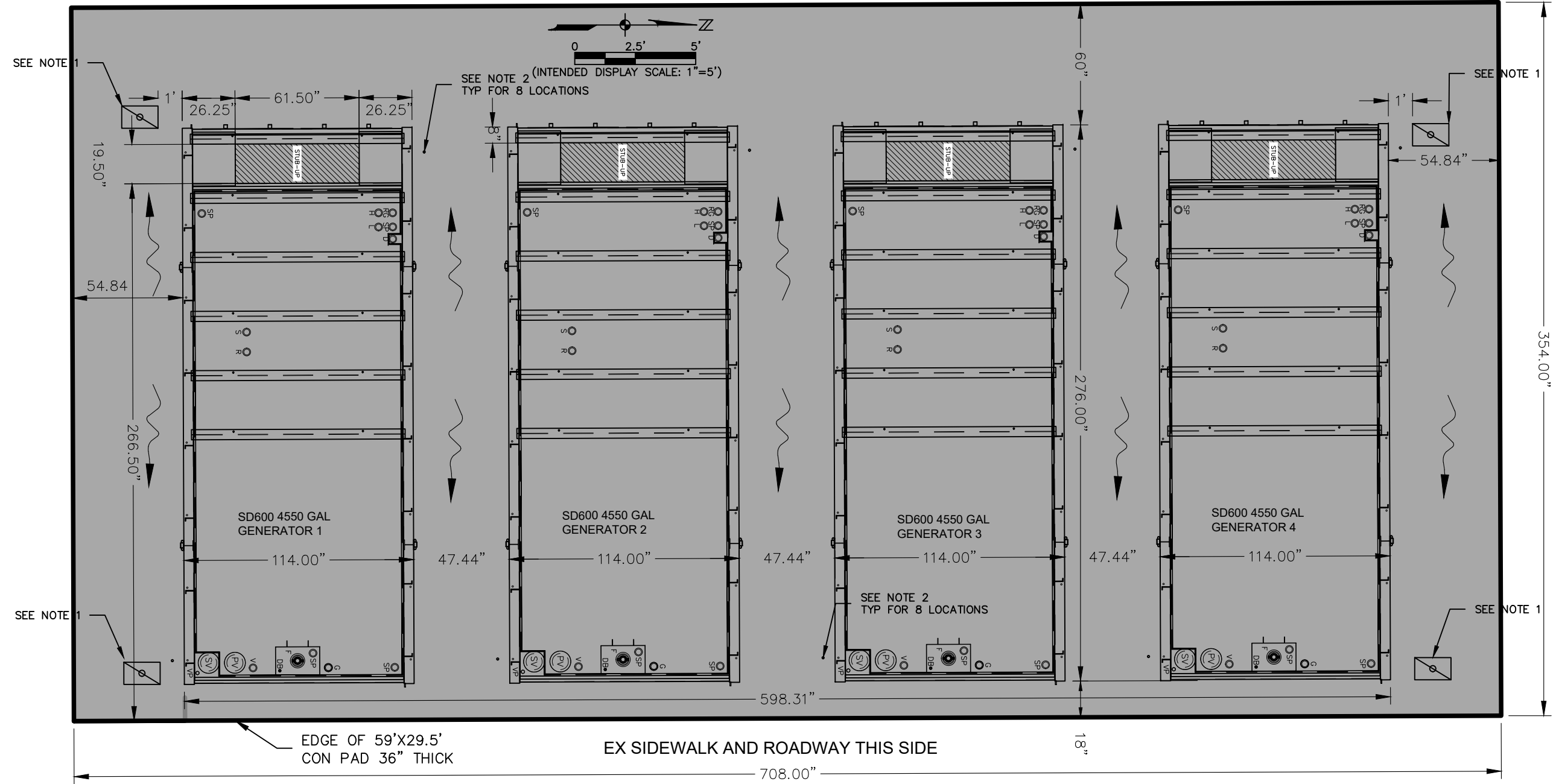
FOR CONSTRUCTION PLANS  
GENERATOR REPLACEMENTS  
WATER REPLACEMENT FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: AUGUST, 2022  
PROJECT NO. 20203070-000  
FILE NO. 3-25-50  
SCALE: AS SHOWN

**GENERATOR PAD PLACEMENT**

SHEET NUMBER  
**GN-06**



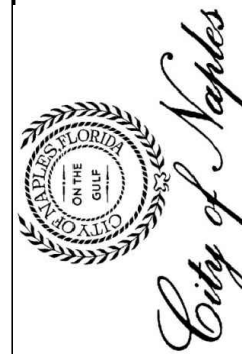
**GENERAL NOTES:**

1. INSTALL (4) 11"x18"x12" GROUNDING WELL BOXES WITH 3" PVC GROUNDING ROD CONDUIT. CONDUIT TO EXTEND 2" ABOVE AND 2" BELOW CONCRETE PAD. BOX TO BE FLUSH WITH TOP OF CONCRETE PAD. SEE ELECTRICAL DETAIL SHEET.
2. INSTALL 1" PVC GROUNDING CABLE CONDUIT 6" OFFSET FROM FUEL TANK FRAME AT 8 LOCATIONS. CONDUIT TO EXTEND 2" ABOVE AND BELOW CONCRETE PAD.
3. ADJUST CONDUIT AND GROUNDING WELL BOX LOCATIONS TO MISS PLATFORM SUPPORT LEGS.

ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) ADD 1.27' TO NAVD 88 ELEVATIONS.







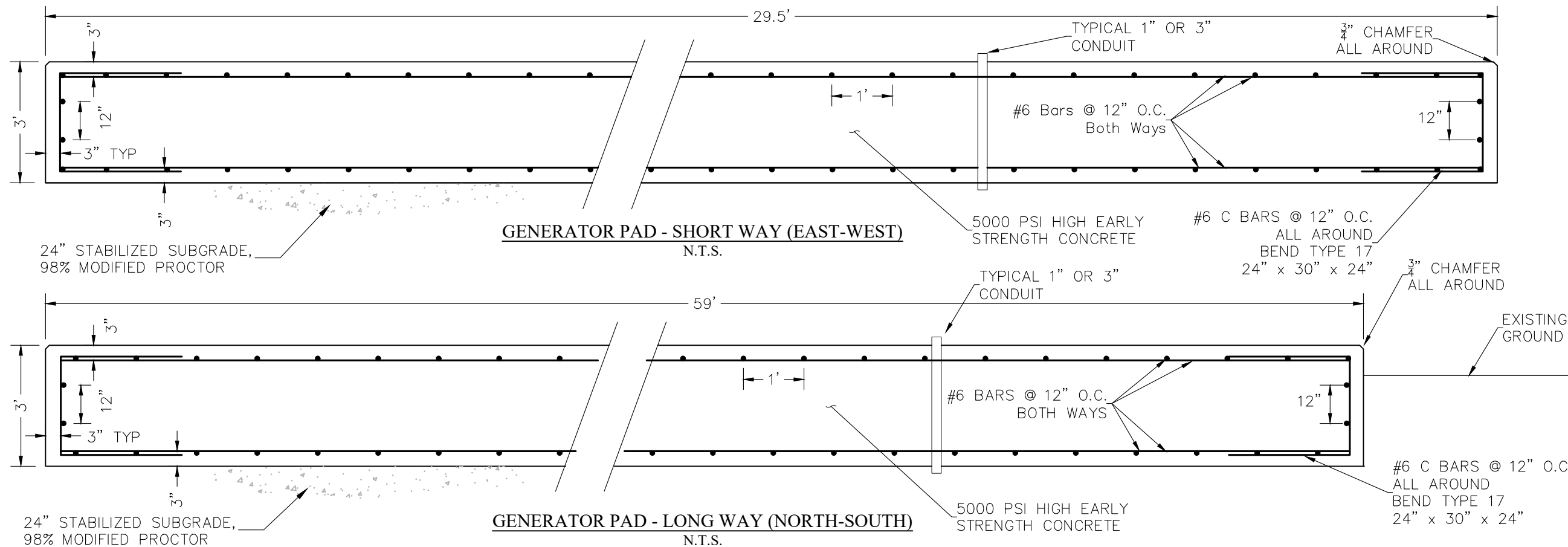
FOR CONSTRUCTION  
 GENERATOR REPLACEMENT  
 CITY OF NAPLES  
 COLLIER COUNTY, FLORIDA

NO.	DESCRIPTION	DATE

DATE: MAY 2020  
 PROJECT NO. 20203097-000  
 FILE NO. 27-25-49  
 SCALE: AS SHOWN

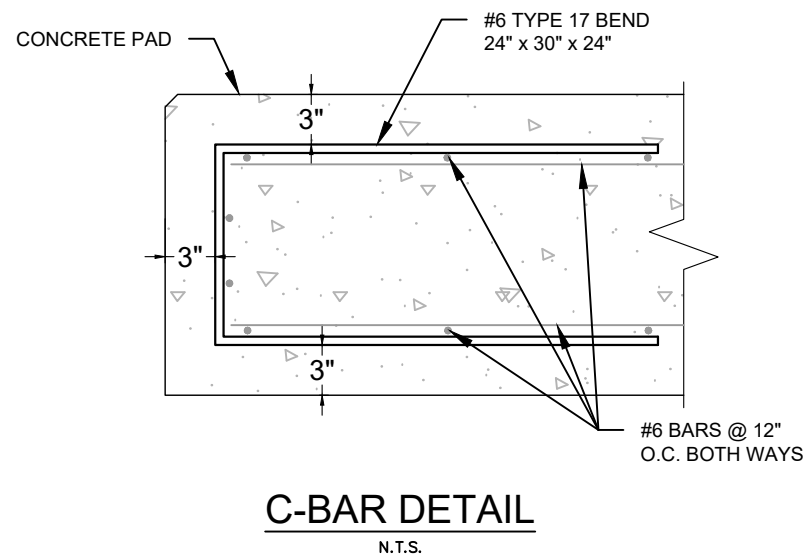
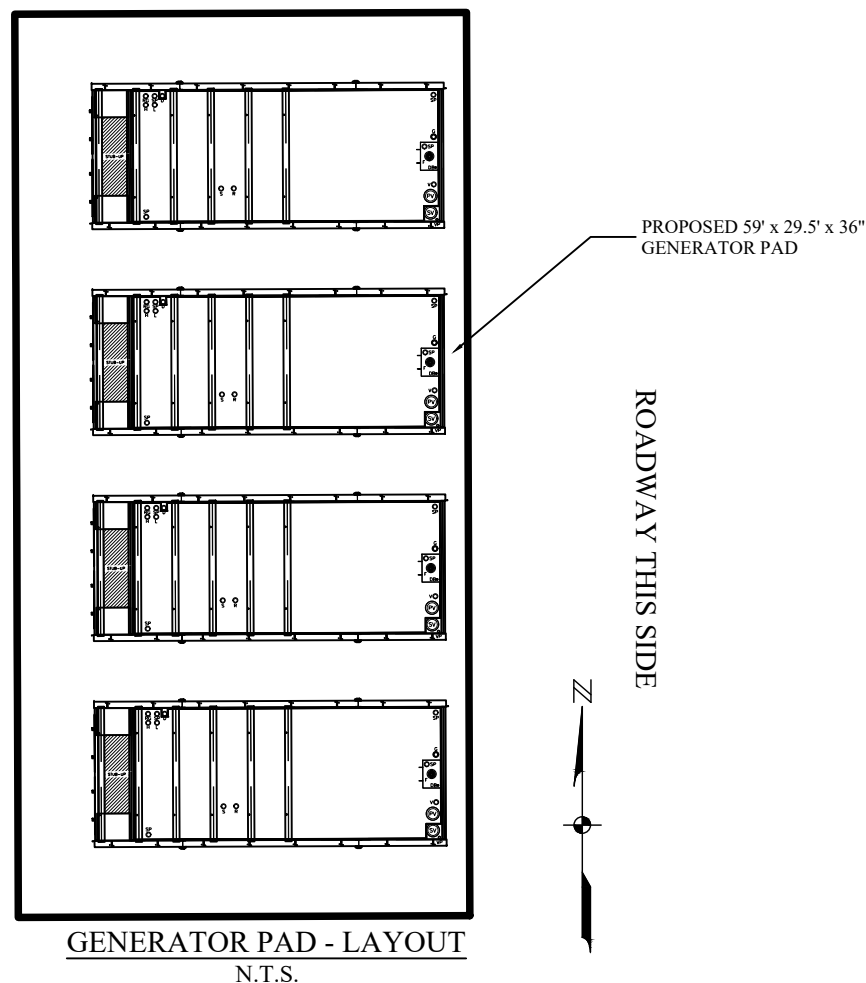
**GENERATOR CONCRETE PAD DETAILS**

SHEET NUMBER  
**GN-08**



**GENERAL NOTES:**

- FOR CONDUIT DETAILS AND PLACEMENT SEE SHEETS GN-06 AND E-22.
- SEE SHEETS GN-09 FOR GENERAL CONCRETE PAD NOTES



ELEVATIONS SHOWN HEREON ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88). TO CONVERT TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) ADD 1.27' TO NAVD 88 ELEVATIONS.

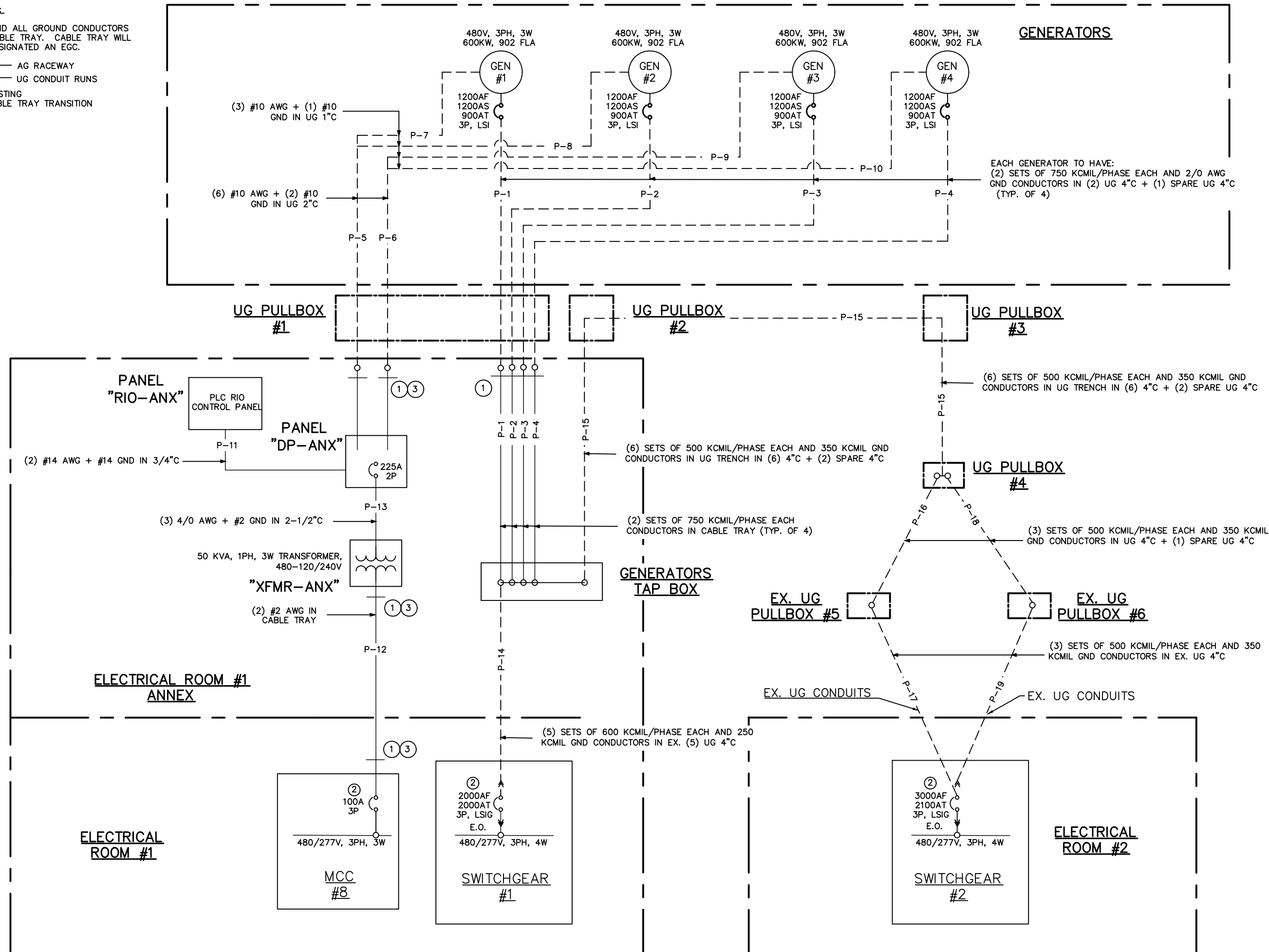


**NOTES:**

1. BOND ALL GROUND CONDUCTORS TO CABLE TRAY. CABLE TRAY WILL BE DESIGNATED AN EGC.

— AG RACEWAY  
 --- UG CONDUIT RUNS

2. EXISTING  
 3. CABLE TRAY TRANSITION



FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE
1	CORRECTIONS	3/14/23

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NONE

PP. GENERATOR  
 ONE LINE  
 DIAGRAM

SHEET NUMBER

**E-01**



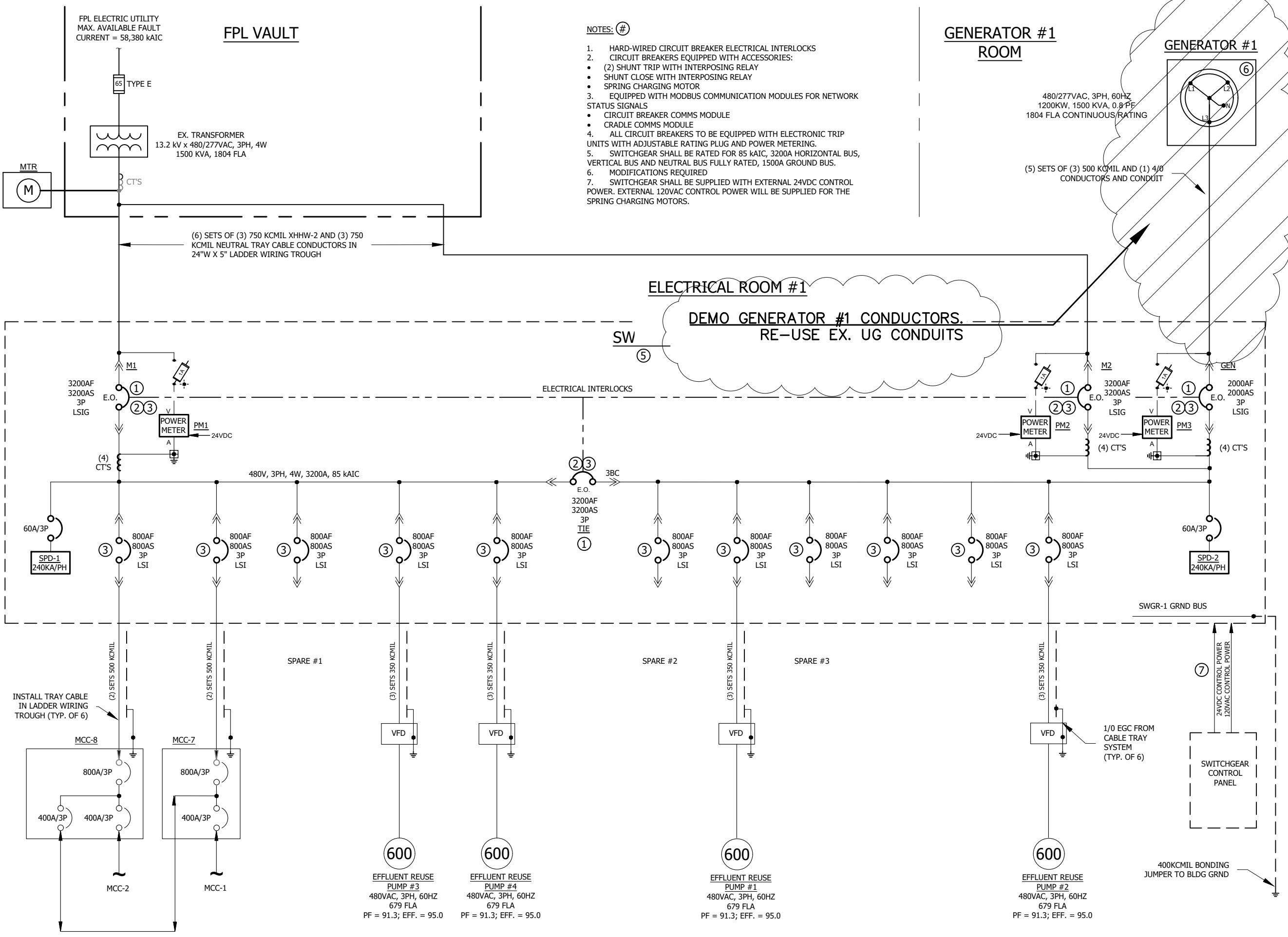
FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DATE	DESCRIPTION

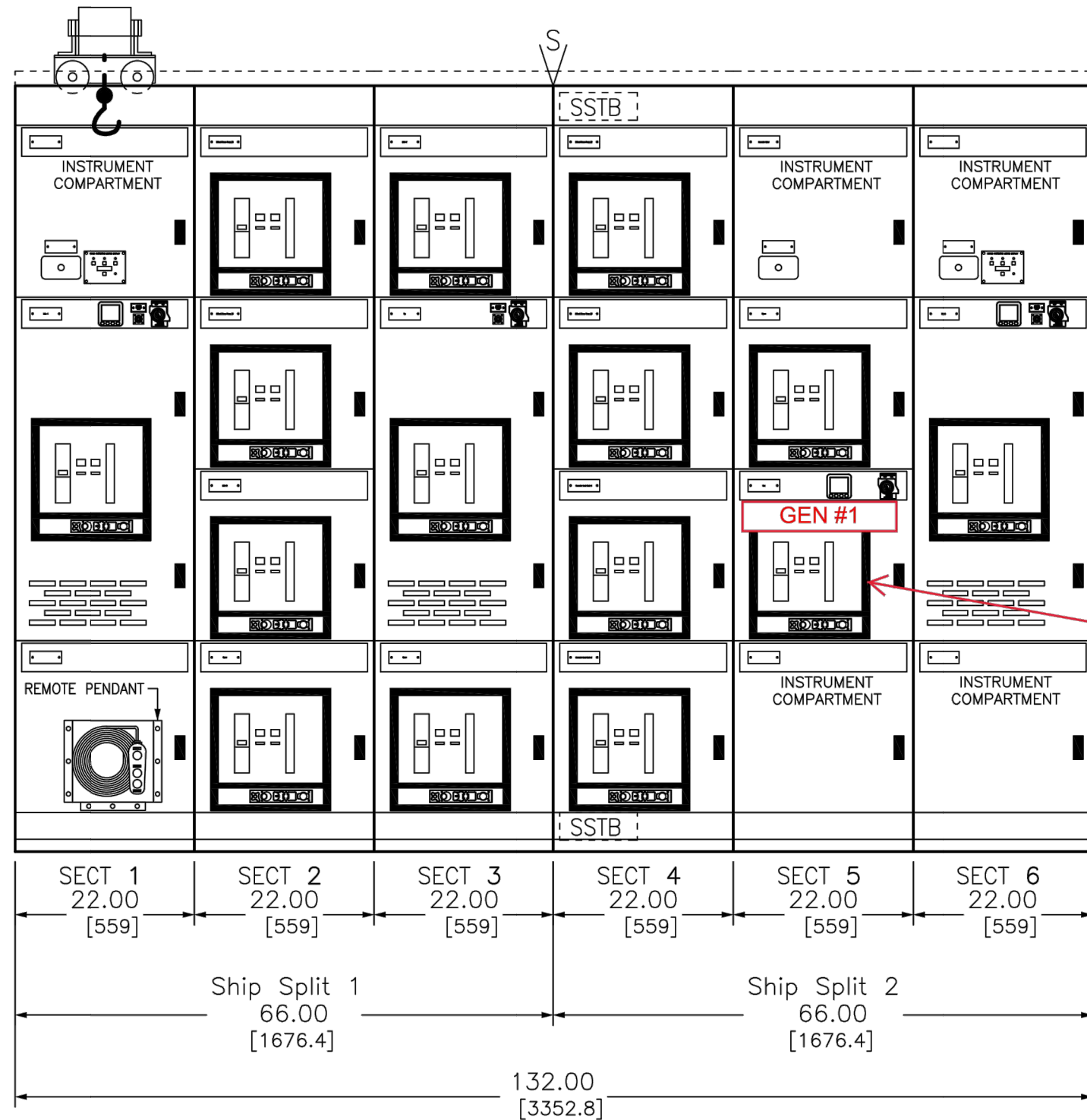
DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

EX. SINGLE LINE  
ELEC. RM. #1

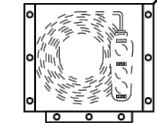
SHEET NUMBER  
**E-02**







EXISTING GENERATOR #1 C/B



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE
1		

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: 1" = 19 FT

SYMBOL KEY

	MANUAL OVERHEAD LIFTER		STANDARD DOOR LATCH		PM8214 DISPLAY		HUBBEL REMOTE CONTROL SOCKET
	LOCKING DOOR LATCH		ERMS SWITCH		REMOTE RACKING BRACKET		

	SHIPPING SPLIT		TVSS DISPLAY
	PK2 6-POLE		

JOB NAME:	NAPLES WWTP MCC AND SWITCHGEAR REP	EQUIPMENT D
JOB LOCATION:	NAPLES FL	EQUIPMENT T
DRAWN BY:	MANILA KAMBOJ/ DARREN S.	DRAWING TYP
ENGR:	M. KAMBOJ / DAS	
DATE:	MAY 30, 2019	

FR  
PP. SWITCHGEAR #1 ELEVATION

SHEET NUMBER

E-04

WAYNE WILDEY WRIGHT, P.E.  
 FL License No. 58220



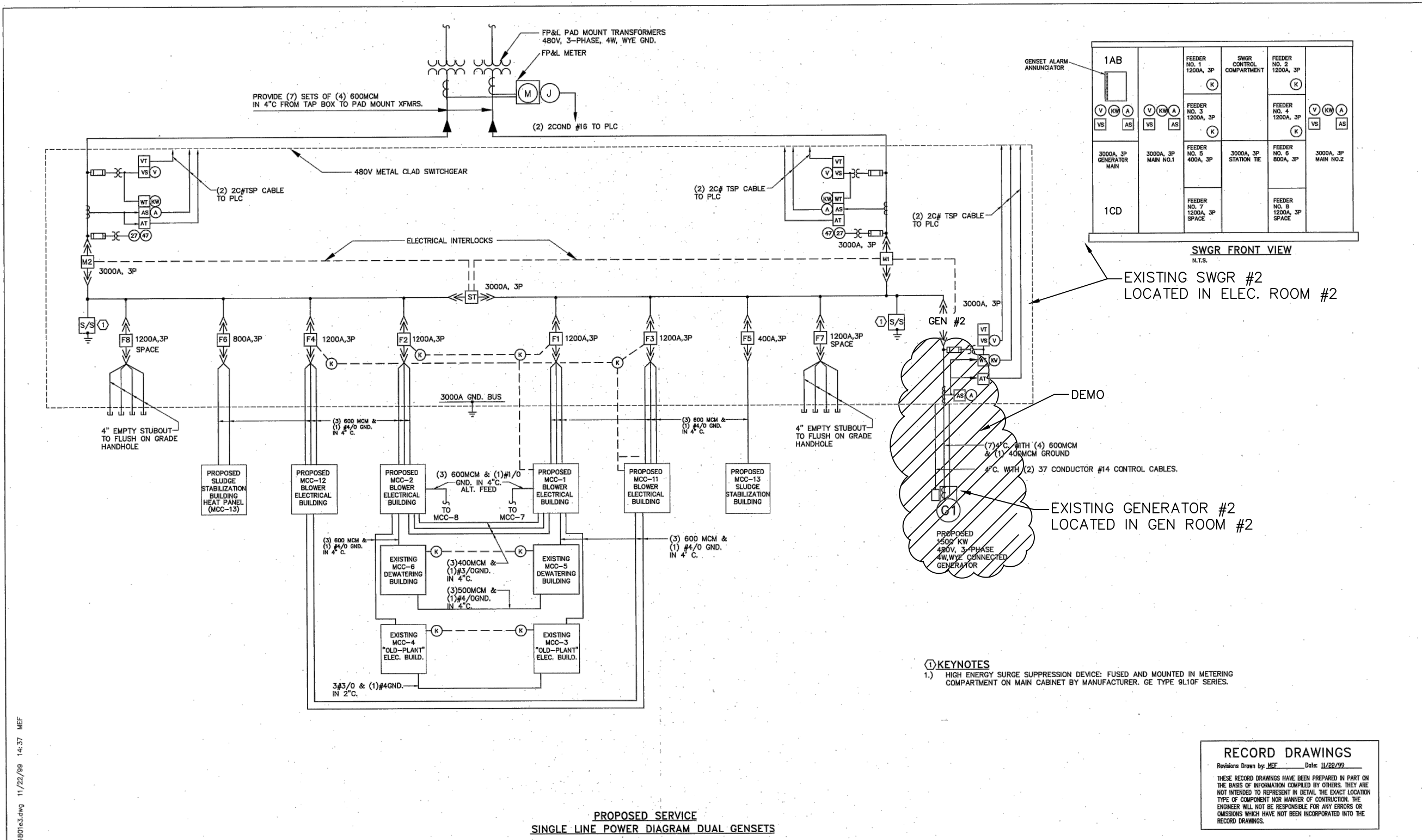
FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NONE

EX. SINGLE LINE  
 ELEC. RM. #2

SHEET NUMBER  
**E-05**



**PROPOSED SERVICE  
 SINGLE LINE POWER DIAGRAM DUAL GENSETS**

**RECORD DRAWINGS**  
 Revisions Drawn by: MEF Date: 11/22/99  
 THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE NOT BEEN INCORPORATED INTO THE RECORD DRAWINGS.

- KEYNOTES**  
 1.) HIGH ENERGY SURGE SUPPRESSION DEVICE: FUSED AND MOUNTED IN METERING COMPARTMENT ON MAIN CABINET BY MANUFACTURER. GE TYPE 9L10 SERIES.

L:\MAP\WWT\44801\c3.dwg 11/22/99 14:37 MEF

JOB NO. 494-480	<b>Tilden Lobnitz Cooper CONSULTING ENGINEERS INC.</b> 1500 Royal Palm Square Blvd., Ste. 102 Ft. Myers, Florida 33919 (813) 275-4240 • Orlando • Ft. Myers • Tallahassee • Cleveland • Cocoa •	REVISIONS:	<b>HMA</b> HOLE, MONTES & ASSOCIATES, INC. ENGINEERS - PLANNERS - SURVEYORS	CITY OF NAPLES WWTRF EXPANSION & UPGRADE  PROPOSED SERVICE SINGLE LINE DIAGRAM	PROJECT NO. 94.30
CAD FILE: 44801E3		DATE: 08/95			SHEET: 1E3
SCALE: NONE		DESIGNED: DRAWN: CHECKED: PROJ. ENG.:			DON WILLIAMS, P.E. Florida Reg. No. 29504
DATE: AUG 1995		NO. DATE ISSUED FOR BY			

**NOTES:**  
 1. THIS DRAWING IS PROVIDED FOR REFERENCE ONLY AND TO SHOW REQUIRED MODIFICATIONS.



*City of Naples*

FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

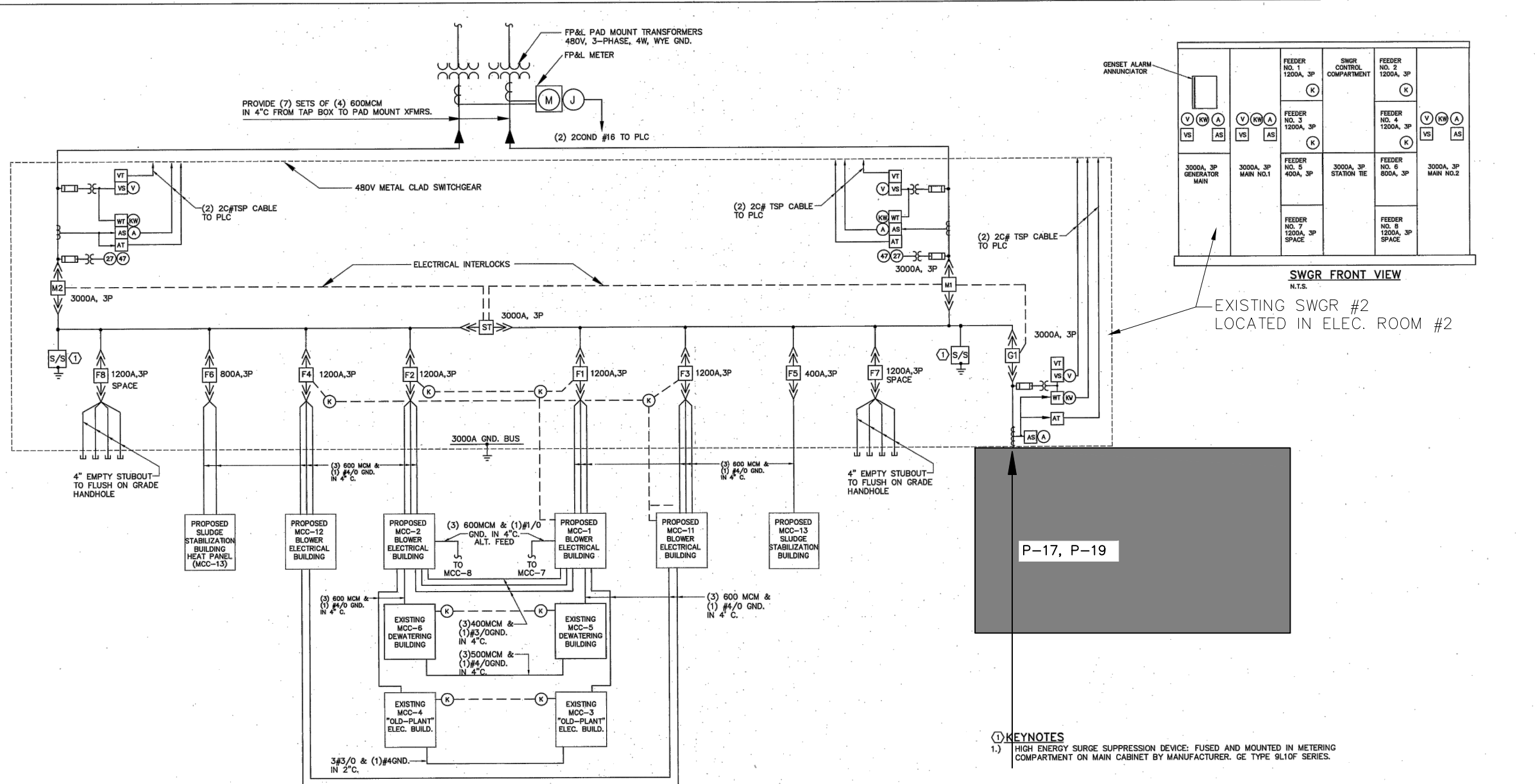
NO.	REVISIONS	DATE

DATE:	JANUARY 2023
PROJECT NO.:	20203070-006
FILE NO.:	03-50-25E
SCALE:	NONE

PP. SINGLE LINE  
ELEC. RM. #2

SHEET NUMBER

**E-06**



SEE SHIT.  
E-01

**PROPOSED SERVICE  
SINGLE LINE POWER DIAGRAM DUAL GENSETS**

**RECORD DRAWINGS**  
Revisions Drawn by: MEF Date: 11/22/92

THESE RECORD DRAWINGS HAVE BEEN PREPARED IN PART ON THE BASIS OF INFORMATION COMPILED BY OTHERS. THEY ARE NOT INTENDED TO REPRESENT IN DETAIL THE EXACT LOCATION TYPE OF COMPONENT NOR MANNER OF CONSTRUCTION. THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE NOT BEEN INCORPORATED INTO THE RECORD DRAWINGS.

JOB NO. 494-480  
CAD FILE: 44801E3  
SCALE: NONE  
DATE: AUG 1995

**TLC Tilden Lobnitz Cooper CONSULTING ENGINEERS INC.**  
1500 Royal Palm Square Blvd., Ste. 102  
Ft. Myers, Florida 33919 (813) 275-4240  
• Orlando • Ft. Myers • Tallahassee • Cleveland • Cocoa •

NO.	DATE	ISSUED FOR	BY

DON WILLIAMS, P.E.  
Florida Reg. No. 29504

**HMA HOLE, MONTES & ASSOCIATES, INC.**  
ENGINEERS - PLANNERS - SURVEYORS

DESIGNED: IRAMN CHECKED: PROJ. ENG:

CITY OF NAPLES WWTRF EXPANSION & UPGRADE

**PROPOSED SERVICE SINGLE LINE DIAGRAM**

PROJECT NO.	94.30
DATE	08/95
SHEET	1E3

L:\MAP\WTF\44801e3.dwg 11/22/99 14:37 MEF  
PLOT SCALE: 1=48

**NOTES:**  
1. THIS DRAWING IS PROVIDED FOR REFERENCE ONLY AND TO SHOW REQUIRED MODIFICATIONS.





FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

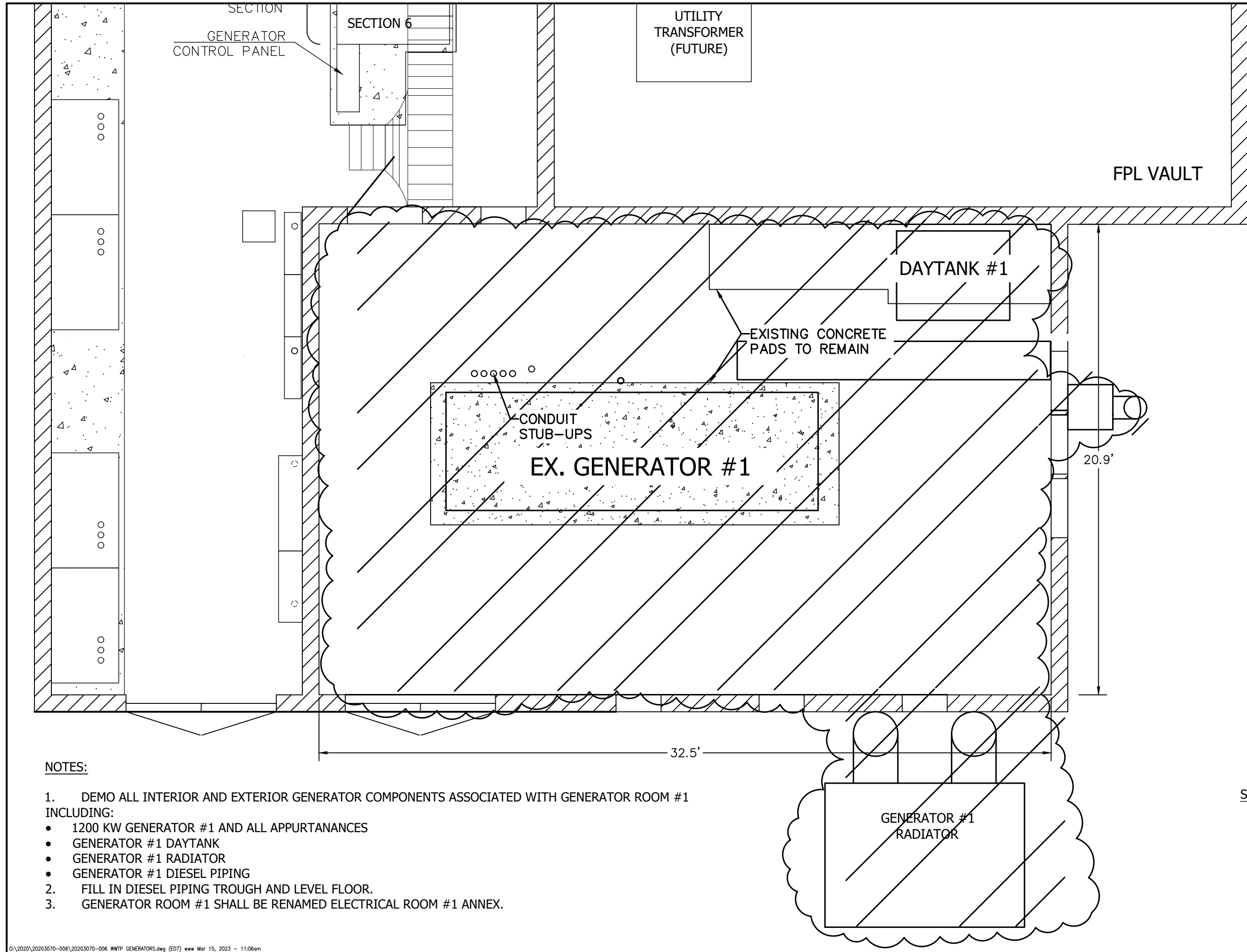
NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

GENERATOR RM.  
#1 DEMO PLAN

SHEET NUMBER

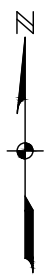
E-07



**NOTES:**

1. DEMO ALL INTERIOR AND EXTERIOR GENERATOR COMPONENTS ASSOCIATED WITH GENERATOR ROOM #1 INCLUDING:
  - 1200 KW GENERATOR #1 AND ALL APPURTANANCES
  - GENERATOR #1 DAYTANK
  - GENERATOR #1 RADIATOR
  - GENERATOR #1 DIESEL PIPING
2. FILL IN DIESEL PIPING TROUGH AND LEVEL FLOOR.
3. GENERATOR ROOM #1 SHALL BE RENAMED ELECTRICAL ROOM #1 ANNEX.

SCALE





DEMO TWO ROOF EXHAUST FANS  
AND REPLACE THE ROOF.

DEMO AND RESTORE WALL WITH  
CINDER BLOCK; STUCCO AND  
PAINT TO MATCH EXISTIING

DEMO GENERATOR #1  
RADIATOR

**JOHNSON  
ENGINEERING**

JOHNSON ENGINEERING, INC.  
2122 JOHNSON STREET  
P.O. BOX 1550  
FORT MYERS, FLORIDA 33902-1550  
PHONE: (239) 334-0046

WAYNE WILDER, WPCUT, PE  
FL License No. 95220



*City of Naples*

FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

**GENERATOR RM.  
#1 DEMO PLAN**

SHEET NUMBER  
**E-08**



DEMO TWO ROOF EXHAUST FANS AND REPLACE THE ROOF

DEMO GENERATOR #1 EXHAUST PIPING; RESTORE WALL.

DEMO LOUVERS; RESTORE WALL WITH PROVISIONS FOR FUTURE WALL MOUNTED A/C UNIT PER DETAIL

DEMO EXTERNAL DIESEL PIPING AND CONDUITS

FPL VAULT

WAYNE WILDEY WRIGHT, PE  
 FL License No. 55220



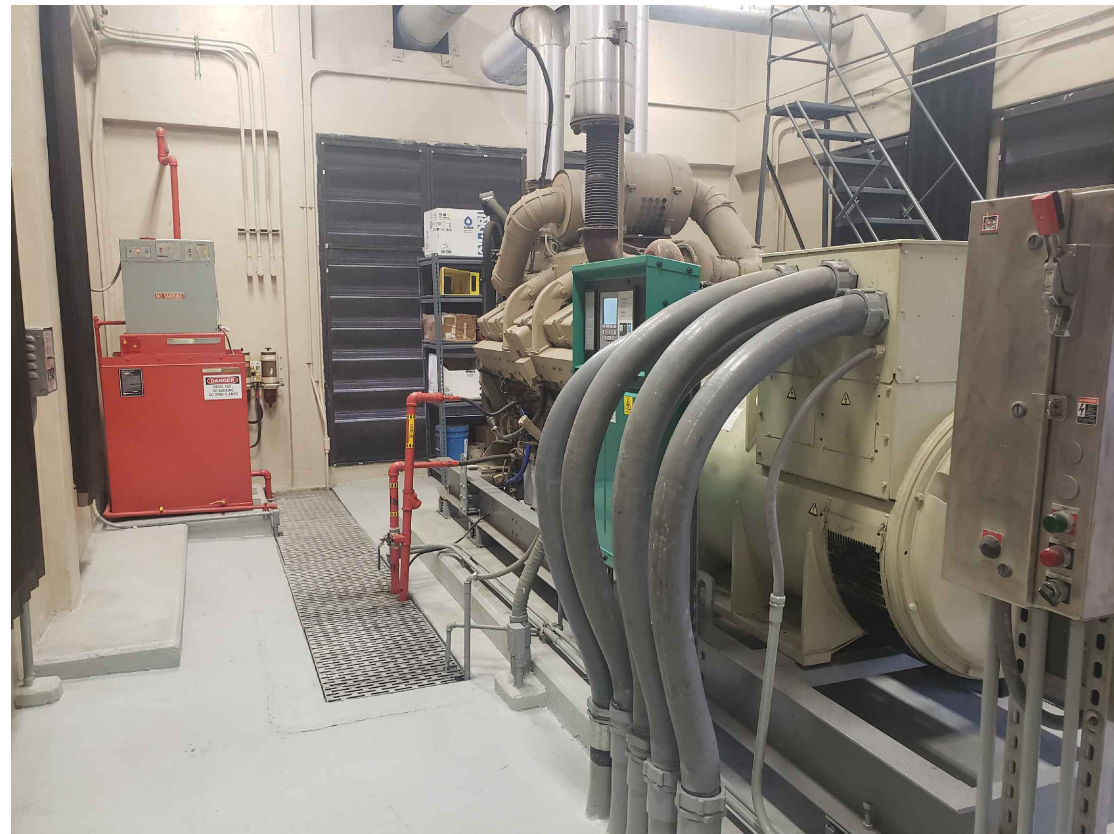
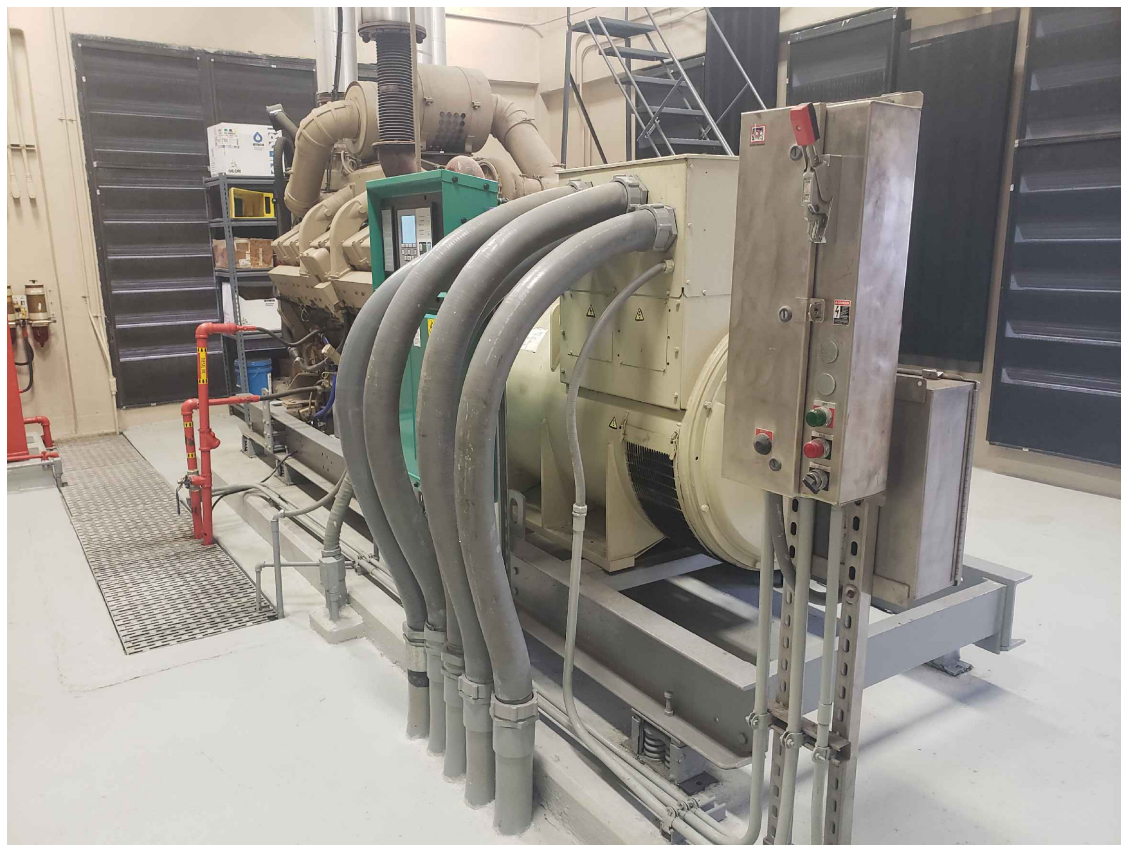
FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NONE

GENERATOR RM.  
 #1 DEMO PLAN

SHEET NUMBER  
**E-09**



**JOHNSON  
ENGINEERING**

JOHNSON ENGINEERING, INC.  
2122 JOHNSON STREET  
P.O. BOX 1550  
FORT MYERS, FLORIDA 33902-1550  
PHONE: (239) 334-0046

WAYNE WILDEY WRS/CAT PE  
FL License No. 98220



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	REVISIONS DESCRIPTION	DATE

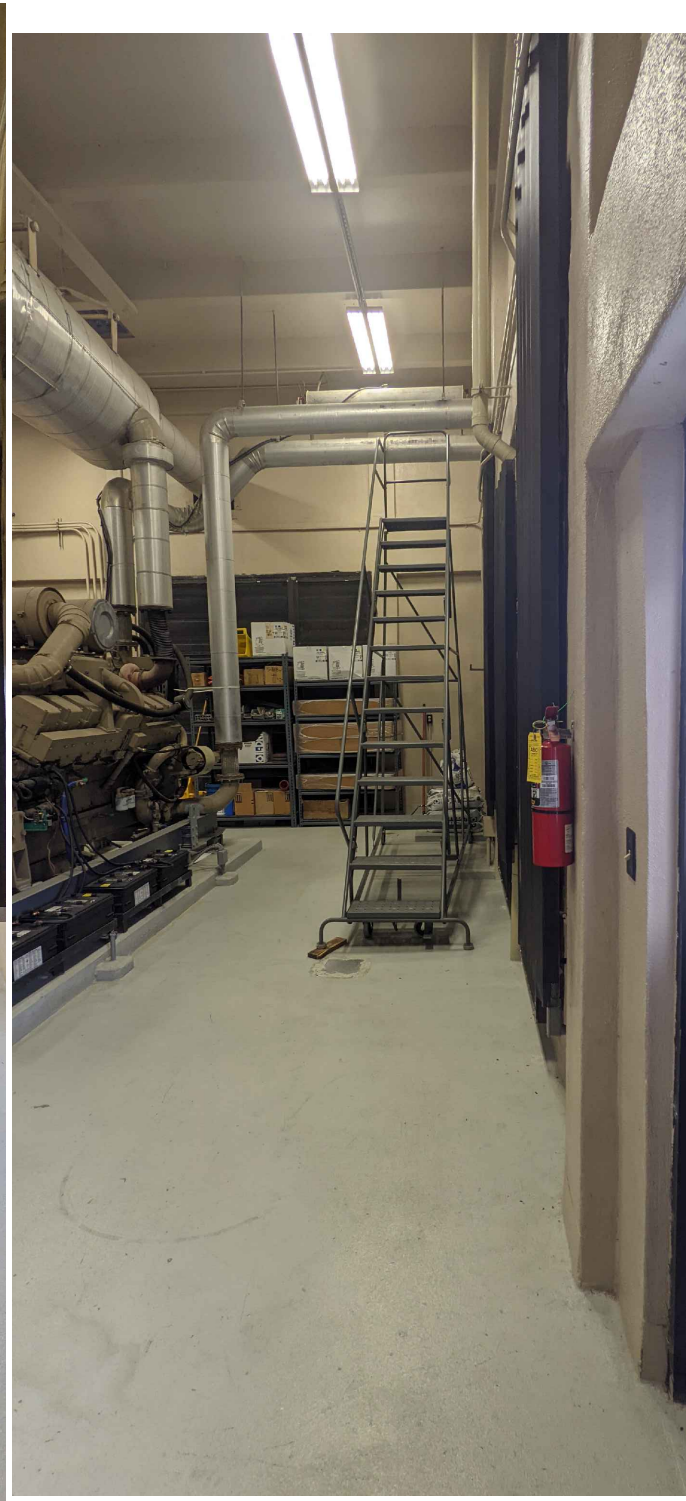
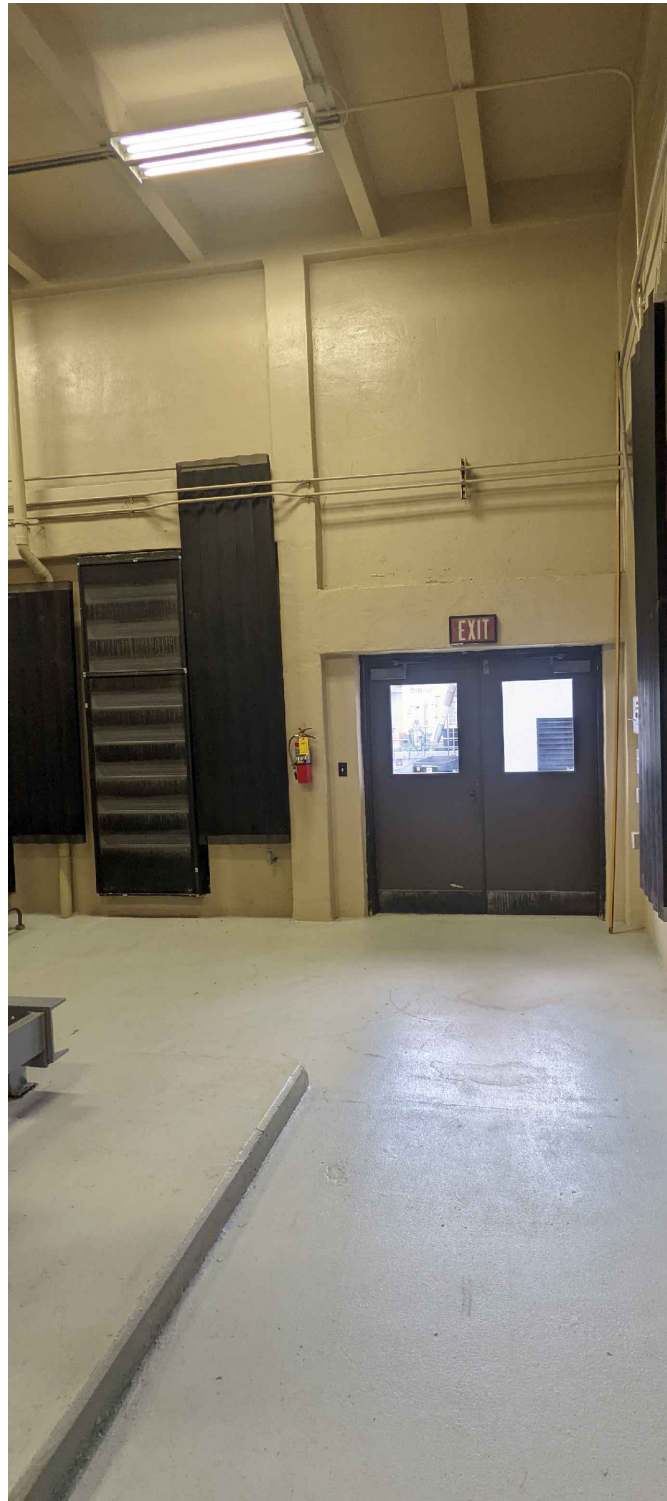
DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

GENERATOR RM.  
#1 DEMO PLAN

SHEET NUMBER

**E-10**

EX. GENERATOR ROOM #1



**JOHNSON ENGINEERING**  
 JOHNSON ENGINEERING, INC.  
 2122 JOHNSON STREET  
 P.O. BOX 1550  
 FORT MYERS, FLORIDA 33902-1550  
 PHONE: (239) 334-0046

WAYNE WILDEY, WRIGHT, PE  
 FL License No. 95620



FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NONE

GENERATOR RM.  
 #1 DEMO PLAN

SHEET NUMBER  
**E-11**

EX. GENERATOR ROOM #1





FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DATE	DESCRIPTION
1	3/14/23	CORRECTED SCALE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: AS SHOWN

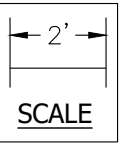
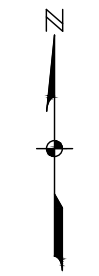
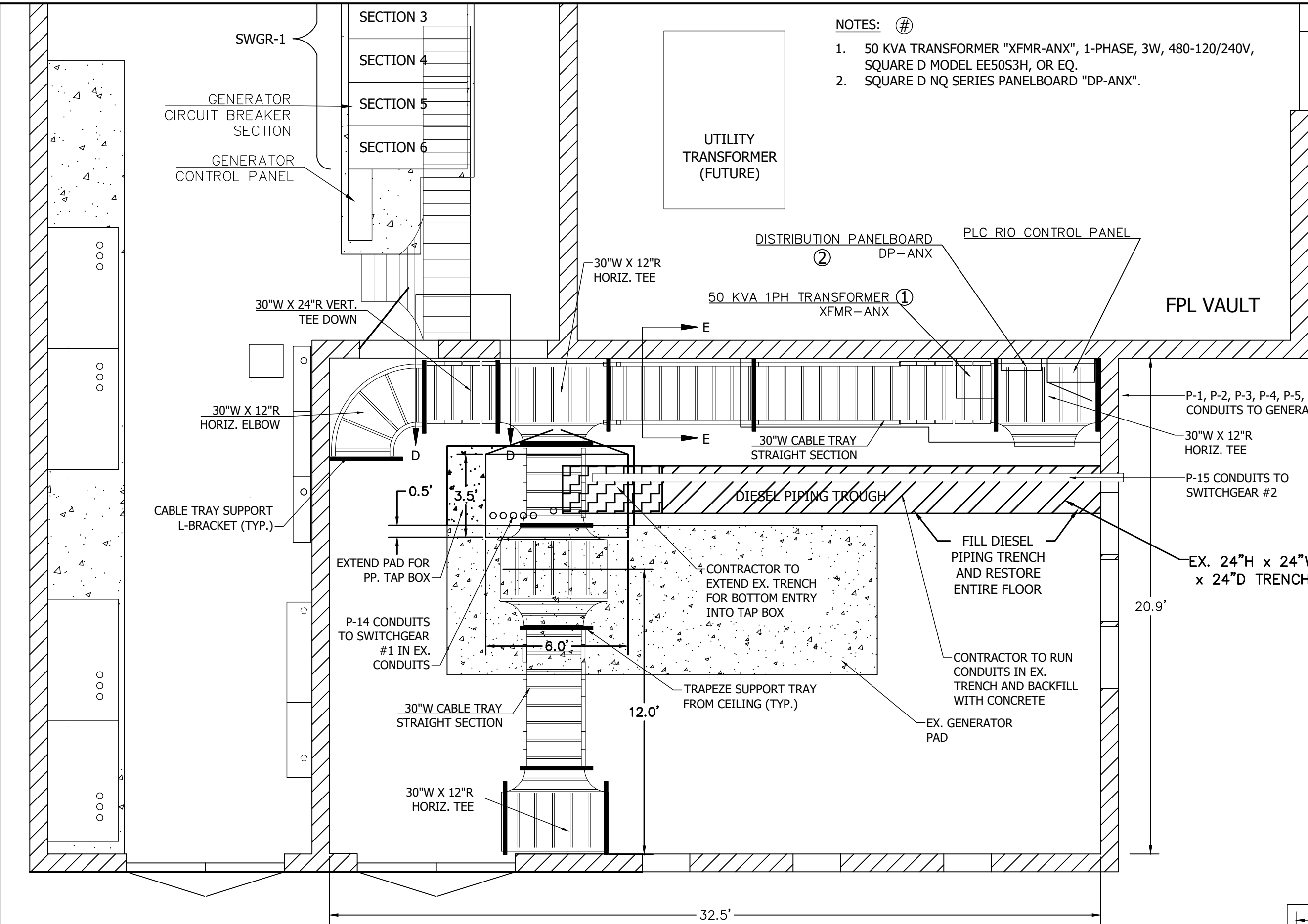
PP. ELEC. RM #1  
ANNEX LAYOUT

SHEET NUMBER

E-13

**NOTES: #**

- 50 KVA TRANSFORMER "XFMR-ANX", 1-PHASE, 3W, 480-120/240V, SQUARE D MODEL EE50S3H, OR EQ.
- SQUARE D NQ SERIES PANELBOARD "DP-ANX".





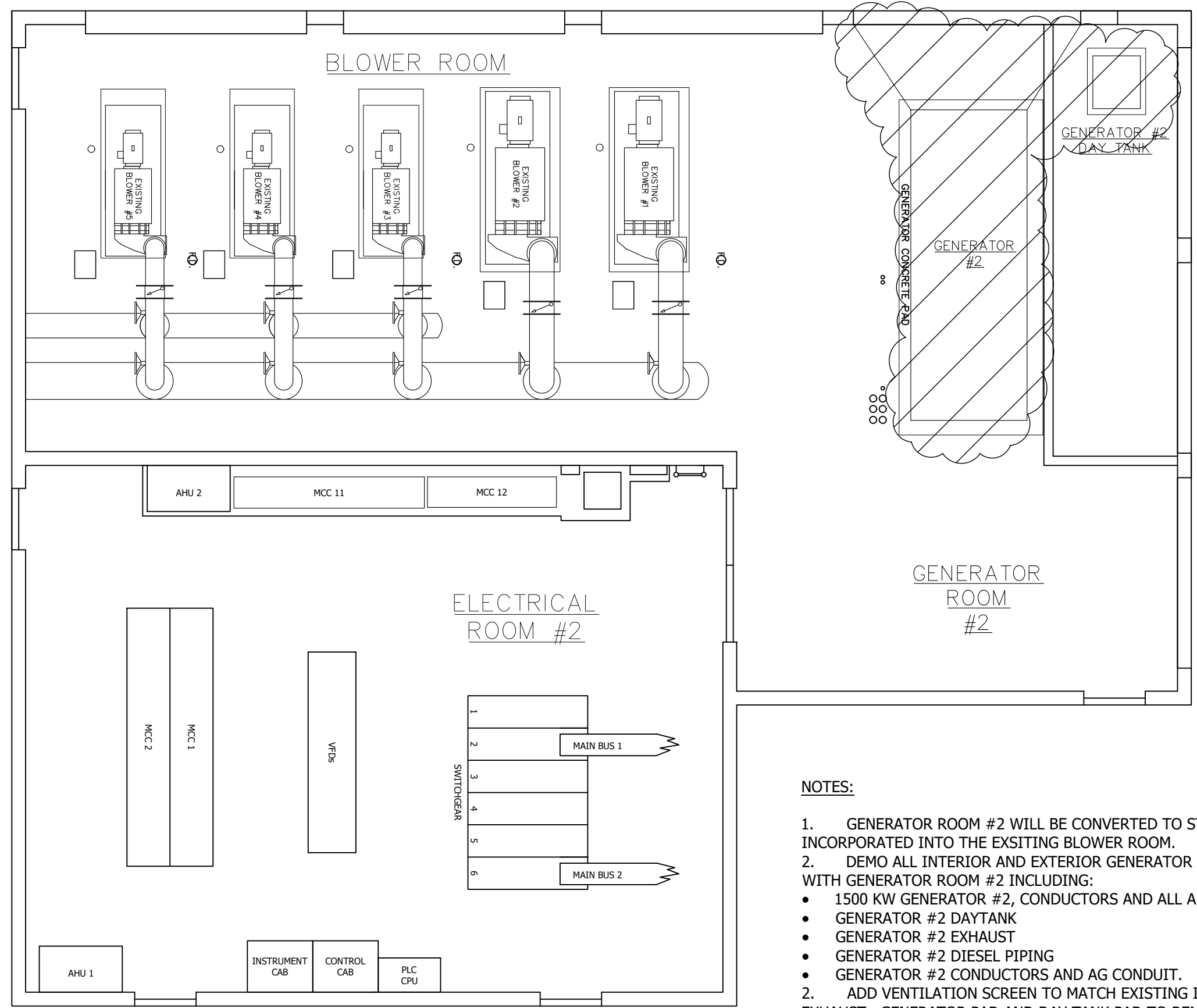
FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NONE

EX. LAYOUT  
 GENERATOR  
 ROOM #2

SHEET NUMBER



**NOTES:**

- GENERATOR ROOM #2 WILL BE CONVERTED TO STORAGE SPACE AND INCORPORATED INTO THE EXSITING BLOWER ROOM.
- DEMO ALL INTERIOR AND EXTERIOR GENERATOR COMPONENTS ASSOCIATED WITH GENERATOR ROOM #2 INCLUDING:
  - 1500 KW GENERATOR #2, CONDUCTORS AND ALL APPURTANANCES
  - GENERATOR #2 DAYTANK
  - GENERATOR #2 EXHAUST
  - GENERATOR #2 DIESEL PIPING
  - GENERATOR #2 CONDUCTORS AND AG CONDUIT.
- ADD VENTILATION SCREEN TO MATCH EXISTING IN AREA OF GENERATOR EXHAUST. GENERATOR PAD AND DAY TANK PAD TO REMAIN. NO FLOOR MODIFICATIONS ARE REQUIRED EXCEPT TO FILL IN DIESEL PIPING TROUGH TO GRADE.





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WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

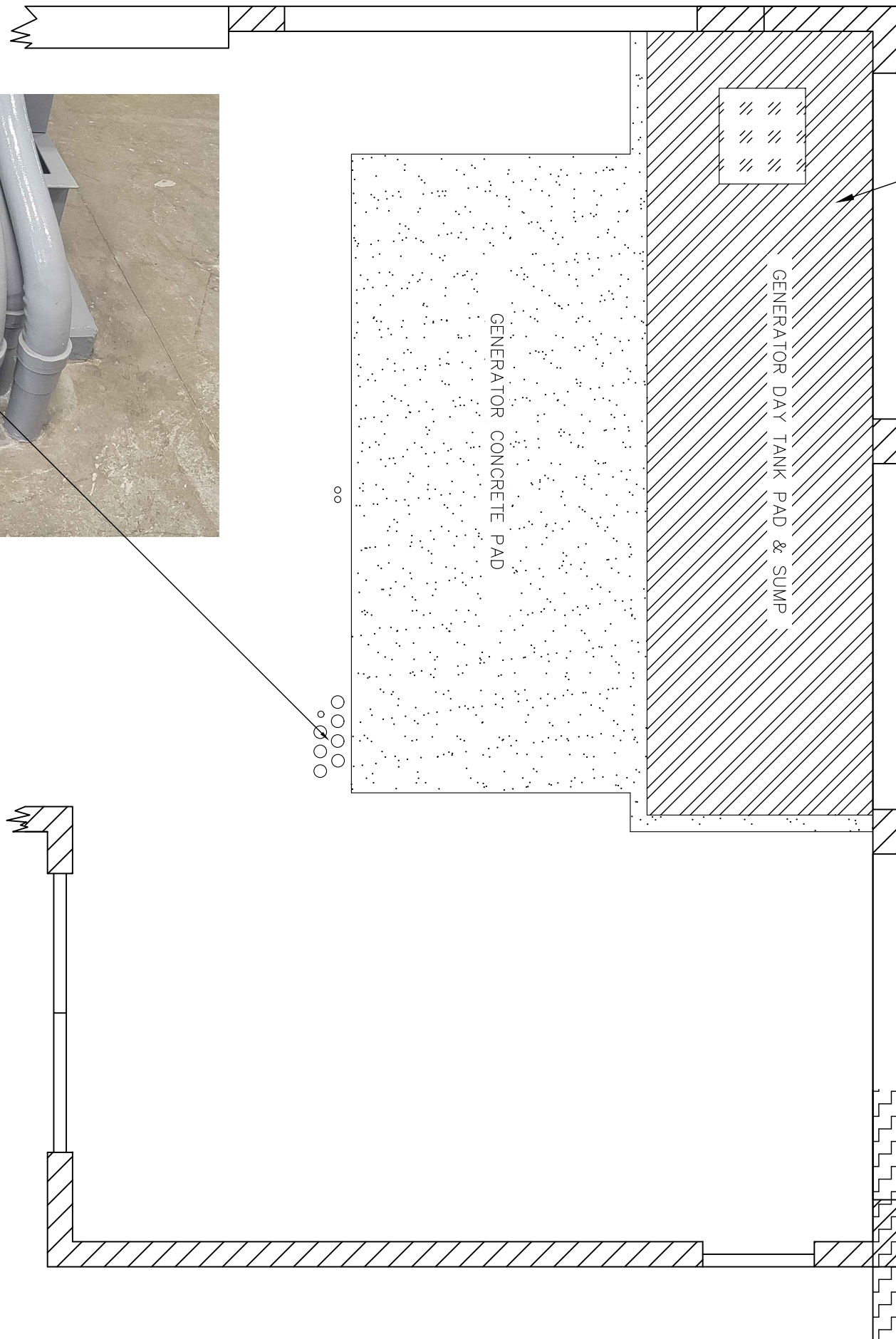
NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NTS

PP. GENERATOR  
RM #2 AG  
CONDUITS &  
PULLBOX

SHEET NUMBER  
**E-15**

EXTEND EX. GENERATOR PAD TO  
WALL. FILL RETAINMENT AREA  
WITH CEMENT AT LEVEL OF EX.  
CONCRETE PAD.





WAYNE WILDEY WRIGHT, PE  
 FL License No. 58220



FOR CONSTRUCTION  
 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

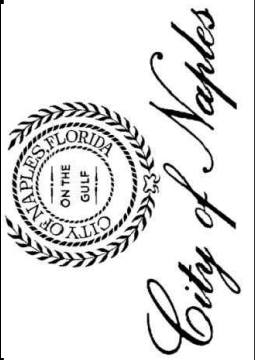
DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NONE

GENERATOR RM.  
 #2 DEMO PLAN

SHEET NUMBER

E-16

- NOTES:**  
 1. DEMO ALL INTERIOR AND EXTERIOR GENERATOR COMPONENTS (CLOUDED AREAS).



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

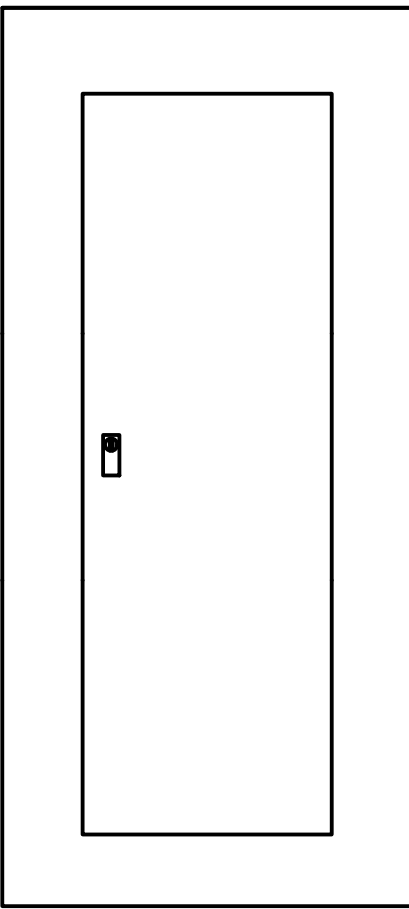
NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: 1" = 10'

PP.  
DISTRIBUTION  
PANELBOARD  
DP-ANX

SHEET NUMBER

E-17



PANEL DP-ANX																			
LOCATION: ELECTRICAL ROOM #1 ANNEX							VOLTAGE: 120/240, 1-PH, 3W FROM "XFMR-ANX"					MIN. AIC RATING: 18KAIC							
MFR/MODEL: SQUARE D - TYPE NQ							MAINS: 225A MAIN C/B, BOTTOM ENTRY					MOUNTING: SURFACE							
FED FROM: 50KVA TRANSFORMER VIA MCC 8							ENCLOSURE: NEMA 1, 42-CKT					DIMS: 20"W x 5.75"D x 50"H							
CKT. NO.	LOAD DESCRIPTION	NOTES	BRANCH CIRCUIT				C/B	LOAD AMPS	PH A	PH B	LOAD AMPS	C/B	BRANCH CIRCUIT				NOTES	LOAD DESCRIPTION	CKT. NO.
			PH	NEUT	GND	COND							PH	NEUT	GND	COND			
1	GEN #1 AUX. LOADS	--	10	10	10	1"	30	10.0	10.0	0.0	--	--	--	--	--	1	SURGE PROTECTOR	2	
3								10.0	10.0	0.0	--	--	--	--	--			4	
5	GEN #2 AUX. LOADS	--	10	10	10	1"	30	10.0	15.0	5.0	15	14	14	14	3/4"	--	PLC RIO CONTROL PANEL	6	
7								10.0	10.0	0.0	20	--	--	--	--	--		SPARE	8
9	GEN #3 AUX. LOADS	--	10	10	10	1"	30	10.0	10.0	0.0	20	--	--	--	--		SPARE	10	
11								10.0	10.0	0.0	20	--	--	--	--		SPARE	12	
13	GEN #4 AUX. LOADS	--	10	10	10	1"	30	10.0	10.0	0.0	--	--	--	--	--		space	14	
15								10.0	10.0	0.0	--	--	--	--	--		space	16	
17	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	18	
19	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	20	
21	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	22	
23	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	24	
25	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	26	
27	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	28	
29	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	30	
31	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	32	
33	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	34	
35	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	36	
37	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	38	
39	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	40	
41	space	--	--	--	--	--	--	0.0	0.0	0.0	--	--	--	--	--		space	42	
CONNECTED LOAD PER PHASE (AMPS)									45.0	40.0	0.0								
TOTAL LOAD (KW)									10.2	0.0									
NOTES:																			
1. INTEGRALLY-MOUNTED SURGE PROTECTION DEVICE SQUARE D MODEL QO2175SB																			
2. COPPER EQUIPMENT GROUND BAR, COPPER NEUTRAL																			
3. TIN-PLATED COPPER BUS BAR																			
4.																			
5.																			



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

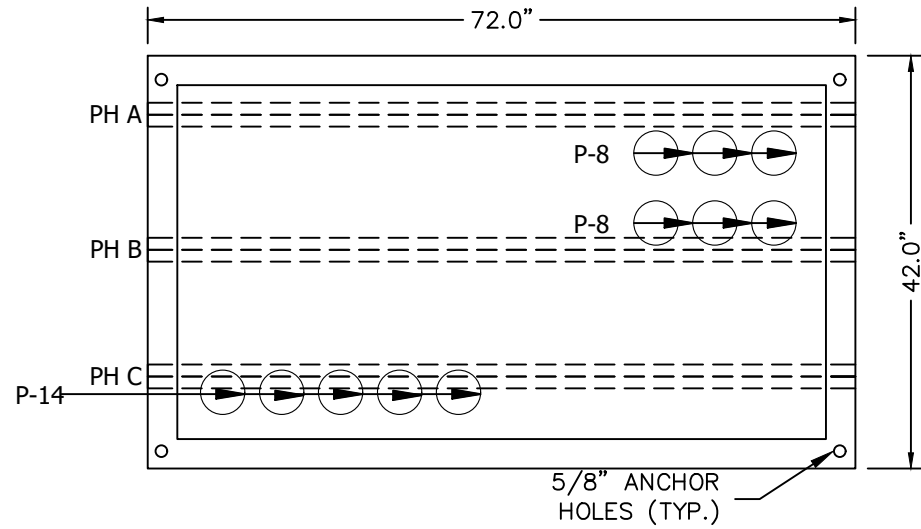
NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NTS

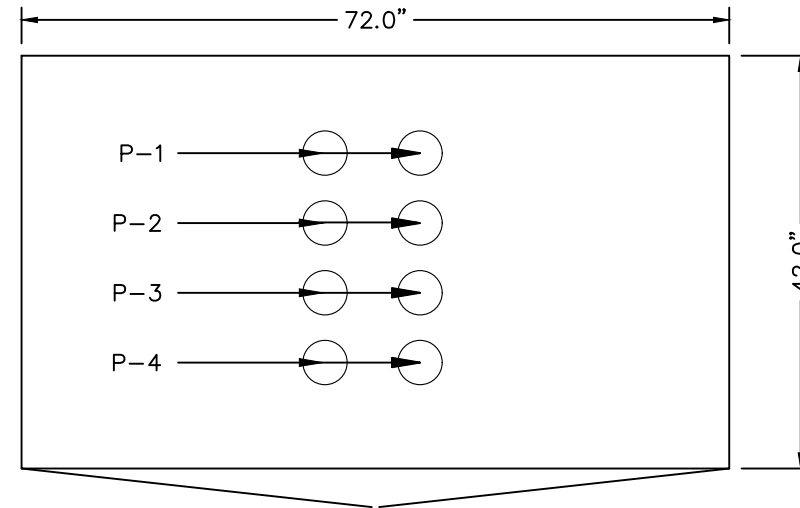
**GENERATORS  
TAP BOX**

SHEET NUMBER

**E-18**

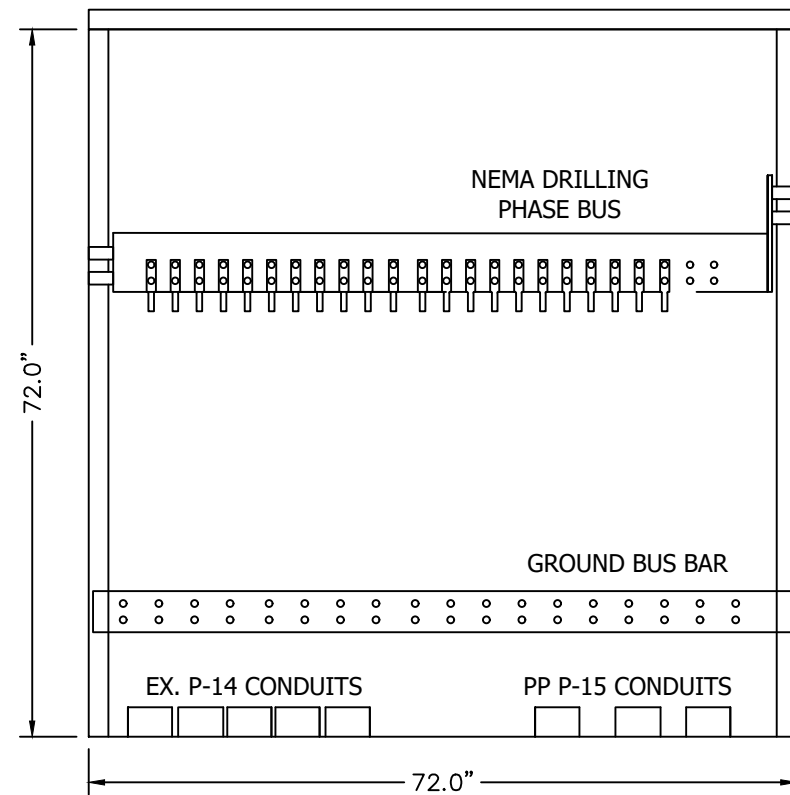


**PLAN VIEW - BOTTOM**

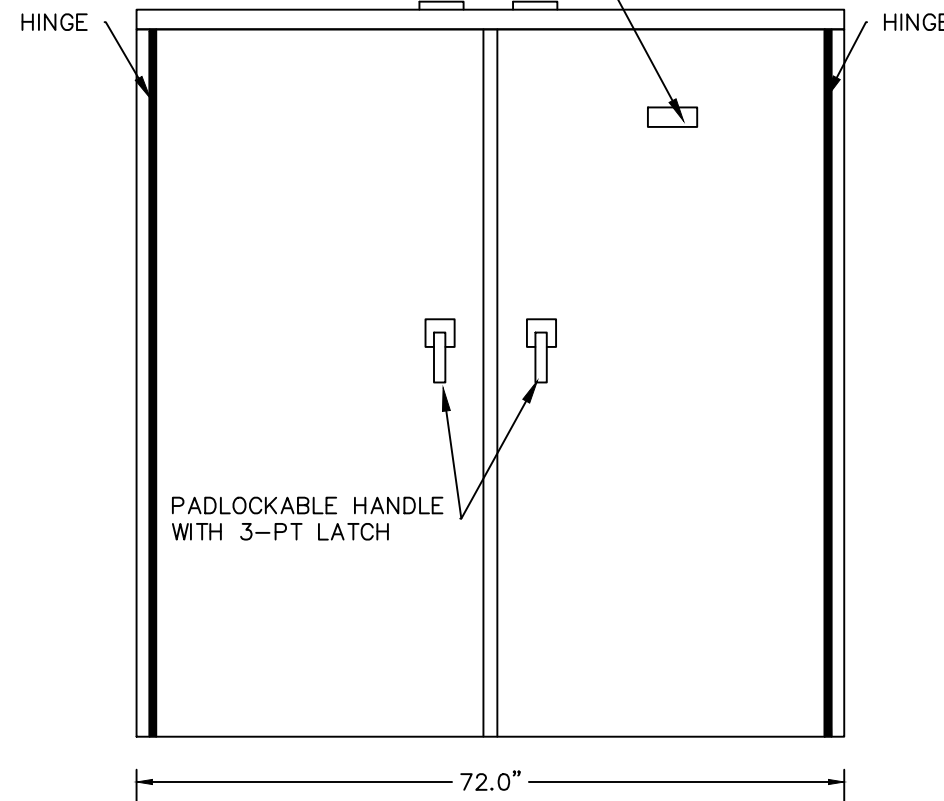


**PLAN VIEW - TOP**

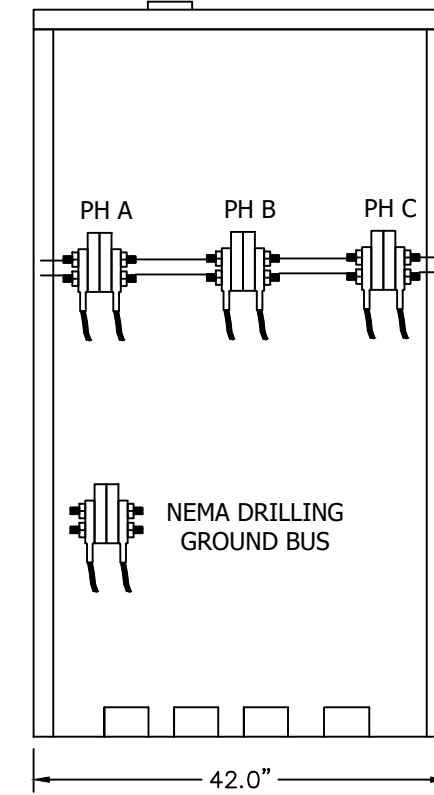
PROVIDE COMPRESSION LUGS  
AND NEMA DRILLING FOR  
(5) 600 KCMIL/PH,  
(6) 500 KCMIL/PH,  
(8) 750 KCMIL/PH,  
(6) 350 KCMIL GND,  
(5) 250 KCMIL GND,  
(8) 2/0 KCMIL GND



**FRONT INTERIOR VIEW**



**FRONT EXTERIOR VIEW**



**SIDE INTERIOR VIEW**



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

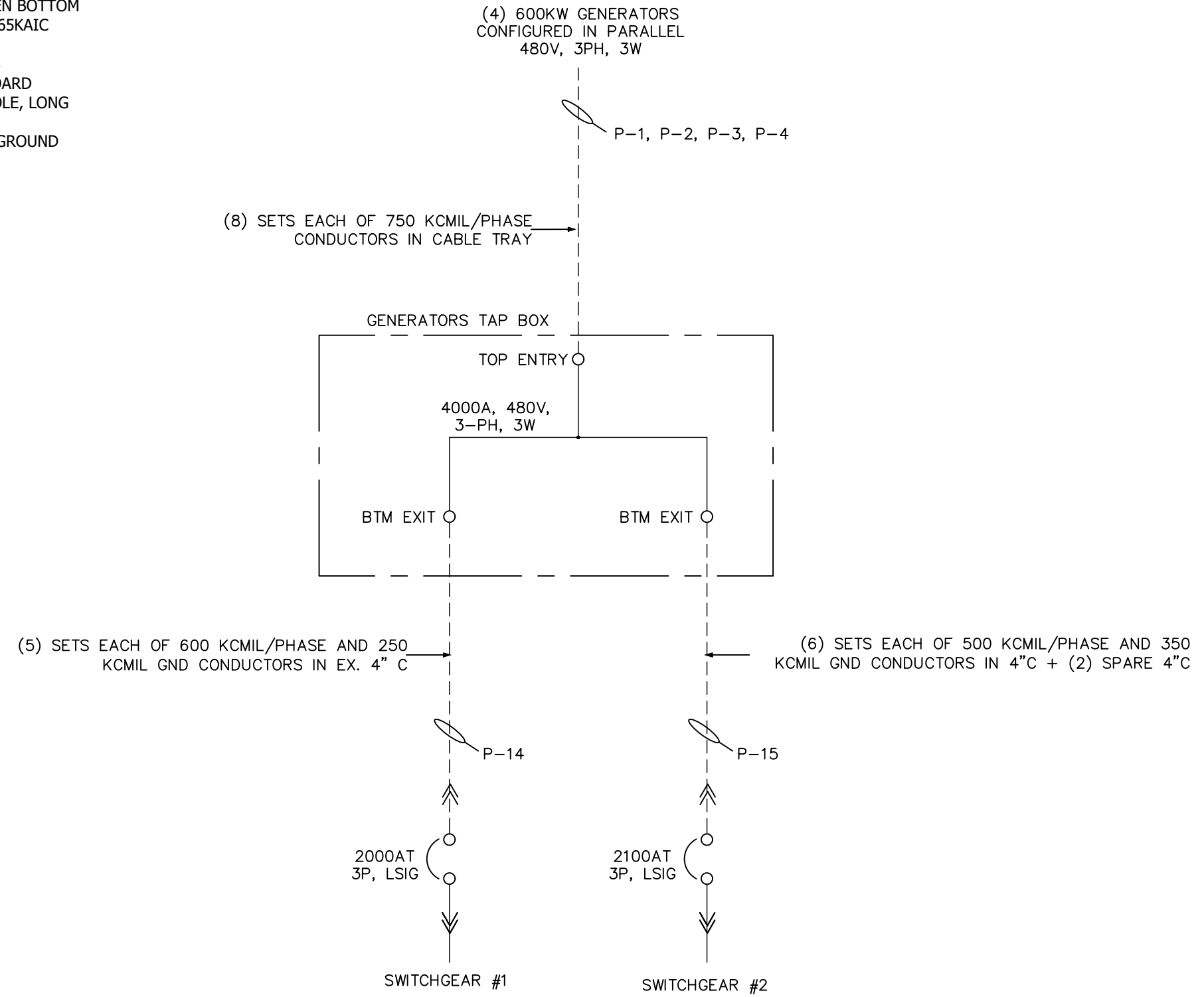
DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

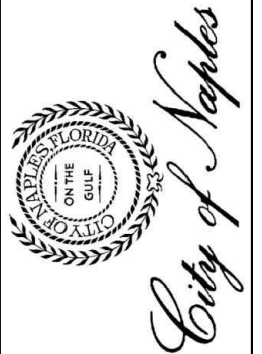
**GENERATORS  
TAP BOX**

SHEET NUMBER  
**E-19**

**NOTES:**

1. CERTIFICATION: UL 891 LISTED AS LOW VOLTAGE SWITCHBOARD
2. ENCLOSURE: FREESTANDING SWITCHBOARD CONSTRUCTION, NEMA 1, PADLOCKABLE HANDLE WITH 3-PT LATCH, FRONT ACCESS, OPEN BOTTOM
3. ELECTRICAL RATING: 480Y/277V, 3PH, 3W, 4000A CU, SCCR = 65KAIC
4. PHASE BUSSING: 4000A SILVER-PLATED COPPER
5. HARDWARE: MIN. GRADE 5 BOLTS WITH SPLIT LOCK WASHERS
6. GROUND: COPPER BUS EXTENDED FULL LENGTH OF SWITCHBOARD
7. LUGS: FURNISH AND INSTALL COPPER COMPRESSION, TWO-HOLE, LONG BARREL, 90C, BURNDY TYPE YA-2N, OR EQ.
8. NAMEPLATE: PLASTIC 2" X 5" WHITE LETTERS ON BLACK BACKGROUND W/SS SCREWS "GENERATOR POWER TAP BOX".
9. MFR:  
INDUSTRIAL ELECTRICAL MFG. (IEM)  
JACKSONVILLE, FL.  
MATT ALBERT @ 904-365-4464





FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

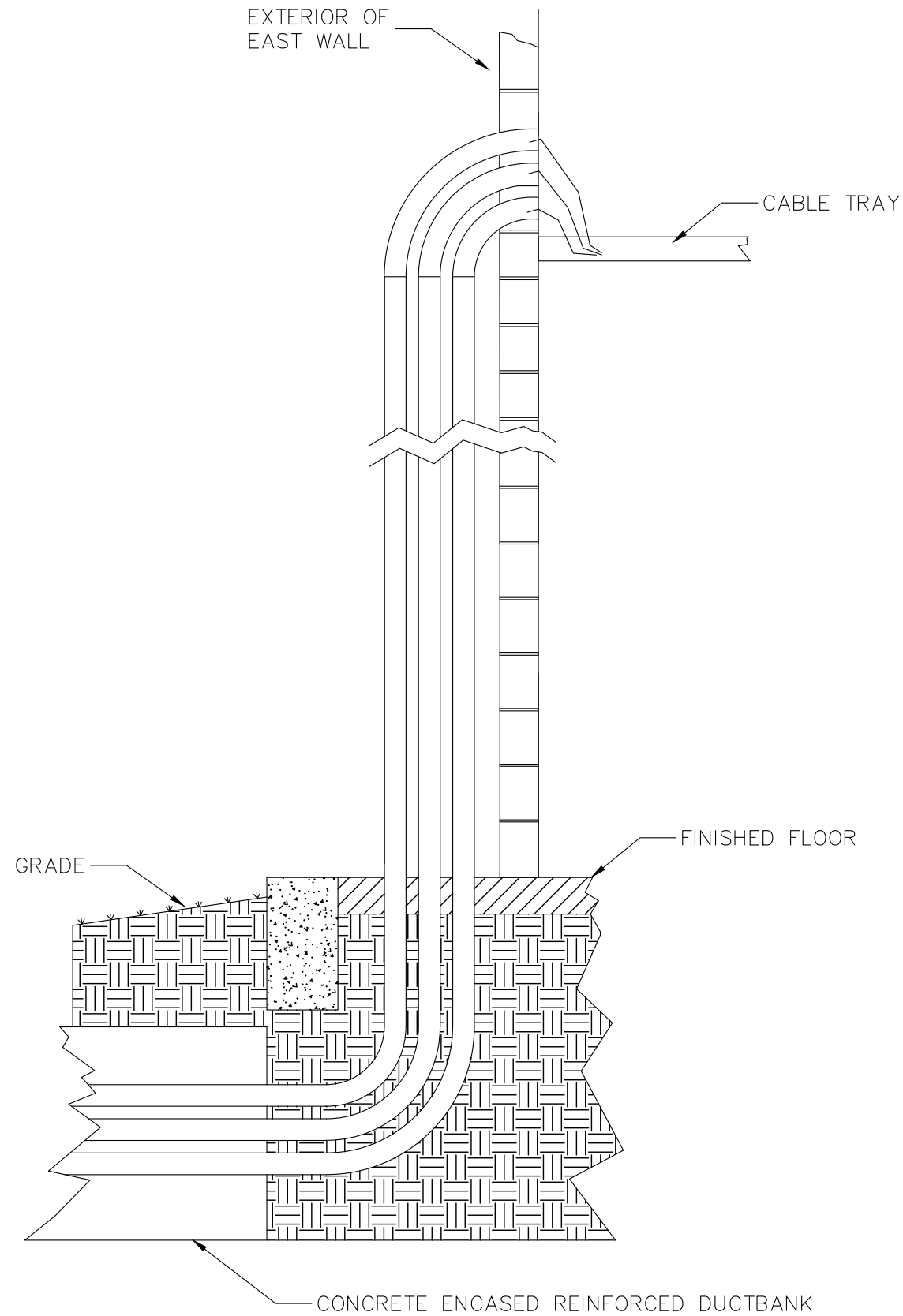
NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

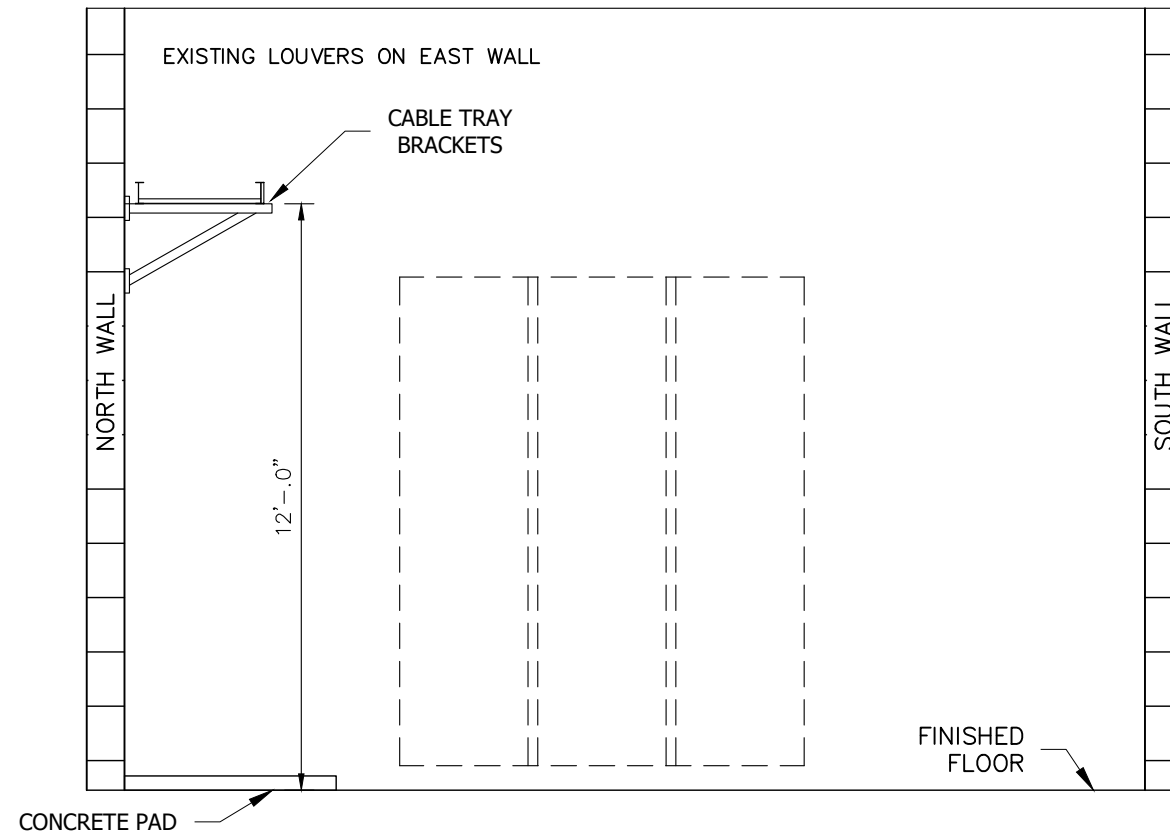
PP. ELEC. RM.  
#1 ANNEX EAST  
WALL EXTERIOR

SHEET NUMBER

**E-20**

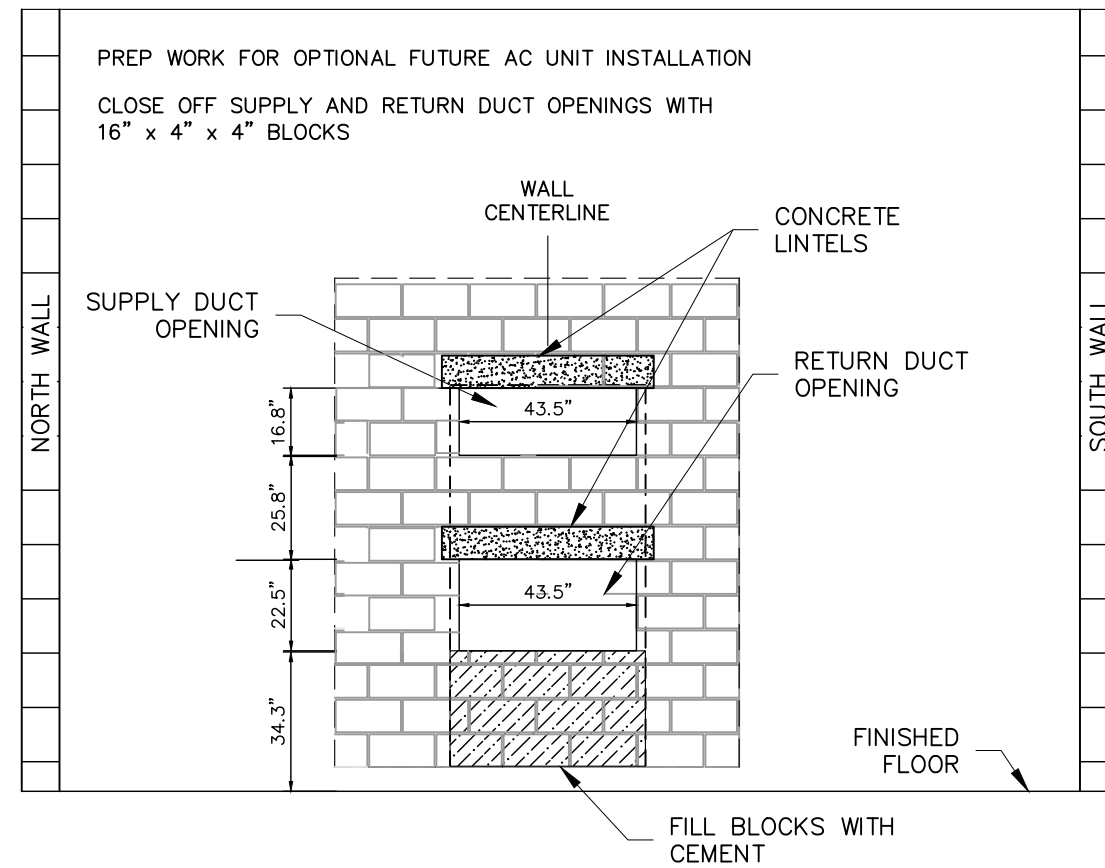


CONDUIT DUCT BANK ENTRANCE INTO  
ELECTRICAL ROOM #1 ANNEX  
(SIDE VIEW) NTS



**NOTES:**

1. STUCCO AND PAINT FINISHED WALL TO MATCH EXISTING.
2. REFER TO SPECIFIC SYSTEMS HVAC WALL CUTOUT DETAIL FOR MODEL APK-90 7.5 TON A/C UNIT DWG. # T20-000800-02.



**ELECTRICAL ROOM #1 ANNEX  
EAST WALL INTERIOR VIEWS  
NTS**



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

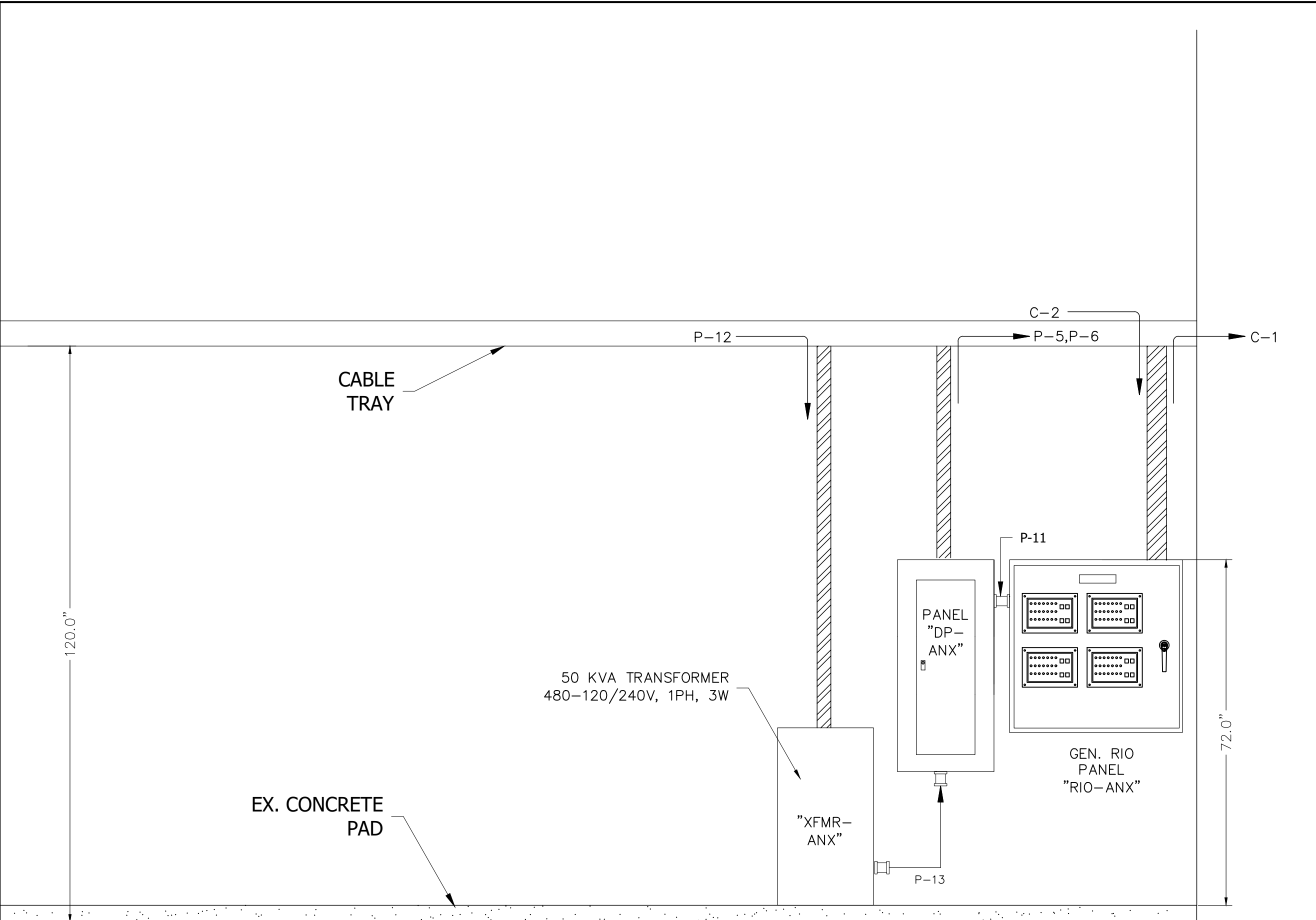
NO.	REVISIONS DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

PP. ELEC. RM.  
#1 ANNEX EAST  
WALL INTERIOR

SHEET NUMBER

**E-21**



**JOHNSON ENGINEERING**  
 JOHNSON ENGINEERING, INC.  
 2122 JOHNSON STREET  
 P.O. BOX 1550  
 FORT MYERS, FLORIDA 33902-1550  
 PHONE: (239) 334-0046

WAYNE WILDEY, WRIGHT, PE  
 FL License No. 98220



FOR CONSTRUCTION  
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 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE
1	CLARIFICATIONS	3/14/23

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: NTS

PP. ELEC. RM. #1  
 ANNEX NORTH  
 WALL

SHEET NUMBER  
**E-22**





FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DATE	DESCRIPTION

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: 1" = 60'

PP. GENERATOR  
GROUNDING PLAN

SHEET NUMBER  
**E-23**

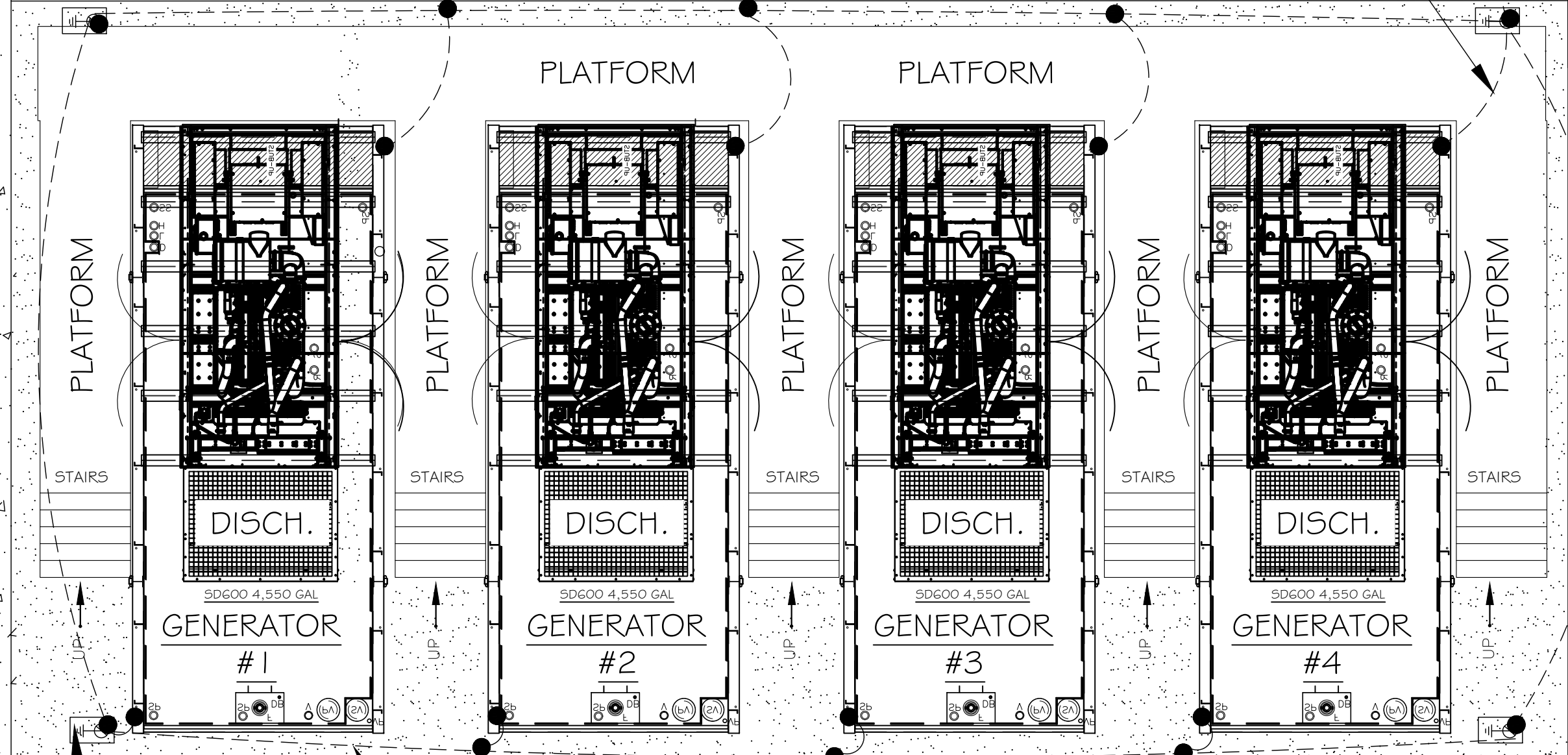
**NOTES:**

1. DIMENSIONS ARE APPROXIMATE. REFER TO COASTLINE POWER SOLUTIONS DRAWINGS FOR ACTUAL TANK AND PLATFORM DIMENSIONS.
2. GENERATOR PAD SHALL INCORPORATE GROUND TEST WELLS.

EX. SIDEWALK

8" IN-PLANT REUSE SKID

GENERATOR BONDING JUMPER (8 PLACES)



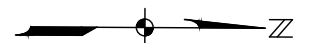
GROUND TEST WELL  
(TYP. OF 4)

GROUND RING

PP. GENERATOR PAD

ROADWAY

EX. SIDEWALK





FOR CONSTRUCTION  
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WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

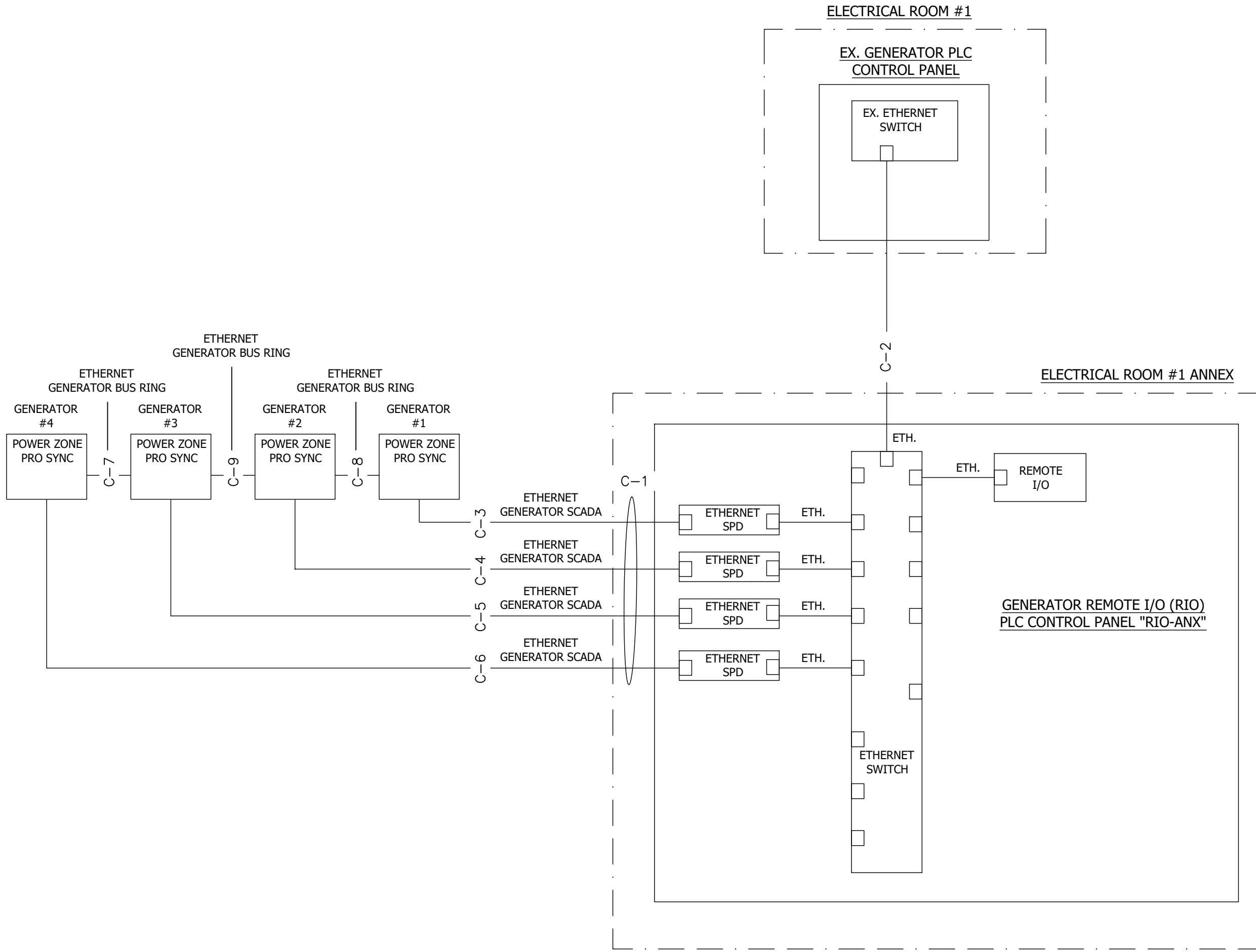
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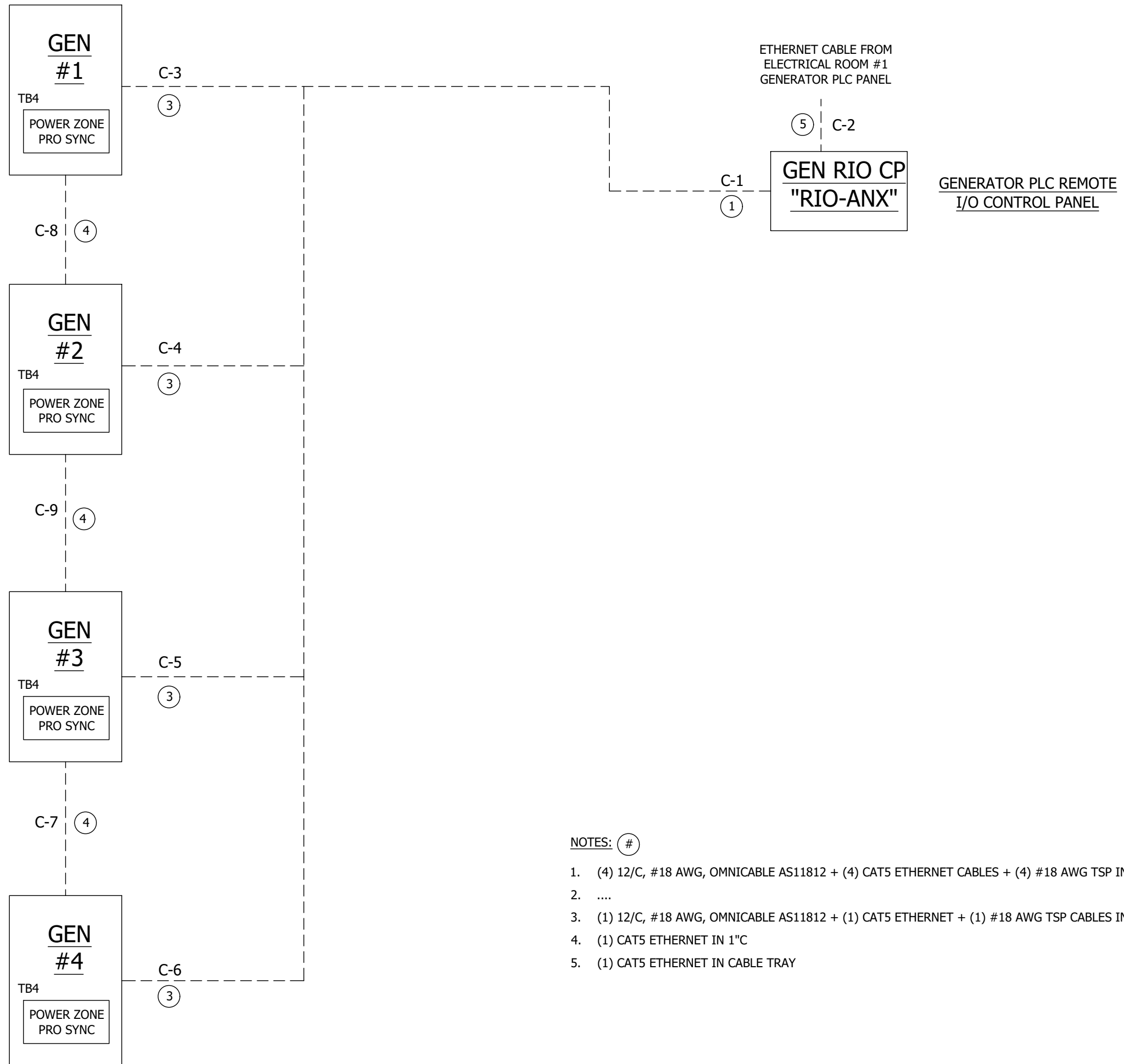
DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

PP. GENERATOR NETWORK

SHEET NUMBER

**E-24**





NOTES: #

1. (4) 12/C, #18 AWG, OMNICABLE AS11812 + (4) CAT5 ETHERNET CABLES + (4) #18 AWG TSP IN 4"C
2. ....
3. (1) 12/C, #18 AWG, OMNICABLE AS11812 + (1) CAT5 ETHERNET + (1) #18 AWG TSP CABLES IN 2"C
4. (1) CAT5 ETHERNET IN 1"C
5. (1) CAT5 ETHERNET IN CABLE TRAY

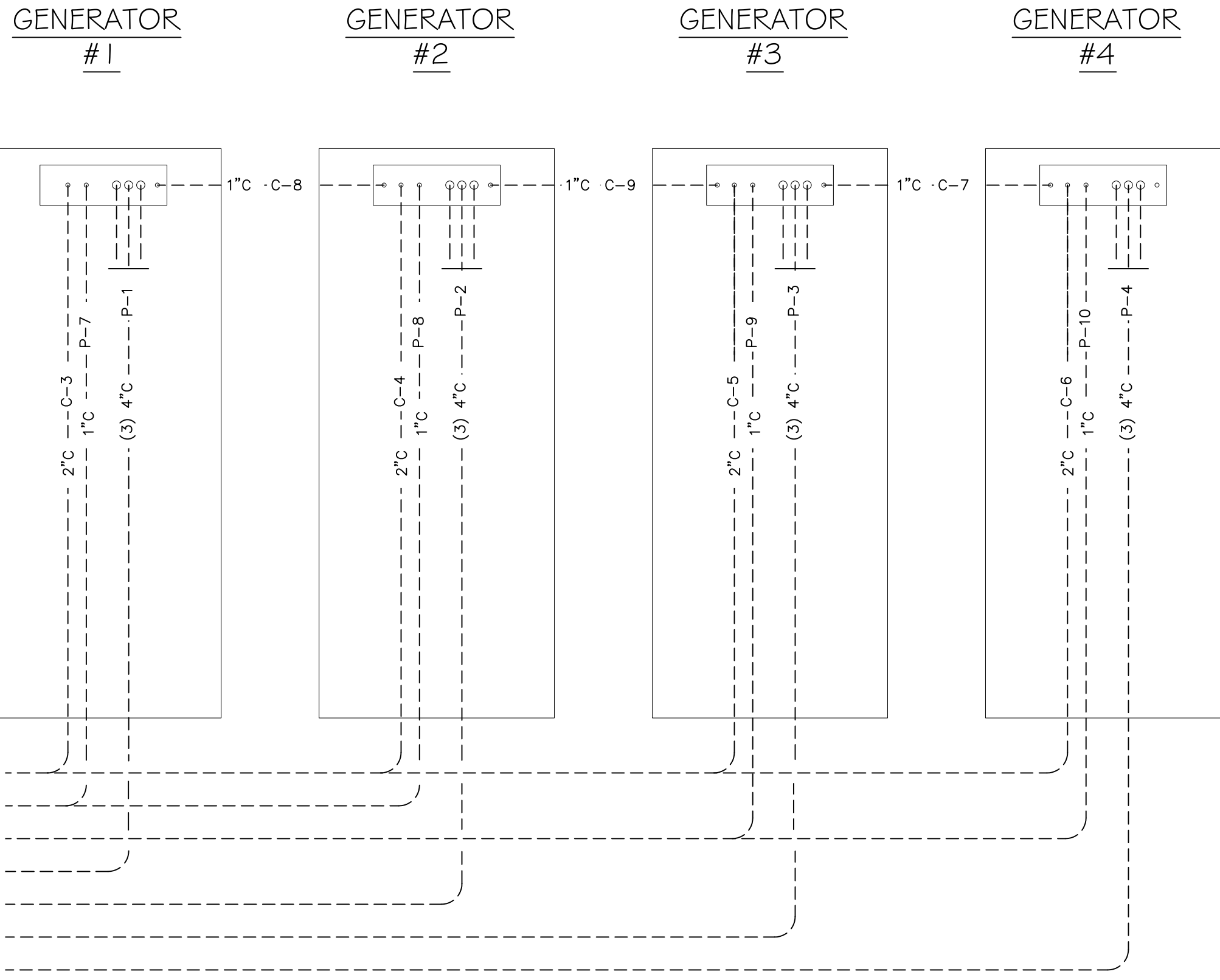


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GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

PP. GENERATOR CONTROLS INTERCONNECTIONS



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE
1	P-7, 8, 9, 10 SIZES	3/14/23

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

PP.  
GENERATORS  
CONDUIT PAD  
STUB-UPS

SHEET NUMBER  
**E-26**

NOTES: #

1. - - - - UG CONDUIT
2. \_\_\_\_\_ AG CONDUIT / CABLE TRAY
3. CONDUIT DUCT BANKS SHALL BE CONCRETE-ENCASED.
4. PULLBOX PB-4 TO BE LOCATED SUCH THAT ALL PARALLEL CONDUCTORS ARE THE SAME LENGTH.



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

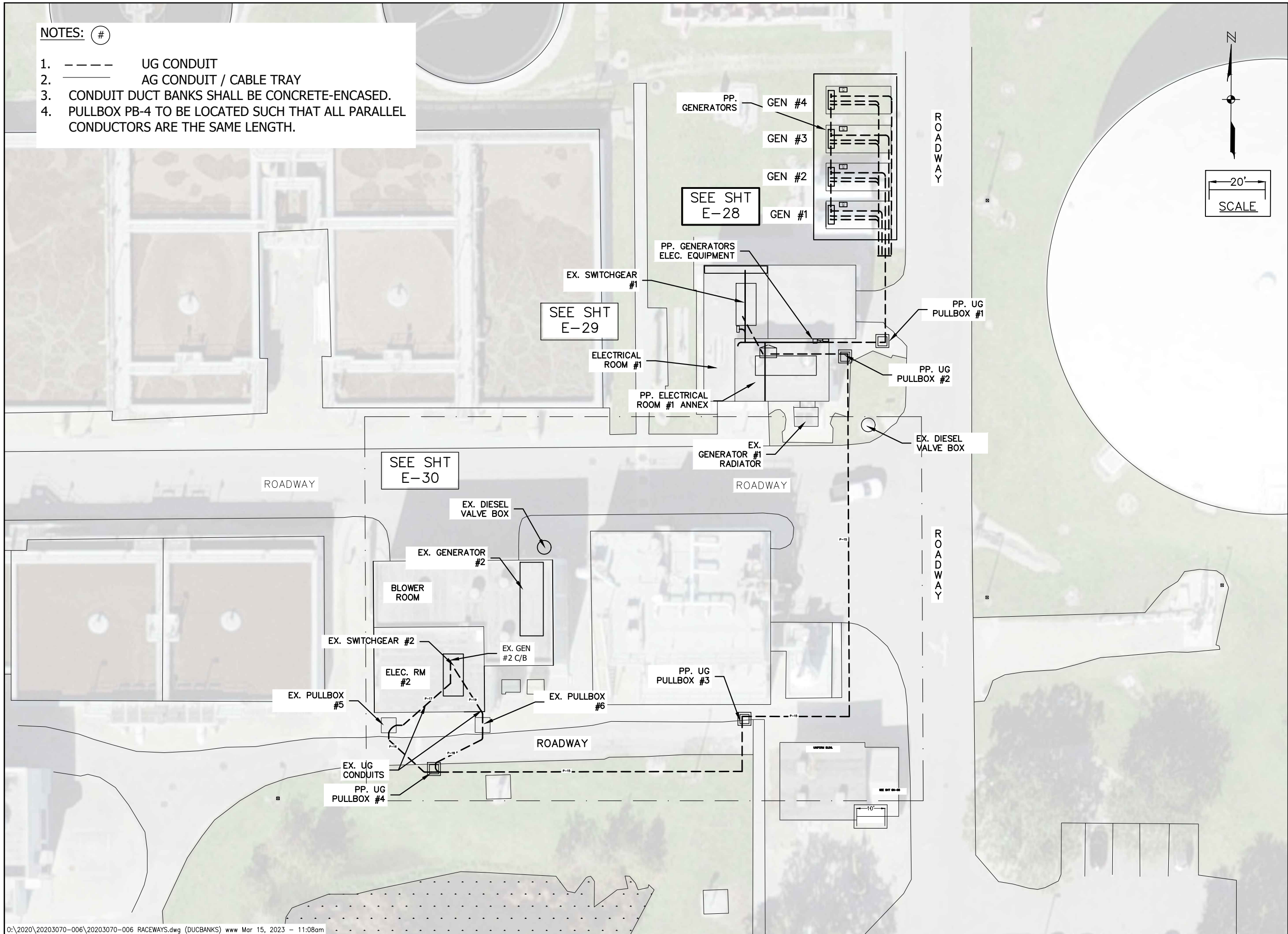
NO.	DATE	DESCRIPTION
1	3/14/23	CORRECTED SCALE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: AS SHOWN

PP. RACEWAYS  
OVERVIEW

SHEET NUMBER

E-27





FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

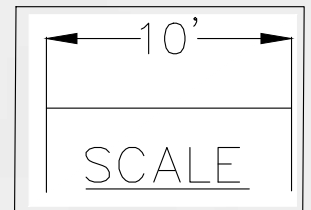
NO.	DESCRIPTION	DATE
1	CORRECTED SCALE	3/14/23

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: AS SHOWN

PP. RACEWAYS  
AREA 1

SHEET NUMBER

E-28

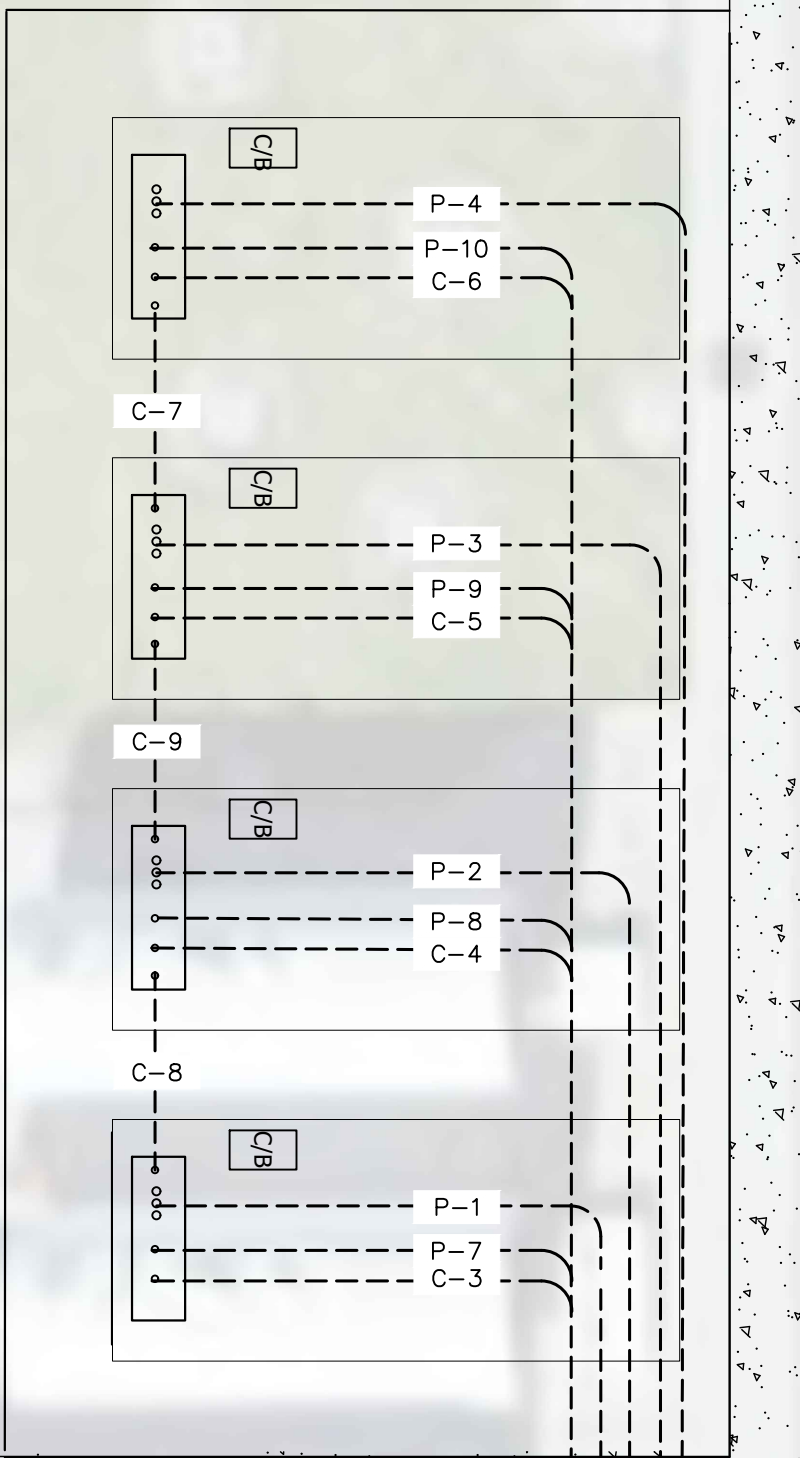


GEN #4

GEN #3

GEN #2

GEN #1



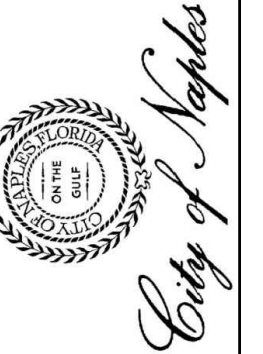
EX. SIDEWALK

MCC-8

P-12

MATCHLINE - SEE SHEET E-29

MATCHLINE - SEE SHEET E-28



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE
1	CORRECTED SCALE	3/14/23

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: AS SHOWN

PP. RACEWAYS  
AREA 2

SHEET NUMBER  
**E-29**

FPL VAULT

EX. SWITCHGEAR #1

GENERATOR CONTROL PANEL

GENERATOR PLC RIO PANEL

PANELBOARD

TRANSFORMER

CABLE TRAY

PP. UG DUCTBANK

P-1,P-2,  
P-3,P-4,  
P-5,P-6,  
C-1

EX. FIRE HYDRANT

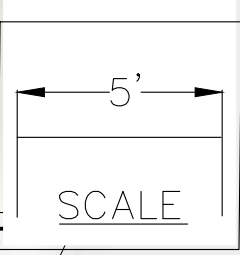
P-1,P-2,  
P-3,P-4,  
P-5,P-6,  
C-1

PP. GENERATORS TAP BOX

EX. GENERATOR #1

PP UG PULLBOX #2

PP UG PULLBOX #1



MATCHLINE - SEE SHEET E-30

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 FL License No. 58220



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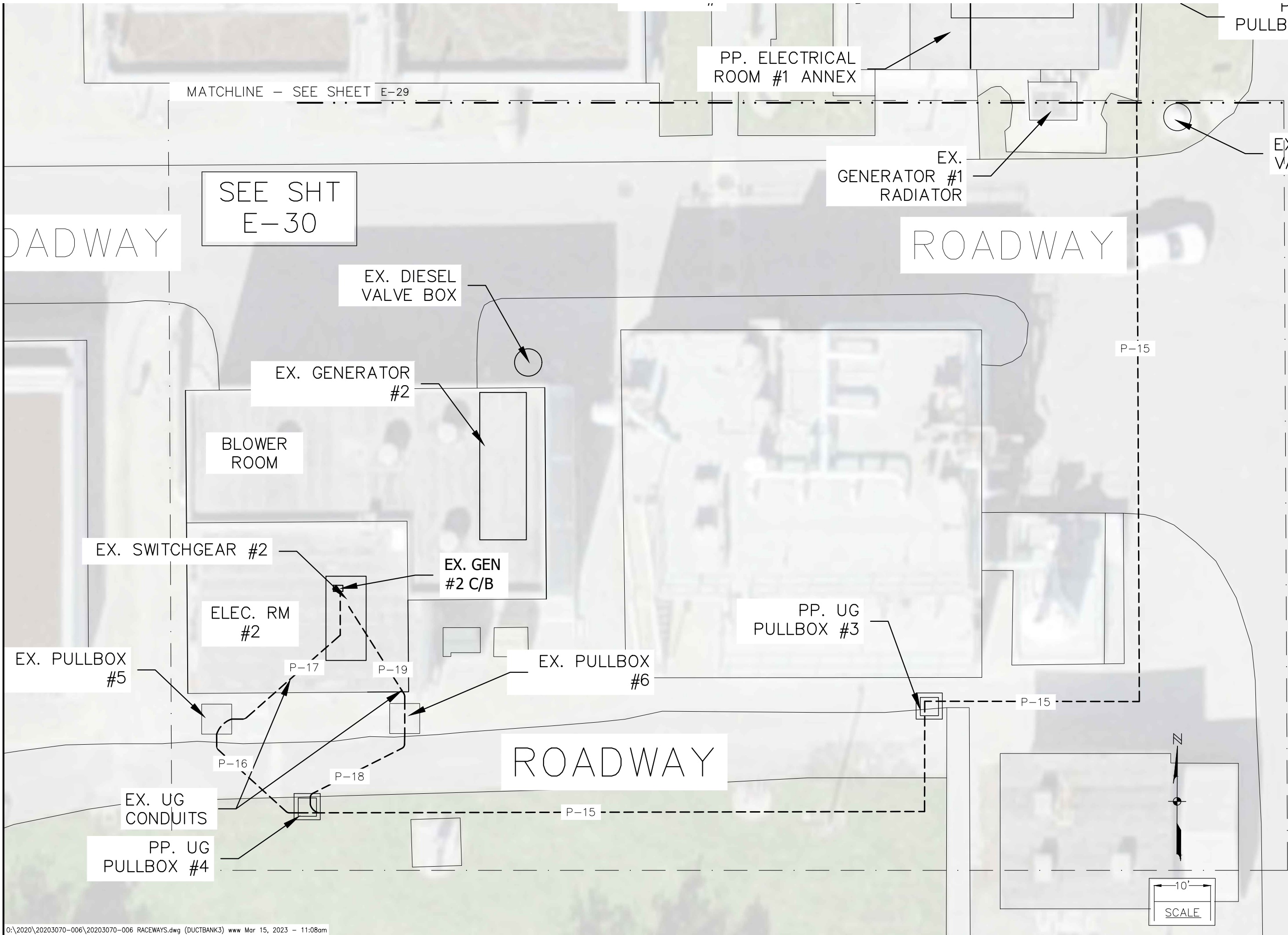
NO.	DESCRIPTION	DATE
1	CORRECTED SCALE	3/14/23

DATE: JANUARY 2023  
 PROJECT NO. 20203070-006  
 FILE NO. 03-50-25E  
 SCALE: AS SHOWN

PP. RACEWAYS  
 AREA 3

SHEET NUMBER

E-30





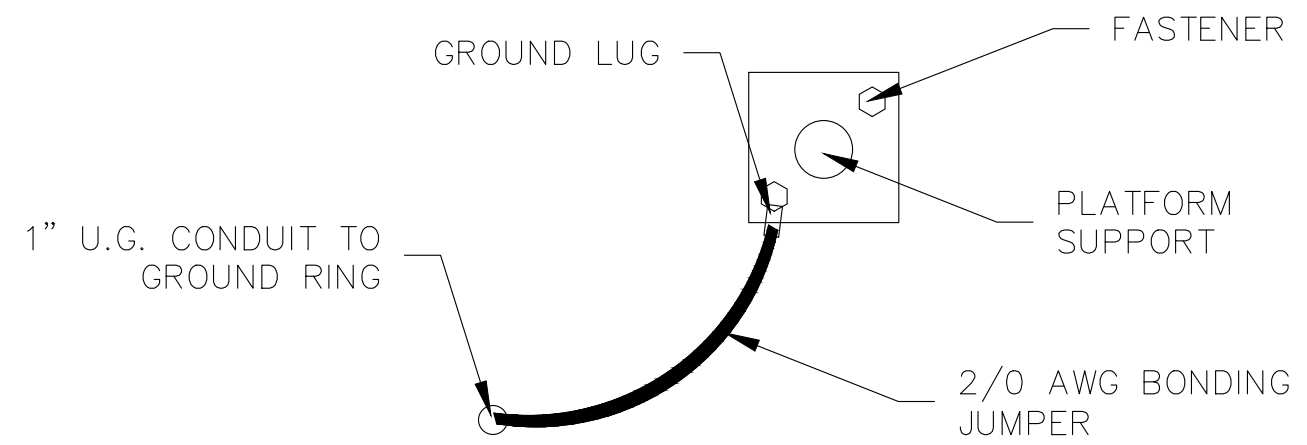
WAYNE WILDEY, WRIGHT, PE  
 FL License No. 56220



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 GENERATORS REPLACEMENT  
 WATER RECLAMATION FACILITY  
 CITY OF NAPLES, FLORIDA

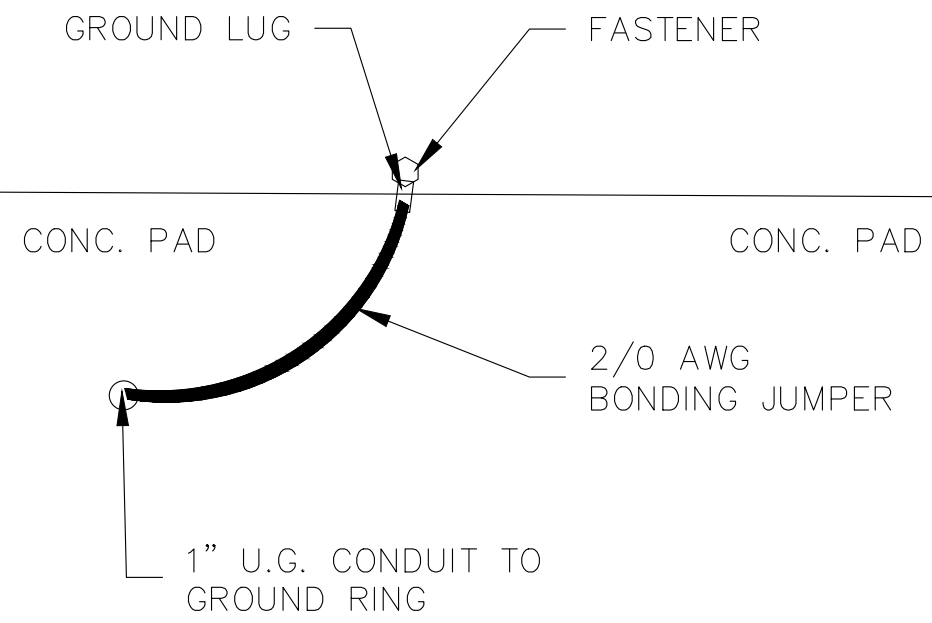
NO.	DESCRIPTION	DATE

CONC. PAD

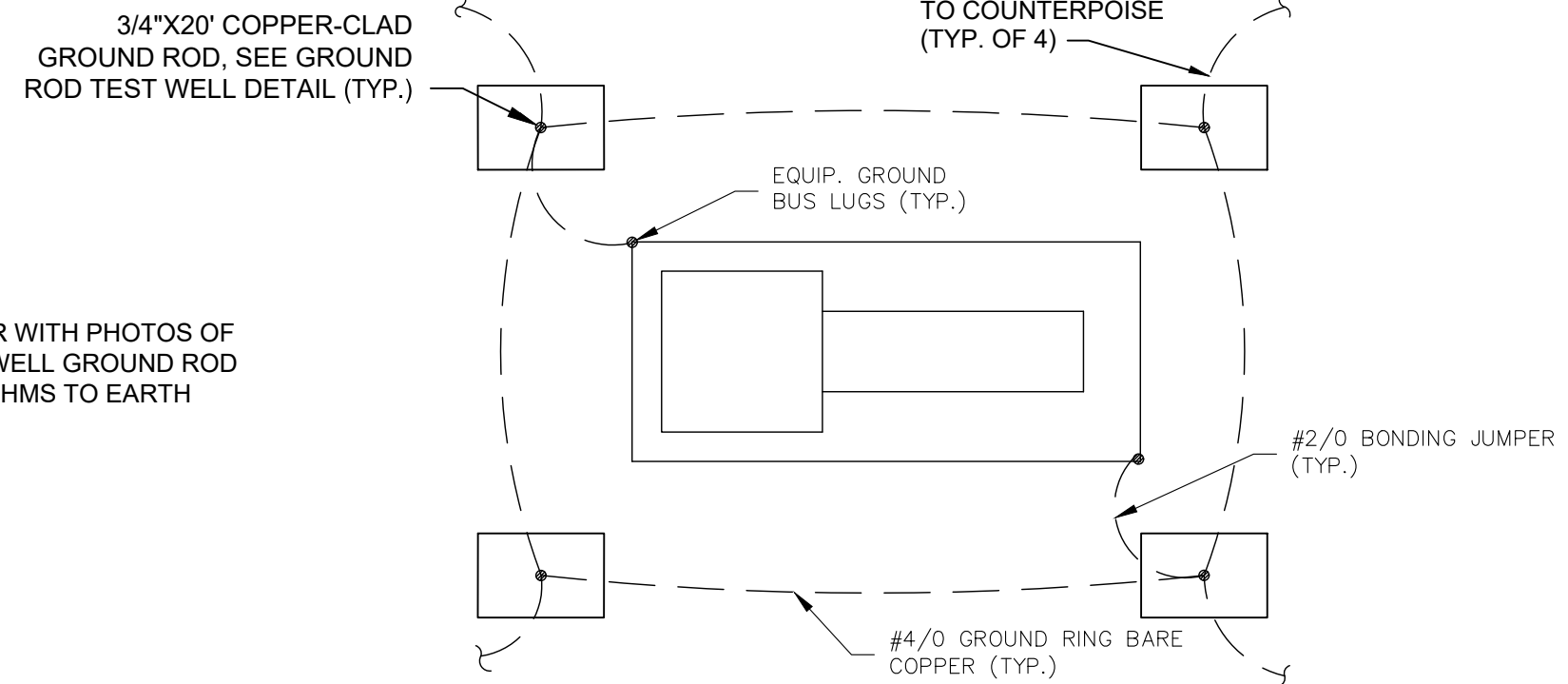


PLATFORM SUPPORT BONDING  
 (PLAN VIEW)  
 NTS

GENERATOR TANK



GENERATOR TANK BONDING  
 (PLAN VIEW)  
 NTS



GROUND RING  
 NTS

- NOTES:**
- CONTRACTOR TO PROVIDE ENGINEER WITH PHOTOS OF GROUNDING TESTER AT EACH TEST WELL GROUND ROD DEMONSTRATING RESISTANCE < 20 OHMS TO EARTH GROUND.



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

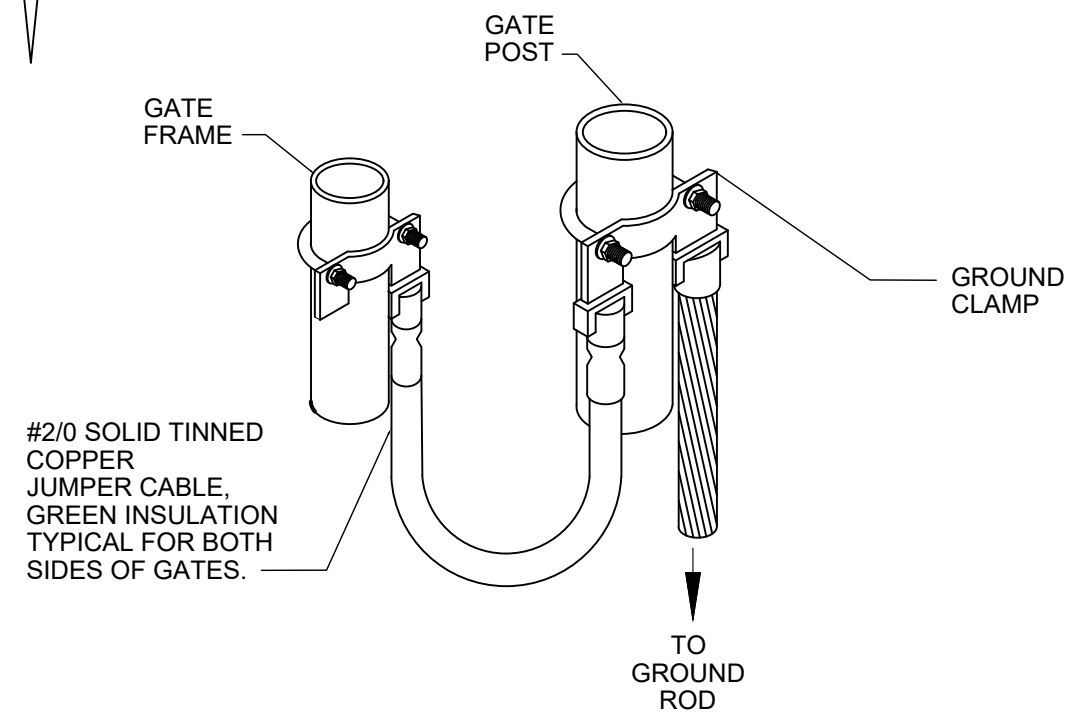
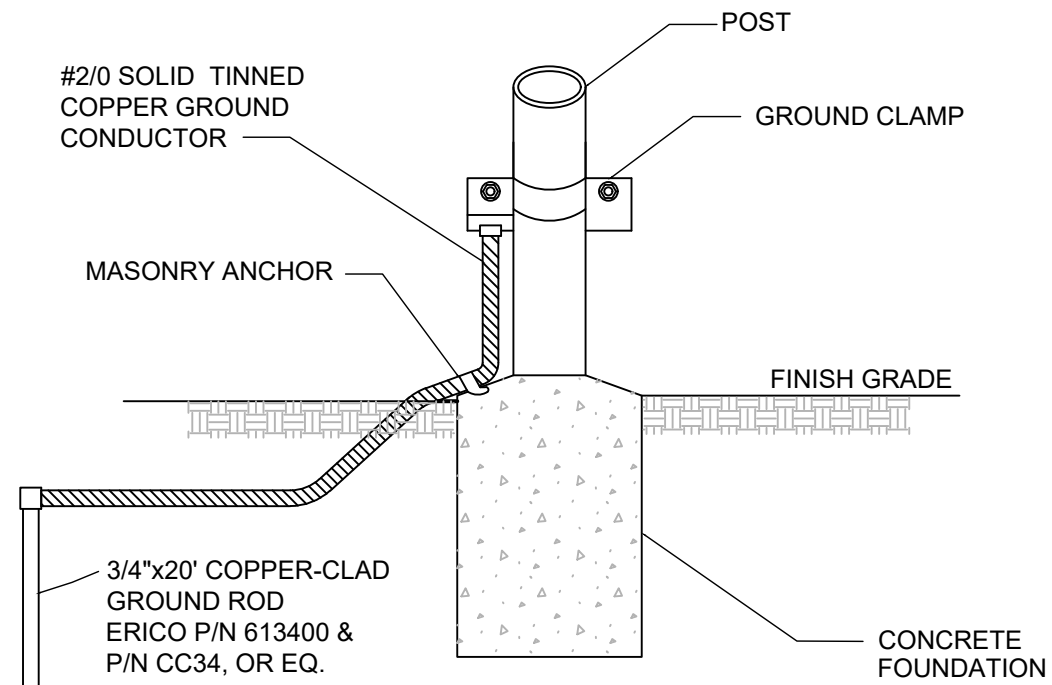
NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

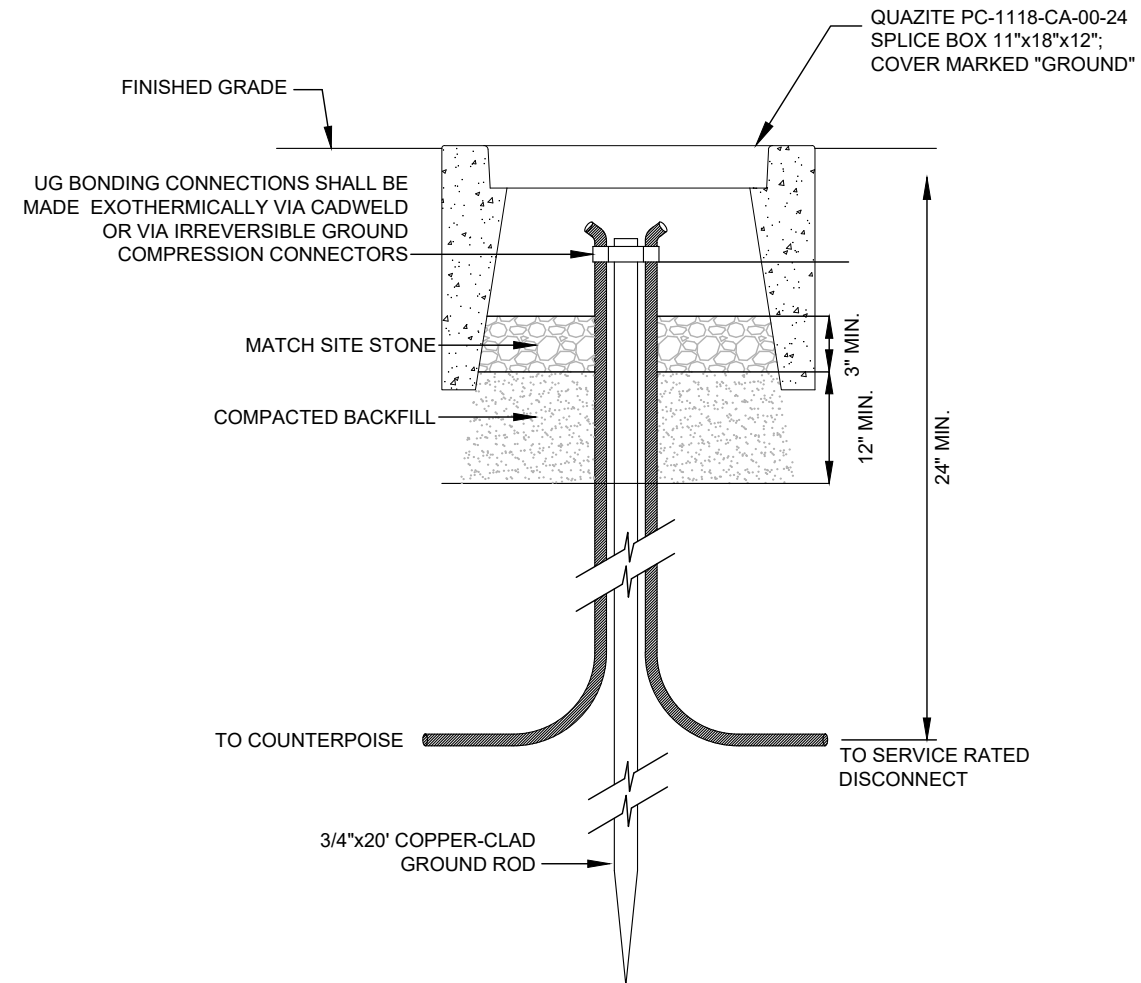
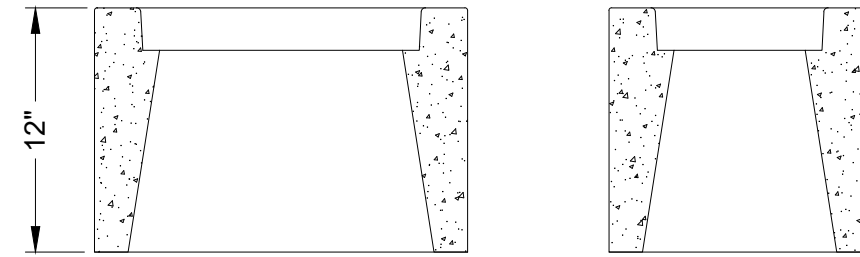
**GROUNDING ELECTRICAL DETAILS**

SHEET NUMBER

**ED-02**



PLATFORM POST BONDING  
NTS



GROUND TEST WELL  
NTS



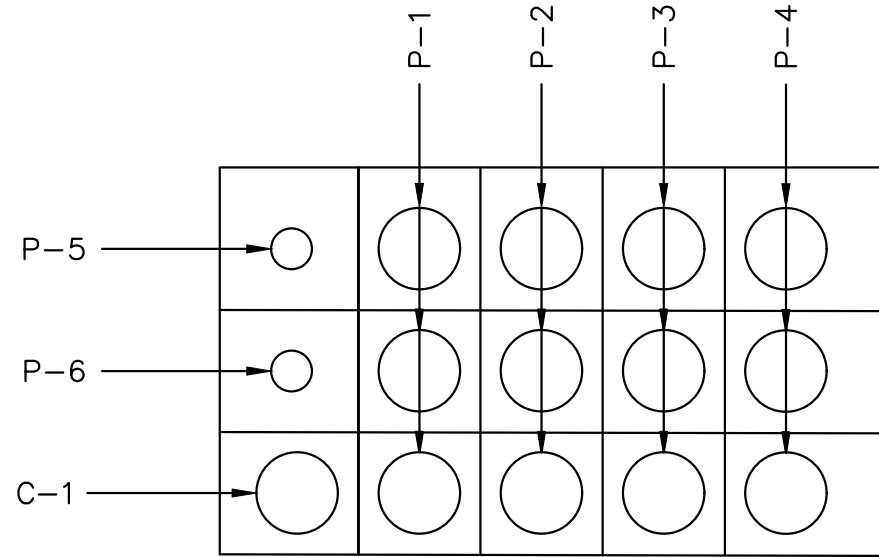
FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

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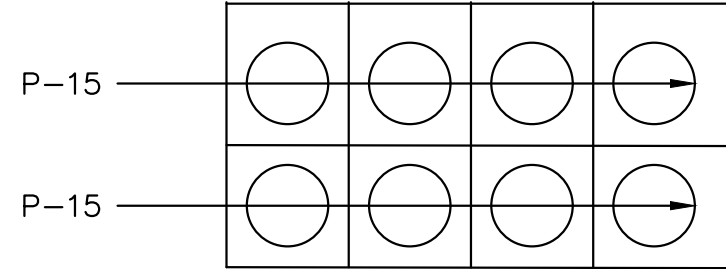
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PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

SECTIONS A,B

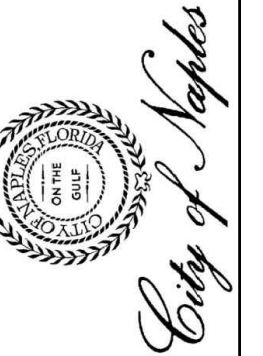
SHEET NUMBER  
**ED-03**



UG CONDUIT DUCT BANK  
SECTION A-A



UG CONDUIT DUCT BANK  
SECTION B-B



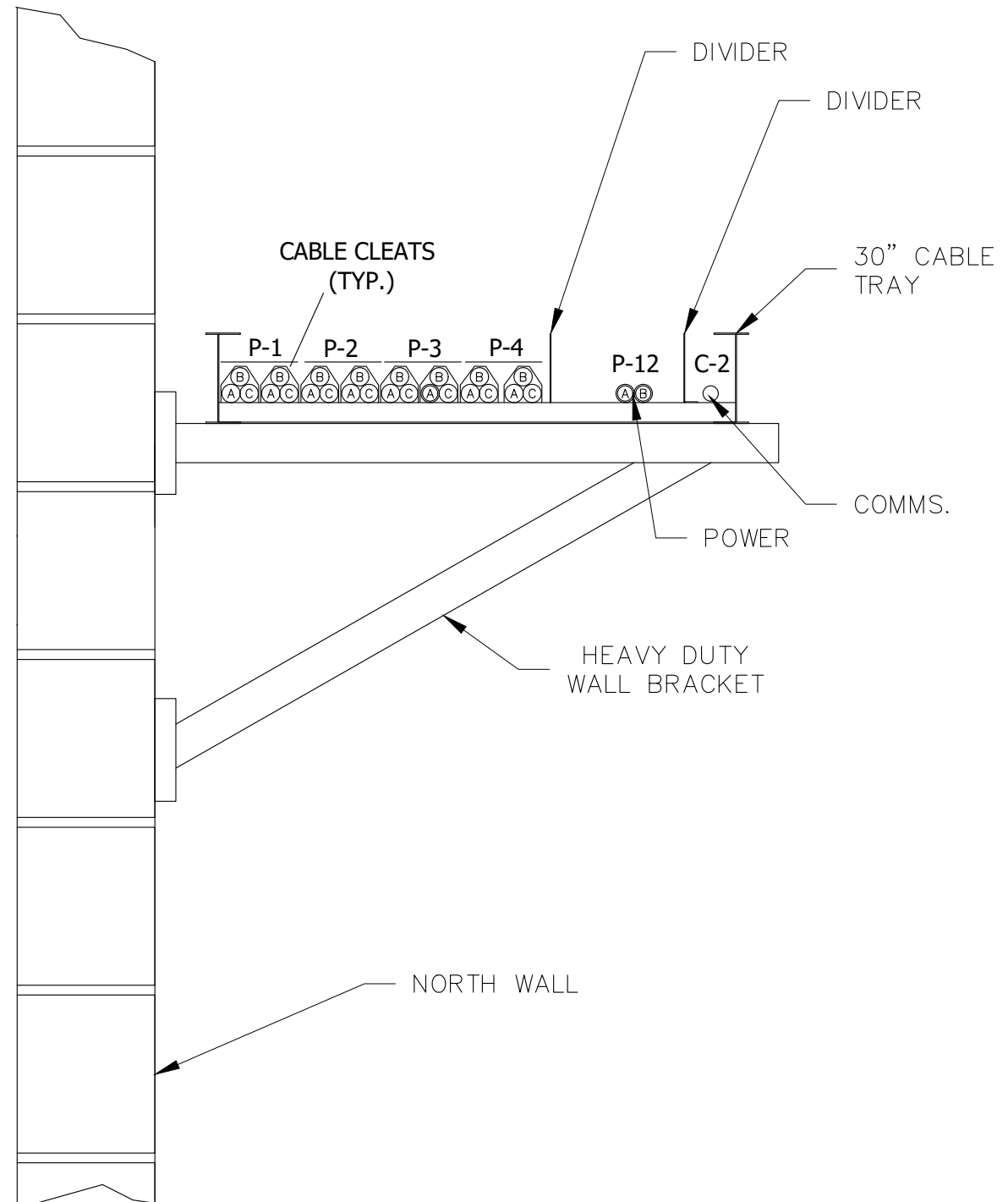
FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DESCRIPTION	DATE
1	CORRECTIONS	3/14/23

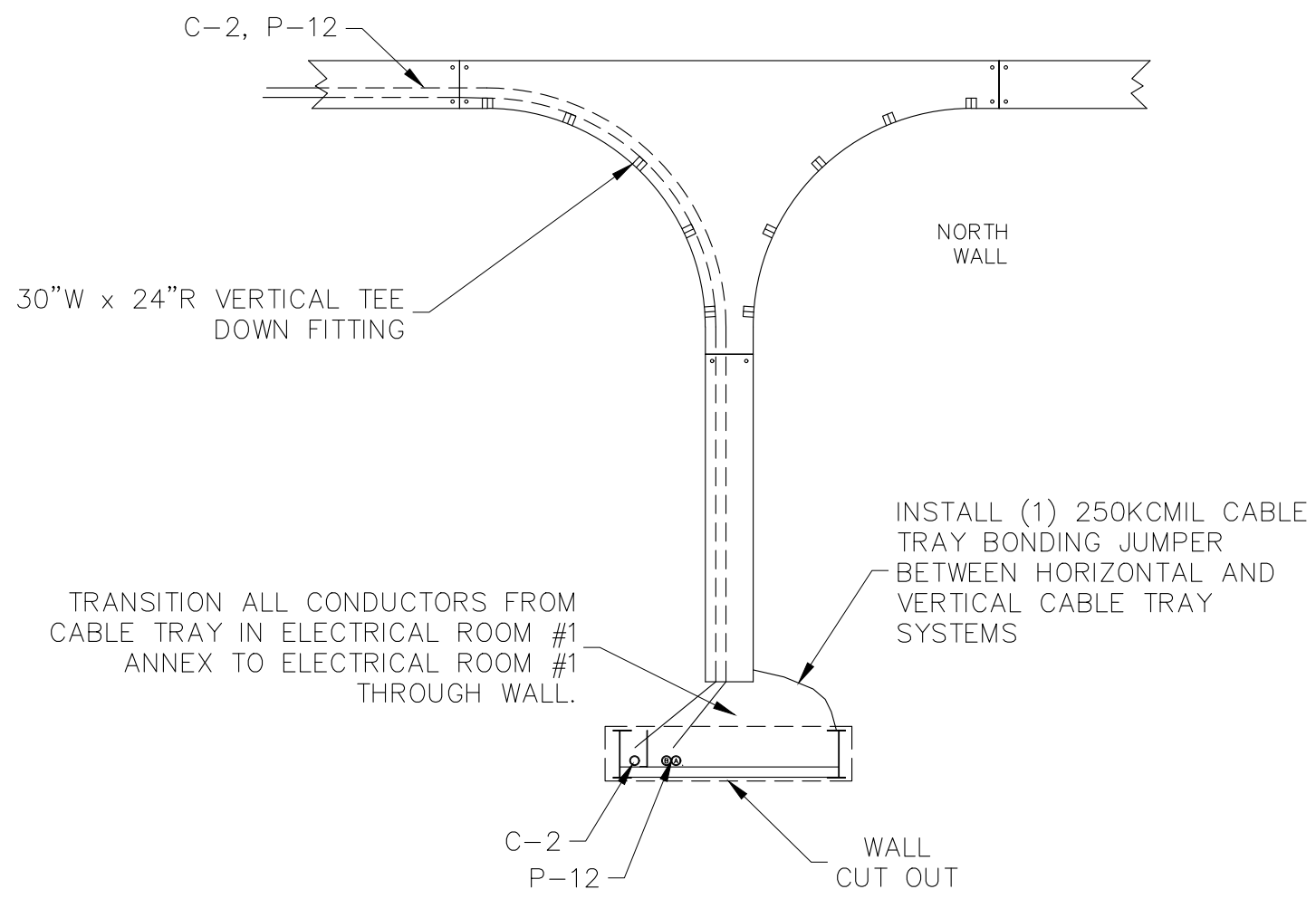
DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

SECTIONS D,E

SHEET NUMBER  
**ED-04**



SECTION E-E



SECTION D-D



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
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CITY OF NAPLES, FLORIDA

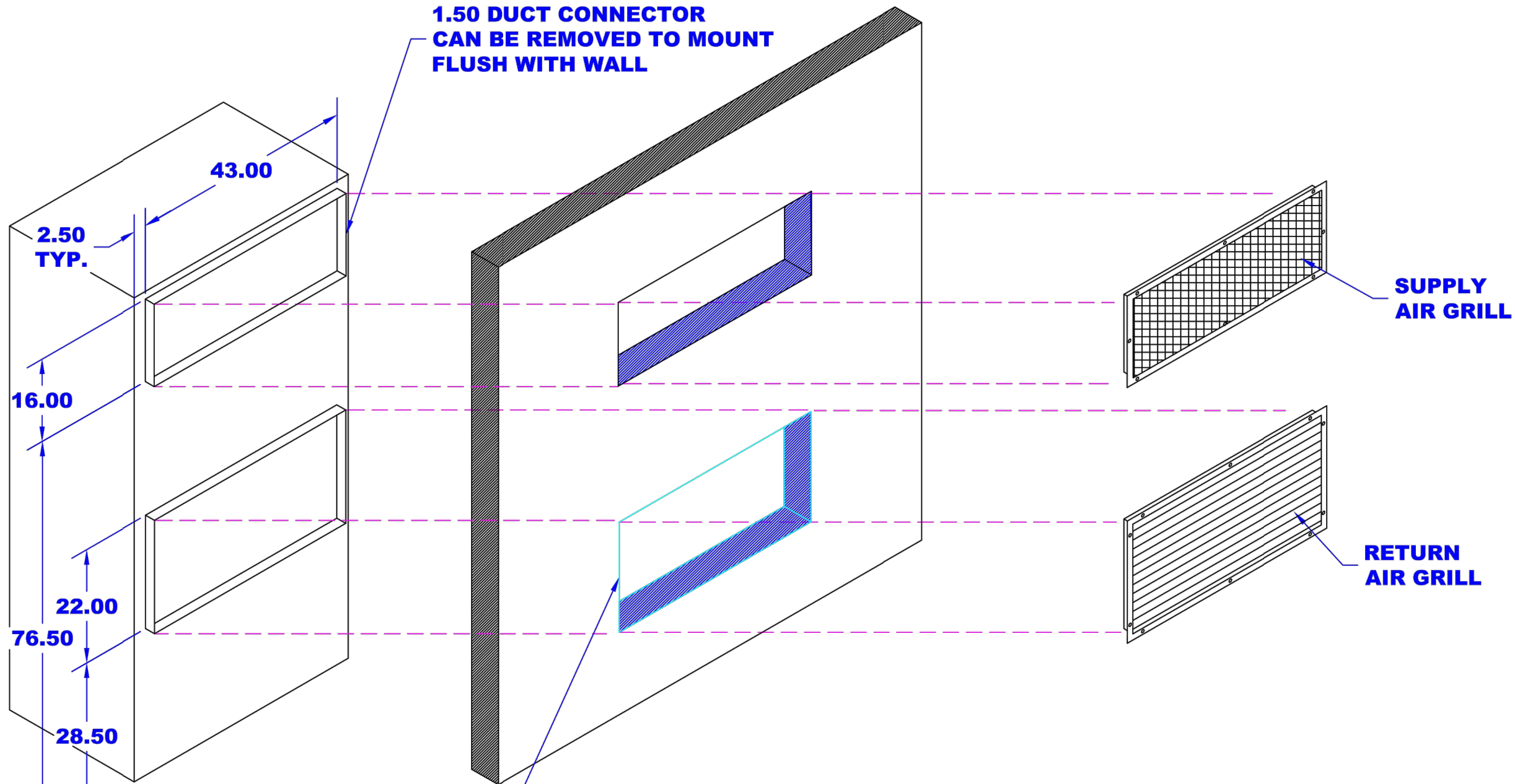
NO.	DATE	DESCRIPTION

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

FUTURE HVAC  
DIMENSIONAL  
DETAILS

SHEET NUMBER

ED-05



**NOTE: HOLES IN THE WALL SHOULD BE .50 BIGGER THAN DUCT CONNECTION**

**NOTE; All units must be installed per details and installation instructions provided. Changes to mounting procedures as detailed here-in or provided in the O&M Manuals without the expressed permission and authorization of Specific Systems Engineering Dept. may void the warranty and result in unit operational problems.**

REVISIONS				DRAWING STATUS		 <b>SPECIFIC SYSTEMS</b> CUSTOMERS FIRST WWW.SPECIFICSYSTEMS.COM 439 W 41st STREET TULSA OKLAHOMA U.S.A (918) 663-9321	TITLE:	
REV.	DESCRIPTION	DATE	APPR.	ISSUED FOR APPROVAL	DATE		DRAWN BY:	P.O.#:
A	INITIAL RELEASE	11/13/20	BC	<input checked="" type="checkbox"/>	11/13/20	BC	200023-002264	
				<input type="checkbox"/>		DATE:	JOB#:	
						11/12/20	T20-000800	
						CHK'D:	DWG#:	
						BC	T20-000800-02	
						CNTRL DWG:		
						X		

ELECTRICAL ROOM #1 ANNEX  
SOUTH WALL RESTORATION FUTURE A/C UNIT MOUNTING  
NTS



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
WATER RECLAMATION FACILITY  
CITY OF NAPLES, FLORIDA

NO.	DATE	REVISIONS DESCRIPTION

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

CABLE TRAY  
DETAILS

SHEET NUMBER

ED-06

**Atkore** NO. 0 APPROVED REVISION BY DATE MATERIAL I.D. HT

**ATKORE** 1 OF 1  
500 WHARTON CIRCLE, SUITE E ATLANTA, GA 30339 USA PHONE: 404-886-8886 FAX: 404-886-8889

**Atkore** NO. 0 APPROVED REVISION BY DATE MATERIAL I.D. HT

**ATKORE** 1 OF 1  
500 WHARTON CIRCLE, SUITE E ATLANTA, GA 30339 USA PHONE: 404-886-8886 FAX: 404-886-8889

**Atkore** NO. 0 APPROVED REVISION BY DATE MATERIAL I.D. VTD

**ATKORE** 1 OF 1  
500 WHARTON CIRCLE, SUITE E ATLANTA, GA 30339 USA PHONE: 404-886-8886 FAX: 404-886-8889

**Atkore** NO. 0 APPROVED REVISION BY DATE MATERIAL I.D. 90H

**ATKORE** 1 OF 1  
500 WHARTON CIRCLE, SUITE E ATLANTA, GA 30339 USA PHONE: 404-886-8886 FAX: 404-886-8889

**Atkore** NO. 0 APPROVED REVISION BY DATE MATERIAL I.D. A520A-LA

**ATKORE** 1 OF 1  
500 WHARTON CIRCLE, SUITE E ATLANTA, GA 30339 USA PHONE: 404-886-8886 FAX: 404-886-8889

**STRAIGHT SECTION**

**90 DEG HORIZ. ELBOW**

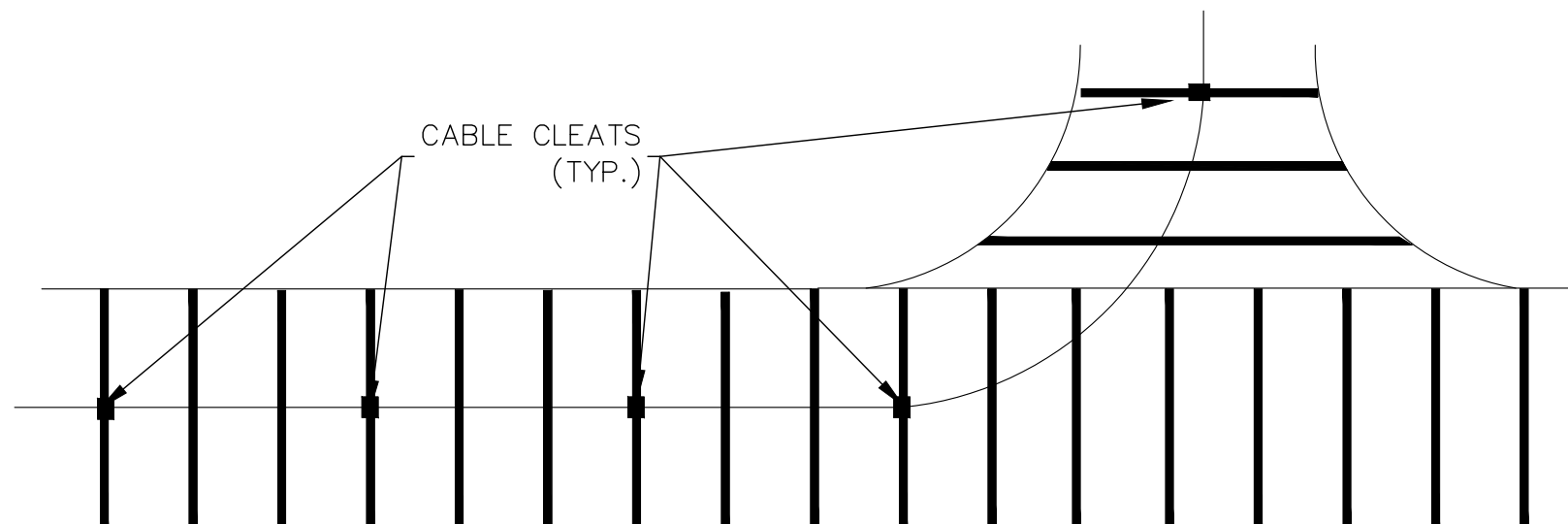
**VERTICAL TEE DOWN**

**HORIZONTAL TEE**

**HORIZONTAL CROSS**

**NOTES:**

- LADDER TROUGH:  
INSIDE WIDTH: 30"  
MATERIAL: ALUMINUM, PLAIN FINISH  
RUNG SPACING: 9"  
TROUGH TYPE: LADDER  
LOADING DEPTH: 4"  
SIDE RAIL HEIGHT: 5"  
FITTING CLASS: 2 (2" FLANGES)  
LOAD CLASS: 20A  
LOAD RATING: 57 LBS/FT @ 20-FT SPAN  
AMP RATING: 1600 AMP  
MFR: ATKORE
- INSTALL CABLE CLEATS AT MIN. 27" INTERVALS ON STRAIGHT LENGTHS OF TRAY SECTIONS.
- INSTALL PANDUIT MODEL MS75 / MLT TYPE CABLE CLEATS AT THE BEGINNING AND ENDS OF ALL BENDS FOR TEE AND CROSS TRAY SECTIONS.



**CABLE CLEAT INSTALLATION (TYP.)**

NTS



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CITY OF NAPLES, FLORIDA

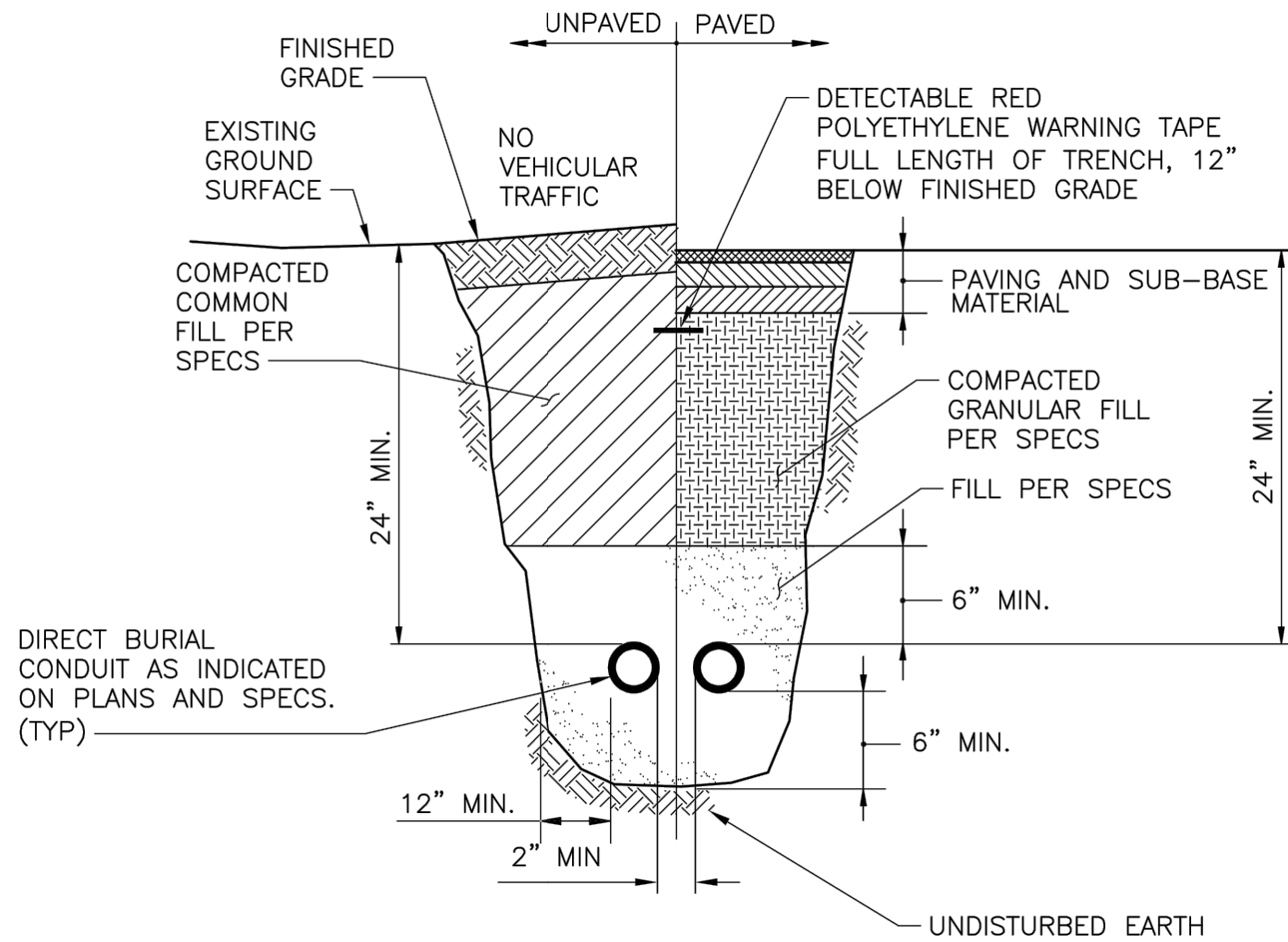
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FILE NO. 03-50-25E  
SCALE: NONE

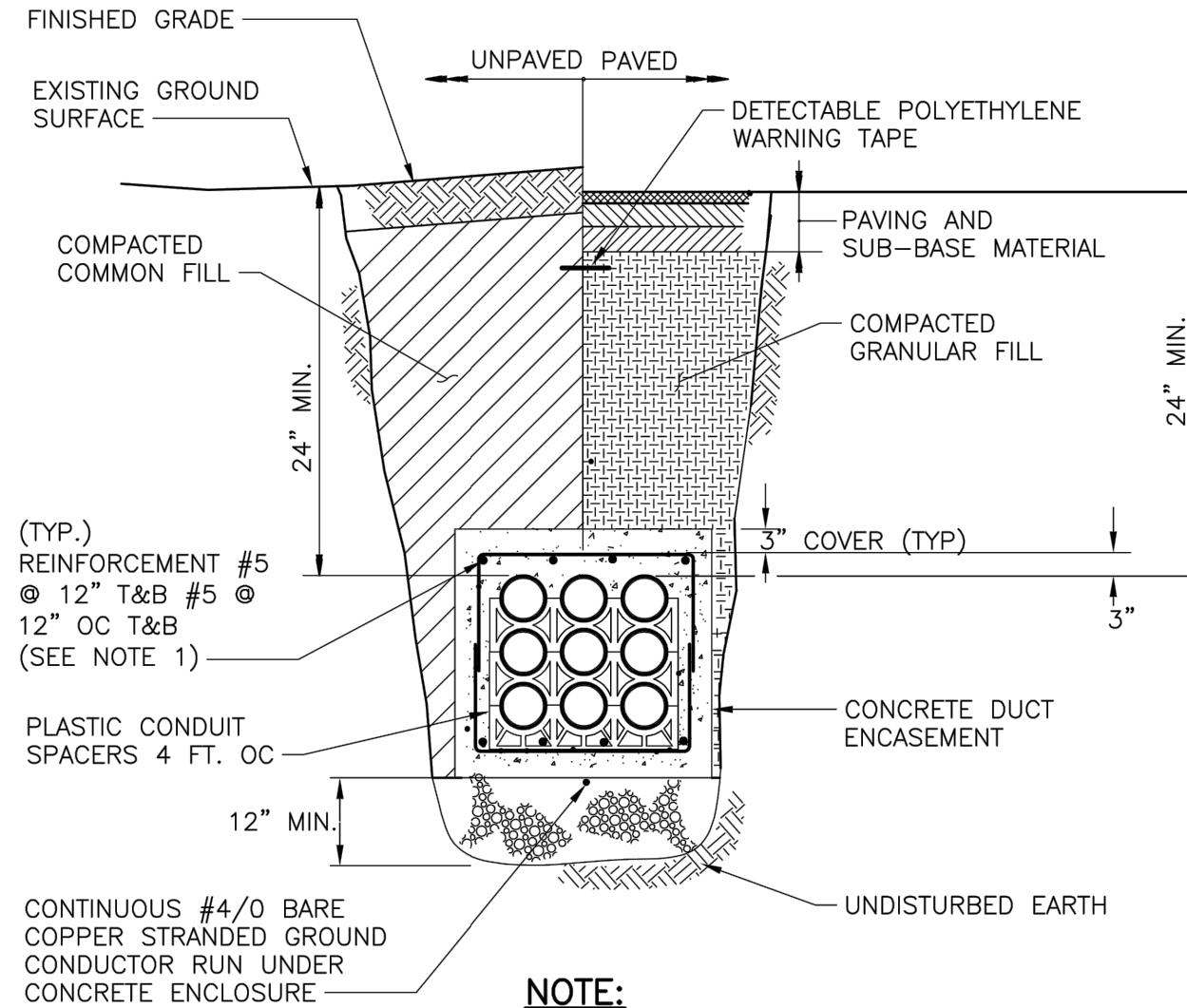
**DUCT BANK ELECTRICAL DETAILS**

SHEET NUMBER

**ED-07**



DIRECT-BURIED CONDUITS  
(TYP.)



**NOTE:**

1. REINFORCING REQUIRED WHEN DUCT BANK IS SUBJECT TO INCREASED STRESS SUCH AS VEHICULAR TRAFFIC (UNDER ROADWAYS OR DRIVEWAYS), UNDER STRUCTURES, OR OTHERWISE INDICATED. EXTEND REINFORCING FIVE (5) FT BEYOND AREA NEEDING PROTECTION.

CONCRETE ENCASED DUCT BANK  
(TYP.)



FOR CONSTRUCTION  
GENERATORS REPLACEMENT  
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CITY OF NAPLES, FLORIDA

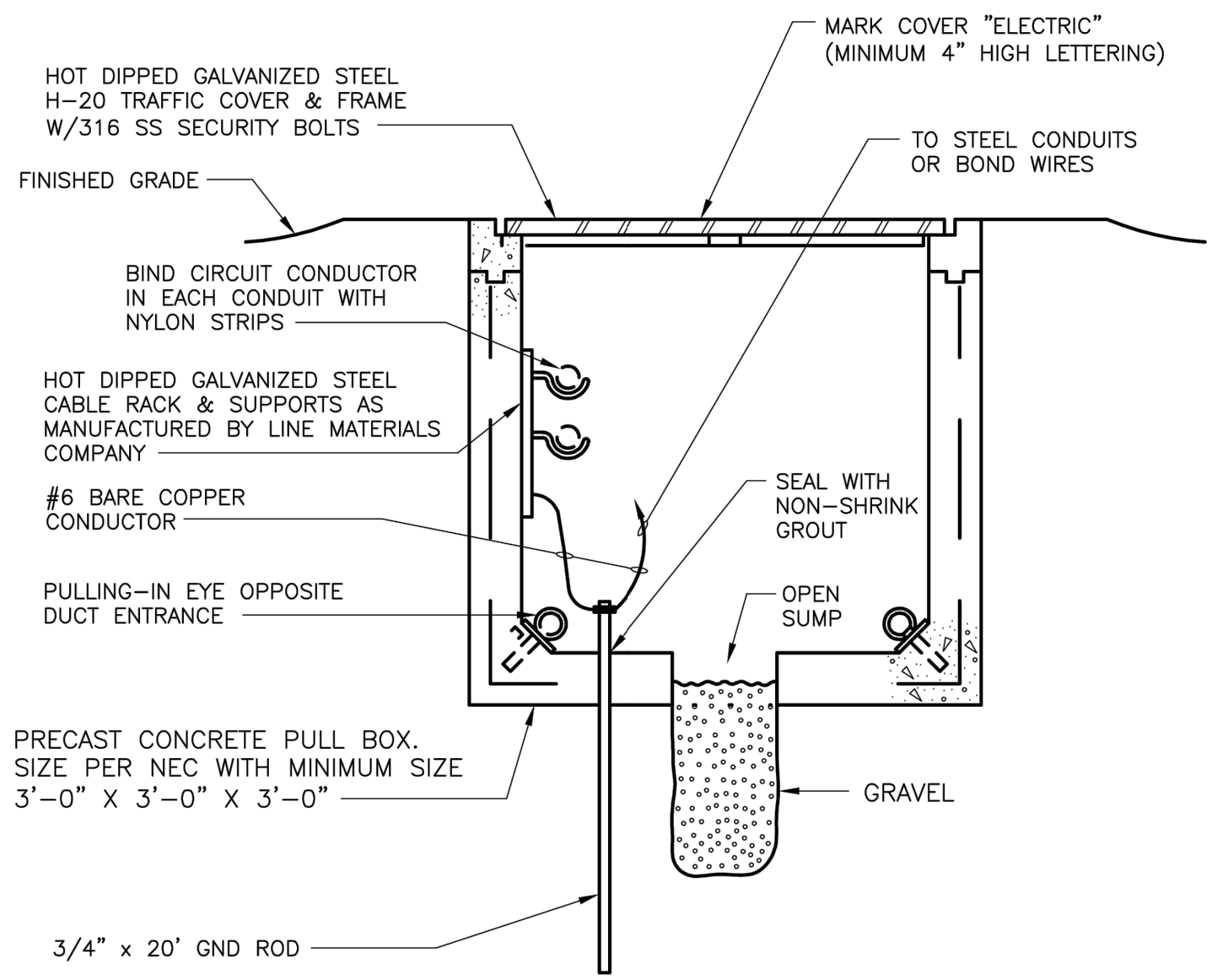
NO.	DESCRIPTION	DATE

DATE: JANUARY 2023  
PROJECT NO. 20203070-006  
FILE NO. 03-50-25E  
SCALE: NONE

UG PULLBOX  
ELECTRICAL  
DETAILS

SHEET NUMBER

**ED-08**



PP. PULLBOXES  
#1, #2, #3

- NOTES:
- DO NOT SPLICE CABLES.
  - ALL MOUNTING HARDWARE SHALL BE 316SS.
  - PLACE ON 6" BASE OF NO. 57 STONE.
  - ADD PULLBOX ID NAMEPLATE.