GENERAL NOTES & SPECIFICATIONS

BASIC ELECTRICAL REQUIREMENTS

A. GENERAL REQUIREMENTS

1. THIS CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE FURNISHED AND INSTALLED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK, AND WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE FURNISHED AND INSTALLED AS PART OF THE CONTRACT.
3. ALL WORK SHALL BE PERFORMED IN A NEAT PROFESSIONAL MANNER USING GOOD CONSTRUCTION PRACTICES.
4. UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.
5. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

B. CODES

1. ALL WORK SHALL CONFORM TO THE STATE'S, COUNTY'S, CITY'S AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NEC 2011, NFPA CODES, ENERGY CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. THIS CONTRACTOR SHALL INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS.

C. LICENSES, PERMITS, INSPECTIONS & FEES

1. THIS CONTRACTOR SHALL OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS, AND FEES REQUIRED OR RELATED TO HIS WORK.

D. RECORD DRAWINGS

1. THIS CONTRACTOR SHALL MAINTAIN ONE SET OF DRAWINGS ON THE JOB SITE UPDATED WEEKLY TO RECORD ALL DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS:
   a. LOCATION OF CONCEALED CONDUIT AND EQUIPMENT.
   b. REVISIONS, ADDENDUMS, AND CHANGE ORDERS.
   c. SIGNIFICANT DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTOR'S COORDINATION WITH OTHER TRADES.
2. AT COMPLETION OF THE PROJECT AND BEFORE FINAL APPROVAL, THIS CONTRACTOR SHALL MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON.

E. HANGERS

1. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, BANDS, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.
2. HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO PIPING. HANGING FROM METAL DECK IS NOT PERMITTED. HANGERS MUST BE ATTACHED TO UPPER CHORD OF BAR JOIST. WHERE INTERFERENCES OCCUR, AND IN ORDER TO SUPPORT DUCTWORK OR PIPING, THE CONTRACTOR MUST INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, AND OTHER EQUIPMENT.
3. HANGERS AND PIPING OF DISSIMILAR METALS SHALL BE DIELECTRICALLY SEPARATED.

BASIC ELECTRICAL MATERIAL AND METHODS

A. SCOPE OF WORK

1. THIS CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, AND FACILITIES NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING, INSTALLATION, COMPLETION AND TESTING OF ALL ELECTRICAL WORK AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   a. A COMPLETE ELECTRICAL DISTRIBUTION SYSTEM INCLUDING THE INSTALLATION OF ELECTRICAL PANELBOARDS, CUSTOMER METERING, RECEPTACLES, WIRING, LIGHTING FIXTURES, LIGHT SWITCHES, ELECTRICAL DEVICE FACE PLATES, AND ALL ASSOCIATED MOUNTING HARDWARE.
   b. BALANCING LOADS.
   c. AS-BUILTS, PANELBOARD DESCRIPTION AND CIRCUIT BREAKER SPECIFIC LABELING.

B. CONDUIT

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO, LIGHTING, RECEPTACLES, HEATING, AIR CONDITIONING, PLUMBING EQUIPMENT, TELEPHONE, DATA, SPEAKERS, SECURITY, AND ELECTRICAL EQUIPMENT.
2. ALL CONDUITS SHALL BE GALVANIZED IMC OR EMT UNLESS OTHERWISE SPECIFIED IN SPECIFICATIONS OR ON DRAWINGS. ALL CONDUIT IS TO BE UL LABELED. EMT CONNECTORS SHALL BE STEEL COMPRESSION OR SET SCREW TYPE. CONDUIT UNDER SLAB ON GRADE SHALL BE RIGID STEEL, OR SCHEDULE 40 PVC WITH RIGID STEEL ELLS WHERE PERMITTED BY CODE.
3. MINIMUM SIZE OF CONDUIT SHALL BE:
   a. MAIN FEEDER CONDUIT 2" OR LARGER FOR ALL APPLICATIONS.
   b. 1/2" FOR INDIVIDUAL LIGHTING FIXTURE CONNECTIONS OR TO INDIVIDUAL LIGHT SWITCHES (IF ACCEPTABLE BY THE LANDLORD AND LOCAL CODE OFFICIALS) AND 3/4" FOR ALL OTHER LOCATIONS.
   c. IF HVAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE A MINIMUM OF 3/4", UNLESS NOTED OTHERWISE ON DRAWINGS.
   d. ALL IN/UNDER FLOOR CONDUIT SHALL BE OF MINIMUM 3/4" SIZE.
4. SUPPORT ALL CONDUIT, INCLUDING SEISMIC AND SWAY BRACING, IN ACCORDANCE WITH THE NEC AND LOCAL CODES.
5. FLEXIBLE METAL CONDUIT OR MC TYPE CABLE:
   a. FLEXIBLE CONDUIT OR MC TYPE CABLE SHALL BE USED FOR THE FOLLOWING APPLICATIONS ONLY:
      1. FINAL CONNECTIONS TO MOTORS.
      2. FINAL CONNECTIONS INTO AND OUT OF THE TRANSFORMER.
      3. FINAL CONNECTIONS TO VIBRATING EQUIPMENT.
      4. INTER-CONNECTIONS BETWEEN ALL LIGHT FIXTURES AND HOMERUNS TO PANELS WHERE CODE ALLOWS.
      5. FINAL CONNECTIONS WHERE RIGID CONDUIT IN NOT PRACTICAL.
      6. IN WALLS (FOR LIGHT SWITCHES AND 120 VOLT POWER RECEPTACLES AND HVAC CONTROL EQUIPMENT).
   b. FLEXIBLE METAL CONDUIT OR MC TYPE CABLE MUST BE THE SAME SIZE AS THE IMC OR EMT CONDUIT TO WHICH IT IS CONNECTED. BOTH THE FLEXIBLE METAL CONDUIT AND IT'S FITTINGS ARE TO BE LISTED FOR GROUNDING. A GREEN GROUNDING CONDUCTOR SHALL BE INSTALLED. ALL CONNECTORS ARE TO BE OF A NEMA APPROVED TYPE.
   c. THE USE OF ROMEX, BX, ETC. IS NOT PERMITTED.
   d. CONNECTION TO ANY OUTDOOR EQUIPMENT MUST BE WEATHERPROOF.
6. PROVIDE PULL-WIRE IN ALL EMPTY CONDUITS EXCEPT AS NOTED OTHERWISE ON DRAWINGS.
7. HOME RUNS AND MAIN CONDUIT RUNS ARE TO BE HELD TIGHT TO STRUCTURE ABOVE OR AS REQUIRED TO ALLOW PROPER SERVICE ACCESS AND OTHER TRADES WORK. CONDUIT MUST BE TRAPEZED TO ALLOW 3 FEET MINIMUM CLEARANCE ABOVE CEILING.
8. ALL CONDUITS MUST BE SIZED PER NEC AND LOCAL CODES.

C. OUTLET BOXES

1. ALL OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL OF THE STANDARD KNOCKOUT TYPE. NO ROUND OUTLET BOXES SHALL BE PERMITTED UNLESS INDICATED AND FOR LIGHTING THAT REQUIRE SUCH CONFIGURATION. CONCEALED BOXES SHALL NOT BE LESS THAN 4" SQUARE AND 1 1/2" DEEP, WITH PLASTER RINGS.
2. ALL KNOCKOUT BOXES, UPON WHICH LIGHTING FIXTURES ARE TO BE INSTALLED, SHALL BE EQUIPPED WITH 3/8" FIXTURE STUDS.
3. EXTERIOR BOXES SHALL BE CAST RUST-RESISTING METAL WITH GASKETED COVERS.
4. INSTALL BOXES RIGIDLY FROM BUILDING STRUCTURE AND SUPPORT INDEPENDENTLY OF THE CONDUIT SYSTEM. ALSO PROVIDE SUITABLE BOX EXTENSIONS TO EXTEND BOXES TO FINISHED FACES OF FLOORS, CEILINGS, WALLS ETC. ALL OUTLET BOXES TO BE PROVIDED WITH CADDY "QUICK-MOUNT BOX SUPPORT" TO MINIMIZE THE DEFLECTION THAT OCCURS WHEN PLUGGING/UNPLUGGING INTO THESE DEVICES.
5. UNLESS OTHERWISE NOTED ON DRAWINGS OR OTHERWISE REQUIRED BY THE NATIONAL ELECTRICAL CODE, HANDICAP CODES OR LOCAL CODES, OUTLET HEIGHTS SHALL BE AS FOLLOWS:
   a. SWITCH HEIGHT 48" FROM FINISHED FLOOR TO CENTERLINE OF OUTLET.
   b. CONVENIENCE OUTLETS:
      NON-SALES: 18" FROM FINISHED FLOOR TO CENTERLINE OF OUTLET.
   c. TELEPHONE OUTLETS SHALL BE LOCATED AS NOTED ON DRAWINGS.

D. JUNCTION AND PULL BOXES

1. THE PLANS INDICATE ONLY SCHEMATIC ROUTINGS FOR CONDUIT RUNS. THIS CONTRACTOR SHALL FURNISH AND INSTALL ADDITIONAL BOXES WHERE REQUIRED BY FIELD CONDITIONS OR BY CODE.
2. BOXES AND COVERS SHALL BE GALVANIZED STEEL OF CODE GAUGE SIZE.
3. INSTALL BOXES RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURE AND SUPPORTED INDEPENDENT OF THE CONDUIT SYSTEM.
4. ARRANGE CIRCUITS TO AVOID THE USE OF JUNCTION BOXES IN INACCESSIBLE LOCATIONS. THE USE OF JUNCTION BOXES ABOVE DRYWALL CEILINGS SHOULD BE LIMITED TO LOCATIONS NEAR ACCESS FRAMES USED FOR DIFFUSERS AND RETURN AIR GRILLES OR ACCESS PANELS AS LOCATED ON PLANS.
5. JUNCTION AND PULL BOXES MUST BE LABELED WITH CIRCUIT NUMBER IDENTIFICATION AND SYSTEM TYPE ON COVER.

E. WIRING

1. CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SHALL BE COPPER AND THE AWG SIZE AND TYPE AS SHOWN ON DRAWINGS. MINIMUM WIRE SIZE #12. THE CONDUCTORS SHALL BE 600 VOLT INSULATION, TYPE THW, THWN OR THHN.
2. MINIMUM WIRE SIZE - 20 AMP BRANCH CIRCUIT SHALL BE AWG LISTED SIZE PER DISTANCE SHOWN BELOW. DISTANCE SHALL BE MEASURED FROM THE PANELBOARD CIRCUIT BREAKER TO THE FURTHEST OUTLET.
   a. #12 LESS THAN 100 FEET
   b. #10 BETWEEN 100-150 FEET
   c. #8 BETWEEN 150 - 250 FEET
   d. #6 OVER 250 FEET
3. ON ALL 20 AMP BRANCH CIRCUITS, CONDUCTORS LARGER THAN #10 AWG SHALL BE REDUCED TO #10 AWG WITHIN 10 FEET OF PANEL BOARD AND DEVICE IN JUNCTION BOXES ON RATED TERMINAL STRIPS.
4. CONDUCTORS MAY BE STRANDED FOR SIZES #10 AWG AND LARGER. CONDUCTORS SIZE #12 SHALL BE SOLID (NOT STRANDED).
5. ALUMINUM CONDUCTORS ARE NOT PERMITTED, EXCEPT AT SERVICE ENTRANCE, WHERE REQUIRED BY LANDLORD. CONDUCTOR CONNECTION MUST BE PER MANUFACTURER'S REQUIREMENTS. CONTRACTOR MUST OBTAIN WRITTEN PERMISSION FROM GENERAL CONTRACTOR AND PROJECT MANAGER WHEN USED.
6. ALL WIRING SHALL BE IN CONDUIT, UNLESS SPECIFICALLY NOTED OTHERWISE (IE. LOW VOLTAGE PLENUM RATED WIRE).
7. THE USE OF SHARED NEUTRALS IS REQUIRED FOR LIGHTING CIRCUITS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES. ALL OTHER EQUIPMENT REQUIRING A NEUTRAL CONDUCTOR SHALL HAVE A DEDICATED FULL SIZE NEUTRAL.
8. THE USE OF ROMEX, BX, ETC. IS NOT PERMITTED.
9. WIRE CONNECTORS SHALL BE EQUAL TO "SCOTCH LOCK" FOR #8 AWG WIRE AND SMALLER AND EQUAL TO T & B "LOCKTIGHT" FOR #6 AWG AND LARGER.
10. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:

120/208 VOLT SYSTEM	277/480 VOLT SYSTEM
NEUTRAL - WHITE	NEUTRAL - GRAY
PHASE A OR L1 - BLACK	PHASE A OR L1 - YELLOW
PHASE B OR L2 - RED	PHASE B OR L2 - ORANGE
PHASE C OR L3 - BLUE	PHASE C OR L3 - BROWN
GROUND - GREEN	GROUND - GREEN WITH YELLOW TRACER

F. WIRING DEVICES

1. THIS CONTRACTOR SHALL FURNISH AND INSTALL SWITCHES AND RECEPTACLES, UNLESS NOTED OTHERWISE, AS NECESSARY FOR A COMPLETE INSTALLATION. THE DEVICES SHALL BE OF THE TYPES AND RATINGS LISTED, OR EQUALS BY ARROW-HART, SQUARE D OR PASS & SEYMOUR. WEATHERPROOF GFI RECEPTACLES SHALL BE INSTALLED WHERE SHOWN ON DRAWINGS OR AS REQUIRED BY CODE.

   SINGLE POLE SWITCHES: 20AMP - 120-277V: HUBBELL "HBL1221"
   THREE WAY SWITCHES: 20AMP - 120-277V: HUBBELL "HBL1223"
   DUPLEX RECEPTACLES: 20AMP - 125V: HUBBELL "HBL5362"
   ISOLATED GROUND RECEPTACLES: 20AMP - 125V: HUBBELL "IG5362"
   GROUND FAULT INTERRUPTING RECEPTACLES: 20AMP - 125V: HUBBELL "GF5362".
2. ALL DEVICE COVERPLATES SHALL BE PASS AND SEYMOUR SERIES "RP" OR EQUAL BY EAGLE ELECTRIC MFG. CO.

G. GROUNDING

1. FURNISH AND INSTALL COMPLETE WIRED GROUNDING CONDUCTOR SYSTEM, #12 AWG MINIMUM, SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES, AS NOTED IN THE SPECIFICATIONS AND AS INDICATED ON THE DRAWINGS.
2. ALL CONDUIT, INCLUDING FLEXIBLE CONDUIT, SHALL BE GROUNDED WITH A GREEN GROUNDING CONDUCTOR.
3. GROUNDING CONNECTIONS MADE TO THE WATER PIPING SYSTEM SHALL BE COORDINATED WITH THE PLUMBING CONTRACTOR AND A BONDING JUMPER INSTALLED AROUND WATER METER PER CODE AND AS INDICATED ON DRAWINGS.
4. ALL DEVICES SHALL BE BONDED TO THE CONDUIT SYSTEM. USE A BONDING JUMPER BETWEEN THE OUTLET BOX AND THE DEVICE GROUNDING TERMINAL. METAL-TO-METAL CONTACT BETWEEN THE DEVICE YOKE AND THE OUTLET BOX IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES. ALL JUNCTION BOXES, OUTLET BOXES, AND PULL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM.

BASIC ELECTRICAL MATERIALS AND METHODS

5. RUN A SEPARATE ISOLATED GROUNDING CONDUCTOR, #12 AWG MINIMUM, IN EACH CONDUIT FEEDING THE CASH WRAP, THE SENSORMATIC AND OTHER COMPUTERIZED EQUIPMENT AS SHOWN ON DRAWINGS.
6. ALL ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE TO BE GROUNDED. CONDUIT SYSTEM IS TO BE ELECTRICALLY CONTINUOUS. ALL LOCKNUTS MUST CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES. WHERE ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE ISOLATED FROM THE CONDUIT SYSTEM, USE BONDING JUMPERS WITH APPROVED CLAMPS. ALL GROUND CLAMPS SHALL BE "PENN-UNION" OR EQUAL, SIMILAR TO "GPL" TYPE.

H. PANELBOARDS

1. ALL PANELBOARDS SHALL BE FACTORY ASSEMBLED OF THE BOLTED CIRCUIT BREAKER TYPE WITH SOLID COPPER BUSSING, FULL SIZED COPPER NEUTRAL, 100% GROUND BUSSING, AND OVERALL HINGED/LOCKABLE DOOR. ALL CIRCUIT BREAKERS SHALL BE OF THE QUICK-MAKE AND QUICK-BREAK DESIGN, THERMAL-MAGNETIC TYPE, TRIP FREE AND TRIP-INDICATING. ALL PANELS SHALL BE DEAD FRONT AND FLUSH OR SURFACE MOUNTED AS SHOWN.
2. CONTRACTOR SHALL FURNISH AND INSTALL A TYPEWRITTEN DIRECTORY CARD OF THE CIRCUITS AND PLACE IN PANEL DOOR. THE DIRECTORY SHALL IDENTIFY THE SPECIFIC ROOM LOCATION FOR EACH CIRCUIT.
3. ALL PANELBOARDS PHASE AMPERAGE SHALL BE BALANCED TO WITHIN 10 PERCENT MAX. TO MIN. REARRANGE NON-LIGHTING BRANCH CIRCUITS AS REQUIRED AND NOTE CHANGES ON RECORD DRAWINGS. LIGHTING PANEL CIRCUIT BREAKERS MUST BE INSTALLED AND WIRED EXACTLY AS SHOWN ON DRAWINGS.
4. IF LOOSE PANELBOARDS ARE USED, PANELBOARDS MUST BE MOUNTED ON MINIMUM 3/4" A/D PLYWOOD AND PAINTED IN A COLOR TO MATCH THE SURROUNDING WALLS OR A COLOR AS REQUIRED BY LOCAL CODE. PLYWOOD SHALL EXTEND 1 FOOT MINIMUM BEYOND EDGE OF EQUIPMENT.
5. UNLESS OTHERWISE NOTED, PANELBOARDS SHALL HAVE A MINIMUM SHORT CIRCUIT CURRENT RATING AND LUG CONNECTIONS AS FOLLOWS:

   120/208 VOLT PANELBOARDS: 10,000 A.I.C.
   277/480 VOLT PANELBOARDS: 14,000 A.I.C.
6. ALL LUG CONNECTIONS TO BE 75°C RATED.
7. ALL 120VAC, 1-PHASE, 15A AND 20A BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, BEDROOMS, PARLORS, LIBRARIES, DENS, SUN ROOMS, RECREATION ROOMS, CORRIDORS, CLOSETS OR SIMILAR ROOMS OR AREAS SHALL UTILIZE LISTED ARC-FAULT CIRCUIT INTERRUPTER CIRCUIT BREAKERS, COMBINATION TYPE, TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.

I. LIGHTING FIXTURES & LAMPS

1. THIS CONTRACTOR SHALL INSTALL ALL LIGHTING FIXTURES AND LAMPS AS SHOWN ON THE FIXTURE SCHEDULE. CONTRACTOR IS TO REPLACE ALL NON-WORKING LAMPS PRIOR TO MERCHANDISE DATE AND IS TO INCLUDE COST IN BID.
2. ALL RECESSED INCANDESCENT FIXTURES SHALL BE PROVIDED WITH APPLICABLE THERMAL PROTECTION.
3. WHERE FLUORESCENT FIXTURES ARE SPECIFIED, THEY SHALL BE PROVIDED WITH HIGH POWER FACTOR RAPID START BALLASTS, U.L. LISTED, C.B.M. CERTIFIED, AND E.T.L. APPROVED WITH EFFICIENCY FACTORS IN ACCORDANCE WITH "THE ENERGY POLICY ACT OF 1992" AND ITS AMENDMENTS AS A MINIMUM.
4. THIS CONTRACTOR SHALL FURNISH ADDITIONAL AUXILIARY SUPPORT STEEL HANGER WIRES ADEQUATELY SIZED TO SUPPORT THE WEIGHT OF THE FIXTURE FASTENED TO THE BUILDING STRUCTURE (MINIMUM TWO PER FIXTURE) FOR ALL FIXTURES IN LAY-IN CEILINGS AND OTHER FIXTURES AS REQUIRED BY THE LOCAL CODE OFFICIALS.
5. FURNISH AND INSTALL APPLICABLE FIRE RATED DRYWALL BOXES OVER RECESSED FIXTURES IN FIRE RATED CEILINGS AS REQUIRED BY CODES. FIELD COORDINATE AS REQUIRED TO AVOID CONFLICTS.

J. TESTING AND ADJUSTMENTS

1. ALL CONNECTIONS AT PANELS, LIGHTING CONTACTORS AND SWITCHES ARE TO BE MADE, ALL SPLICES COMPLETE, ALL FUSES IN PLACE, AND ALL CIRCUITS CONTINUOUS FROM POINT OF SERVICE CONNECTION TO ITS FINAL DESTINATION, AND ALL COVERS AND PLATES INSTALLED PRIOR TO THE TIME OF FINAL INSPECTION BY PROJECT MANAGER.
2. UPON COMPLETION OF THE WORK, ALL PARTS OF THE ELECTRICAL INSTALLATION SHALL BE TESTED AND PROVED FREE OF UNWANTED GROUNDS AND OTHER DEFECTS.
3. ALL OVERLOAD DEVICES, INCLUDING EQUIPMENT FURNISHED UNDER OTHER CONTRACTS, SHALL BE SET AND ADJUSTED TO SUIT THE LOAD CONDITIONS.
4. TEST AND MAKE CORRECTIONS/ADJUSTMENTS FOR PHASE BALANCING.

K. ELECTRICAL IDENTIFICATION

1. COMPLY WITH NFPA 70E:
   a. SELF-ADHESIVE WARNING LABELS: FACTORY PRINTED, MULTICOLOR, RESSURE-SENSITIVE ADHESIVE LABELS, CONFIGURED FOR DISPLAY ON FRONT COVER, DOOR, OR OTHER ACCESS TO EQUIPMENT, UNLESS OTHERWISE INDICATED.
   b. BAKED-ENAMEL WARNING SIGNS: PREPRINTED ALUMINUM SIGNS, PUNCHED OR DRILLED FOR FASTENERS, WITH COLORS, LEGEND, AND SIZE REQUIRED FOR APPLICATION. 1/4-INCH GROMMETS IN CORNERS FOR MOUNTING. NOMINAL SIZE, 7 BY 10 INCHES.
   c. METAL-BACKED, BUTYRATE WARNING SIGNS: WEATHER-RESISTANT, NONFADING, PREPRINTED, CELLULOSE-ACETATE BUTYRATE SIGNS WITH 0.0396-INCH GALVANIZED-STEEL BACKING; AND WITH COLORS, LEGEND, AND SIZE REQUIRED FOR APPLICATION. 1/4-INCH GROMMETS IN CORNERS FOR MOUNTING. NOMINAL SIZE, 10 BY 14 INCHES.
   d. WARNING LABEL AND SIGN SHALL INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING LEGENDS:
      1. WARNING: "ARC FLASH HAZARD - FAILURE TO COMPLY CAN RESULT IN DEATH OR INJURY"

LIGHTING FIXTURE SCHEDULE

L1	DESCRIPTION: NEW LED CEILING LIGHTING FIXTURE - SURFACE MTD MANUFACTURE: THOMAS LIGHTING MODEL: TD0003217 LAMP: (1) 22W LED MODULE VOLTAGE: 120VAC
L3	DESCRIPTION: NEW LED DOWNLIGHTING - RECESSED MTD MANUFACTURE: PHILIPS/LIGHTOLIER MODEL: 1001LED1SNS701 LAMP: (1) 30W LED MODULE VOLTAGE: 120VAC
L4	DESCRIPTION: NEW LED WALL LIGHTING FIXTURE MANUFACTURE: THOMAS LIGHTING MODEL: TT0006217 LAMP: (1) 34W LED MODULE VOLTAGE: 120VAC
L5	DESCRIPTION: NEW WALL MOUNTED LED LIGHTING FIXTURE MANUFACTURE: PHILIPS/DAY-BRITE MODEL: SF4C38A40ULAGOC (WITH SENSOR WHEN NOTED) LAMP: (1) 53W LED MODULE VOLTAGE: 120VAC
FL1	DESCRIPTION: NEW COMBINATION BATHROOM FAN & LIGHT MANUFACTURE: BROAN MODEL: 679 LAMP: (1) 100W INCANDESCENT (SV600) VOLTAGE: 120VAC
L2	DESCRIPTION: NEW LED CEILING LIGHTING FIXTURE - SURFACE MTD MANUFACTURE: PHILIPS FORECAST MODEL: FD0006836 LAMP: (1) 32W LED MODULE - DIMMABLE VOLTAGE: 120VAC
L6	DESCRIPTION: NEW JANITOR/IT CLOSET LIGHTING FIXTURE - SURFACE MTD MANUFACTURE: SOVEREIGN LIGHTING MANUFACTURING MODEL: CLOSET-LITE C24 LAMP: (1) 27W FLUORESCENT VOLTAGE: 120VAC
EXIT	EXISTING EXIT SIGN TO REMAIN
E2L	EXISTING EMERGENCY LIGHTING TO REMAIN

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AWG	AMERICAN WIRE GAUGE
C	CONDUIT, CORRIDOR
CT	CURRENT TRANSFORMER
EX	EXISTING
G,GND	GROUND
KW	KILOWATT
MSB	MAIN SWITCHBOARD
N.T.S.	NOT TO SCALE
OCPD	OVERCURRENT PROTECTIVE DEVICE
P	POLE(S)
PH	PHASE
PNL	PANEL
SE	SERVICE ENTRANCE
SW	SWITCH
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
V	VOLT
W	WATT
WP	WATERPROOF

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
GFI	DUPLEX CONVENIENCE RECEPTACLE - WALL MOUNTED - 120VAC/20A/1-POLE; GFI DENOTES GROUND FAULT INTERRUPTER
	POWER PANELBOARD
	NEW HOME RUN TO PANEL. 2#12, 1#12 GND IN 3/4"C UNLESS OTHERWISE NOTED
$	SINGLE SWITCH
$D	DIMMER SWITCH

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1 12/02/2014
REVISION DATE

DRAWING TITLE

ELECTRICAL GENERAL NOTES, SPECIFICATIONS, SYMBOLS, ABBREVIATIONS & LIGHTING FIXTURE SCHEDULE

DATE
11/12/2014
SCALE
AS NOTED
DRAWN
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CHECKED
JFG
DRAWING #

E-001

SHEET _____ of _____
DCA PROJECT # 9214-14