# EMERALD COAST UTILITIES AUTHORITY

**BOARD MEMBERS** 

Ms. VICKI CAMPBELL

Ms. LOIS BENSON DISTRICT 2-

**BOARD CHAIRMAN** 

Mr. LARRY WILLIAMS



Mr. J. BRUCE WOODY, P.E. **EXECUTIVE DIRECTOR** 

**BULK FUEL TANKS JUNE 2022** 

E.C.U.A. PROJECT NO. CA0014



Mott MacDonald Florida, LLC. 220 West Garden Street Suite 700 Pensacola, FL 32502 United States of America T +1 (850) 484 6011 www.mottmac.com/americas

Architects Engineers Surveyors AA - C0000035 EB - 0000155 LB - 0006783

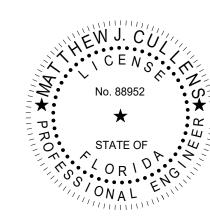
DRAWING LIST SHEET TITLE SHEET NO. **COVER PAGE** ELECTRICAL LEGEND, ABBREVIATIONS, AND NOTES 1 OF 2 ELECTRICAL LEGEND, ABBREVIATIONS, AND NOTES 2 OF 2 **GODWIN LANE ELECTRICAL PLAN** GODWIN LANE ONE-LINE DIAGRAMS **GODWIN LANE SCHEDULES** CWRF ELECTRICAL PLAN CWRF SCHEDULES SITE & SLAB PLANS STRUCTURAL DETAILS

Mr. DALE PERKINS

Mr. KEVIN STEPHENS -DISTRICT 5

**BOARD VICE CHAIRMAN** 

ANDREW K. GIBBS, P.E. FL PE: 77293 THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE ONLY FOR THE "E" SHEETS IN ACCORDANCE WITH RULE 61G15-23.004,F.A.C



FL PE: 88952 THE ABOVE NAMED PROFESSIONAL RULE 61G15-23.004,F.A.C

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BID NO. ITB 2022-18

ALL WORK TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT MANUAL, THIS DOCUMENT & THE CURRENT EDITION OF E.C.U.A.'S ENGINEERING MANUAL

#### A. ECUA Engineering Manual Incorporated by Refere

The ECUA Engineering Manual, dated December 18, 2014, along with Update #1 dated September 1, 2016 (hereinafter "Manual"), located at www.ecua.fl.gov, is hereby incorporated by reference into this Project's official contract documents as if fully set forth therein. It is the Contractor's responsibility to be knowledgeable of the Manual's contents and to construct the Project in accordance with the Manual. The Contracto via digital or paper format. In the event of a conflict between the Manual and the Plans Contractor shall consult Engineer of Record on the appropriate resolution.

#### B. Additional Documents (to be completed by the Engineer of Record

Does this Project have additional technical specifications or construction details that supercede the Manual listed above?  $\ \ \square$  Yes  $\ \ \square$  No . If yes, Contractor shall construct Project in accordance with said documents as listed and located below:

		, , , ,	2000000		
Document Name	Specifi-	Detail	Plans	Project Manual*	
	cation	Detail	Pidiis	Manual*	

#### \*Project Manuals used only with ECUA CIP Projects

The Engineers of Record (EORs) that have affixed their seals and signatures on these plans warrant their portion of the plans have been designed in accordance with the Manual (unless otherwise directed by the ECUA Project Engineer). The EORs shall be knowledgeable of the Manual's contents and shall assume responsibility for its use or

C. Engineer of Record Responsibilities

B1	2022/06/03	HDE	ISSUED FOR BID	RL	AKG
P1	2022/03/10	HDE	REVIEW SUBMITTAL	RL	AKG
Rev	Date	Drawn	Description	Ch'k'd	App'd

## **MACDONALD**

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**EMERALD COAST UTILITIES AUTHORITY** ESCAMBIA COUNTY, FLORIDA



ECUA FUEL SYSTEM MODIFICATION

COVER PAGE

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Drawn	H. ER	SKINE		Coordination A. GIBBS			
Dwg check	A. GIB	BBS		Approved	A. GIE	BBS	
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**Drawing Number** 

E-000

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## **GENERAL NOTES**

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRIC SAFETY CODE, N.F.P.A., O.S.H.A. REGULATIONS AND ALL OTHER EXISTING CODES AND REGULATIONS OF AUTHORITIES WHICH HAVE JURISDICTION.
- THE CONTRACT DRAWINGS ARE DIAGRAMMATIC IN NATURE AND NOT EVERY DETAIL OR CONDUIT IS SHOWN. EXISTING CONDITIONS AND DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE COMMENCING ANY FABRICATION, ORDERING ANY MATERIAL, OR PERFORMING ANY WORK. ANY DEPARTURE FROM CONCEPT SHOWN ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ALL ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS AND/OR REQUIRED FOR THE FULL INTEGRITY OF THE CONTRACT SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE CONTRACTOR, EXCEPT WHERE EQUIPMENT SHOWN IS IDENTIFIED AS "EXISTING" OR OTHERWISE NOTED ON THE DRAWINGS.
- UNLESS OTHERWISE NOTED, EQUIPMENT AND MATERIALS TO BE PROVIDED SHALL BEAR LISTING AND LABELING BY A NATIONALLY RECOGNIZED TESTING AGENCY WHERE SUCH STANDARD HAD BEEN ESTABLISHED FOR THAT TYPE OF EQUIPMENT/MATERIAL.
- 4. THE CONTRACTOR SHALL SUBMIT DETAILED EQUIPMENT LAYOUT PLANS, SECTIONS, AND MOUNTING DETAILS SHOWING PROPOSED LOCATION OF ALL EQUIPMENT AND REQUIRED WORKING/SERVICE CLEARANCES PRIOR TO INSTALLATION.
- CONTRACTOR SHALL VISIT THE PROJECT SITE AND **EXAMINE AND CONFIRM EXISTING CONDITIONS. ALL** CHANGES SHALL BE PRESENTED DURING SHOP DRAWING SUBMITTALS FOR ENGINEER'S APPROVAL.
- CONDUITS SHALL CONTAIN AN INSULATED GROUND WIRE BONDED TO ENCLOSURES AND SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC, IF SIZE IS NOT SHOWN ON THE CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE CONDUIT FITTINGS, CONNECTORS, CLAMPS, HARDWARE, HANGERS, AND SUPPORTS AS NECESSARY FOR A COMPLETE INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE TAGS FOR EQUIPMENT, CONDUITS, AND CABLES THAT ARE INSTALLED UNDER THIS CONTRACT. TAG IDENTIFICATIONS SHALL BE IN ACCORDANCE WITH CONTRACT DRAWINGS. TAGS FOR CONDUITS SHALL BE AS DESCRIBED IN SPECIFICATIONS
- UNUSED OPENINGS IN CONDUITS, BOXES, DISCONNECT SWITCHES, CABINETS, AND PANEL BOARDS SHALL BE CAPPED OR PLUGGED.
- UPDATE EXISTING PANELBOARD DIRECTORIES TO REFLECT THE CIRCUITING IN EXISTING PANELBOARDS AFFECTED BY THIS ALTERATION.
- CONTRACTOR SHALL PROVIDE THE NECESSARY MATERIALS, LABOR AND ATTENDANCE FOR THE OPERATION OF TEMPORARY LIGHT AND CONSTRUCTION POWER AS REQUIRED DURING WORKING HOURS FOR THE ENTIRE CONSTRUCTION PERIOD.
- 12. CONTRACTOR SHALL MAINTAIN CONTINUITY OF ANY EXISTING CIRCUITS AFFECTED BY THIS ALTERATION. RECONNECT ALL ALTERED OR REROUTED WORK TO ITS FULLY FUNCTIONAL STATE PRIOR TO ALTERATION.
- 13. PROVIDE ALL NECESSARY TEMPORARY WIRING TO MAINTAIN EXISTING INSTALLATIONS WHICH MUST REMAIN IN SERVICE DURING CONSTRUCTION PERIOD.
- 14. ALL BRANCH CIRCUITS OVER 75 FEET IN LENGTH SHALL BE RUN WITH #10 CONDUCTOR, UNLESS OTHERWISE NOTED.
- SCHEDULE ALL DISCONNECTION AND INTERRUPTIONS OF ELECTRICAL SERVICE, COMMUNICATIONS AND SUPERVISORY SYSTEMS WITH THE OWNER AND **ENGINEER**
- 16. CONTRACTORS SHALL FOLLOW ALL OWNER SITE SAFETY WORK PROCESSES AND PROCEDURES, FOR EXAMPLE, WORK PERMITS, SAFETY TASK ANALYSIES, LOCKOUT TAGOUT (LOTO), LOCK, TAG AND TRY, AND RED TAG, ETC.
- CONTRACTORS SHALL COORDINATE ALL WORK ACTIVITIES WITH OPERATIONS, MAINTENANCE, AND OTHER CONTRACTORS.
- 18. UNLESS SPECIFICALLY NOTED, ALL ELECTRICAL EQUIPMENT (GENERATORS, AUTOMATIC TRANSFER SWITCHES, PANELBOARDS, MOTOR CONTROLLERS, WIRE, PANELBOARDS, SWITCHBOARDS, DISCONNECTS, LIGHTING, INSTRUMENTS, CONTROL PANELS, MOTOR, ETC ) THAT MAY BE SHOWN AS TO BE REMOVED ARE THE PROPERTY OF THE OWNER AND SHALL BE RETURNED TO THE OWNER.

## **ABBREVIATIONS**

BLDG

C, CDT

C, /C

CB

CKT

CLF

COL

CNTL

CSLD

DWG(S)

ELEC

EMT

FXP

EG

EGC

ETC

FCR

GΑ

GALV

GEC

GEN

GFCI

HVAC

ISBR

JB OR J

IMC

kW

kWH

LFMC

LTG

MAX

MECH

MER

MFR

MIN

MLO

MTD

NC

NEC

NEMA

NFPA

NO

NTS

O.C.

O/F

OHE

OSHA

PERM

PH, Ø

PFC

PLC

PNL

PR

PVC

**PWR** 

OCPD

GFI

FL, FLR

G OR GND

**EXIST** 

**ESTOP** 

EX, EXIST

DRAWING(S)

**EMERGENCY** 

**EXISTING** 

ET CETERA

**EXISTING** 

FUSE

FLOOR

FEET

GROUND

GAUGE

GALVANIZED

GENERATOR

GROUND FAULT

HORSEPOWER

**INFRARED** 

JUNCTION BOX

KILOWATTS

LENGTH

LIGHTING

MAXIMUM

MCB OR MB MAIN CIRCUIT BREAKER

MH OR MTG MOUNTING HEIGHT

MINIMUM

MOUNTED

NON-FUSIBLE

NORMALLY OPEN

OVERHEAD ELECTRICAL

OCCUPATIONAL SAFETY &

**HEALTH ADMINISTRATION** 

POWER FACTOR CAPACITOR

POLYVINYLCHLORIDE CONDUIT

NOT TO SCALE

ON CENTER

PERMANENT

OVERFILL

POI F

PHASE

PANEL

POWER

PAIR

**NEUTRAL** 

NUMBER

MECHANICAL

MANUFACTURER

MAIN LUGS ONLY

NORMALLY CLOSED

NATIONAL ELECTRICAL CODE

NATIONAL ELECTRICAL MFRS ASSOCIATION

NATIONAL FIRE PROTECTION ASSOCIATION

OVERCURRENT PROTECTIVE DEVICE

PROGRAMMABLE LOGIC CONTROLLER

KILOVOLT - AMPS

KILOWATT-HOUR

LIGHTNING ARRESTOR

MOTOR CONTROL CENTER

MECHANICAL EQUIPMENT ROOM

ELECTRIC, ELECTRICAL

**EMERGENCY STOP** 

**EXPLOSION PROOF** 

**EQUIPMENT GROUND** 

FLOAT CONTROL RELAY

**EQUIPMENT GROUND CONDUCTOR** 

GROUNDING ELECTRODE CONDUCTOR

GROUND FAULT CIRCUIT INTERRUPT

INTRINSICALLY SAFE BARRIER RELAY

INSTANTANEOUS SHORT CIRCUIT AVAILABLE

LIQUIDTIGHT FLEXIBLE METAL CONDUIT

GROUND FAULT INTERRUPTING

**HEATING, VENTILATION & AIR** 

INTERMEDIATE METAL CONDUIT

HAND-OFF-AUTOMATIC

ISOLATED GROUND

EXHAUST FAN

A OR AMP AMPERES ABOVE COUNTER TOP (6") ACT AF AMP FRAME AFF ABOVE FINISHED FLOOR AHU AIR HANDLING UNIT AMPERE INTERRUPTING CAPACITY RGS AM AMMETER **APPROX** APPROXIMATELY AMMETER SELECTION SWITCH ASYM ASYMMETRICAL AMP TRIP ATS **AUTOMATIC TRANSFER SWITCH** AUX **AUXILIARY** AWG

SPD SW AMERICAN WIRE GAUGE **SWBD** BUILDING SYM TEL **TWIS TWOS** TYP UG UL UV

CONDUIT CONDUIT CONDUCTOR CIRCUIT BREAKER CIRCUIT **CURRENT LIMITING FUSE** COMPANY COLUMN CONTROL CONTINUOUS STATISTICAL LEAK DETECTION CURRENT TRANSFORMER **CABLE** DEPTH DIAMETER DS OR DISC DISCONNECT SWITCH

VAC VOLTS ALTERNATING CURRENT VDC **VOLTS DIRECT CURRENT** VFD VARIABLE FREQUENCY DRIVE VM VOLTMETER **VMS VOLTMETER SELECTOR SWITCH** W WATT W/ WITH W/O WITHOUT WM WATTMETER WP WEATHER PROOF ELECTRICAL METALLIC TUBING XFMR TRANSFORMER

VA

**ABBREVIATIONS** 

RELOCATE

RECEPT RECEPTACLE

**RMS** 

RELOCATED

REFERENCE

SEAL FITTING

STAINLESS STEEL

**SWITCHBOARD** 

SYMMETRICAL

UNDERGROUND

ULTRAVIOLET

**VOLT AMPS** 

TELEPHONE

TYPICAL

VOLTS

SHIELDED

**SWITCH** 

REMOVE AND RELOCATE

RIGID GALVANIZED STEEL

SURGE PROTECTION DEVICE

TWISTED INDIVIDUAL SHIELD

UNDERWRITER'S LABORATORIES

TWISTED OUTER SHIELD

**ROOT MEAN SQUARE** 

SERVICE ENTRANCE

## **ONE-LINE DIAGRAM**

CONNECTION TO ELECTRICAL UTILITY. VOLTAGE, PHASES AS INDICATED

M

UTILITY METER

- 'XX' DESIGNATES POWER RATING - 'YY' DESIGNATES VOLTAGE

**C**X:Y **CURRENT TRANSFORMER (CT)** 'X:Y' INDICATES RATIO 'Z' INDICATES QUANTITY (1 PER PHASE UNLESS OTHERWISE INDICATED)

> POTENTIAL TRANSFORMER (PT) **'X:Y' INDICATES RATIO** 'Z' INDICATES QUANTITY (1 PER PHASE UNLESS OTHERWISE INDICATED)

 $\Delta$   $\times$  XX kVA

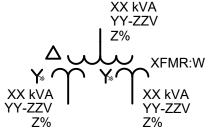
(X)X:Y

 $\bigcap_{(Z)}$ 

PHASES AS DETERMINED BY OCPD -'Z' INDICATES % IMPEDANCE ANSI STANDARD IF NOT SPECIFIED -'WW' INDICATES STRUCTURE **DESIGNATION** -'XX' INDICATES POWER RATING -'YY' INDICATES PRIMARY VOLTAGE

TWO WINDING TRANSFORMER

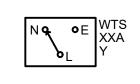
-'QQ' INDICATES SECONDARY **VOLTAGE WINDINGS AS INDICATED** -'A' INDICATES DELTA CONNECTION -' 'K' INDICATES WYE CONNECTION WITH GROUNDED NEUTRAL



THREE WINDING TRANSFORMER -'W' INDICATES STRUCTURE **DESIGNATION** 

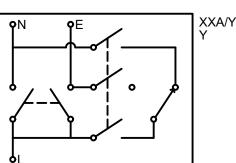
-'XX' INDICATES POWER RATING (BY WINDING) -'YY' INDICATES VOLTAGE RATING (BY WINDING) -'Z' INDICATES IMPEDANCE (BY

WINDING) -'∆' INDICATES DELTA CONNECTION -' 'INDICATES WYE CONNECTION www. WITH GROUNDED NEUTRAL

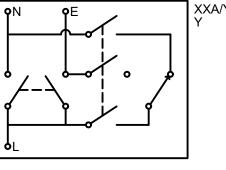


TRANSFER SWITCH - 'W' INDICATES

A: AUTOMATIC M: MANUAL - 'XX' INDICATES RATING IN AMPS - 'Y' INDICATES NUMBER OF POLES



BYPASS ISOLATION TRANSFER SWITCH -'XX' INDICATES AMPERE RATING -'Y' INDICATES NUMBER OF POLES



**SWITCH** -'XX' INDICATES AMPERE RATING -'Y' INDICATES NUMBER OF POLES



°/ XXA/Y

MEDIUM & HIGH VOLTAGE CIRCUIT BREAKER - 'XX' INDICATES TRIP RATING IN AMPS - 'YY' INDICATES FRAME RATING

XXAT/W YYAF

LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER. - 'XX' INDICATES TRIP RATING IN AMPS (IF TRIP INTEGRAL)

- 'YY' INDICATES FRAME RATING, ID SPECIFIED - 'W' INDICATES NUMBER OF POLES (3

UNLESS OTHERWISE NOTED) - 'Z' DESIGNATES TYPE: BLANK: THERMAL MAGNETIC LSI: ELECTRONIC TRIP MCP: MOTOR CIRCUIT PROTECTOR GFI: GROUND FAULT INTERRUPTING

## **ONE-LINE DIAGRAM**



- 'XX' INDICATES TRIP RATING IN AMPS - 'Z' INDICATES CLASSIFICATION (IF SPECIFIED)

ANGLED BRACKETS INDICATE DRAWOUT DEVICE

PROTECTIVE RELAY, METERING, OR INTERLOCKING DEVICE. 'XX' DESIGNATIONS: A: AMMETER

V: VOLTMETER PF: POWER FACTOR K: KIRK KEY INTERLOCK I: ELECTRICAL INTERLOCK

> 25: SYNCHRONISM CHECK 27: UNDER VOLTAGE **46: CURRENT UNBALANCE** 47: PHASE-SEQUENCE VOLTAGE 50: INSTANTANEOUS OVERCURRENT

52: AC CIRCUIT BREAKER 55: POWER FACTOR 59: OVER VOLTAGE 64: GROUND PROTECTIVE RELAY

51: TIME OVERCURRENT

81: FREQUENCY 86: LOCKING OUT RELAY \* SPECIFIC MINIMUM FUNCTIONS TO BE LISTED BY ANSI/IEEE DEVICE NUMBERS

FULL VOLTAGE NON REVERSING CONTACTOR 'X' DESIGNATES NEMA SIZE OR: BC: BYPASS CONTACTOR OC: OUTPUT ISOLATION CONTACTOR IC: INPUT ISOLATION CONTACTOR

LIGHTING CONTACTOR -'XX' DESIGNATES AMPERE RATING -'Y DESIGNATES NUMBER OF POLES

LIGHTING CONTACTOR -'XX' DESIGNATES AMPERE RATING -'Y DESIGNATES NUMBER OF POLES

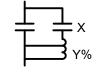
> MOTOR OVERLOAD. RATED FOR DEVICE PROTECTING. CLASS 20 UNLESS OTHERWISE INDICATED. -'X' DESIGNATES TYPE: T-THERMAL

E-ELECTRONIC.

FULL VOLTAGE REVERSING CONTACTOR -'X' DESIGNATES NEMA SIZE. -'F' INDICATES FORWARD CONTACTOR. -'R' INDICATES REVERSING CONTACTOR.

TWO SPEED STARTER

-'X' DESIGNATES NEMA SIZE. -'H' INDICATES HIGH SPEED CONTACTOR. -'L' INDICATES LOW SPEED CONTACTOR.



REDUCED VOLTAGE AUTOTRANSFORMER -'X' DESIGNATES NEMA SIZE. -'Y' INDICATES TAP PERCENTAGE.

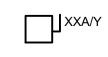


VARIABLE FREQUENCY DRIVE. -'XX' INDICATES MINIMUM AMP RATING (IF NOT SPECIFIED, VFD TO MATCH HORSEPOWER RATING OF MOTOR SUPPLIED).



REDUCED VOLTAGE SOFT START. -'XX' INDICATES MINIMUM AMP RATING (IF NOT SPECIFIED, RVSS TO MATCH HORSEPOWER RATING OF MOTOR SUPPLIED).

- 'Y' DESIGNATES NUMBER OF POLES



NON-FUSED DISCONNECT SWITCH - 'XX' DESIGNATES AMPERE RATING OF DISCONNECT. - 'Y' DESIGNATES NUMBER OF POLES

XXA/Y

FUSED DISCONNECT SWITCH - 'XX' DESIGNATES AMPERE RATING OF FUSE. DISCONNECT AMPERE RATING TO BE EQUAL TO FUSE RATING OR THE NEXT LARGEST TRADE SIZE

**ONE-LINE DIAGRAM** 

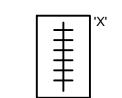


**INDUCTION MOTOR** -'WW' INDICATES EQUIPMENT DESIGNATION. -'XX' INDICATES HORSEPOWER RATING.

- 'X' INDICATES STRUCTURE DESIGNATION.



SYNCHRONOUS MOTOR -'WW' INDICATES EQUIPMENT DESIGNATION. -'XX' INDICATES HORSEPOWER RATING.

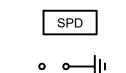


SURGE SUPPRESSION DEVICE.

SC: STATION CLASS

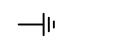
UNINTERRUPTIBLE POWER SUPPLY.

PANELBOARD



UPS

LIGHTNING ARRESTORS - 'XX' INDICATES IC: INTERMEDIATE CLASS DC: DISTRIBUTION CLASS



EARTH GROUND



LINE OR LOAD REACTOR. 'Z' DESIGNATES % IMPEDANCE.

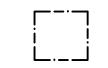


- 'ZZ' INDICATES IMPEDANCE IN OHMS

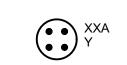
- 'XX' INDICATES kVAR RATING



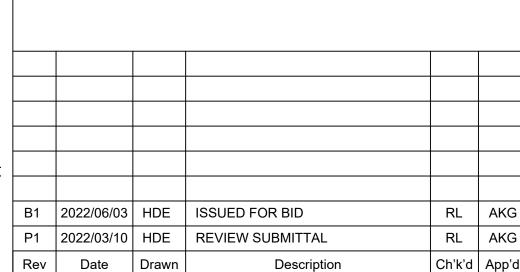
MISCELLANEOUS ELECTRICAL EQUIPMENT SUCH AS PANEL, ETC. EQUIPMENT TYPE ANI RATINGS TO BE INDICATED.



ELECTRICAL EQUIPMENT BOUNDARY. INDICATES MULTIPLE DEVICES ENCLOSED WITHIN BORDER ARE LOCATED WITHIN THE SAME ENCLOSURE, OR MOUNTED TO SAME PANEL RACK.



PORTABLE POWER CONNECTION -'XX' INDICATES AMPERE RATING -'Y' DESIGNATES TYPE: 3: 3 WIRE + GROUND 4: 4 WIRE + GROUND



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EMERALD COAST UTILITIES AUTHORITY ESCAMBIA COUNTY, FLORIDA

ECUA FUEL SYSTEM MODIFICATION

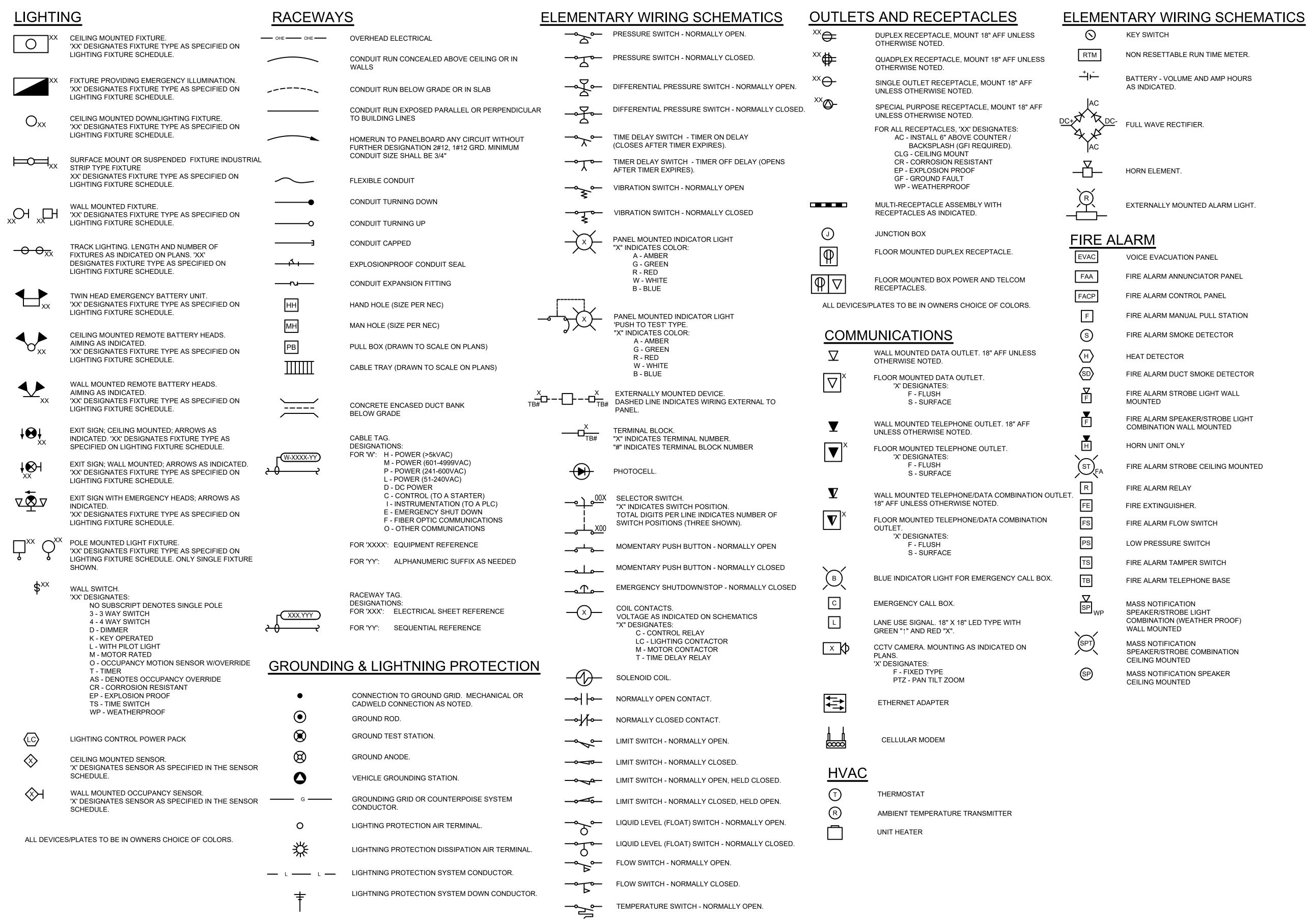
ELECTRICAL LEGEND, ABBREVIATIONS AND NOTES

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Project Numb	er			В/О		Total	
5021	1004	102-0°	10				
Designed	S. RIL	EY		Eng check	A. GIE	BBS	
Drawn	H. ER	SKINE		Coordination	A. GIE	3BS	
Dwg check	A. GIB	BS		Approved	A. GIE		
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Drawing Num	ber						

E-001

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TEMPERATURE SWITCH - NORMALLY CLOSED.

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MERALD COAST UTILITIES AUTH

EMERALD COAST UTILITIES AUTHORITY
ESCAMBIA COUNTY, FLORIDA

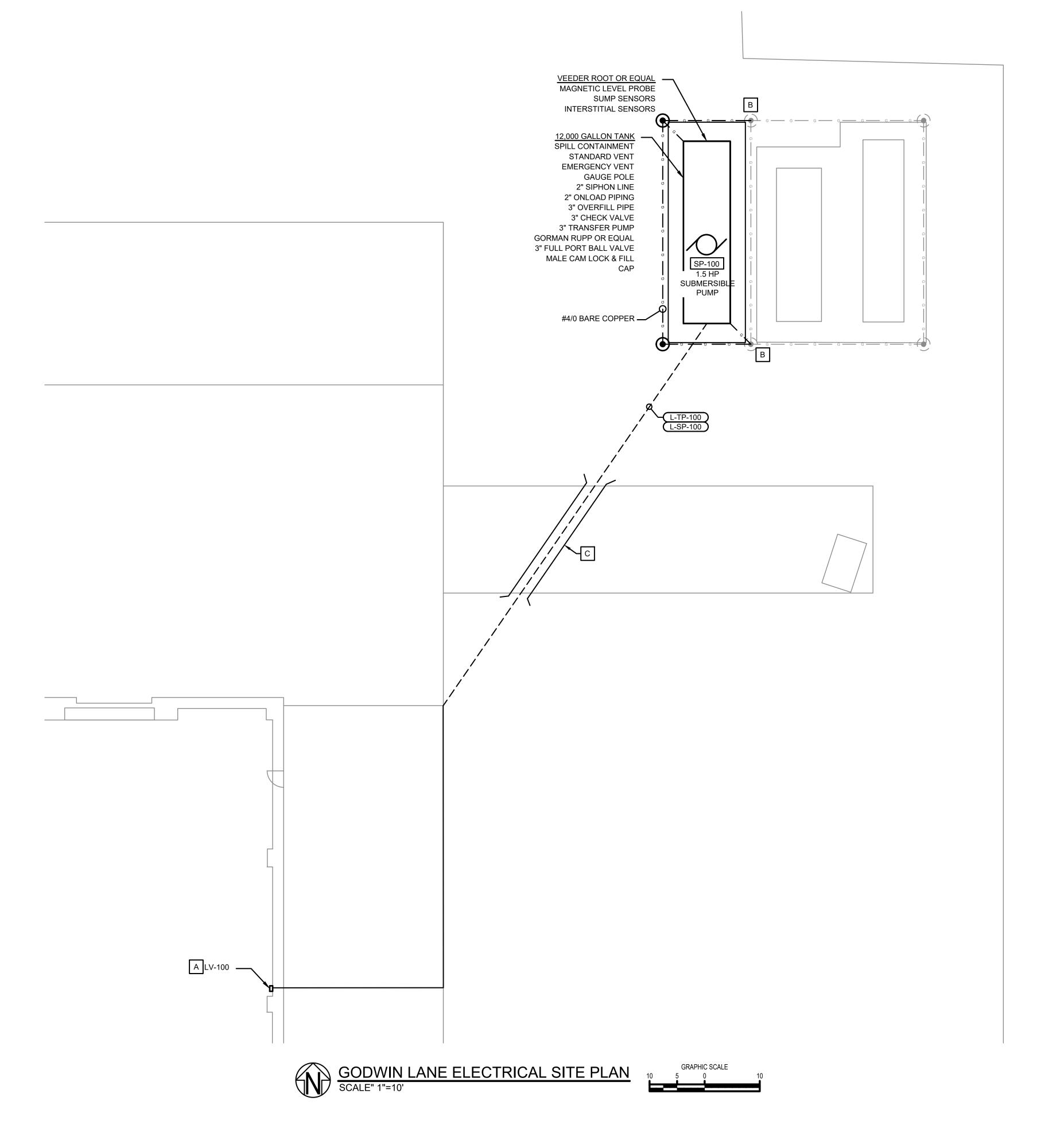
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ECUA FUEL SYSTEM MODIFICATION

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Project Numb	er			B/O Total		Total			
5021	1004	102-0°	10						
Designed	S. RIL	EY		Eng check	A. GIE	A. GIBBS			
Drawn	H. ER	SKINE		Coordination	A. GIE	3BS			
Dwg check	A. GIB	BS		Approved	A. GIE	BBS			
Scale at ANS	I D	Status		Rev		Security			
AS NOTE	ΕD	В	SID	B1		S1	ΓD		
Drawing Num	ber			•					
E-002									



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## **GENERAL NOTES**

- CONTRACTOR TO PROVIDE MATERIALS AND LABOR TO INSTALL THE FUEL TANK, WITH INSTRUMENTATION, CONTROLS, POWER, LOW VOLTAGE, CONTROL CONDUITS AND WIRE FOR A COMPLETE AND OPERATIONAL SYSTEM MEETING THE REQUIREMENTS AND STANDARDS APPLICABLE IN ESCAMBIA COUNTY, FLORIDA.
- 2. COORDINATE REMOTE FILL LOCATION WITH OWNER FOR EXACT REMOTE FILL LOCATION.
- 3. LOCATION OF 3" TRANSFER PUMP TO BE COORDINATED WITH OWNER

## **KEY NOTES**

- A. EXISTING LOW VOLTAGE PANEL TO BE REPLACED WITH LV-100.
- B. APPROXIMATE LOCATION OF EXISTING GROUND RODS TO TERMINATE PROPOSED GROUNDING GRID.
- C. CONCRETE ENCASE UNDER EXISTING PAVEMENT. CUT AND PATCH TO MATCH EXISTING PAVEMENT.

B1	2022/06/03	HDE	ISSUED FOR BID	RL	AKG
P1	2022/03/10	HDE	REVIEW SUBMITTAL	RL	AKG
Rev	Date	Drawn	Description	Ch'k'd	App'd

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Client

EMERALD COAST UTILITIES AUTHORITY ESCAMBIA COUNTY, FLORIDA

MERALD COAS

Title

ECUA FUEL SYSTEM MODIFICATION

GODWIN LANE ELECTRICAL PLAN

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Project Numb		102-0°	10	В/О		Total		
Designed	S. RIL	EY		Eng check	A. GIE	BBS		
Drawn	SKINE	Coordination	A. GIE	A. GIBBS				
Dwg check A. GIBBS				Approved	A. GIE	BBS		
Scale at ANS	I D	Status		Rev		Security		
AS NOTE	ΞD	В	SID	B1		S1	D	
Drawing Num	ber							
E-020								

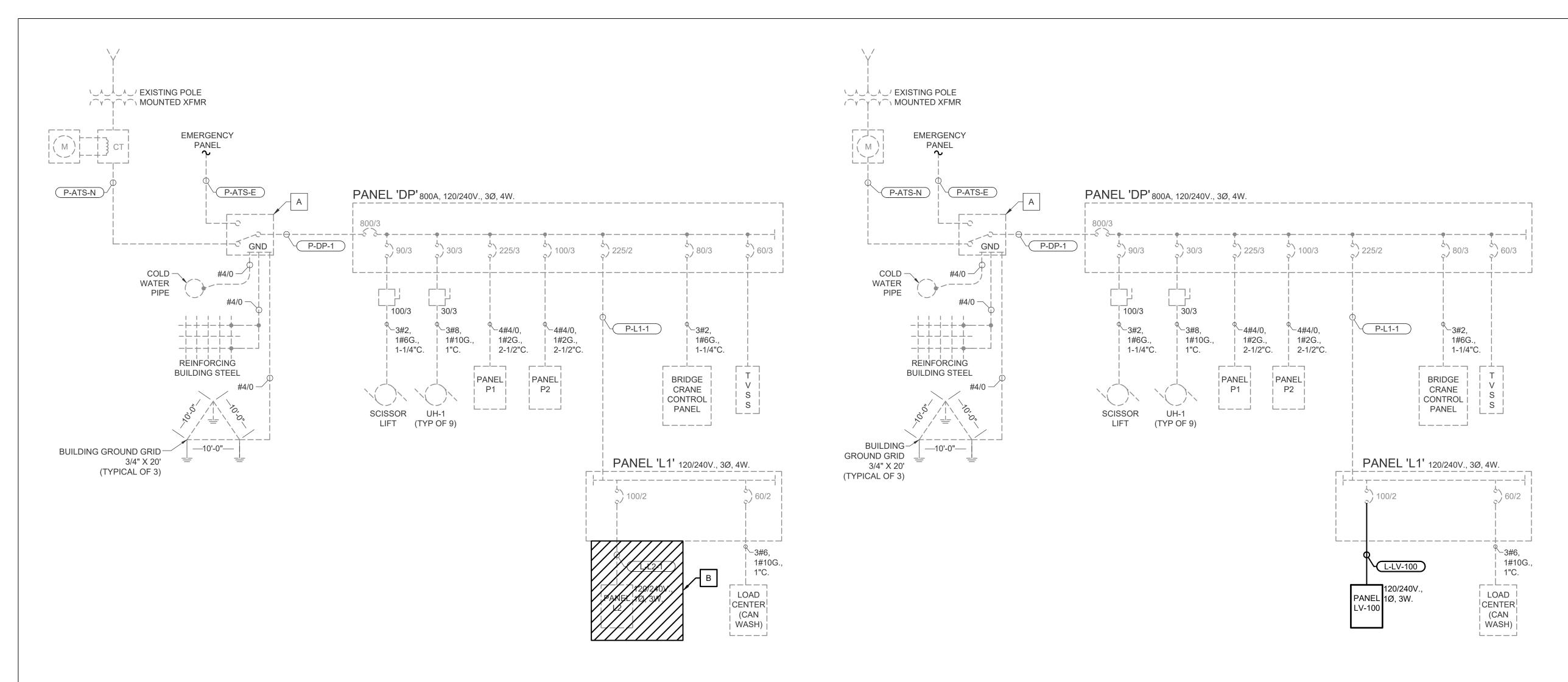
KEY PLAN NO SCALE

EXIST. TANK PAD

NEW FUEL TANK PAD >

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GODWIN LANE EXISTING ONE-LINE DIAGRAM

GODWIN LANE PROPOSED ONE-LINE DIAGRAM
NOT TO SCALE

ALL WORK TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT MANUAL, THIS DOCUMENT & THE CURRENT

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Date

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EMERALD COAST UTILITIES AUTHORITY ESCAMBIA COUNTY, FLORIDA

EMERALD COA

RL AKG

Ch'k'd App'd

Title

ECUA FUEL SYSTEM MODIFICATION

GODWIN LANE ELECTRICAL ONE-LINE DIAGRAMS

P1 | 2022/03/10 | HDE | REVIEW SUBMITTAL

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Project	t Numb	er			В/О		Total	
5	021	004	102-0	10				
Design	ied	S. RIL	EY		Eng check	A. GIE	BBS	
Drawn	Drawn H. ERSKINE					A. GIE	BBS	
Dwg cl	neck	A. GIB	BS		Approved	A. GIE	BBS	
Scale a	at ANS	ΙD	Status		Rev Security			
AS	NOTE	D	В	SID	B1		S1	ſD
Drawin	ıg Num	ber						

E-021

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FEEDER MARK	# OF SETS	CONDUIT SIZE	CONDUCTOR IN EACH SET	FROM	ТО	NOTES
C-TRK-1	1	1"	8#14, 1#14G	CP-100	TRAK SYSTEM	
L-DD-100	1	-	2#12, 1#12G	L2	DIESEL DISPENSER	
L-DPC-100	1	-	2#10, 1#10G	L2	DIESEL PUMP CONTACTOR	
L-FL-100	1	-	2#12, 1#12G	L2	FUEL LEVEL	
L-GD-100	1	-	2#12, 1#12G	L2	GAS DISPENSER	
L-GPC-100	1	-	2#10, 1#10G	L2	GAS PUMP CONTACTOR	
L-L2-1	1	1-1/2"	3#2, 1#2G	L1	L-2	DEMO
L-LV-100	1	2"	3#1/0, 1#1/0G	LV-100	L-100	TO REPLACE P-L-2
L-RD-100	1	-	2#12, 1#12G	L2	RADIO	
L-SP-100	1	1"	2#10, 1#10G	L2	NEW SUBMERSIBLE	
L-TA-100	1	-	2#12, 1#12G	L2	TANK ALARM	
L-TP-100	1	1"	2#10, 1#10G	L2	NEW TRANSFER PUMP	
L-TRK-100	1	-	2#12, 1#12G	L2	TRAK SYSTEM	
P-ATS-E	2	3"	3#350, 1#350N, 1#350G	EMERGENCY POWER	ATS	EXISTING
P-ATS-N	2	4"	3#500, 1#500G	UTILITY POWER	ATS	EXISTING
P-DP-1	2	6"	3#500, 1#500N, 1#500G	ATS	DP	EXISTING
P-L1-1	1	2-1/2"	3#4/0, 1#4/0G	DP	L-1	EXISTING

PANEL:				LV-100		LOCATION: Godwin							
OPTIONS													
VOLTS L-L	•	240		MAIN OVERCURRENT:	NONE	BUS MATE	RIAL:	Cu	MOUNTING:	SURFACE			
VOLTS L-N	:	120		MAIN BUS RATING:	125A	NEUTRAL SIZE: 100% ENCLOSURE TYPE: NEMA 12							
PHASE:		1		MINIMUM A.I.C.:	22kA	GROUND: EQUIPMENT							
WIRE:		3											
LOAD DAT	Ą												
CKT#	BKR.	POLE	TYPE	DESCRIPTION	VA	L1	L2	VA	DESCRIPTION	TYPE	POLE	BKR.	CKT#
1	20A	1		TANK ALARM	192	792		600	GASOLINE DISPENSER	GFCI	1	20A	2
3	20A	1		TRAK SYSTEM	120		120		GASOLINE DISPENSER	GFCI	Į	20A	4
5	20A	1		RADIO	120	720		600	DIESEL DISPENSER	GFCI	1	20A	6
7	20A	2		GAS PUMP CONTACTOR	732		732		DIESEL DISFENSER	GFCI	ı	20A	8
9	20A	2		GAS FUNIF CONTACTOR	732	1464		732	DIESEL PUMP CONTACTOR		2	20A	10
11	20A	1		FUEL LEVEL	120		852	732	DIESEL FOWE CONTACTOR		2	20A	12
13	20A	2		TRANSFER PUMP	720	1440	720 SUBMERSIBLE PUMP			2	20A	14	
15	20A	2		TRANSFER FUNIF	720		1440	720	SUBMERSIBLE FUMP		2	20A	16
17	20A	1		SPARE		0			SPARE		1	20A	18
19	20A	1		SPARE			0		SPARE		1	20A	20
21				SPACE		0			SPACE				22
23				SPACE			0		SPACE				24
				TOTAL CONNECTED LOAD (VA) F		4416	3144						
	ı	i	1	CONNECTED LOAD (AMPS)	PER PHASE	37	26						
				TOTAL COMMISSION	) (AD () (A):	7500	<u> </u>		NEC ADTICLE 220 LOAD (VA).	47.			<del>                                     </del>
				TOTAL CONNECTED LO	, ,	7560		Λ\ /I	NEC ARTICLE 220 LOAD (VA): ERAGE ARTICLE 220 LOAD (AMPS):	47′			$\vdash$
NOTES:				AVERAGE CONNECTED LC	JAD (AIVIPS):	32		AVI	LINAGE ARTICLE 220 LUAD (AMPS):	20	)		Ь——
1.	DEMAND		II ATIONS F	SASED ON REMOVING REDUNDANT		ND RECEPT	ACLES VA						
2.	DEIVIAIND I	IOAD OALOC	,LATIONO L	, CLD ON REIVIOVING REDUNDANT	LOADING AI	4D INCOLL I	, tollo vA						
				1	T	Ī	T	1		<u> </u>	1		$\overline{}$
				<u> </u>		<u> </u>					l		$oldsymbol{\sqcup}$

		<del></del>				1		ı					
PANEL:				L2			LOCATION:		God	lwin			
OPTIONS													
VOLTS L-L	:	240		MAIN OVERCURRENT:	NONE	BUS MATE	RIAL:	Cu	MOUNTING:	SURFACE			
VOLTS L-N	l:	120		MAIN BUS RATING:	SUS RATING: 125A NEUTRAL SIZE: 100% ENCLOSURE TYPE: NEMA 12								
PHASE:		1		MINIMUM A.I.C.:	22kA	GROUND: EQUIPMENT							
WIRE:		3											
LOAD DAT	A	•			•	•	•						
CKT#	BKR.	POLE	TYPE	DESCRIPTION	VA	L1	L2	VA	DESCRIPTION	TYPE	POLE	BKR.	CKT#
1	20A	1		TANK ALARM	192	792		600	CASCUME DISPENSED	GFCI	4	204	2
3	20A	1		TRAK SYSTEM	120		120		GASOLINE DISPENSER	GFCI	1	20A	4
5	20A			RADIO	120	720		600	DIEGEL DIODENGED	0501	4	204	6
7	20A	732 732 DIESEL DISPENSER GFCI 1 20A						8					
9	20A	2		GAS PUMP CONTACTOR	732	1464		732	DIESEL PUMP CONTACTOR		2	20A	10
11	20A	1		FUEL LEVEL	120		852	732	DIESEL POWIP CONTACTOR		2	20A	12
	-			TOTAL CONNECTED LOAD (VA) F	PER PHASE:	2976	1704						
				CONNECTED LOAD (AMPS)	PER PHASE	25	14						
	-	-	-	TOTAL CONNECTED	LOAD (VA):	4680		-	NEC ARTICLE 220 LOAD (VA):	47	10		
				AVERAGE CONNECTED LC	DAD (AMPS):	20		AV	ERAGE ARTICLE 220 LOAD (AMPS):	20	)		
NOTES:						•	•				•		-
1.	DEMAND L	OAD CALCU	JLATIONS B	ASED ON REMOVING REDUNDANT	LOADING A	ND RECEPT.	ACLES VA						
2.													
		İ	Ì			İ	İ	Ì		İ	İ		

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B1	2022/06/03	HDE	ISSUED FOR BID	RL	AKG
P1	2022/03/10	HDE	REVIEW SUBMITTAL	RL	AKG
Rev	Date	Drawn	Description	Ch'k'd	App'd

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EMERALD COAST UTILITIES AUTHORITY ESCAMBIA COUNTY, FLORIDA

ECUA FUEL SYSTEM MODIFICATION

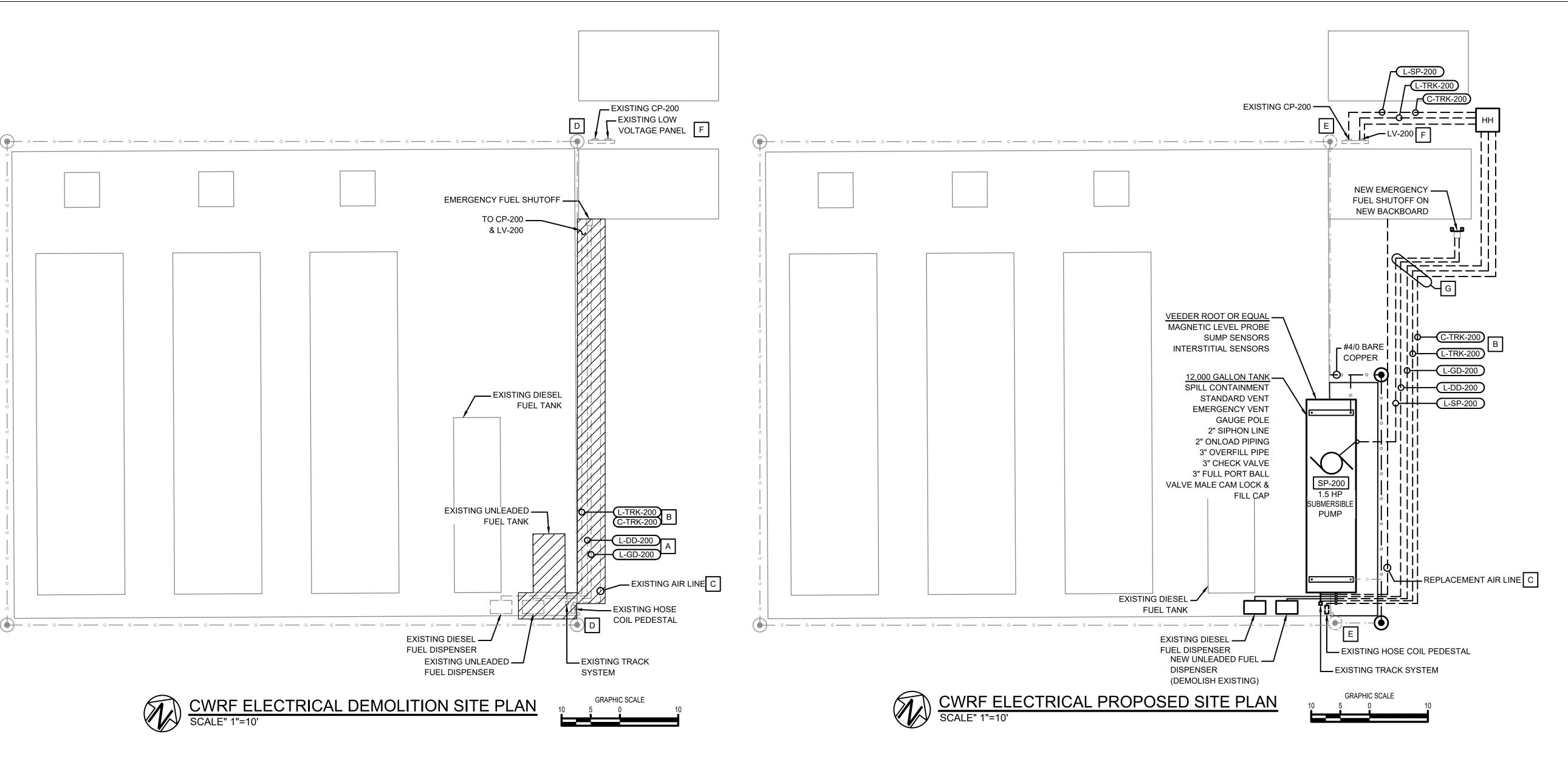
GODWIN LANE ELECTRICAL SCHEDULES

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Project Numb	per		В/О		Total			
5021	1004	102-0°						
Designed	S. RIL	EY		Eng check	A. GIE	BBS		
Drawn	H. ER	SKINE		Coordination	A. GIE	BBS		
Dwg check	A. GIB	BBS		Approved	A. GIE	BBS		
Scale at ANS	I D	Status		Rev		Security		
AS NOTE	ΞD	В	SID	B1		S1	ΓD	
Drawing Num								
E-022								

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## **GENERAL NOTES**

- 1. CONTRACTOR TO PROVIDE MATERIALS AND LABOR TO INSTALL THE FUEL TANK, WITH INSTRUMENTATION, CONTROLS, POWER, LOW VOLTAGE, CONTROL CONDUITS AND WIRE FOR A COMPLETE AND OPERATIONAL SYSTEM MEETING THE REQUIREMENTS AND STANDARDS APPLICABLE IN ESCAMBIA COUNTY, FLORIDA.
- 2. COORDINATE REMOTE FILL LOCATION WITH OWNER FOR EXACT REMOTE FILL LOCATION.

## **KEY NOTES**

- A. EXISTING CONDUITS TO BE REROUTED AND RE-TERMINATED.
- B. CONTRACTOR SHALL SEPARATE LOW VOLTAGE AND CONTROL CIRCUITS INTO TWO SEPARATE CONDUITS WHEN REPLACING THE TRACK SYSTEM'S CIRCUITS.
- C. EXISTING AIR LINE TO BE REROUTED AND RECONNECTED.
- D. DEMOLISH AND RELOCATE GROUNDING GRID ON NORTH-EAST SIDE OF CONCRETE PAD. GROUNDING RODS AT THE NORTH AND EAST CORNERS ARE TO REMAIN.
- E. APPROXIMATE LOCATION OF EXISTING GROUND RODS TO TERMINATE RELOCATED GROUNDING GRID.
- F. EXISTING LOW VOLTAGE PANEL TO BE REPLACED WITH LV-200.

G. CONDUIT IN THE GRAVEL DRIVE SHALL BE CONCRETE ENCASED.

B1	2022/06/03	HDE	ISSUED FOR BID	RL	AKG
P1	2022/03/10	HDE	REVIEW SUBMITTAL	RL	AKG
Rev	Date	Drawn	Description	Ch'k'd	App'd

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EMERALD COAST UTILITIES AUTHORITY ESCAMBIA COUNTY, FLORIDA

MERALD COAS'

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ECUA FUEL SYSTEM MODIFICATION

CWRF ELECTRICAL PLANS

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Project Numb		102-0	В/О		Total		
Designed	S. RIL			Eng check	A. GIE	BBS	
Drawn	H. ER	H. ERSKINE A. GIBBS		Coordination A. GIB		BBS	
Dwg check	A. GIB			Approved	A. GIE	BBS	
	Scale at ANSI D Status AS NOTED		SID	Rev B1		Security S1	ΓD
Drawing Num	nber		030				

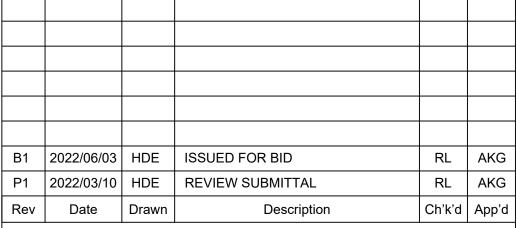
KEY PLAN
NO SCALE

FEEDER MARK	# OF SETS	CONDUIT SIZE	CONDUCTOR IN EACH SET	FROM	ТО	NOTES
C-TRK-3	1	1"	8#14, 1#14G	CP-200	TRAK SYSTEM	DEMO
C-TRK-200	1	1"	8#14, 1#14G	CP-200	TRAK SYSTEM	TO REPLACE C-TRK-3
L-CMP-3	1	1"	2#10, 1#10G	L-3	AIR COMPRESSOR	
L-CMP-200	1	1"	2#10, 1#10G	LV-200	AIR COMPRESSOR	
L-DD-200	1	1"	2#12, 1#12G	LV-200	DIESEL DISPENSER	TO REPLACE L-P-2
L-GD-200	1	1"	2#12, 1#12G	LV-200	GAS DISPENSER	TO REPLACE L-P-1
L-L-3-1	1	1"	2#12, 1#12G	L-3	OPERATORS SHED REC	
L-L-3-3	1	1"	2#12, 1#12G	L-3	OPERATORS SHED LTS	
L-L-3-5	1	1"	2#12, 1#12G	L-3	OPERATORS SHED REC	
L-L-3-10	1	1"	2#12, 1#12G	L-3	SHED LTS	
L-L-3-12	1	1"	2#12, 1#12G	L-3	A/C + REC	
L-P-1	1	1"	2#12, 1#12G	L-3	PUMP-1	DEMO
L-P-2	1	1"	2#12, 1#12G	L-3	PUMP-2	DEMO
L-SP-200	1	1"	2#10, 1#10G	LV-200	SP-200	
L-TRK-3	1	1"	2#12, 1#12G	L-3	TRAK SYSTEM	DEMO
L-TRK-200	1	1"	2#12, 1#12G	LV-200	TRAK SYSTEM	TO REPLACE L-TRK-3
L-UNK-3	1	1"	2#8, 1#8G	L-3	15kV-LV	DEMO
L-UNK-200	2	1"	2#8, 1#8G	LV-200	15kV-LV	TO REPLACE L-UNK-3
P-L-3	1	1-1/2"	3#2, 1#2G	EXISTING 15KV LV PANEL	L-3	

PANEL:				LV-200		LOCATION: CWRF								
OPTIONS						<u> </u>		•						
VOLTS L-L: 240		MAIN OVERCURRENT:	100A MCB BUS MATERIAL: (		Cu	Cu MOUNTING:		SURFACE						
VOLTS L-N	l:	120		MAIN BUS RATING:	125A	NEUTRAL SIZE:		100%	ENCLOSURE TYPE:	NEMA 3R				
PHASE:		1		MINIMUM A.I.C.:					GROUND:	EQUIPMEN <sup>-</sup>	Т			
WIRE:		3												
LOAD DAT	A													
CKT#	BKR.	POLE	TYPE	DESCRIPTION	VA	L1	L2	VA	DESCRIPTION	TYPE	POLE	BKR.	CKT#	
1	20A	1		OPERATORS SHED RECEPTACLE	180	2004		1824	AIR COMPRESSOR		2	20A	2	
3	20A	1		OPERATORS SHED LIGHTS	120		1944	1824					4	
5	20A	1		OPERATORS SHED RECEPTACLE	180	180			UNKNOWN	UNKNOWN		2	40A	6
7	20A	1		TRAK SYSTEM	120		120						8	
9	20A	1	GFCI	PUMP 2 (GAS DISPENSER)	528	648		120	SHED LIGHTS		1	30A	10	
11	20A	1	GFCI	PUMP 1 (DIESEL DISPENSER)	528		708 180 A/C + RECEPTACLE		1	20A	12			
13	20A	2		SUMBERSIBLE GAS PUMP	720	720			SPARE		1	20A	14	
15	20A	] ′		SUMBERSIBLE GAS PUMP	720		720		SPARE		1	20A	16	
17		1		SPARE		0			SPACE		1		18	
19		1		SPARE			0		SPACE		1		20	
21		1		SPACE		0			SPACE		1		22	
23		1		SPACE			0		SPACE		1		24	
				TOTAL CONNECTED LOAD (VA) F	ER PHASE:	2832	2772							
				CONNECTED LOAD (AMPS) F	PER PHASE	24	23							
				TOTAL CONNECTED	LOAD (VA):	5604			NEC ARTICLE 220 LOAD (VA):	673	32			
				AVERAGE CONNECTED LO	AD (AMPS):	23		AVE	RAGE ARTICLE 220 LOAD (AMPS):	28	3			
NOTES:														
1.	DEMAND	LOAD CALC	ULATIONS	BASED ON REMOVING REDUNDAN	T LOADING	AND RECE	PTACLES V	A						
2.														

PANEL:				CWRF FUEL (EXISTING)			LOCATION:		CW	RF			
OPTIONS													
VOLTS L-L	:	240		MAIN OVERCURRENT:	NONE	BUS MATERIAL:		Cu	MOUNTING:	SURFACE			
VOLTS L-N	l:	120		MAIN BUS RATING:	125A	NEUTRAL	SIZE:	100%	ENCLOSURE TYPE:	NEMA 3R	NEMA 3R		
PHASE:		1		MINIMUM A.I.C.:					GROUND:	EQUIPMENT	-		
WIRE:		3											
LOAD DAT	A												
CKT#	BKR.	POLE	TYPE	DESCRIPTION	VA	L1	L2	VA	DESCRIPTION	TYPE	POLE	BKR.	CKT#
1	20A	1		OPERATORS SHED RECEPTACLE	180	2004		1824	AIR COMPRESSOR		2	20A	2
3	20A	1		OPERATORS SHED LIGHTS	120		1944	1824					4
5	20A	1		OPERATORS SHED RECEPTACLE	180	180			UNKOWN	2	40A	6	
7	20A	1		TRAK SYSTEM	120		120						8
9	20A	1		PUMP 2	528	648		120	SHED LIGHTS		1	30A	10
11	20A	1		PUMP 1	528		708	180	A/C + RECEPTACLE		1	20A	12
				TOTAL CONNECTED LOAD (VA) F	PER PHASE:	2832	2772						
				CONNECTED LOAD (AMPS) I	PER PHASE	24	23						
				TOTAL CONNECTED	LOAD (VA):	5604			NEC ARTICLE 220 LOAD (VA):	6732	2		
				AVERAGE CONNECTED LC	AD (AMPS):	23		AVEF	RAGE ARTICLE 220 LOAD (AMPS):	28			
NOTES:													
1.	DEMAND I	_OAD CALCU	JLATIONS	BASED ON REMOVING REDUNDAN	IT LOADING	AND RECEI	PTACLES V	A					
2.													
						1							

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ESCAMBIA COUNTY, FLORIDA

EMERALD COAS'
UTILITIES AUTHORIT

Title

ECUA FUEL SYSTEM MODIFICATION

CWRF ELECTRICAL SCHEDULES

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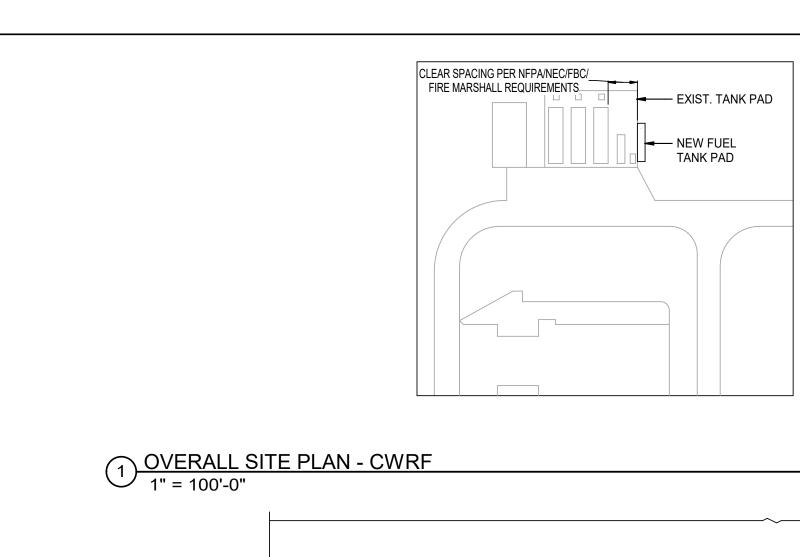
Project Numb	er		В/О		Total		
5021	1004	102-0°					
Designed	S. RIL	EY		Eng check	A. GIE		
Drawn	H. ERS	SKINE		Coordination	A. GIE	BBS	
Dwg check	A. GIB	BS		Approved	A. GIE	BBS	
Scale at ANS	ID	Status		Rev		Security	
AS NOTE	В	SID	B1		SI	ΓD	
Drawing Num							

E-0

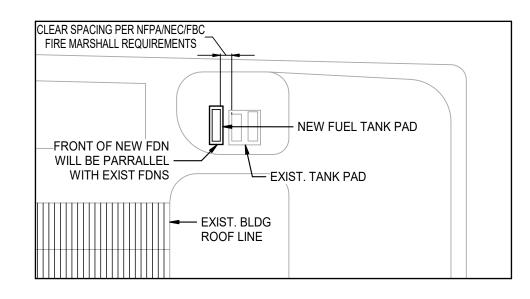
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1/4" = 1'-0"



OVERALL SITE PLAN - GODWIN LANE
1" = 100'-0"

B1 2022/06/03 MJC ISSUED FOR BID P1 2022/03/10 MJC REVIEW SUBMITTAL CEL CEL Rev Date Drawn Ch'k'd App'd Description

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EMERALD COAST UTILITIES AUTHORITY ESCAMBIA COUNTY, FLORIDA

CWRF & GODWIN LN - FUEL TANK

FOUNDATION DETAILS

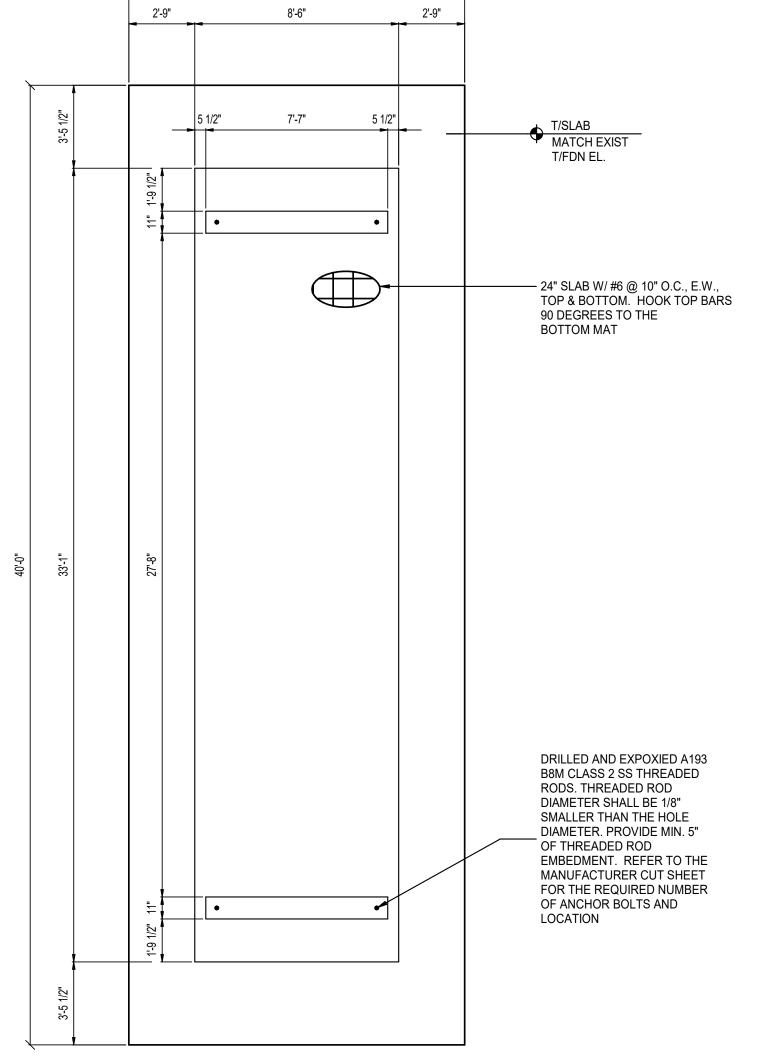
SITE & SLAB PLANS

ISSUED FOR BID SUBMITTAL

Project Number 502100402-019 Designed M. CULLENS Eng check C. LYNER M. CULLENS Coordination Dwg check | C. LYNER C. LYNER Approved Scale at ANSI D BID ŚTD AS NOTED B1 Drawing Number

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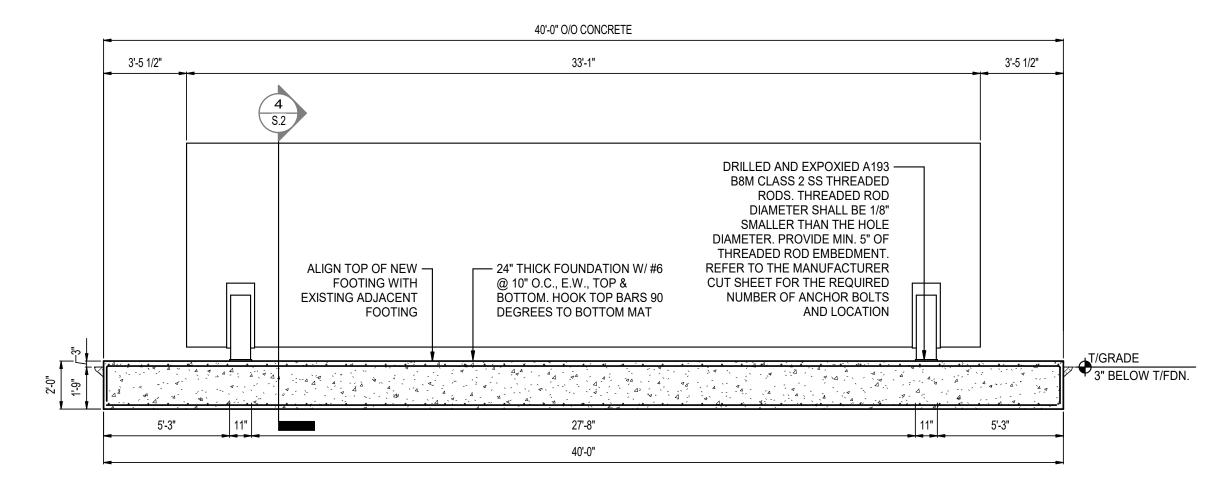
T/ NEW FDN MATCH EXIST T/FDN EL. - 18" SLAB W/ #6 @ 10" O.C., E.W., TOP & BOTTOM. HOOK TOP BARS 90 DEGREES TO THE BOTTOM MAT 4'-3" 4'-3" DRILLED AND EXPOXIED A193 B8M CLASS 2 SS THREADED RODS. THREADED ROD DIAMETER SHALL BE 1/8" SMALLER THAN THE HOLE DIAMETER. PROVIDE MIN. 5" OF THREADED ROD EMBEDMENT. REFER MANUFACTURER CUT SHEET FOR THE REQUIRED NUMBER OF ANCHOR BOLTS AND LOCATION EXIST. TANK TO BE DEMOLISHED — 8'-0" → EXISTING NEW — CWRF FUEL TANK SLAB PLAN



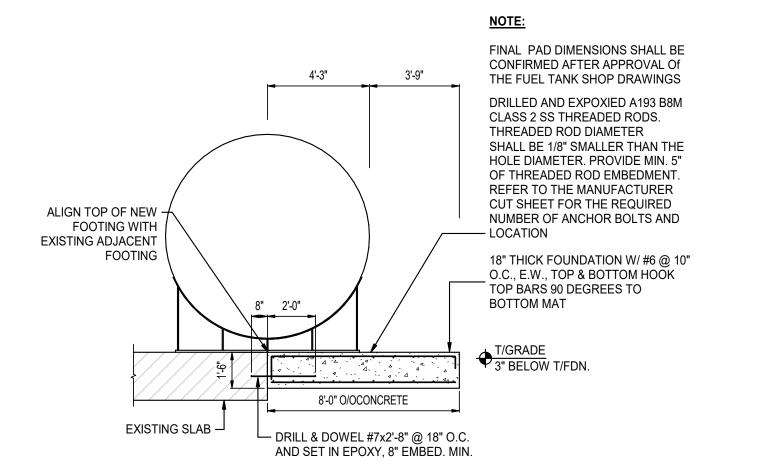
GODWIN LANE FUEL TANK SLAB PLAN
1/4" = 1'-0"

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## CWRF TANK SLAB ELEVATION



## GODWIN LANE FUEL TANK SLAB ELEVATION 1/4" = 1'-0"



FINAL PAD DIMENSIONS SHALL BE CONFIRMED AFTER APPROVAL Of 2'-9" 8'-6" 2'-9" THE FUEL TANK SHOP DRAWINGS DRILLED AND EXPOXIED A193 B8M CLASS 2 SS THREADED RODS. THREADED ROD DIAMETER SHALL BE 1/8" SMALLER THAN THE HOLE DIAMETER. PROVIDE MIN. 5" OF THREADED ROD EMBEDMENT. REFER TO THE MANUFACTURER CUT SHEET FOR THE REQUIRED NUMBER OF ANCHOR BOLTS AND - LOCATION 24" THICK FOUNDATION W/ #6 @ 10" O.C., E.W., - TOP & BOTTOM HOOK TOP BARS 90 DEGREES TO BOTTOM MAT 14'-0"

NOTE:

3 CWRF FUEL TANK SLAB SECTION 1/4" = 1'-0"

GODWIN LANE FUEL TANK SLAB SECTION

#### **GENERAL:**

- . 2020 FLORIDA BUILDING CODE (7TH EDITION).
- lpha . The Structural documents are to be used in conjunction with the electrical and civil documents. 3. COMPLY WITH REQUIREMENTS OF THE IBC, OHSA, AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL CODES, STANDARDS, REGULATIONS AND LAWS.
- I.  $\,$  ALL REFERENCED STANDARDS REFER TO THE EDITION IN FORCE AT THE TIME THESE PLANS AND SPECIFICATIONS ARE ISSUED FOR BIDDING.
- REVIEW ALL CONTRACT DOCUMENTS. DIMENSIONS AND SITE CONDITIONS AND COORDINATE WITH FIELD DIMENSIONS AND PROJECT SHOP DRAWINGS PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES IN WRITING TO THE ENGINEER. DO NOT CHANGE SIZE OR DIMENSIONS OF STRUCTURAL MEMBERS WITHOUT WRITTEN INSTRUCTIONS FROM THE STRUCTURAL ENGINEER OF RECORD.
- ANY DISCREPANCIES, OMISSIONS OR VARIATIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS DISCOVERED DURING THE BIDDING PERIOD SHALL BE IMMEDIATELY COMMUNICATED IN WRITING TO THE ENGINEER.
- PROTECT EXISTING FACILITIES, STRUCTURES AND UTILITY LINES FROM ALL DAMAGE. EACH CONTRACTOR SHALL PROTECT HIS WORK, ADJACENT PROPERTY AND THE PUBLIC. EACH CONTRACTOR IS SOLELY RESPONSIBLE FOR DAMAGE OR INJURY DUE TO HIS ACT OR NEGLECT.
- . THE CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SAFETY AND CONSTRUCTION PROCEDURES. 9. DO NOT SCALE DRAWINGS; USE DIMENSIONS.
- 10. REFER TO ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS IN FOUNDATION.

#### DESIGN LOADS CRITERIA

#### VERTICAL LOADS

A. 96"Ø FIREGUARD FUEL TANK 40,000 LBS (DRY WEIGHT) B. FUEL CAPACITY 12000 GALLONS (75,000 LBS) C. TOTAL WEIGHT 115,000 LBS

#### WIND LOADING

- A. RISK CATEGORY B. BASIC WIND SPEED 166 MPH
- C. EXPOSURE D. ENCLOSURE GEN: SOLID WALL AND SIGN/ STRUCTURE: OPEN STUCTURE

#### SEISMIC LOADING

A. RISK CATEGORY B. SITE CLASS C. SEISMIC DESIGN CATEGORY 0.080 D. Ss E. S<sub>1</sub> 0.054 0.086 F. S<sub>DS</sub> 0.087  $G. S_{D1}$ 

#### FLOOD ZONE

**REINFORCED CONCRETE:** 

PROPORTION CONCRETE IN ACCORDANCE WITH ACI-318 CH. 4 AND MEETING A MIN. ULTIMATE COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS:

PROVIDE CURRENT (MAX. 1 YEAR OLD) STATISTICAL DATA FOR EACH CONCRETE MIX DESIGN SUBMITTED.

- IF CONCRETE IS PUMPED, SLUMP MAY BE INCREASED TO 6" AT THE TRUCK. USE A MINIMUM 4-INCH PUMP, UNLESS PRE-APPROVED BY ENGINEER. TAKE CONCRETE SAMPLES FOR SLUMP AT TRUCK AND AT DISCHARGE END. TAKE CONCRETE SAMPLES FOR CYLINDER TESTING AT DISCHARGE END.
- ALL REINFORCING SHALL BE ACCURATELY PLACED, RIGIDLY SUPPORTED AND FIRMLY TIED IN PLACE WITH BAR SUPPORTS AND SPACERS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS. PROVIDE CLASS 'B' LAP SPLICE FOR CONTINUOUS BARS, U.O.N. LAP BOTTOM STEEL OVER SUPPORTS AND TOP STEEL AT MID SPAN UNLESS OTHERWISE SPECIFIED. HOOK DISCONTINUOUS ENDS OF ALL TOP BARS, U.N.O.
- PLACE REINFORCING STEEL SUCH THAT BARS ADJACENT TO CONCRETE SURFACES & COLD JOINTS MEET MIN CLEAR COVER REQUIREMENTS, BUT DO NOT EXCEED THOSE REQUIREMENTS. USE THE FOLLOWING CLEAR COVER OVER REINFORCING:

BOTTOM TOP SIDES

3" 3" 3"

. SLEEVE ALL PIPES THROUGH FOUNDATION INDIVIDUALLY, UNLESS APPROVED BY ENGINEER. 6. ALL EXPOSED CONCRETE AND GROUT EDGES SHALL HAVE 3/4", 45 DEGREE CHAMFER, U.N.O.

## **SOIL PREPARATION AND COMPACTION:**

- . SOIL SHALL BE COMPACTED TO 98% OF THE MODIFIED PROCTOR.
- . A GEOTECHNICAL ENGINEERING AND TESTING AGENCY SHALL BE ON-SITE TO VERIFY COMPACTION REQURIEMENTS ARE ACHIEVED.
- EXCAVATE EXISTING SOIL TO BOTTOM OF FOOTINGS. ALL DELETERIOUS MATERIAL MUST BE COMPLETELY
- . ALL EXISTING UTILITIES & ORGANICS (INCLUDING STUMPS AND ROOTS) SHALL BE COMPLETELY REMOVED PRIOR
- TO FILL OPERATIONS. . SOIL COMPACTION, FILL, AND ITS REPLACEMENT SHALL BE FIELD CONTROLLED BY THE TESTING AGENCY OR
- GEOTECHNICAL ENGINEER OF RECORD. THE TESTING AGENCY SHALL RANDOMLY SELECT ALL TEST LOCATIONS. THE CONTRACTOR SHALL DETERMINE WHETHER DE-WATERING WILL BE REQUIRED BASED ON ACTUAL GROUND
- WATER CONDITIONS AT THE TIME OF CONSTRUCTION.

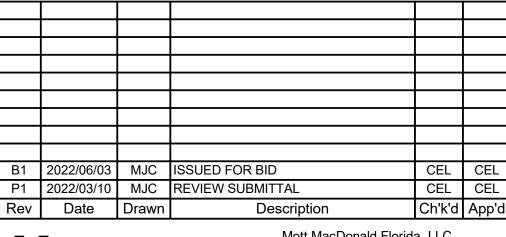
### **SHALLOW FOUNDATIONS**:

- FOUNDATION DESIGN IS BASED ON AN ALLOWABLE SOIL BEARING CAPACITY OF 1500 PSF.
- 2. EXCAVATE EXISTING SOIL TO BOTTOM OF FOOTINGS. ALL DELETERIOUS MATERIAL MUST BE COMPLETELY
- . SOIL COMPACTION, FILL, AND ITS REPLACEMENT SHALL BE FIELD CONTROLLED BY THE TESTING AGENCY OR GEOTECHNICAL ENGINEER OF RECORD. THE TESTING AGENCY SHALL RANDOMLY SELECT ALL TEST LOCATIONS.
- . IF SOIL IS DISTURBED DURING FOOTING EXCAVATION RECOMPACT TO REQUIRED DENSITY. . DO NOT EXCAVATE FOR ANY PURPOSE WITHIN ONE FOOT OF THE ANGLE OF REPOSE OF ANY SOIL BEARING FOOTING OR FOUNDATION UNLESS SUCH FOOTING OR FOUNDATION IS FIRST PROPERLY PROTECTED AGAINST
- 3. THE CONTRACTOR IS RESPONSIBLE FOR THE DISPOSAL OF ALL ACCUMULATED WATER FROM EXCAVATIONS AND DEWATERING OPERATIONS IN SUCH A WAY AS NOT TO CAUSE INCONVENIENCE TO THE WORK AND DAMAGE TO
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING, AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL BUILDING DEPARTMENT.

### **ANCHORS:**

- ALLOWABLE WORKING LOADS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATIONS, BUT NOT MORE THAN ACCEPTED BY APPROVING AGENCY. NO INCREASE FOR WIND OR SEISMIC LOADS IS PERMITTED.
- . INSTALL AND MAINTAIN A MIN. EMBEDMENT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS, OR AS SPECIFIED ON DRAWING, WHICHEVER IS GREATER, BUT WITH AN EMBEDMENT OF NOT LESS THAN 6 BOLT-
- UNLESS NOTED, ANCHOR SPACING AND ANCHOR EDGE DISTANCE SHALL BE ACCORDING TO THE MANUFACTURER'S MOST CURRENT PUBLICATION IN ORDER TO DEVELOP MAXIMUM WORKING LOADS.
- . DO NOT EXCEED MANUFACTURER'S MAX. RECOMMENDED TIGHTENING TORQUE. . ALL ANCHORS SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND UNDER MANUFACTURER CERTIFIED SUPERVISION IN ORDER TO DEVELOP THE MOST CURRENT PUBLISHED WORKING LOADS. . EPOXY GROUTED ANCHORS SHALL BE HILTI HAS SS RODS (A193 B8M CLASS 2) OR ENGINEERED APPROVED
- EQUIVALENT. . ADHESIVE ANCHORING SYSTEMS:
- A. USE AN EPOXY OR POLYESTER RESIN ADHESIVE SUCH AS HILTI RE 500, SIMPSON SET OR ACCEPTED
- ALTERNATE.
- B. DIAMETER OF HOLE SHALL BE AS RECOMMENDED BY MANUFACTURER FOR THE PARTICULAR PRODUCT SPECIFIED IN THE DRAWINGS. C. ALL EPOXIED ANCHORING SHALL BE OBSERVED BY A MANUFACTURER'S AUTHORIZED REPRESENTATIVE OR
- SHALL BE TESTED AFTER INSTALLATION AT CONTRACTOR'S EXPENSE. A MINIMUM OF 10% OF EACH DAY'S APPLICATIONS AND NO LESS THAN 2 SHALL BE TESTED BY APPLYING A TENSION LOAD OF 3000 POUNDS TO THE EMBEDDED ANCHOR. IF A TEST APPLICATION FAILS, ALL APPLICATIONS FOR THAT DAY SHALL BE TESTED. TESTING PROCEDURES AND RESULTS SHALL BE SUBMITTED AND APPROVED BY ENGINEER.

ALL WORK TO BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT MANUAL, THIS DOCUMENT & THE CURRENT EDITION OF E.C.U.A.'S ENGINEERING MANUAL.





MACDONALD

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EMERALD COAST UTILITIES AUTHORITY ESCAMBIA COUNTY, FLORIDA



**CWRF & GODWIN LN - FUEL TANK** FOUNDATION DETAILS

STRUCTURAL DETAILS

## ISSUED FOR BID SUBMITTAL

	Project Numb	er			B/O		Total		
	5021	1004	402-0						
	Designed	d M. CULLENS			Eng check	C. LYI	C. LYNER		
	Drawn	Orawn M. CULLENS				Coordination			
	Dwg check	C. LYI	NER		Approved	C. LYI	NER		
Ε	Scale at ANSI D Status			Rev		Security			
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	Drawing Number								

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