THE ARCHITECT HEREBY EXPRESSLY RESERVES THE COPYRIGHT AND PROPERTY RIGHTS IN THESE PLANS. DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED, OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING WRITTEN PERMISSION AND CONSENT. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT FIRST OBTAINING SAID WRITTEN PERMISSION AND CONSENT.

ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

A. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL NEW ELECTRICAL WORK INDICATED. CONSTRUCTION SHALL BE IN ACCORDANCE WITH DRAWINGS AND APPLICABLE SPECIFICATIONS. IF A PROBLEM IS ENCOUNTERED IN COMPLYING WITH THIS REQUIREMENT, CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AS SOON AS POSSIBLE AFTER DISCOVERY OF THE PROBLEM AND SHALL NOT PROCEED WITH THAT PORTION OF THE WORK UNTIL ARCHITECT/ENGINEER HAS DIRECTED CORRECTIVE ACTION TO BE TAKEN.

B. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO BID AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING ELECTRICAL AND COMMUNICATIONS INSTALLATION AND MAKE PROVISIONS AS TO THE COST THEREOF.

C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION) AND ALL CODES AND ORDINANCES OF THE AUTHORITY HAVING JURISDICTION. THE SPECIFICATION, CODES AND STANDARDS LISTED BELOW ARE UTILIZED IN THIS PROJECT.

1. NATIONAL ELECTRICAL CODE (NFPA-70, 2017 EDITION)
2. CODE FOR SAFETY TO LIFE (NFPA-101, 2018 EDITION)
3. STANDARD FOR THE INSTALLATION, MAINTENANCE AND USE OF LOCAL PROTECTIVE SIGNALING SYSTEMS (NFPA-72, 2016 EDITION)
4. UNDERWRITERS' LABORATORIES (UL)
5. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
6. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
7. FEDERAL SPECIFICATION (FED. SPEC.)
8. INSULATED POWER CABLE ENGINEERS ASSOCIATION (IPCEA)
9. FLORIDA BUILDING CODE. 2020 EDITION (AS AMENDED)
10. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
11. CITY OF HOLLYWOOD BUILDING CODE. (AMENDMENTS TO FLORIDA BUILDING CODE 2020)
12. ADDITIONALLY, DESIGNS, WORK PRACTICES AND CONDITIONS MUST CONFORM WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA)

D. DO NOT SCALE THE ELECTRICAL DRAWINGS. REFER TO ARCHITECTURAL PLANS AND ELEVATIONS FOR EXACT LOCATION OF ALL EQUIPMENT. CONFIRM WITH OWNER'S REPRESENTATIVE.

E. IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.

F. CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FROM A PERIOD OF NOT LESS THAN ONE YEAR FROM DATE OF ACCEPTANCE.

G. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED THERE BY.

H. ALL REQUIRED INSURANCE SHALL BE PROVIDED FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.

I. CONTRACTOR SHALL PAY FOR ALL PERMITS, FEES, INSPECTIONS AND TESTING. CONTRACTOR TO OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT.

J. THE TERM "PROVIDE" USED IN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS INDICATES THE CONTRACTOR SHALL FURNISH AND INSTALL.

PART 2 - PRODUCTS

A. MINIMUM WIRE SIZE SHALL BE #12 A.W.G. UNLESS OTHERWISE NOTED. ALL CONDUCTORS SHALL BE COPPER WITH "THHN-THWN" INSULATION UNLESS OTHERWISE NOTED.

B. OUTLET BOXES SHALL BE PRESSED STEEL IN DRY LOCATIONS, CAST ALLOY WITH THREADED HUBS IN WET OR DAMP LOCATIONS AND SPECIAL ENCLOSURES FOR OTHER CLASSIFIED AREAS.

C. ALL MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS' LABELS WHERE APPLICABLE. CIRCUIT BREAKERS USED AS SWITCHES IN FLUORESCENT OR HID LIGHTING CIRCUITS SHALL BE LISTED AND MARKED "SWD".

D. ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE CIRCUIT BREAKERS.

E. PANELBOARDS AND LOAD CENTERS:

1. CURRENT CARRYING BUSES SHALL BE COPPER. GROUND BUS BARS SHALL BE COPPER.
2. ALL CIRCUIT BREAKERS INSTALLED IN PANELBOARDS SHALL BE BOLT ON.
3. ALL CIRCUIT BREAKERS INSTALLED IN LOAD CENTERS SHALL BE PLUG IN.
4. ALL CIRCUIT BREAKERS FEEDING MECHANICAL EQUIPMENT SHALL BE HACR TYPE CIRCUIT BREAKERS.
5. A.I.C. RATINGS SHALL BE AS INDICATED ON PANELBOARD SCHEDULES.
6. PANELBOARD ENCLOSURES SHALL BE FURNISHED WITHOUT PRE-PUNCHED CONCENTRIC KNOCKOUTS.
7. ALL PANELBOARDS SHALL BE FURNISHED WITH PLASTIC LAMINATE NAMEPLATES WITH 1/4" ENGRAVED LETTERING FOR PANEL IDENTIFICATION.
8. ALL PANELBOARDS SHALL BE PROVIDED WITH TYPE-WRITTEN DIRECTORY OF BRANCH CIRCUIT DESIGNATIONS.

F. DISCONNECT SWITCHES SHALL BE H.P. RATED, HEAVY DUTY, QUICK-MAKE, QUICK-BREAK ENCLOSURES AS REQUIRED BY EXPOSURE.

G. MOTOR STARTERS SHALL BE MANUAL OR MAGNETIC AS INDICATED, WITH OVERLOAD RELAYS IN EACH HOT LEG.

H. RIGID NONMETALLIC CONDUIT SHALL BE SCHEDULE 40 PVC.

I. WIRING DEVICES (GENERAL PURPOSE RECEPTACLES AND WALL SWITCHES) SHALL BE WHITE COLOR UNLESS OTHERWISE NOTED. FACEPLATES SHALL BE SMOOTH, WHITE NYLON.

J. PROVIDE ARC-FAULT CIRCUIT INTERRUPTER PROTECTION AS REQUIRED BY NEC ARTICLE 210.12.

K. PROVIDE TAMPER RESISTANT RECEPTACLES AS REQUIRED BT NEC ARTICLE 406.12.

L. 15 AND 20 AMPERE, 125 VOLT AND 250 VOLT RECEPTACLES INSTALLED IN A WET LOCATION SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED. ALL 15 AND 20 AMPERE, 125 AND 250 VOLT NON-LOCKING RECEPTACLES SHALL BE LISTED WEATHER-RESISTANT TYPE.

PART 3 - EXECUTION

A. COLOR CODING OF CONDUCTORS SHALL BE AS FOLLOWS:

1. 120/240 VOLTS, 1 PHASE, 3-WIRE SYSTEM: UNGROUNDED CONDUCTORS: 1 BLACK AND 1 RED GROUNDED (NEUTRAL) CONDUCTOR; WHITE. GROUNDING CONDUCTORS SHALL BE GREEN.
2. BRANCH CIRCUIT WIRING AND SERVICES (#6 AND LARGER) SHALL BE COLOR CODED AT ALL PULL POINTS (EXCEPT LB'S OR LBD'S) USING COLORED MARKERS OR PLASTIC TAPE MANUFACTURED FOR THE PURPOSE.

B. WIRING METHODS

1. ALL CONDUCTORS SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING (EMT) UNLESS OTHERWISE NOTED OR SPECIFICALLY PROHIBITED BY THE AUTHORITY HAVING JURISDICTION. ALL FITTINGS AND COUPLINGS FOR EMT CONDUIT SHALL BE ALL STEEL RAIN TIGHT COMPRESSION TYPE OR ALL STEEL CONCRETE TIGHT SET SCREW TYPE.
2. SCHEDULE 40 PVC CONDUIT, WITH FITTINGS AND COUPLINGS APPROPRIATE FOR THE USE, SHALL BE INSTALLED UNDERGROUND OR BELOW SLABS ON GRADE.
3. ELECTRICAL NONMETALLIC TUBING (EMT), WITH FITTINGS AND COUPLINGS APPROPRIATE FOR THE USE IS ACCEPTABLE FOR USE WITH INTERIOR BRANCH CIRCUIT WIRING FOR CIRCUITS 20 AMPS OR LESS AND CONCEALED IN WALLS OR ABOVE SUSPENDED CEILING AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
4. TYPE MC (METAL CLAD) CABLE WITH ALUMINUM ARMOR AND INTERNAL GROUND IS ACCEPTABLE FOR USE AS GENERAL BRANCH CIRCUIT WIRING FOR CIRCUITS 20 AMPERES OR LESS AND CONCEALED IN WALLS OR ABOVE SUSPENDED CEILING AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.
5. TYPE NM (NONMETALLIC SHEATH) CABLE WITH INTERNAL GROUND IS ACCEPTABLE FOR USE AS GENERAL BRANCH CIRCUIT WIRING FOR CIRCUITS 20 AMPERES OR LESS AND CONCEALED IN WALLS OR ABOVE CEILING AND AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.

C. ELECTRICAL SYSTEM SHALL BE COMPLETE AND EFFECTIVELY GROUNDED AS REQUIRED BY THE LATEST EDITION OF THE N.E.C. AND LOCAL CODES.

D. ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY ENGINEER/ARCHITECT.

E. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION.

F. THE ELECTRICAL INSTALLATION SHALL MEET ALL STANDARD REQUIREMENTS OF POWER AND TELEPHONE COMPANIES, AND SHALL BE FULLY COORDINATED WITH THEM PRIOR TO COMMENCEMENT OF WORK.

G. PROVIDE AND INSTALL CONDUIT, CONDUCTORS, PULL WIRES, BOXES, COVER PLATES, AND WIRING DEVICES, FOR ALL OUTLETS AS INDICATED.

H. MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW AND SUCH AS APPEAR ON THE UL LIST OF APPROVED ITEMS AND SHALL MEET OR EXCEED THE REQUIREMENTS OF NEC, NEMA, AND IECE.

I. SUBSTITUTIONS:

1. IF ANY PROPOSED EQUIPMENT IS OF LARGER SIZE OR THERE ARE AMY CONTINGENT DIFFERENCES WHICH REQUIRE ADDITIONAL CONTROLS, EQUIPMENT OR APPARATUS ALL ASSOCIATED CHANGES TO THE BUILDING SYSTEMS NECESSARY TO ACCOMMODATE THESE CHANGES ARE THE RESPONSIBILITY OF THE CONTRACTOR.
2. "TO-SCALE" FLOOR PLAN DRAWINGS OR RISER/WIRING DIAGRAMS INDICATING THE PROPOSED CHANGES SHALL BE SUBMITTED ALONG WITH THE OTHER REQUIRED SHOP DRAWINGS.

J. CONTRACTOR SHALL SUBMIT AT LEAST FIVE (5) SETS OF SHOP DRAWINGS OR CUT SHEETS OF LIGHTING FIXTURES, SWITCHES, AND OTHER ELECTRICAL ITEMS FOR APPROVAL BY ENGINEER/ARCHITECT.

K. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED OF HIS WORK.

L. ALL LAY-IN LIGHTING FIXTURES SHALL BE SECURED TO THE SUSPENDED CEILING GRID AT EACH CORNER OR AS REQUIRED BY THE NATIONAL ELECTRIC CODE AND THE FLORIDA BUILDING CODE, SECTION 808. SEE ARCHITECTURAL DRAWINGS FOR DETAIL OF CEILING AND LUMINAIRE SUPPORT.

M. CONTRACTOR SHALL COORDINATE WITH MECHANICAL DRAWINGS AND PROVIDE ALL NECESSARY CONTROL WIRING.

N. ALL ELECTRICAL POWER WIRING FOR THE HVAC SYSTEM INCLUDING WIRING THRU LINE VOLTAGE CONTROL DEVICES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

O. VOLTAGE DROP

1. CONDUCTORS FOR ALL FEEDERS SHALL BE INCREASED FROM SIZES INDICATED ON DRAWINGS TO PREVENT VOLTAGE DROP EXCEEDING 2%.
2. CONDUCTORS FOR ALL BRANCH CIRCUITS SHALL BE INCREASED FROM SIZES INDICATED ON DRAWINGS TO PREVENT VOLTAGE DROP EXCEEDING 3%. FROM THE FURTHEST DEVICE.
3. DETERMINING CONDUCTOR SIZES SHALL BE BASED ON 80% LOAD OF THE BREAKER SIZE.
4. FOR DETERMINATION OF WIRE SIZE FOR BID PURPOSES;
   * INCREASE WIRE BY 1 WIRE SIZE FOR RUNS 60 FT. TO 100 FT.
   * INCREASE WIRE BY 2 WIRE SIZES FOR RUNS 100 FT. TO 150 FT.
   * INCREASE WIRE BY 3 WIRE SIZES FOR RUNS FROM 150 FT. TO 230 FT.

P. PROVIDE CABLE LUGS SIZED FOR THE LINE AND/OR LOAD SIDE FEEDERS AS SCHEDULED FOR ALL SWITCHBOARDS, PANELBOARDS AND DISCONNECTS. WHERE CABLE LUGS ARE NOT AVAILABLE FOR THE SPECIFIC WIRE SIZE AND NUMBER OF SETS SCHEDULED, PROVIDE A TAP BOX ADJACENT TO THE EQUIPMENT WITH "POLARIS" TAPS TO TRANSITION TO CONDUCTORS TO MATCH THE CABLE LUGS AVAILABLE AND THE AMPERE RATING OF THE OVER-CURRENT DEVICE PROTECTING THE FEEDER.

Q. THE CONTRACTOR SHALL CONFIRM WITH THE ELECTRICAL UTILITY COMPANY ANY AND ALL REQUIREMENTS SUCH AS: METERING EQUIPMENT REQUIREMENTS AND METERING EQUIPMENT LOCATION, TRANSFORMER SIZE AND LOCATION OR SERVICE POINT, CONDUIT ENTRY AND LUG SIZE RESTRICTIONS.

R. THE CONTRACTOR SHALL SCHEDULE ALL REQUIRED DOWN TIME FOR THE OWNERS CONFIRMATION.

S. ANY CONFLICTS AND DESCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK.

ELECTRICAL SHEET INDEX

SHEET#	DESCRIPTION
E1	NOTES, LEGEND & INDEX
E2	EXISITNG ELECTRICAL PLAN
E3	LIGHTING PLAN
E4	POWER PLAN
E3	RISER AND PANEL SCHEDULES

ELECTRICAL SYMBOLS

	TELEPHONE/DATA OUTLET WITH 3/4" CONDUIT STUBBED OUT FROM WALL 6" ABOVE CEILING. MOUNT 18" A.F.F. TO CENTER LINE OF OUTLET UNLESS OTHERWISE NOTED.
	TELEVISION OUTLET WITH 3/4" CONDUIT STUBBED OUT FROM WALL 6" ABOVE CEILING. MOUNT AT 18" A.F.F. TO CENTER LINE OF OUTLET UNLESS OTHERWISE NOTED.
	DUPLEX RECEPTACLE (AMPERAGE RATING TO MATCH BRANCH CIRCUIT RATING) MOUNTED AT 18" A.F.F. TO CENTER LINE OF OUTLET UNLESS NOTED OTHERWISE.
GFI	DUPLEX RECEPTACLE (AMPERAGE RATING TO MATCH BRANCH CIRCUIT RATING) WITH GROUND FAULT CIRCUIT INTERRUPTER, MOUNT AT 18" A.F.F. TO CENTER LINE OF OUTLET. UNLESS NOTED OTHERWISE.
	DUPLEX RECEPTACLE (AMPERAGE RATING TO MATCH BRANCH CIRCUIT RATING) MOUNTED ABOVE COUNTER SEE ARCHITECTUAL DRAWINGS FOR SPECIFIC REQUIREMENTS.
	SPECIAL-PURPOSE RECEPTACLE
J	JUNCTION BOX
EF	EXHAUST FAN. SEE MECHANICAL DRAWINGS FOR SPECIFICATIONS.
$	SINGLE POLE, 20 AMP, SWITCH. MOUNT 42" A.F.F. TO CENTERLINE OF SWITCH UNLESS OTHERWISE NOTED.
$3	3-WAY, 20 AMP, SWITCH. MOUNT 42" A.F.F. TO CENTERLINE OF SWITCH UNLESS OTHERWISE NOTED.
$D	SINGLE POLE, 20 AMP, SWITCH WITH DIMMER. MOUNT 42" A.F.F. TO CENTERLINE OF SWITCH UNLESS OTHERWISE NOTED.
$	TWO POLE, 30 AMP SWITCH. MOUNT ADJACENT EQUIPMENT TO BE CONTROLLED.
	FACTORY MOUNTED DISCONNECT/STARTER (SEE MECHANICAL SCHEDULE)
B A	FUSIBLE DISCONNECT SWITCH A = POLES, B= FRAME SIZE, C= FUSE RATING
B A	FUSIBLE DISCONNECT SWITCH TYPE COMBINATION MOTOR STARTER A = POLES, B= NEMA SIZE, C= FUSE RATING
	GROUNDING ELECTRODE & CONDUCTOR SYSTEM
	TRANSFORMER
	ELECTRICAL PANELBOARD
	TELEPHONE WOOD BACKBOARD
WP	WEATHERPROOF
A.F.F.	ABOVE FINISH FLOOR
	RECESSED DOWNLIGHT TO BE SELECTED BY OWNER, FURNISHED BY CONTRACTOR
	WALL SCONCE TO BE SELECTED BY OWNER, FURNISHED BY CONTRACTOR
	GARAGE LIGHT TO BE SELECTED BY OWNER, FURNISHED BY CONTRACTOR
	UNDER COUNTER LIGHT TO BE SELECTED BY OWNER, FURNISHED BY CONTRACTOR
S	SILHOUETTE 120V AC LOW PROFILE SMOKE ALARM WITH SEALED RECHARGEABLE BATTERY BACKUP. KIDDE MODEL KN-FMSM-I. INTERLOCK ALL DETECTORS TO ACTIVATE UPON ANY DETECTOR.
C	AC COMBINATION CARBON MONOXIDE AND PHOTOELECTRIC SMOKE ALARM WITH VOICE MESSAGE WARNING SYSTEM AND BATTERY BACKUP. KIDDE MODEL KN-COPE-I.

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ADDITION & RESTORATION FOR:

MAZZINI & MELINE RESIDENCE

10300 SW 70TH AVE,
MIAMI, FL 33156

Digitally signed by Edgardo J Betancourt Santiago
Date: 2023.08.24 16:08:47-04'00'

STATE OF FLORIDA
EDGARDO J BETANCOURT SANTIAGO
LICENSED
AR99726
ARCHITECT

DRAWN BY
DATE 04.03.23 -- CHECKED BY -- PROJECT 22-84

REVISIONS

ELECTRICAL NOTES

CONSTRUCTION DOCUMENTS

E1