

1.- OVERALL INSTALLATION: THE INSTALLATION SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC-2020), THE FLORIDA BUILDING CODE (FBC-2023, 8TH EDITION), AND ANY OTHER APPLICABLE FEDERAL, STATE AND LOCAL CODES.

2.- COMPLIANCE: WORKMANSHIP, MATERIALS AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE APPLICABLE EDITION OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), NEMA, ASTM, OSHA, RES HEALTH AGENCIES, AND OTHER APPLICABLE STANDARDS AND REGULATIONS AND PERTAINING REGULATIONS ESTABLISHED BY THE RULING AUTHORITY HAVING JURISDICTION. CONTRACTORS SHALL BE REQUIRED TO MEET OR EXCEED ALL APPLICABLE STANDARDS WHERE SUCH REQUIREMENTS ARE MORE STRICT THAN THOSE STANDARDS CITED ABOVE.

3.- MATERIALS: CONTRACTOR SHALL PROVIDE ALL NEW MATERIALS OF AMERICAN MANUFACTURE, BEARING THE MANUFACTURER'S LABORATORY (UL) LABEL AS APPLICABLE.

4.- PERMITS AND INSURANCE: CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTIONS, TESTS, FINES AND OTHER ITEMS AS REQUIRED FOR THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEMS AS OUTLINED HEREIN AND SHOWN ON PLANS. CONTRACTOR SHALL PROVIDE ALL REQUIRED INSURANCE PROTECTING AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

5.- EXISTING CONDITIONS: BEFORE BIDDING, THE CONTRACTOR SHALL VISIT THE JOB SITE AND ASCERTAIN ALL EXISTING CONDITIONS WHICH WILL AFFECT HIS WORK. FAILURE TO DO SO WILL NOT BE REASON FOR THE INSTALLATION OF EXTRA WORK WHERE THE EXISTING CONDITIONS RESULT IN EXTRA MATERIALS OR ANY EXISTING CONDITIONS FOUND BY THE CONTRACTOR WHICH COULD ADVERSELY AFFECT THE WORK SHALL BE IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER. CORRECTION OF ANY SUCH CONDITIONS SHALL BE WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENTS OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THEREBY.

6.- CUTTING AND PATCHING: MAJOR CUTTING, PATCHING & PAINTING REQUIRED BY THIS CONTRACT WILL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. ALL REPAIRS SHALL BE IN ACCORDANCE WITH THE CONDITIONS AFTER THE INSTALLATION OF THE EQUIPMENT.

7.- THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF THE LOCAL ELECTRIC UTILITY AND THE TELEPHONE COMPANY.

8.- LOAD DATA IS BASED ON INFORMATION PROVIDED TO THE ENGINEER AT THE TIME OF DESIGN. ALL EQUIPMENT AND PANEL SIZES SHALL BE VERIFIED BEFORE ORDERING.

9.- CIRCUITS SHOWN ON PLANS ARE USED TO DETERMINE LOAD DATA AND PANEL SIZES. THE CONTRACTOR SHALL PROVIDE CIRCUIT ROUTING TO FIT THE JOB CONDITIONS. ANY FIELD CHANGES IN CIRCUITRY SHALL BE INDICATED ON THE SET OF AS-BUILT DRAWINGS AND SHALL BE PROVIDED TO THE A/E FOR RECORDING WITH THE CITY.

10.- FURNISH AND INSTALL ALL FIXTURES AS CALLED FOR ON THE PLANS OR AS SELECTED BY OWNER/ARCHITECT.

11.- ALL CONDUCTORS SHALL BE RUN IN CONDUIT, U.O.I.

12.- EXCEPTION-WIRING THROUGHOUT THE RESIDENCE CAN BE NON-METALLIC SHEATHED CABLE (ROMEX) PROPERLY PROTECTED FROM MECHANICAL AND TEMPERATURE DAMAGE (WITH OWNER APPROVAL).

13.- INSTALL 1/2" EMPTY CONDUIT FOR ALL TELEPHONE/DATA OUTLETS. PROVIDE PULL WIRE.

13.- INTERFERENCE: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES SO THAT INTERFERENCE WITH EXISTING CONDITIONS, CONDUITS, PIPING, EQUIPMENT, ARCHITECTURAL AND STRUCTURAL MEMBERS BE AVOIDED.

14.- PLANS: DRAWINGS ARE BASICALLY DIAGRAMS INTENDED TO DEPICT APPROXIMATELY EQUIPMENT LOCATIONS AND ARRANGEMENTS, NOT TO SHOW EVERY MINOR DETAIL. PLANS SHALL NOT BE USED TO DETERMINE EXACT LOCATION AND DIMENSIONS.

15.- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN ACCESSIBLE AREAS ONLY AND ABOVE BASE FLOOD ELEVATION.

16.- CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL WIRING DEVICES AND FUSES SIZES IN ACCORDANCE WITH A/E EQUIPMENT NAMEPLATES, IF DIFFERENT FROM THOSE SPECIFIED ON DRAWINGS. CONTRACTOR AS ANY FEEDER CHANGES BEING AFFECTED BY THIS CHANGE. CONTRACTOR SHALL MAKE ABOVE MENTIONED CHANGES TO THE DRAWINGS AND ANY FIELD CHANGES IN CIRCUITING SHALL BE REFLECTED ON THE SET OF AS-BUILT DRAWINGS AND SHALL BE PROVIDED TO THE A/E FOR RECORDING WITH THE CITY.

17.- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR TO PROVIDE ALL REQUIRED J-BOXES AND CONDUITS FOR INSTALLATION OF CONTROL WIRING, LOW VOLTAGE CONTROL WIRING AND THEIR TERMINATION. IT IS THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR.

18.- ELECTRICAL METER AND PANEL LOCATIONS SHOWN MAY VARY DEPENDING ON SERVICE ENTRANCE LOCATION. ANY FIELD CHANGES IN METER AND PANEL LOCATIONS SHALL BE SET OF AS-BUILT DRAWINGS AND SHALL BE PROVIDED TO THE A/E FOR RECORDING WITH THE CITY.

19.- ALL LIGHTING FIXTURES TO BE SELECTED BY THE OWNER/ARCHITECT. U.O.I. AND SHALL BE INSTALLED BY THIS CONTRACTOR.

20.- BALANCE AND PHASES AT EACH PANEL AND M/D/ SERVICE MAINS.

21.- ELECTRICAL CONTRACTOR SHALL ASSURE THAT ALL FEATURES OF SERVICE COMPLY WITH THE POWER COMPANY'S REQUIREMENTS AND SHALL MAKE ALL NECESSARY ARRANGEMENTS WITH POWER COMPANY FOR SERVICE. ALL EQUIPMENT NOT FURNISHED AND/OR INSTALLED BY THE POWER CO. IS TO BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

22.- WHERE MORE THAN ONE DEVICE IS INDICATED AT ANY LOCATION, THESE SHALL BE GANGED UNDER ONE COMMON COVER.

23.- QUANTITY AND LOCATION OF ELECTRICAL, TELEPHONE/DATA & TV OUTLETS, LIGHTS AND SWITCHES SHALL BE DETERMINED BY THE SUIT TO THE OWNER'S REQUIREMENTS AS PER OWNER/ARCHITECT INSTRUCTIONS. SAID REQUIREMENTS SHALL NOT BE IN CONFLICT WITH APPLICABLE CODES.

24.- ELECTRICAL CONTRACTOR SHALL VERIFY REQUIREMENTS, EXACT LOCATIONS, TYPE AND ARRANGEMENT OF OUTLETS FOR ALL ELECTRICAL FIXTURES, APPLIANCES AND EQUIPMENT, PRIOR TO INSTALLATION.

25.- PROVIDE A TYPEWRITTEN DIRECTORY FOR EACH ELECTRICAL PANEL.

26.- CONTRACTOR SHALL FURNISH AS-BUILT DRAWINGS TO THE OWNER UPON COMPLETION OF WORK AND PRIOR TO FINAL PAYMENT.

27.- OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH REINFORCED HUBS IN WET/DAMP LOCATIONS AND SPECIAL ENCLOSURES AS REQUIRED FOR OTHER CLASSIFIED AREAS AND SHALL CONFORM TO UL LISTED STANDARDS. PLASTIC BOXES MAY BE USED WHERE PERMITTED UNDER APPLICABLE CODES AND ORDINANCES.

28.- ALL DISCONNECT SWITCHES SHALL BE PROVIDED BY NEC RECOMMENDED TYPE TO MODULATE THE EQUIPMENT SERVED, INCLUDING REACTION CLIPS AND FUSES, WHEN APPLICABLE. SWITCHES SHALL BE INSTALLED TO MAKE, QUICK-BREAK, IN NEMA 1 ENCLOSURES FOR INDOOR AND NEMA 3P FOR OUTDOOR.

- 1.- AC SHALL HAVE BUILT-IN BREAKER.
- 2.- ALL SINGLE/CO STATION SMOKE DETECTOR WITHIN THE HOUSE SHALL BE INTERCONNECTED AS PER NFPA 720 ART. 8-4.1.1.6
- 3.- ALL SINGLE STATION SMOKE/CO DETECTOR SHALL BE POWERED BY 120V. POWER AND SHALL BE CONNECTED TO BRANCH CIRCUIT AHEAD OF ANY SWITCH.
- 4.- ALL SINGLE STATION SMOKE/CO DETECTOR SHALL HAVE BATTERY BACKUP.
- 5.- ALL SINGLE STATION SMOKE/CO DETECTORS SHALL BE INSTALLED MIN 3' FROM ANY A/C REGISTER, CONTRACTOR TO VERIFY IN FIELD.
- 6.- COORDINATE EXACT LOCATION OF ALL DEVICES WITH ARCH/OWNER.
- 7.- HANGING FIXTURES & FANS MUST BE SUPPORTED AS PER NEC 414-21-242.
- 8.- JACUZZI SHALL HAVE AN ACCESS PLATE OR COVER AS PER NEC 680-73, MIN SIZE 20" W X 15" H.
- 9.- ALL METAL PIPING SYSTEM, METAL PARTS OF ELECTRIC EQUIPMENTS, SHALL BE BONDING TO THE HOUSE WITH THE JACUZZI SHALL BE BONDED TOGETHER WITH A COPPER BONDING JUMPER, INSULATED, COVERED, OR BARE, NOT SMALLER THAN #6 AWG SOLID, AS PER NEC 680-74.
- 10.- ALL FIXTURES LOCATED IN WET LOCATIONS SHALL BE LISTED FOR THAT PURPOSE.
- 11.- CONTRACTOR TO PROVIDE PANEL SCHEDULE AT EACH PANEL INDICATING ALL OKTS CONNECTED.
- 12.- CONTRACTOR SHALL LABEL ALL PANELS AND DISCONNECT .
EX: PANEL "A", PANEL "A" DISCONNECT ET.
- 13.- FIXTURES WITH DIRECT CONTACT W/INSULATION MUST BE RATED IC AS PER NEC 410-65 (C).
- 14.- ALL FLUORESCENT FIXTURES MUST BE ENERGY EFFICIENT. ALL FLUORESCENT FIXTURES MUST HAVE AN UL LINE FUSE (THERMAL PROTECTOR).
- 15.- ALL LIGHTING FIXTURES MUST BE LISTED BY A NATIONAL RECOGNIZED TESTING LABORATORY (UL)



Project number	24-011
Date	10-24-2024
Drawn by	O.G.
Checked by	E.R.

This item has been digitally signed and sealed by Ernesto Rodriguez P.E. on the date adjacent to the seal. Printed Copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies

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SHEET No.

E300

PHASE: 1φ VOLTAGE: 120/240V PANEL AMPS: 200 Amps			EXISTING PANEL "B"										MAKE: EXISTING TYPE: EXISTING MAIN BREAKER: NONE		
(BRANCH BREAKERS TYPE QF, 10KAIC)															
OKt No.	USE	SPEC	VOLT	BKR AMP	WIR AWG	COND SIZE	PH A	PH B	VA	QF AMP	BKR AMP	VOLT	SPEC	USE	OKt No.
1	RELOCATED A/H#2		240	60	6	1	7,280		8,000	1	6	50	240	RELOCATED COOK TOP	2
2	↓		↓	↓	↓	↓	↓		↓	↓	↓	↓	↓	↓	4
5	EXISTING C.U. #2	NCL	240	40	EXIST	EXIST	5,400		16,000	EXIST	EXIST	70	240	EXISTING TANKLESS W/H#2	6
6	↓		↓	↓	↓	↓	↓		↓	↓	↓	↓	↓	↓	8
7	NEW TANKLESS W/H #3		240	60	6	1	11,000								10
8	↓		↓	↓	↓	↓	↓								12
13	EXISTING OVEN		240	40	EXIST	EXIST	5,000								14
15	↓		↓	↓	↓	↓	↓								16
17	EXISTING OVEN		240	40	EXIST	EXIST	5,000								18
18	↓		↓	↓	↓	↓	↓								20
21	EXISTING KITCHEN SMALL APPLIANCES	GFI	120	20	12	1/2	1,500								22
23	EXISTING KITCHEN SMALL APPLIANCES	GFI	120	20	12	1/2	1,500								24
25	EXISTING RECEPTACLES		120	20	EXIST	EXIST	*								26
27	EXISTING RECEPTACLES		120	20	EXIST	EXIST	*								28
29	EXISTING & RELOCATED RECEPTACLES		120	20	12	1/2	*		*	1/2	12	20	120	GFI MASTER BATHROOM RECEPTACLES	30
31	MASTER BEDROOM RECEPTACLES	AFCI	120	20	12	1/2	*		4,800	3/4	8	40	240	A/H.U. #3	32
32	DOWN LIGHTS	AFCI	120	20	12	1/2	*					↓	↓		34
33	EXISTING LIGHTS		120	20	12	1/2	*		2,400	3/4	12	20	240	NCL C.U. #3	36
37	EXISTING LIGHTS		120	20	EXIST	EXIST	*					↓	↓		38
39												↓	↓		40

* SEE LOAD CALCULATION

** VERIFY NAME PLATE

GFI = GROUND FAULT INTERRUPTER.

AFCI = ARC FAULT CIRCUIT INTERRUPTER.

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Load Calculations:

Lighting 1,528 sqft x 3 va/sqft = 4,584 va

Small Appliances = 3,000 va

Laundry = 1,500 va

First 3000 va @ 100% and Rest @ 35% = 5,130 va

Appliances = 28,190 va, (over 4 Appliances) @75% Demand Load = 21,143 va

Outdoor Lights/receptacles = 600 va

Range = 8,600 va

A/C Load = 9,680 va

Total VA = 45,153 va

Panel Load = 45,153/240 = 188 Amps

Service Load Calculation
As per N.E.C. Art. 220.30 Section B.
2,924 sqf x 3 va/sqf = 8,772 va
Other Loads = 68,400 va
Subtotal = 77,172 va
First 10,000 va @ 100% = 10,000 va
Rest 67,172 va @ 40% = 26,869 va
Subtotal = 36,869 va
A/C Load = 22,460 va
Total VA = 59,329 va
Panel Load = 59,329/240V = 248 Amps

