13.21 KW / 120 V = 110.1 AMPERS 11.36 KW / 120 V = 94.7 AMPERS 13.21 11.36

FEEDER SIZE: 2 \*1 - THW - Cu, 1 \*2 - THW - Cu - Neut. 1 # 4 - Cu - GND, 1/2" C.

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	PNL	"P":	150A - MLO - 120/240V - 10 - 4W

CIR. Nr.	LOCATION	TRIP/ POLES	WIRE	LOAD	L1 KW	L2 KW	LOAD	WIRE	TRIP/ POLES	LOCATION	CIR. Nr.
1	PASTOR - GP RECP.	20A/IP	12TW	0.90	2.82		1.92	12TW	20A/IP	SERVING GP RECP.	2
3	R/R GFIR	11	н	0.36		1.86	1.50	п	11	REFRIGERATOR	4
5	NURSURY	11	н	0.90	2.40	Mosessa	1.50	п	H H	DISHWASHER	6
٦	FOYER	11	11	0.54	Particular Service	2.04	1.50	п	11.	U/C ICE MAKER	8
9	CONFERENCE	11	11	0.90	3.40		2.50	11	11	WARMING OVEN	10
11	MEZZ. GP RECP.	н	н	1.08		3.58	2.50	11	н	W/ CIR Nr. 10	12
13	SERVICE RECP.	н	н	0.54	126		Ø.72	п	11	ROSTRUM GP RECP.	14
15	SPARE	-	-	0.54		1.26	0.72	п	н	ш	16
17	п	-	-	0.54	2.04		1.50	11	п	EWC	18
19	11	-	-	0.54		1.08	0.54	_	_	SPARE	20
21	п	- " " "	-	0.54	1.08		0.54	_	_	ii	22
23	SOUND SYSTEM	30A/2	1ØTW	2.88	17845-5345-55	3.42	0.54	-	-	и	24
25	W/ CIR Nr. 23	-	11	2.88	3.42		0.54	_	_	п	26
27	SPARE		-	0.54		1.08	0.54	_	_	п	28
29	н		_	0.54	1.08		0.54	_	-	н	30
31	II.		-	0.54		1.08	0.54	-	_	п	32
33	SPACE		-	0.0	00	10000	00	-	-	SPACE	34
35	и		-	0.0		00	00	-	-	i i	36
37	п		-	0.0	0.0		0.0	-	-	II.	38
39	ш		-	0.0		0.0	0.0	-	_	п	40

15.40

LI 17.50 KW / 120 V = 145.8 AMPERS L2 15.40 KW / 120 Y = 128.3 AMPERS

1750

FEEDER SIZE: 2 \* 1/0 - THW - Cu, 1 \* 1 - THW - Cu - Neut. 1 \* 4 - Cu - GND,2" C.

## PNL "A/C": 400A - MLO - 120/240Y - 10 - 4W 10K A.I.C. - FLUSH - 40 SLOT

CIR. Nr.	LOCATION	TRIP/ POLES	WIRE	LOAD	L1 KW	L2 KW	LOAD	WIRE	TRIP/ POLES	LOCATION	CIR.
1	CU Nr.1	40A/2P	STW	(2.69)	5.40		5.40	4/TW	60A/2P	AHU Nr.1	2
3	W/ CIR. Nr.1	-	11	(2.69)		5.40	5.40	н	-	W/ CIR. Nr.2	4
5	CU Nr.2	40A/2P	11	(2.36)	5.40		5.40	н	60A/2P	AHU Nr.2	6
٦	W/ CIR. Nr.5	-	II .	(2.36)		5.40	5.40	11	-	W/ CIR. Nr.6	8
9	CU Nr.3	30A/2P	10TW	(1.43)	3.90		3.90	6TW	50A/2P		10
11	W/ CIR Nr.9	-	11	(1.43)		3.90	3.90	11	_	W/ CIR. Nr.10	12
13	CU Nr.4	40A/2P	STW	(2.69)	5.40		5.40	4TW	60A/2P		14
15	W/ CIR. Nr.13	_	н	(2.69)		5.40	5.40	H	-	W/ CIR. Nr.14	16
П	CU Nr.5	40A/2P	н	(2.36)	5.40	disease interes	5.40	11	60A/2P	AHU Nr.5	18
19	W/ CIR. Nr.17	_	11	(2.36)		5.40	5.40	11	_	W/ CIR. Nr.18	20
21	CU Nr.6	30A/2P	10TW	(1.43)	3.90		3.90	6TW	50A/2P		22
23	W/ CIR. Nr.21	_	11	(1.43)		3.90	3.90	11		W/ CIR. Nr.22	24
25	SPARE	_	_	0.54	1.08		0.54	_	-	SPARE	26
27	11	_	_	0.54		1.08	0.54	_	_	11	28
29	11	_	-	0.54	1.08		0.54	-	_	II	30
31	11	_	_	0.54		1.08	0.54	-	_	H	32
33	SPACE	-	_	0.0	0.0		0.0	-	-	SPACE	34
35	ii ii	_	-	00		00	00	_	_	"	36
37	н	_	_	00	0.0		0.0	_	_	11	38
39	п	_	_	0.0		0.0	0.0	_	-	11	40

L1 31.56 KW / 120 Y = 263.0 AMPERS L2 31.56 KW / 120 Y = 236.0 AMPERS 31.56 31.56

FEEDER SIZE: 2 \* 300MCM - THW - Cu, 1 \* 4/0 - THW - Cu - Neut.

1 \* 1/0 - Cu - GND, 3" C.

## LOAD COMPLITATION

LOAD	L1 KW	L2 KW		
PANEL "L"	13.21	11.36		
PANEL "P"	17.50	15.40		
PANEL "AC"	31.56	31.56		
SUB-TOTAL:	62.27	58.32		
+25% L.M.	068	0.68		

TOTAL LOAD: 62.95

SERVICE SIZE: 2 3" CONDUITS EACH W/ 2 \* 350MCM - THW - Cu, 2 \* 250MCM - THW - Cu - Neut., 1 \*3/0 - Cu GND

LI 62.95 KW / 120 V = 524.6 AMPERS L2 59.00 KW / 120 V = 491.7 AMPERS

59.00

HVAC AIR HANDLER UNIT OR DUCT BLOWER PNL "A/C" 6 PNL "P" 6 150A ACCESSORY PUMP OR MOTOR HVAC CONDENSING UNIT OR PACKAGE UNIT (9) ALTERNATE LOCATION

- $\bigcirc$  Service/Feeder Entrance Conductors:  $2^{1/2}$ " rigid conduit, min. 18" deep,  $\square$ / continuous Ground Bonding Conductor, Service/ Entrance Conductors shall not be spliced except that bolted connections at the Meter, Disconnecting Devices and Panel
- (2) Meter Enclosure, weatherproof, U.L. Listed.
- (3) Main Disconnect Switch: fused or Main BRKR, weatherproof, UL. Listed.
- (4) Service entrance Ground: 5% " + iron/steel rod x 8'-0" long and/or concrete encased foundation steel rebar x 20'-0" long. Grounding Conductor shall be bonded to each piece of Service/ Entrance Equipment, and shall be sized per Item 5, below.
- 600 AMPERE SERVICE: Refer to LOAD COMPUTATIONS
- 6 House Panel (PNL), UL. Lised, sized per schedule.
- Equipment Disconnect Switch: non-fused, in weatherproof enclosure, size according to Panel Schedule loads.
- 8 Provide Ground Bond Wire to metal piping, size in accordance with the Service Ground Conductor.
- (9) PANEL FEEDER: Refer to PANELS

## ELECTRICAL RISER DIAGRAM: 600A SCALE: NONE

THE MINIMUM AIC RATING FOR PANEL BOARDS, BRKRS AND DISCONNECT SWITCHES SHALL BE 10,000 AIC.

## ELECTRICAL NOTES: General

- 1. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHI-TECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL EQUIPMENT. CONFIRM WITH OWNER.
- 2. INSTALL ALL ELECTRICAL WORK IN CONFORMANCE WITH THE NEC 1997 EDITION, AND IT'S AMENDMENTS AS ADOPTED BY THE PERMIT ISSUING AUTHORITY AT THE TIME OF CONSTRUCTION.
- 3. GROUNDING: GROUND ALL MAIN DISCONNECTS TO STANDARD GROUND ROD(S) AND TO COLD WATER SUPPLY AS PER ARTICLE
- 4. INSTALL ONLY COPPER WIRING ON THIS PROJECT: THW, TU, THUN, THHN OR NM CABLE, UNLESS NOTED OTHERWISE. ALL CONDUCTORS #10 & SMALLER MAY BE SOLID. ALL CONDUCTORS \*8 AND LARGER SHALL BE STRANDED TYPE.
- 5. PROVIDE CONTINUITY OF NEUTRAL ON MULTI-BRANCH CIRCUITS BY SPLICING AND BRINGING OUT A TAP, ASSURING NO OPEN-INGS OF NEUTRAL IN REPLACEMENT OF A DEVICE.
- 6. COLOR CODE MULTI-CIRCUIT WIRING AS FOLLOWS: NEUTRAL -WHITE, GROUND - GREEN, LINE - ALL OTHER COLORS.
- 7. INSTALL ONLY HIGH POWER FACTOR BALLASTS AT FLUORESCENT FIXTURES.
- 8. INSTALL GFI BREAKERS OF DEVICES AT ALL BATHROOM, REST-ROOM, KITCHEN, GARAGE AND EXTERIOR RECEPTACLES AND AS NOTED ON THE DRAWINGS.
- 9. INSTALL ONLY THOSE ELECTRICAL DEVICES THAT BEAR A "UL" OR OTHER RECOGNIZED TESTING LAB LABEL. ALL MATERIALS SHALL BE NEW.
- 10. INSTALL NON-FUSED DISCONNECT SWITCHES AT ALL PIECES OF ELECTRICAL EQUIPMENT LOCATED WHERE SAID EQUIPMENT IS NOT VISIBLE FROM THE CIRCUIT BREAKER THAT PROTECTS IT: SIZE IN ACCORD WITH THE LOAD. ALL DISCONNECT SWITCHES SHALL BE H.P. RATED, HEAVY DUTY, QUICK-MAKE - QUICK-BREAK TYPE - ENCLOSURES SHALL BE AS REQ'D FOR EXPOSURE.
- 11. MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC WITH OVER-LOAD RELAYS IN EACH HOT LEG.
- 12. ISOLATE DISSIMILAR CONDUIT AND TUBING METALS FROM SOIL, WATER AND GAS PIPING AND OTHER BUILDING MATERIALS WHERE DAMAGE BY FRICTION OR ELECTROLYSIS MAY OCCUR, EXCEPT WHERE ELECTRICAL GROUND IS PROVIDED.
- 13. FURNISH AND INSTALL ALL ELECTRICAL DEVICES AND ITEMS REQUIRES FOR A COMPLETE, OPERATING SYSTEM, PROVIDING THE FUNCTIONS AS DETAILED IN THE PLANS (AND SPECS).
- 14. OUTLET BOXES SHALL BE PRESSED STEEL OR PLASTIC OR ALL DRY LOCATIONS, FOR WET LOCATIONS, CAST ALLOY WITH THREADED HUB OUTLET BOXES SHALL BE INSTALLED.

- 15. HOT CHECK ALL SYSTEMS WITH THE OWNER'S REPRESENTATIVE PRESENT TO VERIFY PROPER FUNCTION PRIOR TO C.O.
- 16. COORDINATE ALL WORK THROUGH GC TO AVOID CONFLICTS, CO-ORDINATE WITH HVAC CONTRACTOR AND ELECTRONICS SYSTEMS CONTRACTORS SO THAT A COMPLETE, FUNCTIONING SYSTEM IS INSTALLED, IN EACH CASE, WITH NO EXTRA COST TO THE OWNER
- 17. EMERGENCY LIGHTING AND EXIT SIGNS, IF INDICATED ON THE PLANS, SHALL BE WIRED PER NEC 100-12F.
- 18. ALL PANEL SCHEDULES SHALL BE FULLY FILLED OUT AND SHALL BE TYPEWRITTEN, EA. CIRCUIT SHALL BE CLEARLY IDENTI-FIED A TO WHAT IS INCLUDED ON SAID CIRCUIT.
- 19. IT IS NOT THE INTENT OF THESE DRAWINGS TO SHOW EVERY MINOR DETAIL OF THE CONSTRUCTION.
- 20. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF THE POWER COMPANY & TELEPHONE COMPANY.
- 21. FURNISH AND INSTALL DISCONNECT SWITCHES AND WIRING FOR HYAC SYSTEM AS PER MANUFACTURER'S RECOMMENDATIONS. CONTROLS ARE TO BE SUPPLIED BY THE HVAC CONTRACTOR, AND CONNECTED BY THE ELECTRICAL CONTRACTOR.
- 22. ALL RACEWAYS BELOW GROUND SHALL BE A MINIMUM OD 3/4".
- 23. ALL CIRCUIT BREAKERS, TWO AND THREE POLE, SHALL BE COMMON TRIP. NO TIE HANDLES OR TANDEMS SHALL BE ACCEPTABLE.
- 24. ALL FUSES, UNLESS NOTED OTHERWISE ON THE DRAWINGS, SHALL BE CURRENT LIMITED TYPE (CL.) RATED 200,000 AIC.
- 25. ELECTRICAL CONTRACTOR SHALL VERIFY ALL COMPONENTS FOR ALL ELECTRICAL APPLICATIONS & DETERMINE THE CORRECTNESS OF SAME. ANY DISCREPANCY SHALL BE REPORTED TO THE OWNER PRIOR TO FABRICATING ANY MATERIALS, ORDERING COMPONENTS OR DOING ANY WORK
- 26. CIRCUITS ON PANEL SCHEDULE (AND PLANS) ARE TO DETERMINE LOAD DATA AND SIZE. THE CONTRACTOR SHALL PROVIDE CIR-CUITS AND ROUTING OF CONDUITS AND WIRING TO SUIT JOB CONDITIONS, AND BALANCE THE JOB, THROUGHOUT.
- 27. CHECK EQUIPMENT FOR PROPER VOLTAGE, PHASE AND AMPERAGE RATING PRIOR TO CONNECTION TO CIRCUITS.
- 28. PANEL BOARDS SHALL BE CIRCUIT BREAKER TYPE. VERIFY NUMBER AND SIZES OF CIRCUITS.
- 29. WHEN CONDUIT RUNS EXCEED 200 FEET, PULL BOXES SHALL BE INSTALLED SO THAT NO PULL EXCEEDS THIS DISTANCE.
- 30. ELECTRICAL EQUIPMENT AIC RATING AND FEEDER SIZE SHOWN ON THE PLANS ARE DESIGNED FOR MAX. AVAILABLE FAULT CURRENT AND MAX. ALLOWABLE VOLTAGE DROP, RESPECTIVELY.

WORDHIP

REVISION:

DRAWN:

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30 JUL 2012 COMM:

DATE:

SHEET:

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