

ELECTRICAL SYMBOL LEGEND

BASIC MATERIALS		ABBREVIATIONS		ABBREVIATIONS (CONT.)	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
DEVICE ABBREVIATION TAGS					
BC	POKE-THRU WITH 4" CORE DRILL		OVERHEAD DOOR PUSHBUTTON CONTROL STATION	IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
BC	POKE-THRU WITH 6" CORE DRILL		PUSHBUTTON STATION	IES	ILLUMINATING ENGINEERING SOCIETY
4G	FOUR-GANG FLOOR BOX		MOTOR CONNECTION	IMC	INTERMEDIATE METAL CONDUIT
6G	SIX-GANG FLOOR BOX		MOTORIZED DAMPER CONNECTION	IN	INCHES
8G	EIGHT-GANG FLOOR BOX		VARIABLE FREQUENCY DRIVE	IPECA	INSULATED POWER CABLE ENGINEERS ASSOCIATION
AV	DOUBLE DUPLEX RECEPTACLE WITH DEDICATED CIRCUIT FOR AV RACK OR CART RECEPTACLE CONTROLLED PER ASHRAE 90.1 (2010); PROVIDE POWER PACK FOR RECEPTACLE CIRCUIT. TO BE CONTROLLED THROUGH LOCAL ROOM OCCUPANCY SENSOR(S); PROVIDE DEVICE WITH BLUE DOT OR UNIVERSAL POWER SYMBOL		DIRECT DIGITAL CONTROL PANEL	IT	INSTANTANEOUS TRIP
C			BUILDING AUTOMATION SYSTEM CONTROL PANEL	JB OR J-BOX	JUNCTION BOX
ETR	EXISTING TO REMAIN		LIGHTING CONTROL PANEL	KCMIL	ONE THOUSAND CIRCULAR MILS
H	HOSPITAL GRADE		MANHOLE	KV	KILOVOLT
IG	ISOLATED GROUND (ORANGE DEVICE)		PULLBOX	KVA	KILOVOLT AMPERES
RL	RELOCATED		HANDHOLE	KW	KILOWATT
TR	TAMPER RESISTANT		TRANSFORMER	KWH	KILOWATT HOURS
TV	RECEPTACLE MOUNTED ADJACENT TO TV OUTLET, COORDINATE HEIGHT W/ ARCHITECT		AUTOMATIC TRANSFER SWITCH	LBS	POUNDS
U	DUPLEX RECEPTACLE WITH (2) USB PORTS		NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED	LED	LIGHT EMITTING DIODE
WP	WEATHERPROOF		FUSED DISCONNECT	LP	LIGHTNING PROTECTION
S _a	SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED)		MCP	LT	LIGHT
S ₃	THREE-WAY SWITCH		# OF POLES	LTG	LIGHTING
S ₄	FOUR-WAY SWITCH		NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED	LSIS	LONG TIME SHORT TIME, INSTANTANEOUS, GROUND
S _K	SINGLE POLE KEY SWITCH		COMBINATION MAGNETIC MOTOR STARTER, SIZE AS NOTED, 3-POLE UNLESS OTHERWISE NOTED	LSIA	LONG TIME, SHORT TIME, INSTANTANEOUS, ALARM
S _T	DIGITAL TIMER SWITCH W/ 5 MIN. WARNING FLASH		NOTED	LSI	LONG TIME, SHORT TIME, INSTANTANEOUS
S _{OSab}	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH, DUAL RELAY		4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE	MAX	MAXIMUM
S _{OS}	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH		NEMA STARTER SIZE	MCA	MINIMUM CIRCUIT AMPS
S _{VS}	WALL MOUNTED DUAL TECHNOLOGY VACANCY SENSOR SWITCH			MCB	MAIN CIRCUIT BREAKER
S _{DOS}	WALL MOUNTED DUAL TECHNOLOGY DIMMING/OCCUPANCY SENSOR SWITCH			MCC	MOTOR CONTROL CENTER
S _{LV}	LOW VOLTAGE SWITCH			MDP	MAIN SERVICE DISTRIBUTION PANEL
S _{LVD}	LOW VOLTAGE OVERRIDE SWITCH			MIC	MICROPHONE
S _{LVD}	LOW VOLTAGE OVERRIDE SWITCH WITH DIMMING			MIN	MINIMUM
S _F	FAN SWITCH			MLO	MAIN LUGS ONLY
S _{yt}	MOTOR RATED SWITCH			MOCIP	MAXIMUM OVERCURRENT PROTECTION
S _D	DIMMER SWITCH, LINE VOLTAGE			MSB	MAIN SERVICE SWITCHBOARD
	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR			MTD	MOUNTED
	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR			MTG	MOUNTING
	DAYLIGHT SENSOR CEILING MOUNTED			MTR	MOTOR
	DAYLIGHT SENSOR WALL MOUNTED			MTS	MANUAL TRANSFER SWITCH
	VACANCY SENSOR CEILING MOUNTED			MUX	MULTI-LEX (TRANSPONDER) PANEL
	VACANCY SENSOR WALL MOUNTED			MVA	MEGA VOLT AMPS
	PHOTOCELL, MOUNTED ON ROOF FACING NORTH			N	NEUTRAL
	NOTE: DIAGONAL MARKS INDICATED ON ANY DEVICE REPRESENTS DEVICE CONNECTED TO EMERGENCY CIRCUIT (RED DEVICE FOR RECEPTACLE); TYPICAL FOR ANY DEVICE IN LEGEND			NC	NORMALLY CLOSED
	SINGLE RECEPTACLE			NEC	NATIONAL ELECTRICAL CODE
	DUPLEX RECEPTACLE			NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
	TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE			NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER			NIC	NOT IN CONTRACT
	TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVER MOUNTED ABOVE COUNTER			NF	NON-FUSED
	GFCI RECEPTACLE; "WP" INDICATES CAST METAL "IN-USE" WEATHERPROOF COVER, WEATHER-RESISTANT LISTED			NL	NON-LINEAR
	GFCI RECEPTACLE; "WP" INDICATES CAST METAL "IN-USE" WEATHERPROOF COVER, WEATHER-RESISTANT LISTED			NO	NORMALLY OPEN OR NUMBER
	TWO GFCI DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE			OL	OVERLOAD
	DUPLEX RECEPTACLE, CEILING MOUNTED			OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
	TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE, CEILING MOUNTED			P	POLE
	PEDESTAL MOUNTED DUPLEX RECEPTACLE			PB	PULLBOX
	FLOOR BOX WITH DUPLEX RECEPTACLE WITH APPROPRIATE FLANGE			PF	POWER FACTOR
	FLOOR BOX, TWO DUPLEX RECEPTACLES (QUAD) WITH APPROPRIATE FLANGE			PH	POST INDICATOR VALVE
	SPECIAL PURPOSE RECEPTACLE, NEMA CONFIGURATION AS NOTED			PNL	PANEL
	JUNCTION BOX WALL MOUNTED			PR	PAIR
	JUNCTION BOX MOUNTED IN OR ABOVE CEILING OR IN STRUCTURE			PRI	PRIMARY
	WALL MOUNTED FURNITURE FEED POWER CONNECTION			PT	POTENTIAL TRANSFORMER
	POWER POLE WITH POWER & DATA FURNITURE FEED POWER CONNECTIONS			PVC	POLYVINYLCHLORIDE
	POWER POLE WITH POWER & DATA OUTLETS			PWR	POWER
	MULTI-SERVICE POKE-THRU WITH TWO INTEGRAL DUPLEX RECEPTACLES AND VOICE/DATA/AV DEVICES (REFER TO TECHNOLOGY DRAWINGS OR OWNER'S VENDOR DRAWINGS FOR LOW VOLTAGE REQUIREMENTS); OR FURNITURE FEED CONNECTION, REFER TO POKE-THRU DETAILS			REC, RECEPT	RECEPTACLE
	MULTI-SERVICE RACEWAY WITH 5-20R RECEPTACLES, 18" O.C. UNLESS OTHERWISE NOTED			REF	REFRIGERATOR
	CLOCK RECEPTACLE, WALL MOUNTED			RG5, GRC	RIGID GALVANIZED STEEL CONDUIT
	GROUND BUS BAR, COPPER			RLA	RUNNING LOAD AMPERES
	SURGE PROTECTIVE DEVICE			RMS	ROOT-MEAN-SQUARE
	SHUNT-TRIP PUSHBUTTON, SEMI-FLUSH WALL MOUNTED UNLESS OTHERWISE NOTED; NEMA 3R FOR EXTERIOR LOCATIONS			RPM	REVOLUTIONS PER MINUTE
	EMERGENCY POWER OFF SHUNT-TRIP PUSHBUTTON, RED MUSHROOM HEAD, CLEAR LEXAN PROTECTIVE COVER			RTU	ROOF TOP UNIT
			CONDUIT CONCEALED ABOVE CEILING OR IN WALL	SCA	SHORT CIRCUIT AMPERES
			CONDUIT EXPOSED	SD	SMOKE DETECTOR
			CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR	SEC	SECONDARY
			CONDUIT HOMERUN TO ELECTRICAL PANEL	SNI	SOLID NEUTRAL
			CONDUIT TURNING UP	SPD	SURGE PROTECTIVE DEVICE
			CONDUIT TURNING DOWN	SPKR	SPEAKER
			CONDUIT STUBBED OUT OR UP	SPST	SINGLE POLE SINGLE THROW
			CONDUIT CONTINUED	SS	STAINLESS STEEL
			FLEXIBLE CONDUIT	SST	SOLID STATE TRIP
			CONDUIT SEAL-OFF FITTING	STD	SHORT TIME TRIP
			EXISTING TO BE REMOVED (HEAVY, DASHED LINE)	SW	SWITCH
			EXISTING TO REMAIN (LIGHT, SOLID LINE)	SWBD	SWITCHBOARD
			NEW (HEAVY, SOLID LINE)	SWGR	SWITCHGEAR
				TEL	TELEPHONE
				TTB	TELEPHONE TERMINAL BOARD
				TTC	TELEPHONE TERMINAL CABINET
				TVEC	TELEVISION EQUIPMENT CABINET
				TYP	TYPICAL
				UG	UNDERGROUND
				UN	UNLESS OTHERWISE NOTED
				UL	UNDERWRITERS LABORATORIES
				UTIL	UTILITY
				V	VOLT
				VA	VOLT-AMPERE
				VAR	VOLT AMPERE REACTIVE
				VAV	VARIABLE AIR VOLUME
				VFD	VARIABLE FREQUENCY DRIVE
				W	WIRE
				WP	WEATHER PROOF
				XFMR	TRANSFORMER
				XFR	TRANSFER

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

ELECTRICAL DRAWING INDEX	
SHEET	DESCRIPTION
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E02	ELECTRICAL NOTES
E03	ELECTRICAL MASTER SITE PLAN
E04	ELECTRICAL SITE PLAN - AREA A
E05	ELECTRICAL SITE PLAN - AREA B
E06	ELECTRICAL PANEL SCHEDULES, RISER & DETAIL

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Lee County Southwest Florida

PUNTA RASSA BOAT RAMP IMPROVEMENTS
LEE COUNTY, FLORIDA

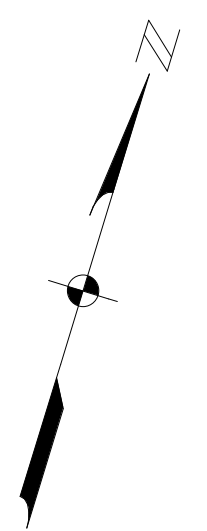
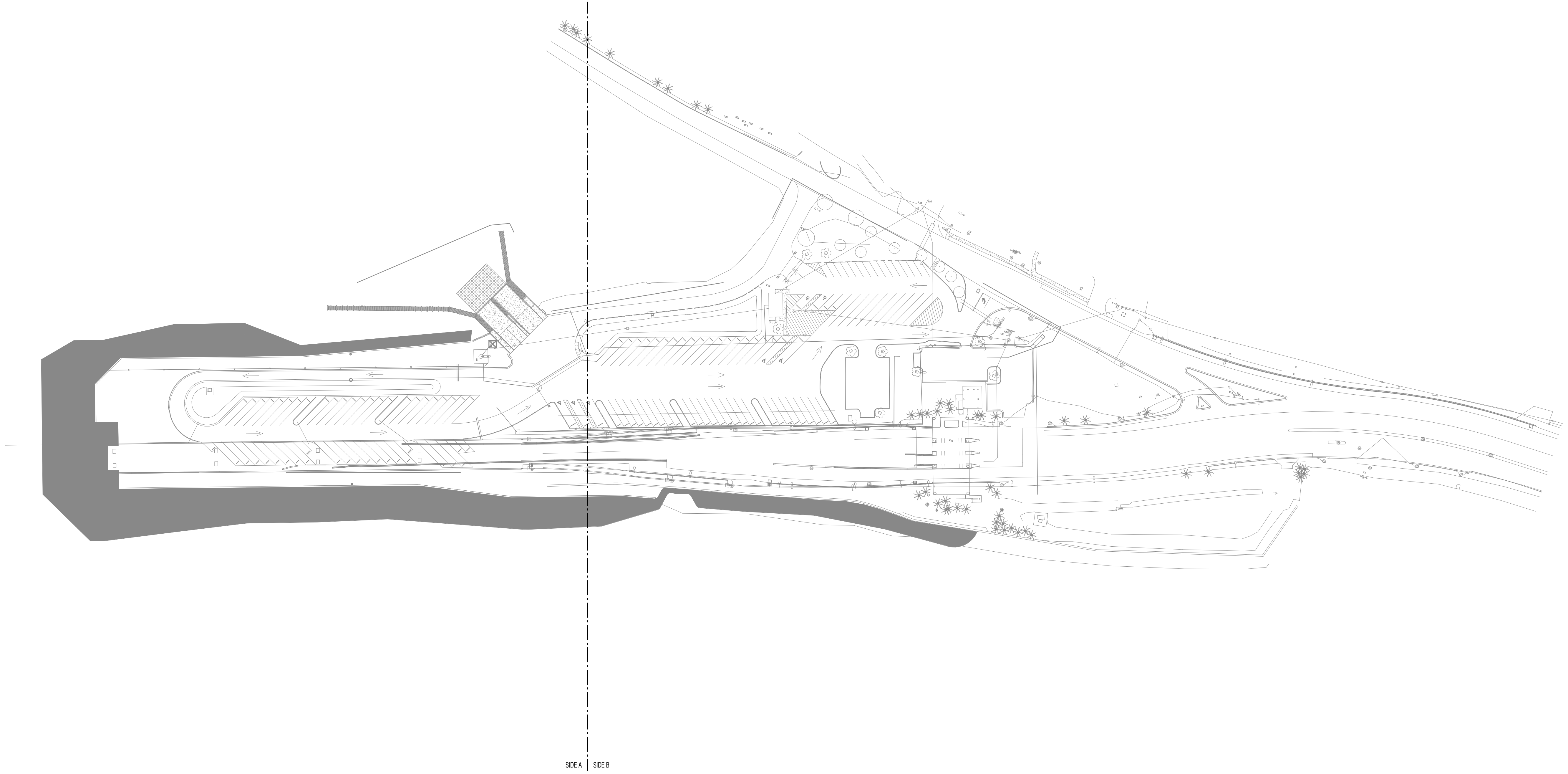
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ELECTRICAL SYMBOLS, LEGEND, AND INDEX

SHEET NUMBER
E01

60% CONSTRUCTION PLANS



ELECTRICAL MASTER SITE
PLAN - POWER
 1" = 80'-0"

SIDE A | SIDE B

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LEE COUNTY, FLORIDA

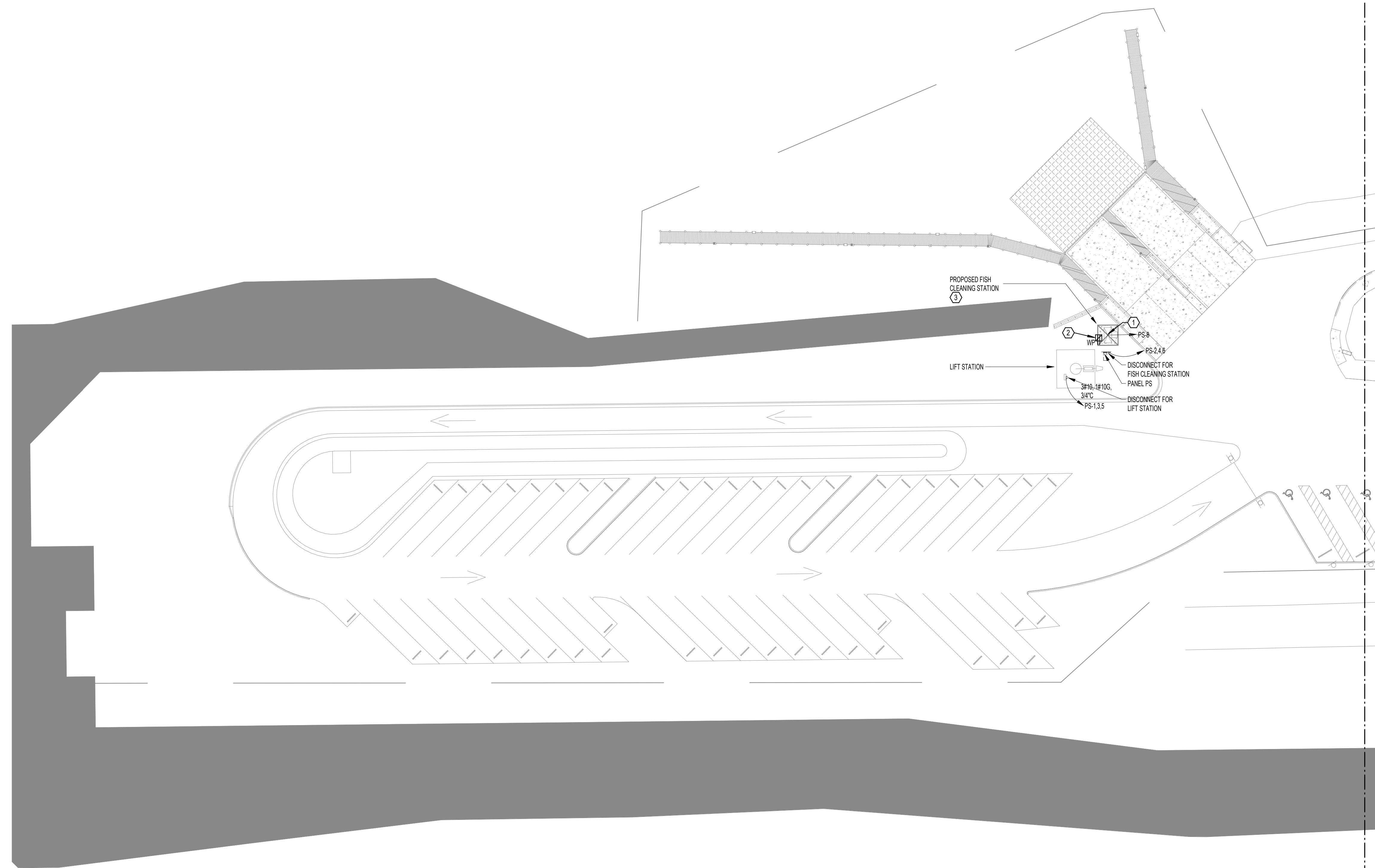
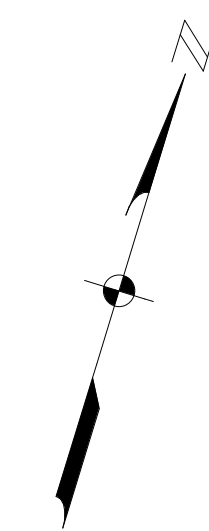
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ELECTRICAL MASTER SITE PLAN

60% CONSTRUCTION PLANS

SHEET NUMBER
E03



- KEY NOTES:**
1. PROVIDE SURFACE MOUNTED LIGHT FIXTURE ON CANOPY CONTROLLED BY TIMER. LITON # DL0380-FINISH BY ARCHITECT-LED. INSTALL 60 MINUTE SPRING WOUND TIMER IN A WEATHERPROOF SURFACE MOUNTED BOX.
 2. DUPLEX RECEPTACLE IN A WEATHERPROOF SURFACE MOUNTED BOX. COORDINATE LOCATION PRIOR TO INSTALLATION.
 3. CONTRACTOR TO PROVIDE A UL LISTED MASTER LABELED LIGHTNING PROTECTION SYSTEM FOR THIS BUILDING. PROVIDE ENGINEERED SHOP DRAWINGS FOR REVIEW DURING THE SUBMITTAL PHASE.

1 Electrical Site Plan - Power Area A
1" = 30'-0"

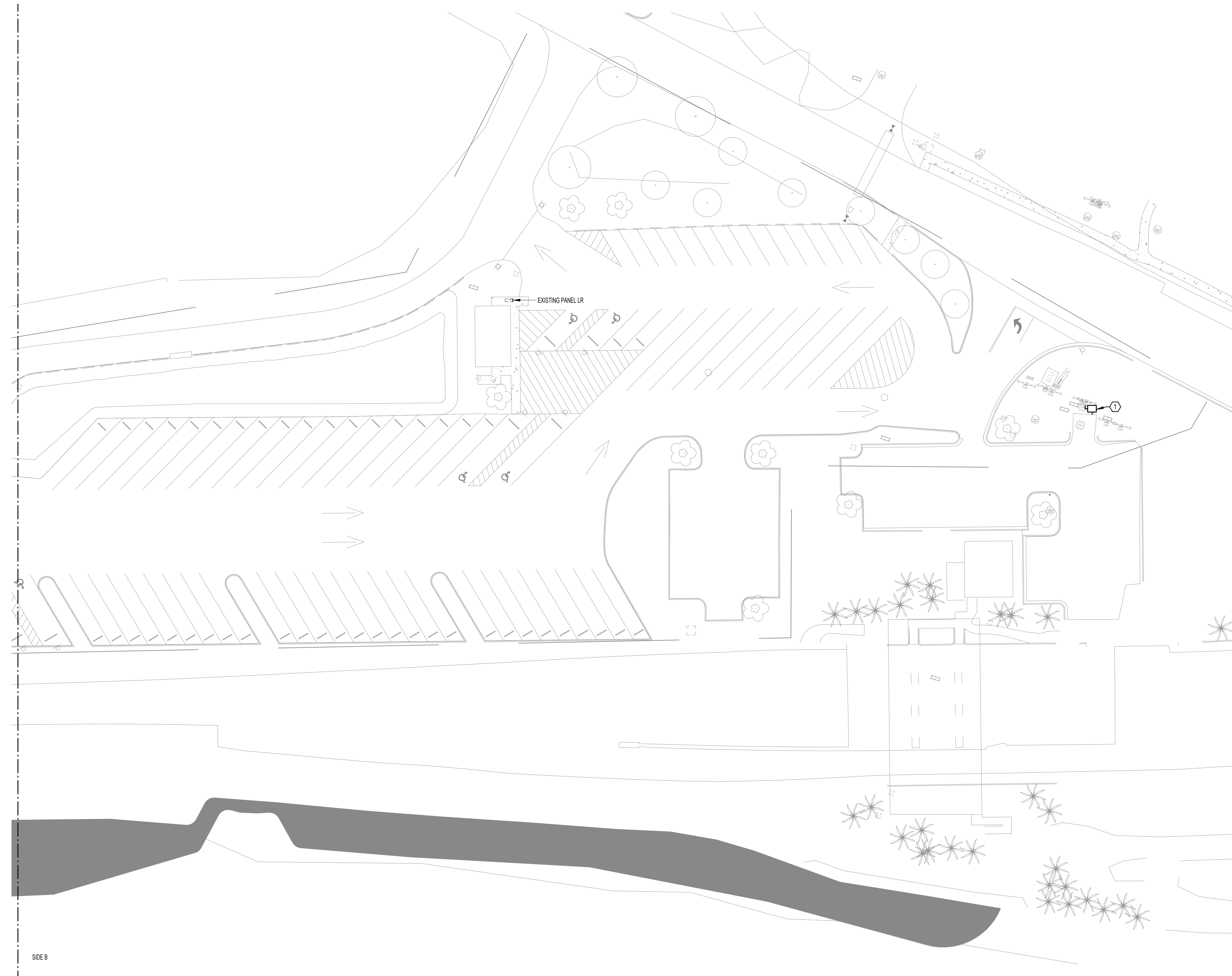
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ELECTRICAL SITE PLAN - AREA A

SHEET NUMBER
E04



KEY NOTES:

1. PROVIDE A 240V, 1 PHASE 60A NEMA 4X SS DISCONNECT SWITCH WITH LOCKABLE ENCLOSURE FOR WELL PUMP. RECONNECT TO PANEL OF EXISTING WELL PUMP. ELECTRICAL CONTRACTOR SHALL MAKE CONNECTIONS TO WELL CONTROL PANEL. COORDINATE WITH IRRIGATION DRAWINGS FOR ADDITIONAL REQUIREMENTS. VERIFY EXACT LOCATION IN FIELD PRIOR TO INSTALLATION.

1 Electrical Site Plan - Power Area B
1" = 30'-0"

60% CONSTRUCTION PLANS

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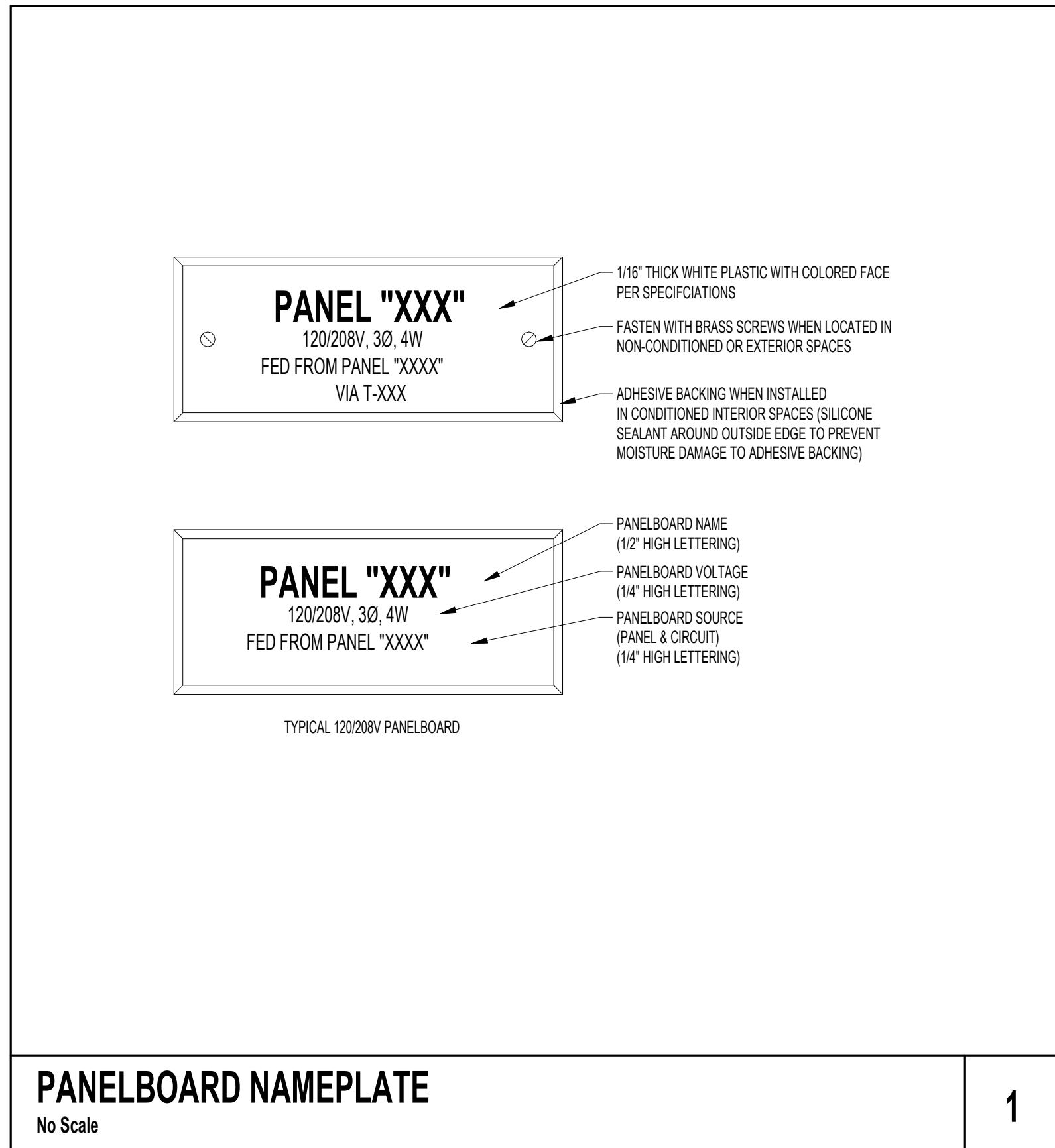
PUNTA RASSA BOAT RAMP IMPROVEMENTS
LEE COUNTY, FLORIDA

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ELECTRICAL SITE PLAN - AREA B

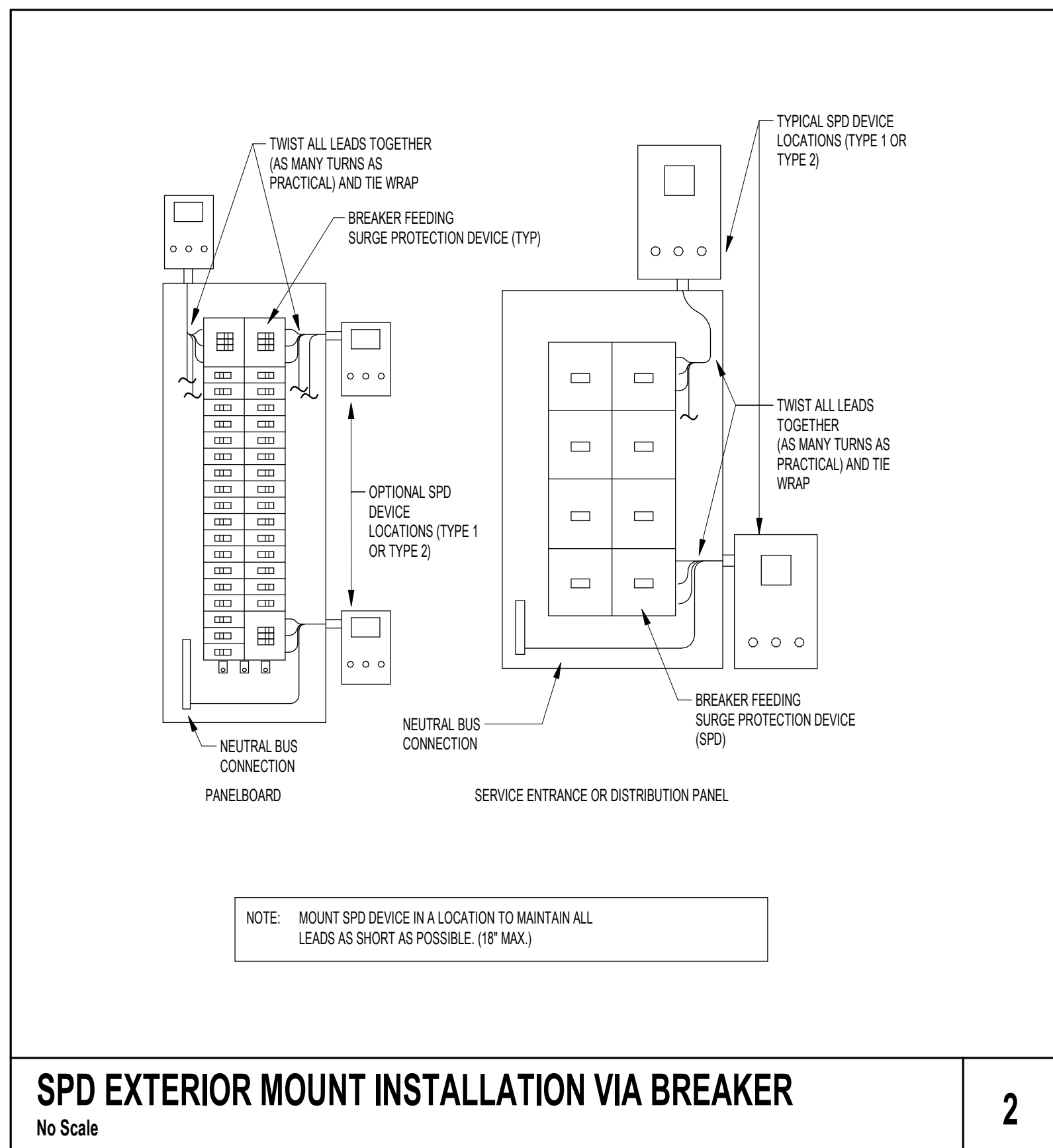
SHEET NUMBER
E05



PANELBOARD NAMEPLATE

No Scale

1



SPD EXTERIOR MOUNT INSTALLATION VIA BREAKER

No Scale

2

NAME: LR

LOCATION: MOUNTING: SURFACE DIST. / PHASE / WIRES: 2Ø8Y12ØV / 3 / 4 K.A.I.C. RATING: FEED THRU: NO
 SUPPLY FROM: ENCLOSURE: TYPE 4X SS MAX. HEIGHT BUSING: YES MAINS TYPE: MCB RATING: 100 A

KN	CKT	CIRCUIT DESCRIPTION	TRIP(A)	P	A (KVA)	B (KVA)	C (KVA)	P	TRIP(A)	CIRCUIT DESCRIPTION	CKT	KN
1		LIGHTING	20	1	0.240	0.400			1	20	RECEPTACLE	2
3		LIGHTING	20	1		0.280	0.400		1	20	RECEPTACLE	4
5		HAND DRYER	30	1			2.400	0.000	1	20	Spare	6
7		PANEL PS	70	3	5.079	0.000			1	20	Spare	8
9		Space	--	1	--	4.877	2.400		1	30	HANDDRYER	10
11		Space	--	1	--		4.877	0.000	1	20	Spare	12
13		Space	--	1	--	0.000			1	--	Space	14
15		Space	--	1	--		0.000		3	40	TVSS	16
17		Space	--	1	--				--	0.000		18
					CONNECTED PHASE LOAD (KVA)	5.719	7.957	7.277				
					CONNECTED PHASE AMPS (A)	47.656	68.203	62.626				
					LOAD CLASSIFICATION			PANEL TOTALS				
					CONNECTED LOAD	22 VA	100.00%	22 VA				
					LIGHTING	22 VA	100.00%	22 VA				
					MOTORS	14630 VA	115.38%	16880 VA				
					RECEPTACLE	180 VA	100.00%	180 VA				
					Spare	6120 VA	100.00%	6120 VA				
					TOTAL CONNECTED LOAD (KVA): 20.952							
					TOTAL DEMAND LOAD (KVA): 23.202							
					TOTAL DEMAND CURRENT (A): 64							

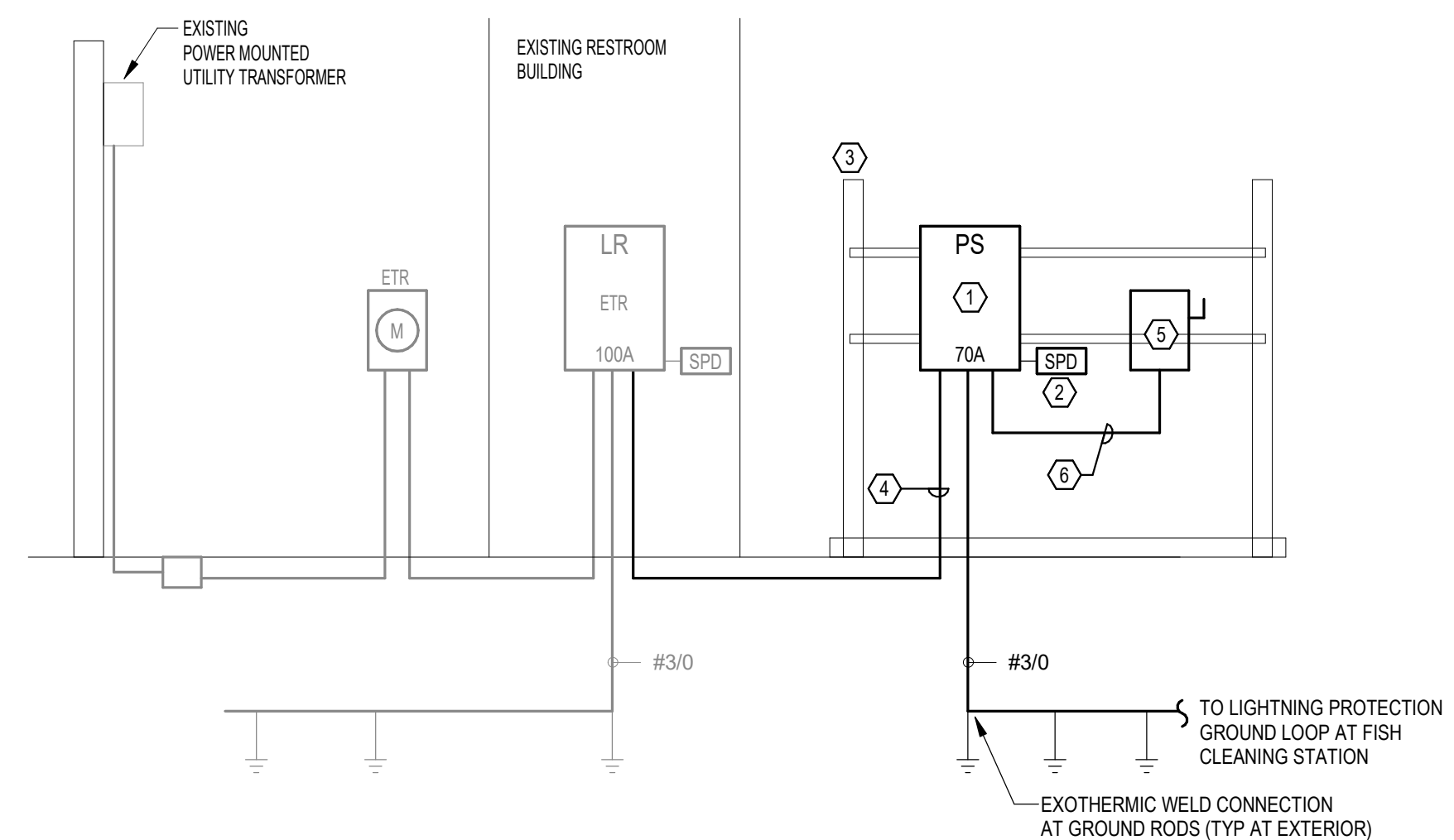
KEYNOTES (KN):
 1. RECONNECT NEW PANEL PS TO EXISTING BREAKER. 2. NEW BREAKER TYPE AND AIC RATING SHALL MATCH THE EXISTING BREAKERS IN THE PANEL.

NAME: PS

LOCATION: MOUNTING: SURFACE DIST. / PHASE / WIRES: 2Ø8Y12ØV / 3 / 4 K.A.I.C. RATING: 10K FEED THRU: NO
 SUPPLY FROM: LR ENCLOSURE: TYPE 4X SS MAX. HEIGHT BUSING: YES MAINS TYPE: MCB RATING: 7Ø A

KN	CKT	CIRCUIT DESCRIPTION	TRIP(A)	P	A (KVA)	B (KVA)	C (KVA)	P	TRIP(A)	CIRCUIT DESCRIPTION	CKT	KN
1		LIFT STATION	30	3	1.877	3.000			3	50	FISH CLEANING STATION	2
3		Space	--	1	--	1.877	3.000		--	Space	4	
5		Space	--	1	--		1.877	3.000	--	Space	6	
7		Space	20	1	0.000	0.202			1	20	CANOPY LIGHT AND RECEPTACLES	8
9		Space	20	1		0.000	0.000		1	20	Spare	10
11		Space	--	1	--			0.000	1	20	Spare	12
13		Space	--	1	--				1	--	Space	14
15		Space	--	1	--				1	--	Space	16
17		Space	--	1	--				--	--	Space	18
19		Space	--	1	--	0.000			--	--	Space	20
21		Space	--	1	--		0.000		3	30	TVSS	22
23		Space	--	1	--				--	0.000		24
					CONNECTED PHASE LOAD (KVA)	5.079	4.877	4.877				
					CONNECTED PHASE AMPS (A)	42.322	40.639	40.639				
					LOAD CLASSIFICATION			PANEL TOTALS				
					CONNECTED LOAD	22 VA	100.00%	22 VA				
					LIGHTING	22 VA	100.00%	22 VA				
					MOTORS	14630 VA	115.38%	16880 VA				
					RECEPTACLE	180 VA	100.00%	180 VA				
					TOTAL CONNECTED LOAD (KVA): 14.832							
					TOTAL DEMAND LOAD (KVA): 17.082							
					TOTAL DEMAND CURRENT (A): 47							

KEYNOTES (KN):



ELECTRICAL RISER DIAGRAM
N.T.S.

○ RISER KEY NOTES:

1. PROVIDE NEW 120/208V, 3 PHASE PANEL 'PS' WITH NEMA 4X SS LOCKABLE ENCLOSURE. PROVIDE STRUCTURAL SUPPORT AS REQUIRED.
2. PROVIDE 120/208V, 3 PHASE EXTERNALLY MOUNTED SURGE PROTECTIVE DEVICE. SPD SHALL BE A CATEGORY C3, 120KA SURGE CURRENT CAPACITY PER PHASE IN NEMA 4X ENCLOSURE. PROVIDE POWER LOGICS OR APPROVED EQUAL.
3. PROVIDE A GALVANIZED UNISTRUT RACK WITH CONCRETE BASE.
4. 4 #2/0, #6 G, 2" CONDUIT.
5. PROVIDE 2Ø8V, 3 PHASE, 6ØA NEMA 4X SS DISCONNECT SWITCH WITH LOCKABLE ENCLOSURE FOR FISH CLEANING STATIONS. CONNECT TO FISH CLEANING STATION CONTROL PANEL PER MANUFACTURER'S REQUIREMENTS.
6. 3Ø, 1#1Ø, 1" C

60% CONSTRUCTION PLANS

REVISIONS	DESCRIPTION	DATE
NO.		

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ELECTRICAL PANEL SCHEDULES, RISER & DETAIL

SHEET NUMBER

E06