



Ventura County Community College District
761 East Daily Drive, Camarillo, CA 93010
Purchasing Department

TO: All Bidders February 9, 2018
FROM: Janice Kisch, Purchasing Specialist
SUBJECT: **Bid 556 Moorpark College Performing Arts HVAC Project - Phase II**

Bid 556 MC Performing Arts HVAC Project - Phase II – Addendum 2

This addendum is hereby made a part of the contract documents to the same extent as though it was originally included therein and takes precedence over the original documents.

Note that the Bid Proposal Form requires acknowledgement of receipt of all addenda.

It is the responsibility of the Bidder to verify that their Bid Proposal and all addenda has been received and delivered to the VCCCD Purchasing Department prior to the bid opening date and time. Verification of receipt can be obtained through the listed Purchasing Specialist.

New Information:

1. The Electrical Plan Drawing set has been uploaded and follows in this Addendum 2.
2. The Engineers estimate for this project is: \$389,187.00
3. The contact for Tremco Roofing is Dave Allen, 805-604-1429 or cel: 805-732-9015, dallen@tremcoing.com
4. The contact for FCI (Fire Control Instruments) is: Dan Downs, 909-628-7779 or cel: 909-828-7774. E-mail: ddowns@hci.net

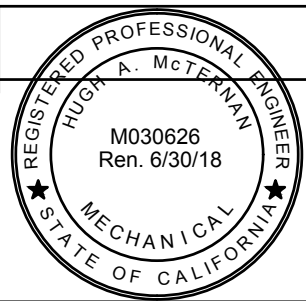
GENERAL NOTES

- A. GENERAL**
- SCOPE**
THE DRAWINGS AND THESE GENERAL NOTES DESCRIBE THE SCOPE OF WORK AND SYSTEMS. THE MATERIAL REQUIRED FOR THE WORK SHALL BE CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED, UNLESS SPECIFICALLY NOTED OTHERWISE. THE WORK INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING PRINCIPAL SYSTEMS AND EQUIPMENT.
 - PERMITS AND CHARGES**
OBTAIN AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS, INSPECTION FEES, AND OTHER CHARGES BY AGENCIES HAVING JURISDICTION.
 - REGULATIONS AND CODES**
PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE 2013 C.E.C., CALIFORNIA ADMINISTRATIVE CODE TITLE 8, AND OTHER CODES AND REGULATIONS HAVING JURISDICTION. INSTALL ALL EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE INSPECTING AUTHORITY AND THE MANUFACTURERS RECOMMENDATIONS.
 - VERIFYING EXISTING CONDITIONS**
BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AT THE BUILDING. THE INTENT OF THE WORK IS SHOWN ON THE DRAWINGS AND DESCRIBED HEREINAFTER. BY THE ACT OF SUBMITTING A BID PROPOSAL FOR THE WORK, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH STUDY AND EXAMINATION AND TO ACCEPT ALL CONDITIONS PRESENT AT THE SITE. NO REQUEST FOR ADDITIONAL PAYMENT WILL BE CONSIDERED AS VALID, DUE TO FAILURE TO ALLOW FOR CONDITIONS WHICH MAY EXIST.
 - COORDINATION**
COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTION REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.
ELECTRICAL EQUIPMENT LOCATIONS INDICATED ARE SHOWN DIAGRAMMATICALLY, EXACT LOCATION SHALL BE VERIFIED.
SCALING OFF OF DRAWINGS SHALL BE DONE AT CONTRACTORS RISK. DO NOT SCALE DEVICES, LIGHTING FIXTURES OR ANY EQUIPMENT FROM PLANS.
LIGHTING FIXTURE QUANTITIES AND LENGTHS SHALL BE CONTRACTORS RESPONSIBILITY. FIXTURES ARE SHOWN FOR CIRCUITING ONLY. CONTRACTOR TO VERIFY SIZES & QUANTITIES PRIOR TO BID.
 - SERVICE CONTINUITY**
UNINTERRUPTED EXISTING ELECTRICAL POWER SHALL BE MAINTAINED TO OTHER TRADES FOR TEMPORARY POWER AREAS OF THE SITE DURING CONSTRUCTION. PROVIDE ANY TEMPORARY SERVICES AS MAY BE REQUIRED. IDENTIFY AT BID TIME, ALL WORK TO BE DONE ON PREMIUM TIME AND THE TOTAL OVERTIME MAN-HOURS REQUIRED FOR COMPLETION.
 - AS-BUILT**
PROVIDE RECORD DRAWINGS IN ACAD TO THE OWNER WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT. RECORD DRAWINGS SHALL BE SIGNED AND DATED BY CONTRACTOR PRIOR TO RELEASE OF FINAL RETENTION OF ALL MONIES.
 - GUARANTEE**
CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR.
 - SHOP DRAWINGS**
SUBMIT SHOP DRAWINGS AND MATERIAL LIST FOR REVIEW PRIOR TO COMMENCING ANY WORK. ALL EQUIPMENT TO BEAR U.L. LABEL OR THAT OF ANOTHER ACCEPTABLE TESTING LABORATORY. SHOP DRAWINGS MUST BE STAMPED BY THE CONTRACTOR FOR CONFORMANCE PRIOR TO SUBMITTAL.
SUBMIT THREE HARD COPY SETS OF SHOP DRAWINGS FOR REVIEW PRIOR TO PURCHASING ALL BREAKER MOUNTING HARDWARE, DISCONNECT SWITCHES, FUSES, CONTROLLERS, LIGHTING FIXTURES, LIGHT SWITCHES, RECEPTACLES, ETC.
 - CONTRACTOR BID**
CONTRACTOR'S BID SHALL BE BASED ON ALL WORK SHOWN ON THE PLANS AND AS SPECIFIED. IF CONTRACTOR PROPOSES TO SUBSTITUTE EQUIPMENT SPECIFIED, HE SHALL SUBMIT HIS REQUEST FOR CONSIDERATION OF THE OWNER AND ENGINEER PRIOR TO BID IN WRITING. ALL SUBSTITUTIONS MUST BE REVIEWED BY THE ENGINEER IN WRITING. SUCH REVIEW SHALL NOT RELIEVE THE CONTRACTOR COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS, AND THE CONTRACTOR SHALL BE RESPONSIBLE AT HIS OWN EXPENSE FOR ANY CHARGES RESULTING FROM HIS PROPOSED SUBSTITUTIONS WHICH AFFECT OTHER PARTS OF HIS OWN WORK, THE OWNER, ENGINEER OF RECORD OR THE WORK OF OTHER CONTRACTORS.
 - MATERIAL AND INSTALLATION**
ALL WORK AND MATERIAL SHALL CONFORM TO THE LATEST RULES OF THE GOVERNING ELECTRICAL CODE AND INSTALLATION SHALL BE OF THE LATEST INDUSTRY STANDARDS OF WORKMANSHIP.
[ALL MATERIALS SHALL BE NEW AND LISTED FOR THE APPLICATION BY UNDERWRITERS LABORATORY (U.L.).]
 - CONDUITS**
CONDUIT SHALL BE EMT, PVC, IMC, RIGID OR FLEXIBLE STEEL TYPE. CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH U.L. A GROUND WIRE IS REQUIRED IN ALL FLEXIBLE CONDUIT AND UNDERGROUND CONDUIT. BUSHINGS SHALL BE INSTALLED ON ALL COMMUNICATION, TELEPHONE & SPEAKER CONDUITS. PROVIDE 3/16" NYLON PULL STRIPS IN ALL EMPTY CONDUITS. NO MC, EMT OR AC90 SHALL BE PERMITTED. FLEXIBLE STEEL CONDUIT RUNS SHALL BE LIMITED TO A MAXIMUM LENGTH OF 6 FEET.
 - SWITCHES AND RECEPTACLES**
PROVIDE 20AMP NEMA RATED SWITCHES AND RECEPTACLES OF SPECIFICATION GRADE. ALL SWITCHES SHALL BE RATED FOR 120 AND/OR 277 VOLT AND RECEPTACLES SHALL BE NEMA 5-20R. IN ALL OFFICES AND OFFICE AREAS DEVICES SHALL BE DECORA SERIES TYPE WITH COLOR SELECTION BY CONTRACTOR/OWNERS REPRESENTATIVE.
 - FEEDERS AND BRANCH CIRCUITS IDENTIFICATION**
IDENTIFY FEEDERS WITH CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT DEVICE, LOAD END, AND IN PULL BOXES WITH E-Z CODE OR OTHER APPROVED WIRE MARKER.
IDENTIFY BRANCH CIRCUITS WITH I.D. MARKERS. THE CORRESPONDING CIRCUIT DESIGNATION AT THE OVER-CURRENT DEVICE, AT ALL SPLICES, IN JUNCTION BOXES, AND IN OUTLETS, USE PLASTIC COATED SELF-STICKING MARKERS SUCH AS THOMAS & BETTS E-Z CODE FOR IDENTIFICATION OF CONDUCTORS.
IDENTIFY SIGNAL & COMMUNICATION CABLES AT TERMINAL AND OUTLET UNIQUELY WITH PERMANENT LABELING.
 - CONDUCTORS**
DELIVER ALL CONDUCTORS TO THE JOB SITE IN ORIGINAL UNBROKEN CARTON OR REEL, PROPERLY TAGGED WITH U.L. LABEL, SIZE, TYPE, MANUFACTURER, TRADE NAME AND THE DATE OF MANUFACTURE. (MUST BE MANUFACTURED WITHIN 6 MONTHS)
PROVIDE COPPER CONDUCTORS #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. PROVIDE STRANDED COPPER CONDUCTORS FOR ALL WIRING. USE CONDUCTORS WITH 90°C THHN/THWN 600 VOLTS INSULATION, UNLESS OTHERWISE NOTED.
 - LIGHTING FIXTURES**
PROVIDE LIGHTING FIXTURES WITH ELECTRONIC BALLASTS PER SCHEDULE, PROVIDE WITH LAMPS BY G.E., PHILLIPS OR PENN. AS STATED IN THE SCHEDULE.
NO SUBSTITUTIONS OF FIXTURES SHALL BE PROVIDED WITHOUT THE APPROVAL OF THE ENGINEER-OF-RECORD.
 - PANELBOARDS (BID SQUARE D. PROVIDE GE ALTERNATE BID)**
DISTRIBUTION AND LIGHTING PANELBOARDS WITHIN PROJECT AREA SHALL BE OF THE COPPER BUS THREE PHASE, FOUR WIRE DISTRIBUTED PHASING TYPE. CIRCUITING SHALL BE ARRANGED TO PROVIDE, AS NEARLY AS POSSIBLE, AN EVENLY BALANCED LOAD ON ALL PHASES. PANELBOARDS SHALL BE BOLT-ON CIRCUIT BREAKER TYPE. AVAILABLE FAULT CURRENT IS STATED ON PANELBOARD SCHEDULE. PROVIDE PANEL IDENTIFICATION NAMEPLATE (ENGRAVED ON-ADHESIVE 1/2" MINIMUM LETTERS) AND TYPEWRITTEN LIST OF CIRCUITS IN THE DIRECTORY FRAME.
 - STRUCTURAL SUPPORT**
EACH SECTION OF FLOOR MOUNTED SWITCHBOARD, DISTRIBUTION BOARD, MCC, ETC. SHALL BE BOLTED TO THE CONCRETE HOUSEKEEPING PAD USING (6) 3/4"-10 GRADE 2 BOLTS AND CONICAL WASHERS TORQUED TO 70LB-FT. PROVIDE MINIMUM 4000 PSI STRENGTH CONCRETE BELOW ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT. TIE THE TOP OF ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT TO THE BUILDING STRUCTURE IN A SEISMICALLY APPROVED MANNER.
 - ELECTRICAL CERTIFICATION**
"ELECTRICIANS" PERFORMING WORK ON THIS PROJECT SHALL BE CURRENTLY CERTIFIED IN ACCORDANCE WITH THE STATE OF CALIFORNIA A8931 AND THE DIVISION OF APPRENTICESHIP STANDARDS SECTION 3099.
 - DEMOLITION**
 - NOTIFY THE OWNER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, AND WHICH IS NOT INDICATED ON THE PLANS.
 - ALL REMOVED MATERIALS AND EQUIPMENT WHICH ARE SALVAGEABLE SHALL REMAIN THE PROPERTY OF THE OWNER. DELIVER SUCH SALVAGED MATERIALS AND EQUIPMENT TO THE PREMISES AS DIRECTED BY THE OWNER. NO STOCK PILING AND PROTECT FROM DAMAGE. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY THE OWNER TO BE SCRAP.
 - ALL DEVICES, CIRCUITS CONDUCTORS, FEEDERS ETC., WHEN NOTED TO BE REMOVED, SHALL BE REMOVED TO THE LAST ACTIVE DEVICE. ALL OVER-CURRENT PROTECTION AND DISCONNECT DEVICES NO LONGER UTILIZED BUT REMAINING AS LAST ACTIVE DEVICE SHALL BE LABELED AS "SPARE". COORDINATE ALL OUTAGES WITH OWNERS REPRESENTATIVE.
 - DISCONNECT AND MAKE SAFE ALL ELECTRICAL SYSTEMS ON SITE AND IN WALL, FLOORS, AND CEILINGS SCHEDULED FOR REMOVAL.
 - REMOVE, RELOCATE, AND EXTEND EXISTING INSTALLATIONS TO ACCOMMODATE NEW CONSTRUCTION.
 - REMOVE ABANDONED WIRING TO SOURCE OF SUPPLY AND RE-LABEL DEVICES AS SPARES.
 - REMOVE ABANDONED CONDUIT, INCLUDING ABANDONED CONDUIT ABOVE ACCESSIBLE CEILING FINISHES. CUT CONDUIT FLUSH WITH WALLS AND FLOOR, AND PATCH SURFACES.
 - DISCONNECT ABANDONED OUTLETS AND REMOVE DEVICES. REMOVE ABANDONED OUTLETS IF CONDUIT SERVICING THEM IS ABANDONED AND REMOVE. PROVIDE BLANK COVER FOR ABANDONED OUTLETS WHICH ARE NOT REMOVED.

- DISCONNECT AND REMOVE ABANDONED LUMINAIRES. REMOVE BRACKETS, STEMS, HANGERS, AND OTHER ACCESSORIES.
- REPAIR ADJACENT CONSTRUCTION AND FINISHES DAMAGED DURING DEMOLITION AND EXTENSION WORK.
- MAINTAIN ACCESS TO EXISTING ELECTRICAL INSTALLATIONS WHICH REMAIN ACTIVE. MODIFY INSTALLATION OR PROVIDE ACCESS PANEL AS APPROPRIATE.
- BEGINNING OF DEMOLITION MEANS CONTRACTOR ACCEPTS EXISTING CONDITIONS.
- EXECUTION**
 - CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE CONFINES AS MUCH AS POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
 - EQUIPMENT, MATERIALS AND SUPPLIES REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
 - DO ALL DRILLING, CUTTING, CHANNELING AND PATCHING REQUIRED TO INSTALL ELECTRICAL WORK AS INDICATED OR HEREIN SPECIFIED. ALL HOLES, CURBS, ETC., IN FLOORS, CEILINGS AND WALLS SHALL BE PATCHED, UNLESS INDICATED OTHERWISE. PAINT ALL NEW ELECTRICAL RACEWAYS, CABINETS, ENCLOSURES AND FITTINGS PENETRATING INTO FIRE RATED ENVELOPES, SPACES, ETC.
 - ALL CONDUIT RUNS SHALL BE CONCEALED, UNLESS SHOWN OTHERWISE. PROVIDE A PULL WIRE IN ALL EMPTY CONDUITS.
 - EXISTING CONDITION SHOWN IS FROM AVAILABLE RECORD DRAWINGS AND VISUAL FIELD SURVEY AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITION AT SITE.
 - ALL WORK SHOWN IS NEW UNLESS SPECIALLY INDICATED AS EXISTING (X). ALL ELECTRICAL EQUIPMENT MOUNTING AND ANCHORAGE MUST CONFORM WITH LOCAL AND STATE SEISMIC CODES.
- TELEPHONE SYSTEMS**
PROVIDE RACEWAYS, AND ALL MATERIAL INCLUDING PULLING CABLE IN EACH RACEWAY AS REQUIRED FOR THE TELEPHONE SYSTEM PER THE TELEPHONE REQUIREMENTS.
ALL CAT 6 CABLES SHALL BE TESTED & MEET CURRENT T568 STANDARDS, A TEST REPORT SIGNED BY A RCDD SHALL BE PROVIDED WITH THE DOCUMENTATION.
- GROUNDING & BONDING**
FURNISH AND INSTALL COMPLETE BONDING AND GROUNDING SYSTEM AS REQUIRED BY CODES. CONTINUITY OF GROUNDING SHALL BE MAINTAINED MECHANICALLY AND ELECTRICALLY THROUGHOUT THE SYSTEM. A GREEN GROUNDING CODE SIZED CONDUCTOR SHALL BE CARRIED IN ALL CONDUITS.
- INSTALLATION**
 - IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT A COMPLETE AND WORKABLE ELECTRICAL INSTALLATION BE PROVIDED FOR ALL THE EQUIPMENT DESCRIBED OR SHOWN AS BEING IN THIS CONTRACT. TOWARD THIS END FURNISH ALL LABOR AND TOOLS NECESSARY AND FURNISH AND INSTALL ALL APPARATUS, MATERIALS AND EQUIPMENT IN A FASHION COMPLYING WITH ALL APPLICABLE CODES, INCLUDING ITEMS REQUIRED BUT NOT NORMALLY SHOWN, SUCH AS LAMPS, COUPLINGS, HANGERS, BRACKETS, CLAMPS, BOXES, CONNECTORS AND HARDWARE. REFER ALSO TO WRITTEN SPECIFICATIONS FOR GENERAL, MECHANICAL, AND ELECTRICAL SECTIONS.
 - PROCURE ALL PERMITS FROM LEGALLY CONSTITUTED AUTHORITIES. ARRANGE FOR ALL INSPECTIONS AND PAY ALL COSTS FOR FEES AND TESTS IN CONNECTION THEREWITH. COMPLY WITH CODES: NOTHING IN THESE PLANS AUTHORIZES DEVIATION FROM APPLICABLE CODES.
 - DETERMINE EXACT ROUTING OF CONCEALED FEEDERS AND BRANCH HOMERUNS IN COOPERATION WITH OTHER TRADES TO SUEFLIFT INSTALLATION WHEREVER POSSIBLE BUT SUBJECT TO APPROVAL OF ARCHITECT FOR VISUAL AND STRUCTURAL REASONS.
 - PROVIDE A CODE APPROVED DISCONNECT SWITCH OR BREAKER WITHIN SIGHT OF EVERY MOTOR AND FEED MOTOR NOT EQUIPPED WITH "BUILT IN" PROTECTION THROUGH A MAGNETIC OR MANUAL STARTER WITH OVERLOAD HEATERS SIZED TO COMPLY WITH MOTOR MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES.
 - FOR CONNECTIONS TO EXHAUST FANS, PUMPS, COMPRESSORS, SPACE HEATERS, WATER HEATERS, AQUARIATS, SOLENOID VALVES AND OTHER MECHANICAL EQUIPMENT AND FOR CONDUITS AND WIRE REQUIRED BUT NOT NECESSARILY SHOWN ON THESE DRAWINGS REFER TO MECHANICAL PLANS AND DETERMINE EXACT LOCATIONS UNDER DIRECTION OF HEATING AND VENTILATING CONTRACTOR.
 - DO NOT RUN ANY CONDUIT IN SLAB IF ITS OUTSIDE DIAMETER EXCEEDS 1/3 THE THICKNESS OF THE SLAB. LOCATE CONDUITS WITHIN THE MIDDLE OF THE SLAB. WHERE CONDUITS ARE GROUPED IN PARALLEL RUNS, SPACE THEM 3" OR MORE APART. WHERE CONDUITS CROSS EACH OTHER, THICKEN SLAB PROPORTIONATELY OVER A HORIZONTAL AREA EQUAL TO TEN TIMES THE DIAMETER OF THE LARGEST CONDUIT. REFER ALSO TO DETAILS SHOWN.
 - FOR CIRCUITS FED THROUGH FLOURESCENT FIXTURE CHANNELS AND FEEDS TO RECESSED INCANDESCENT FIXTURES USE 100 DEG. CELSIUS RATING.
 - SIZE OUTLET BOXES IN CONFORMITY WITH CODE FOR NUMBER AND GAUGE OF CONDUCTORS THEREIN, EXCEPT WHERE NOTED TO BE LARGER. MINIMUM BOX SIZE SHALL BE 4" SQUARE BY 1-1/2" DEEP.
 - EXAMINE PLANS TO DISCONNECT CEILINGS WITH A FIRE RATING OF ONE HOUR OR MORE, PROVIDE A ONE HOUR FIRE-RATED ENCLOSURE OVER EACH LIGHT FIXTURE RECESSED THEREIN.
 - ALL ELECTRICAL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. ALL CONDUIT SHALL BE CONCEALED WHERE POSSIBLE. EXPOSED CONDUIT SHALL BE IN STRAIGHT LINES PARALLEL WITH OR AT RIGHT ANGLES TO, COLUMN LINES OR BEAMS AND SEPARATED BY AT LEAST THREE (3) INCHES FROM WATER LINES WHENEVER THEY RUN LONG SIDE OR ACROSS SUCH LINES. CONDUIT SHALL BE RUN BELOW CABLE TRAYS OR LIGHT FIXTURES WITHOUT SPECIFIC APPROVAL OF THE OWNERS REPRESENTATIVE. HANGERS SHALL BE FASTENED TO STEEL, CONCRETE OR MASONRY, BUT NOT TO PIPING, HANGERS AND SUPPORT SYSTEMS ARE AN INTEGRAL PART OF THE VISUAL ENVIRONMENT. ALL HANGERS AND SUPPORTS EXPOSED TO PUBLIC VIEW MUST BE SHOWN IN DETAIL ON PLANS SUBMITTED TO ENGINEER FOR APPROVAL OF APPEARANCE. ALL HANGERS MUST BE UNIFORMLY SPACED AND NEATLY INSTALLED WITH NO EXCESS MATERIAL BEYOND WHAT IS REQUIRED FOR THE SUPPORT FUNCTION. CONTRACTOR SHALL SELECT ACCESSORIES AND HARDWARE WITH A SMOOTH, NEAT FINISHED APPEARANCE AND PAINT ALL EXPOSED CONDUIT HANGERS TO MATCH THE ADJACENT FINISHES.
 - ALL WALL SWITCHES AND RECEPTACLES SHALL BE MOUNTED BETWEEN 18" AND 48" PER ADA REQUIREMENTS UNLESS NOTED OTHERWISE.
 - ALL DISTRIBUTION BOARDS, SWITCHBOARDS AND TRANSFORMERS THAT ARE FLOOR MOUNTED SHALL BE MOUNTED ON 2" THICK HOUSEKEEPING PAD. TRANSFORMER SHALL BE ON VIBRATION ISOLATION PADS AND CONNECTED WITH FLEXIBLE CONDUIT.
 - CONTRACTOR SHALL EXAMINE PLANS AND VERIFY IN FIELD LOCATIONS OF ALL FIRE RATED WALLS, CEILINGS AND FLOORS. CONTRACTOR SHALL SEAL ALL ELECTRICAL SYSTEM PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS AND FLOORS WITH U.L. LISTED MATERIAL APPROVED BY THE AUTHORITY HAVING JURISDICTION.
- FIRE ALARM SYSTEM**
 - CONTRACTOR SHALL PROVIDE AND INSTALL A FIRE ALARM SYSTEM FOR THE PROJECT AREA TO INCLUDE:
 - DUCT DETECTORS IN ALL REQUIRED DUCTS.
 - CONTRACTOR SHALL SUBMIT FOR THE OWNERS SIGNED APPROVAL, APPROVED FIRE DEPARTMENT FIRE ALARM DRAWINGS FOR THE PROJECT SPACE.
 - CONTRACTOR SHALL BE BUILDING STANDARD - EDWARDS.
 - ALL DEVICES AND EQUIPMENT SHALL BE CALIFORNIA STATE FIRE MARSHALL APPROVED AND CURRENTLY LISTED.
 - CONTRACTOR SHALL WARRANTY ALL DEVICES AND SYSTEMS FOR A PERIOD OF TWO YEARS.
 - CONTRACTOR SHALL PROVIDE 6 (SIX) HARD COPY SETS OF FIRE ALARM MANUALS FOR ALL SYSTEMS AND DEVICES IN ADDITION TO 6 (SIX) HARD COPY SETS OF A SYSTEM OPERATIONAL MANUAL, TAILORED FOR THE PROJECT SPACE.
 - CONTRACTOR SHALL PROVIDE AN INDIVIDUALLY ADDRESSABLE TOTALLY SUPERVISED SYSTEM WITH BATTERY BACK-UP FOR 24 HOURS OF MONITORING INITIATING CIRCUITS PLUS 30 MINUTES OF ALARM WITH DUAL RATE BATTERY CHARGER.
 - CONTRACTOR SHALL PROVIDE A SATISFACTORY SYSTEM TEST IN THE PRESENCE OF THE OWNER, FIRE PREVENTION BUREAU AND CONSULTING ENGINEER.
 - CONTRACTOR SHALL PROVIDE ALL CONNECTION TO POWER PANELS, CONDUIT AND WIRE AND CONNECTIONS REQUIRED TO PROVIDE AN OPERATIONAL FIRE ALARM SYSTEM.

COLOR CODE FOR CONDUCTORS

PROVIDE CONDUCTOR COLOR CODE AS FOLLOWS:
120/208V, 3Ø, 4W: BLUE, BLACK, RED FOR PHASE CONDUCTORS
AND WHITE FOR NEUTRAL, GREEN FOR GROUND.
277/480V, 3Ø, 4W: ORANGE, BROWN, YELLOW FOR PHASE CONDUCTORS
AND WHITE FOR NEUTRAL, GREEN FOR GROUND.



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MOORPARK COLLEGE
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VENTURA COUNTY COMMUNITY COLLEGE DISTRICT

SYMBOLS

- RELAY CONTROLLED RECEPTACLE AT 18" AFF. PROVIDE WITHIN 6'-0" OF NON CONTROLLED RECEPTACLE. PROVIDE COVER PLATE WITH ENGRAVED "CONTROLLED".
WP GFCI RECEPTACLE AT 18" AFF
GFCI RECEPTACLE AT 42" AFF
SINGLE RECEPTACLE, WALL MOUNTED Ø +18" AFF, NEMA 5-20R U.O.N.
DUPLEX RECEPTACLE, WALL MOUNTED Ø +18" AFF, NEMA 5-20R U.O.N.
ISOLATED (ORANGE) GROUND DUPLEX RECEPTACLE, WALL MTD. Ø18" AFF, NEMA 5-20R U.O.N.
DOUBLE DUPLEX RECEPTACLE, NEMA 5-20R, WALL MOUNTED Ø +18" AFF
DUPLEX RECEPTACLE, WALL MOUNTED Ø +18" NEMA 5-20R U.O.N.
TOP RECEPTACLE SWITCHED
SPECIAL OUTLET, TYPE AS REQUIRED BY EQUIPMENT.
JUNCTION BOX (CEILING MTD.) SIZE PER TABLE AND NEC ARTICLE 370
JUNCTION BOX (WALL MTD.) SIZE PER TABLE AND NEC ARTICLE 370
THERMOSTAT
BRANCH CIRCUIT PANELBOARD - 240/120V, 1Ø, 3W OR 3Ø, 3W, 240VAC OR 120/208VAC, 3Ø, 4W.
BRANCH CIRCUIT PANELBOARD - 480/277V, 1Ø, 3W OR 3Ø, 3 OR 4W
4"X8" X3/4" TELEPHONE BACKBOARD, MARINE PLYWOOD AND PAINTED WITH FIRE RESISTANT PAINT, PER OWNERS REPRESENTATIVE.
CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALLS.
CONDUIT RUN CONCEALED BELOW FLOOR OR UNDERGROUND
EMERGENCY CIRCUIT
FLEXIBLE CONDUIT (WITH GROUND CONDUCTOR, PROVIDE LIQUID TIGHT CONDUIT IN ALL EXPOSED AREAS)
CONDUIT STUB UP, CAP AND IDENTIFY
CONDUIT TURNS UP
CONDUIT TURNS DOWN
CONDUIT FITTING SEALED WITH APPROVED COMPOUND FOR ENVIRONMENT SEPARATION.
HASH MARKS INDICATE QUANTITY OF #12 CONDUCTORS.
NO HASH MARKS INDICATE (2)#12AWG.
(PROVIDE GROUND CONDUCTOR IN ALL CONDUITS.)
WHERE NO NUMBER IS INDICATED, THE CONDUCTORS ARE #12AWG(MIN.) CONDUIT SIZE IS AS REQUIRED BY ELECTRICAL CODE. (3/4" CONDUIT MINIMUM).
INDICATES A HOMERUN TO PNL 2LA, CKTS 1-3-5 WITH SHARED NEUTRAL & CKT 7 WITH DEDICATED NEUTRAL.
1-3-5, 7
3/4"C-2#12 & #12 GND
3/4"C-3#12 & #12 GND
3/4"C-4#12 & #12 GND
3/4"C-5#12 & #12 GND
3/4"C-2#10 & #10 GND
3/4"C-3#10 & #10 GND
3/4"C-4#10 & #10 GND
3/4"C-5#10 & #10 GND
SEE KEY NOTE #1 AS INDICATED ON DRAWING
SWITCH WITH PILOT LIGHT Ø 42" AFF
3-WAY SWITCH, a & b, INDICATES LIGHT FIXTURE TO BE SWITCHED (EACH A 3-WAY) MOUNTED Ø 42" AFF
SWITCH MOUNTED Ø +42" AFF
MOTOR RATED SWITCH
CIRCUIT SWITCH LEGS
WALL SWITCHES
DISCONNECT SWITCH, 60AMP SWITCH, 35 AMP FUSE, 3 POLE W/ OVERCURRENT PROTECTION U.O.N.
100A UTILITY METER (OR AS NOTED)
FUSED DISCONNECT SWITCH, 100AMP SWITCH RATING WITH 60 AMP FUSES, 3 POLE
MOLDED CASE CIRCUIT BREAKER
200V AMP FRAME, 150 AMP TRIP RATING, 3 POLE
CCTV-VERIFY MOUNTING LOCATION AND REQUIREMENTS WITH CLIENT/OWNER.

JUNCTION BOX FILL

JUNCTION BOX DIMENSION, INCHES TRADE SIZE OR TYPE	MIN. CU. IN. CAP.	MAXIMUM NUMBER OF CONDUCTORS					
		No. 14	No. 12	No. 10	No. 8	No. 6	
4 x 1-1/4 ROUND OR OCTAGONAL	12.5	6	5	5	4	2	
4 x 1-1/2 ROUND OR OCTAGONAL	15.5	7	6	6	5	3	
4 x 2-1/8 ROUND OR OCTAGONAL	21.5	10	9	8	7	4	
4 x 1-1/4 SQUARE	18.0	9	8	7	6	3	
4 x 1-1/2 SQUARE	21.0	10	9	8	7	4	
4 x 2-1/8 SQUARE	30.3	13	13	12	10	6	
4-11/16 x 1-1/4 SQUARE	25.5	12	11	10	8	5	
4-11/16 x 1-1/2 SQUARE	29.5	14	13	11	9	5	
4-11/16 x 2-1/8 SQUARE	40.2	21	18	16	14	8	
3 x 2 x 1-1/2 DEVICE	7.5	3	3	3	2	1	
3 x 2 x 2 DEVICE	10.0	5	4	4	3	2	
3 x 2 x 2-1/4 DEVICE	10.5	5	4	4	3	2	
3 x 2 x 2-1/2 DEVICE	12.5	5	5	4	3	2	
3 x 2 x 3-1/4 DEVICE	14.0	7	6	5	4	2	
3 x 2 x 3-1/2 DEVICE	18.0	9	8	7	6	3	
4 x 2-1/8 x 1-1/2 DEVICE	13.0	5	4	4	3	2	
4 x 2-1/8 x 1-7/8 DEVICE	13.0	6	5	5	4	2	
4 x 2-1/8 x 2-1/8 DEVICE	14.5	7	6	5	4	2	
3-3/4 x 2 x 2-1/2 MASONRY BOX / GANG	14.0	7	6	5	4	2	
3-3/4 x 2 x 3-1/2 MASONRY BOX / GANG	21.0	10	9	8	7	4	
FS - MINIMUM INTERNAL DEPTH 1-3/4 SINGLE COVER / GANG	13.5	6	6	5	4	2	
FD - MINIMUM INTERNAL DEPTH 2-3/8 SINGLE COVER / GANG	18.0	9	8	7	6	3	
FS - MINIMUM INTERNAL DEPTH 1-3/4 MULTIPLE COVER / GANG	18.0	9	8	7	6	3	
FD - MINIMUM INTERNAL DEPTH 2-3/8 MULTIPLE COVER / GANG	24.0	12	10	9	8	4	

LIST OF DRAWINGS

SHEET	DESCRIPTION
E100	GENERAL NOTES, ABBREVIATIONS, SYMBOLS & DRAWING LIST
E140	ROOF DEMOLITION MECHANICAL PLAN
E200	EXISTING ELECTRICAL SINGLE LINE DIAGRAM & PANEL SCHEDULE
E400	ROOF MECHANICAL PLAN
E420	ELECTRICAL SCHEDULE FOR NEW MECHANICAL EQUIPMENT
E500	FIRE ALARM SYSTEM RISER DIAGRAM
E501	FIRE ALARM GENERAL NOTES AND DEVICES LEGEND
E502	FIRE ALARM SMOKE DETECTOR SPEC SHEETS

SCOPE OF WORK

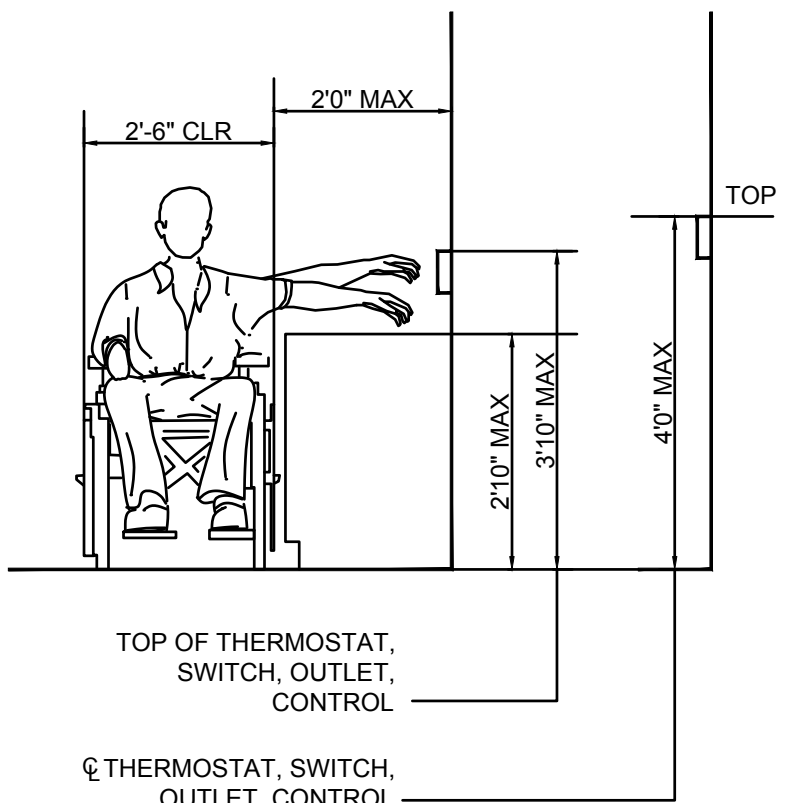
PROVIDE POWER TO REPLACEMENT HVAC UNITS.
PROVIDE NEW DUCT DETECTORS FOR HVAC UNITS AS NOTED AND REPROGRAM FA SYSTEM.

APPLICABLE STANDARDS

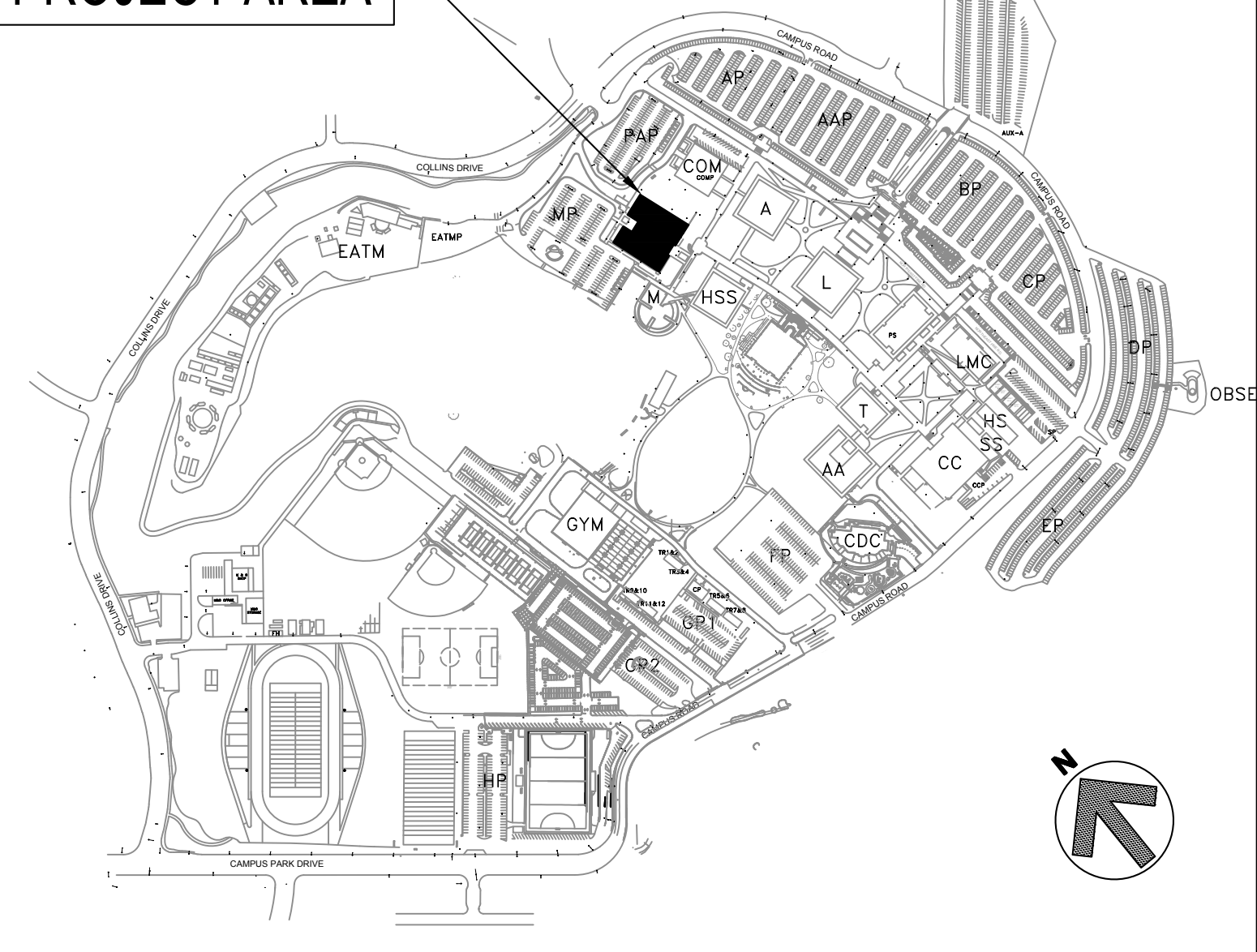
- 2016 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (ACA) TITLE 11 - ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAG)
- 2016 CALIFORNIA BUILDING CODE (CBC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 2 (2015 INTERNATIONAL BUILDING CODE (IBC) W/CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA ELECTRICAL CODE (CEC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 3 (2014 NATIONAL ELECTRICAL CODE (NEC) W/CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA ENERGY CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 6
- 2016 CALIFORNIA FIRE CODE (CFC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 9 (2015 INTERNATIONAL FIRE CODE (IFC) W/CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA REFERENCED STANDARDS CODE CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 12
- AMERICANS WITH DISABILITIES ACT (ADA) TITLE 11 - ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES (ADAG)
- 1990 STATE FIRE MARSHAL REGULATIONS AND AMENDMENTS TO-DATE
- CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, CALIFORNIA STATE ACCESSIBILITY STANDARDS CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 19
- 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL. GREEN), PART II, TITLE 24 C.C.R.
- 2016 CALIFORNIA MECHANICAL CODE (CMC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 4 (2015 UNIFORM MECHANICAL CODE (UMC) W/CALIFORNIA AMENDMENTS)
- 2016 CALIFORNIA PLUMBING CODE (CPC) CALIFORNIA CODE OF REGULATIONS (CCR) TITLE 24, PART 5 (2015 UNIFORM PLUMBING CODE (UPC) W/CALIFORNIA AMENDMENTS)
- 2013 TITLE 19 CALIFORNIA CODE OF REGULATIONS (CCR) PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
- 2016 NFPA 72 NATIONAL FIRE ALARM CODE

ABBREVIATIONS

A	AMPERES	MTD	MOUNTED
AF	AMP FRAME/AMP FUSE	MTB	MAIN TELEPHONE BACKBOARD
AFC	AVAILABLE FAULT CURRENT	MTG	MOUNTING
AFV	ABOVE FINISHED FLOOR	MV	MERCURY VAPOR
ARCH	ARCHITECT	MH	METAL HALIDE
AS	AMP SWITCH	MFG	MANUFACTURER
AT	AMP TRIP	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAGE	N	NEW
BKBD	BACKBOARD	NIC	NOT IN CONTRACT
CB	CONDUIT	NL	NIGHT LIGHT
CBK	CIRCUIT BREAKER	N.O.	NORMALLY OPEN
CONT.	CONTINUATION	N.C.	NORMALLY CLOSED
CKT	CIRCUIT	P	POWER OR POLE
CLG	CEILING	PBO	PROVIDED BY OTHERS
CON	CONDUIT ONLY	PNL	PANEL
CNT	CABLE TELEVISION	(R)	REMOVED
(CU)	COPPER	RGS	RIGID GALVANIZED STEEL CONDUIT
CK	COLD WATER PIPE	RM	ROOM
DIS	DISCONNECT	SN	SYSTEM NEUTRAL
DWG	DRAWING	TC	TIME CLOCK
EMG	ELECTRICAL CONTRACTOR	TGB	TELEPHONE TERMINAL BOARD
ENR	EMERGENCY LIGHT FEEDER	TTC	TELEPHONE TERMINAL CABINET
EOR	ENGINEER OF RECORD	TR	TRANSFORMER
(F)	FRONT	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
FS	SHALLOW FLOOR BOX	U	UNDERGROUND
GC	GENERAL CONTRACTOR	UNSW	UNLESS OTHERWISE NOTED
GND	GROUND	UNSW	UNSWITCHED
HP	HORSEPOWER	V	VOLTS/VOLTAGE
I.B.	ISOLATED GROUND	W	WATTS/WATTAGE
J.B.	JUNCTION BOX	WP	WEATHERPROOF
KVA	KILO VOLT AMPS=1000VA	W/X	WITH EXISTING
L	LIGHTING		
LCL	LONG CONTINUOUS LOAD		
LV	LOW VOLTAGE		



PROJECT AREA



PERMIT RE-SUBMITTAL

DEPARTMENT OF
MAINTENANCE & OPERATIONS
7075 CAMPUS RD.
MOORPARK, CA 93021
PHONE: (805) 378-1454 FAX: (805) 378-1593

SCALE:
DATE: 1-20-18
BLDG. NO.
PERFORMING ARTS HVAC REPLACEMENT
PHASE 2
GENERAL NOTES,
ABBREVIATIONS, SYMBOLS &
DRAWING LIST
SHEET NO.
E100

SHEET NOTES:

- SCOPE: PROVIDE AND PERFORM DEMOLITION, PREPARATORY AND MISCELLANEOUS WORK IN AREAS AS INDICATED AND SPECIFIED, COMPLETE.
- DEMOLITION AND REMOVAL OF EXISTING ELECTRICAL CONDUIT, WIRING AND EQUIPMENT REQUIRED TO COMPLETE THE PROJECT.
- PREPARATION OF THE EXISTING BUILDING TO RECEIVE OR CONNECT THE NEW WORK.
- MISCELLANEOUS DEMOLITION, CUTTING, ALTERATION, AND REPAIR WORK IN THE EXISTING BUILDING NECESSARY FOR THE COMPLETION OF THE ENTIRE PROJECT.
- DISCONNECTING AND RECONNECTION OF ELECTRICAL EQUIPMENT AS REQUIRED BY THE CONSTRUCTION MODIFICATIONS.
- EXISTING CONDITIONS: PRIOR TO BID MAKE A DETAILED SURVEY OF THE EXISTING CONDITIONS PERTAINING TO THE WORK. CHECK THE LOCATIONS OF ALL EXISTING STRUCTURES, EQUIPMENT AND WIRING (BRANCH CIRCUITING AND CONTROLS). CHECK FOR ANY HAZARDOUS MATERIALS WHICH MAY REQUIRE SPECIAL HANDLING.
- SALVAGE AND DISPOSAL: ALL REMOVED MATERIAL OTHER THAN ITEMS TO BE REUSED SHALL BE RETURNED TO THE OWNER OR DISPOSED OF IN ACCORDANCE WITH INSTRUCTIONS FROM THE OWNER'S REPRESENTATIVE. DISPOSAL SHALL BE DONE IN ACCORDANCE WITH EPA AND GOVERNING BODY REQUIREMENTS AND REGULATIONS. CONTRACTOR SHALL PAY ALL FEES AND CHARGES FOR DISPOSAL.
- SCHEDULE ALL WORK AND OUTAGES WITH TENANTS AND OWNERS WRITTEN APPROVAL.
- CONTRACTOR SHALL LEAVE ALL CIRCUITS ENERGIZED TO DEVICES IN AREAS OUTSIDE OF DEMOLITION AREA EVEN IF FEEDERS ARE ROUTED THROUGH DEMOLITION AREA.

SHEET NOTES

AC UNITS TO BE REPLACED

- RE-CONNECT UNITS TO EXISTING POWER.
- RE-INSTALL (X) ALC CONTROLS TO NEW UNIT
- COORDINATE WITH FIRE ALARM CONTRACTOR TO INSTALL (N) DUCT SMOKE DETECTORS RE-PROGRAM TO MAKE ACTIVE
- REPAIR OR PATCHING DETAILS FOR EXISTING DAMAGES OR DAMAGES OCCURRED DURING CONSTRUCTION SHALL BE SUBMITTED TO DSA FOR APPROVAL.

1/8"=1'-0" 0 4' 8' 16' 24'

ROOF DEMOLITION MECHANICAL PLAN

SCALE: 1/8"=1'-0"



1
- E140

PERMIT RE-SUBMITTAL

DEPARTMENT OF
MAINTENANCE & OPERATIONS

SCALE:

DATE:

1-20-18

BLDG. NO.

PERFORMING ARTS HVAC REPLACEMENT
PHASE 2

ROOF DEMOLITION
MECHANICAL PLAN

SHEET NO.

E140

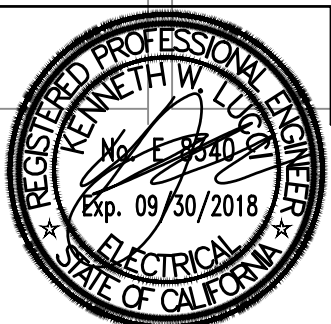
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MOORPARK COLLEGE
7075 CAMPUS ROAD, MOORPARK, CALIFORNIA 93021
VENTURA COUNTY COMMUNITY COLLEGE DISTRICT

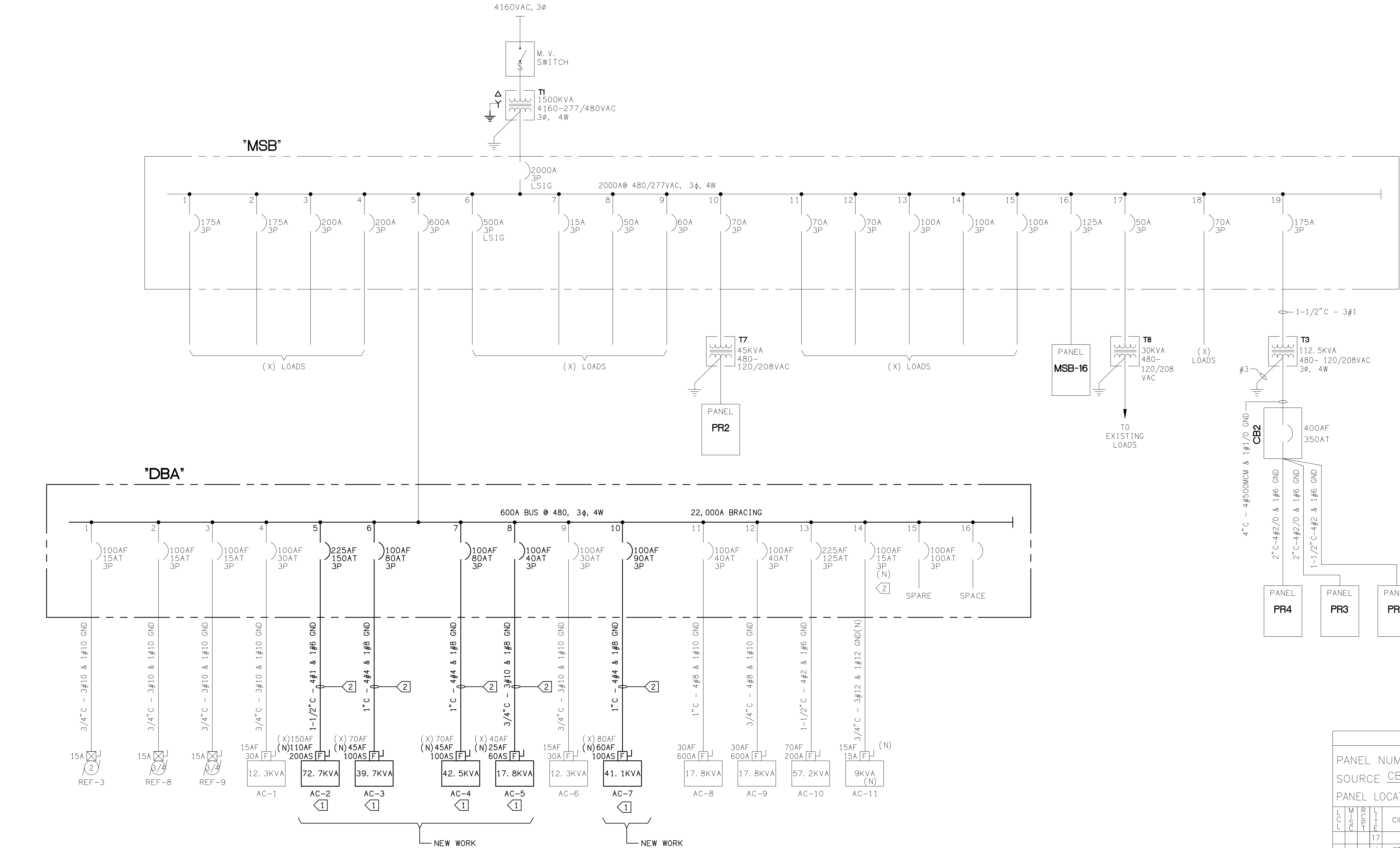
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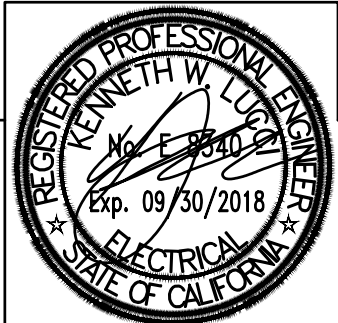
REV.	DATE



EXISTING PERFORMING ARTS BUILDING ELECTRICAL SINGLE LINE DIAGRAM 1

SCALE: NONE E200

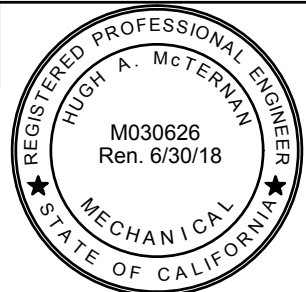
REV.	DATE
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2	03/07/12
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PERFORMING ARTS HVAC REPLACEMENT
PHASE 2
ELECTRICAL SINGLE LINE
DIAGRAM

SHEET NO.
E200

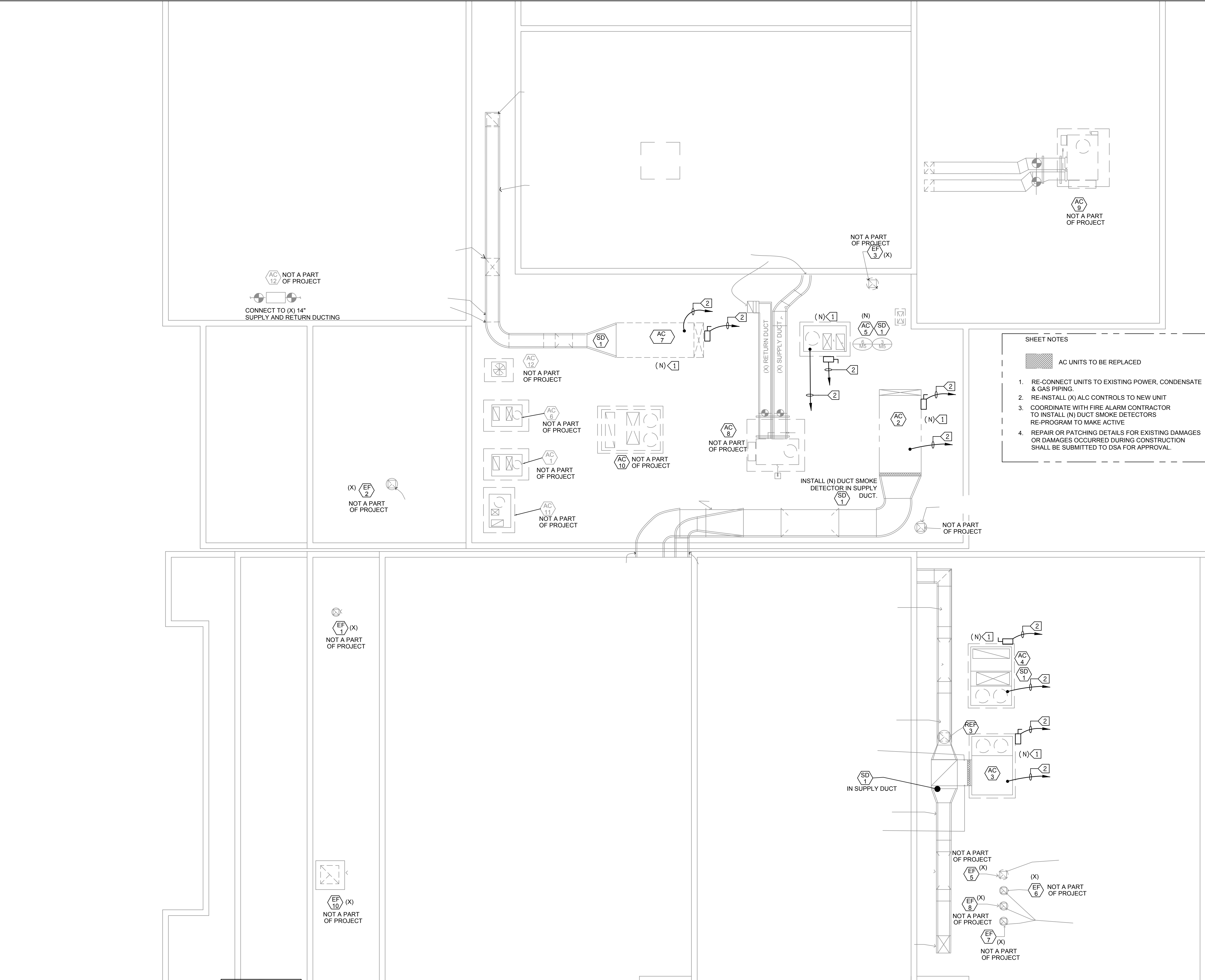
SHEET NOTES:

- VERIFY LOCATION OF ALL BUILDINGS AND APPENDITURES ON ARCHITECTURAL AND CIVIL PLANS.
- CONTRACTOR SHALL VERIFY LOCATION & REQUIREMENTS OF ALL ELECTRICAL DEVICES PRIOR TO BID. ROUGH-IN & INSTALLATION.
- CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR & CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWING. ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO ANY DEVIATIONS FROM APPROVED PLAN CHECK (PERMIT SET) DRAWINGS.
- FIELD VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO TRENCHING. SCHEDULE AND COORDINATE ALL SITE WORK WITH OWNER PRIOR TO ANY TRENCHING.
- ALL CONDUIT 90' CONDUIT BENDS AND RISERS SHALL BE PVC COATED RIGID STEEL.
- CONTRACTOR SHALL COORDINATE AND PROVIDE ALL SITE ELECTRICAL SERVICE REQUIREMENTS WITH SERVING UTILITY.
- ALL SERVICE ENTRANCE EQUIPMENT SHOP DRAWINGS SHALL BE SUBMITTED TO THE LOCAL UTILITY COMPANY FOR APPROVAL. WITH WRITTEN APPROVAL RECEIVED PRIOR TO SUBMISSION TO ELECTRICAL ENGINEER FOR APPROVAL.
- VERIFY LOCATION OF ALL EQUIPMENT AND DEVICES ON ARCHITECTURAL AND CIVIL PLANS.
- MINIMUM CONDUIT BURIAL DEPTH IS 24", 36" MINIMUM BELOW STREETS & PARKING LOTS FOR 0-600 VOLT SYSTEMS.
- CONTRACTOR TO PROVIDE GROUND CONDUCTORS IN ALL CONDUITS.
- 1" CONDUIT MINIMUM UNDERGROUND.
- COORDINATE WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALL ELECTRICAL CONNECTIONS, DEVICES, AND WIRING REQUIRED WHETHER SHOWN ON ELECTRICAL DRAWINGS OR NOT.
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL CONDUCTORS PER CONDUCTOR MANUFACTURERS RECOMMENDATIONS. PER THE NATIONAL ELECTRICAL CODE AND PER LOCAL AUTHORITIES HAVING JURISDICTION.

KEY NOTES:

- 1 RECONNECT TO EXISTING FEEDER - CHANGE FUSES TO MATCH NEW E420 FUSE SCHEDULE.
- 2 EXISTING TO REMAIN.

EXISTING PANEL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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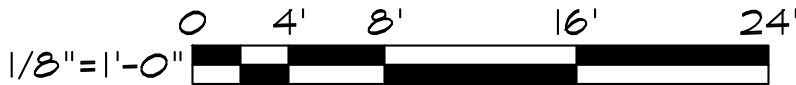


SHEET NOTES:

1. FIELD VERIFY MECHANICAL EQUIPMENT LOCATIONS.
2. SEE ELECTRICAL SCHEDULE FOR MECHANICAL EQUIPMENT FOR ELECTRICAL REQUIREMENTS.
3. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES.
4. THE LOCATION OF ALL ROOF PENETRATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS.
5. PROVIDE ROOF JACKS AND PROPERLY SEAL ALL ROOF PENETRATIONS TO A LEAK FREE CONDITION.
6. THE FINAL CONNECTIONS TO EQUIPMENT SHALL BE LIQUIDTIGHT FLEXIBLE METAL CONDUIT. INSTALL WITH ENOUGH SLACK TO PRECLUDE VIBRATION TRANSMISSION. SUPPORT SHALL BE PER N.E.C. ARTICLE 351-8.
7. PROVIDE WEATHERPROOF AND EXTERIOR RATED DEVICES IN ALL EXTERIOR AREAS.
8. PROVIDE ALL DEVICES AS REQUIRED ON MECHANICAL CONTRACTOR SHOP DRAWINGS AND APPROVED SUBMITTALS.
9. NO CONDUIT/FEEDER SHALL BE PERMITTED ON THE ROOF WITH CRIPPLES, ALL FEEDERS SHALL BE RUN BENEATH THE ROOF.
10. ALL DISCONNECTS SHALL BE MOUNTED ON UNISTRUT ON AH UNIT.
11. CONTRACTOR SHALL VERIFY LOCATION & REQUIREMENTS OF ALL ELECTRICAL DEVICES PRIOR TO BID, ROUGH-IN & INSTALLATION.
12. CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR & CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWING. ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO ANY DEVIATIONS FROM APPROVED PLAN CHECK (PERMIT SET) DRAWINGS.
13. EACH DISCONNECT OR STARTER AND A SPARE SET OF FUSES SHALL BE CONTRACTOR PROVIDED.

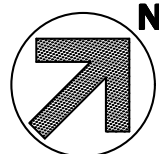
KEY NOTES:

- 1 NEW (REPLACED) DUCT SMOKE DETECTOR-EST SIGA-SD. SEE E420 & E502 FOR CSFM & DATA SHEET, CONNECT PER RISER DIAGRAM & PROGRAM.
- 2 SEE E420 FOR FEEDER & PROVIDE 3/4"C FOR CONTROLS PER MECHANICAL PLANS.



ROOF MECHANICAL PLAN

SCALE: 1/8"=1'-0"



1
- E400

PERMIT RE-SUBMITTAL

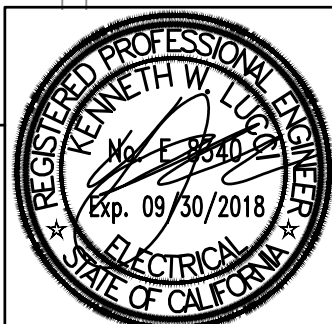
DEPARTMENT OF MAINTENANCE & OPERATIONS		SCALE:	PERFORMING ARTS HVAC REPLACEMENT PHASE 2	
7075 CAMPUS RD. MOORPARK, CA. 93021 PHONE: (805) 378-1454 FAX: (805) 378-1593		DATE: 1-20-18 BLDG. NO.	ROOF MECHANICAL PLAN	
				SHEET NO. E400

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REV.	DATE
1	02/08/18

ELECTRICAL SCHEDULE FOR NEW MECHANICAL EQUIPMENT

TAG #	DESCRIPTION	H.P.	FLA	MAX OCP	VOLTAGE	PHASE	NEMA STARTER SIZE	DISCONNECT	RECOMMENDED FUSE SIZE/TYPE *	REMARKS	PANEL/CIRCUIT NO.	FEEDER EXISTING TO REMAIN
AC 2	AIR CONDITIONER #2	15	21	110	480	3	.	200A	110	AUDIOTORIUM	DBA-5	SEE SHEET E200
AC 3	AIR CONDITIONER #3	3	5	45	480	3		100A	45	STAGE	DBA-6	SEE SHEET E200
AC 4	AIR CONDITIONER #4	3	5	45	480	3		100A	45	SCENE SHOP	DBA-7	SEE SHEET E200
AC 5	AIR CONDITIONER #5	3.6	5	25	480	3		60A	25	MAKE-UP	DBA-8	SEE SHEET E200
AC 7	AIR CONDITIONER #7	5	8	60	480	3		100A	60	DRAMA	DBA-10	SEE SHEET E200

* ALL FUSES BY BUSSMANN AND SHALL BE SIZED PER MANUFACTURERS RECOMMENDATION.

- RECONNECT POWER FEEDER & CHANGE FUSES TO MATCH SCHEDULE

SHEET NOTES:

1. FIELD VERIFY MECHANICAL EQUIPMENT LOCATIONS.
2. SEE ELECTRICAL SCHEDULE FOR MECHANICAL EQUIPMENT FOR ELECTRICAL REQUIREMENTS.
3. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES.
4. THE LOCATION OF ALL ROOF PENETRATIONS SHALL BE COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, AND STRUCTURAL DRAWINGS.
5. PROVIDE ROOF JACKS AND PROPERLY SEAL ALL ROOF PENETRATIONS TO A LEAK FREE CONDITION.
6. THE FINAL CONNECTIONS TO EQUIPMENT SHALL BE LIQUIDTIGHT FLEXIBLE METAL CONDUIT. INSTALL WITH ENOUGH SLACK TO PRECLUDE VIBRATION TRANSMISSION. SUPPORT SHALL BE PER N.E.C. ARTICLE 351-8
7. PROVIDE WEATHERPROOF AND EXTERIOR RATED DEVICES IN ALL EXTERIOR AREAS.
8. PROVIDE ALL DEVICES AS REQUIRED ON MECHANICAL CONTRACTOR SHOP DRAWINGS AND APPROVED SUBMITTALS.
9. NO CONDUIT/FEEDER SHALL BE PERMITTED ON THE ROOF WITH CRIPPLES, ALL FEEDERS SHALL BE RUN BENEATH THE ROOF.
10. ALL DISCONNECTS SHALL BE MOUNTED ON UNISTRUT ON AH UNIT.
11. CONTRACTOR SHALL VERIFY LOCATION & REQUIREMENTS OF ALL ELECTRICAL DEVICES PRIOR TO BID, ROUGH-IN & INSTALLATION.
12. CONTRACTOR SHALL, IN ROUTING ALL CIRCUITS, INCREASE CONDUCTOR & CONDUIT SIZE TO ALLOW FOR VOLTAGE DROP SHOULD THE CONTRACTOR EXCEED ROUTING INDICATED ON DRAWING. ENGINEER OF RECORD MUST BE NOTIFIED PRIOR TO ANY DEVIATIONS FROM APPROVED PLAN CHECK (PERMIT SET) DRAWINGS.
13. EACH DISCONNECT OR STARTER AND A SPARE SET OF FUSES SHALL BE CONTRACTOR PROVIDED.

DUCT SMOKE DETECTOR



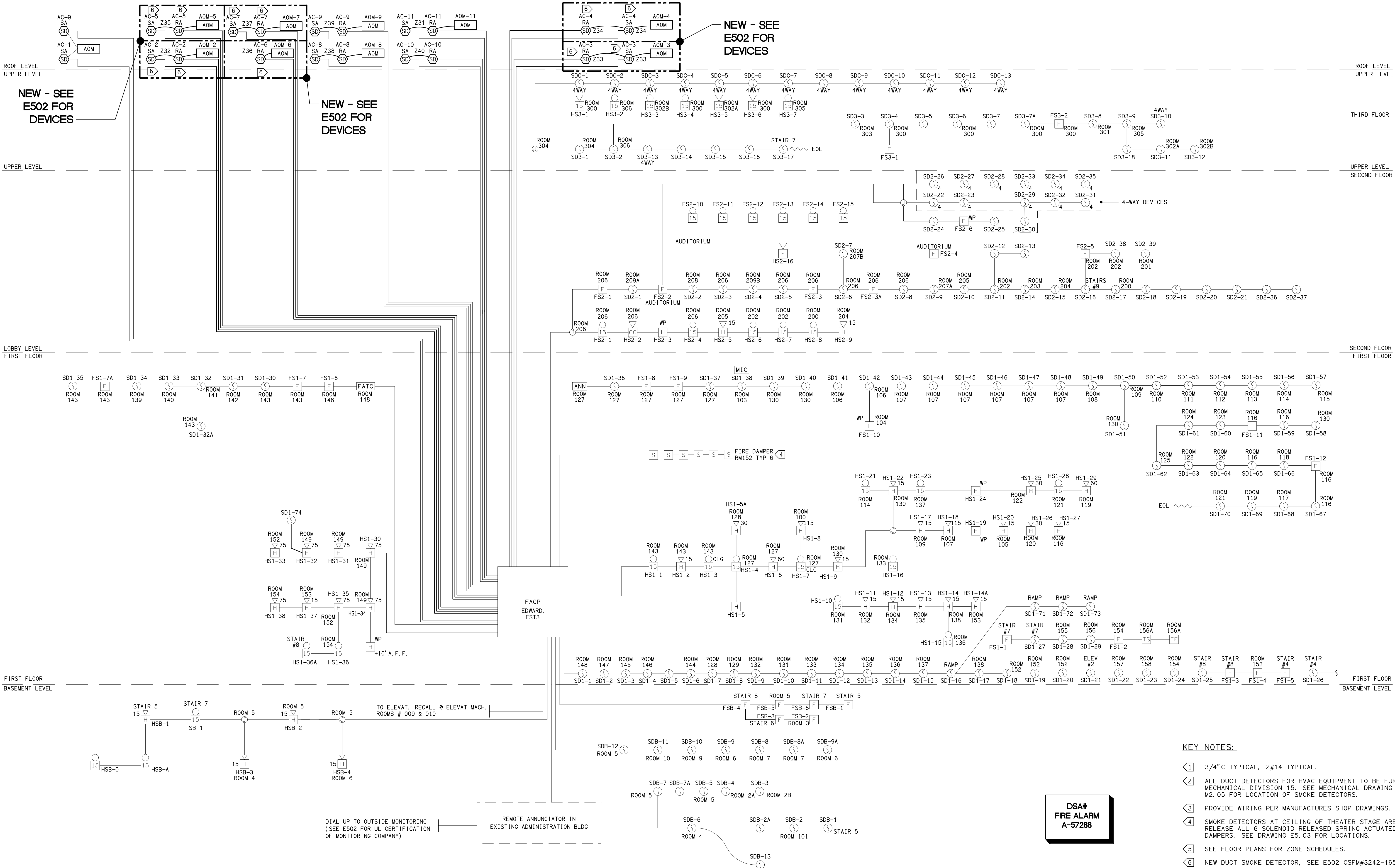
EST MODEL SIGA SD INTELLIGENT DUCT SMOKE DETECTOR
REPLACE FOUR EXISTING EDWARDS UNITS AND RECONNECT TO FIRE ALARM SYSTEM

NEW PACKAGED ROOFTOP GAS - ELECTRIC UNIT SCHEDULE

NEW PACKAGED ROOFTOP GAS - ELECTRIC UNIT SCHEDULE																																	
EXISTING UNIT MODEL #	ITEM TAG	LOCATION	AREA SERVED	MAKE AND MODEL TRANE BASIS OF DESIGN	(E) OPER WT LBS (1)	(N) OPER WT (LBS)	CURB WEIGHT (LBS)	EER	NOMINAL TONS	CAPACITY (MBTU/HR)		COOLING		GAS HEATING		INDOOR FANS				ELEC DATA				LOW LEAK ECONOMIZER HOOD	MIN OUTSIDE AIR (CFM)	CO2 CONTROL FACTORY INSTALLED	FILTER EFF (%)	DISCHARGE	ISOLATION CURB	OPTIONS	DUCT SMOKE DETECTOR		
										TOTAL	SENSIBLE	AMBIENT AIR TEMP DB F	ENT COIL TEMP DB F	INPUT (MBH)	OUTPUT (MBH)	TYPE OF FANS	CFM	EXT SP (IN WC)	INDOOR FAN	V	PH	MCA	MOCP										
SFHFC040LD4	AC 2	ROOF	AUDITORIUM	SFHLF40	6,000	9,136		10.4	40	474.78	362.75	95	80	67	350	280	CENTRIFUGAL	16,000	2.50	15 hp	460	3	60	96	110	Y	800	—	30	HORIZON.		MEDIUM STATIC BELT DRIVE, ECONOMIZER, POWER EXH, BACNET, E-COATED COILS, STAINLESS HEAT EXCHANGER FAULT DETECTION - ECONOMIZER, REFRIG. PHASE MONITOR, POWER EXHAUST, DIFF ENTHALPY SENSORS	SUPPLY AIR RETURN AIR
YCD180B4	AC 3	ROOF	STAGE	YHH180	2,800	2,698		12.0	15	180.52	142.17	95	80	67	350/140	283/112	CENTRIFUGAL	6,000	1.00	3 hp	460	3	60	33	45	Y	600	—	30	HORIZON.	345 LBS	MEDIUM STATIC BELT DRIVE, ECONOMIZER, POWER EXH, BACNET, E-COATED COILS, STAINLESS HEAT EXCHANGER FAULT DETECTION - ECONOMIZER, REFRIG. PHASE MONITOR, POWER EXHAUST, DIFF ENTHALPY SENSORS	SUPPLY AIR
YCD180B4	AC 4	ROOF	SCENE SHOP	YHD180	2,800	2,698		12.0	15	180.52	142.17	95	80	67	350/140	283/112	CENTRIFUGAL	6,000	1.00	3 hp	460	3	60	33	45	Y	550	YES	30	VERTICAL	355 LBS	MEDIUM STATIC BELT DRIVE, BACNET, E-COATED COILS, STAINLESS HEAT EXCHANGER, HUMIDITY CONTROL - HOT GAS BYPASS FAULT DETECTION - EXHAUSE MONITOR, POWER EXHAUST, DIFF ENTHALPY SENSORS	SUPPLY AIR
YCD102B4	AC 5	ROOF	MAKE-UP	YHC102	1,000	1,301		12.5	8.5	98.14	77.96	95	80	67	120	96	CENTRIFUGAL	3,000	1.00	3.6 hp	460	3	60	22	25	Y	1050	YES	30	VERTICAL	345 LBS	MEDIUM STATIC BELT DRIVE, BACNET, E-COATED COILS, STAINLESS HEAT EXCHANGER FAULT DETECTION - ECONOMIZER, REFRIG. PHASE MONITOR, POWER EXHAUST, DIFF ENTHALPY SENSORS	SUPPLY AIR
YCH240B4	AC 7	ROOF	DRAMA	YHH240	6,000	2,859		11.0	20	236.78	176.03	95	80	67	350/140	280/112	CENTRIFUGAL	6,000	1.00	5 hp	460	3	60	45	60	Y	1000	YES	30	HORIZON.	475 LBS	BELT DRIVE, LOW LEAK ECONOMIZER, BACNET, COATED COILS, STAINLESS HEAT EXCHANGER FAULT DETECTION - ECONOMIZER, REFRIG. PHASE MONITOR, POWER EXHAUST, DIFF ENTHALPY SENSORS	SUPPLY AIR

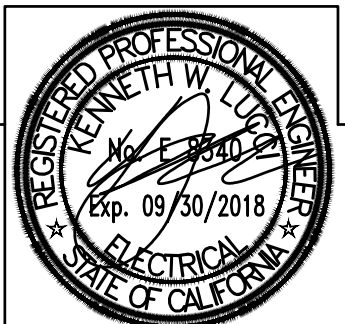
1. (E) WEIGHT IS BASED ON THAT SHOWN ON ORIGINAL PLANS

		LUCCI & ASSOCIATES INC. CONSULTING ELECTRICAL ENGINEERS 3251 CORTI MALPASO, #511 CAMARILLO, CA 93012-8094		AE Group Mechanical Engineers, Inc. 838 East Front Street Ventura, California 93001 (805) 653-1722 FAX: (805) 653-7260 hugh@aeengr.com				MOORPARK COLLEGE 7075 CAMPUS ROAD, MOORPARK, CALIFORNIA 93021 VENTURA COUNTY COMMUNITY COLLEGE DISTRICT		DEPARTMENT OF MAINTENANCE & OPERATIONS 7075 CAMPUS RD. MOORPARK, CA. 93021 PHONE: (805) 378-1454 FAX: (805) 378-1593		SCALE: DATE: 1-20-18 BLDG. NO.	PERMIT RE-SUBMITTAL PERFORMING ARTS HVAC REPLACEMENT PHASE 2 ELECTRICAL SCHEDULE FOR NEW MECHANICAL EQUIPMENT		SHEET NO. E420
---	--	---	--	--	--	---	--	---	--	--	--	---	---	--	----------------------------------



- KEY NOTES:
- 1 3/4" C TYPICAL, 2#14 TYPICAL.
 - 2 ALL DUCT DETECTORS FOR HVAC EQUIPMENT TO BE FURNISHED BY MECHANICAL DIVISION 15. SEE MECHANICAL DRAWING M2.02 & M2.05 FOR LOCATION OF SMOKE DETECTORS.
 - 3 PROVIDE WIRING PER MANUFACTURER'S SHOP DRAWINGS.
 - 4 SMOKE DETECTORS AT CEILING OF THEATER STAGE AREA SHALL RELEASE ALL 6 SOLENOID RELEASED SPRING ACTUATED FIRE DAMPERS. SEE DRAWING E5.03 FOR LOCATIONS.
 - 5 SEE FLOOR PLANS FOR ZONE SCHEDULES.
 - 6 NEW DUCT SMOKE DETECTOR, SEE E502 CSFM#3242-1657:0223

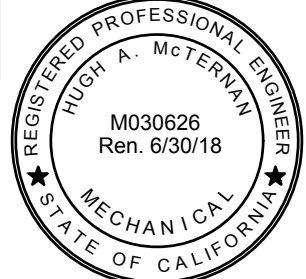
FIRE ALARM SYSTEM RISER DIAGRAM 1
SCALE: NTS EXISTING UNLESS OTHERWISE NOTED - E500



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MOORPARK COLLEGE
7075 CAMPUS ROAD, MOORPARK, CALIFORNIA 93021
VENTURA COUNTY COMMUNITY COLLEGE DISTRICT

DEPARTMENT OF MAINTENANCE & OPERATIONS		PERMIT RE-SUBMITTAL PERFORMING ARTS HVAC REPLACEMENT PHASE 2	
7075 CAMPUS RD. MOORPARK, CA 93021 PHONE: (805) 378-1454 FAX: (805) 378-1593		FIRE ALARM SYSTEM RISER DIAGRAM	
SCALE: DATE: 1-20-18 BLDG. NO.		SHEET NO. E500	

DEVICE LEGEND - EXISTING DEVICES FOR REFERENCE ONLY

SYMBOL		QTY.	MODEL	MAKE	DESCRIPTION	CSFM #	MOUNTING
			EST3	EST	-MAIN FIRE ALARM CONTROL PANEL	7165-1657:0186	-WALLBOX PROVIDED
		1	3-CAB7B	EST	-ENCLOSURE	7165-1657:0186	-MOUNTS TO WALL
		1	3-CAB7D	EST	-DOOR ASSEMBLY FOR 3-CAB7	7165-1657:0186	-MOUNTS ON 3-CAB7B
		1	3-CHAS7	EST	-CHASSIS ASSEMBLY FOR 7 LRMS	7165-1657:0186	-1 CHASSIS SPACE IN WALLBOX
		1	3-CPU3	EST	-CENTRAL PROCESSING UNIT	7165-1657:0186	-MOUNTS ON RAIL
		1	3-LCD	EST	-CPU LCD DISPLAY	7165-1657:0186	-MOUNTS ON RAIL
		1	3-RS485B	EST	-NETWORK COMMUNICATION CARD	7165-1657:0186	-MOUNTS ON RAIL
		1	3-MODCOM	EST	-MODEM/DIALER (DACT) VERSION	7165-1657:0186	-MOUNTS ON RAIL
		1	3-SSDC1	EST	-SINGLE SIGNATURE DRIVER CONTROLLER	7165-1657:0186	-MOUNTS ON RAIL
		1	3-LRMF	EST	-BLANK LRM FILLER	N/A	-MOUNTS ON RAIL
		2	3-PPS/M	EST	-PRIMARY POWER SUPPLY	7165-1657:0186	-MOUNTS IN WALLBOX
		1	SLA1116	POWER PATROL	-7.0 AH BATTERY	N/A	-MOUNTS IN WALLBOX
		1	3-LCDANN	EST	-REMOTE ANNUNCIATOR	7120-1657:0193	-MOUNTS TO RLCM/B
		1	RLCM/B	EST	-ANNUNCIATOR WALLBOX (FLUSH MOUNTED)	7120-1657:0193	-MOUNTS TO WALL
		0	N/A	BY OTHERS	-FIRE ALARM TERMINAL CABINET	N/A	-INSTALLED BY OTHERS
		0	N/A	BY OTHERS	-FIRE ALARM TERMINAL CABINET	N/A	-INSTALLED BY OTHERS
		10	.	EST	.	.	.
		1	BPS10A	EST	-SIGNAL EXTENDER POWER SUPPLY	7300-1657:0229	-WALLBOX PROVIDED
		0	SLA1075	POWER PATROL	-7.2 AH BATTERY	N/A	-MOUNTS IN WALLBOX
		22	G1-HDVM	EST	-HORN/STROBE 15 CANDELA (W=WALL C=CEILING)	7125-1657:0202	-4"SQUARE BOX WITH SINGLE GANG RING
		2	G1-HDVM	EST	-HORN/STROBE 30 CANDELA (W=WALL C=CEILING)	7125-1657:0202	-4"SQUARE BOX WITH SINGLE GANG RING
		2	G1-HDVM	EST	-HORN/STROBE 60 CANDELA (W=WALL C=CEILING)	7125-1657:0202	-4"SQUARE BOX WITH SINGLE GANG RING
		7	G1-HDVM	EST	-HORN/STROBE 75 CANDELA (W=WALL C=CEILING)	7125-1657:0202	-4"SQUARE BOX WITH SINGLE GANG RING
		1	G1-HDVM	EST	-HORN/STROBE 115 CANDELA (W=WALL C=CEILING)	7125-1657:0202	-4"SQUARE BOX WITH SINGLE GANG RING
		30	G1-VM	EST	-STROBE 15 CANDELA (W=WALL C=CEILING)	7125-1657:0218	-4"SQUARE BOX WITH SINGLE GANG RING
		0	G1-VM	EST	-STROBE 30 CANDELA (W=WALL C=CEILING)	7125-1657:0218	-4"SQUARE BOX WITH SINGLE GANG RING
		0	G1-VM	EST	-STROBE 60 CANDELA (W=WALL C=CEILING)	7125-1657:0218	-4"SQUARE BOX WITH SINGLE GANG RING
		0	G1-VM	EST	-STROBE 75 CANDELA (W=WALL C=CEILING)	7125-1657:0218	-4"SQUARE BOX WITH SINGLE GANG RING
		0	G1-VM	EST	-STROBE 110 CANDELA (W=WALL C=CEILING)	7125-1657:0218	-4"SQUARE BOX WITH SINGLE GANG RING
		27	SIGA-270	EST	-MANUAL PULL STATION	7150-1657:0129	-4"SQUARE BOX WITH SINGLE GANG RING
		5	438D-10N5-R	EST	-10" BELL (120VOLT)	7136-1657:08150	-449 WEATHER PROOF BOX
		163	SIGA-PS	EST	-SMOKE DETECTOR	7272-1657:0126	-MOUNTS TO SIGA-SB BASE
		0	SIGA-SB	EST	-BASE	7300-1657:0120	-4" SQ. BOX WITH 3" "O" RING
		0	SIGA-HRS	EST	-HEAT DETECTOR	7270-1657:0125	-MOUNTS TO SIGA-SB BASE
		0	SIGA-SB	EST	-BASE	7300-1657:0120	-4" SQ. BOX WITH 3" "O" RING
		0	SIGA-CC1S	EST	-SIGNAL MODULE	7300-1657:0121	-4" SQ. ELECTRICAL BOX 1-1/2" DEEP
		0	SIGA-CT1	EST	-SINGLE TRANSPONDER	7300-1657:0121	-SINGLE GANG RING
		0	SIGA-CT2	EST	-DUAL TRANSPONDER	7300-1657:0121	-SINGLE GANG RING
		0	SIGA-CR	EST	-ADDRESSABLE RELAY	7300-1657:0121	-SINGLE GANG RING
		0	PAM-1	AIRPRODUCTS	-MULTI VOLTAGE RELAY	7300-1004:0101	-SINGLE GANG RING
		1	.	.	-TAMPER FLOW	.	.
		1	.	.	-TAMPER SWITCH	.	.
		19	SIGA-SD	EST	SMOKE DUCT DETECTOR W/ BASE CONTROLLER	3242-1657:0223	WITH BASE
		3	N/A	BY OTHERS	-JUNCTION BOX	N/A	.
		2	N/A	EST	-END OF LINE RESISTOR	N/A	-PLACE AT END OF LINE

SEQUENCE OF OPERATION

ACTION DEVICE	THROUGHOUT BUILDING SOUND GENERAL ALARM	SOUND TROUBLE BUZZER	ACTIVATE ADDRESSABLE MODULE FOR MONITORING	ANNUNCIATE AT PANEL	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	TRANSMIT ALARM SIGNAL TO SUPERVISING STATION	ACTIVE REMOTE POWER SUPPLY PANEL (FCPS)	DROP HORN BELL, TONES & VISUAL ALARMS FROM F. A. SYSTEM	RECALL ELEVATOR TO PRIMARY RECALL FLOOR	RECALL ELEVATOR TO ALTERNATIVE RECALL FLOOR	SHUT DOWN HVAC UNIT
MANUAL PULL STATION	●		●	●		●	●	●			
INDICATING CIRCUIT FAILURE		●		●							
INITIATING CIRCUIT FAILURE		●	●	●							
AC / BATTERY FAILURE		●		●		●					
F. A. SYSTEM LOW BATTERY		●		●							
TAMPER SWITCH		●		●		●					
SMOKE DETECTORS 3RD FLOOR	●			●		●	●	●	●		
SMOKE DETECTORS 2ND FLOOR	●			●		●	●	●	●		
SMOKE DETECTORS 1ST FLOOR				●		●	●	●		●	
SMOKE DETECTORS ELEVATOR LOBBY BASEMENT	●			●		●	●	●	●		
HEAT DETECTORS	●			●		●	●	●	●		
FIRE SMOKE DAMPERS	●		●	●		●		●			
DUCT DETECTORS	●		●	●		●		●			●
ISOLATOR LINE TROUBLE		●		●							
EARTH GROUND FAULT		●			●						
ELECTRICAL ROOM SMOKE	●		●	●		●	●	●		●	

PROJECT NOTES

- GENERAL NOTES
1. ALL WIRE SHALL BE IN CONDUIT PER CFC 509.1.
 2. MANUAL PULL STATIONS TO BE MOUNTED AT 48 IN. ABOVE FLOOR SURFACE TO THE CENTER OF THE STATION. (DETAIL 1)
 3. MOUNT AUDIO VISUAL 80 IN. ABOVE FINISHED FLOOR TO THE BOTTOM OF THE LIGHT OR 6" FROM BELOW CEILING WHICH EVER IS LOWEST. (DETAIL 2)
 4. MAINTAIN WIRING COLOR CODES.
 5. ALL WIRING TO BE AS CALLED FOR IN N.E.C. ARTICLE 760 & CFC 509.1.
 6. IDENTIFY THE FIRE ALARM CIRCUIT AT THE ELECTRICAL PANEL IN RED, PROVIDE A BREAKER LOCKON DEVICE.
 7. DEVICE TYPES AND LOCATIONS ARE SHOWN AS CALLED FOR ON THE BID DOCUMENTS.

APPLICABLE CODES

2016 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24, CCR.
2016 CALIFORNIA BUILDING CODE, PART 2, TITLE 24 C.C.R.
2016 CALIFORNIA ELECTRICAL CODE - PART 3, TITLE 24 C.C.R. ;
2016 CALIFORNIA MECHANICAL CODE - PART 4, TITLE 24 C.C.R. ;
2016 CALIFORNIA PLUMBING CODE - PART 5, TITLE 24 C.C.R. ;
2016 CALIFORNIA ENERGY CODE (CEC) - PART 6, TITLE 24 C.C.R.
2010 CALIFORNIA HISTORICAL BUILDING CODE (CHBC) - PART 8, TITLE 24 C.C.R.
2016 CALIFORNIA FIRE CODE - PART 9, TITLE 24 C.C.R. ;
2016 CALIFORNIA REFERENCE STANDARDS CODE - PART 12, TITLE 24 C.C.R.
1990 TITLE 19, C.C.R. PUBLIC SAFETY. STATE FIRE MARSHALL REGULATIONS.

PARTIAL LIST OF APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS

NFPA 13 (CALIFORNIA AMENDED) - AUTOMATIC SPRINKLER SYSTEMS, 2016 EDITION
NFPA 14 (CALIFORNIA AMENDED) - STANDPIPES SYSTEMS, 2016 EDITION
NFPA 17 - DRY CHEMICAL EXTINGUISHING SYSTEMS, 2017 EDITION
NFPA 17A - WET CHEMICAL SYSTEMS, 2017 EDITION
NFPA 20 - STATIONARY PUMPS, 2016 EDITION
NFPA 24 (CALIFORNIA AMENDED) - PRIVATE FIRE MAINS, 2016 EDITION
NFPA 72 (CALIFORNIA AMENDED) - NATIONAL FIRE ALARM CODES, 2016 EDITION
NFPA 253 - CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS, 2006 EDITION
NFPA 2001 - CLEAN AGENT FIRE EXTINGUISHING SYSTEMS, 2008 EDITION
REFERENCE CODE SECTION FOR NFPA STANDARD - C.B.C (SFM) CHAPTER 35

SCOPE OF WORK

REPLACE EXISTING DUCT SMOKE DETECTORS ON ROOF HVAC UNITS.

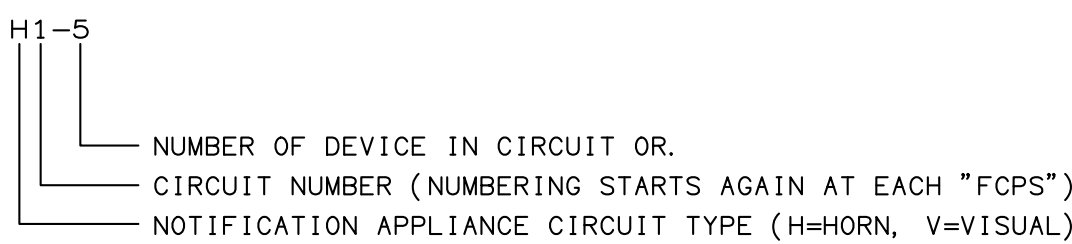
FIRE ALARM ZONE SCHEDULE

THE FIRE ALARM SYSTEM IS A EST3 EDWARD ADDRESSABLE TYPE. EACH INITIATING DEVICE IS ANNUNCIATED AS A UNIQUE ADDRESS OR ZONE AT THE PANEL AND ANNUNCIATOR.

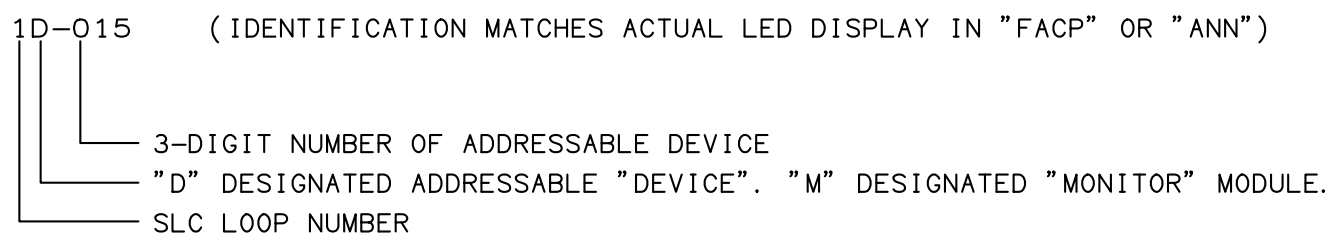
F.A. RACEWAY SIZING

MINIMUM CONDUIT SIZE SHALL BE 3/4" DIAMETER AND SHALL NOT EXCEED 40% FILL.

FIRE ALARM N.A.C. DEVICE NUMBERING KEY



FIRE ALARM ADDRESSABLE DEVICE IDENTIFICATION KEY



WIRE LEGEND

TYPE	CONDUCTORS	SIZE	TYPE CABLE	CIRCUIT DESCRIPTION	WIRE COLOR SCHEME
A	2	#18AWG	FPL	ADDRESSABLE DEVICE CIRCUIT	RED (+), BLACK (-)
2A	4	#18AWG	FPL	ADDRESSABLE DEVICE LOOP	RED (+), BLACK (-), BLUE (+), BROWN (-)
C	2	#14AWG	THHN	STROBE CIRCUIT	YELLOW (+), BLUE (-)
2C	4	#14AWG	THHN	STROBE LOOP	YELLOW (+), BLUE (-), YELLOW STRIPED (+), BLUE STRIPED (-)
N	4	#16AWG	THHN	NETWORK (RS484) CIRCUIT	RED (+), BLACK (-)
P	2	#14AWG	THHN	AUXILIARY POWER CIRCUIT	ORANGE (+), BROWN (-)
D	2	#12AWG	THHN	STROBE CIRCUIT	YELLOW (+), BLUE (-)
2D	4	#12AWG	THHN	STROBE LOOP	YELLOW (+), BLUE (-), YELLOW STRIPED (+), BLUE STRIPED (-)

REQUIRED NOTES

THE FIRE ALARM SYSTEM SHALL CONFORM TO ARTICLE 760 OF THE CALIFORNIA ELECTRIC CODE.

INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT BE STARTED UNTIL DETAILED PLANS AND SPECIFICATIONS, INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY THE CALIFORNIA DEPT. OF THE STATE ARCHITECT'S FIRE MARSHAL.

UPON COMPLETION OF THE INSTALLATION OF THE FIRE ALARM SYSTEM A SATISFACTORY TEST OF THE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE FIRE MARSHAL, OWNER AND ENGINEER OF RECORD.

A MINIMUM OF 48 HOURS NOTICE SHALL BE REQUIRED FOR ANY INSPECTION AND/OR TESTING.

ALL DEVICES OF THE FIRE ALARM SYSTEM SHALL BE APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL.

A STAMPED SET OF APPROVED FIRE ALARM PLANS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION. ANY DEVIATION FROM APPROVED PLANS, INCLUDING THE SUBSTITUTION OF DEVICES SHALL BE APPROVED BY THE FIRE MARSHAL.

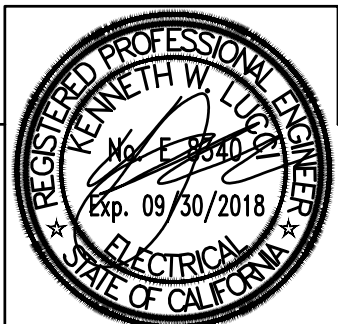
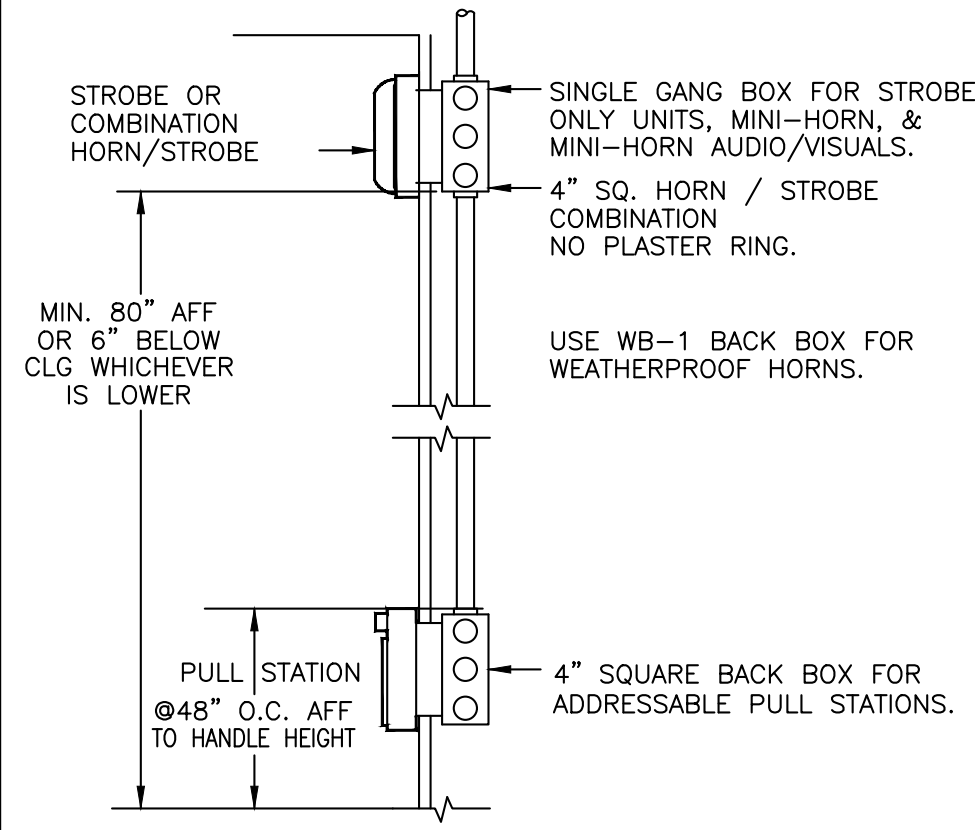
ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE, OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF THE INSPECTOR OF RECORD.

A CERTIFICATE OF COMPLIANCE SHALL BE PREPARED BY THE INSTALLER AND GIVEN TO THE FIRE MARSHAL UPON COMPLETION OF THE INSTALLATION.

COMPLETE THE NFPA 72 RECORD OF COMPLETION, TESTING ALL DEVICES AND APPLIANCES. PROVIDE A COPY OF THE COMPLETED RECORD OF COMPLETION TO THE OWNER (SCHOOL DISTRICT), ARCHITECT, LOCAL FIRE AUTHORITY AND DSA VIA THE PROJECT INSPECTOR.

DSA#
FIRE ALARM
A-57288

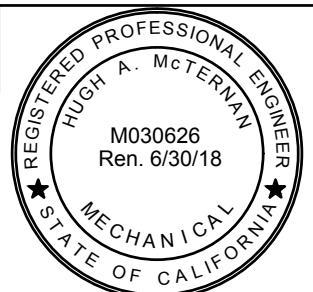
MOUNTING HEIGHT DETAIL



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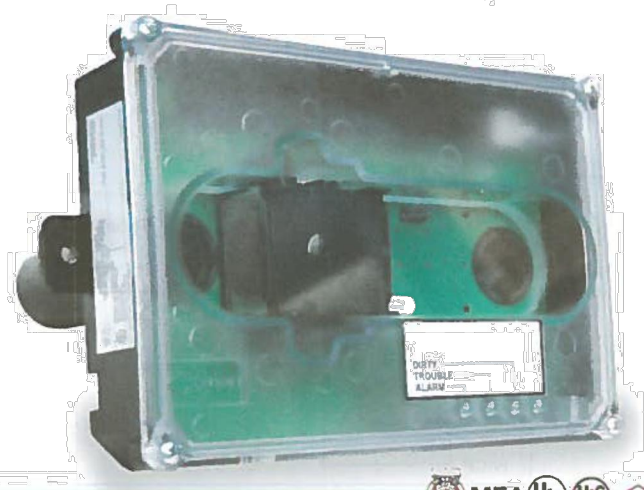
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PERMIT RE-SUBMITTAL
PERFORMING ARTS HVAC REPLACEMENT
PHASE 2
FIRE ALARM GENERAL NOTES
AND DEVICES LEGEND

SHEET NO.
E501

Edwards Signaling

Two-wire Duct Smoke Detector SuperDuct Series



Overview

SuperDuct is slim feature-rich alternative to bulky duct smoke detectors. Designed for easy installation and superb reliability, SuperDuct represents the perfect balance of practical design and advanced technology.

SuperDuct detectors feature a unique design that speeds installation and simplifies maintenance. Removable dust filters, conformally coated circuit boards, and optional water-resistant gaskets keep contaminants away from components, ensuring years of trouble-free service. When cleaning is required, the assemblies come apart easily and snap back together in seconds.

SuperDuct detectors use differential sensing to prevent gradual environmental changes from triggering false alarms. A rapid change in environmental conditions, such as smoke from a fire, causes the detector to automatically signal an alarm condition but dust and debris accumulated over time does not change alarm sensitivity.

The detector assembly cover provides easy access to the smoke sensor, its wiring connections, sample and exhaust tube fittings, and the smoke chamber itself. Air enters the detector's sensing chamber through a sampling tube (ordered separately) that extends into the duct and is directed back into the ventilation system through an exhaust tube (included). The difference in air pressure between the two tubes pulls the sampled air through the sensing chamber. When a sufficient amount of smoke is detected in the sensing chamber, the detector initiates an alarm.

Standard Features

Smoke Sensor

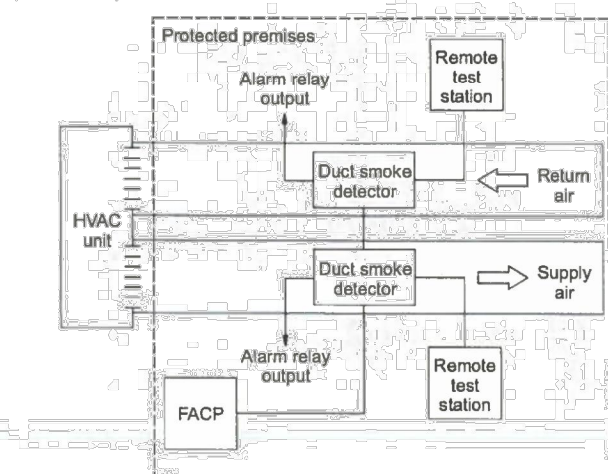
- PCB mounted photoelectric detector with onboard intelligence
- Environmental compensation with differential sensing for reliable, stable, and drift-free sensitivity
- Wide 0.79% to 2.48% obscuration/ft. smoke sensitivity

Detector assembly

- Less than 2" deep for easy installation and applications where space is tight
- -4°F to 158°F (-20°C to 70°C) operating range with 100 ft/min to 4,000 ft/min air velocity rating assures reliability under harsh environmental conditions
- Status LEDs remain visible through clear assembly cover
- Cover monitor switch for added security
- Standard sampling tube spacing for easy drop-in migration from other detectors
- Sampling tube can be installed with or without the cover in place and can be rotated in 45-degree increments to ensure proper alignment with duct airflow
- On-board Alarm, Trouble, and Dirty LEDs
- Magnet-activated test switch
- One Form C auxiliary alarm relay for controlling ancillary equipment (e.g., HVAC controls)
- Easy access to field connection terminals

Application

The SuperDuct two-wire duct smoke detector is ideally suited to applications where early indication of combustion is required within the confined space of ventilation ductwork. Its primary purpose is to provide early warning of an impending fire and to prevent smoke from circulating throughout the building. It is typically used to detect smoke in the supply side of the HVAC system but can provide supervision of the return side as well.

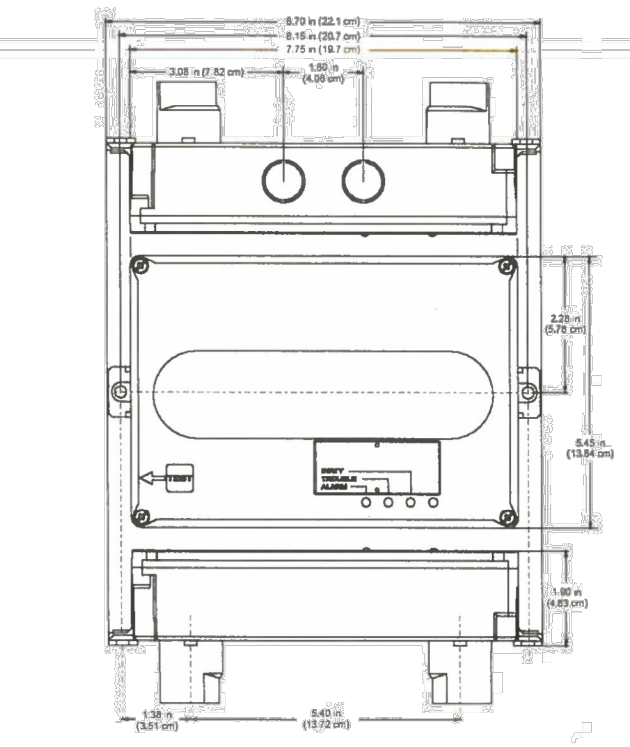


Remote Test, Reset, and Alarm Stations

Labor-saving Remote Test/Reset stations provide alarm testing and indication from the convenience of a remote location. Tests can be performed quickly and safely – without having to climb to the roof. Magnetically-operated and key-operated one-gang models are available. Two-wire SuperDuct detectors are also compatible with EC-LED remote alarm LEDs.

WARNING: Duct detectors have specific limitations. Duct detectors are not a substitute for an open area smoke detector. Duct detectors are not a substitute for early warning detection or a replacement for a building's regular fire detection system. Smoke detectors are not designed to detect toxic gases which can build up to hazardous levels in some fires. These devices will not operate without electrical power. As fires frequently cause power interruptions, Edwards suggests you discuss further safeguards with your local fire protection specialist.

Dimensions



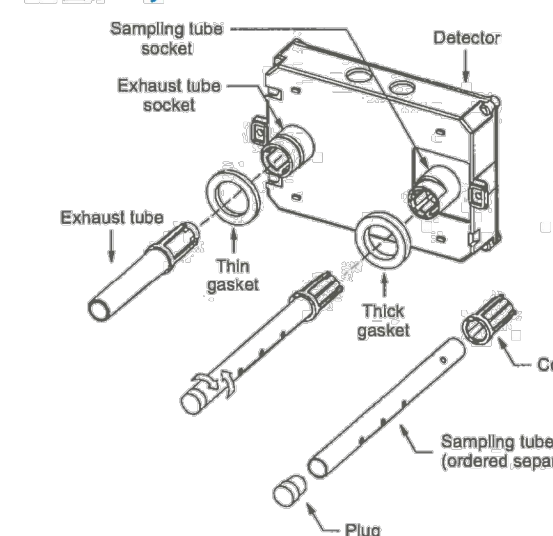
SuperDuct detectors continually sample air flow in the HVAC duct and initiate an alarm condition whenever smoke is detected. An alarm is activated when the quantity (percent obscuration) of combustion products in that air sample exceeds the detector's sensitivity setting.

Air velocity in the duct as low as 100 ft/min. maintains adequate air flow into the sensor smoke chamber through air holes in the air sampling tubes and discharges through the exhaust tube. SuperDuct air sampling tubes must be installed with the inlet holes facing the airstream. Sampling tubes may be rotated in 45-degree increments so that air holes can be aligned to allow the unit to be mounted in virtually any angle relative to the airflow.

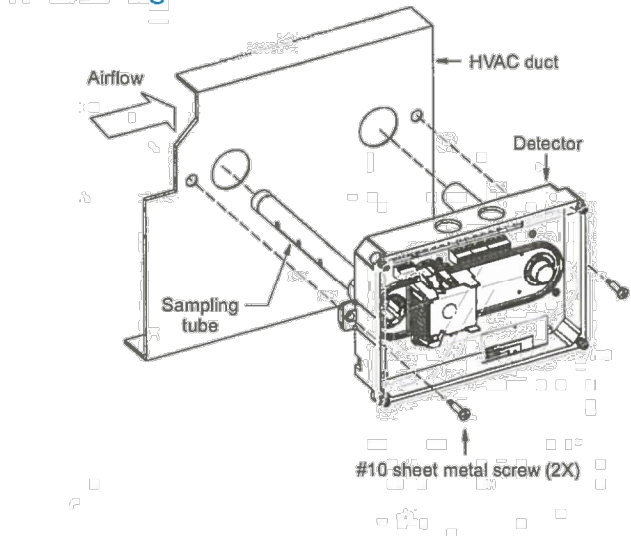
The sampling tube may be installed from either the duct side of the assembly or from inside the sensor compartment, as preferred by the installer. (The exhaust tube must be installed from the duct side.) Sampling tubes may be rotated in 45-degree increments so that air holes can be aligned to allow the unit to be mounted at virtually any angle relative to the air flow.

SuperDuct sensors are engineered to operate optimally under the harsh environmental conditions frequently found in HVAC ductwork. Nonetheless, before installing the detector, test the duct air velocity, temperature, and humidity to verify that it is within the operating range of the SuperDuct detector. Consult the SuperDuct installation sheet for details.

Assembly

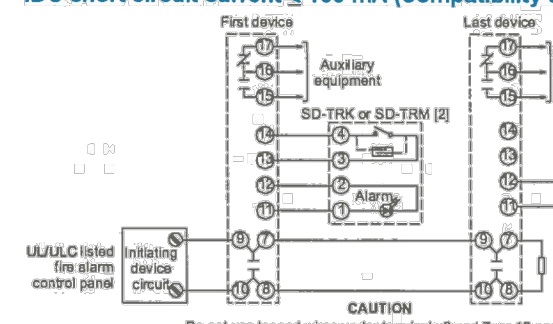


Mounting

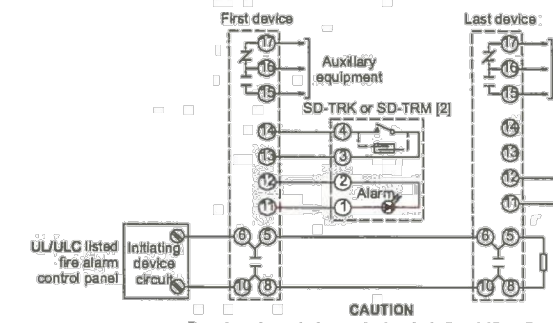


Wiring

IDS short circuit current ≤ 100 mA (Compatibility 0.0)



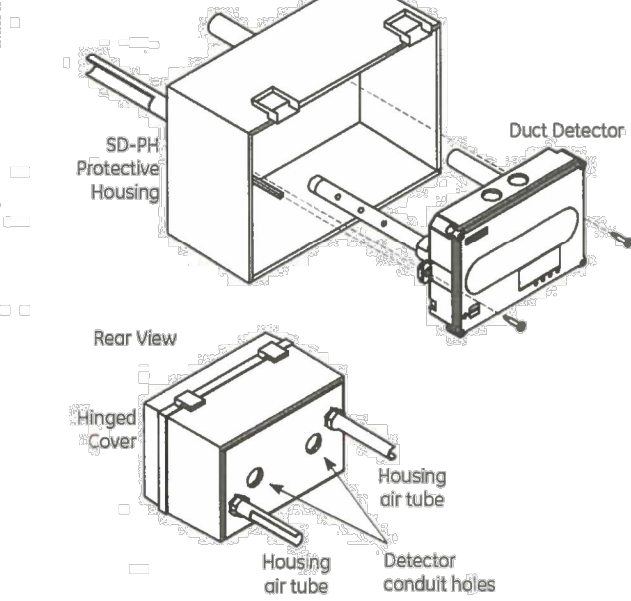
IDS short circuit > 100 mA (Compatibility 1.0)



Notes
(1) End-of-line resistor required on test controller only. Value is determined by the fire alarm control panel.
(2) No more than one remote test station can be connected at the same time. Wiring is non-potential. Maximum wire resistance is 10 ohms per wire.
(3) Only the first detector to go into alarm operates its alarm relay. Operation of the alarm relay can't be guaranteed if a manual initiating device or other detector on the same circuit is activated.

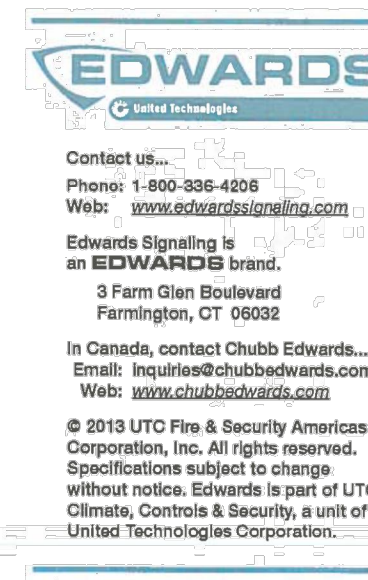
High-humidity environments

Use the SD-PH Protective Housing when installing SuperDuct detectors in high-humidity environments. The SD-PH is a weatherized housing that prevents condensation on the device by insulating the detectors and providing circulated air from the monitored HVAC duct. The SD-PH also adds a layer of protection against physical damage to the unit.



The SD-PH is easy to install and service. The hinged and transparent cover provides ready access to the detector, while keeping its status indicators visible at all times.

Note: The SD-PH Protective Housing is weatherized against outdoor air, but it is not intended for direct outdoor exposure.



Specifications, detector

Dimensions	8.70 x 5.45 x 1.90 inches (221 x 138 x 48 mm)
Wire size	14 to 22 AWG
Detection method	Photoelectric light scattering principle
Air velocity rating	100 to 4,000 ft/min and meets the required minimum air pressure differential
Air pressure differential	0.005 to 1.00 inches of water
Sensitivity	0.79 to 2.48 % obscuration
Reset time	1 second, max.
Power up time	30 seconds, max.
Alarm test response time	5 seconds
LED indicators	Alarm (red), Trouble (yellow), Dirty (yellow)
Common alarm relay	Unsupervised and power-limited. Quantity: 1. Type: Form C. Ratings: 2.0 A at 30 Vdc (resistive)
Operating voltage	16 to 30 Vdc
Operating current	Startup: 200 μ A. Standby: 70 μ A. Alarm: 6 to 100 mA.
Alarm impedance	50 to 750 Ohm
Operating Environment	Temperature (UL): -4 to 158 °F (-20 to 70 °C) Temperature (ULC): -4 to 120 °F (-20 to 49 °C) Relative humidity: 10 to 93%, noncondensing
Humidity	93% RH, noncondensing
Compatibility ID	0.0: IDC short circuit current < 100 mA 0.0: IDC short circuit current ≤ 100 mA 1.0: IDC short circuit current > 100 mA

Specifications, test stations

Remote Test/Reset Stations provide alarm test, trouble indication, and reset capability from a remote location. They include a one gang plate, momentary SPST switch, red alarm LED, yellow trouble LED, and terminal block. Magnetically-operated models (TRM) or key-operated models (TRK) are available.

Compatible electrical boxes	North American 1-gang box Standard 4-in square box 1-1/2 inches deep, with 1-gang cover	Accessories	Ship Wt. (lb.)
LED indicators	Alarm (red)	SD-18 8-inch sampling tube	0.5 (0.2)
Wire size	Clear line	SD-18 18-inch sampling tube	1.5 (0.7)
Resistance per wire	10 Ohms, max.	SD-124 24-inch sampling tube	2.7 (1.2)
Current requirements	See detector specifications	SD-136 36-inch sampling tube	3.0 (1.4)
LED circuit ratings	Voltage: 3 Vdc, max. Current: 30 mA, max.	SD-142 42-inch sampling tube	3.6 (1.6)
Switch ratings	Voltage: 125 Vdc, max. Current: 4 A, max.	SD-160 60-inch sampling tube	5.6 (2.6)
Switch ratings (SD-TRM)	Voltage: 200 Vdc, max. Current: 0.5 A, max.	SD-176 76-inch sampling tube	7.5 (3.4)
Compatible detectors	See detector specifications	SD-1120 120-inch sampling tube	11.5 (5.2)
Operating environment	temperature: 32 to 121 °F (0 to 50 °C) Humidity: 93% RH, noncondensing	SD-PH Protective housing for high humidity areas	5.6 (2.6)
Storage temperature	-4 to 140 °F (-20 to 60 °C)	SD-TRM Remote test station, magnetic	1.0 (0.5)
		SD-TRK Remote test station, keyed	1.0 (0.5)
		EC-LED Remote LED indicator	1.0 (0.5)
		SD-VTK Air velocity test kit (stoppers only, etc)	1.0 (0.5)
		SD-GSK Cover gasket kit	0.5 (0.2)
		SD-MAG Test magnet kit	0.5 (0.2)
		SD-RCB Replacement PCB, 2-wire sensor kit	1.0 (0.5)

Ordering Information

Catalog Number	Description	Ship Wt. (lb.)
SD-2W	Conventional SuperDuct Detector	2.4 (1.1)



Applicant ID No: 257057-001
Service Center No: 1
Expires: **31-MAR-2018**

CERTIFICATE OF COMPLIANCE

THIS IS TO CERTIFY that the Alarm Service Company indicated below is included by Underwriters Laboratories Inc. (UL) in its Product Directories as eligible to use the UL Listing Mark in connection with Certificated Alarm Systems. The only evidence of compliance with UL's requirements is the issuance of a UL Certificate for the Alarm System and the Certificate is current under UL's Certificate Verification Service. This Certificate does not apply in any way to the communication channel between the protected property and any facility that monitors signals from the protected property unless the use of a UL listed or Classified Alarm Transport Company is specified on the Certificate.

Listed Service From: **LAKE FOREST, CA**

Alarm Service Company: (257057-001)
ADVANCED PROTECTION INDUSTRIES INC,
DBA NATIONAL MONITORING CENTER
25341 COMMERCENTRE DR
LAKE FOREST CA 92630

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ADVANCED PROTECTION INDUSTRIES INC,
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The Alarm Service Company is Listed in the following Certificate Service Categories:

File - Vol No.	CCN	Listing Category
BP10307 - 1 S8126 - 1	CRZM UUFY	Monitoring Stations, National Industrial Security [Signal and Fire Alarm Equipment and Services] (Protective Signaling Services) Central Station

DSA#
FIRE ALARM
A-57288

THIS CERTIFICATE EXPIRES ON 31-MAR-2017

"LOOK FOR THE UL ALARM SYSTEM CERTIFICATE"

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION OFFICE OF THE STATE FIRE MARSHAL FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM LISTING SERVICE



LISTING No.	3242-1657-0223	Page 1 of 1
CATEGORY:	3242 -- DUCT SMOKE DETECTOR, PHOTO. (W/ OR W/O BASE)	
LISTEE:	EDWARDS, A Division of UTC Fire & Security Americas Corporation, Inc.8985 Town Center Parkway, Bradenton, FL 34202 Contact: Jewell Conover (941) 739-4358 Fax (941) 308-8123 Email: rhonda.conover@fs.utc.com	
DESIGN:	Models ESD-SJ, ESD-ST, TSD-SJ, TSD-SJ, TSD-SJG, TSD-SJCO2, TSD-STCO2, SIGA-SD, SD-2W, ESD-2W, E-PDD, and FX-PDD photoelectric type duct smoke detectors. The duct detector consists of a thermoplastic enclosure, recognized component printed wiring board, a listed duct detector subassembly, and an inlet coupling tube and an exhaust tube along with gaskets. Refer to listee's data sheet for additional detailed product description and operational considerations.	
RATING:	15.2-19.95 VDC 16-30 VDC: SD-2W, ESD-2W	
INSTALLATION:	In accordance with listee's printed installation instructions and applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.	
MARKING:	Listee's name, model number, electrical rating, and UL label.	
APPROVAL:	Listed as photoelectric type, duct smoke detectors for use with separately listed compatible fire alarm control units in conjunction with Models ESD-CJ, -CT or TSD-CJ, -CT series duct smoke detector controller (CSFM Listing No. 3240-1657-225). Models SIGA-SD, E-PDD, FX-PDD, SD-2W or ESD-2W does not require a listed duct smoke detector controller. Suitable for use in ducts where air velocity is between 100 and 4000 ft/min.	
NOTE:	*Models ESD-SJ, ESD-ST, TSD-SJ, TSD-SJG, TSD-SJCO2, SIGA-SD, SD-2W and ESD-2W are suitable for use in ambient temperatures of -4°F to 158°F. Refer to listee's Installation Instruction Manual for details. 1. CO2 sensing features were not examined. 2. Formerly 3242-1591-223	

*Corrected 3-22-13 BH

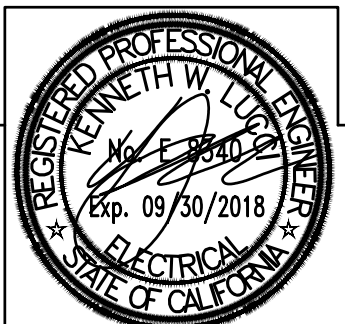


This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued:	July 01, 2017	Listing Expires	June 30, 2018
Authorized By:	DAVID CASTILLO, Program Coordinator Fire Engineering Division		

PERMIT RE-SUBMITTAL

REV.	DATE	SCALE:	DATE:	BLDG. NO.	DEPARTMENT OF MAINTENANCE & OPERATIONS	PERFORMING ARTS HVAC REPLACEMENT PHASE 2	SHEET NO.
			1-20-18		7075 CAMPUS RD. MOORPARK, CA 93021 PHONE: (805) 378-1454 FAX: (805) 378-1593	FIRE ALARM SMOKE DETECTOR SPEC SHEETS	E502



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hugh@aegroupme.com



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7075 CAMPUS ROAD, MOORPARK, CALIFORNIA 93021
VENTURA COUNTY COMMUNITY COLLEGE DISTRICT

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 17425 PAPER SIZE 36"x48"