	BUS MAIN VOLT	NELBOARD: WL (NEV AMPS: 100A SIZE/TYPE: MLO SI/PHASE: 208Y/120V, 3PH, 4W IION: 1	V)			SER\ MOU	/ES: P	UM S: SI	P E	QUIP. ACE	LLY RA	TED			EQUIPMENT GROUND	BUS
	CKT	DESCRIPTION		FAMPS/PI B			BKR AMP	Р	Р	BKR AMP	WRE NO.	_	TAMPS/PH B	IASE C	DESCRIPTION	CKT
	NO.	EXISTING EQUIPMENT	A	В	С				4			A 400	В	C	LTO OFFINANCE MAINTENANCE	NO.
EXVFY		WATER PUMP CONTROLLER	5,400	E 400		6	60	2	1	20	12	100	100		LTG - SERVICE MAINTENANCE	
EXVFY	_	EXISTING EQUIPMENT		5,400	5,400	10G 6	60	2	1	20	12		180		REC - SERVICE MAINTENANCE SPARE	6
EWALI		WELL SUPPLY PUMP	5,400		3,400	10G	00		1	20					SPARE	8
EXVFY		EXISTING EQUIPMENT	3,400	1,800		12	20	2	1	20					SPARE	10
L/V VI I	00.00	TELECOMM ENCLOSURE		1,000	1,800	12G	20	_	1	20					SPARE	12
EXVEY		EXISTING LTG - PUMP YARD	100		1,000	12	20	1	1	20					SPARE	14
EX/VFY/GF		EXISTING REC - PUMP YARD	100	360		12	20	1	1	20					SPARE	16
270 01 1701		SPACE		000		12		1	1						SPACE	18
	100	SPACE						1	1						SPACE	20
		SPACE						1	1						SPACE	22
		SPACE						1	1						SPACE	24
	2000	SPACE						1	1						SPACE	26
		SPACE						1	1						SPACE	28
		SPACE						1	1						SPACE	30
	31	SPACE						1	1						SPACE	32
		SPACE						1	1						SPACE	34
		SPACE						1	1						SPACE	36
		SPACE						1	1						SPACE	38
	39	SPACE						1	1						SPACE	40
	41	SPACE						1	1						SPACE	42
		SUBTOTAL	10,900	7,560	7,200	İ			•			100	180		SUBTOTAL	
j		TOTAL PHASE A - VA 11,000	LOAD		CONN. \	/A	DF		LO	AD		(CONN. VA	DF		
		AMPS 92	COOLING	G			1.00	1	RE	FRIG				1.00	1	
		TOTAL PHASE B - VA 7,740	HEATING		•		0	1	SIC	SN/DIS	SP			1.25		
		AMPS 65	LIGHTIN	G	200		1.25		KIT	CHE	4			1.00		
		TOTAL PHASE C - VA 7,200	RECEPTACLES		540		1.0/.5	0/.5		STIN	G			1.00		
		AMPS 60	MOTORS				1.00	1	LR	G MO	TOR			1.25	TOTAL DEMAND	1
		TOTAL PNLBD - VA 25,940	SUPP HE	EAT			1.00	1	SH	OW V	MDW			1.25	25,990 VA	
		AMPS 72	MISC EQUIP		25,200		1.00		LTG TRACK				1.00	72 A		
	EX VFY	ELBOARD NOTES EXISTING EQUIPMENT TO REMAI VERIFY EXISTING FUSE SIZE, NO PROMDE GROUND FAULT CIRC	TIFY ENG	INEER IF	IT DOES	TON										

BUS MAIN VOLT	NELBOARD: RC (NEV AMPS: 225A I SIZE/TYPE: MLO FS/PHASE: 208Y/120V, 3PH, 4W FION: 1				SER\	ÆS: C NTING	EN : Sl	TEF URF	000 FUL R RVS FACE RVSF	PACES				NE	EMA 3	
СКТ		VOL	TAMPS/PI	HASE					BKR		VOL	ΓAMPS/PF	ASE	DESCRIPTION	CI	
NO.		Α	В	С		AMP			AMP		Α	В	С	22001111111111	N	
1	RV SPACE 10	4,800			8	50	2	2	50	8	4,800			RVSPACE 16		
3			4,800		10G					10G		4,800				
5	RVSPACE 11			4,800	8	50	2	2	50	8			4,800	RV SPACE 17	(
7		4,800			10G					10G	4,800				1	
9	RV SPACE 12		4,800		8	50	2	2	50	8		4,800		RVSPACE 18	1	
11				4,800	10G			L		10G			4,800		1	
	RV SPACE 13	4,800			8	50	2	2	50	8	4,800			RV SPACE 19	1	
15			4,800		10G					10G		4,800			1	
	RV SPACE 14			4,800	8	50	2	2	50	8			4,800	RV SPACE 20	1	
19		4,800			10G			Ш		10G	4,800				2	
	RV SPACE 15		4,800	4.000	8	50	2	2	50	8		4,800	1.000	RV SPACE 21	2	
23	00405			4,800	10G			Ļ		10G			4,800		2	
	SPACE				<u> </u>		1	1						SPACE	2	
	SPACE SPACE				_		1	1						SPACE	2	
5 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	SPACE				_		1	1						SPACE	3	
	SPACE						1	1						SPACE	3	
	SPACE						1	1						SPACE	3	
	SPACE				_		1	1						SPACE SPACE	3	
	SPACE						1	1						SPACE	4	
	SPACE				-		1	1						SPACE	4	
41		40.000	10.000	40.000	<u> </u>		ı	ı			10.000	40.000	40.000		4	
	SUBTOTAL		19,200	19,200							,	,	19,200	SUBTOTAL		
	TOTAL PHASE A - VA 38,400	LOAD		CONN. V	<u>/A</u>	DF		LO			C	ONN. VA	DF			
	AMPS 320	COOLIN				1.00			FRIG				1.00			
	TOTAL PHASE B - VA 38,400	HEATING				0			SPAC			115,200	0.50			
	AMPS 320	LIGHTIN RECEPT				1.25			CHEN ISTING	1			1.00			
	TOTAL PHASE C - VA 38,400					1.0/.5							1.00	TOTAL DEMAND	_	
	AMPS 320 TOTAL PNLBD - VA 115,200	MOTORS				1.00			G MOT				1.25 1.25	TOTAL DEMAND	/Λ	
	TOTAL PNLBD - VA 115,200 AMPS 320	SUPP HEAT MISC EQUIP				1.00		SHOW WNDW LTG TRACK					1.23	57,600 VA 160 A		
	ELBOARD NOTES	IVIIOC LG	OIF			1.00		LI	GIIVA	CK			1.00	100	\wedge	

	ГS/PHASE: 208Y/120V, 3PH, 4W П ON: 1					NTING ATION:				TRVS	SPACE				
CKT DESCRIPTION			HASE C		BKR AMP	Р	Р	BKR AMP	WRE	_	TAMPS/PH B	IASE C	DESCRIPTION	CK NC	
NO.	RVSPACE 1	A 800	В	<u> </u>	NO. 8	50	2	2		8	A 900	В	C	RV SPACE 6	IN
3	INV SPACE I	4,800	4,800		10G	50	2	2	50	10G	4,800	4,800		RVSPACE	
5	RV SPACE 2		4,000	4,800	8	50	2	2	50	8		4,000	4,800	RV SPACE 7	
7	111111111111111111111111111111111111111	4,800		4,000	10G	30	_	_	30	10G	4,800		4,000	TO ACE 1	H
9	RV SPACE 3	4,000	4,800		8	50	2	2	50	8	4,000	4,800		RV SPACE 8	1
11			1,000	4,800	10G		_	_		10G		1,000	4,800	11.00.7.02.0	1
	RVSPACE 4	4,800		1,000	8	50	2	2	50	8	4,800		1,000	RV SPACE 9	1
15		1	4,800		10G					10G		4,800			1
	RVSPACE 5		,	4,800	8	50	2	1				,		SPACE	1
19		4,800			10G			1						SPACE	2
21	SPACE						1	1						SPACE	2
23	SPACE						1	1						SPACE	2
25	SPACE						1	1						SPACE	2
	SPACE						1	1						SPACE	2
	SPACE						1	1						SPACE	3
	SPACE						1	1						SPACE	3
	SPACE						1	1						SPACE	3
	SPACE						1	1						SPACE	3
10.0 00	SPACE						1	1						SPACE	3
	SPACE						1	1						SPACE	4
41	SPACE						1	1						SPACE	4
	SUBTOTAL	19,200	14,400	14,400							14,400	14,400	9,600	SUBTOTAL	
	TOTAL PHASE A - VA 33,600	LOAD		CONN. \	/A	DF		LO			C	ONN. VA	DF		
	AMPS 280		COOLING			1.00			FRIG				1.00		
	TOTAL PHASE B - VA 28,800	HEATING				0			SPAC			86,400	0.55		
	AMPS 240	LIGHTIN				1.25			CHEN	1			1.00		
	TOTAL PHASE C - VA 24,000	RECEPT				1.0/.5			ISTING				1.00	TOTAL DEMANS	
	AMPS 200	MOTORS				1.00			G MO				1.25	TOTAL DEMAND) /A
	TOTAL PNLBD - VA 86,400	SUPP H				1.00				MDW			1.25	47,520	VA 2 A
	AMPS 240 ELBOARD NOTES	MISC EC	UIP			1.00		LI	LTG TRACK				1.00	13	ZA

MAIN VOLT	AMPS: 225A SIZE/TYPE: MLO S/PHASE: 208Y/120V, 3F TON: 1	PH, 4W				SER\	ÆS: E	AS S: S	T RV URF	SPAC ACE		(TED (IBLDG			ŗ	NEMA
CKT	DESCRIPTION		VOL	TAMPS/PI	LIVEE						WRE	Table Street Street Court	AMPS/PF	IVCE	DESCRIPTION	(
NO.	DESCRIPTION		A	B	C		AMP	P		AMP	NO.	A	B B	C	DESCRIPTION	1
	RV SPACE 22		4,800			8	50	2	2	50	8	4,800			RV SPACE 28	
3	111101710222		4,000	4,800		10G		_	_	00	10G	4,000	4,800		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-
	RV SPACE 23			1,000	4,800	8	50	2	2	50	8		1,000	4,800	RVSPACE 29	
7			4.800		1,000	10G		-	-		10G	4,800		1,000	1	-
- 1	RV SPACE 24		.,	4,800		8	50	2	2	50	8	1,000	4,800		RV SPACE 30	
11				.,,	4,800	10G		_			10G		.,	4,800		-
	RV SPACE 25		4,800		.,	8	50	2	2	50	8	4,800		.,	RV SPACE 31	
15			,,===	4,800		10G					10G	1,222	4,800			
	RV SPACE 26			,	4,800	8	50	2	2	50	8		,	4,800	RV SPACE 32	
19			4.800			10G					10G	4,800				
	RV SPACE 27			4,800		8	50	2	2	50	8		4,800		RV SPACE 33	
23				,	4,800	10G					10G			4,800		-
25	SPACE							1	1					141	SPACE	
27	SPACE							1	1						SPACE	
29	SPACE							1	1						SPACE	
31	SPACE							1	1						SPACE	
33	SPACE							1	1						SPACE	
35	SPACE							1	1						SPACE	
37	SPACE							1	1						SPACE	
39	SPACE							1	1						SPACE	
41	SPACE							1	1						SPACE	
	SUBTOTAL		19,200	19,200	19,200	1						19,200	19,200	19,200	SUBTOTAL	
TOTAL PHASE A - VA 38,400 AMPS 320			LOAD		CONN. \	/A	DF		LO	AD		С	ONN. VA	DF		
			COOLIN	G			1.00	1	REFRIG					1.00	1	
	TOTAL PHASE B - VA 38,400		HEATING	3		0	1	RV	SPAC	ES		115,200	0.50			
	AMPS	320	LIGHTIN	G		1.25		KIT	CHEN	1			1.00			
	TOTAL PHASE C - VA 38,400		RECEPT	ACLES			1.0/.5		EXISTING					1.00	1	
	AMPS	320	MOTORS				1.00	1	LRG MOTOR					1.25	TOTAL DEMAND	
		15,200	SUPP HI	EAT			1.00	1	SH	OW W	NDW			1.25	57,600) VA
,		320	MISC EC	UIP		1.00	"	LTG TRACK					1.00	0 160 A		

Lighting | Engineering Design

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ROJECT:

JO PASS ELECTRICAL UPGRADES

CLIENT

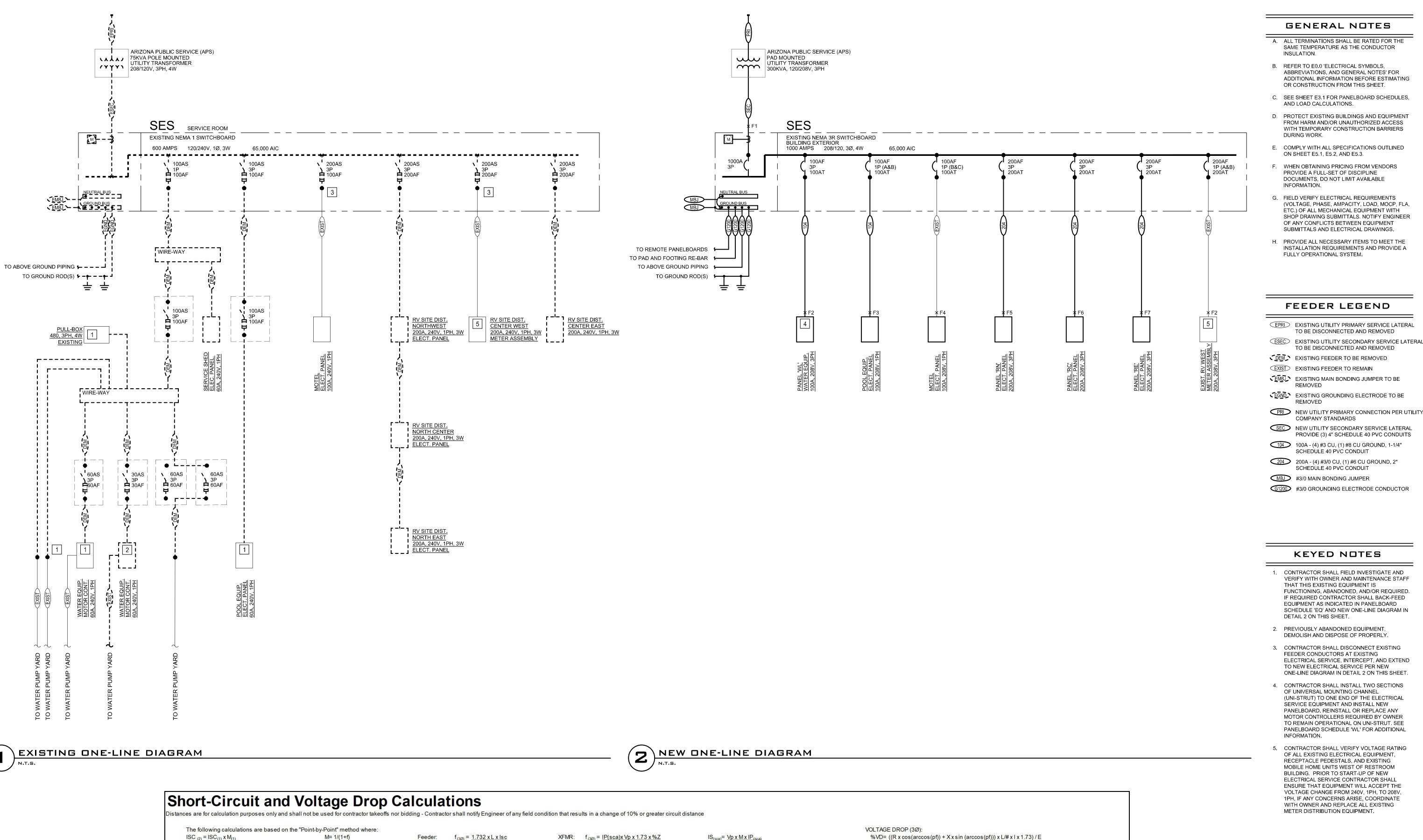
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SHEET NAME
ELECTRICAL
PANEL SCHEDULES

SHEET NUMBER

E3.1



 $f_{(3\emptyset)} = 1.732 \text{ x L x lsc}$ %VD= ((R x cos(arccos(pf)) + X x sin (arccos(pf))) x L/# x I x 1.73) / E $ISC_{(2)} = ISC_{(1)} \times M_{(1)}$ XFMR: $f_{(3\emptyset)} = IP(sca)x Vp x 1.73 x %Z$ $IS_{(sca)} = Vp x M x IP_{(sca)}$ ISC (1) = short circuit current at fault point 1 100,000 x KVA VOLTAGE DROP (1Ø): ISC (2) = short circuit current at fault point 2 %VD= $((R \times cos(arccos(pf)) + X \times sin(arccos(pf))) \times 2 \times L/\# \times I) / E$ $f_{(1\emptyset)} = 2 \times L \times lsc$ $f_{(1\emptyset)} = IP(sca)x Vp x \%Z$ 100,000 x KVA CxE IP = Primary short circuit current Vp = Primary voltage %VD CUM= Cumulative Voltage Drop from Fault Point 1 to Fault Point # IS= Secondary short circuit current Vs= Secondary voltage R= resistance in ohms per LF L = Length of circuit E = Line to line volts X= reactances in ohms per LF C = "C" Factor from Bussman table where "C" = 1 / impedance per linear foot Feeder Types = NM - Non Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-in Busway, TX - Transformer System Voltage: 208Y/120V - 3 phase Fault Voltage Cumulative Fault Transformer Conductor L-L | Circuit | Load Conductor Busway'C' Circuit Load Resistance | Reactance | Arccos (pf) Current Drop Voltage Point **Point** (Fault Phase Isc Conduit New Existing Secondary Tap Bus/Feeder Description Quantity of Parallel Sets and Bus/ Voltage Length Power (amps) Type/TX Material (L) Factor (pf) (Amperage) 'C' Value Value Type (F#) Xfmr Z Xfmr Z Voltage Setting (amps) (%VD) Drop (%VD) (F#) Phase & Neutral Size (E) (R) (X) (Radians) Rise 53,011 at the Service Entrance Switch Source Isc + 6X Motor Contribution = 56611 Utility Service Point 600 The connected full load motor amps (includes compressors) on the system Motor Contribution PANEL 'WL' (WATER EQUIP) 1 Set(s) of 4774 0.50 28484 -0.06% -0.06% 3 PANEL 'PL' (POOL EQUIP.) 0.9 6.789 0.13 7268 -0.71% -0.71% 208 4811 0.000250 0.000047 0.451027 Set(s) of 4 PANEL 'ML' (MOTEL) 7493 0.000150 0.000046 0.451027 18.162 0.05 2954 -2.98% -2.98% 4 5 PANEL 'RN' (RV NORTH) 1 3 56611 NM CU 1 Set(s) of 3/0 AWG 3.386 0.23 12908 -0.96% -0.96% 5 13923 208 0.9 132 0.000077 | 0.000042 | 0.451027 100 2.370 0.30 16798 -0.82% -0.82% 6 6 PANEL 'RC' (RV CENTER) 1 Set(s) of 3/0 AWG 13923 160 0.000077 0.000042 0.451027 1 3 56611 NM CU -- 208 70 0.9 13923 0.9 160 0.000077 0.000042 0.451027 7.618 0.12 6569 -2.63% -2.63% 7 PANEL 'RE' (RV EAST) 1 3 56611 NM CU 1 Set(s) of 3/0 AWG -- 208 225 1 1 56611 NM CU 1 Set(s) of 3/0 AWG 13923 -- 208 135 0.9 160 0.000077 0.000042 0.451027 5.278 0.16 9017 -1.82% -1.82% 8 8 EXISTING RV WEST NM - Non Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-in Busway, TX - Transformer System Voltage: 208Y/120V - 3 phas Conductor Busway'C' Voltage Length Power (Ampa

Circuit Load

(Fault | Phase

Bus/Feeder Description

Quantity of Parallel Sets and Bus/

Transformer

Resistance Reactance Arccos (pf) Degree New Existing Secondary Tap

Fault Voltage Cumulative Fault

Current Drop

GENERAL NOTES

- A. ALL TERMINATIONS SHALL BE RATED FOR THE SAME TEMPERATURE AS THE CONDUCTOR INSULATION.
- B. REFER TO E0.0 'ELECTRICAL SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES' FOR ADDITIONAL INFORMATION BEFORE ESTIMATING OR CONSTRUCTION FROM THIS SHEET.
- C. SEE SHEET E3.1 FOR PANELBOARD SCHEDULES, AND LOAD CALCULATIONS.
- D. PROTECT EXISTING BUILDINGS AND EQUIPMENT FROM HARM AND/OR UNAUTHORIZED ACCESS WITH TEMPORARY CONSTRUCTION BARRIERS DURING WORK.
- E. COMPLY WITH ALL SPECIFICATIONS OUTLINED ON SHEET E5.1, E5.2, AND E5.3.
- WHEN OBTAINING PRICING FROM VENDORS PROVIDE A FULL-SET OF DISCIPLINE DOCUMENTS, DO NOT LIMIT AVAILABLE INFORMATION.
- G. FIELD VERIFY ELECTRICAL REQUIREMENTS (VOLTAGE, PHASE, AMPACITY, LOAD, MOCP, FLA, ETC.) OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWING SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS.
- H. PROVIDE ALL NECESSARY ITEMS TO MEET THE INSTALLATION REQUIREMENTS AND PROVIDE A FULLY OPERATIONAL SYSTEM.

FEEDER LEGEND

- **EPRI** EXISTING UTILITY PRIMARY SERVICE LATERAL TO BE DISCONNECTED AND REMOVED
- ESEC EXISTING UTILITY SECONDARY SERVICE LATERAL
- TO BE DISCONNECTED AND REMOVED DEM. EXISTING FEEDER TO BE REMOVED
- **EXIST** EXISTING FEEDER TO REMAIN
- EMBJ EXISTING MAIN BONDING JUMPER TO BE REMOVED
- EGND EXISTING GROUNDING ELECTRODE TO BE REMOVED
- SEC NEW UTILITY SECONDARY SERVICE LATERAL PROVIDE (3) 4" SCHEDULE 40 PVC CONDUITS
- 104 100A (4) #3 CU, (1) #8 CU GROUND, 1-1/4"
- SCHEDULE 40 PVC CONDUIT 204 200A - (4) #3/0 CU, (1) #6 CU GROUND, 2"

COMPANY STANDARDS

- SCHEDULE 40 PVC CONDUIT MBJ #3/0 MAIN BONDING JUMPER
- G1200 #3/0 GROUNDING ELECTRODE CONDUCTOR

KEYED NOTES

- CONTRACTOR SHALL FIELD INVESTIGATE AND VERIFY WITH OWNER AND MAINTENANCE STAFF THAT THIS EXISTING EQUIPMENT IS FUNCTIONING, ABANDONED, AND/OR REQUIRED. IF REQUIRED CONTRACTOR SHALL BACK-FEED EQUIPMENT AS INDICATED IN PANELBOARD SCHEDULE 'EQ' AND NEW ONE-LINE DIAGRAM IN DETAIL 2 ON THIS SHEET.
- 2. PREVIOUSLY ABANDONED EQUIPMENT,
- 3. CONTRACTOR SHALL DISCONNECT EXISTING FEEDER CONDUCTORS AT EXISTING ELECTRICAL SERVICE, INTERCEPT, AND EXTEND TO NEW ELECTRICAL SERVICE PER NEW ONE-LINE DIAGRAM IN DETAIL 2 ON THIS SHEET.
- OF UNIVERSAL MOUNTING CHANNEL (UNI-STRUT) TO ONE END OF THE ELECTRICAL SERVICE EQUIPMENT AND INSTALL NEW PANELBOARD, REINSTALL OR REPLACE ANY MOTOR CONTROLLERS REQUIRED BY OWNER TO REMAIN OPERATIONAL ON UNI-STRUT. SEE PANELBOARD SCHEDULE 'WL' FOR ADDITIONAL INFORMATION.
- 5. CONTRACTOR SHALL VERIFY VOLTAGE RATING OF ALL EXISTING ELECTRICAL EQUIPMENT, RECEPTACLE PEDESTALS, AND EXISTING MOBILE HOME UNITS WEST OF RESTROOM BUILDING. PRIOR TO START-UP OF NEW ELECTRICAL SERVICE CONTRACTOR SHALL ENSURE THAT EQUIPMENT WILL ACCEPT THE VOLTAGE CHANGE FROM 240V, 1PH, TO 208V, 1PH. IF ANY CONCERNS ARISE, COORDINATE WITH OWNER AND REPLACE ALL EXISTING METER DISTRIBUTION EQUIPMENT.

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PROJECT:

DEMOLISH AND DISPOSE OF PROPERLY.

4. CONTRACTOR SHALL INSTALL TWO SECTIONS

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SHEET NAME ELECTRICAL ONE-LINE DIAGRAM AND CALCULATIONS

SHEET NUMBER