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**A. SCOPE OF WORK**

1. FURNISH ALL LABOR AND MATERIAL TO COMPLETE ALL ELECTRICAL WORK SHOWN ON THE DRAWINGS
2. THE LISTING OF ARTICLE OR MATERIAL, OPERATION OR METHOD, REQUIRES THAT THE CONTRACTOR SHALL PROVIDE AND INSTALL, UNLESS NOTED TO BE SUPPLIED BY OTHERS. EACH ITEM LISTED OF QUALITY OR SUBJECT TO QUALIFICATION NOTED. EACH OPERATION SHALL BE PERFORMED ACCORDING TO STANDARD PRACTICE. MANUFACTURER'S INSTRUCTIONS AND CONDITIONS STATED, PROVIDED, THEREFORE, ALL NECESSARY LABOR, EQUIPMENT AND MATERIALS.
3. THE ELECTRICAL CONTRACTOR SHALL SCHEDULE HIS WORK TO CONFORM TO THE PROGRESS OF THE OTHER TRADES AND CONTRACTORS EMPLOYED ON THIS PROJECT. THE PRINCIPAL ITEMS OF WORK INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
  - A. PROVIDE ELECTRICAL SERVICE INCLUDING CONDUITS, CABLES, TERMINATIONS, METERS, EQUIPMENT, ETC. IN ACCORDANCE WITH UTILITY REQUIREMENTS AND DRAWINGS
  - B. PROVIDE LIGHTING FIXTURE AS SHOWN ON DRAWINGS. THIS SHALL INCLUDE ALL ASSOCIATED LAMPS, BOXES, SWITCHES, CONTRACTORS, AND BRANCH CIRCUIT WIRING AND MATERIALS REQUIRED FOR A COMPLETE INSTALLATION.
  - C. PROVIDE DEVICES (RECEPTACLES, SWITCHES, ETC.) AS SHOWN ON DRAWINGS. THIS SHALL INCLUDE ALL ASSOCIATED BRANCH CIRCUIT WIRING AND MATERIAL REQUIRED FOR A COMPLETE INSTALLATION.
  - D. POWER FEEDERS TO HVAC EQUIPMENT INCLUDING RTUS, EXHAUST FANS, INCLUDING DISCONNECT SWITCHES, CONTROL DEVICES, STARTERS FOR MOTORS NOT PROVIDED BY OTHERS. CONSULT HVAC CONTRACTOR FOR PHASE AND VOLTAGE OF EQUIPMENT AND ACTUAL HANGER PLACEMENTS FOR FEEDER MINIMUM CONDUCTOR AWG/TYPE (MCA) AND MAXIMUM OVERCURRENT PROTECTION DEVICES (MOCPD) INFORMATION PRIOR TO INSTALLATION AND PRIOR TO PURCHASING ELECTRICAL EQUIPMENT.
  - E. PROVIDE POWER DISTRIBUTION EQUIPMENT (PANELBOARDS, DISCONNECT SWITCHES, CONTRACTORS, MOTOR STARTERS, ENCLOSED CIRCUIT BREAKERS, ETC.) AS SHOWN ON DRAWINGS OR AS REQUIRED FOR THIS PROJECT. THIS SHALL INCLUDE ALL WIRING AND ASSOCIATED MATERIAL REQUIRED FOR A COMPLETE INSTALLATION.
  - F. PROVIDE FIRE ALARM SYSTEM ONLY IF REQUIRED BY FIRE MARSHALL OR LOCAL CODES. (E.G. MUST VERIFY REQUIREMENTS PRIOR TO BIDDING)
  - G. PROVIDE TESTING OF ALL ELECTRICAL EQUIPMENT.
  - H. PROVIDE TIMERS, PHOTOCELLS, AND CONTRACTORS FOR CONTROL OF EXTERIOR LIGHTING AND HVAC EQUIPMENT.
  - I. PROVIDE BACKBOXES, PULLSTATIONS, AND CONDUIT TO ABOVE ACCESSIBLE CEILING FOR ALL VOICE AND COMMUNICATIONS CABLES.
  - J. PROVIDE CONDUIT, JUNCTION BOXES, IB VOLT FEEDERS, BACKBOXES, ETC. AS REQUIRED FOR SECURITY SYSTEM CAMERAS, ELECTRICAL DOOR STRIKES, ALARMS, REQUEST TO EXIT, MOTION SENSORS, CARD READERS, KEYPADS AND MAIN SECURITY PANEL AS PER DRAWINGS OR AS DIRECTED BY OWNER OR ARCHITECT. VERIFY EXTENT OF WORK PRIOR TO SUBMITTING BIDS.
  - K. PROVIDE EMERGENCY LIGHTING, BATTERY UNITS, REMOTE HEADS, EXIT LIGHTS AND ALL ASSOCIATED WIRING, CONDUIT, JUNCTION BOXES, CONNECTIONS, ETC. AS REQUIRED FOR A COMPLETE INSTALLATION.

**A. INSTALLATION**

1. THIS CONTRACTOR SHALL VISIT THE JOB SITE TO DETERMINE PRESENT CONDITIONS AND VERIFY EXACT LOCATION OF EQUIPMENT AND LOCAL REGULATIONS PRIOR TO SUBMITTING BID.
2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF EXISTING WALLS, CEILING AND FLOOR SLABS NECESSARY FOR THE COMPLETION OF HIS WORK.
3. UNLESS SPECIFICALLY NOTED OTHERWISE, ALL WORK AND MATERIAL SHOWN SHALL BE REPERFORMED, FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
4. THE COMPLETE INSTALLATION SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE NATIONAL, STATE AND CITY CODES, RULES, REGULATIONS AND ORDINANCE. ALSO HAVE APPLICATION FOR AN NO PAY ALL FEES IN CONNECTION WITH ANY PERMITS, TESTS AND INSPECTIONS THAT MAY BE REQUIRED.
5. GUARANTEE ALL WORKMANSHIP, MATERIAL AND PERFORMANCE FOR PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE.
6. THE EXACT MOUNTING LOCATIONS OF APPARATUS, DEVICES, EQUIPMENT AND CONDUITS SHALL BE ASCERTAINED FROM OWNER OR THEIR REPRESENTATIVE IN THE FIELD, AND THE WORK SHALL BE LAID OUT ACCORDINGLY. SHOULD THE CONTRACTOR FAIL TO ASCERTAIN SUCH LOCATIONS, THE WORK SHALL BE CHANGED AT HIS OWN EXPENSE WHEN SO ORDERED BY OWNER. THE OWNER RESERVES THE RIGHT TO MAKE MINOR CHANGES IN THE LOCATION OF CABLE, CONDUIT AND EQUIPMENT INSTALLED BY THIS CONTRACTOR UP TO THE TIME OF INSTALLATION, WITHOUT ADDITIONAL COST.
7. ALL CONDUCTORS SHALL BE COPPER, THIN IN SECTION UNLESS OTHERWISE NOTED. ALL WIRING SHALL BE IN ENCLOSED MCA CABLE OR CONCEALED IN FINISHED AREAS. ALL CONDUITS SHALL BE PHYSICAL DAMAGE, RUN ENTIRE IN FINISHED CEILING AREAS.
8. RUN ALL CONDUIT CONCEALED IN BLOCK WALLS AND DEVICES IN BRICK WALLS TO THE EXTENT POSSIBLE AND PRACTICAL.

**B. DRAWINGS AND SPECIFICATIONS**

1. ELECTRICAL DRAWINGS ARE DIAGRAMS AND ARE INTENDED TO SHOW THE APPROPRIATE LOCATIONS OF EQUIPMENT AND WIRING. DIMENSIONS GIVEN ON THE PLANS SHALL BE VERIFIED IN THE FIELD. DRAWINGS MAY BE SCALED TO OBTAIN EXACT DIMENSIONS.
2. THE EXACT LOCATION OF APPARATUS, FIXTURES, EQUIPMENT AND CONDUITS SHALL BE ASCERTAINED FROM THE OWNER OR HIS REPRESENTATIVE IN THE FIELD, AND THE WORK SHALL BE LAID OUT ACCORDINGLY. SHOULD THE CONTRACTOR FAIL TO ASCERTAIN SUCH LOCATIONS, THE WORK SHALL BE CHANGED AT HIS OWN EXPENSE WHEN SO ORDERED BY THE OWNER.
3. THE CONTRACTOR SHALL FURNISH SUCH LABOR AND MATERIALS AS SPECIFIED AND AS REQUIRED TO COMPLETE ALL ELECTRICAL CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT AND OWNER'S EQUIPMENT AS SHOWN AND/OR SPECIFIED.

**D. VISITING TO THE SITE**

1. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING HIS WORK, AND THE SUBMISSION OF HIS PROPOSAL SHALL BE CONSIDERED AS INDICATING SUCH KNOWLEDGE. NO ADDITIONAL PAYMENT WILL BE MADE ON CLAIMS THAT ARISE FROM LACK OF SUCH KNOWLEDGE OF EXISTING CONDITIONS.

**E. MATERIALS AND WORKMANSHIP**

1. ALL WORK SHALL BE INSTALLED IN PRACTICAL AND WORKMANLIKE MANNER BY COMPETENT WORKMEN SKILLED IN THEIR BRANCH OF THE TRADE.
2. UNLESS SPECIFICALLY SPECIFIED OR INDICATED ON THE DRAWINGS TO THE CONTRARY, ALL MATERIALS SHALL BE NEW AND FREE FROM DEFECTS, AND SHALL BE THE BEST OF THEIR SEVERAL KINDS.
3. ALL MATERIALS SHALL MEET OR EXCEED STANDARDS SPECIFIED BY UL, NEMA, ANSI AND IEEE WHEREVER SUCH STANDARDS HAVE BEEN ESTABLISHED.
4. THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND EXCESS MATERIALS ASSOCIATED WITH HIS WORK AND LEAVE THE WORK AREA CLEAN AT THE END OF EACH WORK DAY.
5. ALL ELECTRICAL EQUIPMENT AND MATERIAL SHALL BEAR THE UNDERWRITER'S LABORATORIES LABEL.

**F. DEFINITIONS**

1. "INSTALL" SHALL MEAN TO PLACE, FIX IN POSITION, SECURE, ANCHOR, ETC., INCLUDING NECESSARY APPURTENANCES AND LABOR SO THAT THE EQUIPMENT OR INSTALLATION WILL FUNCTION AS SPECIFIED AND INTENDED.
2. "FURNISH" SHALL MEAN TO PURCHASE AND SUPPLY EQUIPMENT OR COMPONENTS.
3. "PROVIDE" SHALL MEAN TO "FURNISH AND INSTALL".
4. "OR APPROVED EQUIVALENT" AND "OR EQUIVALENT" SHALL MEAN EQUIVALENT IN TYPE, DESIGN, QUALITY, ETC. AS DETERMINED BY THE OWNER AND APPROVED BY THE ENGINEER.

**G. CODES, PERMITS, AND INSPECTIONS**

1. INSTALL ALL WORK IN FULL ACCORDANCE WITH CODES, RULES, AND REGULATIONS OF MUNICIPAL, CITY, COUNTY, STATE AND PUBLIC UTILITY AND ALL OTHER AUTHORITIES HAVING JURISDICTION OVER THE PREMISES. THIS SHALL INCLUDE ALL DEPARTMENT OF INDUSTRIAL RELATIONS, OSHA AND THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODES, AS INTERPRETED BY THE LOCAL INSPECTION DIVISION. ALL THESE CODES, RULES AND REGULATIONS ARE HEREBY INCORPORATED INTO THIS SPECIFICATION.
2. CONPLY WITH SPECIFICATION REQUIREMENTS WHICH ARE IN EXCESS OF CODE REQUIREMENTS AND NOT IN CONFLICT WITH SAME.
3. THE CONTRACTOR SHALL SECURE ALL PERMITS AND CERTIFICATED OR INSPECTION INCIDENTAL TO HIS WORK, REQUIRED BY THE FOREGOING AUTHORITIES. ALL SUCH CERTIFICATES SHALL BE DELIVERED TO THE OWNER IN DUPLICATE, BEFORE FINAL PAYMENT ON CONTRACT WILL BE ALLOWED. THE CONTRACTOR SHALL PAY ALL FEES, CHARGES AND OTHER EXPENSES IN CONNECTION THEREWITH.

**H. LABELING AND NAMEPLATES**

1. PERMANENTLY LABEL PANELBOARDS, TIME SWITCHES, CONTRACTORS AND SAFETY SWITCHES INDICATING EQUIPMENT OR PANELS AND AREAS WHICH THEY SERVE. LABEL ALL PULL AND JUNCTION BOXES FOR SERVICE MECHANICAL EQUIPMENT.
2. LIGHTING AND AFFLIANCE PANELS SHALL BE LABELED AS SHOWN ON DRAWINGS.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL IDENTIFICATION FOR PULL OR JUNCTION BOXES FURNISHED BY HIM.
4. IDENTIFY AS TO USE ON FACE OF EQUIPMENT BY MEANS OF MINIMATED BLACK AND WHITE PRESIGNED LABELS WITH 1/2" LETTERS ENGRAVED THROUGH BLACK TO THE WHITE BACKGROUND.

**I. TESTS AND VOLTAGE RECORD**

1. ELECTRICAL CONTRACTOR SHALL TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS. WHEN THE INSULATION RESISTANCE TEST SHALL INDICATE THE POSSIBILITY OF FAULTY INSULATION, THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE ARCHITECT AND HE SHALL CALL OUT THE CONDUCTOR AS FAULTY, REPLACE SAME WITH NEW AND INSURE THAT THE FAULT IS ELIMINATED BY FURTHER TEST OF EACH FAULT.
2. RECORD FEEDER LOADS, CURRENTS AND LINE VOLTAGES MEASURED AT EACH PANELBOARD, ADDITIONAL PHASE LOAD CONNECTIONS TO FEEDER LOADS WITH LOG. PROVIDE THE OWNER WITH A COPY OF ALL LOAD AND VOLTAGE RECORDS.

**J. BRANCH CIRCUIT WIRING**

1. PROVIDE A SYSTEM OF PANELS, CONDUITS, FITTINGS, BOXES, SUPPORTS AND ALL OTHER MISCELLANEOUS MATERIALS REQUIRED FOR EQUIPMENT INDICATED ON PLANS, COMPLETE AND READY FOR OPERATION BY THE OWNER.
2. HOME RUNS FROM 20A OUTLETS 125 FT. OR OVER AT 277 VOLTS, OR 60 FT. OR OVER AT 120 VOLTS SHALL BE #10U WIRE.
3. ALL FIXTURE AND BRANCH CIRCUIT WIRING CONNECTIONS OR SPLICES SHALL BE MADE IN JUNCTION AND OUTLET BOXES WITH UL LISTED PRESSURE TIGHT CONNECTORS AND LISTED FOR 600 VOLTS (1000 VOLTS WHEN ENCLOSED IN FIXTURE). IDEAL INDUSTRIES WIRE NUTS AND/OR WIRE NUTS OR APPROVED EQUIVALENT MAY BE USED FOR JOINTS IN WIRE OF 10 GAUGE OR LESS.

**K. CONDUCTORS**

1. SIZES OF CONDUCTORS FOR FEEDERS ARE GIVEN ON THE DRAWINGS, AND NO WIRE SHALL BE SMALLER THAN #2 GAUGE SHALL BE USED FOR BRANCH LIGHTING OR POWER CIRCUITS. ALL WIRING SHALL HAVE THE UL LABEL AND BE OF 98% CONDUCTIVITY COPPER, ALUMINUM WIRE OR ALUMINUM CABLE IS NOT ACCEPTABLE UNLESS SPECIFICALLY SHOWN ON DRAWINGS.
2. THE GAUGE OF ALL WIRE SHALL BE IN ACCORDANCE WITH B & S STANDARD.
3. ALL WIRE AND CABLE FOR BRANCH LIGHTING OR SMALL POWER CIRCUITS SHALL HAVE "NEC" TYPE "THHN" 600 VOLT INSULATION.
4. WIRE AND CABLE ABOVE #6 GAUGE SHALL BE STRANDED TYPE "THHN" INSULATED 600 VOLTS.

**L. CONDUIT AND CABLES**

1. ALL CONDUIT SHALL BE RIGID, THREADED, METAL CONDUIT OR ELECTRICAL METALLIC TUBING (EMT) UNLESS OTHERWISE SPECIFICALLY STATED HEREIN.
2. CONDUIT AND EMT SHALL BE DELIVERED TO THE BUILDING IN 10 FOOT LENGTHS AND EACH LENGTH SHALL HAVE THE APPROVED UNDERWRITER'S LABORATORIES LABEL.
3. CONDUIT AND EMT SHALL BE RUN CONCEALED IN ALL FINISHED AREAS OF THE BUILDING AND MAY BE RUN EXPOSED IN UNFINISHED AREAS AT CEILING OF JOIST LEVEL. RUN CONCEALED IN BLOCK WALLS THE EXTENT THAT IS PRACTICAL.
4. EMT CONNECTORS AND COUPLERS SHALL BE RAIN TIGHT COMPRESSION TYPE (OR SET-SCREW WERE ACCEPTABLE TO OWNER AND LOCAL CODES) MADE OF STEEL AS MANUFACTURED BY THOMAS & BETTS, STEEL CITY OF APPLITION BRIDS AND OFFSETS SHALL BE MADE WITH A HOKEY OR POWER BENDER WITHOUT KINKING OR DESTROYING THE SMOOTH BORE OF THE CONDUIT. PARALLELED CONDUITS SHALL RUN STRAIGHT AND TRUE WITH OFFSETS UNIFORM AND SYMMETRICAL. CONDUIT TERMINALS AT BOXES AND CABINETS SHALL BE RIGIDLY SECURED WITH LOCKWITS AND BUSHINGS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE. INSULATED BUSHINGS SHALL BE USED ON ALL CONDUIT 1/4" TRADE SIZE AND LARGER.
5. CONDUIT SHALL BE SECURELY FASTENED IN PLACE AT NO MORE THAN 10 FT. CENTERS, AND HANGER SUPPORTS, OR FASTENINGS SHALL BE PROVIDED AT EACH CONDUIT ELBOW AND AT THE END OF EACH STRAIGHT RUN TERMINATING AT A BOX OR CABINET. CONDUIT SHALL NOT BE SUSPENDED FROM THE CEILING OR CEILING SUSPENSION PIPES.
6. HORIZONTAL AND VERTICAL CONDUIT RUNS SHALL BE SUPPORTED BY ONE-HOLE MALLEABLE STRAPS, OR THEIR APPROVED METAL DEVICE WITH SUITABLE BOLTS, OR BEAM CLAMPS FOR MOUNTING TO BUILDING STRUCTURE OR SPECIAL BRACKETS. CONDUIT SHALL BE SUPPORTED FROM STRUCTURAL STEEL OR JOIST AND INDEPENDENT OF OTHER FIXTURES. DO NOT SUPPORT CONDUIT FROM METAL ROOF DECK, OR ANY OTHER SUPPORT DEVICE OF OTHER TRADE.
7. NON-METALLIC SHEATHED CABLE (NMW) OR AC CABLE SHALL NOT BE USED. TYPE MC CABLE MAY BE USED ONLY WHEN CONCEALED IN FINISHED WALLS OR ABOVE CEILING AND WHEN NOT SUBJECT TO PHYSICAL DAMAGE UNLESS ITS USE IS NOT APPROVED ABBEY OWNER OR LOCAL CODES.
8. ONLY SHORT RUNS OF FLEXIBLE METAL CONDUIT NOT OVER 30" IN LENGTH SHALL BE USED FOR TERMINAL CONNECTIONS TO MOTORS AND OTHER VIBRATING EQUIPMENT, AND ALSO FOR ELECTRICAL EQUIPMENT WHERE IT IS NOT PRACTICAL TO MAKE FINAL CONNECTION WITH RIGID CONDUIT. FLEXIBLE CONDUIT EXPOSED TO WEATH SHALL BE "SEALTITE" OR EQUIVALENT.
9. CONDUIT SYSTEM SHALL CONFORM TO ALL THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.

**M. GROUNDING**

1. THIS CONTRACTOR SHALL PROVIDE, INSTALL AND CONNECT COMPLETE SYSTEM OF GROUNDING FOR ALL EQUIPMENT AND STRUCTURES. A GOOD SYSTEM OF GROUNDING SHALL BE PROVIDED FOR ALL ELECTRICAL SYSTEMS AND EQUIPMENT. GROUNDING SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL CODES AND REGULATIONS.
2. ELECTRICAL SYSTEMS AND EQUIPMENT SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL CODES AND REGULATIONS.
3. PANELS, CONDUIT SYSTEMS, MOTOR FRAMES, LIGHTING FIXTURES AND OTHER EQUIPMENT THAT ARE PART OF THIS INSTALLATION SHALL BE PROPERLY GROUNDING MECHANICALLY AND ELECTRICALLY IN ACCORDANCE WITH ALL CODES.
4. MAIN BONDING SYSTEM (WHEN APPLICABLE) SHALL BE SIZED TO CONFORM WITH TABLE 250-66 OF NATIONAL ELECTRICAL CODE. PROVIDED CONDUIT TO PROTECT GROUND WIRE FROM DAMAGE TO ANY AREA 6 FEET ABOVE FLOOR.

**N. LIGHTING/AFFLIANCE PANELBOARDS AND DISTRIBUTION PANELS**

1. DISTRIBUTION PANELS SHALL BE SQUARE "D" CO. TYPE "LINE" OR APPROVED EQUIVALENT G.E. SIEMENS, OR CUTLER HANMER.
2. 480/277V PANELS SHALL BE SQUARE "D" CO. TYPE "NF" OR APPROVED EQUIVALENT BY G.E., SIEMENS, OR CUTLER HANMER. BREAKERS SHALL BE BLACK TO BUS TYPE QUACK-MAKE. BREAK-BREAKERS, AND CAPABLE OF INTERCHANGING ONE TWO OR THREE POLE UNITS. MULTIPLE UNITS SHALL BE COMMON TRIP. PROVIDE SPARE BREAKERS IN EACH PANEL AS SHOWN. ALL BUSHING SHALL BE 98% CONDUCTIVITY COPPER, ALUMINUM BUS, ALUMINUM CONDUCTORS OR ALUMINUM LUGS ARE NOT ACCEPTABLE.
3. 208/120V PANELS SHALL BE SQUARE "D" CO. TYPE "NOOD" OR APPROVED EQUIVALENT BY G.E., SIEMENS, OR CUTLER HANMER WITH TYPE "GDB" BOLT-ON BRANCH BREAKERS ONLY.
4. SHORT CIRCUIT RATINGS OF NEW PANELS SHALL BE AS NOTED ON DRAWINGS, OR AS OTHERWISE DIRECTED BY LOCAL UTILITY COMPANY. UL TESTED AND CERTIFIED SERIES RATINGS ARE ACCEPTABLE WITH WRITTEN DOCUMENTATION SHOWING SERIES RATINGS BUT ONLY IF ACCEPTABLE TO OWNER OR LOCAL CODES.

**O. GENERAL FOR ALL PANELS**

1. METAL FRAMED CASH HOLDERS WITH TYPEWRITEN CIRCUIT DIRECTORY MUST BE PROVIDED FOR EACH PANEL. DIRECTORY SHALL BE CLEAR AND DESIGNATION SHALL MATCH IDENTIFICATION ON EQUIPMENT. PANELBOARDS (POWER PANELS AND LIGHTING PANELS) SHALL BE WITH IDENTIFICATION LABELS ON SWITCH AND/OR PANEL DOOR. PROVIDE ENGRAVED LAMINATED PHEOLIC NAMEPLATE WITH 1/2" LETTERS.
2. ALL PANELS SAFETY SWITCHES, STARTERS AND IN GENERAL, ALL EQUIPMENT REQUIRING LUGS SHALL BE EQUIPPED WITH SOLDENLESS TYPE UL APPROVED LUGS.
3. PROVIDE ALL NECESSARY (INSURIT, CHANNEL, BACKING AND SUPPORTS) TO MOUNT PANELBOARDS SECURELY IN PLACE.
4. SCREEN FASTENED HANDLE LOCK-ON DEVICES ARE REQUIRED ON CIRCUIT BREAKERS PROTECTING SERVICES TO THE FOLLOWING EQUIPMENT:
  - A. EMERGENCY, EXIT, SECURITY AND NIGHT LIGHTS.
  - B. HEATING AND COOLING CONTROL CIRCUITS.
  - C. ALL TIME SWITCHES.

**P. TOGGLE SWITCHES AND RECEPTACLES**

1. SINGLE POLE 120 AND THREEIN) MAY #232- SWITCHES SHALL BE RATED 20 AMPERE, 277/120 VOLTS, COLOR TO BE BID AS WHITE (FINAL SELECTION BY ARCHITECT) HUBBELL OR EQUIVALENT. SWITCHES SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR TO CENTERLINE.
2. DUPLEX RECEPTACLES SHALL BE AS SPECIFIED ON DRAWINGS.

**Q. DISCONNECT SWITCHES**

1. AN APPROVED HORSEPOWER RATED, HEAVY DUTY, DISCONNECT SWITCH SHALL BE PROVIDED WITHIN SIGHT OF EACH MOTOR AND EACH HEATING UNIT. PROVIDE FUSED SWITCHES WHERE BRANCH CIRCUIT FUSES ARE NOT SIZED FOR OVERLOAD PROTECTION.
2. SWITCHES ON THE ROOF SHALL BE WEATHERPROOF MOUNTED ON UNISTRUT.
3. SWITCHES SHALL BE LABELED ON THEIR COVER IDENTIFYING THE EQUIPMENT TO BE PROTECTED.

**R. MOTORS AND WIRING**

1. FURNISH AND INSTALL DISCONNECT SWITCHES (EXCEPT WHERE SPECIFICALLY SPECIFIED BY OTHERS) AND RUN POWER CIRCUITS FROM THE POWER PANEL THROUGH DISCONNECT SWITCHES & CONTROL DEVICES TO MOTOR TERMINALS.
2. PROVIDE ALL STARTERS, CONTROLS AND PUSH BUTTON STATIONS ETC. NOT SUPPLIED BY MECHANICAL OR OTHER CONTRACTORS REQUIRED FOR THE PROPER AND INTENDED OPERATION OF MOTORS AND OR MOTORIZED EQUIPMENT SUPPLIED BY OTHERS.
  - A. THE ABOVE ELECTRICAL EQUIPMENT SHALL BE MOUNTED SECURELY TO WALL OR FRAMES AND THE ELECTRICAL CONTRACTOR SHALL FURNISH ALL NECESSARY BRACKETS, STRUCTURAL PIECES, EXPANSION BOLTS AND OTHER ACCESSORIES REQUIRED.
  - B. WOODEN PLUGS SHALL NOT BE PERMITTED FOR ANCHORING.
  - C. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER LUBRICATION OF ALL MOTORS.
3. REFER ALSO TO MECHANICAL SPECIFICATIONS FOR WORK BY MECHANICAL CONTRACTOR WHICH MAY RESULT IN ADDITIONAL WORK FOR THIS ELECTRICAL CONTRACTOR.
4. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRING AND CONNECTIONS TO ALL HVAC EQUIPMENT.
5. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONTROL WIRING AND CONNECTIONS TO ALL HVAC EQUIPMENT PROVIDED BY OTHERS.
6. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONTROL EQUIPMENT (STARTERS, CONTROLS, ETC.) NOT SUPPLIED BY HVAC CONTRACTOR BUT REQUIRED FOR THE INTENDED OPERATION OF HVAC EQUIPMENT.
7. THE ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECT SWITCHES FOR ALL HVAC EQUIPMENT NOT SUPPLIED BY OTHERS.
8. REFER TO MECHANICAL SPECIFICATION AND DRAWINGS FOR ADDITIONAL ELECTRICAL WORK AND COORDINATION.

**S. FUSES**

1. REPLACE ALL FUSES BLOWN DURING CONSTRUCTION AND TESTING AND PROVIDE COMPLETE SET OF FUSES IN ALL FUSE HOLDERS, SWITCHES, PANELS AND ALL OTHER DEVICES REQUIRING FUSES.
2. FUSES SHALL BE CURRENT LISTING, DUAL ELEMENT THE DELAY TYPE PROVIDE OWNER WITH ONE SET OF SPARE FUSES FOR EACH FUSED SWITCH.

**T. GUARANTEE**

1. IN ADDITION TO WARRANTIES OF EQUIPMENT BY MANUFACTURER OF SAME, THIS CONTRACTOR SHALL ALSO GUARANTEE EQUIPMENT PROVIDED BY HIM AND SHALL BEHOLD FOR A PERIOD OF ONE (1) YEAR TO MAKE GOOD ANY DEFECTS IN MATERIALS AND WORKMANSHIP OCCURRING DURING THIS PERIOD, AT HIS SOLE EXPENSE. THE ONE (1) YEAR PERIOD SHALL START FROM DATE OF FINAL ACCEPTANCE BY OWNER.

**U. FIELD DRAWING**

1. KEEP ONE (1) SET OF WORKING DRAWINGS AND SHOP DRAWINGS AT THE JOB SITE FOR SOLE PURPOSE OF RECORDING ALL CHANGES MADE DURING CONSTRUCTION. AFTER COMPLETION OF THE WORK, AND BEFORE REQUESTING FINAL PAYMENT, THE ABOVE MENTIONED DRAWINGS SHALL BE DELIVERED TO THE OWNER.

**V. SUBSTITUTION**

1. WHENEVER ALTERNATE MATERIALS ARE SPECIFIED, IT IS WITH THE UNDERSTANDING THAT ANY ONE OF THE MATERIALS IS ACCEPTABLE TO THE OWNER. MATERIALS AND EQUIPMENT OTHER THAN THOSE SPECIFIED ARE NOT TO BE ASSIGNED TO BE SATISFACTORY SUBSTITUTES WITHOUT PRIOR APPROVAL OF THE OWNER.

**W. SHOP DRAWINGS**

1. ONLY MANDATORY SHOP DRAWINGS AS LIMITED OUTLINE HEREIN SHALL BE SUBMITTED.
2. NO WORK SHALL BE INSTALLED UNTIL THE MANDATORY SHOP DRAWINGS HAVE BEEN APPROVED BY THE ARCHITECT/ENGINEER. THE ARCHITECT/ENGINEER SHALL REVIEW SUBJECT SHOP DRAWINGS BEFORE A COPY IS SUBMITTED TO THE OWNER FOR RECORD PURPOSES.
3. ONLY MATERIAL AND EQUIPMENT MANUFACTURERS OF PRODUCTS OR SYSTEMS LISTED BELOW SHALL FURNISH MANDATORY SHOP DRAWINGS FOR APPROVAL BY THE ARCHITECT/ENGINEER PRIOR TO CONTRACTOR PURCHASING EQUIPMENT. SHOP DRAWINGS ARE TO CONTAIN THE FOLLOWING:
  - \* MANUFACTURER'S NAME, MATERIAL DESCRIPTION, SIZES AND DIMENSIONS AND OTHER PERTINENT INFORMATION TO CONFIRM AS MINIMUM STANDARD FOR EQUIPMENT LISTED IN THE SCHEDULES IN THE DRAWINGS AND OR IN THE SPECIFICATIONS.
4. SUBMIT A COPY OF SEVEN (7) COPIES OF ALL REQUIRED ELECTRICAL SHOP DRAWINGS.
5. THE FOLLOWING SHOP DRAWING SUBMITTALS ARE A MANDATORY REQUIREMENT OF THE OWNER, IF THE FOLLOWING EQUIPMENT IS TO BE INSTALLED:
  - \* STEP DOWN TRANSFORMERS (480-120/208V) WHEN APPLICABLE
  - \* WIRING DEVICES (INCLUDING WEATHERPROOF RECEPTACLES)
  - \* LIGHTING FIXTURES & EMERGENCY LIGHTING FIXTURES
  - \* DISCONNECT SWITCHES
  - \* POWER/LIGHTING PANELS
  - \* MOTOR STARTERS
  - \* FIRE ALARM DEVICES

**X. ALARM AND DETECTION SYSTEMS (BY VENDOR)**

1. PROVIDE NECESSARY CONDUIT AND POWER FOR ALARM AND DETECTION SYSTEMS. THIS SHALL INCLUDE THE FOLLOWING:
  - DEDICATED 20 AMP / 120 VOLT CIRCUIT (S).
  - 3/4" CONDUIT (EMT) TO EACH TO DOOR CONTACT, SOUND DETECTION SILENT DURESS ALARM, FILM CAMERA, SUBPIONIC BUTTON, ETC. (REFER TO ARCHITECTURAL DOOR SCHEDULE)
  - COORDINATE ALL LOCATIONS OF ALARM AND DETECTION SYSTEM WITH OWNER. THESE ITEMS ARE NOT SHOWN ON ELECTRICAL DRAWINGS.

**Y. COMMUNICATION SYSTEMS**

1. WORK INCLUDES: EMPTY CONDUIT WITH NYLON PULLWIRE AND BOXES FOR UTILITY TELEPHONE WIRING.
2. WORK BY COMMUNICATIONS CONTRACTOR:
  - ALL WIRING FOR TELEPHONE INSTRUMENTS
  - ALL TELEPHONE INSTRUMENTS

LENGTH	HOME RUN WIRE SIZE	CIRCUIT WIRE SIZE
1' TO 65'	12	12
66' TO 104'	10	12
105' TO 156'	8	12
157' TO 263'	6	12
264' TO 414'	4	12

HOME RUNS AND BRANCH WIRING FOR 120 VOLT 16 A-MF CIRCUITS SHALL BE AS FOLLOWS TO ACCOUNT FOR VOLTAGE DROP.

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ENGINEER	
ARCHITECTURAL SEAL	
DATE ISSUE	
19/06/19 PERMIT / OWNER	
DATE REVISION NAME	

**PROJECT NAME / LOCATION**  
 THE PROMENADE  
 3942 PROMENADE PARKWAY  
 D'IBERVILLE, MS 39540

**PROJECT INFORMATION**  
 DATE: APRIL 26, 2019  
 PROJECT NO.: 190219  
 DELIVERY TYPE: V-BOX

DRAWN: PB  
 CHECKED: TJ

SHEET TITLE / NUMBER  
 ELECTRICAL SPECIFICATIONS

**E4.0**