PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16.

EXISTING PANELBOARD 'MDP' — 600 A MLO

208Y/120; 3-PHASE /4 WIRE — 600 MAIN BUS

WITH EQUIPMENT AND ISOLATED GROUND BUS — 100% NEUTRAL BUS

LOCATION: SERVICE ROOM
MOUNT: SURFACE
TYPE: NEMA 1

65 kAIC FULLY RATED BUS AND BRACING

L	R	M	K	O	C.B.	POLE	LOAD AREAS AND LOCATION	Ø A	Ø B	Ø C	LOAD AREAS AND LOCATION	POLE	C.B.	O	K	M	R	L
136	540	2400	10015	3296	225/3	1	*(E)PANEL 'K'				RTU-1	2	60/3			6245		
545	900	1000	6100	4650	-	3	-				-	4	-			6245		
812	540	0	8630	6430	-	5	-				-	6	-			6245		
1600	0	2267	4780	1200	200/3	7	*(E)PANEL 'L'				RTU-2	8	60/3			6245		
1140	0	2787	6250	132	-	9	-				-	10	-			6245		
800	0	2600	6900	1800	-	11	-				-	12	-			6245		
2500	0	9308	0	1330	200/3	13	*(E)PANEL 'M'				RTU-3	14	60/3			6245		
1000	0	9308	1120	1230	-	15	-				-	16	-			6245		
128	540	9308	960	300	-	17	-				-	18	-			6245		

CONNECTED kVA 3Ø		DEMAND		AMPS			CONNECTED 3Ø LOAD CALCULATIONS	
LIGHTING	8.7	8.7	100%	24.0	PER NEC 220.42	58.1	TOTAL kVA (ØA) =	483.9 AMPS
RECEPTACLE	2.5	2.5	100%	7.0	PER NEC 220.44	54.9	TOTAL kVA (ØB) =	457.1 AMPS
MOTOR	95.2	95.2	100%	264.2		58.5	TOTAL kVA (ØC) =	487.0 AMPS
KITCHEN	44.8	29.1	65%	80.7				
OTHER	20.4	20.4	100%	56.5	PER NEC 220.51 - 220.60	476.0	TOTAL CONNECTED 3Ø AMPS	
SPARE	0.0	0.0	N/A	0.0		28.4	NEUTRAL AMPS	
TOTAL	171.5	155.8		432.5		6%	IMBALANCE	
FEEDER AMPACITY ADJUSTMENTS								
LIGHT AMPS				6.0				
MOTOR AMPS				19.4		458	MINIMUM FEEDER AMPS	

REMARKS:
*REFER TO SINGLE-LINE DIAGRAM (DETAIL 2 / THIS SHEET) FOR WIRE SIZES.
(E) - INDICATES EXISTING CIRCUIT BREAKER / LOAD

PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16.

EXISTING PANELBOARD K — 225 A MLO

208Y/120; 3-PHASE /4 WIRE — 225 MAIN BUS

BOLT-ON W/ EQUIPMENT AND ISOLATED GROUND BUS — 100% NEUTRAL BUS

LOCATION: SERVICE ROOM
MOUNT: SURFACE
TYPE: NEMA 1

65/10 kAIC SERIES RATED BUS AND BRACING

L	R	M	K	O	C.B.	POLE	LOAD AREAS AND LOCATION	Ø A	Ø B	Ø C	LOAD AREAS AND LOCATION	POLE	C.B.	O	K	M	R	L
136					20/1	1	W.I.C. DISPLAY LTS / MENU				FAX '87', MGR '84C', COMP '49A'	2	20/1	1000				
				500	20/1	3	HOOD CONTROL PNL 'M4'				MUSIC, VCR, MONITOR	4	20/1	600				
				1100	20/1	5	SERVICE POS '94', PRINT '86A' (IG) (GFCI)				COMPUTER '83A' (IG)	6	20/1	500				
				1100	20/1	7	D.THRU POS '94', PRINT '86A' (IG) (GFCI)				ICE MACHINE '10J' (GFCI)	8	20/1	132				
			820		20/1	9	SEC MON '95-4-S3', CO2 '4D-S1', FLY LGT				CHF-25 HEATED AIR CURTAIN' M9A'	10	40/2	3050				
			110		20/1	11	RICE WARMER '54A' (GFCI)				-	12	-	3050				
			1440		20/1	13	REF PREP TABLE '34O'				REAR DOOR / FLY FAN 'M8A'	14	20/1			1200		
			1080		20/1	15	REF PREP TABLE '34J'				SPACE	16						
			1080		20/1	17	UNDER COUNTER FRZR '30L' (VD)				INDUCTION DRY WELL '3F','3G' (VD) (GFCI)	18	20/1		1950			
			1120		20/1	19	BEV DISPENSER '4AB'				INDUCTION DRY WELL '3F','3G' (VD) (GFCI)	20	20/1		1300			
	180				20/1	21	SERVING COUNTER				INDUCTION DRY WELL '3F','3G' (VD) (GFCI)	22	20/1		1300			
				1780	20/1	23	ICE TEA BREWER '9D'				INDUCTION DRY WELL '3F','3G' (VD) (GFCI)	24	20/1		1950			
	1200				20/1	25	FOOD PROCESSOR '53'				INDUCTION DRY WELL '3F','3G' (VD) (GFCI)	26	20/1		1950			
	180				20/1	27	DINING RECEPTACLE				INDUCTION DRY WELL '3F','3G' (VD) (GFCI)	28	20/1		1950			
			240		20/1	29	W.I.C. COIL '31M'				INDUCTION DRY WELL '3F','3G' (VD) (GFCI)	30	20/1		1300			
			1780		20/1	31	RICE HOLD CAB '24H' (VD)				IND. DRY WELL '3F' / SOUP WRMR '3T' (VD) (GFCI)	32	20/1		900			
					S/T	33	SHUNT TRIP FOR CKT 31				RADIANT TOP HTR '1S2B1'	34	20/1		475			
						35	SPACE				RADIANT TOP HTR '1S2B2'	36	20/1		625			
				864	20/1	37	BOOSTER '4B'				RADIANT TOP HTR '1S2B2'	38	20/1		625			
				500	20/1	39	HEAT WRAP '32A-S7' (VD) (GFCI)				RADIANT TOP HTR '1S2-S1'	40	20/1		475			
	180				20/1	41	FLY LIGHT				RADIANT TOP HTR '1S2-S1'	42	20/1		475			
				200	20/1	43	DUCT DETECTORS				SPARE	44	20/1					
545		1000			20/1	45	LTG - FOOD PREP / EM / EF-3 (VD) (C)				SPARE	46	20/1					
812					20/1	47	LTG - DINING AREA (C)				MICROWAVE '55A'	48	15/2		900			
	540				20/1	49	SHOW WINDOW RECEPTS				-	50	-		900			
	360				20/1	51	GENERAL RECEPTS / FLY LIGHT				FUTURE EQUIPMENT	52	20/1			180		
	360				20/1	53	EXTETRIOR RECEPTS				SPARE	54	20/1					

CONNECTED kVA 3Ø		DEMAND		AMPS			CONNECTED 3Ø LOAD CALCULATIONS	
LIGHTING	1.5	1.5	100%	4.1	PER NEC 220.42	16.4	TOTAL kVA (ØA) =	136.5 AMPS
RECEPTACLE	2.0	2.0	100%	5.5	PER NEC 220.44	13.2	TOTAL kVA (ØB) =	109.9 AMPS
MOTOR	3.4	3.4	100%	9.4		16.4	TOTAL kVA (ØC) =	136.7 AMPS
*KITCHEN	24.7	16.1	65%	44.6				
OTHER	14.4	14.4	100%	39.9	PER NEC 220.51 - 220.60	127.7	TOTAL CONNECTED 3Ø AMPS	
SPARE	0.0	0.0	N/A	0.0		26.7	NEUTRAL AMPS	
TOTAL	46.0	37.3		103.6		21%	IMBALANCE	
FEEDER AMPACITY ADJUSTMENTS								
LIGHT AMPS				1.0				
MOTOR AMPS				2.5		107	MINIMUM FEEDER AMPS	

REMARKS:
*KITCHEN EQUIPMENT SHOWN AT 65% IN PANEL TOTALS PER NEC (KITCHEN EQUIPMENT).
(IG) TERMINATE GROUND ON ISOLATED GROUND BUS.
(C) ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR CONTROLLED BY TIMECLOCK. REFER TO DETAIL 11 / SHEET E-400.
(VD) WIRE SIZE INCREASE DUE TO VOLTAGE DROP. SIZE EQUIPMENT GROUND CONDUCTOR PROPORTIONALLY PER NEC.
LEAVE ALL SPARES IN THE OFF POSITION.

PANEL SCHEDULES | 1

NOT TO SCALE | E-601a

1. DEMOLISH ALL EXISTING BRANCH CIRCUITS BACK TO ASSOCIATED PANELS UNLESS NOTED OTHERWISE ON PLANS.
2. EXISTING PANEL 'C' TO BE REMOVED AND FEEDERS DEMOLISHED BACK TO SUB-FEED BREAKER ON UPSTREAM PANEL 'K'.
3. UNLESS NOTED, ALL DEVICES AND TERMINATIONS 100 AMPS AND LESS TO BE RATED FOR 60°C WIRE, OVER 100 AMPS, 75°C WIRE.
4. ALL WIRE #8 AND SMALLER TO BE THWN/THHN CU.; #6 AND LARGER TO BE XHHW CU.
5. E.C. SHALL VERIFY THAT PROPOSED SCOPE OF WORK DOES NOT OVERLOAD ANY EXISTING PANELS OR EQUIPMENT TO MORE THAN 80%.
6. E.C. SHALL VERIFY EXISTING GROUNDING PER NEC ARTICLE 250, RE: 1/E400 FOR ADDITIONAL INFORMATION.

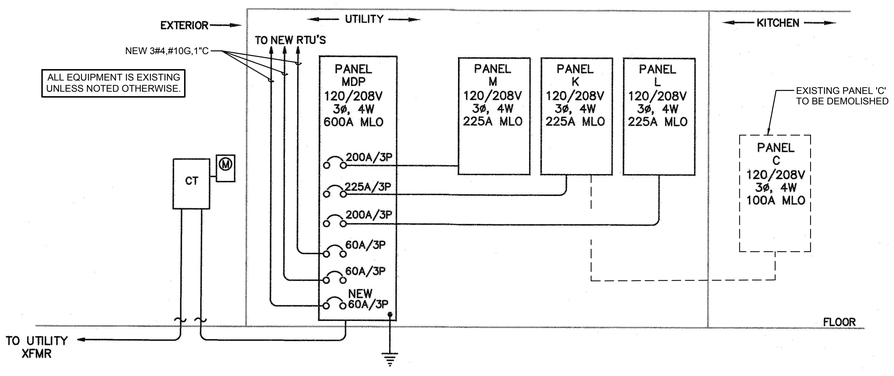
SINGLE LINE DIAGRAM GENERAL NOTES | 3

NOT TO SCALE | E-601a

1. UNLESS OTHERWISE NOTED ON PLANS, ALL EXISTING BRANCH CIRCUITS TO BE DEMOLISHED BACK TO ASSOCIATED PANEL, REMOVE ALL CONDUCTORS, CONDUITS, AND WIRING DEVICES.
2. ENTIRE INSTALLATION TO COMPLY WITH N.E.C. 110.22 AND 240.86(B).
3. NO DESIGN CHANGES MAY BE MADE TO THE SYSTEM WITHOUT THE PRIOR APPROVAL OF THE DESIGN ELECTRICAL ENGINEER AND THE ELECTRICAL INSPECTOR.
4. CONTRACTOR SHALL PROVIDE A PERMANENTLY AFFIXED LABEL TO ALL PANELS INDICATING MAXIMUM AVAILABLE FAULT CURRENT AND DATE THAT FAULT CURRENT CALCULATION WAS PERFORMED PER 2017 NEC 110.24.
5. POST THIS INFORMATION ON THE JOB-SITE WITH PERMIT FOR CITY ELECTRICAL INSPECTOR'S REVIEW/APPROVAL.
6. CONTRACTOR TO LIMIT VOLTAGE DROP TO 3% IN ALL NEW BRANCH CIRCUITS.

GENERAL NOTES | 4

NOT TO SCALE | E-601a



SINGLE LINE DIAGRAM | 2

NOT TO SCALE | E-601a

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REVISIONS:

ISSUE DATE:

1st	DEVELOPER REVIEW	07.15.19
2nd	SITE PLAN SUBMITTAL	08.26.19
3rd	SITE COMMENTS	09.05.19
4th	ISSUE FOR PERMIT	10.01.19
5th	ISSUE FOR BID	11.07.19

DRAWN BY: PM / KL / EA

PANDA PROJECT #: S8-20-D7163
ARCH PROJECT #: 19027

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TWW REMODEL

E-601a

PANELS, SINGLE LINE, LOAD CALC'S

BID ISSUE

TRUE WARM & WELCOME