

SYMBOL	DESCRIPTION
	HOME RUN TO LIGHTING/SERVICE PANEL. HASH MARKS, WHEN SHOWN, INDICATE NUMBERS OF CONDUCTORS. "H" INDICATES HOT WIRE, "N" INDICATES NEUTRAL CONDUCTOR, "G" INDICATES GROUND CONDUCTOR. HOME RUN NOTE INDICATES PANEL NAME AND CIRCUIT NAME OR FEEDER TAG. CONDUCTORS SHALL BE #12 AWG IN 3/4" CONDUIT UNLESS NOTED OTHERWISE. ANY HOME RUN OR CONDUIT WITHOUT HASH MARKS IS TO CONTAIN 3 CONDUCTORS: 1 HOT, 1 NEUTRAL, AND 1 EQUIPMENT GROUND. EACH HOT CIRCUIT SHALL BE PAIRED WITH A SEPARATE NEUTRAL CONDUCTOR. SHARING OF NEUTRAL CONDUCTORS BETWEEN CIRCUITS IS NOT ALLOWED.
	EXPOSED CONDUIT
	CONDUIT RUN IN SLAB OR UNDERGROUND.
	CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALLS, UNLESS NOTED OTHERWISE.
	CONDUIT JUNCTION IN CONDULET OR JUNCTION BOX.
	FLEXIBLE CONDUIT
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	JUNCTION BOX STEM INDICATES WALL MOUNTED LIGHTING OR SERVICE PANEL, SURFACE MOUNTED (208V)
WIRING DEVICES	
NOTE: ALL WIRING DEVICES TO BE IVORY, WITH #302 STAINLESS STEEL COVERPLATE (FLUSH MOUNTED) UNLESS NOTED OTHERWISE ON THE DRAWING OR SPECIFICATIONS.	
SWITCH SYMBOLS	
	SINGLE POLE LIGHTING SWITCH 120-277 VOLT, 20 AMP, SPEC GRADE. LETTER ("S") DESIGNATES WHICH FIXTURES ARE CONTROLLED FROM WHICH SWITCHES WHEN MULTIPLE SWITCHES ARE USED ON ONE CIRCUIT.
	WATT STOPPER #WX-100, SEE WATTSTOPPER NOTES.
	WATT STOPPER #PW-100, SEE WATTSTOPPER NOTES.
FIRE ALARM, COMMUNICATIONS AND CONTROLS	
	FIRE ALARM CONTROL PANEL
	REMOTE ANNUNCIATOR PANEL
	AREA SMOKE DETECTOR.
	FIRE ALARM SYSTEM STROBE UNIT ONLY
	MANUAL FIRE ALARM PULL STATION
	WIRELESS INTERNET CONNECTION
	PROJECTOR
	SPEAKER
LIGHTING SYMBOLS:	
	2' x 4' CEILING MOUNTED FLUORESCENT FIXTURE
	EXISTING 2' x 2' CEILING MOUNTED FLUORESCENT FIXTURE
	SURFACE CEILING MOUNTED OR RECESSED DOWNLIGHT
	EXISTING EXIT FIXTURE WITH INTEGRAL BATTERIES - ARROW INDICATES ILLUMINATED DIRECTIONAL ARROWS. SHADED SECTION INDICATES FACE WHICH IS ILLUMINATED. STEM INDICATES WALL MOUNTED. ALL EXIT LIGHTS SHALL BE MOUNTED TO THE STRUCTURE.
	EXISTING EMERGENCY LIGHTING UNIT. ALL EMERGENCY LIGHTS SHALL BE MOUNTED TO THE STRUCTURE.
	EXISTING COMBINATION EMERGENCY LIGHT AND EXIT FIXTURE.

WATTSTOPPER OCCUPANCY SENSOR NOTES:

PRIOR TO ORDERING, FULL SHOP DRAWING SUBMITTAL SHALL BE PROVIDED INDICATING MANUFACTURER'S SPECIFIC EQUIPMENT CUT SHEETS AND LAYOUTS OF OCCUPANCY SENSORS. FINAL DETERMINATION OF CIRCUITING, VOLTAGE, QUANTITY OF POWER PACKS REQUIRED, AND SETTING OF SENSITIVITY/TIME ADJUSTMENTS ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE ADHERED TO.

- ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION. IF PENDANT MOUNTED FIXTURES ARE PRESENT, LOCATION AND COVERAGE OF SENSORS SHOULD BE REVIEWED.
- ULTRASONIC CEILING MOUNT SENSORS REQUIRE THEY BE LOCATED NO CLOSER THAN 6" TO AIR SUPPLY/ RETURN REGISTERS.
- CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS, VERIFICATION OF MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS.
 - ONE POWER PACK IS REQUIRED FOR EACH CIRCUIT THAT IS TO BE CONTROLLED.
 - MAXIMUM NUMBER OF SENSORS THAT CAN BE WIRED IN PARALLEL TO A SINGLE POWER PACK IS DEPENDENT ON SENSOR MODEL (SEE INDIVIDUAL DATA SHEETS FOR mA CONSUMPTION).

GENERAL LIGHTING NOTES:

- MANUFACTURERS & NUMBERS ARE LISTED TO ESTABLISH QUALITY ONLY AND NOT TO LIMIT COMPETITION. PRIOR TO BIDDING, SUBSTITUTIONS ARE ALLOWED SUBJECT TO SUBMITTAL DATA, PHOTOMETRICS, AND ENGINEERS APPROVAL AS REQUIRED BY SPECIFICATIONS.
- ALL FLUORESCENT FIXTURES SHALL HAVE PREMIUM ELECTRONIC BALLASTS WITH 90% MIN. BALLAST FACTOR AND MAX. THD OF 10%. ALL TROFFERS TO HAVE T-8 LAMPS AND 1/25 INCH LENSES, MINIMUM UNLESS NOTED. ALL FIXTURES TO BE PAINTED AFTER FABRICATION. BALLASTS SHALL BE MANUFACTURED BY SYLVANIA, ADVANCE, OR UNIVERSAL. LAMPS SHALL BE MANUFACTURED BY G.E. OR SYLVANIA.
- ALL FIXTURES TO BE U.L. LABELED. CONTRACTOR SHALL VERIFY BEFORE SUBMITTING FIXTURE.
- PROVIDE ALL MOUNTING ACCESSORIES, BAR HANGARS, AND HARDWARE REQUIRED.

LIGHTING FIXTURE SCHEDULE

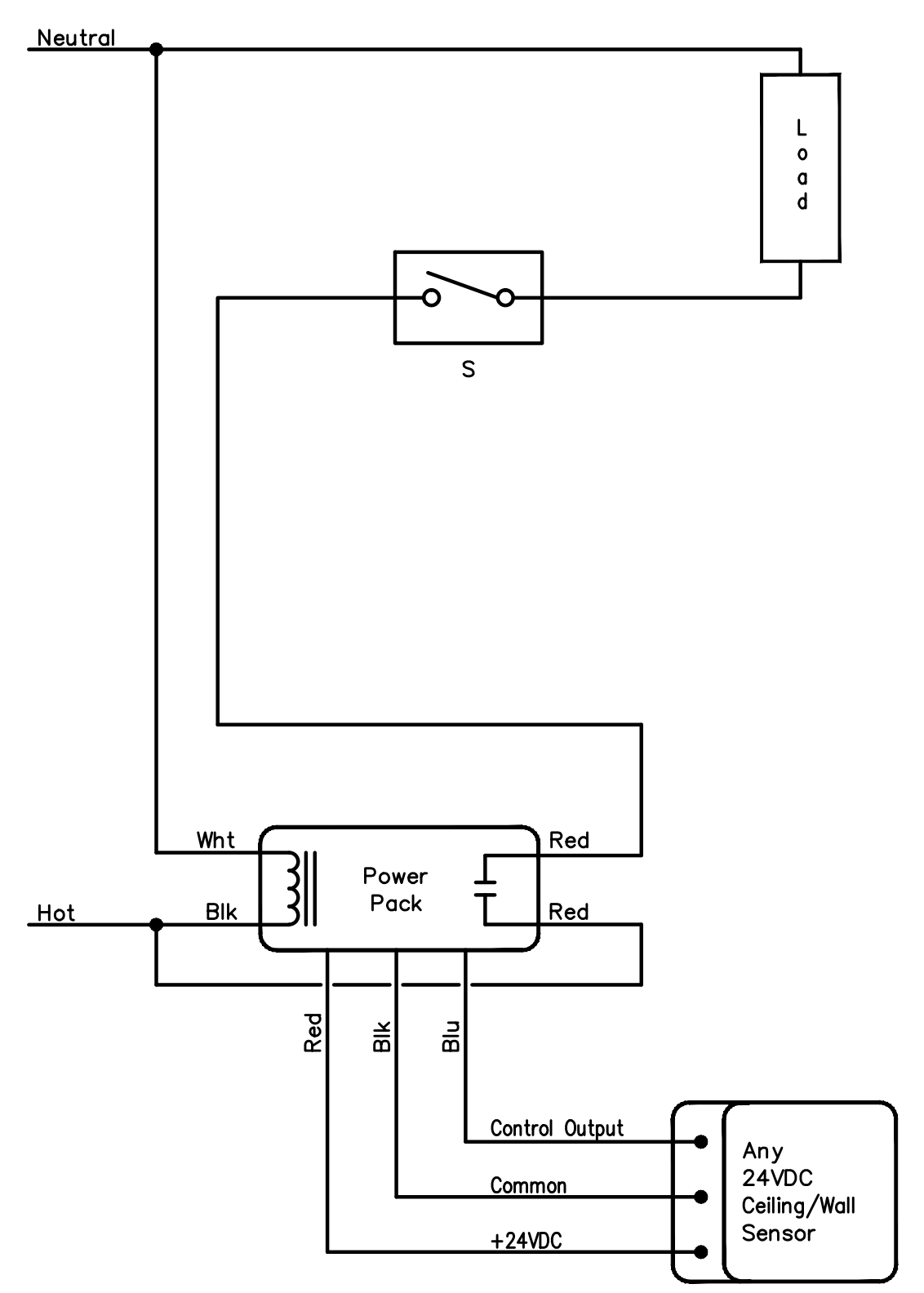
FIXTURE TYPE	FIXTURE DESCRIPTION	ACCEPTABLE MANUFACTURERS	MOUNTING HEIGHT	LAMPS	FIXTURE WATTAGE	VOLTAGE
PA	1'X8' DECORATIVE FLUORESCENT DIRECT/INDIRECT PENDANT FIXTURE WITH 30% UP AND 70% DOWN DISTRIBUTION, ELECTRONIC BALLAST BY ADVANCE OR UNIVERSAL.	CORELITE # S4-WB-AT8-1C-UNV-AC48-TI-8-DL70 OR APPROVED EQUAL.	13'-0" ABOVE LANDING	8-F032T8/41K	224	UNIVERSAL VOLTAGE OR MULTI-TAP
TB1	RECESSED 2 X 4, SPEC GRADE STATIC TROFFER, 3 LAMP, FLAT WHITE ALUMINUM DOOR, 22 GA. STEEL, PAINTED AFTER FABRICATION, 1/25 MIN LENS, ELECTRONIC BALLAST BY ADVANCE OR UNIVERSAL.	LITHONIA # 26T8-332-A12-MVOLT-1/3GEB10IS-SSR OR APPROVED EQUAL.	CEILING	3-F032T8/41K	84	UNIVERSAL VOLTAGE OR MULTI-TAP
TB1R	SAME AS FIXTURE TYPE "TB1" ABOVE EXCEPT PROVIDED WITH A RAPID START ELECTRONIC BALLAST BY ADVANCE OR UNIVERSAL.	LITHONIA # 26T8-332-A12-MVOLT-1/3GEB10RS-SSR OR APPROVED EQUAL.	CEILING	3-F032T8/41K	84	UNIVERSAL VOLTAGE OR MULTI-TAP

ELECTRICAL GENERAL NOTES:

- INSPECT SITE PRIOR TO SUBMITTING BID. DRAWINGS ARE INTENDED TO COVER THE REQUIRED ELECTRICAL SYSTEMS. DRAWINGS MAY NOT SHOW COMPLETE OR ACCURATE DETAILS OF THE BUILDING OR SYSTEM IN EVERY RESPECT. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ANY ADDITIONAL INFORMATION AS REQUIRED.
- CONFORM TO THE NATIONAL ELECTRICAL CODE (2008), IBC (2009), APPLICABLE NEMA, ANSI AND IEEE PUBLICATIONS, U.L. AND ADA STANDARDS AND OSHA REQUIREMENTS. COMPLY WITH LOCAL, COUNTY, STATE AND NATIONAL CODES HAVING JURISDICTION.
- FURNISH AND INSTALL ALL MATERIALS IN A NEAT AND WORKMANLIKE FASHION. ALL MATERIALS SHALL BE NEW, WITH FIRST QUALITY AND U.L. LABEL.
- VERIFY ALL DIMENSIONS AND CLEARANCES PRIOR TO INSTALLATION OF EQUIPMENT AND RACEWAYS. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK WITH THAT OF ALL OTHER TRADES AS REQUIRED.
- CONDUIT SHALL BE EMT FOR BRANCH CIRCUIT WIRING AS ALLOWED BY NEC, EXCEPT THAT SET SCREW OR CRIMP FITTINGS ARE NOT ALLOWED. WHERE EXPOSED TO PHYSICAL DAMAGE CONDUITS SHALL BE RIGID GALVANIZED STEEL. MINIMUM CONDUIT SIZE SHALL BE 3/4". ALL CONDUCTORS SHALL BE TYPE THHN/THWN, STRANDED 600V COPPER BUILDING WIRE. MINIMUM SIZE SHALL BE #12 AWG COPPER UNLESS NOTED.
- PROVIDE GROUNDING FOR ALL EQUIPMENT IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE. GROUND SERVICE TO BUILDING STEEL, DRIVEN GROUND ROD AND COLD WATER PIPE.
- ALL ENCLOSURES SHALL BE OF THE NEMA TYPE WHICH IS SUITABLE FOR THE APPLICATION.
- SEAL ALL CONDUIT PENETRATIONS TO MATCH RATING OF WALL BEING PENETRATED.
- ALL WORK SHALL HAVE PROPER LABELING AND NAMEPLATES. ALL CIRCUITS SHALL BE LABELED AT PANELS AND BOXES AS INDICATED. ALL PANELS AND DISCONNECTS ARE TO BE PERMANENTLY MARKED WITH NAME OR EQUIPMENT SERVED. ALL PANELS ARE TO BE PROVIDED WITH TYPEWRITTEN PANEL SCHEDULES.
- ALL BREAKERS ON CIRCUITS SUPPLYING HVAC EQUIPMENT SHALL BE TYPE HACR BREAKERS.
- THOROUGHLY CLEAN ALL EQUIPMENT AND SYSTEMS BEFORE PLACING IN OPERATION. RESTORE FINISHED SURFACES IF DAMAGED AND DELIVER THE ENTIRE INSTALLATION IN AN APPROVED CONDITION. INSTRUCT THE OWNER'S PERSONNEL IN THE PROPER OPERATION AND MAINTENANCE OF THE SYSTEMS. FURNISH TO THE OWNER THREE SETS OF OPERATION AND MAINTENANCE MANUALS FOR EACH SYSTEM.
- GUARANTEE THE WORK INSTALLED FOR A PERIOD OF ONE YEAR AFTER DATE OF FINAL ACCEPTANCE. DEFECTS WHICH APPEAR AS A RESULT OF NORMAL USAGE SHALL BE REMEDIED BY THE CONTRACTOR TO THE COMPLETE SATISFACTION OF THE OWNER WITHOUT COST TO THE OWNER.
- CONTRACTOR SHALL KEEP CURRENT A SET OF PLANS FOR THE DURATION OF CONSTRUCTION WITH ALL CHANGES TO WORK NEATLY AND ACCURATELY MARKED IN RED AND SHALL TURN OVER TO OWNER AT COMPLETION OF PROJECT.
- ALL ELECTRICAL EQUIPMENT SHALL BE INSTALLED TO MEET SEISMIC REQUIREMENTS OF 2009 IBC AND SHALL BE SUBJECT TO SPECIAL INSPECTION REQUIREMENTS, CHAPTER 17 OF 2009 IBC AS IT RELATES TO ELECTRICAL EQUIPMENT.

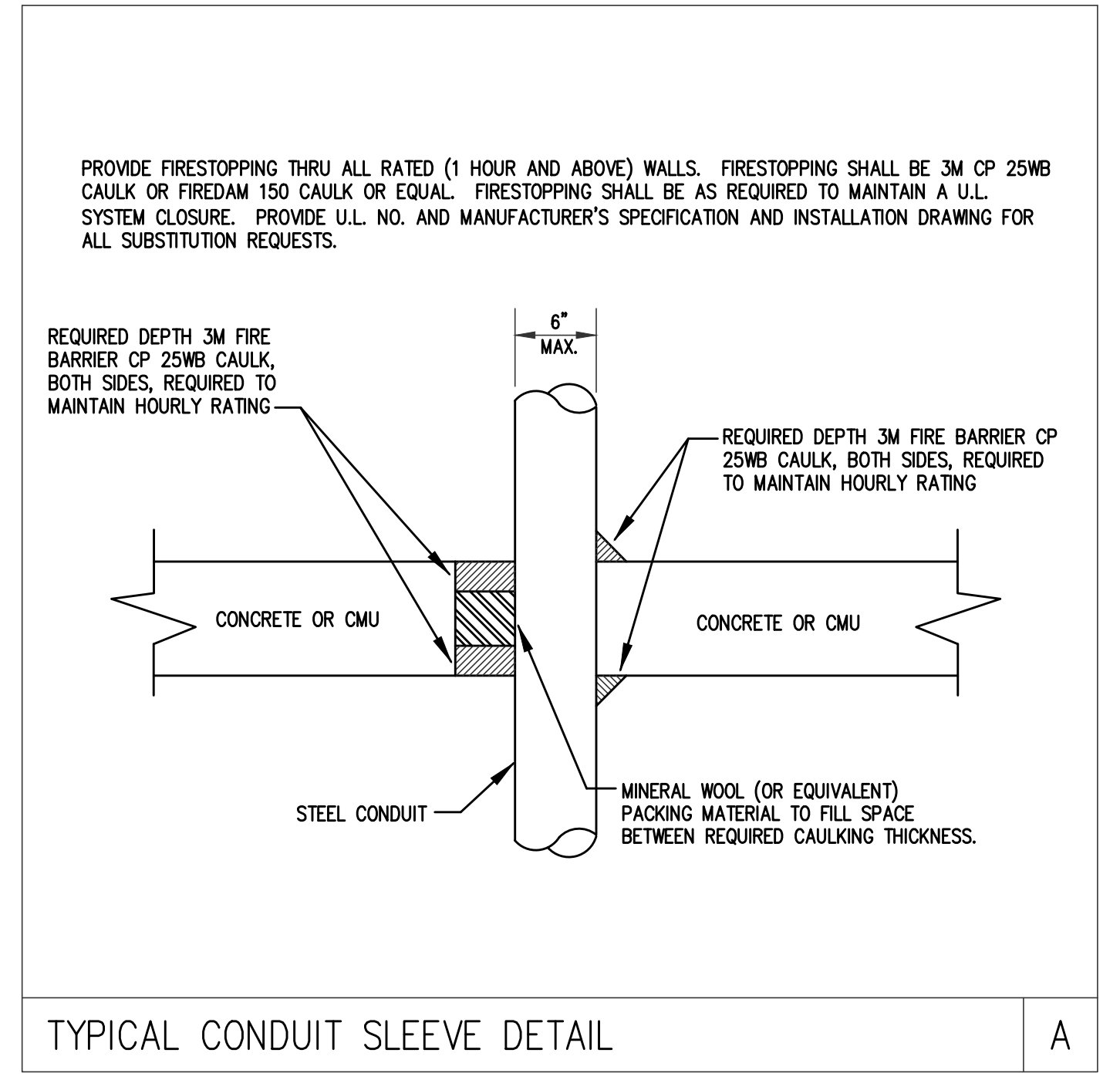
ABBREVIATIONS:

AFF	ABOVE FINISH FLOOR	MH	MAN HOLE
ACH	ABOVE COUNTER HEIGHT	MDP	MAIN DISTRIBUTION PANEL
BKR	BREAKER	NTS	NOT TO SCALE
CU	COPPER	PH	PHASE
CKT	CIRCUIT	PNL	PANEL
DWG	DRAWING	RECP	RECEPTACLE (R.)
EC	ELECTRICAL CONTRACTOR	REOD	REQUIRED
FU	FUSE	SW	SWITCH
FWE	FURNISHED WITH EQUIPMENT	UNO	UNLESS NOTED OTHERWISE
LTO	LIGHTING (L)	W/	WITH
MLO	MAIN LUGS ONLY	WP	WEATHER PROOF
MCB	MAIN CIRCUIT BREAKER	XFMR	TRANSFORMER
MFR	MANUFACTURER		

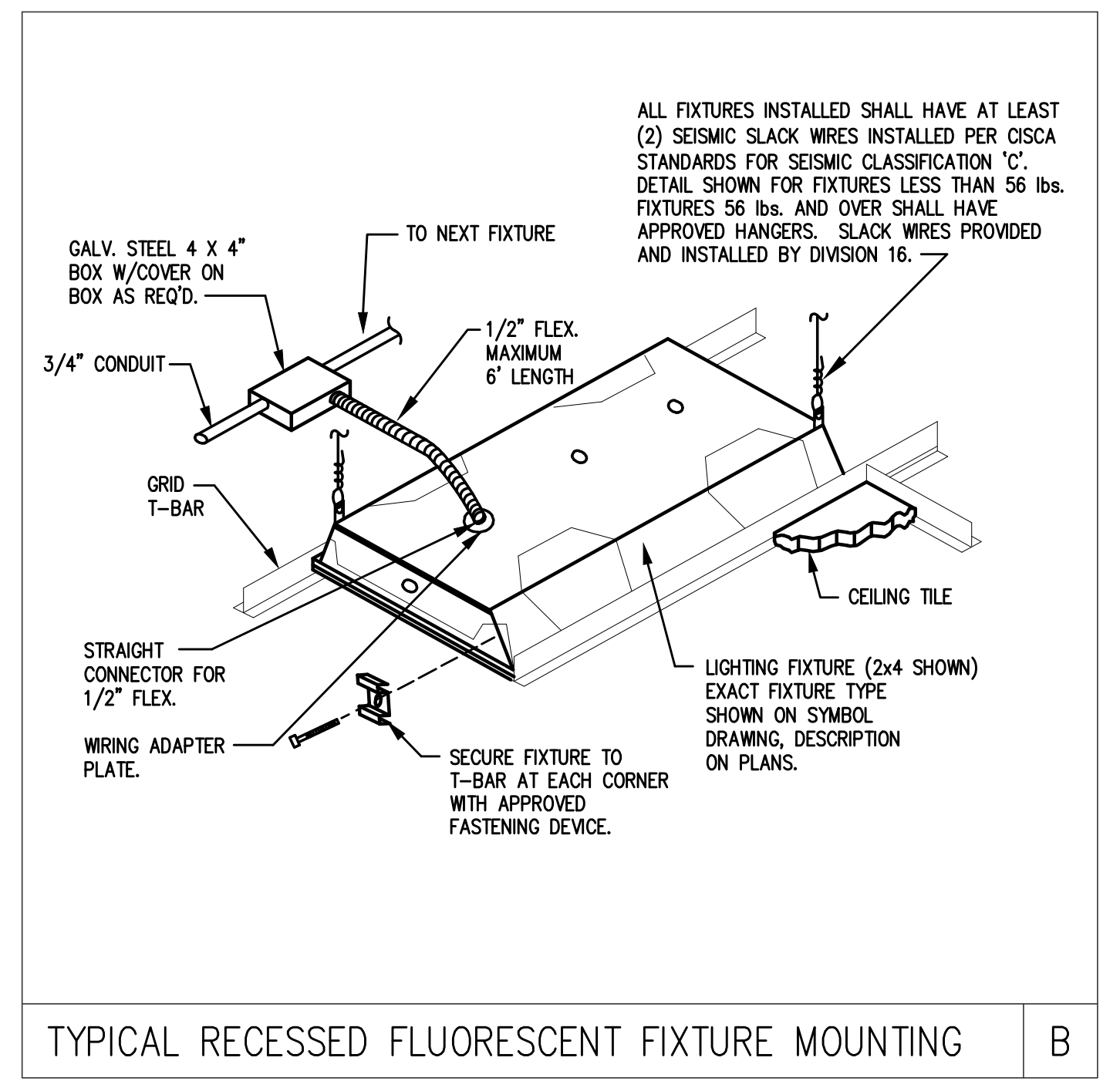


- NOTES:**
- POWER PACKS ARE NOT INDICATED ON PLAN DRAWINGS. FURNISH AND INSTALL POWER PACKS AS REQUIRED. POWER PACK TO BE COMPATIBLE WITH ELECTRONIC BALLASTS AND FLUORESCENT. SENSOR AND POWER PACK SHALL HAVE 5 YEAR WARRANTY AND BE U.L. LISTED.
 - ACCEPTABLE MANUFACTURERS INCLUDE WATT-STOPPER, INC. AND SENSOR SWITCH.

SWITCHED OCCUPANCY SENSOR CONTROL
E0.1 NOT TO SCALE



TYPICAL CONDUIT SLEEVE DETAIL
A



TYPICAL RECESSED FLUORESCENT FIXTURE MOUNTING
B

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REVISION	DATE	BY
A	1/29/13	LDJ/LK
B	2/6/13	LDJ/LK

UNIVERSITY OF SC UPSTATE
LIBRARY LIGHTING REPLACEMENT
SC PROJECT NO. EM-949-JM-B
SPARTANBURG, SOUTH CAROLINA
UPSTATE USC

SHEET NUMBER

E0.1

3 OF 7 SHEETS