ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

1.01 COORDINATION OF TRADES: SCHEDULE AND COORDINATE WORK WITH THAT OF OTHER DIVISIONS AND SECTIONS.
1.02 GUARANTEE IN WRITING THE ELECTRICAL INSTALLATION, AND ALL WORK UNDER THIS SECTION, FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER AGAINST ALL EVIDENCE OF IMPERFECT WORKMANSHIP OR FAILURE OR MALFUNCTION OF MATERIALS.

PART 2 - PRODUCTS

2.01 MATERIALS AND EQUIPMENT
A. MATERIAL FURNISHED UNDER THIS CONTRACT, UNLESS OTHERWISE NOTED, SHALL BE NEW, FREE FROM DEFECTS AND SHALL CONFORM WITH THE STANDARDS OF UL.
- B. VOLTAGE, AMPERE, AND OTHER RATINGS OF EQUIPMENT SHALL BE SUITABLE FOR USE INTENDED. DISCONNECT SWITCHES SHALL BE PROPERLY HORSEPOWER RATED AND SUITABLE FOR VOLTAGE, AND AMPERE RATING OF LOAD
- C. THE DRAWINGS GENERALLY INDICATE THE RACEWAY SIZE, THE NUMBER, SIZE, AND INSULATION TYPE OF CONDUCTORS TO BE PROVIDED AND INSTALLED. WHERE THESE ITEMS DO NOT MEET MINIMUM APPLICABLE CODES, FOR EQUIPMENT BEING SERVED, COMPLY AS REQUIRED AT NO ADDITIONAL COST.

2.02 RACEWAYS
- A. GALVANIZED RIGID CONDUIT (GRC); INCLUDING ELBOWS AND COUPLINGS.
- B. INTERMEDIATE METAL CONDUIT (IMC); INCLUDING ELBOWS AND COUPLINGS.
- C. ELECTRIC METALLIC TUBING (EMT) WITH FITTINGS OF PRESSED STEEL OR MALLEABLE IRON, COMPRESSION TYPE (IN WET AREAS ONLY) WITH INSULATED THROATS.
- D. RIGID NON-METALLIC CONDUIT: (PVC) U.L. LABELED SCHEDULE 40 P.V.C.

2.03 DEVICE AND JUNCTION BOXES: INCLUDE PLASTER RINGS, COVERS, AND KO SEALS AS REQUIRED.
2.04 WIRE AND CABLE: UNLESS OTHERWISE NOTED, WIRE AND CABLE SHALL BE SOFT DRAWN, ANNEALED COPPER. WIRE SIZES NO. 8 AND LARGER AND CONDUCTORS SERVING MOTORS AND SUBJECT TO VIBRATIONS SHALL BE STRANDED CABLE. INSULATION TO BE THWN/THHN, JACKETED 90C INSULATED WIRE. PROVIDE WIRE COLOR IDENTIFICATION: NEUTRAL WIRE - WHITE, LIVE WIRE - BLACK, RED, BLUE ON 120/208 VOLT SYSTEMS; NEUTRAL WIRE - GRAY, LIVE WIRE - BROWN, ORANGE YELLOW ON 277/480 VOLT SYSTEMS; GROUND - GREEN.
2.05 ADDED PANELS TO BE PANELBOARDS - LOAD CENTERS ARE NOT ACCEPTABLE UNLESS SPECIFICALLY APPROVED.
2.06 **SERVICE ENTRANCE AND DISTRIBUTION GEAR BY G.E., SQUARE "D", CUTLER HAMMER OR SIEMENS ONLY. INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS ARE NOT ALLOWED**.
2.07 SWITCHBOARDS: COPPER BUSSING WITH FULL CAPACITY NEUTRAL.
2.08 NOT USED.
2.09 NOT USED.
2.10 NOT USED.
2.11 120/208 VOLT AND 277/480 VOLT PANELBOARDS: 3 PHASE, 4 WIRE, COPPER BUS, COMPOSED OF AN ASSEMBLY OF BOLT-IN-PLACE MOLDED CASE CIRCUIT BREAKERS WITH THERMAL AND MAGNETIC TRIP AND TRIP FREE POSITION SEPARATE FROM EITHER ON OR OFF POSITIONS.
2.12 NOT USED.
2.13 SAFETY SWITCHES: FUSED, HEAVY DUTY, HORSEPOWER RATED.
2.14 STARTERS, CONTACTORS AND CONTROL DEVICES: PROVIDE AS SHOWN AND AS REQUIRED BY CODE. FURNISH COMPLETE WITH PILOT LIGHTS, AUXILIARY CONTACTS, PUSH BUTTONS, HAND-OFF-ON SWITCHES, CONTROL DEVICES, AND OVERLOAD RELAYS. THERMAL OVERLOADS TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS. AMBIENTLY COMPENSATE ALL HEATERS EXPOSED TO HIGH TEMPERATURE OR INSTALLED OUTSIDE AS NEEDED.
2.15 NOT USED.
2.16 NAMEPLATES: PROVIDE BLACK LAMICOID NAMEPLATES WITH 3/16" HIGH WHITE ENGRAVED LETTERS ON PANELS, SWITCHBOARDS, MAINS AND SUBMAINS, DISTRIBUTION EQUIPMENT, REMOTE SAFETY SWITCHES, CIRCUIT BREAKERS, TIME SWITCHES, CONTACTORS, AND STARTERS.
2.17 WIRING DEVICES
- A. HUBBELL OR COMPARABLE LEVITON OR BRYANT: WHITE AND GRAY IN COLOR - AS NOTED ON DRAWINGS OR PER ARCHITECT. 15 AMP DEVICES ALLOWED ONLY WHEN SPECIFICALLY DENOTED ON ELECTRICAL CONSTRUCTION DRAWINGS.
- B. TOGGLE SWITCHES: SINGLE POLE - HUBBELL 1221- 20A, 120/277V, THREE WAY - HUBBELL 1223- 20A, 120/277V, FOUR WAY - HUBBELL 1224- 20A, 120/277V.
- C. RECEPTACLES: DUPLEX GROUNDING TYPE, SPECIFICATION GRADE, 125 VOLT, 20 AMPERES, SINGLE PHASE, HUBBELL NO. 5262 OR COMPARABLE.
- D. GROUND FAULT INTERRUPTER TYPE RECEPTACLE: DUPLEX GROUNDING TYPE, SPECIFICATION GRADE, 125 VOLT, 20 AMPERES, SINGLE PHASE, 5 mA GROUND TRIP, FEED THROUGH CONSTRUCTION.

2.18 DEVICE PLATES: LEXAN (STA-KLEEN), SMOOTH FINISH IN STAINLESS STEEL - AS NOTED ON PLANS. MULTI-GANG OUTLET PLATES SHALL BE USED FOR MULTI-GANG BOXES.
2.19 NOT USED.
2.20 LIGHTING FIXTURES
- A. ALL INTERIOR/BUILDING MOUNTED LIGHTING TO BE PROVIDED BY PANDA EXPRESS AND INSTALLED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.
- B. ALL EXTERIOR SITE LIGHTING IS PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION
- A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN A NEAT, APPROVED, FINISHED, AND SAFE MANNER.
- B. INSPECT AND MAKE TIGHT ALL CONNECTIONS FOR ALL EQUIPMENT, INCLUDING FACTORY CONNECTIONS. TORQUE ALL CONNECTIONS PER MANUFACTURER'S RECOMMENDATIONS.
- C. LIGHTING FIXTURES INSTALLED AND USED FOR LIGHTING DURING CONSTRUCTION SHALL BE RELAMPED WITH NEW LAMPS JUST PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
- D. INSTALL SEISMIC RESTRAINT DEVICES FOR ALL CEILING MOUNTED EQUIPMENT, I.E. LAY-IN FIXTURES. PROVIDE GRID CLIPS AND #12 SLACK WIRES FROM FIXTURE CORNERS TO STRUCTURE.

3.02 RACEWAYS
- A. INSTALL COMPLETE RACEWAY SYSTEMS FOR ALL ELECTRICAL CONDUCTORS INCLUDING TELEPHONE, SIGNAL, CONTROL, AND OTHER SYSTEMS.
- B. UNLESS OTHERWISE NOTED, INSTALL ALL RACEWAYS CONCEALED. WHERE IT IS NOT FEASIBLE TO CONCEAL RACEWAYS, INSTALL AS DIRECTED BY ARCHITECT.
- C. INSTALL EXPOSED RACEWAYS TO RUN PARALLEL OR AT RIGHT ANGLES TO STRUCTURAL BUILDING LINES WITH NEAT BENDS AND NEATLY OFFSET INTO TERMINATIONS.
- D. IN EMPTY RACEWAYS PROVIDE AND INSTALL A NO. 14 NYLON DRAG LINE.
- E. INSTALL RACEWAYS WITH APPROVED HEAVY DUTY SUPPORTS, STRAPS, HANGERS, CONNECTORS, AND COUPLINGS AS REQUIRED TO MAINTAIN AN APPROVED INSTALLATION.
- F. MINIMUM CONDUIT SIZE TO BE 3/4" U.N.O.

3.03 GALVANIZED RIGID CONDUIT (GRC) - ALL RACEWAYS SHALL BE GRC EXCEPT AS NOTED. CONDUIT, ELBOWS AND STANDARD COUPLINGS SHALL BE HOT DIPPED GALVANIZED RIGID STEEL. IF PARTITIONS OR WALLS ARE SOLID CONCRETE OR ARE GROUTED SOLID WITH CONCRETE OR MORTAR, RIGID STEEL CONDUIT SHALL BE USED.
3.04 INTERMEDIATE METAL CONDUIT (IMC) IMC RACEWAY AND APPROVED FITTINGS WHERE PERMITTED BY APPLICABLE CODES AND REGULATIONS MAY BE USED IN LIEU OF RIGID STEEL CONDUIT, WHERE INSTALLED ABOVE FINISH GRADE AND ABOVE CONCRETE SLABS ON GRADE.
3.05 ELECTRIC METALLIC TUBING (EMT) EMT MAY BE USED WHERE CONCEALED IN AREAS ABOVE CEILINGS, FURRED SPACES, PARTITIONS OR WALLS. ALSO MAY BE EXPOSED, WHEN NOT IN HAZARDOUS AREAS, AREAS SUBJECT TO PHYSICAL DAMAGE, OR WHEN DIRECTLY EXPOSED TO RAIN OR WASH-DOWN.
3.06 FLEXIBLE METAL CONDUIT (FLEX) USE FLEXIBLE CONDUITS FOR CONNECTIONS TO MOTORS, WHERE SUBJECT TO MOVEMENT OR VIBRATION, AND LIQUID TIGHT WHERE EXPOSED TO MOISTURE OR OIL.
3.07 RIGID NONMETALLIC CONDUIT PVC SCHEDULE 40 MAY BE INSTALLED FOR DIRECT BURIAL RACEWAYS WHERE INSTALLED WITH MINIMUM COVERAGE PER NEC TABLE 300-5. ALL UNDERGROUND BENDS SHALL BE GRC.
3.08 OUTLET, PULL AND JUNCTION BOXES
- A. UNLESS OTHERWISE SHOWN OR AS DIRECTED PRIOR TO INSTALLATION, OUTLET BOXES SHALL GENERALLY BE PLACED AT THE FOLLOWING HEIGHTS, CENTER OF BOX TO FINISHED FLOOR LEVEL.
- B. WALL SWITCHES: 44".
- C. CONVENIENCE RECEPTACLES: 18" (OR 4" ABOVE COUNTERS) AND/OR AS NOTED. (SIMILAR TYPE OUTLETS SHALL BE MOUNTED AT SAME HEIGHT IN EACH AREA). GROUNDING PIN AT THE BOTTOM.
- D. OTHER OUTLET TYPES: REFER TO ELECTRICAL SYMBOL LIST ON THIS SHEET.

3.09 CONDUCTORS (COPPER ONLY)
- A. USE SPECIFIED COLOR SCHEDULE FOR ALL WIRING. WHERE LARGE CONDUCTORS ARE NOT AVAILABLE IN COLORS, IDENTIFY WITH PERMANENT COLORED TAPE AT ALL TERMINATIONS, JUNCTION BOXES, ETC. COLOR CODING PER NEC.
- B. MAKE TAPS, JOINTS, SPLICES, AND OTHER CONNECTIONS WITH FIXTURE CONNECTORS.
- C. DO NOT INSTALL WIRING OR PULL WIRES, IN RACEWAYS UNTIL RACEWAY SYSTEM IS COMPLETE, CLEAN AND DRY AND FREE OF ALL FOREIGN MATERIALS. LUBRICATE AS REQUIRED.
- D. MINIMUM CONDUCTOR SIZE TO BE #12 CU. THWN.

3.10 LIGHTING FIXTURES
- A. LEAVE FIXTURES AND LAMPS CLEAN OF ALL DIRT, DUST, GREASE SPOTS AND DEBRIS. ALL GLASS, PLASTIC AND OTHER COMPONENTS SHALL BE UNSCRATCHED AND UNBROKEN.
- B. FIT AND ADJUST ALL FIXTURES. WHERE STRUCTURAL CONDITIONS, PARTITIONS, FURNITURE, SHELVING, AND AIR CONDITIONING DIFFUSERS INTERFERE WITH THE LIGHTING FIXTURES AT LOCATIONS SHOWN, NOTIFY ARCHITECT IN WRITING AND RELOCATE AT NO ADDITIONAL COST AS DIRECTED.
- C. FIXTURES WITH FINISH TRIM OR LENS FRAMES SHALL BE GASKETED AND BAFFLED TO PREVENT LIGHT LEAKS. INSTALL SO THAT NO LIGHT LEAKS EXIST.
- D. FIXTURES MOUNTED DIRECTLY ON COMBUSTIBLE LOW-DENSITY CEILINGS SHALL MEET UL APPROVAL FOR THIS CONDITION AND BE PLAINLY MARKED AS SUCH.

3.11 GROUNDING
- A. GROUNDING FOR DISTRIBUTION EQUIPMENT, EQUIPMENT AND MATERIALS WITH ELECTRICAL CONNECTIONS, ELECTRIC MOTOR FRAMES, ELECTRIC RACEWAY AND RELATED EQUIPMENT, SHALL BE EFFECTIVELY AND PERMANENTLY GROUNDED IN ACCORDANCE WITH PERTINENT SECTIONS OF ARTICLE 250 OF THE NEC. RESISTANCE TO GROUND SHALL NOT EXCEED 10 OHMS.
- B. ALL RACEWAYS SHALL HAVE AN APPROVED SIZE, INSULATED, STRANDED COPPER GROUNDING TYPE CONDUCTOR.
- C. WHERE RACEWAYS CONNECT TO A CONCENTRIC K.O. PROVIDE GROUNDING LOCKNUT OR BUSHING AND BOND WIRE EXTENDED AND BONDED TO THE ENCLOSURE, SIZE AS PER THE NEC.

3.12 DITCHING, EXCAVATION AND BACKFILLING: PERFORM ALL DITCHING, EXCAVATION AND BACKFILLING REQUIRED FOR THE ELECTRICAL WORK. PROVIDE AND MAINTAIN ALL SHEATHING, BRACING AND PROPER GUARDS FOR PREVENTION OF ACCIDENTS.
3.13 UTILITY COMPANY SERVICE CONTRACTOR TO BE RESPONSIBLE FOR COORDINATING AND PROVIDING REQUIRED WORK FOR SUPPLYING ELECTRICAL POWER AND COMMUNICATIONS UTILITIES TO THE PROJECT.
3.14 FINAL INSPECTION TESTS. TEST SYSTEM FOR SHORTS AND OPENS. FAULTY WIRING SHALL BE REMOVED AND REPLACED. AFTER SYSTEM IS CONNECTED COMPLETLY, TEST FOR INSULATION RESISTANCE. RESISTANCE LOWER THAN OUTLINED IN THE NEC, MANUFACTURER'S DATA, ETC.,SHALL BE REMOVED AND REPLACED. ANY DEVICE, APPARATUS OR FIXTURE UNDER THIS CONTRACT SHOWING SUBSTANDARD READINGS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ARCHITECT.
3.15 LABEL ALL RECEPTACLES WITH 3/16" HIGH BLACK LETTERING ON CLEAR TAPE. IF THE RECEPTACLE IS BLACK OR BROWN, PROVIDE WHITE LETTERING ON CLEAR TAPE. LABEL TO BE NEATLY CENTERED IN THE TOP SPACE OF THE COVERPLATE, AND SHALL INDICATE THE SERVING PANEL AND CIRCUIT ORIGIN.

ELECTRICAL SPECIFICATIONS 3
NOT TO SCALE E-000

GENERAL NOTES

1. THE ELECTRICAL DRAWINGS, SPECIFICATIONS AND GENERAL NOTES DESCRIBE THE SCOPE OF WORK AND THE DOCUMENTS SHALL BE USED FOR THE PURPOSE OF BIDDING, BUILDING DEPARTMENT REVIEW, AND TO SECURE THE NECESSARY CONSTRUCTION PERMIT ONLY.
2. BRANCH CIRCUITING AND WIRE COUNT MAY NOT BE INDICATED ON THESE PLANS. CONTRACTOR IS RESPONSIBLE TO COMPLETE THE BRANCH CIRCUIT WIRING IN ACCORDANCE WITH THE PLAN NOTES AND AS PERMITTED BY THE AUTHORITY. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS AS A PART OF RECORD DRAWING SUBMITTAL TO ARCHITECT AND THE AUTHORITY HAVING JURISDICTION (AHJ).
3. ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH BOTH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL ORDINANCES/ AMENDMENTS. WHERE CONFLICTS ARISE, THE MOST STRINGENT REQUIREMENT SHALL TAKE PRECEDENCE.
4. ALL ELECTRICAL EQUIPMENT SHOWN IS NEW, CONTRACTOR FURNISHED AND INSTALLED, UNLESS OTHERWISE NOTED. IF THE CONTRACTOR PROPOSES TO SUBSTITUTE SPECIFIC EQUIPMENT SPECIFIED, A REQUEST FOR CONSIDERATION SHALL BE SUBMITTED TO THE OWNER AND ENGINEER PRIOR TO THE BID IN WRITING. ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTIONS SHALL BE IMPLEMENTED WITHOUT THE APPROVAL OF THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE, AT HIS OWN EXPENSE FOR ANY CHANGE RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS OWN WORK, OR SUBSTITUTIONS WHICH AFFECT THE WORK OF OTHER CONTRACTORS.
5. THE ELECTRICAL DRAWINGS, CONDUIT RUNS, WIRING AND ELECTRICAL INFORMATION ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE EXACT LOCATION OF EQUIPMENT OR OUTLETS. COORDINATE WITH THE ARCHITECT/OWNER PRIOR TO ROUGH-IN.
6. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES, CEILING MOUNTED OUTLETS AND EQUIPMENT.
7. ALL DEVICE MOUNTING HEIGHTS AND EXACT LOCATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL DRAWINGS AND ELEVATIONS PRIOR TO ROUGH-IN.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY TYPES OF CEILING SYSTEMS. FIXTURES LOCATED IN DAMP OR WET LOCATIONS SHALL BE LISTED AND LABELED FOR USE IN SUCH LOCATIONS. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED TRIMS AND HARDWARE TO ACCOMMODATE THE CEILING TYPE.
9. ALL RECESSED LIGHTING FIXTURES, PANELBOARDS, SWITCHES, ETC., MOUNTED IN FIRE RATED STRUCTURES SHALL BE ENCLOSED WITH AN APPROVED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE STRUCTURE. SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC. TO MAINTAIN THE FIRE RATING. FURNISH AND INSTALL FIRE RATED ENCLOSURES FOR ALL EQUIPMENT PENETRATING INTO THE FIRE RATED ENVELOPES, SPACES, ETC.
10. PORTIONS OF THE CEILING SYSTEMS MAY BE INACCESSIBLE. THEREFORE, THE CONTRACTOR SHALL STRATEGICALLY LOCATE ACCESS BOXES, ETC., WHICH SHALL BE READILY ACCESSIBLE. ALL LIGHTING FIXTURE WIRING, DRIVERS, J-BOXES, ETC. SHALL BE ACCESSIBLE FROM FIXTURE OPENING.
11. ALL WIRING AND ELECTRICAL EQUIPMENT SERVING MECHANICAL AND PLUMBING EQUIPMENT SHALL BE IN ACCORDANCE WITH MECHANICAL AND PLUMBING SPECIFICATIONS AND ASSOCIATED DRAWINGS. CONTRACTOR SHALL OBTAIN THE REQUIRED MECHANICAL AND PLUMBING DRAWINGS AND PROVIDE ALL EQUIPMENT, RACEWAYS, WIRING, FITTINGS, ETC., AS INDICATED ON THE CONSTRUCTION DOCUMENTS.
12. ALL FINAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR, UNLESS OTHERWISE NOTED. VERIFY ELECTRICAL CHARACTERISTICS AND U.L. LISTING PRIOR TO CONNECTION.
13. THE CONTRACTOR SHALL VERIFY THE LOAD AND INPUT VOLTAGE OF ALL PROVIDED EQUIPMENT TO MATCH LOAD INPUT OF ALL EQUIPMENT BEING SUBSTITUTED.
14. ELECTRICAL OUTLETS ON OPPOSITE SIDES OF FIRE RATED WALLS AND PARTITIONS MUST BE SEPARATED BY A DISTANCE OF 24 IN. HORIZONTALLY, IN ACCORDANCE WITH I.B.C. SEC. 711.3.2. OPENINGS IN FIRE RATED WALLS MUST BE FIRE STOPPED.
15. PROVIDE AN ADDITIONAL JUNCTION BOX EXTENSION RING (SIZE AS REQUIRED) WHERE THE NUMBER OF CONDUCTORS EXCEEDS THE MAXIMUM ALLOWED FOR A GIVEN JUNCTION POINT OR OUTLET.
16. CONDUCTORS SHALL BE COPPER THHN/THWN 600 VOLT INSULATION UNLESS OTHERWISE NOTED. USE PROPER TEMPERATURE RATING OF CONDUCTORS BASED ON THE AMBIENT AIR TEMPERATURE WHERE CONDUCTORS ARE BEING USED. HIGHER AMPACITY CONDUCTORS AND LARGER RACEWAYS SHALL BE PROVIDED TO OFFSET THE AMPACITY CORRECTION FACTORS AS INDICATED IN NEC TABLE 310 AND ELSEWHERE IN CODE.
17. ALL LIGHTING FIXTURES ARE PROVIDED BY PANDA EXPRESS AND INSTALLED BY THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE.
18. DO ALL DRILLING, CUTTING, AND/OR CHANNELING AS REQUIRED FOR ELECTRICAL WORK INDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL EXPOSED ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES AND FITTINGS TO MATCH IN COLOR TO THE ADJACENT SURFACES IN FINISHED AREAS. (PROTECT UL LISTINGS LABELS FROM PAINT).
19. EMERGENCY LIGHTING SHALL BE PROVIDED PER U.B.C. PROVIDE ADDITIONAL EMERGENCY ILLUMINATION AS REQUIRED BY AUTHORITIES HAVING JURISDICTION.
20. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A HORIZONTAL FORCE ACTING IN ANY DIRECTION USING THE FOLLOWING CRITERIA.

FIXED EQUIPMENT ON GRADE: OPERATING WEIGHT	33% OF
FIXED EQUIPMENT ON STRUCTURE: OPERATING WEIGHT	50% OF
EMERGENCY POWER AND COMMUNICATION AND EQUIPMENT ON GRADE: OPERATING WEIGHT	50% OF
EMERGENCY POWER AND COMMUNICATION ON STRUCTURE: OPERATING WEIGHT	75% OF

FOR FLEXIBLE MOUNTED EQUIPMENT DOUBLE THE ABOVE VALUES. SIMULTANEOUS VERTICAL FORCE - USE 1/3 HORIZONTAL FORCE. CONDUIT, BUSDUCT, CABLE TRAY, WIREWAYS, ETC., SHALL BE BRACED IN ACCORDANCE WITH "GUILDELINES", PUBLISHED BY SMACNA AND PPIC.

NOTICE
THESE DRAWINGS ARE SUBJECT TO APPROVAL BY THE BUILDING DEPARTMENT, FIRE MARSHAL, UTILITY COMPANY AND OTHER AUTHORITIES HAVING JURISDICTION (AHJ). BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR INDICATES THAT HE OR SHE HAS REVIEWED THE PLANS THOROUGHLY AND ACCEPTED FULL RESPONSIBILITY OF PLAN CORRECTIONS AND ASSOCIATED CONSTRUCTION COSTS REQUIRED BY THE AHJ.

GENERAL NOTES 2
NOT TO SCALE E-000

GENERAL NOTES(CONT.)

22. WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING:
    - a. A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND
    - b. FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.
23. OPERATING MANUALS AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
    - a. SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
    - b. OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
    - c. NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
    - d. A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.

MC CABLE SHALL NOT BE USED. PREWIRED MC CABLE WHIPS FROM LIGHTING FIXTURES ARE ACCEPTABLE WHEN SUPPLIED WITH THE FIXTURE AND NO LONGER THAN 72".

ELECTRICIAN TO PROVIDE STAINLESS STEEL COVER PLATES FOR ALL LOW VOLTAGE OUTLETS.

IF PROVIDED UNDER SLAB, ALL UNDERGROUND CONDUIT SHALL BE 12" BELOW THE FINISHED GRADE.

ELECTRICAL SYMBOLS LIST

NOTE: ALL DIMENSIONS GIVEN ARE TO DEVICE CENTERLINES. CONTRACTOR TO COORDINATE ALL INSTALLATIONS.

POWER DISTRIBUTION

- SM — SINGLE-POLE SWITCH, MANUAL MOTOR STARTER
- J — J-BOX (WITH FLEX CONNECTION TO EQUIPMENT.)
- DISCONNECT SWITCH, WITH RATING AS SHOWN ON PLANS
- COMBINATION DISCONNECT SWITCH / MOTOR STARTER FURNISHED BY THE ELECTRICAL CONTRACTOR.
- BRANCH CIRCUITRY CONCEALED IN WALL OR CEILING WITH ADDITIONAL #12 INSULATED GND. U.N.O. HACHURES INDICATE NUMBER OF CURRENT CARRYING CONDUCTORS. 'X' INDICATES ADDITIONAL INSULATED, ISOLATED GROUND CONDUCTORS.
- BRANCH CIRCUITRY HOMERUN TO PANEL AS NOTED ON PLANS
- INDICATES EXTERIOR UNDERGROUND WIRE RUNS.

LIGHTING & LIGHTING CONTROLS

- L1 — LIGHTING FIXTURE. SUBSCRIPT LETTER DENOTES FIXTURE TYPE AS DESCRIBED IN LIGHT FIXTURE SCHEDULE.
- $a — SINGLE-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A.
- a$D — LEVITON Renoir II WALLBOX DIMMER - SINGLE-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 120V, BALLAST 0-10V
- SO$ — OCCUPANCY SENSOR SWITCH WITH OFF CONTROL AND ADJUSTABLE SETTINGS FOR TIME OFF DELAY, FOOTCANDLE LEVEL, AND MASKING. WATTSTOPPER OR EQUAL, MOUNT AT 44" A.F.F. U.N.O. USE PW-100 FOR OFFICES/CONF/ETC.
- SP — SINGLE-POLE LIGHT SWITCH WITH PILOT LIGHT @ 44" A.F.F. U.N.O., 300V. 20A.
- DS — LEVITON PROVOLT 05C20-MDW DIMMING DAYLIGHT SENSOR FOR SIDELIT DAYLIGHTING ZONES. LOCATE AND INSTALL PER MANUFACTURER'S INSTRUCTIONS. ALL CONTROLS SHALL COMPLY WITH LOCAL ENERGY CODE REQUIREMENTS. PROVIDE LOCAL MANUAL SWITCH AS SHOWN IN THE LIGHTING PLAN FOR ON / OFF CONTROL
- INTERIOR LIGHTING SHUT-DOWN OVERRIDE, 20 AMP, 60-MINUTE INDOOR IN-WALL SPRING WOUND COUNTDOWN TIMER, WHITE COLOR, MANUFACTURED BY INTERMATIC.

ABBREVIATIONS

A	AMPERES	M.C.	MECHANICAL CONTRACTOR
AL	ALUMINUM	M.C.B.	MAIN CIRCUIT BREAKER
A.F.F.	ABOVE FINISHED FLOOR	M.L.O.	MAIN LUGS ONLY
A.F.G.	ABOVE FINISHED GRADE	MTD.	MOUNTED
C.	CONDUIT	P.	POLE
C/B	CIRCUIT BREAKER	SW.	SWITCH
CU.	COPPER	T.M.B.	TELEPHONE MOUNTING BOARD
DISC.	DISCONNECT	TYP.	TYPICAL
E.C.	ELECTRICAL CONTRACTOR	U.N.O.	UNLESS NOTED OTHERWISE
F.	FUSE	V.	VOLTS
G.C.	GENERAL CONTRACTOR	W.	WIRE
GFI	GROUND FAULT CURRENT INTERRUPTER	W.P.	WEATHERPROOF
GND.	GROUND	XFMR	TRANSFORMER
H.P.	HORSE POWER	Ø	PHASE
k	1000		

RECEPTACLES & COMMUNICATIONS OUTLETS

- DUPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.
- SIMPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.
- ISOLATED GROUND SIMPLEX CONVENIENCE OUTLET (ORANGE), 20A.,125V., MTD @ +18" A.F.F.
- DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F.
- GFCI DUPLEX CONVENIENCE OUTLET, 20A, 125V, 5 mA TRIP, MTD @ 18" A.F.F. U.N.O.
- GFCI DUPLEX CONVENIENCE OUTLET MOUNTED 4" ABOVE COUNTERTOP BACKSPLASH OR APPROXIMATELY 44" A.F.F.
- TELEPHONE OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O WITH 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. 'W' SUBSCRIPT INDICATES WALL PHONE AT 54" AFF.
- DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O WITH 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.
- COMBINATION TEL/DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O WITH 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.
- T.V. SYSTEM DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O WITH 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. WHEN SHOWN ADJACENT TO A RECEPTACLE, MOUNT AT RECEPTACLE HEIGHT. REFER TO RECEPTACLE FOR MOUNTING HEIGHT.
- SPECIAL PURPOSE RECEPTACLE MTD. @ 18" A.F.F. U.N.O., AMPERAGE AND PHASE AS NOTED ON PLANS, NEMA CONFIGURATION AS REQ'D.
- ISOLATED GROUND DUPLEX CONVENIENCE OUTLET (ORANGE), 20A.,125V., MTD @ +18" A.F.F.
- DOUBLE DUPLEX CONVENIENCE OUTLETS UNDER COMMON COVER
- ISOLATED GROUND DOUBLE DUPLEX CONVENIENCE OUTLETS (ORANGE) 20A.,125V.
- S — SPEAKER

FIRE ALARM

- MANUAL PULL STATION WITH KEYED RESET. MOUNT UNIT AT 44" A.F.F. ALIGN WITH LIGHT SWITCH IF APPLICABLE.
- XENON STROBE UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). MUST MEET OR EXCEED A.D.A. REQUIREMENTS.
- COMBINATION XENON STROBE AND HORN/CHIME UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER). UNIT MUST MEET OR EXCEED A.D.A. REQUIREMENTS.
- FACP — FIRE ALARM CONTROL PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.
- FAAP — FIRE ALARM ANNUNCIATION PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.
- PHOTO ELECTRIC TYPE SMOKE DETECTOR.
- DUCT MOUNTED PHOTO ELECTRIC SMOKE DETECTOR.
- RATE OF RISE HEAT DETECTOR.

ELECTRICAL SYMBOLS 1
NOT TO SCALE E-000

PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

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REVISIONS:

ISSUE DATE:

LANDLORD REVIEW	03-04-2022
FINAL LANDLORD REV.	06-20-2022
PERMIT	07-19-2022
BID SET	10-06-2022
CONSTRUCTION SET	01-16-2023

DRAWN BY: G. COLLINS

PANDA PROJECT #: D7861
ARCH PROJECT #: JCDT21-0268

I certify that these documents were prepared or approved by me, and that I am a duly licensed architect/ engineer under the laws of the State of Maryland, license number Sean P. Pick-Kell 52379, expiration date 03-08-2024.

NORR
ARCHITECTS ENGINEERS PLANNERS

PANDA EXPRESS
TRUE WARM & WELCOME
10300 Mill Run Circle
Owings Mills, MD 21117

CONSTRUCTION SET 01-16-2023

E-000

ELECTRICAL SYMBOLS
SPECIFICATIONS, NOTES

TRUE WARM & WELCOME 2300 R6 RR