GENERAL DEMOLITION NOTES

1. UNLESS OTHERWISE NOTED:
   a. ON DEMOLITION AND NEW WORK PLANS – DEVICES AND EQUIPMENT SHOWN IN LIGHT LINETYPE ARE EXISTING TO REMAIN.
   b. ON DEMOLITION PLANS – DEVICES AND EQUIPMENT SHOWN IN DARK LINETYPE ARE EXISTING TO BE REMOVED
   c. ON NEW WORK PLANS – DEVICES AND EQUIPMENT SHOWN IN DARK LINETYPE ARE NEW.
2. EXISTING CONDITIONS AND UTILITIES INDICATED ARE TAKEN FROM EXISTING CONSTRUCTION DOCUMENTS, VARIOUS SURVEYS AND FIELD INVESTIGATIONS. IT IS TO BE UNDERSTOOD THAT UNFORESEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. COOPERATION WITH OTHER TRADES IN ROUTING AND/OR BURIAL DEPTHS AS DETERMINED DURING CONSTRUCTION AND AS DIRECTED BY THE ARCHITECT/ENGINEER MAY BE NECESSARY AND IT IS INTENDED THAT SUCH DEVIATIONS SHALL BE CONSIDERED A PART OF THIS CONTRACT. IT IS ALSO UNDERSTOOD THAT THE PLANS ARE NOT COMPLETELY TO SCALE. THIS CONTRACTOR IS TO FIELD VERIFY DIMENSIONS OF ALL SITE UTILITIES, ETC., PRIOR TO BID AND INCLUDE ANY DEVIATIONS IN THE CONTRACT.
3. LOCATE ALL EXISTING UTILITIES AND PROTECT THEM FROM DAMAGE.
4. REMOVE EXISTING POWER, LIGHTING, SYSTEMS MATERIALS AND EQUIPMENT WHICH ARE MADE OBSOLETE OR WHICH INTERFERE WITH THE CONSTRUCTION OF THE PROJECT.
5. REINSTALL ANY SUCH POWER, LIGHTING, SYSTEMS, MATERIALS AND EQUIPMENT WHICH ARE REQUIRED TO REMAIN ACTIVE FOR THE FACILITY TO BE FULLY FUNCTIONAL.
6. ALL RECEPTACLES, DEVICES, LIGHTING, SYSTEMS AND EQUIPMENT NOT SHOWN, AND IN AREAS OUTSIDE OF REMODELING SHALL REMAIN ACTIVE UNLESS OTHERWISE NOTED. FURNISH AND INSTALL ACCESSIBLE JUNCTION BOXES AND REWORK EXISTING CIRCUITS AS REQUIRED TO MAINTAIN CIRCUIT CONTINUITY TO RECEPTACLES, DEVICES, LIGHTING,SYSTEMS AND EQUIPMENT.
7. ALL CONDUIT TO BE CONCEALED UNLESS IMPOSSIBLE DUE TO EXISTING CONDITIONS (I.E. EXPOSED STRUCTURAL CEILINGS, BUILDING EXTERIOR WALLS). CONCEAL ALL CONDUITS ABOVE CEILINGS OR WITHIN WALLS AND COUNTERS.
   a. ALL NEW DEVICES TO BE FLUSH MOUNTED UNLESS SPECIFICALLY NOTED OTHERWISE.
   b. INSTALL FLEXIBLE CONDUIT DOWN EXISTING WALLS TO NEW FLUSH OUTLETS.(IF EXISTING WALLS DO NOT CONTAIN HOLLOW VERTICAL CAVITIES AND IT IS NOT FEASIBLE TO CONCEAL THE CONDUIT THEN EXPOSED WIREMOLD PAINTED TO MATCH THE WALL SHALL BE USED).
8. ALL ITEMS REMOVED AND NOT REUSED SHALL BE TURNED OVER TO OWNER. DISCARD COMPLETE ITEMS WHICH OWNER ELECTS TO REFUSE.
9. PROVIDE TEMPORARY WIRING AND CONNECTIONS TO MAINTAIN EXISTING SYSTEMS IN SERVICE DURING CONSTRUCTION. WHEN WORK MUST BE PERFORMED ON ENERGIZED EQUIPMENT OR CIRCUITS, USE PERSONNEL EXPERIENCED IN SUCH OPERATIONS.
10. EXISTING ELECTRICAL SERVICE: MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS COMPLETE AND READY FOR SERVICE. DISABLE SYSTEM ONLY TO MAKE SWITCH OVERS AND CONNECTIONS. OBTAIN PERMISSION FROM OWNER AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM. MINIMIZE OUTAGE DURATION.
11. EXISTING FIRE ALARM SYSTEM: MAINTAIN EXISTING SYSTEM IN SERVICE UNTIL NEW SYSTEM IS ACCEPTED. DISABLE SYSTEM ONLY TO MAKE SWITCH OVERS AND CONNECTIONS. NOTIFY OWNER AND LOCAL FIRE SERVICE AT LEAST 24 HOURS BEFORE PARTIALLY OR COMPLETELY DISABLING SYSTEM. MINIMIZE OUTAGE DURATION. MAKE TEMPORARY CONNECTIONS TO MAINTAIN SERVICE IN AREAS ADJACENT TO WORK AREA.
12. REMOVE EXPOSED ABANDONED CONDUIT, INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES.
13. DISCONNECT ABANDONED OUTLETS AND REMOVE DEVICES. REMOVE ABANDONED OUTLETS IF CONDUIT SERVICING THEM IS ABANDONED AND REMOVED. PROVIDE BLANK COVER FOR ABANDONED OUTLETS WHICH ARE NOT REMOVED.
14. DISCONNECT AND REMOVE ABANDONED PANELBOARDS AND DISTRIBUTION EQUIPMENT.
15. DISCONNECT AND REMOVE ELECTRICAL DEVICES AND EQUIPMENT SERVING UTILIZATION EQUIPMENT THAT HAS BEEN REMOVED.CLEAN AND REPAIR EXISTING MATERIALS AND EQUIPMENT WHICH REMAIN OR ARE TO BE REUSED.
16. PANELBOARDS: CLEAN EXPOSED SURFACES AND CHECK TIGHTNESS OF ELECTRICAL CONNECTIONS. REPLACE DAMAGED CIRCUIT BREAKERS AND PROVIDE CLOSURE PLATES FOR VACANT POSITIONS. PROVIDE TYPED CIRCUIT DIRECTORY SHOWING REVISED CIRCUITING ARRANGEMENT.
17. ALL NEW CIRCUIT BREAKERS WITHIN EACH EXISTING PANELBOARD SHALL BE THE SAME MANUFACTURER TYPE, STYLE AND A.I.C. RATING OF EXISTING PANELBOARD.
18. EXISTING OUTLET BOXES AND CONDUIT WHICH ARE LOCATED PROPERLY FOR NEW WORK AND COMPLIES WITH SPECIFICATIONS MAY BE REUSED FOR NEW DEVICES AND WIRE.
19. ALL CONDUIT AND WIRE REMOVED SHALL BE TAKEN BACK TO THE SOURCE OF SUPPLY.
20. WHERE EXISTING EQUIPMENT OR MATERIALS ARE REMOVED OR CHANGED, ALL BRANCH CONDUITS, WHICH NO LONGER ARE IN SERVICE, SHALL BE REMOVED AS DIRECTED BY THE ARCHITECT. IF, IN THE COURSE OF THE WORK, OUTLETS ARE COVERED UP OR OTHERWISE RENDERED INACCESSIBLE, ALL WIRING TO SAME SHALL BE REMOVED TO THE SOURCE. IF A CIRCUIT THAT MUST REMAIN IN SERVICE IS INTERRUPTED THEREBY, IT SHALL BE RECONNECTED BY THE MOST INCONSPICUOUS MEANS SO AS TO REMAIN OPERATIONAL,WITH SAME CAPACITY AS BEFORE. ALL BUILDING SURFACES DAMAGED, AND OPENINGS LEFT BY REMOVAL OF BOXES, PIPING OR OTHER EQUIPMENT SHALL BE REPAIRED BY THE CONTRACTOR. ALL HOLES LEFT IN JUNCTION BOXES, SWITCHES, PANELS, ETC. SHALL BE CLOSED.
21. WHERE NEW OPENINGS ARE CUT IN EXISTING WALLS, FLOORS OR CEILINGS AND CONCEALED CONDUITS ARE ENCOUNTERED THEY SHALL BE REMOVED OR RELOCATED AS REQUIRED. WHERE CONDUIT TO BE REMOVED STUBS THROUGH FLOORS, WALLS, AND CEILINGS, SUCH CONDUIT SHALL BE REMOVED TO THE POINT WHERE THE FINISH SURFACES CAN BE PATCHED ADEQUATELY SO THAT NO EVIDENCE OF THE FORMER INSTALLATION REMAINS.
22. WHERE TELEPHONE OUTLETS ARE SHOWN TO BE REMOVED, REMOVE THE WIRE AND REMOVE CONDUIT, BOXES AND FITTINGS AS REQUIRED TO CLEAR AREA OR AS DIRECTED BY ARCHITECT.
23. ALL OUTLET BOXES WHERE FIXTURES OR DEVICES ARE REMOVED SHALL BE REMOVED AND CEILING OR WALL SHALL BE PATCHED TO MATCH EXISTING OR NEW FINISH. IF OUTLET BOX MUST REMAIN TO MAINTAIN CONTINUITY OF CIRCUITRY, AN APPROPRIATE ACCESSIBLE BLANK PLATE SHALL BE INSTALLED WITH FINISH TO MATCH EXISTING OR NEW, WHERE APPLICABLE. ALL PATCHES OR CEILING PLATES SHALL BE PATCHED OR PAINTED AS DIRECTED BY ARCHITECT.
24. ALL OUTLET BOXES WHICH MUST BE REMOVED DUE TO REMOVAL OF WALL, AND WHICH MUST REMAIN ACTIVE IN ORDER TO MAINTAIN CIRCUIT CONTINUITY SHALL BE RELOCATED IN CEILING OR FLOOR, SHALL BE ACCESSIBLE, AND SHALL HAVE BLANK COVERPLATE AS REQUIRED.
25. REMOVE ALL EXISTING LIGHTING FIXTURES IN AREAS WHERE NEW LIGHTING IS SHOWN. CONNECT TO EXISTING CIRCUITS, SWITCH LEGS AND SWITCHES OR AS OTHERWISE SHOWN. SALVAGE EXISTING FIXTURES NOT BEING REUSED TO OWNER.

GENERAL NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70), AND THE LATEST ADOPTED EDITION OF THE FLORIDA BUILDING CODE.
2. CONTRACTOR SHALL FIELD VERIFY ALL CONDITIONS AND COORDINATE WITH ALL EQUIPMENT MANUFACTURER/INSTALLERS PRIOR TO BIDDING.
3. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABEL LISTED BY AN APPROVED THIRD–PARTY TESTING AGENCY.

BUILDING:

4. INSTALLATION HEIGHT OF EQUIPMENT (TO CENTERLINE) ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE SHALL BE:

   RECEPTACLE = 18"
   CLOCK = 7'–6"
   SWITCH = 44"
   MODULAR JACK FOR WALL MOUNTED TELEPHONE = 48"
   MODULAR TELEPHONE JACK = 18"
   COMPUTER OUTLET = 18"
   CALL SWITCH = 44"
   REMOTE TEST STATION FOR DUCT DETECTOR = 52"

5. ALL CONDUIT AND WIRING SHALL BE CONCEALED IN WALLS OR ABOVE CEILINGS UNLESS NOTED OTHERWISE OR APPROVED BY THE ARCHITECT/ENGINEER. ALL DEVICE OUTLET BOXES SHALL BE RECESSED UNLESS NOTED OTHERWISE OR APPROVED BY THE ARCHITECT/ENGINEER. WHERE APPROVED OR NOTED SURFACE METAL RACEWAY AND DEVICE BOXES SHALL BE USED IN LIEU OF CONDUIT AND CONCEALED BOXES AT NO EXTRA COST TO THE OWNER.
6. ALL CONDUIT ROUTING SHOWN IS APPROXIMATE ONLY. CONTRACTOR SHALL FIELD VERIFY FINAL ROUTE WITH ALL OTHER TRADES AND CONDITIONS IN FIELD PRIOR TO ROUGH–IN.
7. CONDUIT RUNS SHOWN ARE SCHEMATIC AND DO NOT INDICATE THE NECESSARY FITTINGS AND JUNCTION BOXES THAT ARE INCLUDED IN THE SCOPE OF THE WORK.
8. CONTRACTOR SHALL PERMANENTLY IDENTIFY ALL WIRING WITH THE SOURCE AND CIRCUIT AT ALL ELECTRICAL EQUIPMENT, PULL AND JUNCTION BOXES AND ELECTRICAL TERMINATIONS PROVIDED OR ASSOCIATED WITH THIS CONSTRUCTION.
9. COORDINATE EXACT LOCATION OF LIGHTING FIXTURES IN MECH. ROOMS/SPACES WITH DUCTWORK INSTALLER PRIOR TO ROUGH–IN. LOCATE BELOW DUCTWORK(8'–0" AFF MINIMUM) CENTERED IN ROOM AS MUCH AS POSSIBLE.
10. COORDINATE EXACT INSTALLATION REQUIREMENTS OF OUTLETS IN MILLWORK WITH ARCHITECTURAL DRAWINGS, APPROVED SHOP DRAWINGS AND MILLWORK INSTALLER PRIOR TO ROUGH–IN.
11. VERIFY EXACT LOCATION OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL INSTALLER PRIOR TO ROUGH–IN.
12. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL LIGHT FIXTURES.
13. PROVIDE NYLON PULLSTRINGS IN ALL EMPTY CONDUITS.
14. COORDINATE THE EXACT LOCATION OF ALL ELECTRICAL EQUIPMENT LOCATED IN ELEVATOR MACHINE ROOMS, SHAFTS AND PITS. LOCATE EQUIPMENT AS REQUIRED TO MEET APPLICABLE CODES.PROVIDE AUTOMATIC DISCONNECTION OF THE ELEVATOR MAIN POWER SUPPLY (PER ANSI A17.1, RULE 102.2 1987 ED.) PRIOR TO ACTIVATION OF AUTOMATIC SPRINKLER LOCATED WITHIN THE ELEVATOR MACHINE ROOM, PIT OR SHAFT. COORDINATE WITH FIRE PROTECTION AND FIRE ALARM INSTALLER.
15. COORDINATE THE REQUIRED SIZE OF ALL CIRCUIT BREAKERS FEEDING EQUIPMENT, (I.E. MOTORS, HVAC, KITCHEN EQUIPMENT, SPECIAL PURPOSE OUTLETS, ELEVATORS, OWNER FURNISHED EQUIPMENT ETC.) WITH APPROVED EQUIPMENT SHOP DRAWINGS AND OWNER REPRESENTATIVES PRIOR TO ORDERING PANELBOARDS. BREAKERS SHALL BE SIZED PER THE NEC, THE EQUIPMENT NAME PLATE AND MANUFACTURERS RECOMMENDATIONS.
16. ALL DIMMED CIRCUITS SHALL BE PROVIDED WITH DEDICATED NEUTRALS FOR EACH DIMMER AND PHASE CONDUCTOR THROUGHOUT THE ENTIRE CIRCUIT.
17. THE POWER COMPANY SHALL BE CONTACTED WITHIN 10 DAYS OF THE AWARD OF THE CONTRACT BY THE CONTRACTOR TO VERIFY THE ACTUAL AVAILABLE SHORT CIRCUIT FAULT CURRENT (AIC) AT THE TRANSFORMER SECONDARY BUSHINGS. THE CONTRACTOR SHALL PROVIDE ELECTRICAL DISTRIBUTION AND UTILIZATION EQUIPMENT AND PANELBOARDS WHICH HAVE AIC/WITHSTAND RATINGS GREATER THAN THE AVAILABLE AIC AT EACH POINT IN THE ELECTRICAL SYSTEM.
18. VISIT THE EXISTING FACILITY AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.
19. CONTRACTOR SHALL INCLUDE IN HIS BID THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL RULES, REGULATIONS AND GUIDELINES APPLICABLE.
20. PANEL SCHEDULES INDICATE CIRCUIT DESIGNATIONS ONLY. CONTRACTOR TO PROVIDE MATERIALS AS REQUIRED WHEN NEUTRALS ARE SHARED TO COMPLY WITH NEC REQUIREMENTS. ALL SINGLE PHASE MULTIWIRE BRANCH CIRCUITS SHALL BE FED VIA A TWO POLE BREAKER OR TWO SINGLE POLE BREAKERS WITH AN IDENTIFIED HANDLE TIE. ALL THREE PHASE MULTIWIRE BRANCH CIRCUITS SHALL BE FED VIA A THREE POLE BREAKER OR THREE SINGLE POLE BREAKERS WITH AN IDENTIFIED HANDLE TIE (PER NEC 210.4B).
21. PER NEC 110.22; PROVIDE PERMANENT LABELING FOR ALL SERIES RATED PANEL ENCLOSURES TO READ AS FOLLOWS: CAUTION – SERIES COMBINATION SYSTEM RATED _____ AMPERES. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED.

GROUNDING:

22. ALL METAL RACEWAYS, INCLUDING CONDUIT, WIRE TROUGHS, WIREMOLD, ETC., SHALL BE GROUNDED. ALL CONNECTIONS IN METAL RACEWAYS SHALL BE COMPLETED IN SUCH A MANNER AS TO MAINTAIN A CONTINUOUS PATH TO GROUND THROUGHOUT THE ENTIRE LENGTH OF THE RACEWAY.

WIRING:

23. UNLESS NOTED OTHERWISE ON THE DRAWINGS OR ON THE EQUIPMENT WIRING SCHEDULE, EACH BRANCH CIRCUIT HOME RUN SHALL BE THREE (3) #12 AWG THHN/THWN (1 HOT, 1 NEUTRAL & 1 EQUIPMENT GROUND) IN 3/4" EMT CONDUIT. PROTECT EACH CIRCUIT WITH A 20 AMPERE, 1–POLE OVERCURRENT DEVICE UNLESS NOTED OTHERWISE. COMBINED NEUTRALS ARE NOT PERMITTED.

GENERAL:

24. WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE THE ELECTRICAL CONTRACTOR SHALL PROVIDE TO THE BUILDING OWNER RECORD DRAWINGS OF THE ACTUAL INSTALLATION INCLUDING: 1. A SINGLE–LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND 2. FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.
25. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE BUILDING OWNER AN OPERATING MANUAL AND MAINTENANCE MANUAL AS REQUIRED BY THE FLORIDA BUILDING CODE. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING: 1. SUBMITTAL DATE STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. 2. OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED. 3. NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
26. THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE REQUIRED FUNCTIONAL TESTING OF THE LIGHTING SYSTEM TO ENSURE THAT THE CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE REQUIRED BY THE CODE OFFICIAL, AN APPROVED PARTY INDEPENDENT FROM THE DESIGN OR CONSTRUCTION OF THE PROJECT SHALL BE RESPONSIBLE FOR THE FUNCTIONAL TESTING AND SHALL PROVIDE DOCUMENTATION TO THE CODE OFFICIAL CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET THE PROVISIONS OF FECC SECTION C405. WHERE OCCUPANT SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULE CONTROLS, PHOTOSENSORS OR DAYLIGHTING CONTROLS ARE INSTALLED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED: 1. CONFIRM THAT THE PLACEMENT, SENSITIVITY AND TIME–OUT ADJUSTMENTS FOR THE OCCUPANT SENSORS YIELD ACCEPTABLE PERFORMANCE.
27. ELECTRICAL CONTRACTOR SHALL PROVIDE FULL LIGHTNING PROTECTION SYSTEM FOR THIS PROJECT PER NFPA 780.

ELECTRICAL SYMBOL LEGEND

NOTE: SYMBOLS SHOWN ARE FOR REFERENCE PURPOSES ONLY. ALL OF THESE SYMBOLS MAY NOT BE USED FOR THIS PROJECT.

WIRING AND POWER

- WALL OUTLET BOX AND SINGLE RECEPTACLE
- WALL OUTLET BOX AND DUPLEX RECEPTACLE
- TWO GANG WALL OUTLET BOX AND (2) DUPLEX RECEPTACLES
- WALL OUTLET BOX AND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
- WALL OUTLET BOX AND DUPLEX RECEPTACLE WITH TOP HALF SWITCHED
- WALL OUTLET BOX AND DUPLEX RECEPTACLE CONNECTED TO EMERGENCY SYSTEM
- CEILING OUTLET BOX AND SINGLE RECEPTACLE
- CEILING OUTLET BOX AND DUPLEX RECEPTACLE
- WALL OUTLET BOX AND GFCI DUPLEX RECEPTACLE
- WALL OUTLET BOX AND GFCI DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
- S — WALL OUTLET BOX AND DUPLEX SAFETY RECEPTACLE
- T — WALL OUTLET BOX AND DUPLEX TWIST–LOCK RECEPTACLE
- WP — WALL OUTLET BOX AND GFCI DUPLEX RECEPTACLE WITH WEATHERPROOF COVER
- WALL OUTLET BOX AND SPECIAL PURPOSE OUTLET AS NOTED ON PLANS
- FLUSH FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE
- FLUSH FLOOR OUTLET BOX WITH (2) DUPLEX RECEPTACLES
- TVA — FLUSH FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE AND TELECOMMUNICATIONS OUTLET
- FLUSH WALL JUNCTION BOX AND BLANK PLATE
- JUNCTION BOX AND BLANK PLATE ABOVE CEILING
- J — SURFACE MOUNTED JUNCTION BOX AND BLANK PLATE
- J WP — SURFACE MOUNTED WEATHERPROOF JUNCTION BOX AND COVER
- J PB — FLUSH GRADE FIBER COMPOSITE PULL BOX AS NOTED
- M — MOTOR CONNECTION AS NOTED
- FLUSH SHUNT–TRIP BUTTON, MOUNTED 80" TO TOP
- C — CONTROL AND/OR POWER EQUIPMENT CONNECTION
- TIME CLOCK
- PC — PHOTO CELL
- DISCONNECT SWITCH, SIZE AS NOTED
- 120/208V BRANCH CIRCUIT PANELBOARD, SURFACE MOUNTED
- 120/208V BRANCH CIRCUIT PANELBOARD, FLUSH MOUNTED
- 277/480V BRANCH CIRCUIT PANELBOARD
- T — TRANSFORMER
- AUTOMATIC TRANSFER SWITCH
- A–3 — BRANCH CIRCUIT HOMERUN WITH PANEL NAME AND CIRCUIT NUMBER, QUANTITY OF ARROWHEADS DENOTES QUANTITY OF BRANCH CIRCUITS
- BRANCH CIRCUIT WIRING, PROVIDE QUANTITY OF CONDUCTORS REQUIRED FOR CIRCUITING AND SWITCHING INDICATED ON PLANS
- POWER LEG ONLY (NO SWITCH LEG BETWEEN ROOMS)
- CONDUIT CAPPED OFF
- CONDUIT CONTINUED
- CONDUIT RUN UP
- CONDUIT RUN DOWN
- GROUND OR GROUND ROD AS NOTED

LIGHTING AND SWITCHING

- CEILING MOUNTED LIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- CEILING MOUNTED RECESSED DOWNLIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- CEILING MOUNTED RECESSED WALLWASH FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- CEILING MOUNTED "CLOSE TO CEILING" FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- PENDANT MOUNTED LIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- TRACK LIGHT FIXTURE WITH HEADS AS REQUIRED, REFER TO LIGHT FIXTURE SCHEDULE
- WALL MOUNTED LIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- CEILING MOUNTED LIGHT FIXTURE WITH EMERGENCY BACKUP
- CEILING MOUNTED RECESSED DOWNLIGHT FIXTURE WITH EMERGENCY BACKUP
- WALL MOUNTED LIGHT FIXTURE WITH EMERGENCY BACKUP
- WALL MOUNTED EMERGENCY BATTERY LIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- CEILING MOUNTED EMERGENCY BATTERY LIGHT FIXTURE, REFER TO LIGHT FIXTURE SCHEDULE
- CEILING MOUNTED EXIT SIGN WITH EMERGENCY BACKUP, REFER TO LIGHT FIXTURE SCHEDULE
- WALL MOUNTED EXIT SIGN WITH EMERGENCY BACKUP, REFER TO LIGHT FIXTURE SCHEDULE
- COMBINATION EXIT SIGN AND EMERGENCY LIGHT FIXTURE WITH BATTERY BACKUP
- Sa — WALL OUTLET BOX AND SINGLE POLE SWITCH ('a' INDICATES SWITCH LEG)
- S3 — WALL OUTLET BOX AND THREE–WAY SWITCH
- SF — WALL OUTLET BOX AND FAN CONTROL SWITCH
- SD — WALL OUTLET BOX AND DIMMER SWITCH AS REQUIRED FOR LOAD SERVED
- SD3 — WALL OUTLET BOX AND THREE–WAY DIMMER SWITCH
- SM — WALL OUTLET BOX WITH SINGLE POLE MANUAL MOTOR STARTER SWITCH
- SO — WALL OUTLET BOX AND DUAL TECHNOLOGY OCCUPANCY SENSOR
- ST — WALL OUTLET BOX AND DIGITAL TIMECLOCK SWITCH FOR AUTOMATIC CONTROL
- OS — CEILING OUTLET BOX AND DUAL TECHNOLOGY OCCUPANCY SENSOR
- DL — CEILING OUTLET BOX AND DAYLIGHT HARVESTING SENSOR

FIRE ALARM SYSTEM LEGEND

- F — MANUAL PULL STATION
- cd — WALL MOUNTED HORN WITH STROBE (cd=CANDELA RATING)
- WP — WALL MOUNTED HORN WITH STROBE IN WEATHERPROOF ENCLOSURE
- CEILING MOUNTED HORN WITH STROBE
- M — WALL MOUNTED LOW FREQUENCY MINI HORN
- M — WALL MOUNTED LOW FREQUENCY MINI HORN WITH STROBE
- WALL MOUNTED VOICE EVACUATION SPEAKER WITH STROBE
- CEILING MOUNTED VOICE EVACUATION SPEAKER WITH STROBE
- WALL MOUNTED STROBE
- FIRE ALARM BELL
- SMOKE DETECTOR
- CO — SMOKE AND CARBON MONOXIDE COMBINATION DETECTOR
- A — SMOKE ALARM
- CO A — SMOKE AND CARBON MONOXIDE COMBINATION ALARM
- DUCT MOUNTED SMOKE DETECTOR
- HEAT DETECTOR
- REMOTE DUCT DETECTOR INDICATOR LIGHT AND TEST SWITCH
- R — FAN SHUT–DOWN RELAY
- D — ELECTROMAGNETIC DOOR RELEASE DEVICE
- SMOKE DAMPER (PROVIDED BY MECHANICAL, CONNECTED BY ELECTRICAL)
- P — FIREMAN'S PHONE JACK
- TS — SPRINKLER SYSTEM SUPERVISORY TAMPER SWITCH CONNECTION
- FS — SPRINKLER SYSTEM FLOW SWITCH CONNECTION
- CM — CONTROL MODULE
- MM — MONITOR MODULE
- LB — LOCK BOX
- FACP — FIRE ALARM CONTROL PANEL
- FATC — FIRE ALARM TERMINAL CABINET
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- DACT — DIGITAL ALARM COMMUNICATOR TRANSMITTER

TELECOMMUNICATION SYSTEM LEGEND

- COMBINATION TELECOMMUNICATIONS/DATA WALL OUTLET BOX AND BLANK PLATE WITH MIN. 3/4"C. TO ACCESSIBLE CEILING SPACE. COORDINATE OUTLET REQUIREMENTS WITH OWNER.
- W — TELECOMMUNICATIONS WALL OUTLET BOX AND BLANK PLATE FOR WALL MOUNTED TELEPHONE WITH MIN. 3/4"C. TO ACCESSIBLE CEILING SPACE. COORDINATE OUTLET REQUIREMENTS WITH OWNER.
- DATA WALL OUTLET BOX AND BLANK PLATE WITH MIN. 3/4"C. TO ACCESSIBLE CEILING SPACE. COORDINATE OUTLET REQUIREMENTS WITH OWNER.
- TVA — FLUSH FLOOR OUTLET BOX WITH POWER DEVICE AND TELECOMMUNICATIONS OUTLET WITH MIN. 3/4"C. TO ACCESSIBLE CEILING SPACE.
- WAP — CEILING OUTLET BOX AND BLANK PLATE WITH MIN. 3/4"C. TO TTB FOR WIRELESS ACCESS POINT. COORDINATE OUTLET REQUIREMENTS WITH OWNER.
- TV — COMBINATION TELECOMMUNICATIONS/TELEVISION WALL OUTLET BOX AND BLANK PLATE. COORDINATE OUTLET AND CABLING REQUIREMENTS WITH OWNER.
- 3/4" PLYWOOD TELEPHONE TERMINAL BOARD, SIZE AS SHOWN ON PLANS.
- TTC — TELEPHONE TERMINAL CABINET, SIZE AS NOTED ON PLAN.

Columbia County Building Department
Plans Reviewed for Code Compliance
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DINING HALL AIR CONDITIONING
High Springs, Florida

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JLC24.0022.00

BLAKE L. SUDDETH LICENSE NO. 75824 STATE OF FLORIDA PROFESSIONAL ENGINEER

Blake L Suddeth

OCTOBER 21, 2024

100% CONSTRUCTION DOCUMENTS

ABBREV., LEGEND, & GENERAL NOTES ELECTRICAL

E0.01

Donnelly Project #23061

DEMOLITION REFERENCE NOTES: (X)

(D1) EXISTING ELECTRICAL PANEL AND SERVICE EQUIPMENT EQUIPMENT TO REMAIN AND BE REUSED AS REQUIRED. REFER TO RENOVATION PLAN AND POWER RISER DIAGRAMS FOR ADDITIONAL INFORMATION.

(D2) EXISTING RECEPTACLES SHOWN DARK/SOLID SHALL BE DISCONNECTED AND REMOVED UNLESS NOTED OTHERWISE. MAINTAIN ANY DOWN STREAM BRANCH CIRCUIT WIRING AS REQUIRED.

(D3) EXISTING LIGHT FIXTURES AND SWITCHES SHOWN DARK/SOLID SHALL BE DISCONNECTED AND REMOVED UNLESS NOTED OTHERWISE. MAINTAIN ANY DOWN STREAM BRANCH CIRCUIT WIRING AS REQUIRED.

(D4) ALL EXISTING ELECTRICAL IN THIS AREA TO REMAIN UNLESS NOTED OTHERWISE.

GENERAL DEMOLITION NOTES:

DA ALL ELECTRICAL DEVICES INDICATED IN DARK LINETYPE ON DRAWING SHALL BE REMOVED OR RELOCATED UNLESS NOTED OTHERWISE. REROUTING/RELOCATION OF EXISTING ELECTRICAL SYSTEMS MAY BE REQUIRED AT NEW OPENINGS IN EXISTING CONSTRUCTION OR DUE TO INTERFERENCE WITH OTHER NEW WORK AS DESCRIBED IN THE FOLLOWING NOTES.

DB DRAWINGS INDICATE SPECIFIC ITEMS TO BE REMOVED, REROUTED, AND/OR RELOCATED IN ORDER TO INDICATE GENERAL SCOPE. ADDITIONAL ITEMS NOT INDICATED BUT NECESSARY FOR PROJECT RENOVATIONS SHALL BE REMOVED, REROUTED, OR RELOCATED AS REQUIRED. ASSUME WITHIN THE BASE BID A NOMINAL AMOUNT OF BRANCH CIRCUITS, FIXTURES, DEVICES, AND SYSTEMS WIRING WITHIN WALLS OR OPENINGS BEING REMOVED OR RELOCATED AS REQUIRED TO ACCOMMODATE THE NEW CONSTRUCTION.

DC FOR ITEMS INDICATED TO BE DEMOLISHED, REMOVE WIRING AND CONDUIT BACK TO THE SOURCE PANELBOARD UNLESS NOTED OTHERWISE. MAINTAIN CIRCUIT CONTINUITY TO REMAINING ITEMS ON CIRCUITS REQUIRED TO REMAIN. RELOCATE ANY CIRCUITS TO REMAIN TO AVOID CONFLICT WITH NEW CONSTRUCTION AS REQUIRED. PROPERLY TERMINATE ALL WIRING.

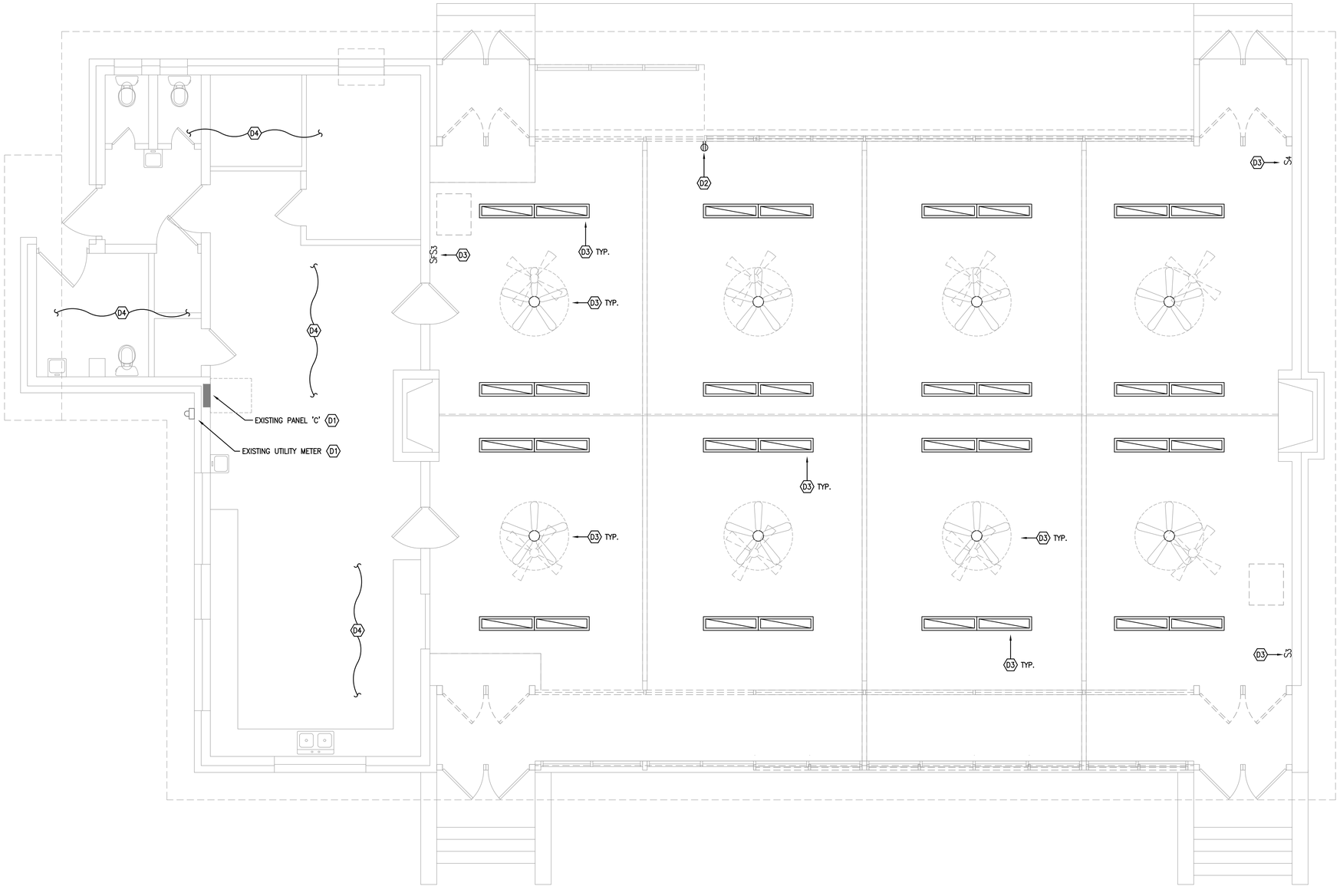
DD MAINTAIN CIRCUIT CONTINUITY TO ALL REMAINING ELECTRICAL SYSTEMS UNAFFECTED BY BUT PASSING THROUGH RENOVATED SPACES OR WHERE ONLY A PORTION OF A CIRCUIT IS REMOVED. ANY EXISTING ELECTRICAL DEVICES LEFT WITHOUT POWER DUE TO THIS RENOVATION SHALL BE RECONNECTED TO SAME SIZE CIRCUIT(S) AS PRESENTLY SERVED. NO ELECTRICAL DEVICES SHALL BE LEFT WITHOUT POWER.

DE REFER TO ARCHITECTURAL DEMOLITION DRAWINGS AND NOTES FOR COORDINATION. PATCH AND REPAIR ALL SURFACES CONTAINING DEMOLITION. COORDINATE WITH ARCHITECTURAL DRAWINGS. MATERIALS AND FINISHES SHALL MATCH EXISTING.

DF VISIT THE SITE TO DETERMINE THE EXACT EXTENT OF ELECTRICAL WORK REQUIRED TO COMPLETE THE PROJECT. EXISTING CONDITIONS INDICATED ON THESE DRAWINGS ARE TAKEN FROM EXISTING BUILDING DOCUMENTS AND FIELD OBSERVATION. OTHER ELECTRICAL ITEMS MAY EXIST FOR WHICH THE ELECTRICAL CONTRACTOR IS RESPONSIBLE WHICH MAY NOT BE SPECIFICALLY ADDRESSED IN THESE DRAWINGS.

DG PROPERLY DISPOSE OF ALL ITEMS BEING REMOVED AS PART OF THIS PROJECT. THE OWNER SHALL HAVE THE RIGHT TO RETAIN ANY ITEMS BEING REMOVED. COORDINATE ITEMS TO BE RETAINED WITH OWNER.

DH CONDUCTORS IN RENOVATED AREA SHALL BE NEW. DO NOT REUSE EXISTING WIRING UNLESS NOTED OTHERWISE. EXISTING CONDUIT IN THE RENOVATED AREA MAY BE REUSED IF IT COMPLIES WITH ALL REQUIREMENTS OF THE NEC AND SPECIFICATIONS, IF NEW DEVICE OR EQUIPMENT LOCATION COINCIDES WITH EXISTING LOCATION, AND IF PRACTICAL. CONDUIT NOT INTENDED TO BE REUSED SHALL BE REMOVED IF POSSIBLE (I.E., NOT EMBEDDED IN CONCRETE FLOOR, ETC.).



1 DEMO FLOOR PLAN - ELECTRICAL
Scale: 1/8" = 1'-0"

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O'LENO STATE PARK DINING HALL AIR CONDITIONING
High Springs, Florida

PROJECT LOCATION:
O'LENO STATE PARK
410 SE O'LENO PARK ROAD
HIGH SPRINGS, FLORIDA 32643

JLC24.0022.00

BLAKE L. SUDDETH LICENSED NO. 28730 STATE OF FLORIDA PROFESSIONAL ENGINEER

Blake L Suddeth

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100% CONSTRUCTION DOCUMENTS

DEMO FLOOR PLAN ELECTRICAL

E1.01

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Donnelly Project #23061

REFERENCE NOTES: (X)

1. EXISTING ELECTRICAL SERVICE EQUIPMENT LOCATION. REFER TO PANEL SCHEDULES AND RISER DIAGRAM FOR ADDITIONAL INFORMATION.
2. COORDINATE ALL CONNECTION REQUIREMENTS OF NEW SERVICE WITH LOCAL UTILITY COMPANY PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENTS FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. COORDINATE LOCATION OF DISCONNECT WITH OWNER AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.
4. PROVIDE WALL MOUNTED SWITCH FOR FAN. COORDINATE EXACT LOCATION AND INSTALLATION REQUIREMENTS WITH ARCHITECT/MANUFACTURER PRIOR TO ROUGH-IN.

GENERAL NOTES:

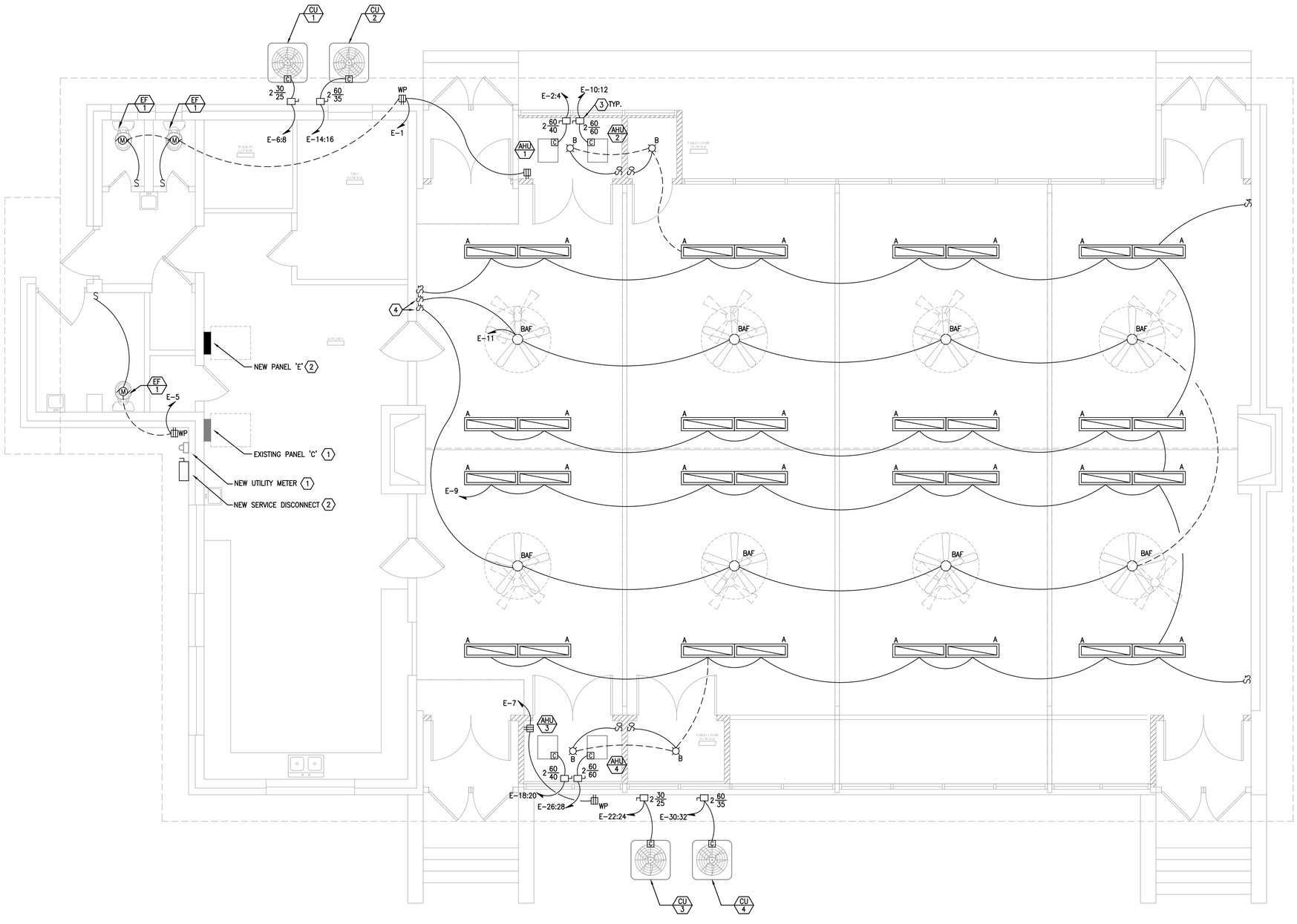
A. DO NOT SCALE ELECTRICAL DRAWING FOR ANY DIMENSIONS.

B. ALL WORK SHALL COMPLY WITH THE 2020 NATIONAL ELECTRICAL CODE, NATIONAL, STATE AND LOCAL CODES. PROVIDE GROUNDING AND BONDING PER NEC 250.

C. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC. ALL CONDUCTORS SHALL HAVE AN EQUIPMENT GROUND WIRE SIZED PER NEC.

D. FIELD VERIFY EXACT LOCATION OF ALL DEVICES AND EQUIPMENT PRIOR TO ROUGH IN.

E. FIELD VERIFY ALL EXISTING FIRE ALARM DEVICES. CONNECT NEW FIRE ALARM DEVICES TO EXISTING FIRE ALARM SYSTEM. COORDINATE ALL CONNECTION REQUIREMENTS WITH CONDITIONS IN FIELD AND MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.



1 RENO FLOOR PLAN - ELECTRICAL
Scale: 1/4" = 1'-0"

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O'LENO STATE PARK DINING HALL AIR CONDITIONING
High Springs, Florida

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BLAKE L. SUDDETH LICENSED No. 86 STATE OF FLORIDA PROFESSIONAL ENGINEER

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RENO FLOOR PLAN
POWER & SYSTEMS

E2.01

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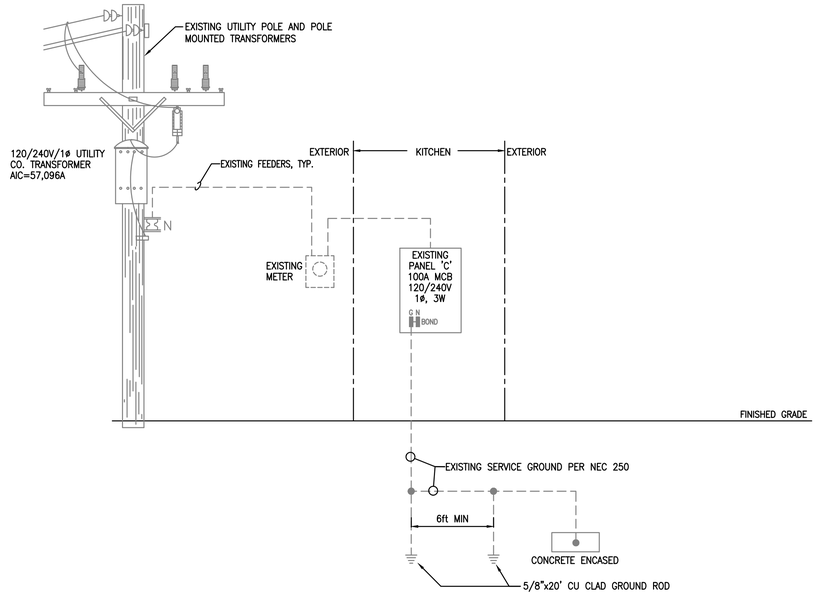
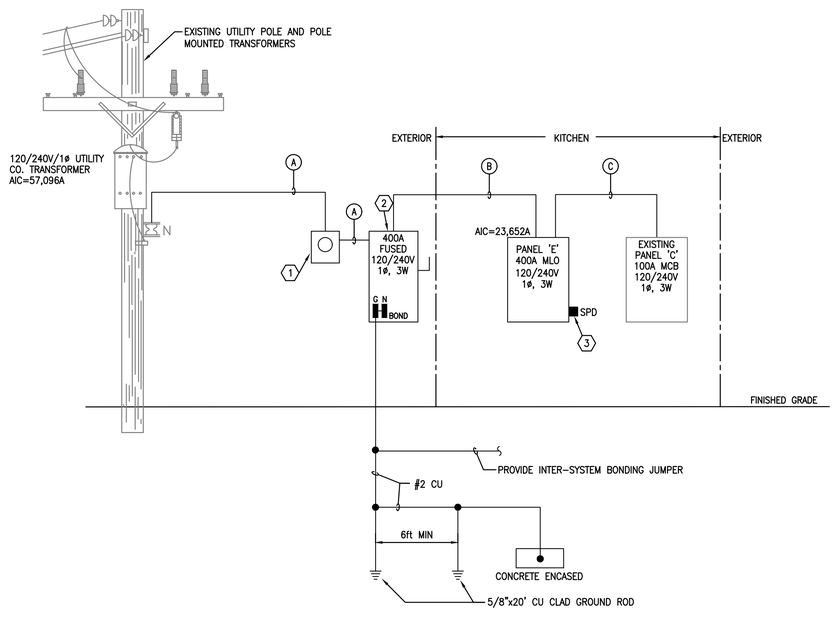


1 DEMO POWER RISER DIAGRAM BUILDING
No Scale



2 POWER RISER DIAGRAM BUILDING
No Scale

GENERAL NOTES:

A. DO NOT SCALE ELECTRICAL DRAWING FOR ANY DIMENSIONS.

B. ALL WORK SHALL COMPLY WITH THE LATEST ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE AS WELL AS NATIONAL, STATE, AND LOCAL CODES. PROVIDE GROUNDING AND BONDING PER NEC 250.

C. COORDINATE ALL WORK WITH LOCAL UTILITY COMPANY PRIOR TO ROUGH-IN.

D. SEE SINGLE LINE DIAGRAM FOR FEEDER WIRE AND CONDUIT SIZE. ALL CIRCUITS NOT SIZED ON DRAWING SHALL BE INSTALLED TO MEET MINIMUM SIZE REQUIRED BY NEC. ALL CONDUCTORS SHALL HAVE AN EQUIPMENT GROUND WIRE SIZED PER NEC.

E. FIELD VERIFY EXACT LOCATION OF ALL DEVICES AND EQUIPMENT PRIOR TO ROUGH-IN.

F. FOR ALL EXISTING EQUIPMENT BEING RECONNECTED TO NEW PANELS AND EXISTING EQUIPMENT TO REMAIN, E.C. SHALL CONFIRM THAT BREAKER AND FEEDER SIZES ARE CORRECTLY MATCHED UP TO THE EQUIPMENT LOADS SHOWN ON THE EQUIPMENT NAMEPLATE.

G. CONTRACTOR SHALL PROVIDE "ARC FLASH/SHOCK HAZARD" SIGNAGE FOR ALL PANELBOARDS AS REQUIRED PER ANSI, NEC, OSHA AND NFPA. INCLUDE ALL INFORMATION PER LATEST REQUIREMENTS INCLUDING REQUIRED LEVEL OF PPE, AVAILABLE FAULT CURRENT, APPROACH BOUNDARIES, ETC.

H. PER NEC 110.24 SERVICE EQUIPMENT IN OTHER THAN DWELLING UNITS SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. THE FIELD MARKING(S) SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. WHEN MODIFICATIONS TO THE ELECTRICAL INSTALLATION OCCUR THAT AFFECT THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SERVICE, THE MAXIMUM AVAILABLE FAULT CURRENT SHALL BE VERIFIED OR RECALCULATED AS NECESSARY TO ENSURE THE SERVICE EQUIPMENT RATINGS ARE SUFFICIENT FOR THE MAXIMUM AVAILABLE FAULT CURRENT AT THE LINE TERMINALS OF THE EQUIPMENT. THE REQUIRED FIELD MARKING(S) IN 110.24(A) SHALL BE ADJUSTED TO REFLECT THE NEW LEVEL OF MAXIMUM AVAILABLE FAULT CURRENT.

REFERENCE NOTES: (X)

(1) COORDINATE ALL CONNECTION REQUIREMENTS OF NEW SERVICE WITH LOCAL UTILITY COMPANY PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED.

(2) PROVIDE 400A, 250V, 1ø, 3W, NEMA 3R, HEAVY DUTY, SERVICE ENTRANCE RATED DISCONNECT SWITCH FUSED AT 400AMPS. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. PROVIDE PHENOLIC LABELING AT DISCONNECT FOR SERVICE AS REQUIRED BY NEC.

(3) PROVIDE HARD WIRED SURGE PROTECTIVE DEVICE OF SAME MANUFACTURER AS PANELBOARD.

CONDUIT & CONDUCTOR SIZES: (X)

(A) 2 SETS [(3)#250 kcmil AL. IN 2-1/2"C]

(B) 2 SETS [(3)#250 kcmil AL. & (1)#1 AWG AL. GND. IN 2-1/2"C]

(C) (3)#1 AWG. AL. & (1)#6 AWG AL. GND. IN 2"C.

NOTE:
PER (2023 FBCEC C405.6.3, 6th EDITION):
ALL CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS ARE DESIGNED FOR A MAXIMUM OF 5% VOLTAGE DROP TOTAL.

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O'LENO STATE PARK DINING HALL AIR CONDITIONING
High Springs, Florida

PROJECT LOCATION:
O'LENO STATE PARK
410 SE O'LENO PARK ROAD
HIGH SPRINGS, FLORIDA 32643

JLC24.0022.00

BLAKE L. SUDDETH LICENSE NUMBER 82 STATE OF FLORIDA PROFESSIONAL ENGINEER

Blake L Suddeth

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OCTOBER 21, 2024

100% CONSTRUCTION DOCUMENTS

POWER RISER DIAGRAM ELECTRICAL

E3.01

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Donnelly Project #23061

PANEL 'E'

LOCATION: ELEC. ROOM	VOLTAGE: 240/120V 1ø 3W	MIN. AIC RATING: 42K AIC	NOTES: PROVIDE TYPED WRITTEN DIRECTORY PROVIDE GROUND & NEUTRAL BUS
TYPE: SQUARE 'D' – TYPE NQ	MAINS: 400A ☒ MLO ☐ MCB	MOUNTING: SURFACE	
FED FROM: SERVICE DISCONNECT	LUGS: ☐ SUB-FEED ☒ FEED-THRU	ENCLOSURE: NEMA 1	

CKT	CIRCUIT DESCRIPTION	NOTES	BRANCH CIRCUIT ø	NEUT	GND	COND	BKR	LOAD KVA	PHASE ø	LOAD KVA	BKR	BRANCH CIRCUIT ø	NEUT	GND	COND	NOTES	CIRCUIT DESCRIPTION	CKT
1	RECEPS – EXTERIOR/HVAC CLOSET		12	12	12	1/2"	20/1	0.40	A	3.74	40/2	8	8	10	3/4"		AHU-1	2
3	RECEPS – HVAC CLOSET		12	12	12	1/2"	20/1	0.18	B	3.74	–	8	–	–	–		–	4
5	RECEPS – EXTERIOR		12	12	12	1/2"	20/1	0.18	A	1.76	25/2	10	10	10	3/4"	1	CU-1	6
7	RECEPS – EXTERIOR/HVAC CLOSET		12	12	12	1/2"	20/1	0.36	B	1.76	–	10	–	–	–		–	8
9	LIGHTS – DINING HALL		12	12	12	1/2"	20/1	1.05	A	5.00	60/2	6	6	10	1.25"		AHU-2	10
11	FANS DINING HALL		12	12	12	1/2"	20/1	0.35	B	5.00	–	6	–	–	–		–	12
13	SPARE		–	–	–	–	20/1	–	A	2.64	35/2	8	8	10	3/4"	1	CU-2	14
15	SPARE		–	–	–	–	20/1	–	B	2.64	–	8	–	–	–		–	16
17	SPARE		–	–	–	–	20/1	–	A	3.74	40/2	8	8	10	3/4"		AHU-3	18
19	SPARE		–	–	–	–	20/1	–	B	3.74	–	8	–	–	–		–	20
21	SPARE		–	–	–	–	20/1	–	A	1.76	25/2	10	10	10	3/4"	1	CU-3	22
23	SPARE		–	–	–	–	20/1	–	B	1.76	–	10	–	–	–		–	24
25	SPARE		–	–	–	–	20/1	–	A	5.00	60/2	6	6	10	1.25"		AHU-4	26
27	SPARE		–	–	–	–	20/1	–	B	5.00	–	6	–	–	–		–	28
29	SPARE		–	–	–	–	20/1	–	A	2.64	35/2	8	8	10	3/4"	1	CU-4	30
31	SPACE ONLY		–	–	–	–	–	–	B	2.64	–	8	–	–	–		–	32
33	SPACE ONLY		–	–	–	–	–	–	A	–	–	–	–	–	–		SPACE ONLY	34
35	SPACE ONLY		–	–	–	–	–	–	B	–	–	–	–	–	–		SPACE ONLY	36
37	SPACE ONLY		–	–	–	–	–	–	A	–	–	–	–	–	–		SPACE ONLY	38
39	PANEL 'C'	1	–	–	–	–	100/2	13.68	B	–	30/2	10	10	10	1/2"		SURGE PROTECTIVE DEVICE (SPD)	40
41	–		–	–	–	–	–	13.68	A	–	–	10	–	–	–		–	42

EQUIPMENT SERVED	CONN. LOAD	L.F.	D.F.	DEMAND LOAD
LIGHTING	1.40 KVA		125%	1.75 KVA
RECEPTACLES – GENERAL	1.12 KVA		100%	1.12 KVA
EQUIPMENT	34.96 KVA		100%	34.96 KVA
PANELS 'C'	27.36 KVA		100%	27.36 KVA

NOTES:
1) SPLIT A/C, CONDENSING UNIT NOT INCLUDED IN LOAD CALC
2) REFER TO RISER DIAGRAM FOR FEEDER REQUIREMENTS.

TOTAL DEMAND LOAD: 65.19 KVA
TOTAL DEMAND AMPS: 271.63 AMPS

EXISTING PANEL 'C'

LOCATION: KITTCHEN	VOLTAGE: 120/240V 1ø 3W	MIN. AIC RATING: EXISTING	NOTES: PROVIDE TYPED WRITTEN DIRECTORY PROVIDE GROUND & NEUTRAL BUS
TYPE: EXISTING	MAINS: 100A ☐ MLO ☒ MCB	MOUNTING: EXISTING	
FED FROM: PANEL E	LUGS: ☐ SUB-FEED ☐ FEED-THRU	ENCLOSURE: EXISTING	

CKT	CIRCUIT DESCRIPTION	NOTES	BRANCH CIRCUIT ø	NEUT	GND	COND	BKR	LOAD KVA	PHASE ø	LOAD KVA	BKR	BRANCH CIRCUIT ø	NEUT	GND	COND	NOTES	CIRCUIT DESCRIPTION	CKT
1	REC. IN WH CLOSET		EX	EX	EX	EX	20/2	0.80	A	1.50	50/2	EX	EX	EX	EX		DISHWASHER	2
3	–		EX	–	–	–	–	0.80	B	1.50	–	EX	–	–	–		–	4
5	KITCHEN FANS		EX	EX	EX	EX	20/1	0.30	A	0.36	20/1	EX	EX	EX	EX		EAST DH REC	6
7	AREA POLE		EX	EX	EX	EX	30/2	0.50	B	0.36	20/1	EX	EX	EX	EX		SOUTH DH REC	8
9	–		EX	–	–	–	–	0.50	A	–	–	–	–	–	–		SPARE	10
11	STORAGE CLOSET		EX	EX	EX	EX	20/1	0.36	B	–	–	–	–	–	–		SPARE	12
13	SPACE ONLY		–	–	–	–	–	–	A	0.54	20/1	EX	EX	EX	EX		EAST WALL REC	14
15	NORTH HOOD FAN		EX	EX	EX	EX	20/1	0.50	B	0.54	20/1	EX	EX	EX	EX		KITCHEN REC	16
17	ICE MACHINE		EX	EX	EX	EX	30/2	1.00	A	1.00	50/2	EX	EX	EX	EX		WALK-IN COOLER	18
19	–		EX	–	–	–	–	1.00	B	1.00	–	EX	–	–	–		WALK-IN COOLER	20
21	SPARE		EX	EX	EX	EX	20/1	–	A	0.72	20/1	EX	EX	EX	EX		DH WALL REC	22
23	HC BATH		EX	EX	EX	EX	20/1	0.54	B	0.50	20/1	EX	EX	EX	EX		COOLER LIGHTS	24
25	SPARE		–	–	–	–	20/1	–	A	0.50	20/1	EX	EX	EX	EX		KITCHEN LIGHTS	26
27	SPARE		–	–	–	–	20/1	–	B	–	20/1	–	–	–	–		SPARE	28
29	ADA GFCI		EX	EX	EX	EX	20/1	0.54	A	0.50	20/1	EX	EX	EX	EX		EXIT & HOOD LIGHTS	30
31	EXISTING EQUIPMENT		EX	EX	EX	EX	50/2	2.00	B	0.80	20/1	EX	EX	EX	EX		HEATER	32
33	–		EX	–	–	–	–	2.00	A	0.30	20/1	EX	EX	EX	EX		PORCH LIGHTS	34
35	EXISTING EQUIPMENT		EX	EX	EX	EX	50/2	2.00	B	0.50	20/1	EX	EX	EX	EX		EXIT & KITCHEN LIGHTS	36
37	–		EX	–	–	–	–	2.00	A	0.30	20/1	EX	EX	EX	EX		EXIT & SW OUTSIDE LIGHT	38
39	SPARE		–	–	–	–	20/1	–	B	0.50	20/1	EX	EX	EX	EX		KITCHEN LIGHTS	40

EQUIPMENT SERVED	CONN. LOAD	L.F.	D.F.	DEMAND LOAD
LIGHTING	4.40 KVA		125%	5.50 KVA
RECEPTACLES – GENERAL	3.96 KVA		100%	3.96 KVA
EQUIPMENT	17.90 KVA		100%	17.90 KVA

NOTES:
–

TOTAL DEMAND LOAD: 27.36 KVA
TOTAL DEMAND AMPS: 114.00 AMPS

LIGHTING FIXTURE SCHEDULE

MARK	DESCRIPTION	MANUFACTURER	MODEL	VOLTS	LAMP QTY	LAMP WATTS	LAMP MODEL	FIXTURE WATTS
A	1'X4' LED WRAPAROUND FIXTURE WITH BAKED WHITE FINISH, FROSTED ACRYLIC LENS, DAMP LOCATED RATED	PHILLIPS	FSW-4-30L-835-UNV-DIM	120	1	31	LED	31
B	7" ROUND LED SLIM SURFACE MOUNTED FIXTURE ALUMINUM FINISH, UL LISTED, ENERGY STAR CERTIFIED, DAMP LOCATION RATED	PHILLIPS	S7R835K10AL	120	–	14.4	LED	14.4
BAF	60" INTERIOR CEILING FAN	BAF	MK-I61-05-18-06-A728-I24	120	1	36	LED	36

NOTES:
1. DIVISION 16 CONTRACTOR SHALL VERIFY ALL FIXTURE TYPES AND FINISHES WITH OWNER PRIOR TO ORDERING.

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O'LENO STATE PARK
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JLC24.0022.00

BLAKE L. SUDDETH
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STATE OF FLORIDA
PROFESSIONAL ENGINEER

Blake L Suddeth

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SCHEDULES
ELECTRICAL

E4.01

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Donnelly Project #23061

ELECTRICAL SPECIFICATIONS

I. GENERAL REQUIREMENTS:

A. DO ALL WORK IN COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE FLORIDA BUILDING CODE (FBC–2023), NFPA 70 (NEC–2020) AND NFPA 101 (LIFE SAFETY CODE–2024), AND THE REGULATIONS OF THE LOCAL UTILITY TELEPHONE, CABLE TELEVISION AND POWER UTILITY COMPANIES. OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE, AND DELIVER SUCH CERTIFICATES TO THE ENGINEER.

B. THE CONTRACTOR SHALL FURNISH, PERFORM, OR OTHERWISE PROVIDE ALL LABOR (INCLUDING, BUT NOT LIMITED TO, ALL PLANNING, PURCHASING, PAINTING, TRANSPORTING, RIGGING, HOISTING, STORING, INSTALLING, TESTING, CHASING, CHANNELING, CUTTING, TRENCHING, EXCAVATING AND BACKFILLING), COORDINATION, FIELD VERIFICATION, EQUIPMENT INSTALLATION, SUPPORT, AND SAFETY, SUPPLIES, AND MATERIALS NECESSARY FOR THE CORRECT INSTALLATION OF COMPLETE AND FUNCTIONAL ELECTRICAL SYSTEMS (AS DESCRIBED OR IMPLIED BY THESE SPECIFICATIONS AND THE APPLICABLE DRAWINGS).

C. ALL DRAWINGS AND SPECIFICATIONS ON THE PROJECT ARE COMPLEMENTARY, EACH TO ALL OTHER SETS, AND THEY SHALL BE USED IN COMBINATION FOR THE EXECUTION OF THIS WORK. DIVISION 16 WORK SHOWN ON ANY ONE SET OF DRAWINGS, INCLUDING ALL ARCHITECTURAL DRAWINGS, MECHANICAL, PLUMBING AND FIRE PROTECTION DRAWINGS FOR GENERAL WORK AND EQUIPMENT, AND DIVISION 16 WORK CALLED FOR UNDER ANY SECTION OF THE PROJECT SPECIFICATIONS, SHALL BE CONSIDERED AS INCLUDED IN THIS WORK UNLESS SPECIFICALLY EXCLUDED BY INCLUSION IN SOME OTHER BRANCH OF THE WORK. THIS SHALL INCLUDE ROUGHING–IN FOR CONNECTIONS AND EQUIPMENT AS CALLED FOR OR INFERRED. THE CONTRACTOR SHALL CHECK ALL DRAWINGS AND SPECIFICATIONS FOR THE PROJECT AND SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ALL DIVISION 16 WORK.

D. THE CONTRACTOR SHALL CAREFULLY CHECK THE DRAWINGS AND SPECIFICATIONS OF ALL OTHER TRADES AND DIVISIONS BEFORE INSTALLING ANY OF HIS WORK. HE SHALL IN ALL CASES CONSIDER THE WORK OF ALL OTHER TRADES, AND SHALL COORDINATE HIS WORK WITH THEM SO THAT THE BEST ARRANGEMENTS OF ALL EQUIPMENT, PIPING, CONDUIT, DUCTS, ROUGH–IN, ETC., CAN BE OBTAINED.

E. LOCATIONS DESIGNATED FOR OUTLETS, SWITCHES, DEVICES, EQUIPMENT, ETC., ARE APPROXIMATE AND FINAL LOCATIONS SHALL BE VERIFIED IN THE FIELD. CONTRACTOR SHALL LOCATE ALL DEVICES UP TO 5 FEET IN ANY DIRECTION AS DIRECTED BY OWNER AND PER CODE. WHERE INSTRUCTIONS OR NOTES ARE INSUFFICIENT TO CONVEY THE INTENT OF THE DESIGN, CONSULT THE OWNER PRIOR TO BIDDING AND INSTALLATION.

F. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND COORDINATING THE LOCATIONS OF DEVICES TO BE USED AND COORDINATING THE FINAL LOCATIONS OF ELECTRICAL EQUIPMENT WITH MILLWORK, SINKS, BENCHES, COUNTERS AND SHELVING PRIOR TO BIDDING AND INSTALLATION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER.

G. DIVISION 16 CONTRACTOR SHALL HAVE HAD EXPERIENCE OF AT LEAST THE SAME SIZE AND SCOPE AS THIS PROJECT, ON AT LEAST TWO OTHER PROJECTS WITHIN THE LAST FIVE YEARS IN ORDER TO BE QUALIFIED TO BID THIS PROJECT.

H. CONTRACTOR SHALL AND DOES HEREBY WARRANT ALL MATERIALS AND EQUIPMENT FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS TO BE FREE FROM DEFECTS AND TO FUNCTION OR OPERATE SATISFACTORILY FOR ONE YEAR AFTER FINAL ACCEPTANCE OF THE WORK, AND THAT ANY ITEMS NOT MEETING THIS REQUIREMENT WILL BE MADE GOOD BY HIM WITHOUT COST TO OWNER, PROVIDED SUCH DEFECTS OR FAILURES ARE NOT DUE TO ABUSE, NEGLECT, OR LACK OF REASONABLE AND ORDINARY MAINTENANCE.

I. ALL WORK SHALL BE EXECUTED IN A WORKMANSHIP MANNER DISPLAYING A NEAT MECHANICAL APPEARANCE UPON COMPLETION.

J. BALANCE TOTAL PHASE LOADS IN EACH ELECTRICAL PANEL TO A VALUE WITHIN 10% OF EACH OTHER.

K. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION, WHEREVER WORK IS TO BE PERFORMED IN FINISHED/OCCUPIED SPACES, TO PREVENT DAMAGE TO ADJACENT AREAS, EQUIPMENT, OR FURNISHINGS; TO PREVENT ACCIDENTAL INJURY TO BUILDING OCCUPANTS AND THE PUBLIC; TO PREVENT THE SPREADING OF DUST, DIRT, DEBRIS, AND MOISTURE FROM THE AREA WHERE WORK IS BEING PERFORMED; AND TO PREVENT DUST, DIRT, DEBRIS, AND MOISTURE FROM GETTING ON OR IN THE BUILDING OCCUPANT'S FURNISHINGS OR EQUIPMENT.

L. THE CONTRACTOR SHALL REPAIR, AT NO COST TO THE OWNER, ANY DAMAGE DONE BY HIMSELF OR HIS EMPLOYEES. HE SHALL ALSO BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED TO PROPERLY INSTALL HIS WORK. THIS SHALL ALSO INCLUDE THE PATCHING OF EXISTING ROADWAYS (PAVED OR IMPROVED), PARKING AREAS, SIDEWALKS, WALLS, STAIRS, MECHANICAL WORK, CURBS, GUTTERS, ETC., CUT TO INSTALL WORK PROVIDED BY THE CONTRACTOR. PATCH WORK SHALL COMPLY WITH THE APPLICABLE SECTIONS OF THESE SPECIFICATIONS AND SHALL MATCH THE EXISTING FINISHES.

M. UPON COMPLETION OF WORK, THE ENTIRE WIRING SYSTEM SHALL BE TESTED, AND SHALL BE SHOWN TO BE IN PROPER WORKING CONDITION IN ACCORDANCE WITH INTENT OF SPECIFICATIONS AND DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE ALL SYSTEMS READY FOR OPERATION AND TO HAVE AN ELECTRICIAN AVAILABLE TO OPERATE SAME IN ACCORDANCE WITH AND UNDER THE SUPERVISION OF THE INSPECTION REPRESENTATIVE OF THE ENGINEER. THE CONTRACTOR SHALL BE AVAILABLE TO ASSIST IN REMOVAL OF PANEL FRONTS, ETC., TO PERMIT INSPECTION AS REQUIRED.

N. IN ACCORDANCE WITH DIVISION 1 AND THE CONDITIONS OF THE CONTRACT, THE CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE RECORD SET OF CONSTRUCTION "AS–BUILTS" BLUELINE PRINTS WHICH SHALL BE CORRECTED DAILY, AND SHALL SHOW EVERY CHANGE FROM THE ORIGINAL CONTRACT DRAWINGS, INCLUDING ADDENDA AND CHANGE ORDERS IN ACCORDANCE WITH GENERAL REQUIREMENTS AND SPECIAL CONDITIONS. THIS SET OF PRINTS SHALL BE KEPT ON THE JOB SITE, AND SHALL BE USED ONLY AS A RECORD SET. THIS SHALL NOT BE CONSTRUED AS AUTHORIZATION FOR THE CONTRACTORS TO MAKE CHANGES IN THE LAYOUT WITHOUT DEFINITE INSTRUCTION IN EACH CASE.

II. ELECTRICAL SCOPE:

A. FURNISHING AND INSTALLATION OF POWER SYSTEMS, AND AUXILIARY SYSTEMS AS SHOWN OR HEREIN SPECIFIED.

B. CONNECTION OF ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTION, MENTIONED IN THIS DIVISION OR SHOWN ON DRAWINGS, WHETHER FURNISHED BY DIVISION 16 OR UNDER OTHER DIVISIONS, OR FURNISHED BY OWNER.

C. FURNISHING AND INSTALLATION OF OUTLET BOXES, CONDUIT RACEWAYS, FOR A TELEPHONE AND DATA RACEWAY DISTRIBUTION SYSTEM. (TELEPHONE AND DATA HARDWARE, AS WELL AS WIRING AND SOFTWARE IS NOT INCLUDED.)

D. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR CONTACTING THE OFFICES OF ALL LOCAL AND/OR STATE AUTHORITIES HAVING JURISDICTION OVER THIS PROJECT IN ORDER TO SCHEDULE ALL REQUIRED INSPECTIONS AND OBTAIN ALL NECESSARY PERMITS, ETC. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ALL SCHEDULED INSPECTIONS AT LEAST TWO WEEKS IN ADVANCE OF THE SCHEDULED DATE.

E. THE CONTRACTOR SHALL REPLACE ANY DEFECTIVE MATERIALS, EQUIPMENT, OR WORKMANSHIP WITHOUT COST TO THE OWNER WITHIN THE STIPULATED GUARANTEED PERIOD.

F. IT SHALL BE THE RESPONSIBILITY OF THE DIVISION 16 CONTRACTOR TO HAVE ALL SYSTEMS READY FOR OPERATION AND TO HAVE AN ELECTRICIAN AVAILABLE FOR ALL INSPECTIONS. THE CONTRACTOR SHALL PROVIDE PERSONNEL TO ASSIST IN REMOVAL OF PANEL FRONTS, ETC. TO PERMIT INSPECTION AS REQUIRED.

G. SUBMIT TO THE ARCHITECT/ENGINEER PROMPTLY AFTER AWARD OF CONTRACT AND PRIOR TO PURCHASING, SIX COPIES OF MANUFACTURER'S SHOP DRAWINGS IN ACCORDANCE WITH DIVISION 1, SECTION 01300 – SUBMITTALS FOR THE FOLLOWING ITEMS. ALL SHOP DRAWINGS OF A SPECIFIC ITEM OR SYSTEM SHALL BE MADE IN ONE SUBMITTAL AND WITHIN TEN DAYS AFTER AWARD OF CONTRACT.

1. PANELBOARDS
2. SUPPORTS
3. WIRING DEVICES
4. DISCONNECT SWITCHES
5. CONDUIT
6. WIRE

H. COMPLETED WIRING SYSTEMS SHALL BE FREE FROM SHORT CIRCUITS AND AFTER COMPLETION, PERFORM TESTS FOR INSULATION RESISTANCE IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. ALL WIRING SYSTEMS SHALL BE COMPLETELY AND TOTALLY "SAFED" DURING CONSTRUCTION. ONLY QUALIFIED PERSONNEL SHALL HANDLE ELECTRICAL SYSTEMS.

I. BEFORE ROUGH–IN OF CIRCUITRY OR CONNECTING TO EQUIPMENT, FURNISHED UNDER THIS DIVISION, ANY OTHER DIVISION, OR BY THE OWNER, THE CONTRACTOR SHALL VERIFY THE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF THE EQUIPMENT BEING FURNISHED AND FOR THAT SPECIFIED AND SHOWN ON THE DRAWINGS AND PROVIDE FOR PROPER ROUGH–IN AND CONNECTION.

J. THE ELECTRICAL CIRCUITS, COMPONENTS, AND CONTROLS FOR ALL EQUIPMENT ARE SELECTED AND SIZED, BASED ON THE EQUIPMENT SPECIFIED. IF SUBSTITUTIONS AND/OR EQUIVALENT EQUIPMENT ARE FURNISHED, IT SHALL BE THE RESPONSIBILITY OF ALL PARTIES CONCERNED, INVOLVED IN, AND FURNISHING THE SUBSTITUTE AND/OR EQUIVALENT EQUIPMENT TO VERIFY AND COMPARE THE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF THAT FURNISHED TO THAT SPECIFIED AND/OR SHOWN. IF GREATER CAPACITY OR MORE MATERIALS OR LABOR IS REQUIRED FOR THE ROUGH–IN, CIRCUITRY OR CONNECTIONS THAN FOR THE ITEM SPECIFIED AND PROVIDED FOR, THEN IT SHALL BE THE RESPONSIBILITY OF THE PARTIES INVOLVED IN PROVIDING THE SUBSTITUTE AND/OR EQUIVALENT ITEMS OF EQUIPMENT TO PROVIDE ALL COMPENSATION FOR ADDITIONAL CHARGES MADE FOR THE PROPER ROUGH–IN, CIRCUITRY AND CONNECTIONS FOR THE EQUIPMENT FURNISHED. NO ADDITIONAL CHARGES ABOVE THE BASE BID SHALL BE ALLOWED FOR SUCH REVISIONS.

K. EXCAVATION FOR UNDERGROUND ELECTRICAL STRUCTURES: CONFORM TO ELEVATIONS AND DIMENSIONS SHOWN WITHIN A TOLERANCE OF PLUS OR MINUS 0.10'; PLUS A SUFFICIENT DISTANCE TO PERMIT PLACING AND REMOVAL OF CONCRETE FORMWORK, INSTALLATION OF SERVICES, OTHER CONSTRUCTION, AND FOR INSPECTION.

L. TRENCHING: EXCAVATE TRENCHES FOR ELECTRICAL INSTALLATIONS AS FOLLOWS:

1. EXCAVATE TRENCHES TO THE UNIFORM WIDTH, SUFFICIENTLY WIDE TO PROVIDE AMPLE WORKING ROOM AND A MINIMUM OF 6" TO 9" CLEARANCE ON BOTH SIDES OF RACEWAYS AND EQUIPMENT.
2. EXCAVATE TRENCHES TO DEPTH INDICATED OR REQUIRED.
3. LIMIT THE LENGTH OF OPEN TRENCH TO THAT IN WHICH INSTALLATIONS CAN BE MADE AND THE TRENCH BACKFILLED WITHIN THE SAME DAY.
4. WHERE ROCK IS ENCOUNTERED, CARRY EXCAVATION BELOW REQUIRED ELEVATION AND BACKFILL WITH A LAYER OF CRUSHED STONE OR GRAVEL PRIOR TO INSTALLATION OF RACEWAYS AND EQUIPMENT. PROVIDE A MINIMUM OF 6" OF STONE OR GRAVEL CUSHION BETWEEN ROCK BEARING SURFACE AND ELECTRICAL INSTALLATIONS.

M. THE CONTRACTOR SHALL PROVIDE ALL INSERTS FOR THE SUPPORT OF DIVISION 16 EQUIPMENT TO BE PLACED IN CONCRETE OR THROUGH CONCRETE SLABS AS CONSTRUCTION PROGRESSES. HE SHALL PROVIDE ALL MISCELLANEOUS HANGING AND SUPPORTING HARDWARE. ALL ELECTRICAL WORK IS TO BE CONCEALED IN OR BUILT INTO GENERAL CONSTRUCTION SHALL BE PLACED AS CONSTRUCTION PROGRESSES. FAILURE OF THE CONTRACTOR TO COORDINATE WORK WITH OTHER TRADES AND THE PROJECT CONSTRUCTION PROGRESS SHALL MAKE HIM RESPONSIBLE FOR ALL COST OF CUTTING AND PATCHING, AS REQUIRED TO INSTALL WORK. NO STRUCTURAL MEMBER, MASONRY CONSTRUCTION OR FINISHED WORK SHALL BE CUT OR ALTERED WITHOUT PRIOR WRITTEN APPROVAL BY THE ARCHITECT/ENGINEER. CONTRACTOR SHALL FIRE RATE ALL PENETRATIONS THROUGH ALL FIRE RATED SLABS OR WALLS PER THE INTENDED RATING.

N. THE CONTRACTOR SHALL SUPPLY AND SET INTO PLACE ALL WALL SLEEVES FOR CONDUITS AND CEILING INSERTS FOR HANGERS IN AREAS OF NEW CONSTRUCTION AS BUILDING CONSTRUCTION PROGRESSES. INSTALL EQUIPMENT NOTED TO BE CONCEALED IN WALLS BEFORE WALLS ARE CONSTRUCTED IN ORDER THAT WALLS MAY BE CONSTRUCTED AROUND CONDUITS, ENCLOSURES, ETC.

O. METALLIC MATERIALS SHALL BE PROTECTED AGAINST CORROSION. EQUIPMENT ENCLOSURES SHALL BE GIVEN RUST–INHIBITING TREATMENT AND STANDARD FINISH BY MANUFACTURER. ALUMINUM SHALL NOT BE USED ON CONTACT WITH EARTH, AND, WHERE CONNECTED TO DISSIMILAR METAL, SHALL BE PROTECTED BY SUITABLE FITTINGS AND TREATMENT. ALL FERROUS METALS SUCH AS ANCHORS, BOLTS, BRACES, BOXES, BODIES, CLAMPS, FITTINGS, GUARDS, NUTS, PINS, RODS, SHIMS, THIMBLES, WASHERS, AND MISCELLANEOUS PARTS, NOT OF STAINLESS STEEL OR NONFERROUS MATERIALS, SHALL BE HOT–DIPPED GALVANIZED.

P. ALL CONDUITS STUBBED OUT FOR FUTURE USE SHALL HAVE A PULL WIRE INSTALLED, A PLASTIC CAP INSTALLED AND BE IDENTIFIED AS TO THE CONDUIT ORIGIN.

Q. THE RESPONSIBILITY FOR ANY CUTTING OF CONSTRUCTION WHICH IS REQUIRED FOR THE INSTALLATION OF DIVISION 16 WORK, SHALL BE BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES AND THE OWNER BEFORE ANY CUTTING AND OBTAIN APPROVAL FROM THE ARCHITECT/ENGINEER PRIOR TO ANY CUTTING. ALL PATCHING AND FINISHING SHALL BE BY THE CONTRACTOR.

R. WHERE OPENINGS OR HOLES ARE CUT IN CONSTRUCTION AND THE CUTTING BREAKS ELECTRICAL CIRCUITRY OR CONTROL CIRCUITRY CONDUIT AND WIRING, THEN IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REROUTE THE CIRCUITRY CONDUIT AND REWIRING AND TO COMPLETE THE CIRCUITRY AS REQUIRED AND AS APPROVED BY THE ARCHITECT/ENGINEER. TEMPORARY COMPLETION SHALL BE PROVIDED WHERE NECESSARY BEFORE THE PERMANENT REROUTING AND COMPLETION WORK IS FINISHED.

S. ANY PENETRATIONS OF FIRE OR SMOKE RATED ASSEMBLIES MADE BY THIS CONTRACTOR IN VERTICAL OR HORIZONTAL CONSTRUCTION SHALL BE SEALED AND PROTECTED BY THIS CONTRACTOR IN ORDER TO MAINTAIN THE ESTABLISHED FIRE RATING WITH METHODS AS APPROVED BY THE AUTHORITY HAVING JURISDICTION.

III. IDENTIFICATION:

A. IDENTIFICATION NAMEPLATES SHALL BE LAMINATED PLASTIC, SECURED TO EQUIPMENT WITH TWO SCREWS.

B. EACH PANELBOARD AND SWITCHBOARD SHALL BE EQUIPPED WITH A PERMANENT PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERS, SECURELY FASTENED TO THE DEVICE.

C. EACH INDIVIDUALLY MOUNTED CIRCUIT BREAKER, SWITCH, TRANSFER SWITCH, MOTOR STARTER, LIGHTING CONTACTOR, TRANSFORMER AND/OR ANY OTHER CONTROL OR PROTECTIVE DEVICE INCLUDING EQUIPMENT DISCONNECT SWITCHES SHALL BE EQUIPPED WITH A PERMANENT PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERS.

D. PANELBOARDS SHALL HAVE TYPEWRITTEN DIRECTORIES. ALL CIRCUITS TO BE IDENTIFIED BY DEVICES SERVED AND ROOM NUMBERS (I.E., LIGHTING ROOM 216). HANDWRITTEN DIRECTORIES WILL NOT BE ALLOWED.

E. EACH JUNCTION BOX CABINET OR WIREWAY LARGER THAN 6" X 6" SHALL BE EQUIPPED WITH A PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERS INDICATING THE SYSTEM ENCLOSED.

F. ALL SYSTEMS JUNCTION BOXES AND CONDUIT SHALL BE COLOR CODED INSIDE AND OUTSIDE OF THE BOX PRIOR TO THE INSTALLATION OF CONDUCTORS PER THE FOLLOWING:

1. CCTV SYSTEM: GREEN
2. TELEPHONE DATA SYSTEM: BLUE
3. FIRE ALARM SYSTEM: RED

G. ENTIRE BOX INSIDE AND OUT, INCLUDING COVER, SHALL BE PAINTED PRIOR TO INSTALLING CONDUCTORS.

IV. WIRING DEVICES:

A. SWITCHES AND RECEPTACLES IN LOBBIES, CORRIDORS OR COMMERCIAL SPACES, UNFINISHED AND MECHANICAL SPACES SHALL BE 20 AMP COMMERCIAL GRADE 125 VAC. GRAY IN COLOR WITH STAINLESS STEEL COVERPLATES.

B. WEATHERPROOF RECEPTACLES SHALL BE GFCI TYPES WITH GASKETED STAINLESS STEEL KEY LOCKABLE FLIP COVER TYPE COVERPLATES. SURGE SUPPRESSION TYPE OUTLETS IN MDFS AND IDFS SHALL BE HUBBELL #83625 (BLUE) OR EQUAL.

C. RECEPTACLES PROVIDED FOR ATTACHMENT OF CORD AND PLUG EQUIPMENT SHALL BE HEAVY DUTY, SPECIFICATION GRADE, NON–INTERCHANGEABLE, FLUSH MOUNTED TYPES OF THE PROPER NEMA CONFIGURATION TO SERVE THE EQUIPMENT. NEMA CONFIGURATIONS SHALL BE VERIFIED PRIOR TO INSTALLATION OF CIRCUIT CONDUCTORS. CONTRACTOR TO PROVIDE ALL CONNECTION, WIRING, PIGTAILS FOR DISHWASHERS, COOKING RANGES, OVENS AND GARBAGE DISPOSALS.

D. ALL DEVICES SHALL HAVE PROPER PLATES, CARPET FLANGES, TRIMS, RINGS, ESCUTCHEONS, ETC., AS MANUFACTURED BY SAME MANUFACTURER AS DEVICES. ANY TELEPHONE OR OTHER OUTLET WHICH IS NOT EQUIPPED WITH A PLATE FURNISHED BY OTHERS SHALL HAVE ONE PROVIDED BY THIS CONTRACTOR. DEVICE PLATES SHALL BE COLOR AND TYPE AS SHOWN BELOW.

1. FINISHED SPACES DECORA LINE:
   a. COORDINATE EXACT COLOR WITH OWNER/ARCHITECT.
2. UNFINISHED OR INDUSTRIAL OR COMMERCIAL TYPE SPACES:
   a. GRAY DEVICES
   b. STAINLESS STEEL OR STAMPED GALVANIZED STEEL ON SURFACE MOUNTED BOXES
   c. STAINLESS STEEL PLATES ON FLUSH MOUNTED BOXES

F. MOUNTING HEIGHTS ARE APPROXIMATE. THE EXACT LOCATIONS AND MOUNTING HEIGHTS SHALL BE DETERMINED ON THE JOB AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL TRADES TO INSURE CORRECT INSTALLATION, I.E., OVER COUNTERS IN OR ABOVE BACK–SPLASHES, IN BLOCK WALLS, TILE, AND OTHER SPECIFIC CONSTRUCTION FEATURES. LOCATION OF OUTLETS MOUNTED IN BUILT–INS, MILLWORK, AND CABINETRY SHALL BE VERIFIED. OUTLETS MOUNTED IN KICK OR TOE SPACES SHALL BE MOUNTED HORIZONTALLY. OUTLET BOXES SHALL BE MOUNTED TO PREVENT DEVICE PLATE FROM OVERLAPPING BACKSPLASH, TRIM, TILE, ETC. LOCATE SO DEVICE PLATE WILL LAY FLAT AGAINST SURFACE COMPLETELY AROUND THE PERIMETER OF PLATE.

G. OUTLETS, OTHER THAN THOSE COORDINATED WITH COUNTER TOPS, SHELVES, AND CABINETS, SHALL BE LOCATED WITH THE CENTER LINE OF OUTLET BOXES THE FOLLOWING DISTANCE ABOVE THE FINISHED FLOOR, UNLESS OTHERWISE INDICATED:

1. RECEPTACLES, GENERAL: 1'–6" AFF
2. TELEPHONE OUTLETS: 1'–6" AFF
3. SWITCHES, GENERAL: 4'–0" AFF

V. RACEWAYS

A. SHALL BE GALVANIZED OUTSIDE AND INSIDE BY HOT DIPPING. E.M.T. SHALL BE ELECTRO–GALVANIZED. CONDUITS SHALL BE AS MANUFACTURED BY REPUBLIC, PITTSBURGH STANDARD, WHEATLAND, TRIANGLE, ALLIED, OR YOUNGSTOWN.

B. SHALL BE STANDARD THREADED TYPE, GALVANIZED OUTSIDE AND INSIDE BY HOT DIPPING. THREADLESS AND CLAMP TYPE NOT ACCEPTABLE. SHALL BE AS MANUFACTURED BY RACO, EFCOR, OR APPLETON.

C. SHALL BE STEEL THREADED COMPRESSION TYPE. ALL COUPLINGS AND CONNECTORS SHALL BE EFCOR OR RACO. PRESSURE INDENTED TYPE CONNECTORS OR CAST METAL WILL NOT BE APPROVED FOR ANY LOCATION.

D. CONNECTORS SHALL HAVE PLASTIC INSULATED THROAT INSERTS.

E. THE USE OF METAL CLAD CABLE IS ACCEPTABLE IN LOCATIONS AS ACCEPTED BY THE NEC AND ALL LOCAL JURISDICTIONAL CODES.

F. STEEL METAL CLAD CABLE, TYPE MC, EMPLOYING CIRCUIT CONDUCTORS #12 SOLID TO #2 AWG, SOLID OR STRANDED COPPER WITH THHN INSULATION, AN INSULATED GREEN GROUNDING CONDUCTOR AND GALVANIZED STEEL INTERLOCKED ARMOR CLADDING. THE CABLES SHALL BE SUITABLE FOR USE IN DRY LOCATIONS AT TEMPERATURES NOT EXCEEDING 90° C ON AD CIRCUITS UP TO 600 VOLTS IN ACCORDANCE WITH N.E.C., ARTICLE 330. THE CABLE SHALL BE ONE AND TWO HOUR FIRE RATED PER ANSI/UL 1479 FOR USE IN WALL, CEILING AND FLOOR ASSEMBLIES.

G. FLEXIBLE METALLIC CONDUIT RACEWAYS MAY BE USED TO CONNECT HVAC UNITS LOCATED IN INTERIOR MECHANICAL AREAS. MINIMUM SIZE 3/4".

H. CONDUIT SHALL BE SIZED IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE EXCEPT THAT NO CONDUIT SHALL BE SMALLER THAN 3/4" UNLESS OTHERWISE NOTED. CONDUIT SHALL BE SIZED LARGER THAN REQUIRED ABOVE WHEN SO SHOWN ON THE DRAWINGS OR WHEN REQUIRED BY LOCAL CODE.

I. ANY CONDUIT STUBBED OUT FOR FUTURE SHALL BE CAPPED WITH A PLASTIC CAP AND MARKED WITH A 2" MINIMUM RED METAL TAG WHICH IDENTIFIES CONDUIT ORIGIN. CONDUITS STUBBED UP ABOVE GRADE OR ROOF SHALL BE TAGGED ON THE CONDUIT. CONDUIT STUBBED OUT BELOW GRADE SHALL BE TAGGED ON NEAREST BUILDING WALL, CURB, ETC., DIRECTLY OVER THE CONDUIT RUN. ALL EMPTY CONDUITS SHALL HAVE PULL WIRES.

VI. SCHEDULE 40 RIGID PVC:

A. CONDUIT SHALL BE COMPOSED OF POLYVINYLCHLORIDE AND SHALL BE UL RATED TYPE 40 FOR USE WITH 90EC RATED CONDUCTORS. CONDUIT SHALL CONFORM TO NEMA STANDARDS AND APPLICABLE SECTIONS OF NEC.

B. INSTALLATION OF RIGID NON–METALLIC CONDUIT SHALL COMPLY WITH ARTICLE 352 OF THE NATIONAL ELECTRICAL CODE (NFPA 70) AND THESE SPECIFICATIONS.

C. PROVIDE A CONTINUOUS, INSULATED, GROUNDING CONDUCTOR IN EVERY RIGID, NON–METALLIC RACEWAY EVEN IF NOT SHOWN ON THE DRAWINGS. THE GROUNDING CONDUCTOR SHALL BE CONNECTED TO GROUND AT EACH END OF THE RACEWAY IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE (NFPA 70).

D. WHERE RIGID NON–METALLIC CONDUIT TRANSITIONS TO METALLIC CONDUIT, THE LOCATION OF THE TRANSITION SHALL BE UNDERGROUND.

E. NO PVC CONDUIT SHALL BE RUN EXPOSED, OR ABOVE GRADE.

VII. WIRE AND CABLE 600 VOLT:

A. CONDUCTORS SHALL HAVE CURRENT CARRYING CAPACITIES AS PER NEC AND WITH 600 VOLT INSULATION, #12 AVERAGE MINIMUM FOR 20 AMP CIRCUITS AND #14 FOR 15 AMP CIRCUITS EXCEPT FOR CONTROLS, AND FIXTURE WIRE. CONDUCTORS SHALL BE COPPER.

B. #12 AND #10 SHALL BE SOLID, TYPE THW/THWN INSULATION.

C. #8 AND LARGER, AND ANY SIZE TO MOTORS SHALL BE STRANDED TYPE THW.

D. SHALL BE MADE WITH T & B STA–KON WIRE JOINTS, PT SERIES, COMPLETE WITH INSULATING CAPS AND INSTALLED WITH WT161 TOOL OR WT2000 TOOL, IDEAL SUPER–NUTS (NOT WIRE NUTS), IDEAL WING NUTS, OR BUCHANAN ELEC. PRODUCTS B CAP OR SERIES 2000 PRES–SURE CONNECTORS COMPLETE WITH NYLON SNAP–ON INSULATORS AND INSTALLED WITH C24 PRESSURE TOOL.

E. ALL JOINTS AND SPLICES IN WIRE SHALL BE MADE WITH APPROVED SOLDERLESS CONNECTORS, AND COVERED SO THAT INSULATION IS OWNER APPROVED EQUAL TO CONDUCTOR INSULATION. SPLICES SHALL NOT BE PERMITTED IN CONTROL, SECURITY, FIRE ALARM, TELEVISION OR COMMUNICATIONS SYSTEMS, OR WHERE OTHERWISE NOTED. SPLICING OF WIRE OR CABLES WILL NOT BE ALLOWED BELOW GRADE, INCLUDING IN BOXES BELOW GRADE.

F. BOTH CONDUCTORS AND CONDUITS SHALL BE CONTINUOUS FROM OUTLET TO OUTLET.

G. IN INSTALLING THE MAIN ELECTRICAL SERVICE, ADDITIONAL SLACK CONDUCTORS SHALL BE PROVIDED AND TERMINATED AS REQUIRED BY ELECTRIC UTILITY FOR CONNECTION TO THEIR EQUIPMENT. FIELD COORDINATE WITH UTILITY PRIOR TO INSTALLING CONDUCTORS.

H. IN INSTALLING PARALLEL CONDUCTORS IT IS MANDATORY THAT ALL CONDUCTORS MAKING UP THE FEEDER BE EXACTLY THE SAME LENGTH, THE SAME SIZE AND THE SAME TYPE OF CONDUCTOR WITH THE SAME INSULATION. FURTHER, EACH GROUP OF CONDUCTORS MAKING UP A PHASE OR NEUTRAL MUST BE BONDED AT BOTH ENDS IN AN APPROVED MANNER.

I. CONDUCTOR SIZES INDICATED ON CIRCUIT HOMERUNS OR IN PANELBOARD SCHEDULES SHALL BE INSTALLED OVER THE ENTIRE LENGTH OF THE CIRCUIT UNLESS NOTED OTHERWISE ON THE DRAWINGS.

J. CONDUCTORS SHALL BE CONTINUOUS AND UNSPLICED WHERE INSTALLED IN CONDUIT. SPLICES SHALL OCCUR ONLY WITHIN WIRING TROUGHS, WIREWAYS, JUNCTION BOXES, OUTLET BOXES, OR EQUIPMENT ENCLOSURES WHERE SUFFICIENT ADDITIONAL ROOM IS PROVIDED FOR ALL SPLICES.

K. EACH BRANCH CIRCUIT AND FEEDER CONDUCTOR SHALL BE COLOR CODED. FOR CONDUCTOR SIZES THRU NO. 6 AWG, THE INSULATION SHALL BE OF THE COLOR AS INDICATED BELOW. COLOR CODE SHALL BE STRICTLY ADHERED TO. FOR CONDUCTOR SIZES NO. 4 AWG AND LARGER, COLOR CODED PHASE TAPE MAY BE APPLIED COMPLETELY AROUND THE CONDUCTOR INSULATION WITHIN 8" OF EACH END OF THE CONDUCTOR AND IN EACH PULL OR JUNCTION BOX OR WHENEVER CONDUCTORS ARE PHYSICALLY EXPOSED TO VIEW. GROUNDING CONDUCTORS AND GROUNDED CONDUCTORS SHALL HAVE INSULATION COLOR AS INDICATED FOR SIZES THROUGH #6 AWG.
120/208 V, 3PHASE,4W

PHASE A, COLOR: BLACK
PHASE B, COLOR: RED
PHASE C, COLOR: BLUE
NEUTRAL, COLOR: WHITE
GROUND, COLOR: GREEN

VIII. GROUNDING:

A. THIS SECTION DEALS WITH THE GROUNDING OF SERVICE EQUIPMENT, TRANSFORMERS, NON–CURRENT CARRYING CONDUCTIVE SURFACES OF EQUIPMENT, METAL BUILDING, STRUCTURES AND OTHER EQUIPMENT.

B. ALL GROUNDING CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL LOCAL CODES AND REQUIREMENTS. SUCH CODES SHALL BE CONSIDERED MINIMUM REQUIREMENTS AND THE INSTALLATION OF THE GROUNDING SYSTEM SHALL INSURE FREEDOM FROM DANGEROUS SHOCK EXPOSURE AND SHALL PROVIDE A LOW IMPEDANCE GROUND FAULT PATH TO PERMIT OPERATION OF OVERCURRENT AND GROUND FAULT PROTECTIVE DEVICES.

C. ALL SERVICE AND EQUIPMENT GROUNDING CONDUCTORS, AND BONDING JUMPERS SHALL BE INSULATED COPPER, TYPE THHN, THWN, OR THW CONDUCTORS (UNLESS NOTED OTHERWISE) AND SHALL BE SIZED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF ARTICLES 250 AND 517 OF THE NATIONAL ELECTRICAL CODE. GROUNDING CONDUCTORS #6 AWG AND SMALLER SHALL HAVE A GREEN COLOR INSULATION. ALL GROUNDING CONDUCTORS #4 AWG AND LARGER SHALL BE ADEQUATELY IDENTIFIED WITH A GREEN TRACER AND/OR GREEN COLORED TAPE AT EACH END OF THE GROUNDING CONDUCTOR AND AT EACH PULLBOX OR OTHER ACCESSIBLE LOCATION.

D. THE MAIN SERVICE GROUNDING ELECTRODE SYSTEM SHALL CONSIST OF THE FOLLOWING ITEMS BONDED TOGETHER BY THE GROUNDING ELECTRODE CONDUCTORS IN AC