

SPECIFICATIONS

- I. SCOPE**
- INSTALL ALL ELECTRICAL WORK COVERED BY THESE SPECIFICATIONS AND APPROVED DRAWINGS. PROVIDE ALL MATERIAL, LABOR, TRANSPORTATION, TOOLS, SUPERVISION, ETC., NECESSARY TO COMPLETE THE TOTAL ELECTRICAL JOB. ALL ITEMS NOT SPECIFICALLY MENTIONED HEREIN WHICH ARE OBVIOUSLY NECESSARY TO MAKE A COMPLETE WORKING INSTALLATION SHALL BE PROVIDED.
 - ELECTRICAL COMPONENTS INCLUDING BUT NOT LIMITED TO CONDUCTOR SIZE, OVERCURRENT PROTECTIVE DEVICE AND DISCONNECT SWITCHES ARE BASED ON POWER REQUIREMENTS FOR EQUIPMENT SPECIFIED AS SHOWN ON THE CONTRACT DOCUMENTS. PRIOR TO INSTALLING WORK, CONTRACTOR SHALL COORDINATE ELECTRICAL REQUIREMENTS WITH EQUIPMENT OF ALL TRADES REQUIRING ELECTRICAL CONNECTIONS.
 - FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH ACTUAL EQUIPMENT SUPPLIED.
 - VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICES (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SANCUTTING AND PATCHING, CONCRETE/PAVING, ETC. AS REQUIRED. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS.
 - EXAMINATION OF BIDDING DOCUMENTS
 - EACH BIDDER SHALL EXAMINE THE BIDDING DOCUMENTS CAREFULLY AND MAKE WRITTEN REQUEST TO THE ARCHITECT FOR INTERPRETATION OR CORRECTION OF ANY DISCREPANCIES, AMBIGUITY, INCONSISTENCY OR ERROR THEREIN. ANY INTERPRETATION OR CORRECTION WILL BE ISSUED BY THE ARCHITECT AS AN ADDENDUM. ONLY WRITTEN INTERPRETATION OR CORRECTIONS BY ADDENDUM SHALL BE BINDING. CONTRACTOR SHALL INCLUDE IN HIS BID, LABOR, MATERIALS AND METHODS OF CONSTRUCTION FOR COMPLETE INSTALLATION AFTER AWARD OF CONTRACT, NO ALLOWANCE OR EXTRA COMPENSATION WILL BE MADE IN BEHALF OF THE CONTRACTOR DUE TO HIS FAILURE TO MAKE THE WRITTEN REQUESTS AS DESCRIBED ABOVE.
 - FAILURE TO REQUEST CLARIFICATION OF ANY INADEQUACY, OMISSION OR CONFLICT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY. THE SIGNING OF THE CONTRACT WILL BE CONSIDERED IMPLICITLY DENOTING THAT THE CONTRACTOR HAS A THOROUGH COMPREHENSION OF THE FULL INTENT AND SCOPE OF THE WORKING DRAWINGS AND SPECIFICATIONS.
- II. CODES AND FEES**
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE 2008 EDITION OF THE NATIONAL ELECTRICAL CODE, N.F.P.A. 70 AND ALL LOCAL AND STATE CODES AND REGULATIONS. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED BY THE BUILDING AND SAFETY CODES AND ORDINANCES, AND THE RULES AND REGULATIONS OF ANY LEGAL BODY HAVING JURISDICTION.
- III. WORKMANSHIP**
- THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF ELECTRICAL EQUIPMENT. COORDINATE DEVICE LOCATIONS WITH DOOR SWINGS, CABINETS, COUNTERS, ETC., AS INDICATED ON THE ARCHITECTURAL DRAWINGS. DO NOT SCALE ELECTRICAL PLANS. OBTAIN DIMENSIONS FOR LAYOUT OF EQUIPMENT FROM ARCHITECTURAL PLANS UNLESS INDICATED ON ELECTRICAL PLANS.
 - COORDINATE WITH ALL OTHER TRADES AND SUBCONTRACTORS PERFORMING WORK ON THIS PROJECT. MINOR OFFSETS IN LOCATIONS OF FIXTURES, DEVICES, ETC. SHALL BE MADE TO AVOID CONFLICTS WITH OTHER TRADES. SUCH MODIFICATIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO THE WORK BEING PERFORMED.
 - MOUNTING HEIGHTS, UNLESS OTHERWISE NOTED, ARE TO THE CENTER LINE OF THE EQUIPMENT AND/OR DEVICE EXCEPT THE MOUNTING HEIGHT OF SUSPENDED LIGHT FIXTURES WHICH IS TO THE BOTTOM OF FIXTURE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
- IV. SUBSTITUTIONS**
- ALL COST INCURRED BY THE ACCEPTANCE OF SUBSTITUTIONS SHALL BE BORNE BY THE CONTRACTOR. PROOF FOR THE EQUALITY OF SUBSTITUTIONS SHALL BE BY THE CONTRACTOR.
- V. U.L. LISTING**
- ALL ELECTRICAL ITEMS COVERED BY THIS SPECIFICATION SHALL BE U.L. LABELED AND LISTED FOR THEIR SPECIFIC USE.
- VI. ELECTRICAL SERVICE**
- THE ELECTRICAL CONTRACTOR SHALL PAY ALL COSTS REQUIRED BY THE LOCAL UTILITY COMPANY PROVIDING SERVICES INDICATED. ELECTRICAL CONTRACTOR SHALL COORDINATE METERING, TRANSFORMER PAD, CONNECTION POINTS AND GROUNDING WITH UTILITY COMPANY.
 - ALL SERVICE ENTRANCE EQUIPMENT INCLUDING BUT NOT LIMITED TO ANY MAIN DISCONNECT SWITCH, PANEL, OR SWITCHBOARD SHALL BE LISTED AND LABELED AS "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT".
- VII. WARRANTY**
- WORK SHALL BE WARRANTED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
- VIII. SPECIFICATIONS**
- GROUNDING**
 - THE BUILDING ELECTRICAL SYSTEMS SHALL BE SOLIDLY GROUNDED. ALL NON-CURRENT CARRYING METAL PARTS OF THE ELECTRICAL SYSTEM, I.E., RACEWAYS, EQUIPMENT ENCLOSURES, FRAMES, JUNCTION AND OUTLET BOXES AND OTHER CONDUCTIVE ITEMS IN CLOSE PROXIMITY WITH ELECTRICAL CIRCUITS, SHALL BE GROUNDED TO PROVIDE A LOW IMPEDANCE PATH FOR POTENTIAL GROUND FAULTS.
 - EQUIPMENT GROUNDING CONDUCTORS SHALL BE INSTALLED IN ALL RACEWAYS AND CABLES.
 - THE NEUTRAL AND GROUND BUS SHALL BE BONDED TOGETHER AT ALL SERVICE EQUIPMENT.
- B. RACEWAYS AND CONDUITS**
- CONDUITS INSTALLED IN DIRECT CONTACT WITH GRADE OR WITHIN CONCRETE SLABS SHALL BE SCHEDULE 40 PVC. CONDUITS CONCEALED WITHIN WALLS AND ABOVE CEILINGS, AND EXPOSED IN INDOOR AREAS SHALL BE ELECTRICAL METALLIC TUBING (E.M.T.). COUPLINGS SHALL BE STEEL SET SCREW TYPE FOR INDOOR LOCATIONS, AND COMPRESSION TYPE FOR OUTDOOR AND WET LOCATIONS. CONDUIT SHALL BE INTERMEDIATE OR GALVANIZED RIGID STEEL IN AREAS WHERE SUBJECT TO ABUSE.
 - CONDUITS SHALL BE RUN PARALLEL OR AT RIGHT ANGLES TO WALLS, CEILINGS, AND STRUCTURAL MEMBERS.
 - LIQUID TIGHT FLEXIBLE METAL OR NON-METALLIC CONDUIT SHALL BE USED FOR OUTDOOR EXPOSED CONNECTIONS TO GROUND- OR ROOF-MOUNTED EQUIPMENT.
 - ALL RACEWAYS SHALL BE INSTALLED CONCEALED EXCEPT IN UNFINISHED SPACES OR WHERE INDICATED ON THE DRAWINGS.
 - FASTENERS AND SUPPORTS SHALL BE AS MANUFACTURED BY GEDNEY, EFCOR OR EQUAL. SUPPORTING DEVICES SHALL BE THOSE AS MANUFACTURED FOR A SPECIFIC PURPOSE. NAILS, WIRE OR PIPE STRAP SHALL NOT BE USED.
 - PROVIDE FLEXIBLE EXPANSION CONDUIT FITTINGS ON ALL CONDUIT CROSSING EXPANSION JOINTS. SEE ARCHITECTURAL PLANS FOR EXPANSION JOINT LOCATIONS.
- C. CONDUCTORS**
- ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, 90°C, THHN/THWN INSULATION.
 - UNLESS NOTED OTHERWISE, SERVICE AND FEEDER CONDUCTORS SHALL BE COPPER, THHN/THWN-2 INSULATION. WHERE APPROVED, ALUMINUM CONDUCTORS SHALL BE COMPACT, AA-8000 SERIES, XHHW-2, 90°C.
 - WIRE NO. 8 AWG AND LARGER SHALL BE STRANDED, NO. 10 AND SMALLER SHALL BE SOLID.
 - ALL BRANCH CIRCUIT AND FEEDER CONDUCTORS, NO. 8 AWG AND SMALLER, SHALL BE COLOR CODED AS FOLLOWS (WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION):

120/208 VOLT SYSTEM	277/480 VOLT SYSTEM
PHASE A - BLACK	PHASE A - BROWN
PHASE B - RED	PHASE B - ORANGE
PHASE C - BLUE	PHASE C - YELLOW
NEUTRAL - WHITE	NEUTRAL - GREY
GROUND - GREEN	GROUND - GREEN
 - MC CABLE SHALL BE LIMITED TO BRANCH CIRCUITS CONCEALED IN WALLS AND ABOVE CEILINGS, AND MAY NOT BE RUN DIRECTLY INTO SURFACE MOUNTED EQUIPMENT. ALL CIRCUIT HOMERUNS FROM THE PANELBOARD TO THE FIRST BRANCH CIRCUIT DEVICE SHALL BE ROUTED IN CONDUIT. MC CABLE SHALL NOT BE ALLOWED FOR WIRING TO MECHANICAL EQUIPMENT.
 - SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREE C AMBIENT.
- D. OUTLET/JUNCTION BOXES**
- ALL OUTLET/JUNCTION BOXES SHALL BE GALVANIZED STEEL.
 - WALL AND CEILING OUTLET BOXES SHALL BE 4" SQUARE, WITH A DEPTH OF 2 1/2". CEILING BOXES SHALL BE 4" OCTAGONAL WHERE REQUIRED DUE TO NUMBER OF WIRES.
 - WHERE BOXES ARE INSTALLED BACK-TO-BACK IN WALLS AND LOCATED LESS THAN 24" APART, MOLDABLE PUTTY PADS SHALL BE INSTALLED TO MAINTAIN THE REQUIRED FIRE RATING.
- E. PANELBOARDS**
- PANELBOARDS SHALL HAVE BOLT-IN CIRCUIT BREAKERS AND ALUMINUM BUSSING. WHERE APPLICABLE, LOAD CENTERS SHALL HAVE PLUG-IN BREAKERS AND ALUMINUM BUSSING.
 - OVERCURRENT PROTECTIVE DEVICES SHALL BE AUTOMATIC TRIP THERMAL MAGNETIC TYPE WITH QUICK-MAKE QUICK-BREAK FOR BOTH MANUAL AND AUTOMATIC OPERATION. ALL MULTIPOLE BREAKERS SHALL BE COMMON TRIP. HANDLE TIES WILL NOT BE ACCEPTED.
 - DISTRIBUTION BOARDS, AND PANELBOARDS SHALL BE MANUFACTURED BY GENERAL ELECTRIC, SIEMENS, SQUARE D OR EATON/CUTLER HAMMER. BOLT FREE STANDING EQUIPMENT TO 4" HIGH EQUIPMENT HOUSEKEEPING PADS.
 - TYPEWRITTEN DIRECTORIES AND PANELBOARD DESIGNATION PLATES SHALL BE PROVIDED BY THE CONTRACTOR FOR ALL PANELBOARDS. PANELBOARD DESIGNATIONS SHALL BE PHENOLIC-ENGRAVED.
 - WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES AND ALL OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75 DEGREE C. MINIMUM.
- F. FIRE ALARM SYSTEM.**
- FIRE ALARM DEVICES SHALL BE ADDRESSABLE AND CONNECTED TO THE BASE BUILDING FIRE ALARM SYSTEM. ALL DEVICES SHALL BE OF THE SAME MANUFACTURER AND COMPLETELY COMPATIBLE WITH THE EXISTING SYSTEM.
 - CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT FOR A COMPLETE FIRE ALARM SYSTEM, INCLUDING THE FOLLOWING:
 - ENGINEERED DRAWINGS, CALCULATIONS, AND MATERIAL SUBMITTALS APPROVED BY AUTHORITY HAVING JURISDICTION.
 - COORDINATION OF WORK IN THIS SECTION WITH ALL TRADES.
 - COMPLETE MONITORING SERVICE CONNECTION TO TELEPHONE BACKBOARD.
 - INSPECTIONS AND TESTS.
 - ONE (1) YEAR WARRANTY
- G. WIRING DEVICES**
- COMMERCIAL GRADE
- DUPLEX RECEPTACLES SHALL BE RATED 20 AMP, HUBBELL CR5362 OR APPROVED EQUAL.
 - TOGGLE SWITCHES SHALL BE 20 AMP, HUBBELL CS1221 OR APPROVED EQUAL.
 - DIMMER SWITCHES SHALL BE SLIDER TYPE, LUTRON VAREO SERIES.
 - DEVICE PLATES SHALL BE NYLON (UNLESS NOTED OTHERWISE).
 - COLOR OF DEVICES AND DEVICE PLATES SHALL BE AS DETERMINED BY ARCHITECT.
- H. DISCONNECT SWITCHES**
- SAFETY-TYPE DISCONNECT SWITCHES SHALL BE HEAVY DUTY WITH QUICK-MAKE, QUICK-BREAK MECHANISM WITH INTERLOCKING COVER WHICH NORMALLY CANNOT BE OPENED WHEN THE SWITCH IS IN THE "ON" POSITION. SWITCH SHALL HAVE PROVISIONS FOR PAD-LOCKING IN THE OPEN OR CLOSED POSITION.
 - FUSIBLE DISCONNECT SWITCHES SHALL HAVE REJECTION-TYPE FUSEHOLDERS. FUSES SHALL BE NON-RENEWABLE, DUAL ELEMENT TIME-DELAY "RK1" OR "RK2", OR AS SPECIFIED OTHERWISE.
 - ACCEPTABLE MANUFACTURERS: EATON/CUTLER HAMMER, G.E., SIEMENS OR SQUARE D.
- I. MISCELLANEOUS EQUIPMENT**
- TIME CLOCK SHALL BE ELECTRONIC TYPE WITH ASTRONOMICAL FUNCTIONS (TORK DZS 200BP OR APPROVED EQUAL).
- J. PENETRATIONS**
- ALL PENETRATIONS THROUGH RATED WALLS, FLOORS AND /OR CEILINGS SHALL BE SEALED WITH THE APPROPRIATELY RATED FIRE-SEALING MATERIAL BY 3M COMPANY, THOMAS & BETTS, METACALK, OR APPROVED EQUAL.
- K. SUBMITTALS**
- PANELBOARDS, WIRING DEVICES, SWITCHES AND DISCONNECTS, LIGHTING FIXTURES, AND FUSE SUBMITTALS SHALL BE REQUIRED, AND ARE TO INCLUDE MANUFACTURER'S DATA, TEST REPORTS, PERFORMANCE DATA AND CERTIFICATIONS.
- L. COMMUNICATIONS CONDUIT/BOXES**
- THE NUMBER OF BENDS IN A CONDUIT SECTION RUN SHALL NOT EXCEED TWO (2) 90-DEGREE BENDS OR EQUIVALENT OF SWEEPS AND RADIUS BENDS.
 - IN AREAS WITH NON-ACCESSIBLE CEILINGS, TELEPHONE CONDUITS SHALL BE CONTINUOUS FROM THE OUTLET BOX TO THE TELEPHONE EQUIPMENT BACKBOARD AND TERMINATED WITH A NYLON GROMMET.
 - EACH HORIZONTAL HOME-RUN CONDUIT CAN SERVE FROM ONE (1) TO THREE (3) OUTLET BOXES. FOR ONE (1) OUTLET BOX, A 3/4" CONDUIT SHALL BE USED, MINIMUM. FOR TWO (2) OUTLET BOXES, A 1" CONDUIT SHALL BE USED, MINIMUM. FOR THREE (3) OUTLET BOXES, A 1-1/4" CONDUIT SHALL BE USED, MINIMUM.
 - THE DIMENSIONS OF THE OUTLET BOX SHALL BE 4" X 4" SQUARE WITH A MINIMUM DEPTH OF 2-1/8". BOXES SHALL BE EQUIPPED WITH SINGLE DEVICE ADAPTERS (OR TWO-DEVICE ADAPTERS WHERE NEEDED), WHERE INSTALLED IN PLASTER, GYPSUM BOARD, TILE, ETC., ADAPTERS SHALL BE RAISED TO COMPENSATE FOR THE THICKNESS OF THE WALL FINISH.
- M. RENOVATIONS AND ADDITIONS**
- WORK REQUIRING INTERRUPTION OF ELECTRICAL POWER, WHICH WOULD ADVERSELY AFFECT THE NORMAL OPERATION OF THE OWNER'S PROPERTY, SHALL BE DONE AT A TIME OTHER THAN NORMAL WORKING HOURS. NORMAL WORKING HOURS SHALL BE CONSIDERED EIGHT A.M. TO FIVE P.M. MONDAY THROUGH FRIDAY. SCHEDULE ALL OUTAGES WITH THE OWNER AND ARCHITECT PRIOR TO SHUTDOWN.
 - PRIOR TO SUBMITTING BIDS ON THE PROJECT, VISIT THE SITE TO BECOME AWARE OF EXISTING CONDITIONS WHICH MAY AFFECT THE COST OF THE PROJECT.
 - WHERE WORK UNDER THIS PROJECT REQUIRES EXTENSION, RELOCATION, RECONNECTION OR MODIFICATION TO EXISTING EQUIPMENT OR SYSTEMS, THE EQUIPMENT OR SYSTEMS SHALL BE RESTORED TO OPERATING CONDITION. EXTEND NEW HOMERUNS OR CIRCUIT EXTENSIONS WHERE REQUIRED. DISCONNECT AND REMOVE ALL EQUIPMENT INDICATED TO BE DEMOLISHED, INCLUDING OUTLET BOXES, DEVICES, RACEWAYS AND CONDUITS.
 - CARE SHALL BE EXERCISED IN THE REMOVAL AND STORAGE OF EQUIPMENT INDICATED TO BE RELOCATED, REMOVED AND/OR REUSED. PRIOR TO PLACING BACK INTO SERVICE, EXISTING EQUIPMENT SHALL BE CLEANED AND/OR RELAMPED. MARRED OR CHIPPED SURFACES SHALL BE TOUCHED-UP. DISPOSE OF ANY MATERIAL NOT WISHED TO BE KEPT BY THE OWNER.
 - PROVIDE ALL CORING, CUTTING AND PATCHING TO EXISTING WALLS, FLOORS, ETC. REQUIRED FOR THE REMOVAL OF EXISTING WORK OR THE INSTALLATION OF NEW WORK.
- N. LIGHTING FIXTURES**
- UNLESS INDICATED ON DRAWINGS, BALLASTS PROVIDED WITH FIXTURES SHALL BE ETL-CBM APPROVED, HIGH POWER FACTOR, WITH U.L. LABEL. ALL BALLASTS FOR RAPID START LAMPS SHALL BE PREMIUM CLASS P.
 - FIXTURES RECESSED IN T-BAR CEILING SHALL BE SUPPORTED INDEPENDENTLY OF CEILING SYSTEM, WITH TWO (2) NUMBER TWELVE (12) HANGER WIRES UP TO STRUCTURE. SECURE HANGER WIRES TO CORNERS OF FIXTURE. CLIP FIXTURE TO GRID ON TWO SIDES WITH FACTORY FURNISHED CLIPS. FINAL CONNECTION TO FIXTURE SHALL BE MADE WITH A FLEXIBLE U.L. APPROVED ASSEMBLY.

ELECTRICAL SYMBOL LEGEND		
SYMBOL	DESCRIPTION	HEIGHT
\$	SINGLE POLE SINGLE THROW TOGGLE SWITCH (NOTE L-1)	46"
\$ / \$ 4	THREE-WAY TOGGLE SWITCH/FOUR-WAY TOGGLE SWITCH (NOTE L-1)	46"
D	DIMMER SWITCH (NOTE L-1)	46"
\$ _{st}	INFRARED OCCUPANCY SENSOR (WATTSTOPPER PW-100) (NOTE L-1)	46"
Ⓢ / Ⓢ	DUPLEX / QUAD RECEPTACLE OUTLET (NOTE L-1)	18"
Ⓢ / Ⓢ / Ⓢ	GFI DUPLEX / GFI DUPLEX ABOVE COUNTER / GFI QUAD RECEPTACLE (NOTE L-1)	18"/43"
Ⓢ / Ⓢ ^{AC}	DUPLEX / QUAD RECEPTACLE OUTLET ABOVE COUNTER MOUNTED (NOTE L-1)	43"
Ⓢ	SPECIAL PURPOSE RECEPTACLE OUTLET, NEMA CONFIGURATION TO MATCH PLUG. (NOTE L-1)	18"
Ⓢ / Ⓢ	DUPLEX RECEPTACLE OUTLET, CEILING MOUNTED/FLOOR MOUNTED	
Ⓢ / Ⓢ / Ⓢ	JUNCTION BOX, CEILING/WALL/FLOOR MOUNTED	
x-1.35	ARROWHEAD INDICATES HOMERUN. X-1,3,5 ADJACENT TO HOMERUN. ARROWHEADS INDICATES HOMERUN TO PANEL X CIRCUIT NUMBERS 1,3, AND 5.	
3.5	INDICATES CIRCUIT CONTINUATION OF CIRCUITS 3 AND 5 OF PANEL X.	
—	MARKS ACROSS RACEWAY SYMBOLS INDICATE THE NUMBER OF #12 CONDUCTORS (2 PHASE, 1 NEUTRAL) UNLESS OTHERWISE NOTED. NO MARKS INDICATES TWO #12 CONDUCTORS. EQUIPMENT GROUNDING CONDUCTORS ARE NOT INDICATED BY MARKS.	
—	RACEWAY/CABLE CONCEALED IN WALL AND/OR ABOVE CEILING	
—	RACEWAY CONCEALED BELOW GRADE OR IN-SLAB	
—	RACEWAY INSTALLED EXPOSED	
←	DUPLEX CONNECTION (SYSTEM AND/OR EQUIPMENT)	
Ⓢ	FLUORESCENT LIGHTING FIXTURE, 2X4, 1X4, 2X2	
Ⓢ	FLUORESCENT LIGHTING FIXTURE, 2X4, 1X4, 2X2 - PROVIDING EMERGENCY ILLUMINATION	
Ⓢ / Ⓢ	LIGHTING FIXTURE - OVERHEAD/WALL MOUNTED	
Ⓢ / Ⓢ	EMERGENCY LIGHTING FIXTURE - OVERHEAD/WALL MOUNTED	
Ⓢ	CEILING/PENDANT MOUNTED PADDLE FAN	
Ⓢ	EXIT SIGN, CEILING/WALL MOUNTED. PROVIDE ARROWS AS INDICATED ON DRAWINGS	
Ⓢ	EMERGENCY LIGHTING FIXTURE	
Ⓢ	PANELBOARD - WALL MOUNTED (RECESSED)	
Ⓢ	PANELBOARD - WALL MOUNTED (SURFACE)	
Ⓢ	NONFUSIBLE DISCONNECT SWITCH, RATING/POLES/NEMA ENCLOSURE	
Ⓢ	FUSIBLE DISCONNECT SWITCH, RATING/POLES/NEMA ENCLOSURE/FUSE RATING	
Ⓢ	POWER METER AND SOCKET	
Ⓢ	FIRE ALARM MANUAL STATION	46"
Ⓢ ₁₀	FIRE ALARM HORN/SPEAKER WITH VISUAL DEVICE (NOTE L-3), NUMERAL INDICATES CANDELA RATING	
Ⓢ ₄	FIRE ALARM HORN/SPEAKER (NOTE L-3)	
Ⓢ ₁₀	FIRE ALARM VISUAL DEVICE (NOTE L-3), NUMERAL INDICATES CANDELA RATING	
Ⓢ / Ⓢ / Ⓢ	TELEPHONE OUTLET, WALL MOUNTED/ABOVE COUNTER (NOTES L-1, L-2)/FLOOR MOUNTED	18"/43"
Ⓢ / Ⓢ / Ⓢ	COMBINATION TELEPHONE/DATA OUTLET, WALL MOUNTED/ABOVE COUNTER (NOTE L-1, L-2)/FLOOR	18"/43"
Ⓢ / Ⓢ / Ⓢ	DATA OUTLET, WALL MOUNTED/ABOVE COUNTER (NOTE L-1, L-2)/FLOOR MOUNTED	18"/43"
LEGEND NOTES		
L-1 MOUNTING HEIGHTS NOTED ARE TO THE CENTER OF DEVICE ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE.		
L-2 STUB 3/4" CONDUIT 6" ABOVE ACCESSIBLE CEILING AND TERMINATE WITH NYLON GROMMET.		
L-3 FIRE ALARM VISUAL DEVICES SHALL BE WALL-MOUNTED 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER. AUDIBLE ONLY DEVICES SHALL BE WALL-MOUNTED AT NOT LESS THAN 90" AFF AND NOT LESS THAN 6" BELOW CEILING.		

ELECTRICAL GENERAL NOTES	
G1	ALL EMERGENCY CIRCUITS SERVING NIGHT/EMERGENCY LIGHTING SHALL BE MINIMUM #10 AWG CONDUCTORS FOR THE ENTIRE CIRCUIT FOR 120 VOLT CIRCUITS OVER 100 FEET, AND 277 VOLT CIRCUITS OVER 200 FEET.
G2	WHEN CONDUCTOR OR CONDUIT SIZE IS INDICATED FOR BRANCH CIRCUIT HOMERUN, THE CONDUCTOR AND CONDUIT SIZE INDICATED SHALL BE USED FOR THE COMPLETE CIRCUIT.
G3	REFER TO THE APPROPRIATE DRAWINGS (INCLUDING ARCHITECTURAL DRAWINGS) FOR THE EXACT LOCATION OF EQUIPMENT INSTALLED UNDER OTHER DIVISIONS OF THE DOCUMENTS WHICH REQUIRE ELECTRICAL SERVICE.
G4	CAPITAL LETTER BESIDE LIGHTING SYMBOL INDICATES FIXTURE TYPE. REFER TO LIGHTING FIXTURE SCHEDULE FOR FIXTURE SELECTION.
G5	EQUIPMENT GROUNDING CONDUCTORS ARE TO BE INCLUDED IN ALL RACEWAYS.
G6	REFER TO SPRINKLER FIRE PROTECTION SHOP DRAWINGS FOR ALL FLOW AND TAMPER SWITCH LOCATIONS AND CONNECTIONS FOR THE FIRE ALARM SYSTEM.
G7	REFER TO ARCHITECTURAL DOOR SCHEDULES FOR DOORS REQUIRING FIRE ALARM SYSTEM INTERFACE AND SMOKE OPERATION.

ELECTRICAL ABBREVIATIONS			
A	.....AMPERE	MCB	.....MAIN CIRCUIT BREAKER
AFCI	.....ARC FAULT CIRCUIT INTERRUPTER	MLD	.....MAIN LUGS ONLY
AFF	.....ABOVE FINISHED FLOOR	NTS	.....NOT TO SCALE
AIC	.....AMPERE INTERRUPTING CAPACITY	MH	.....MOUNTING HEIGHT
AWG	.....AMERICAN WIRE GAUGE	ST	.....SHUNT TRIP
BC	.....BELOW CEILING	TC	.....TIME CLOCK
BKR	.....BREAKER	TV	.....TELEVISION
CKT	.....CIRCUIT	TVSS	.....TRANSIENT VOLTAGE SURGE SUPP.
FACP	.....FIRE ALARM CONTROL PANEL	UL	.....UNDERWRITER LABORATORIES
GFI	.....GROUND FAULT INTERRUPTER	LNO	.....UNLESS NOTED OTHERWISE
G OR GND	.....GROUND	V	.....VOLTS
HP	.....HORSE POWER	W	.....WATTS
JBJUNCTION BOX	WPWEATHERPROOF COVER (RECEPTACLES SHALL BE WEATHER-RESISTANT TYPE)
KMILTHOUSAND CIRCULAR MILS	YWYE

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SHEET:
NOTES & LEGEND

E-1.0