

ELECTRICAL SPECIFICATIONS

GENERAL NOTES

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 AHJ.

NOTICE

G.C. TO SEND ENGINEER ELECTRICAL SWITCHGEAR MODEL #S AND COORDINATE GEAR MEETS DOMINION ELECTRIC APPROVED LIST OF GEAR - PRIOR TO ORDERING ELECTRICAL GEAR.

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 PLAN NOTES AND AS PERMITTED BY AUTHORITY. CONTRACTOR SHALL SUBMIT AS-BUILT DRAWINGS AS A PART OF RECORD DRAWING SUBMITTAL TO ARCHITECT AND 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 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 OR 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 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 ARCHITECTURAL DRAWINGS AND ELEVATIONS PRIOR TO ROUGH-IN.

8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY TYPES OF CEILING SYSTEM FIXTURES LOCATED IN DAMP OR WET LOCATIONS SHALL BE LISTED AND LABELED FOR USE IN SUCH LOCATIONS. CONTRACTOR SHALL PROVIDE ALL REQUIRED TRIMS AND HARDWARE TO ACCOMMODATE 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 ENCLOSURE FOR ALL EQUIPMENT PENETRATING INTO FIRE RATED ENVELOPS, 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, BALLASTS, 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 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 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 RATINGS OF CONDUCTORS BASED ON THE AMBIENT AIR TEMPERATURE WHERE CONDUCTORS ARE BEING USED. HIGHER AMPACITY CONDUCTOR AND LARGER RACEWAY SHALL BE PROVIDED TO OFFSET THE AMPACITY CORRECTION FACTORS AS INDICATED IN NEC ARTICLE 310 AND ELSEWHERE IN CODE.

17. ALL LIGHTING FIXTURES PROVIDED BY PANDA EXPRESS INSTALLED BY GC 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 FITTING TO MATCH IN COLOR TO 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 JURISDICTIONS.

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

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 "GUIDELINES", PUBLISHED BY SMACNA AND PPIC.

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 FINISHED GRADE.

ELECTRICAL SYMBOLS LIST

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

POWER DISTRIBUTION		RECEPTACLES & COMMUNICATIONS OUTLETS	
	SINGLE-POLE SWITCH, MANUAL MOTOR STARTER		DUPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.
	J-BOX (WITH FLEX CONNECTION TO EQUIPMENT.)		SIMPLEX CONVENIENCE OUTLET, 20A, 125V, MTD @ 18" A.F.F. U.N.O.
	DISCONNECT SWITCH, WITH RATING AS SHOWN ON PLANS		ISOLATED GROUND SIMPLEX CONVENIENCE OUTLET (ORANGE), 20A, 125V., MTD @ +18" A.F.F.
	COMBINATION DISCONNECT SWITCH / MOTOR STARTER FURNISHED BY ELECTRICAL CONTRACTOR.		DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPASH OR APPROXIMATELY 44" A.F.F.
	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.		GFCI DUPLEX CONVENIENCE OUTLET, 20A, 125V, 5 mA TRIP, MTD @ 18" A.F.F. U.N.O.
	BRANCH CIRCUITRY HOMERUN TO PANEL AS NOTED ON PLANS		GFCI DUPLEX CONVENIENCE OUTLET MOUNTED 3" ABOVE COUNTERTOP BACKSPASH OR APPROXIMATELY 44" A.F.F.
	INDICATES EXTERIOR UNDERGROUND WIRE RUNS.		TELEPHONE OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O W/ 1" CONDUIT W/ PULL WIRE TO MANAGER'S STATION. 'w' SUBSCRIPT INDICATES WALL PHONE AT 54" AFF.
LIGHTING & LIGHTING CONTROLS			DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.
	LIGHTING FIXTURE. SUBSCRIPT LETTER DENOTES FIXTURE TYPE AS DESCRIBED IN LIGHT FIXTURE SCHEDULE.		COMBINATION TEL/DAta OUTLET. PROVIDE FLUSH J-BOX @ + 18" AFF U.N.O W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION.
	SINGLE-POLE SWITCH @ 44" A.F.F. U.N.O. LOWER CASE LETTER DENOTES FIXTURE CONTROL. 300V. 20A.		T.V. SYSTEM DATA OUTLET. PROVIDE FLUSH J-BOX @ + 18" A.F.F. U.N.O. W/ 1" CONDUIT WITH PULL WIRE TO MANAGER'S STATION. WHEN SHOWN ADJACENT RECEPTACLE, MOUNT AT RECEPTACLE HEIGHT. REFER TO RECEPTACLE FOR MOUNTING HEIGHT.
	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		SPECIAL PURPOSE RECEPTACLE MTD @ 18" A.F.F. U.N.O., AMPERAGE AND PHASE AS NOTED ON PLANS, NEMA CONFIGURATION AS REQ'D.
	OCCUPANCY SENSOR SWITCH WITH OFF CONTROL, AND ADJUSTABLE SETTINGS FOR TIME OFF DELAY, FOOTCANDLE LEVEL, AND MASKING. WATTS/OPPER OR EQUAL, MOUNT AT 44" A.F.F. U.N.O. USE PW-100 FOR OFFICES/CONF/ETC.		ISOLATED GROUND DUPLEX CONVENIENCE OUTLET (ORANGE), 20A, 125V., MTD @ +18" A.F.F.
	LEVITON PROVOLT 05C20-MDWT 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		DOUBLE DUPLEX CONVENIENCE OUTLETS UNDER COMMON COVER
	INTERIOR LIGHTING SHUT DOWN OVERRIDE. 20 AMP 60-MINUTE INDOOR IN-WALL SPRING WOUND COUNTDOWN TIMER, WHITE BY INTERMATIC.		ISOLATED DOUBLE DUPLEX CONVENIENCE OUTLETS (ORANGE) 20A, 125V.
			SPEAKER
ABBREVIATIONS		FIRE ALARM	
A	AMPERES		MANUAL PULL STATION WITH KEYED RESET. MOUNT UNIT AT 44" A.F.F. ALIGN WITH LIGHT SWITCH IF APPLICABLE.
AL	ALUMINUM		XENON STROBE UNIT MOUNTED AT 80" A.F.F. OR 6" BELOW CEILING (WHICHEVER IS LOWER), MUST MEET OR EXCEED A.D.A. REQUIREMENTS.
A.F.F.	ABOVE FINISHED FLOOR		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.
A.G.F.	ABOVE FINISHED GRADE		FIRE ALARM CONTROL PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.
C	CONDUIT		FIRE ALARM ANNUNCIATION PANEL. MOUNT TOP OF UNIT AT 72" A.F.F.
C/B	CIRCUIT BREAKER		PHOTO ELECTRIC TYPE SMOKE DETECTOR.
CU.	COPPER		DUCT MOUNTED PHOTO ELECTRIC SMOKE DETECTOR.
DISC.	DISCONNECT		RATE OF RISE HEAT DETECTOR.
F	FUSE		
GFI	GROUND FAULT		
W.	WIRE		
W.P.	WEATHERPROOF		
XFMR	TRANSFORMER		
Ø	PHASE		
GND.	GROUND		
H.P.	HORSE POWER		
k	1000		
E.C.	ELECTRICAL CONTRACTOR		
G.C.	GENERAL CONTRACTOR		

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 INDICATES 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 120/208VOLT SYSTEM; NEUTRAL WIRE - GREY, LIVE WIRE - BROWN, ORANGE, YELLOW ON 277/480 VOLT SYSTEM, 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" OR 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.
2.11 120/208 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.
2.13 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.
2.16 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 GREY 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 PROVIDED BY PX AND INSTALLED BY E.C.
B. ALL EXTERIOR SITE LIGHTING IS PROVIDED AND INSTALLED BY E.C.

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 THE RESUME OF THE PROGRESS 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 RACEWAY 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. NOT USED
H. 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 TO RUN ABOVE FINISH GRADE AND BELOW FINISH GRADE. 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 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, 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 GROUNDING IN ACCORDANCE WITH PERTINENT SECTIONS OF ARTICLE 250 OF NEC. RESISTANCE TO GROUND SHALL NOT EXCEED 10 OHMS.
B. ALL RACEWAYS SHALL HAVE AN APPROVED SIZED, INSULATED, STRANDED COPPER GROUNDING CONDUCTOR.
C. WHERE RACEWAYS CONNECT TO A CONCENTRIC K.O. PROVIDE GROUNDING LOCKNUT OR BUSHING AND BOND WIRE EXTENDED AND BONDED TO ENCLOSURE. SIZE AS PER 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: TEST SYSTEM FOR SHORTS AND OPENS. FAULTY WIRING SHALL BE REMOVED AND REPLACED. AFTER SYSTEM IS CONNECTED COMPLETELY, TEST FOR INSULATION RESISTANCE. RESISTANCE LOWER THAN OUTLINED IN THE NEC, MANUFACTURERS 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.



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770

Telephone: 626.799.9898
Facsimile: 626.372.8288

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REVISIONS:

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MPW ENGINEERING, LLC
110 W. 7TH STREET • SUITE 600 • TULSA, OK 74103
(918) 582-0086 • (918) 582-0086 FAX



PANDA EXPRESS

TRUE WARM & WELCOME
N. MILITARY HWY & LOWERY RD.
NORFOLK, VA 23502

E-000

ELECTRICAL SYMBOLS
SPECIFICATIONS, NOTES

ELECTRICAL SPECIFICATIONS

3

NOT TO SCALE

E-000

GENERAL NOTES

2

NOT TO SCALE

E-000

ELECTRICAL SYMBOLS

1

NOT TO SCALE

E-000

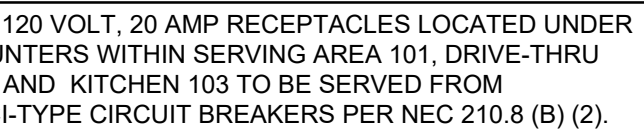
TRUE WARM & WELCOME 2500 (CUSTOM)

42. J-BOX CIRCUIT ABOVE CEILING TO POWER ELEC. DOOR HARDWARE SYSTEM SHALL BE CONNECTED TO SWITCH 'A'. REFER 4/E-101 FOR SWITCH-BANK DETAIL.
43. HOOD CONTROL PANEL/ANSUL SYSTEM CABINET: MOUNT CABINET DIRECTLY BELOW T-BAR CEILING.
44. PROVIDE 2-GANG J-BOX @ 42" AFF FOR HOOD CONTROL SWITCHES. REFER TO M-400 AND M-401.
45. 1" CONDUIT STUB UP LOCATION IN STAINLESS STEEL POWER PANEL FOR ISLAND KITCHEN EQUIPMENT CONNECTION. REFER TO DETAIL 2/A-109. COORDINATE LOCATION WITH ARCHITECT / OWNER.
46. ROUTE CABLEING / CIRCUITRY THROUGH 1" CONDUIT IN SLAB.
47. UTILIZE SEAL TIGHT CONDUIT FOR ALL WIRING INCLUDED ALONG LOW WALL PANEL.
48. ALL DEVICES UNDER HOOD TO BE PROVIDED AND INSTALLED WITH GROUND FAULT CIRCUIT BREAKER AND WATERPROOFING BOX (RED DOT #CKSUUV). REFER TO COOKLINE ELECTRICAL ELEVATIONS, 3/E-200. ROUTE HOMERUN THROUGH CONTRACTOR INTERFACED WITH THE HOOD FIRE SUPPRESSION SYSTEM. REFERENCE 13/E-400 FOR ADDITIONAL INFORMATION.
49. SIMPLEX RECEPTACLE TO BE CONNECTED TO BACK-OF-HOUSE LIGHTING CIRCUITRY/CONTROL. CONTRACTOR TO PROVIDE PISTOL FROM CIRCULATION PUMP. COORDINATE FINAL DEVICE PLACEMENT W/ PLUMBING CONTRACTOR PRIOR TO INSTALL.
50. PROVIDE WEATHERPROOF RECEPTACLE FOR HEAT TAPE. COORDINATE FINAL LOCATION WITH REFRIGERATION INSTALLER.
51. ELECTRICAL GRIDDLE '23'E: FEED WITH (2) #6, (1) #10 GROUND, 3/4" CONDUIT. REFER TO 14/E-400.
52. SEE DRIVE THRU ELEVATION 2/E-200 FOR CONDUIT SIZES AND CONFIGURATIONS.
53. SEE TICKET PRINTER ELEVATIONS, 4/E-200.
54. PROVIDE WATERPROOFING, COVER, IN-USE RED DOT (#CKSUUV).
55. SEE FOR DRIVE-THRU ELEVATIONS, 2/E-200.
56. SEE DRINK STATION ELEVATIONS, 5/E-200.
57. SEE 6/E-200 FOR SERVICE LINE ELEVATIONS.
58. SEE DEVICE / RECEPTACLE SCHEDULE 3/E-400.
59. SEE DINING ROOM ELEVATION, DETAIL 7/E-200.
60. PROVIDE AND INSTALL 3/4" CONDUIT AND PULL STRING FROM CLOSEST LANDSCAPE AREA, THROUGH WALL UP TO EMPTY FLUSH MOUNTED JUNCTION BOX @ 54" A.F.F. (FOR IRRIGATION CONTROLS). CLOSE OFF CONDUIT IN LANDSCAPE AREA WITH REMOVABLE CAP. UTILIZE WP CIRCUIT A-53 NEAR ENTRY POINT.
61. REFER TO 8/E-200 FOR LOCATION/INSTALLATION OF C02 DEVICE.
62. SEE SWITCH BANK ELEVATION , DETAIL 1/E-200.
63. FLY LIGHT RECEPTACLE SHALL BE INSTALLED WITH A RECESSED CLOCK SIMPLEX OUTLET. TYP OF ALL LOCATIONS.
64. SEE SECURITY KEY PAD ELEVATION 1/E-200.
65. CONNECT HEAT LAMPS TO COUNTER-MOUNTED SWITCH PROVIDED AND INSTALLED BY CONTRACTOR. COORDINATE EXACT LOCATION WITH KITCHEN EQUIPMENT PROVIDER.
66. PANDA EXPRESS TO PROVIDE C02 MONITOR, E.C. TO MOUNT OVER J-BOX WITH WIRING THROUGH WALL CONDUIT FOR CLEAN INSTALLATION. PROVIDE ALL OTHER REQUIRED CONNECTIONS AND COMPONENTS FOR FULLY WORKING SYSTEM.
67. PROVIDE IN-GRADE QUATIZE 8"X8" PC STYLE POLYMER CONCRETE BOX OR EQUAL FOR UNDERGROUND CABLE REQUIRED FOR THE STORE, PART NO. PC081XXXXX OR SIMILAR. REFER TO ELECTRICAL SITE PLAN 1/E-105.
68. PROVIDE 1" CONDUIT FOR CABLE DEDICATED FOR ENTIRE STORE FROM IN-GRADE 8X8 QUATIZE BOX TO EXTERIOR CLOSET 6X6 FLUSH MOUNTED JUNCTION BOX. TERMINATE INTERIOR ABOVE CEILING.
69. PROVIDE FLUSH MOUNTED NEMA 1 6X6 JUNCTION/ PULL BOX AT +48" - HUBBELL OR EQUAL. ROUTE CABLE FROM EXTERIOR 6X6 IN 1" CONDUIT THROUGH BUILDING. TERMINATE INTERIOR ABOVE CEILING.
70. PROVIDE A (1) 3/4" UNDERGROUND CONDUIT AND PULLSTRING FOR LOW VOLTAGE WIRING. CONDUIT AND PULLSTRING TO RUN UNDERGROUND FROM HOTWELL CABINET AND STUB-UP THROUGH WALL AND ABOVE CEILING ADJACENT TO MANAGER STATION.
71. FIRE SUPPRESSION SHUTDOWN CONTACTOR LOCATED ABOVE CEILING , REFER TO 13/E-400.
72. SUPPLY A WIRE FROM BOX TO MACHINE, FINAL CONNECTIONS BY HOBART SERVICE.
73. PROVIDE (1) 1" UNDERGROUND CONDUIT AND PULLSTRING FOR HOTWELL CABINET. CONDUIT AND PULLSTRING TO RUN UNDERGROUND FROM HOTWELL CABINET AND STUB-UP BENEATH ELECTRICAL PANEL. REFER TO PANEL SCHEDULE.
74. PROVIDE (1) 3/4" CONDUIT AND PULLSTRING FOR OLO PRINTER TO STICKER PRINTER. CONDUIT AND PULLSTRING TO RUN FROM OLO PRINTER & SCANNER TO TABLET & STICKER PRINTER; STUB-UP THROUGH WALL.
75. PROVIDE J-BOX AND CONDUIT TO 6" ABOVE CEILING (AT B.O.H. AREA) FOR GREASE ALARM SYSTEM. PROVIDE PULL STRING BETWEEN TWO J-BOXES.

#	POWER PLAN KEYED NOTES	3
	NOT TO SCALE	E-100

- VERIFY QUANTITIES AND REQUIREMENTS OF ALL HVAC & KITCHEN EQUIPMENT PRIOR TO ROUGH IN.
- ALL TELEPHONE/DATA/TV CABLES AND WIRES, AND TERMINATIONS OF ALL REQUIRED CABLE AND JACKS WILL BE INSTALLED BY THIRD PARTY.
- POWER SUPPLY FOR COMPUTER AND CASH REGISTER (86A & 94) SHALL BE ON THE SAME CIRCUIT BREAKER, WI-ISOLATED GROUND & ORANGE RECEPTACLE.
- ALL CIRCUITRY SHOWN WITHOUT TICKS SHALL HAVE (2) WIRES PLUS EQUIPMENT GROUNDING CONDUCTOR.
- WHEN WORKING IN JURISDICTIONS WHICH HAVE ADOPTED THE 2017 NEC OR LATER, ALL MULTI-WIRE BRANCH CIRCUITS SHALL HAVE SEPARATE NEUTRALS TO MEET THE REQUIREMENTS OF 2017 NEC 210.4(B).
- TRANSFORMERS SHALL BE MOUNTED ABOVE CEILING BELOW TRUSSES WITH LOW VOLTAGE WIRING FEEDING TO ALL EXTERIOR LIGHTS.
- ALL UNDERGROUND CONDUIT SHALL BE 12" BELOW F.F.

POWER PLAN GENERAL NOTES		2
	NOT TO SCALE	E-100



POWER FLOOR PLAN	1
Scale: 1/4"=1'-0"	E-100



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

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5	OWNER CHANGES	09-22-23

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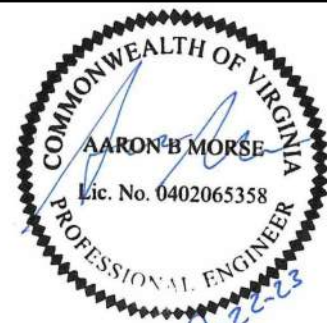
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PANDA PROJECT #: D5885

ARCH PROJECT #: 261-248



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E-100

POWER FLOOR PLAN

TRUE WARM & WELCOME 2500 (CUSTOM



PANDA EXPRESS, INC.
1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.712.8288

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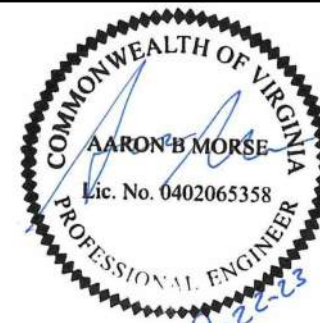
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MPW ENGINEERING, LLC
110 W. 7TH STREET • SUITE 600 • TULSA, OK 74119
(918) 582-1000 • (918) 582-4000 FAX



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E-101

LIGHTING FLOOR PLAN

Scale: 1/4"=1'-0"

- SWITCHBANK 'A'. REFER TO SCHEDULE 4/E-101.
- ROUTE HOMERUN THROUGH LIGHTING SWITCHBANK 'A' (SWITCHES AS NOTED IN LOWER CASE). REFER TO SCHEDULE 4/E-101 FOR MORE INFORMATION.
- ROUTE THROUGH CONTACTS IN HOOD CONTROL PANEL 'M4' FOR CIRCUIT POWER. REFER TO 3/E-401.
- PROVIDE SEPARATE UNSWITCHED HOT CONDUCTOR (SAME CIRCUIT, NOT CONTROLLED BY SWITCH IN SWITCHBANK) TO LOCALLY SWITCHED FIXTURES AND EMERGENCY FIXTURE BATTERY TRIGGER LEADS.
- NOT USED.
- WALK-IN COOLER LIGHT FIXTURES AND PILOT LIGHT SWITCH PROVIDED WITH COOLER INSTALLED BY E.C. REFER TO 'COOLER EVAPORATOR COIL' WIRING DIAGRAM, 8/E-400.
- WALK-IN FREEZER LIGHT FIXTURE AND PILOT LIGHT SWITCH PROVIDED WITH FREEZER INSTALLED BY E.C. REFER TO 'FREEZER LTG AND DOOR HEATER WIRING DIAGRAM', 10/E-400.
- NOT USED.
- FIXTURES IN THIS ROOM SHALL BE LOCALLY SWITCHED.
- LIGHTING INVERTER FOR EMERGENCY LIGHTING TO BE MOUNTED TO BULKHEAD. RE: 9/E200.
- NOT USED.
- NOT USED.
- PROVIDE JUNCTION BOX ABOVE CEILING FOR THE BZ-150 UNIVERSAL POWER PACK REQUIRED FOR EXTERIOR MOTION CONTROL LED FIXTURES. PROVIDE LOW VOLTAGE CONNECTIONS AS REQUIRED TO LIGHTSAVER LS-102 SWITCHING PHOTOSENSOR SO THAT WHEN STORE OPERATIONS ARE OFF THIS EXTERIOR SECURITY LIGHT IS ACTIVATED BY EXTERIOR MOTION ONLY. VERIFY WITH MANUFACTURER'S RECOMMENDATIONS FOR WIRING DIAGRAM. VERIFY LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
- PROVIDE WALL MOUNTED JUNCTION BOX AT +142" FOR INSTALLATION. INSTALL LIGHTSAVER LS-102 SWITCHING PHOTOSENSOR FOR EXTERIOR MOTION CONTROL SECURITY FIXTURES TYP OF 2 LOCATIONS. CONTROL TIMES OF CONTROL SO THAT WHEN STORE OPERATIONS ARE OFF INTERIOR LIGHTS GO OFF AND THE EXTERIOR MOTION LIGHTS ARE ACTIVATED WITH ANY MOTION DETECTED AFTER STORE HOURS. VERIFY WITH MANUFACTURER'S RECOMMENDATIONS FOR WIRING DIAGRAM. VERIFY LOCATIONS WITH OWNER PRIOR TO INSTALLATION.
- ROUTE HOMERUN THROUGH LIGHTING SWITCHBANK 'A' (SWITCH AS NOTED IN LOWER CASE). REFER TO SCHEDULE, SHEET 4/E-101, FOR MORE INFORMATION.
- CONNECT TO VEGETABLE DISPLAY LIGHTING PROVIDED WITH WALK-IN COOLER.
- PROVIDE SEALS AND EXPANSION COUPLINGS ON ALL CONDUITS ENTERING OR LEAVING AREA OF TEMPERATURE DIFFERENCE. REFER TO WIRING NOTES 6/E-400 FOR ADDITIONAL INFORMATION.

- CONTRACTOR SHALL PROVIDE ALL REQUIRED HARDWARES, BRACKETS, ETC. FOR A COMPLETE LIGHTING FIXTURE INSTALLATION.
- FIXTURES THAT ARE TO BE ROUTED VIA TIMECLOCKS ARE SHOWN ON DETAIL 11/E400. SEQUENCE OF OPERATION: TIMECLOCKS WIRED FIRST FOR DESIGNATED CONTROL. SWITCHES ARE SERIES WIRED WITH THE CONTACTORS. UTILIZE DIGITAL OVERRIDE TIMER SWITCH (DOTS) TO OVER-RIDE THE TIMECLOCKS FOR CLEANING AND AFTER HOURS AS NEEDED. SEE DETAIL 11/E400
- ALL LIGHTING FIXTURES SHALL BE SUPPORTED PER N.E.C. 410-16(C). SEE DETAIL, 4/E400.
- CONTRACTOR SHALL INSTALL ALL LIGHTING FIXTURES INCLUDING OWNER-FURNISHED FIXTURES.
- ALL FIXTURE BALLASTS SHALL BE U.L. LISTED.
- E.C. SHALL INSTALL OWNER SUPPLIED LED STRIP LIGHTING & CUT TO PROPER LENGTH. COORDINATE WITH OWNER FOR EXACT LENGTHS AND FINAL LOCATIONS.
- WHEN WORKING IN JURISDICTIONS WHICH HAVE ADOPTED THE 2008 NEC OR LATER, ALL MULTI-WIRE BRANCH CIRCUITS TO HAVE SEPARATE NEUTRALS TO MEET THE REQUIREMENTS OF 2008 NEC 210.4(B).
- ALL CIRCUITRY SHOWN WITHOUT Ticks SHALL HAVE (2) WIRES PLUS EQUIPMENT GROUNDING CONDUCTOR.
- 'N.L.' DESIGNATION INDICATES NIGHT LIGHT ON UNSWITCHED CIRCUIT.

LIGHTING GENERAL NOTES	2	#	LIGHTING KEYED NOTES	3
NOT TO SCALE	E-101		NOT TO SCALE	E-101

NOTE:
ALL SWITCHES/DEVICES TO BE STANDARD SINGLE POLE. DO NOT USE "DECORA" TYPE SWITCH/DEVICE

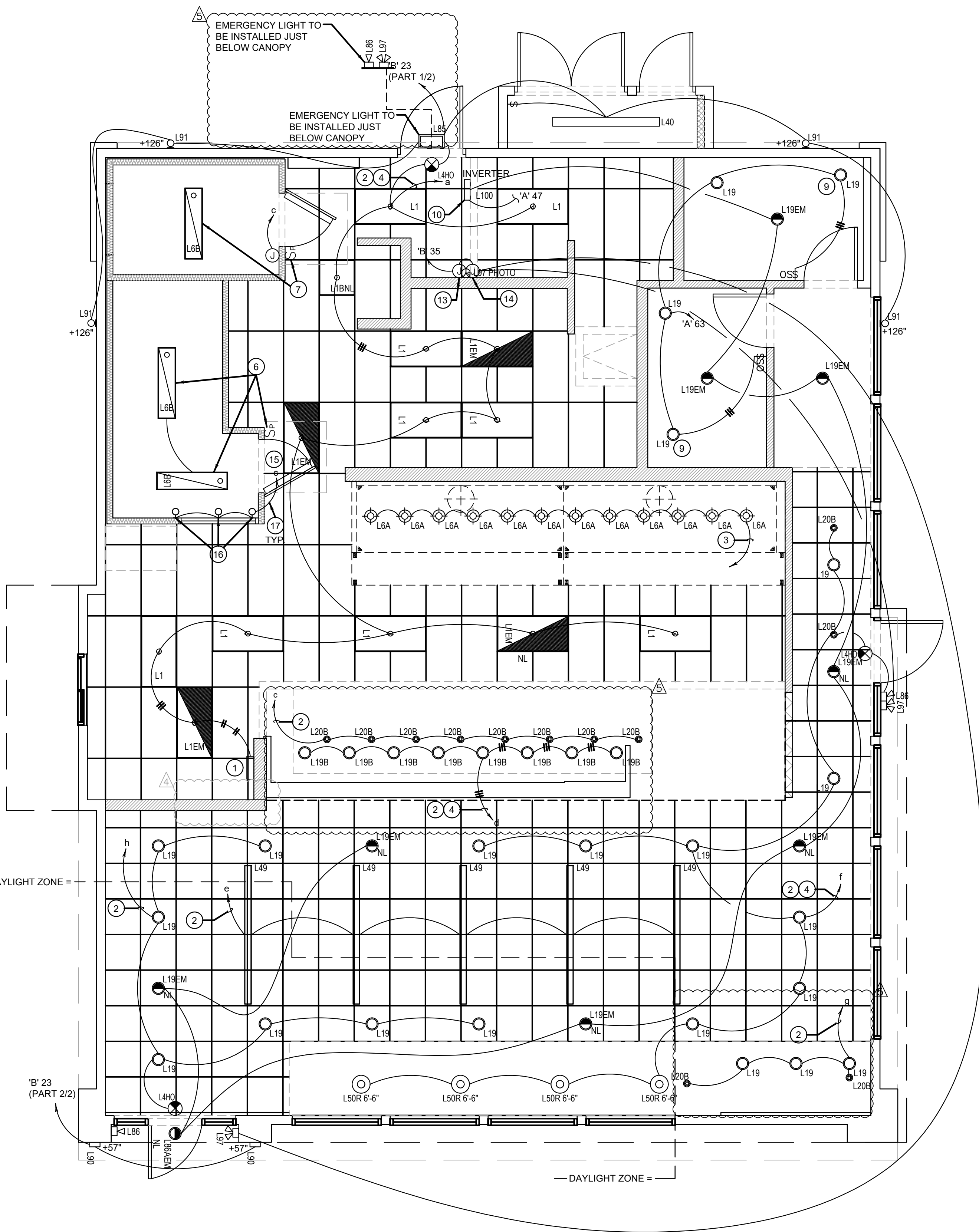
NOTE:
FIXTURES TO BE ROUTED VIA TIME TIMECLOCKS ARE SHOWN ON DETAIL 11/E400.

NOTE:
CONTRACTOR TO INSTALL (2) 5 GANG SWITCH BOXES AS SHOWN BELOW. DO NOT INSTALL SEPERATE/INDIVIDUAL BOXES FOR EACH SWITCH

(a)	(b)	(c)	(d)	(e)
\$	\$	\$	\$	\$
BACK OF HOUSE LTG & EX. FAN & RECIRC PUMP	SHOW WINDOW RECEPS	WALK-IN, MENU LED ACCENTS	SERVING LINE SOFFIT	DINING PENDANTS
(f)	(g)	(h)	(i)	(j)
\$	\$	\$	\$	OFF
INTERIOR DINING	BEVERAGE COUNTER	DAYLIGHT HARVEST	SPARE	INTERIOR LIGHTING SHUT DOWN OVERRIDE

SWITCHBANK SCHEDULE 'A'				
TAG	SWITCH TYPE	AREA SERVED / SWITCH LABEL	CIRCUIT	LOAD
a	TOGGLE SWITCH	BACK-OF-HOUSE / RR FANS	'A' 45	530 VA
b	TOGGLE SWITCH	SHOW WINDOW RECEP	'A' 49	720 VA
c	TOGGLE SWITCH	WALK-INS, MENU, LED ACCENTS	'A' 1	275 VA
d	TOGGLE SWITCH	SERVING LINE SOFFIT	'A' 45	140 VA
e	TOGGLE SWITCH	DINING PENDANTS	'A' 47	24 VA
f	TOGGLE SWITCH	INTERIOR DINING	'A' 47	118 VA
g	TOGGLE SWITCH	BEVERAGE COUNTER	'A' 47	16 VA
h	TOGGLE SWITCH	DAYLIGHT HARVESTING ZONE	'A' 47	219 VA
i	SPARE			
j	TIMER SWITCH	INTERIOR LIGHTING SHUT DOWN OVERRIDE	'A' 47	118 VA

INTERIOR / EXTERIOR LTG CONTACTORS SCHEDULE	4
NOT TO SCALE	E-101





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

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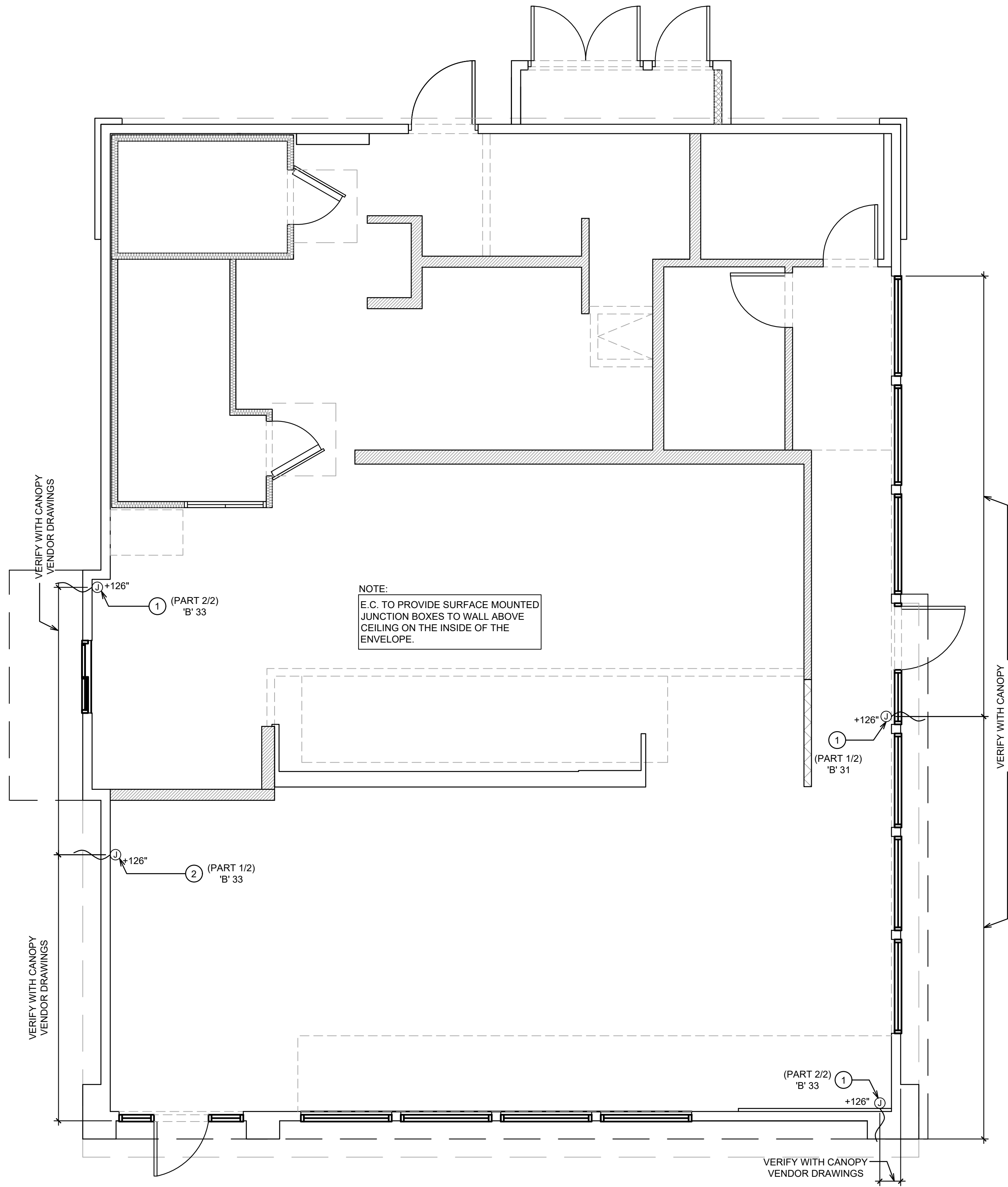


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E-101.1

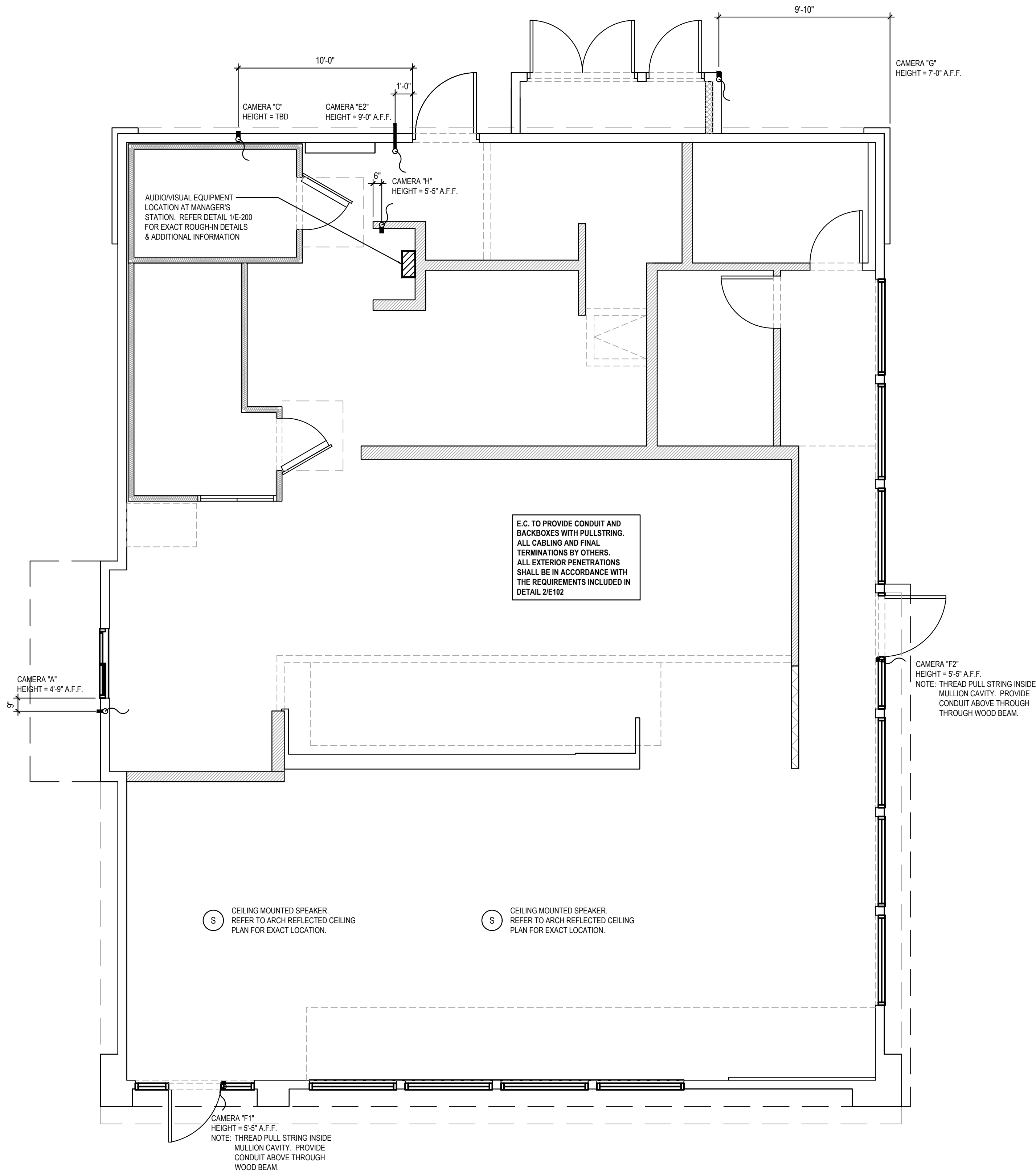
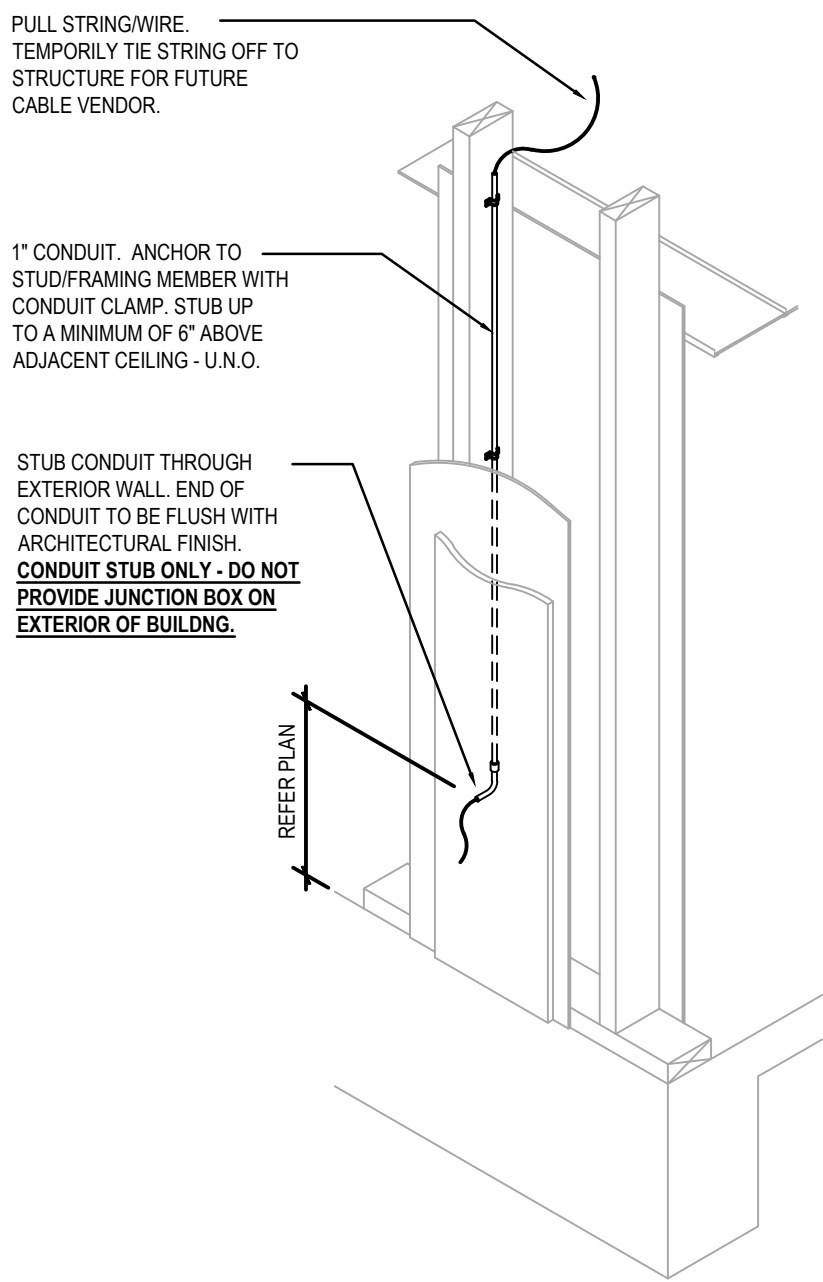
CANOPY LIGHTING PLAN

TRUE WARM & WELCOME 2500 (CUSTOM)



1. E.C. TO PROVIDE J-BOX WITH 3' WHIP FOR CONNECTION TO PANDA EXPRESS PROVIDED LIGHTED CANOPY. E.C. TO MAKE FINAL CONNECTION.	
2. E.C. TO PROVIDE J-BOX WITH 3' WHIP FOR CONNECTION TO PANDA EXPRESS PROVIDED LIGHTED DRIVE THRU CANOPY. E.C. TO MAKE FINAL CONNECTION.	
3. ALL JUNCTION BOXES ON THIS SHEET TO BE RECESS MOUNTED.	
#	2
CANOPY LIGHTING KEYED NOTES	
NOT TO SCALE	E-101.1

CANOPY LIGHTING PLAN	1
Scale: 1/4"=1'-0"	E-101.1



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Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.372.8288

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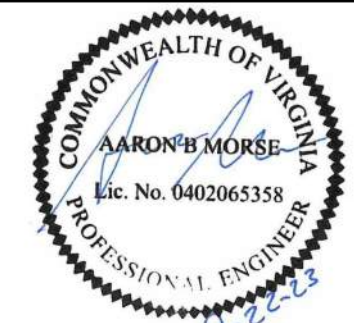
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- ALL ROOF MOUNTED EQUIPMENT SHALL BE IN NEMA-3R ENCLOSURES.
- ALL CONDUIT RUNS SHOWN ON THE ROOF SHALL BE RUN BELOW IN THE CEILING SPACE WHERE AMBIENT TEMPERATURE WILL BE BELOW 30° C. FINAL CONNECTIONS TO THE ROOF EQUIPMENT IS LIMITED TO 5'-0" OF DIRECT SOLAR EXPOSURE.
- VERIFY ALL FUSE SIZES AND TYPES WITH THE MECHANICAL EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION.
- REVIEW THE MECHANICAL PLANS FOR HVAC CONTROL REQUIREMENTS AND SCOPE OF WORK PRIOR TO BIDDING AND INCLUDE ALL COSTS IN BID.
- VERIFY CONNECTION POINTS OF ALL HVAC EQUIPMENT PRIOR TO INSTALLATION. PROVIDE CONTROL VOLTAGE CONNECTION TO DUCT MTD. SMOKE DETECTOR AS REQUIRED BY MECHANICAL DRAWING M-100 AND INTERLOCK WITH FIREALARM.
- SEE MECHANICAL DRAWINGS FOR EXACT LOCATIONS OF MECHANICAL EQUIPMENT AND THERMOSTATS. PROVIDE RACEWAY SYSTEM FOR ALL CONTROL WIRING AS REQUIRED BY MECHANICAL DRAWING M-100.
- E.C. COORDINATE ELECTRICAL, MECHANICAL, FIRE ALARM (IF REQUIRED) FOR INTERLOCK SEQUENCE FOR FIRE SUPPRESSION.
- RESTROOM EXHAUST FAN TO BE POWERED FROM BACK OF HOUSE LIGHTING CIRCUIT. SEE DETAIL 5/E400 FOR ADDITIONAL INFORMATION.

ROOF PLAN GENERAL NOTES

2

NOT TO SCALE

E-104

1. ROUTE HOMERUN THROUGH BACK OF HOUSE LIGHTING CIRCUIT. REFER TO LIGHTING CONTACTOR SCHEDULE, 4/E-101. FAN TO BE CONTROLLED BY SWITCH FOR BACK OF HOUSE LIGHTING.
2. DUCT SMOKE DETECTOR, FURNISHED BY MECHANICAL/FACTORY, WIRED BY ELECTRICAL / FIRE ALARM CONTRACTOR. FURNISH AND INSTALL ALL RACEWAY, WIRING, AND ADDITIONAL ACCESSORIES REQUIRED FOR CODE COMPLIANCE AND UNIT SHUTDOWN.
3. CIRCUIT FEEDS FROM PANELBOARD - THROUGH HOOD CONTROL PANEL - UP TO ROOF. REFER TO DETAIL, SHEET 3/E-401 & KITCHEN HOOD SUBMITTAL DATA.
4. REFER TO CONDENSING UNIT WIRING DIAGRAM, 7/E-400.
5. STRUT RACK SUPPORT FOR EQUIPMENT DISCONNECT SWITCHES. REFER TO DETAIL, SHEET 2/E-401.
6. PROVIDE OUTLET WITH RED DOT INUSE COVER AT PARAPET +24" ABOVE ROOF FOR HEAT TAPE. HEAT TAPE PROVIDED BY OTHERS.
7. DO NOT INSTALL UNTIL BACK DRAFT DAMPER INSTALLATION IS COMPLETE. UTILIZE FACTORY KNOCKOUTS FOR ELECTRICAL RUN FOR THIS FAN. REFER TO SHEET M-402.
8. NOT USED.
9. STUB ELECTRICAL FEED FOR EF-1 & EF-2, THROUGH ROOF ON HINGE SIDE OF EXHAUST FANS. IN LOCATION AS SHOWN ON POWER ROOF PLAN. REFER TO DETAIL 3/M-501 FOR ADDITIONAL DETAILS.
10. ROUTE POWER FEEDS VIA FACTORY PROVIDED THRU-BASE CONNECTION AREA. COORDINATE WITH MECHANICAL.
11. UNIT INCLUDES FACTORY MOLDED CASE DISCONNECT SWITCH (NO OCP). VERIFY WITH MECHANICAL SUBMITTAL DATA. PROVIDE DISCONNECT IF / AS REQUIRED.

ROOF PLAN KEYED NOTES

3

NOT TO SCALE

E-104

ROOFTOP EQUIPMENT SCHEDULE

TAG	DESCRIPTION	kW	H.P.	FLA	VOLT/Ø	WIRE, CONDUIT	CONN.	MOUNT HEIGHT	DISC. SW. WITH RK1 FUSES PER MFR'S REQ'S. AND/OR REMARKS
RTU1	A/C UNIT (LENNOX)			42.0	208V.3Ø	3 #8, #10 GND., 1" C.		AT UNIT	60A. 3P. 3F. WP 1 4
RTU2	A/C UNIT (LENNOX)			46.0	208V.3Ø	3 #6, #10 GND., 1" C.		AT UNIT	60A. 3P. 3F. WP 1 4
RTU3	A/C UNIT (LENNOX)			46.0	208V.3Ø	3 #6, #10 GND., 1" C.		AT UNIT	60A. 3P. 3F. WP 1 4
CU-1	CONDENSING UNIT			21.4	208V.3Ø	3 #10, #10 GND., 1" C.		AT UNIT	30A. 3P. 3F. WP
CU-2	CONDENSING UNIT			21.4	208V.3Ø	3 #10, #10 GND., 1" C.		AT UNIT	30A. 3P. 3F. WP
MA-1	MAKE-UP AIR UNIT	7.5	15.0	208V.3Ø	3 #12, #12 GND., 3/4" C.			AT UNIT	1 4
EF-1	EXHAUST FAN	2.0	5.9	208V.3Ø	3 #12, #12 GND., 3/4" C.			AT UNIT	1
EF-2	EXHAUST FAN	2.0	5.9	208V.3Ø	3 #12, #12 GND., 3/4" C.			AT UNIT	1
EF-3	EXHAUST FAN	1/4	4.8	120V.1Ø	2 #12, #12 GND., 3/4" C.			AT UNIT	30A. 2P. 1F. WP 1 4
31-S	W/I COOLER COND.			27.0	208V.1Ø	2 #10, #10 GND., 3/4" C.		AT UNIT	2 3
32-S1	W/I FREEZER COND.			32.0	208V.1Ø	2 #8, #8 GND., 3/4" C.		AT UNIT	30A. 2P. 2F. WP 2 3
10J-S1	ICE MACHINE COND.			11.7	208V.1Ø	2 #12, #12 GND., 3/4" C.		AT UNIT	2 3

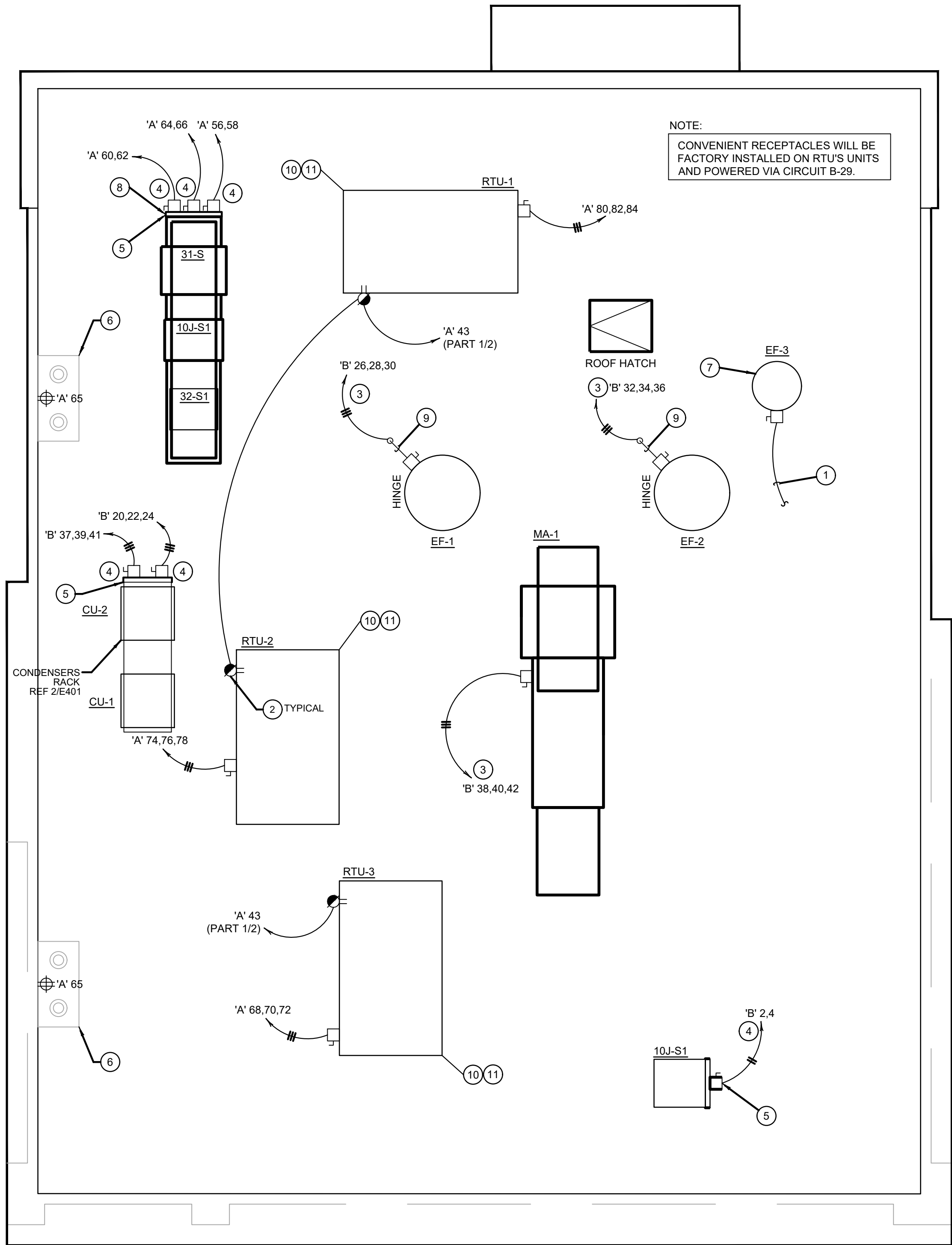
- 1 DISCONNECT SWITCH PROVIDED WITH UNIT.
- 2 COMBINATION 30A. 2P. 2F. WP DISCONNECT SWITCH WITH RK5 FUSES PER MANUFACTURER RECOMMENDATION.
- 3 COMBINE CIRCUITRY IN 1" CONDUIT FROM J-BOX ON EQUIPMENT DISCONNECT SWITCH SUPPORT. REFER TO DETAIL THIS SHEET, 1 / E-104.
- 4 ELECTRICAL FEEDS ARE TO BE ROUTED FROM PLENUM SPACE, UP THROUGH EQUIPMENT CURB, INTO BOTTOM OF EQUIPMENT, THROUGH FACTORY INSTALLED WATER TIGHT CONNECTIONS.

HVAC EQUIPMENT SCHEDULE

4

NOT TO SCALE

E-104



ROOF POWER PLAN

1

1/4" = 1'-0"

E-104



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

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ARCH PROJECT #: 261-248



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110 W. 7TH STREET • SUITE 600 • TULSA, OK 74119
(918) 582-8088 • (918) 582-4887 FAX



PANDA EXPRESS

TRUE WARM & WELCOME
N. MILITARY HWY & LOWERY RD.
NORFOLK, VA 23502

E-104

ROOF POWER PLAN

TRUE WARM & WELCOME 2500 (CUSTOM)

- COORDINATE SERVICE ENTRANCE SECTION, TRANSFORMER, PRIMARY SERVICE, SECONDARY SERVICE, AND SWITCHING CABINET OR POWER POLE LOCATIONS WITH SERVING UTILITY COMPANY AND COMPLY AS REQUIRED.
- CONTRACTOR TO BE RESPONSIBLE FOR COORDINATING AND PROVIDING REQUIRED WORK FOR SUPPLYING ELECTRICAL POWER AND TELEPHONE UTILITIES TO THE BUILDING.
- CONTRACTOR SHALL HAVE ALL EXISTING UNDERGROUND UTILITIES LOCATED PRIOR TO TRENCHING. ALL UNDERGROUND UTILITIES DAMAGED DURING TRENCHING SHALL BE REPAIRED TO THE SATISFACTION OF INVOLVED UTILITY AT CONTRACTOR'S EXPENSE.
- MINIMUM CONDUCTOR SIZE THIS SHEET TO BE #10 CU, 1" CONDUIT.

SITE PLAN GENERAL NOTES

2

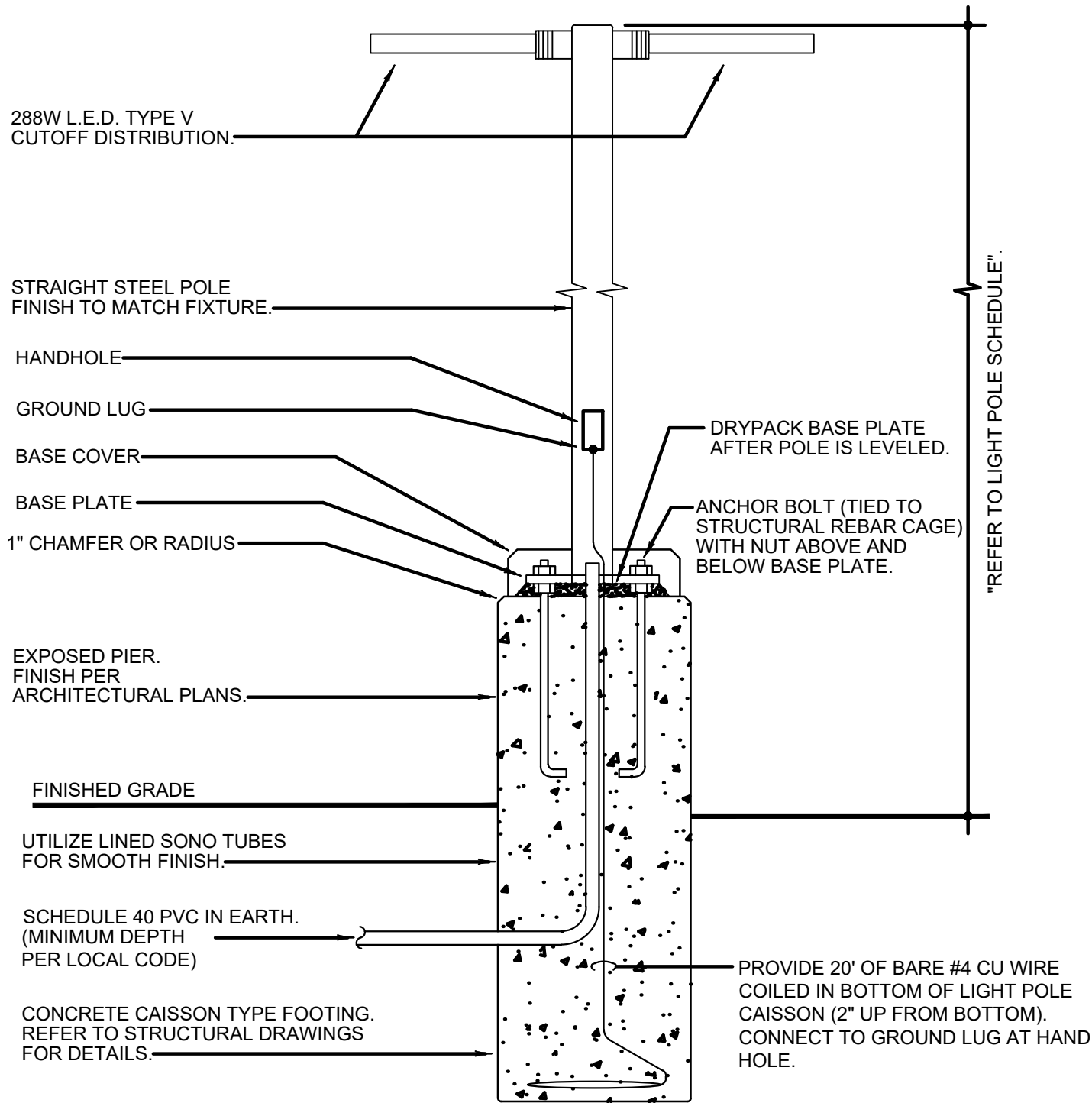
E-105

1. FEED THROUGH LIGHTING CONTACTOR. REF: 11/E400.
2. STUB UP LOCATION FOR (3) 3/4" CONDUITS & PULL STRINGS, TO ENTER BUILDING & UP TO 6" ABOVE CEILING. REFER TO SHEET 1/E401.
3. STUB-UP LOCATION FOR MENU BOARD. SIGN DISCONNECT PROVIDED BY SIGN CONTRACTOR. COORDINATE PRECISE LOCATION WITH ARCHITECT / OWNER.
4. DRIVE-THRU SENSOR LOOP. COORDINATE LOCATION. REFER TO DETAIL 1 / E401.
5. STUB-UP FOR DRIVE-THRU ORDER CONFIRMATION MONITOR. COORDINATE LOCATION WITH ARCHITECT / OWNER.
6. STUB UP LOCATION FOR PYLON SIGN OR MONUMENT SIGN. ELECTRICAL CONTRACTOR TO PROVIDE NON-FUSED DISCONNECT AT BASE OF SIGN. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER. CONNECT TO EXTERIOR BUILDING SIGN TIMER CONTROL. REFERENCE 11/E400.
7. SEE POLE MOUNTING DETAIL. REFER TO 4/E105.
8. CABLE PULL BOX; REFERENCE 1/E100. INSTALL MINIMUM 3' FROM SIDEWALK. DO NOT INSTALL IN SIDEWALK CONCRETE.
9. REF: 1/E400 FOR SES GROUNDING DETAIL.

SITE PLAN KEYED NOTES

3

E-105



NOTE: THIS DETAIL IS FOR ELECTRICAL INSTALLATION ONLY. REFER TO STRUCTURAL DRAWINGS FOR MORE INFORMATION.

POLE MOUNTING DETAILS

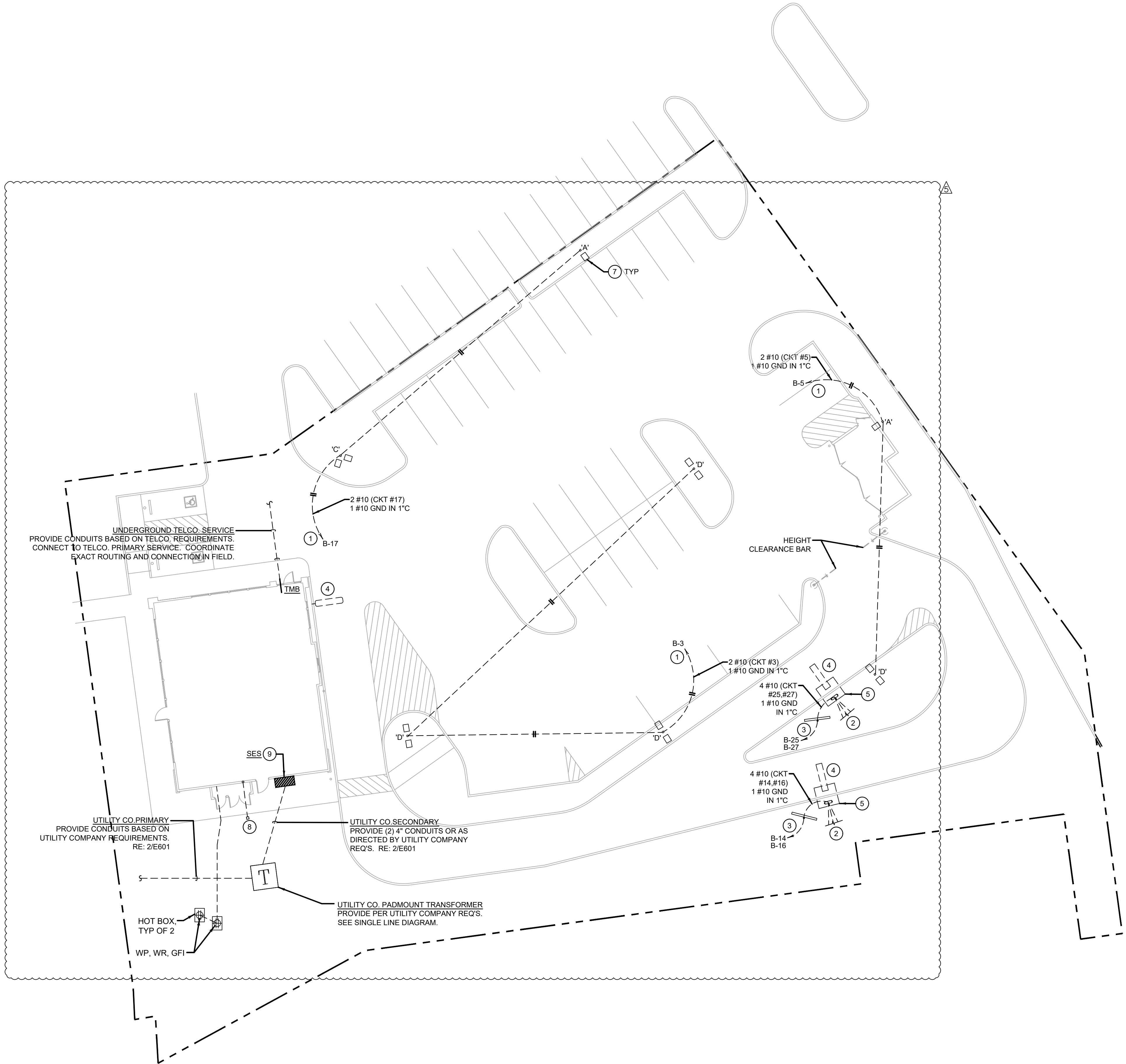
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E-105

NO SCALE

LIGHT POLE FIXTURE LEGEND

SYMBOL	MANUFACTURER	CATALOG NUMBER	DESCRIPTION	FIXTURE QTY.	COLOR	REMARKS	POLE	POLE QTY.
□ □	LSI	SLM-LED	SITE LIGHTING	12	DARK BRONZE	MOUNT ON 20'-0" SQUARE STRAIGHT POLE 22'-0" OVERALL HEIGHT WITH 2'-0" BASE	45Q85-S11G-20-X-BRZ-480-480LTS	7
NOTE: REFER TO PHOTOMETRIC STUDY FOR EXACT CATALOG SPECIFICATIONS OF LIGHT POLE FIXTURES No substitutions accepted. Contact: Ryan Zinsmeister for pricing ryan.zinsmeister@vslaighting.com 314-531-2600								



SITE & EXTERIOR LIGHTING PLAN

1

E-105

1" = 16'-0"



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

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OWNER CHANGES 09-22-23

ISSUE DATE:

ISSUE FOR PERMIT 05-30-22

ISSUE FOR BID 09-21-23

DRAWN BY: AE/SS

PANDA PROJECT #: D5885

ARCH PROJECT #: 261-248



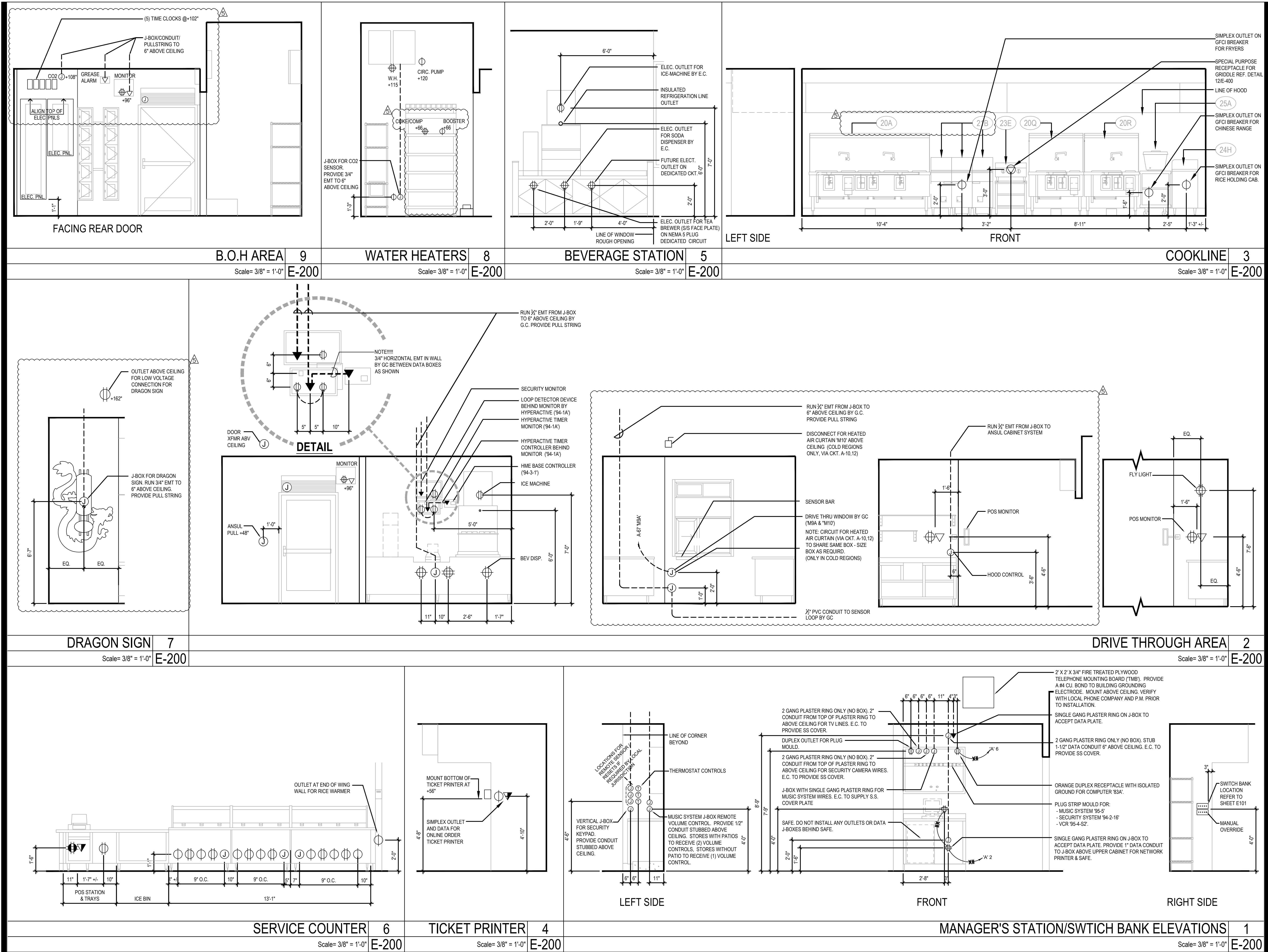
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E-105

SITE & EXTERIOR LIGHTING PLAN

TRUE WARM & WELCOME 2500 (CUSTOM)



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1683 Walnut Grove Ave.
Rosemead, California
91770
Telephone: 626.799.9898
Facsimile: 626.712.8288

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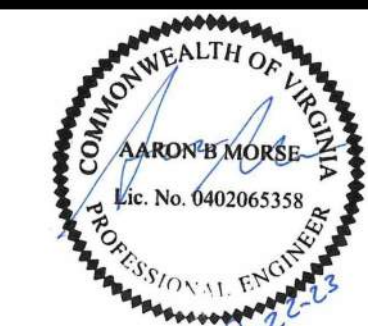
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PANDA PROJECT #: D5885

ARCH PROJECT #: 261-248



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110 W. 7TH STREET • SUITE 600 • TULSA, OK 74119
(918) 582-1008 • (918) 582-4887 FAX



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E-200

ELECTRICAL ELEVATIONS

TRUE WARM & WELCOME 2500 (CUSTOM)

ISSUE FOR BID 09-21-23

ISSUE FOR BID 09-21-23



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REVISIONS:

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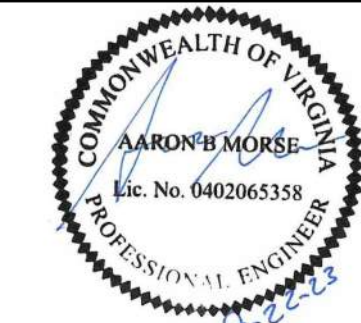
DRAWN BY: AE/SS

PANDA PROJECT #: D5885

ARCH PROJECT #: 261-248



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110 W. 7TH STREET • SUITE 600 • TULSA, OK 74119
(918) 582-0008 • (918) 582-0007 FAX

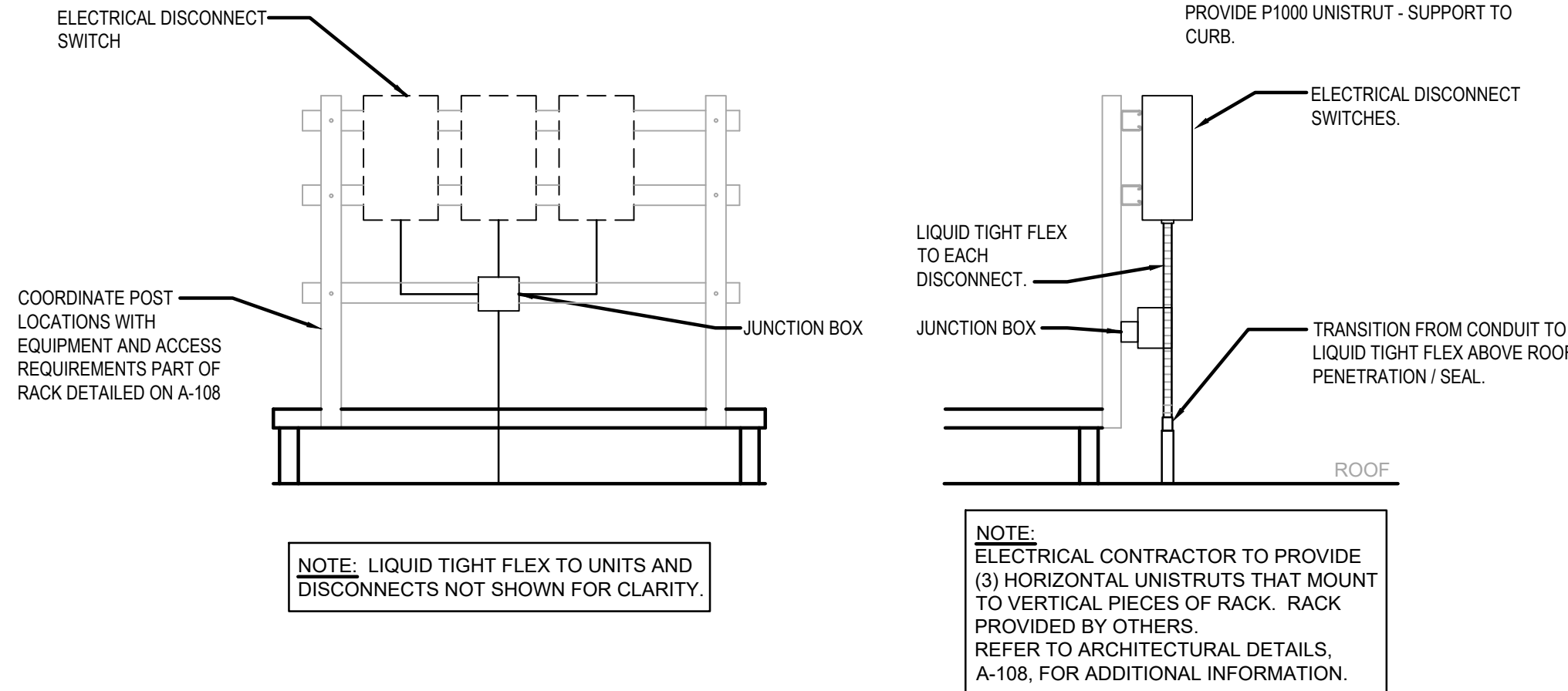


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E-401

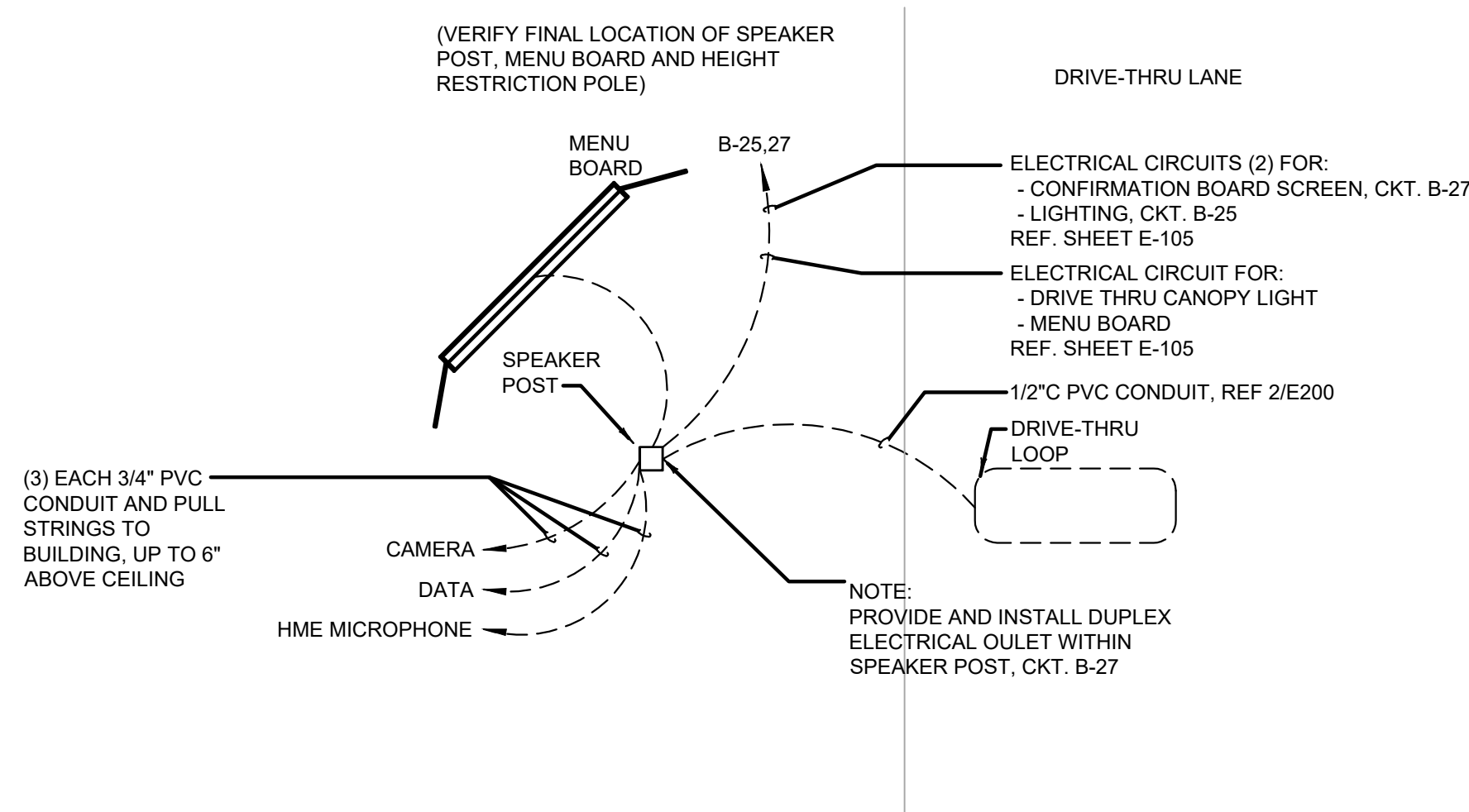
ELECTRICAL DETAILS, DIAGRAMS

TRUE WARM & WELCOME 2500 (CUSTOM)



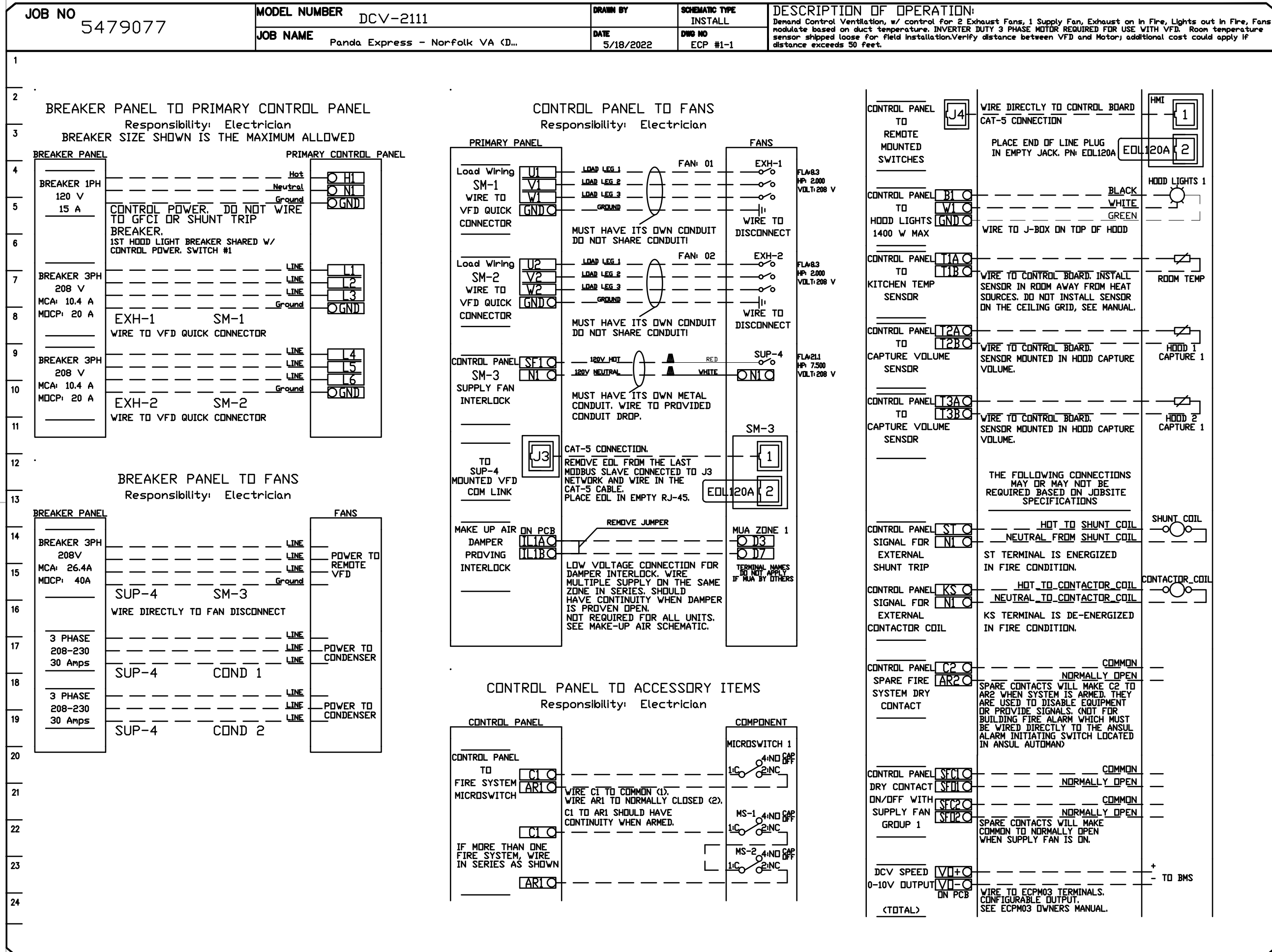
EQUIPMENT DISCONNECT SWITCH SUPPORT 2

NOT TO SCALE E-401



MENU BOARD & SENSOR LOOP 1

E-401



KITCHEN EXHAUST SYSTEM DIAGRAM 3

NOT TO SCALE E-401

- (1) KITCHEN EQUIPMENT SHOWN AT 65% IN PANEL TOTALS PER NEC (KITCHEN EQUIPMENT).
- (2) TERMINATE GROUND ON ISOLATED GROUND BUS.
- (3) ROUTE CIRCUIT THROUGH LIGHTING CONTACTOR, CONTROLLED BY TIMECLOCK. REFER TO DETAILS, SHEET 11/E-400.
- (4) WIRE SIZE INCREASE DUE TO VOLTAGE DROP. SEE EQUIPMENT GROUND CONDUCTOR PROPORTIONALLY PER NEC.
- (5) REFER TO ONE-LINE DIAGRAM FOR WIRE SIZES.
- (6) GFCI BREAKER
- (7) INSTALL LOCKING DEVICE (LOCK-OFF FOR MAINTENANCE).

PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16

PNL A				PANELBOARD										208Y/120V, 3PH, 4W 400A M.L.C.				SERIES RATED 65/10K A.I.C. GROUND BUS ISOLATED GROUND					
MOUNTING: FLUSH WALL MOUNT LOCATION: ELEC. CABINET TYPE: BOLT ON W/GROUND BUS NEMA RATING: 1				(NEW) INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS NOT ALLOWED																			
DESCRIPTION				WIRE		BRKR		PL		KVA		PL		BRKR		WIRE		DESCRIPTION					
										A		B		C									
1	WIC DISPLAY LTS/MENUBRD/LED	12	20	1		0.33	1.00									1	20	12	FAX '87', MGR '84C', COMP '49A	2			
2	HOOD CONT'L PNL 'M4'	12	20	1								0.50	0.60			1	20	12	MUSIC VCRS, MINITOR	4			
5	SERVICE POS 94, PTR '86A'(2,6)	12	20	1										1.10	0.50	1	20	12	COMPUTER RECEPT '83A' (2)	6			
7	D.THRU POS '94'/PTRS '86A'(2,6)	12	20	1		1.10	0.13									1	20	12	10J ICE MACHINE (6)	8			
9	95-4-S'3, FLY LT,CO2 (1,6)	12	20	1								0.82	1.41			2	20	12	CHF-25 'M10' AIR CURTAIN	10			
11	RICE WARMER '54A' (1,4)	12	20	1										0.11	1.41					12			
13	REF. PREP TABLE '340' (1)	12	20	1		1.80	1.18									1	20	12	REAR DOOR - FLY FAN 'M8A'	14			
15	REF. PREP TABLE '340' (1)	12	20	1								1.08	0.10			1	20	12	FIRE SUPPRES SHUTDOWN	16			
17	UNDER CTR FRZR '30L' (1,4)	12	20	1										1.08	1.18	1	20	12	SIDE DOOR - FLY FAN 'M8C'	18			
19	BEVERAGE DISP '4AB'(1)	12	20	1		1.12	1.30									1	20	10	INDUCT WELT 3F, 3G (1,4,6)	20			
21	SERVING COUNTER	12	20	1								0.10	1.30			1	20	10	INDUCT WELT 3F, 3G (1,4,6)	22			
23	ICE TEA BREWER '90'	12	20	1										1.78	1.30	1	20	10	INDUCT WELT 3F, 3G (1,4,6)	24			
25	FOOD PROCESSOR '53'	12	20	1		1.20	1.30									1	20	10	INDUCT WELT 3F, 3G (1,4,6)	26			
27	ELEC. DOOR EQUIPMENT	12	20	1								0.72	1.30			1	20	10	INDUCT WELT 3F, 3G (1,4,6)	28			
29	WALK-IN COOLER COIL '31M'(1)	12	20	1										0.24	1.30	1	20	10	INDUCT WELT 3F, 3G (1,4,6)	30			
31	RICE HOLD CAB '24H' (1,4,6)	10	20	1		1.78	1.30									1	20	10	INDUCT WELT 3F, 3G (1,4,6)	32			
33	FUTURE CONTROLS (1,6)	12	20	1								0.20	0.84			1	20	10	INDUCT WELT 3F, 3G (1,4,6)	34			
35	TIME CLOCK	12	20	1										0.01	1.10	1	20	12	RAD TOP HEATER '152B1' (1)	36			
37	4B' BOOSTER OUTLET (6)	12	20	1		0.86	1.10					0.50				1	20	12	RAD TOP HEATER '152B2' (1)	38			
39	HEAT WRAP '32-S' (4)	12	20	1														SPARE		40			
41	FLY LIGHT (6)	12	20	1										0.18	1.52	2	20	12	THAWING CABINET	42			
43	DUCT DETECTORS	12	20	1		0.20	1.52											SPARE		44			
45	LTG-FOOD PRP/EF3 (4)	10	20	1								1.13				1	20	12	SPARE	46			
47	LTG DINING AREA	12	20	1										0.25	1.40	2	15	12	MICROWAVE - 55A (1)	48			
49	SHOW WINDOW RECEPTS	12	20	1		0.90	1.40											FUTURE EQUIPMENT		50			
51	GENERAL RECEPTS	12	20	1								0.72	0.18			1	20	12	SPARE	52			
53	EXTERIOR RECEPTS	12	20	1										0.36		1	20	12	SPARE	54			
55	GREASE REMOVAL	12	20	1		0.18	1.23									2	20	12	ICE MACHINE COND. '10J-S' (1)	56			
57	10J ICE MACHINE (6)	12	20	1								0.13	1.23							58			
59	GAS WATER HEATER - P3, (6)	12	20	1										0.96	3.12	2	40	8	WALKIN FRZR COND. '32-S1'(1,7)	60			
61	ICE TEA BREWER '90' (1,4)	10	20	1		1.78	3.12													62			
63	LTG - RESTRMS	12	20	1								0.07	3.64			2	35	10	WALK IN COOL COND '31-S' (1)	64			
65	DRG RECEPTS	12	20	1										0.36	3.64					66			
67	DT WINDM 'M8A' AIR CURTAIN	12	20	1		0.50	5.52									3	50	6	RTU-3 (LENNOX)	68			
69	DRIVE_THRU_HOT_WELL_CABINET	6	50	2								2.70	5.52							70			
71														2.70	5.52					72			
73	ELECTRIC GRIDDLE - " 23E" (1,6)	6	50	2		3.79	5.52									3	50	6	RTU-2 (LENNOX)	74			
75												3.79	5.52							76			
77	SPARE	12	20	1																78			
79	SPACE											5.04				3	50	6	RTU-1 (LENNOX)	80			
81	SPACE													5.04						82			
83	SPACE																			84			
PANELBOARD TOTALS CALCULATED				TOTAL		46.18		39.13		41.66		KVA											
PER NEC ARTICLE 220						385		327		348		AMPS											
TOTAL LOAD						126.98		KVA				353		AMPS									
FEEDER LOAD						110.84		KVA				308		AMPS									

PROVIDE AN ARC FLASH WARNING SIGN PER NEC 110.16

PANL B

MOUNTING: FLUSH WALL MOUNT

LOCATION: ELEC. CABINET

TYPE: BOLT ON W/GROUND BUS

NEMA RATING: 1

PANELBOARD

(NEW)

208Y/120V, 3PH, 4W

225A M.L.O.

SERIES RATED 65/10K A.I.C.

GROUND BUS

INTERIOR PANELBOARDS SHALL BE RECESSED WITH FLANGED/REMOVABLE SCREW-ON COVER. SURFACE MOUNTED PANELBOARDS OR HINGED/FLUSH COVERS NOT ALLOWED

DESCRIPTION			WIRE	BRKR	PL	KVA			PL	BRKR	WIRE	DESCRIPTION		
						A	B	C						
1	BUILDING SIGN/LOGO (3)	12	20	1	1.00	1.23			2	20	10	ICE MACHINE COND. '10J-SI' (4)	2	
3	EXTERIOR POLE MOUNT LTG (3,4)	10	20	1		0.89	1.23		1	20	12	21B MJ345 FRYER (1,6)	4	
5	EXTERIOR POLE MOUNT LTG (3,4)	10	20	1				0.45 0.90					6	
7	TICKET PRINTER	12	20	1	0.22	5.64			3	60	6	POT WASHER	8	
9	BEV. DISPENSER 4AB (1,4)	10	20	1		1.12	5.64						10	
11	SECURITY/POS MONITORS	12	20	1				0.10 5.64					12	
13	HYPERACTIVE TIMER SYS.	12	20	1	0.10	1.50			1	20	10	MENUBOARD (3,4)	14	
15	DINING TV'S	12	20	1		0.26	1.00		1	20	10	DR THRU ORDER SCREEN (4)	16	
17	EXTERIOR POLE MOUNT LTG (3,4)	10	20	1				0.45				SPACE	18	
19	COKE CARBONATOR	12	20	1	0.20	2.57			3	30	10	CU-2	20	
21	MONUMENT SIGN (3,4)	10	20	1		0.50	2.57						22	
23	BUILDING LTG/EM (3)	12	20	1				0.10 2.57					24	
25	MENUBOARD (3,4)	10	20	1	1.50	0.71			3	15	12	EF-1	26	
27	DR THRU ORDER SCREEN (4)	10	20	1		1.00	0.71						28	
29	RTU CONVENIENCE OUTLETS	12	20	1				0.54 0.71					30	
31	CANOPY LIGHTING (3)	12	20	1	0.13	0.71			3	15	12	EF-2	32	
33	CANOPY LIGHTING (3)	12	20	1		0.13	0.71						34	
35	EXTERIOR MOTION SECURITY LED	10	20	1				0.71					36	
37	CU-1	10	30	3	2.57	2.40			3	30	10	MAJ-1	38	
39						2.57	2.40						40	
41								2.57 2.40					42	
PANELBOARD TOTALS CALCULATED					TOTAL	20.46	20.71	17.12	KVA					
PER NEC ARTICLE 220						171	173	143	AMPS					
					TOTAL LOAD	58.29	KVA	162	AMPS					
					FEEDER LOAD	59.55	KVA	166	AMPS					

SSES

MOUNTING: WALL MOUNT

LOCATION: OUTSIDE IN NEMA 3R ENCLOSURE

SWITCHBOARD

(NEW)

208Y/120V, 3PH, 4W

600A M.C.B.

65,000 AIC

GROUND BUS

ISOLATED GROUND

		DESCRIPTION	WIRE	BRKR	PL	KVA			PL	BRKR	WIRE	DESCRIPTION	
					A	B		C					
1	3	PANELBOARD "A" (5)	400	3	46.18							SPACE	2
5						39.13					4		
6							41.66				6		
7	9	PANELBOARD "B" (5)	200	3	20.46							SPACE	8
11						20.71					10		
13							17.12				12		
15	17	SPACE										SPACE	14
													16
PANELBOARD TOTALS CALCULATED					TOTAL	66.64	59.85	58.78	KVA				
PER NEC ARTICLE 220						556	499	490	AMPS				
					TOTAL LOAD	185.27	KVA	515	AMPS				
					FEEDER LOAD	169.19	KVA	470	AMPS				

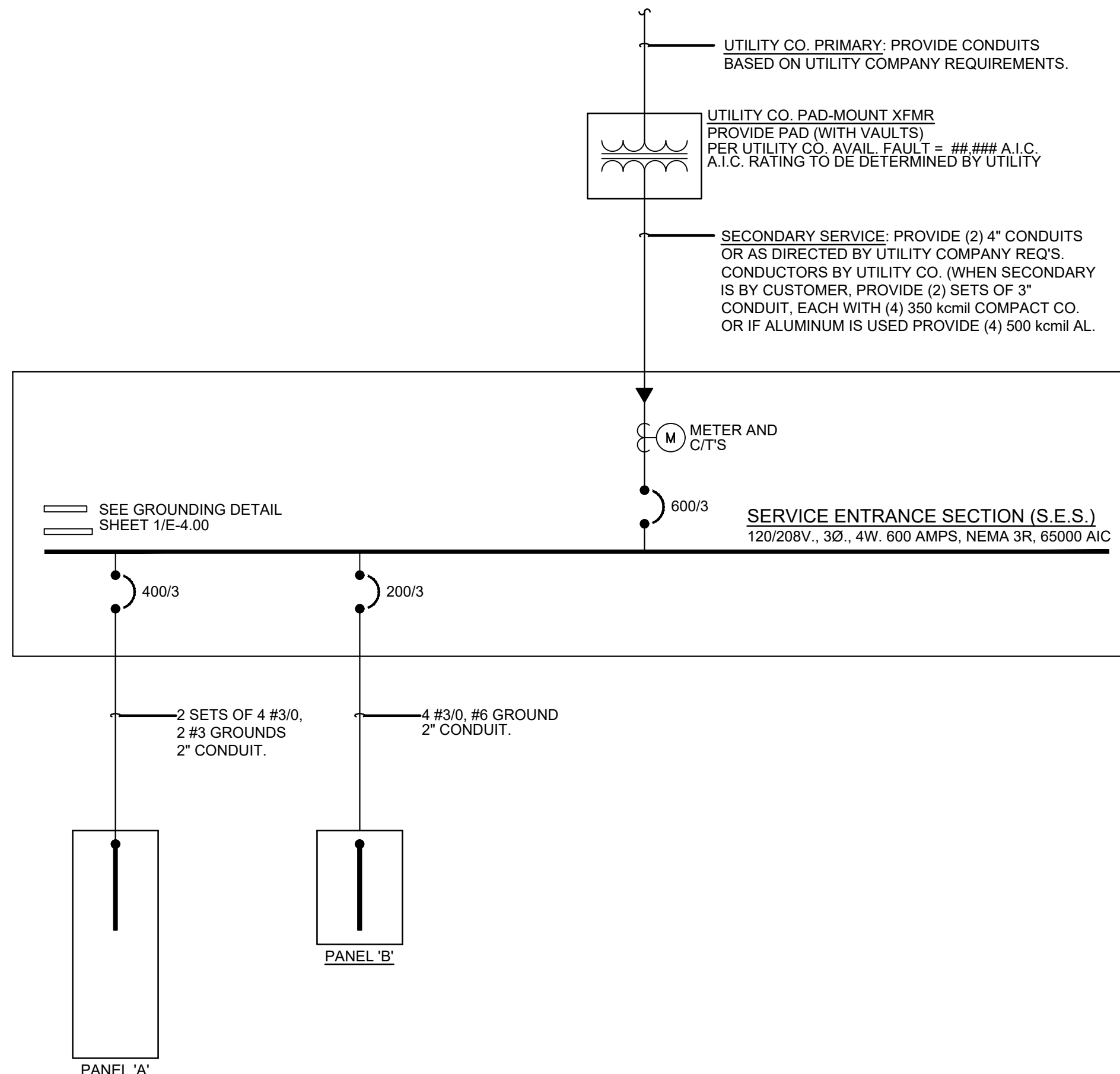
Total VA per system

1) General Receptacles – 1st 10,000VA	=	10,000	x	1.00	=	10,000
2) General Receptacles – over 10,000VA	=	2,404	x	0.50	=	1,202
3) Kitchen Equipment	=	49,076	x	0.65	=	31,900
4) Lighting	=	4,848	x	1.25	=	6,060
5) HVAC	=	88,305	x	1.00	=	88,305
6) Refrigeration	=	18,428	x	1.00	=	18,428
7) Continuous	=	4,356	x	1.25	=	5,445
8) Non-Continuous	=	7,848	x	1.00	=	7,848
9) Spore	=		x	1.00	=	
Total VA per system	=	<u>185,266</u>			=	<u>169,188</u>
Panelboard voltage	=	<u>360</u>			=	<u>360</u>
Total Connected Load (amperes)	=	<u>515</u>			=	<u>470</u>
Total Diversified Load (amperes)	=				=	

PANEL SCHEDULES		1
	NOT TO SCALE	E-601

ELECTRICAL SERVICE ENTRANCE COORDINATION				
NEW SERVICE REQUIRED: 600A, 120/208V, 3 PHASE, 4 WIRE			UTILITY COMPANY: XXXXXXXXXXXXXXXXXXXX	
SERVICE TO BUILDING ROUTED: TBD			NAME OF CONTACT: XXXXXXXXXXXXXXXXXXXX	
AVAILABLE FAULT CURRENT: TBD			PHONE: (XXX)–XXX–XXXX	
METERING LOCATION: EXTERIOR BUILDING			EMAIL: XXXXXXXXXXXX@XXXX.com	
ITEMS	CONTRACTOR		UTILITY COMPANY	
	FURNISHED BY	INSTALLED BY	FURNISHED BY	INSTALLED BY
PRIMARY CONDUCTORS			X	X
PRIMARY TERMINATIONS			X	X
PRIMARY CONDUIT(S)	X	X		
PRIMARY TRENCH/BACKFILL	X	X		
TRANSFORMER –(CONTRACTOR TO PROVIDE PAD PER/UTILITY REQ'S.)			X	X
SECONDARY CONDUCTORS (FROM XFMR TO UTILITY METER)	X	X		
SECONDARY TERMINATIONS @ TRANSFORMER (GC PROVIDE LUGS)			X	X
SECONDARY TERMINATIONS @ SERVICE ENTRANCE	X	X		
SECONDARY CONDUIT	X	X		
SECONDARY TRENCH/BACKFILL	X	X		
METERING CT'S – TO BE DETERMINED BY UTILITY			X	X
METER HOUSING – PROVIDED BY UTILITY TO CONTRACTOR AT NO CHARGE	X	X		
CONTRACTOR NOTE:				
1. CONTRACTOR TO FIELD VERIFY AND COORDINATE THEIR RESPONSIBILITIES FOR ELECTRICAL SERVICE ENTRANCE WITH ELECTRICAL SERVICE PROVIDER; AND PROVIDE BID WITH ALL ASSOCIATED COSTS WITH NO ADDITIONAL COST TO OWNER.				

SINGLE LINE DIAGRAM		2
NOT TO SCALE		E-601



SINGLE LINE DIAGRAM GENERAL NOTES		3
	NOT TO SCALE	E-601

1. ENTIRE INSTALLATION TO COMPLY WITH N.E.C. 110.22 AND 240.86(B).
2. NO DESIGN CHANGES MAY BE MADE TO THE SYSTEM WITHOUT THE PRIOR APPROVAL OF THE DESIGN ELECTRICAL ENGINEER AND THE ELECTRICAL INSPECTOR.
3. A TWO TIER 65000/10000 AIC SERIES RATING SYSTEM IS SPECIFIED BETWEEN THE SES MAINS FUSES AND THE PANEL BRANCH CIRCUIT BREAKERS, NO SUBSTITUTIONS - UNLESS A FULLY RATED SYSTEM IS PROVIDED.
4. MOTOR CONTRIBUTION TO THE FAULT CURRENT IS LESS THAN 1% OF THE INTERRUPTING RATING OF THE DOWNSTREAM CIRCUIT BREAKER(S).
5. THE ELECTRICAL CONTRACTOR SHALL PROVIDE LABELS AT ALL COMPONENTS OF THE SERIES PROTECTED SYSTEM, AT PANEL 'A' STATING "CAUTION - 65/10 SERIES COMBINATION SYSTEM RATED 21,572 AMPERES, IDENTIFIED REPLACEMENT COMPONENTS REQUIRED", AT PANEL 'B' STATING "CAUTION - 65/10 SERIES COMBINATION SYSTEM RATED 20,985 AMPERES, IDENTIFIED REPLACEMENT COMPONENTS REQUIRED". IDENTIFIED REPLACEMENT COMPONENTS REQUIRED"
6. EQUIPMENT SUPPLIER TO PROVIDE CUT SHEETS OF ALL SERIES RATED COMPONENTS (I.E. FUSES, CIRCUIT BREAKERS) HIGHLIGHTING EACH ITEM AND THE SPECIFIC LISTING/TESTING OF EACH ITEM'S SERIES RATING WITH THE OTHER.
7. POST THIS INFORMATION ON THE JOB-SITE WITH PERMIT FOR CITY ELECTRICAL INSPECTOR'S REVIEW/APPROVAL.

SERIES RATING NOTES		4
	NOT TO SCALE	E-601

The logo for Panda Express Chinese Kitchen is a circular emblem. It features a stylized black and white panda in the center, facing forward. The words "PANDA EXPRESS" are written in a bold, sans-serif font along the top inner edge of the circle, and "CHINESE KITCHEN" is written along the bottom inner edge. Two small dots separate the top and bottom text on the left and right sides.

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

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REVISIONS:

4	OWNER CHANGES	12-22-22
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MPW ENGINEERING, LLC
110 W. 7TH STREET • SUITE 600 • TULSA, OK 74119
(918) 582-4088 • (918) 582-4087 FAX



PANDA EXPRESS

TRUE WARM & WELCOME
N. MILITARY HWY & LOWERY RD
NORFOLK, VA 23502

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