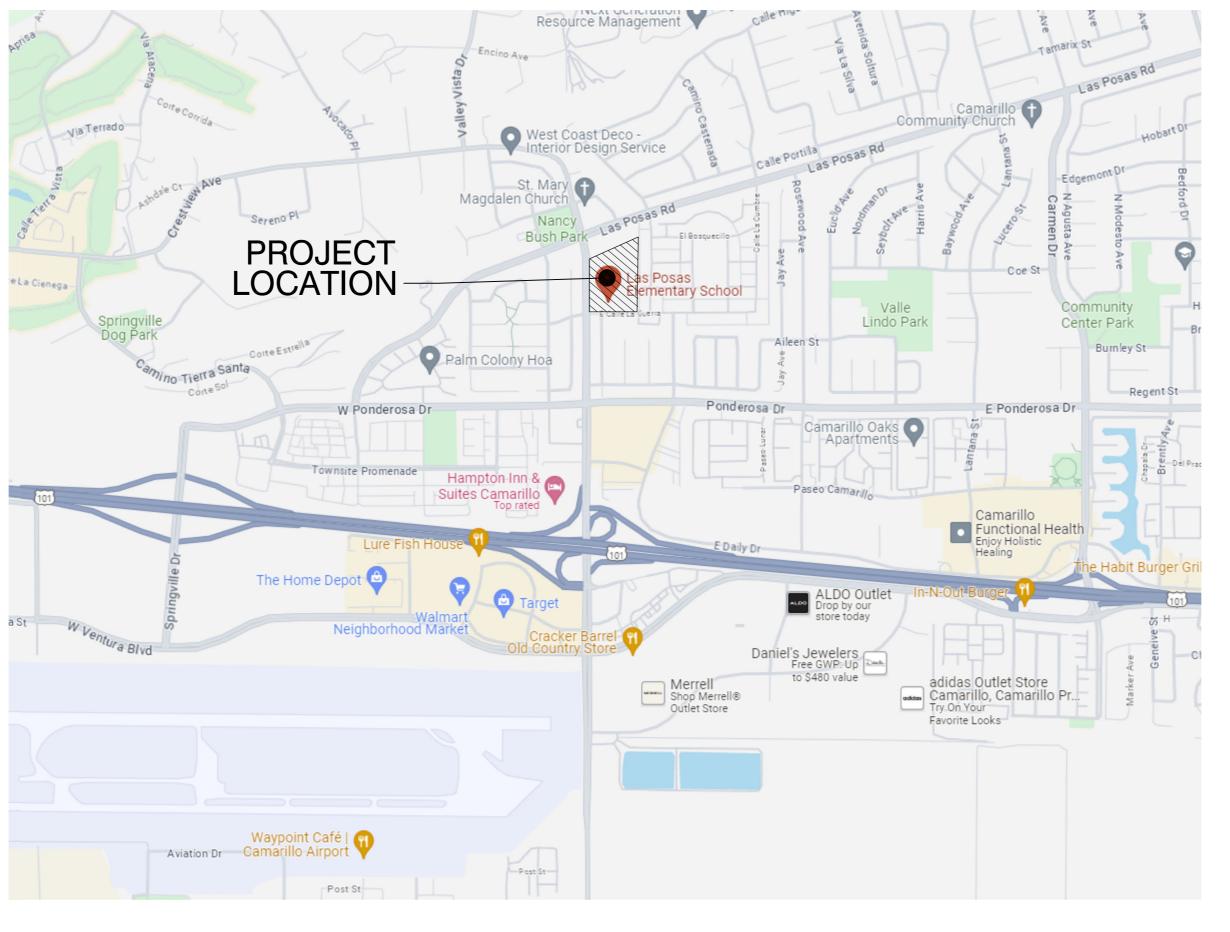
GENERAL REQUIREMENTS:

- 1. ALL WORK SHALL CONFORM TO 2022 EDITION TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR).
- 2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY THE DIVISION OF THE STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
- 3. A 'DSA CERTIFIED' PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342. CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1. TITLE 24
- 4. A 'DSA CERTIFIED' INSPECTOR WITH CLASS 3 CERTIFICATION IS REQUIRED FOR THIS
- 5. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE SCHOOL BOARD SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THIS
- THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION. REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHERE-IN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OR REGULATIONS, A CONSTRUCTION CHANGE DOCUMENT, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT BEFORE

GENERAL NOTES

- 1. ANY DIFFERENCE BETWEEN THE EXISTING CONSTRUCTION AS OBSERVED IN THE FIELD AND AS SHOWN ON THE DRAWINGS SHALL BE REPORTED TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
- 2. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING WORK THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES. THE CONTRACTOR IS RESPONSIBLE FOR CHECKING AND COORDINATING ALL DIMENSIONS REVIEW BUILDING LAYOUT WITH ARCHITECT BEFORE STARTING ANY FOOTING
- 3. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ACTUAL SITE CONDITIONS REGARDLESS OF INFORMATION SHOWN ON THE DRAWINGS. DISCREPANCIES BETWEEN CONDITIONS SHOWN OR NOT SHOWN ON DRAWINGS AND ACTUAL EXISTING VISIBLE, DISCERNABLE CONDITIONS AT THE JOB SITE, DO NOT RELIEVE THE CONTRACTOR FROM PERFORMING THE WORK OF THIS CONTRACT IN FULL CONFORMANCE WITH THE CONTRACT DOCUMENTS
- 4. IT SHALL BE THE RESPONSIBILTY OF THE GENERAL CONTRACTOR TO INSURE THAT ALL APPLICABLE SAFETY LAWS ARE STRICTLY ENFORCED AND TO MAINTAIN A SAFE
- 5. BIDDERS MUST VISIT THE BUILDING SITE AND FAMILIARIZE THEMSELVES WITH EXISTING CONDITIONS. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS TO PROVIDE A PROJECT COMPLETE IN EVERY DETAIL AND READY FOR OCCUPANCY. DISCREPANCIES OR DELETIONS MUST BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE THE BID DATE FOR CORRECTION.
- 6. ANY DAMAGE DONE TO THE EXISTING SITE OR FACILITIES DURING THE COURSE OF THE WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE WITH NO ADDITIONAL COST TO THE DISTRICT.
- 7. BIDDERS SHALL ASSUME THAT ALL ITEMS INDICATED ON THE DRAWINGS ARE NEW CONSTRUCTION IF NOT INDICATED WITH AN (N) OR "NEW", UNLESS INDICATED AS "(E)" OR "EXISTING".
- 8. ALL NEW WORK SHALL MATCH EXISTING IN KEEPING WITH GOOD CONSTRUCTION PRACTICE. IT IS THE INTENT OF THESE DOCUMENTS THAT THE PORTION OF THE SURFACE WHICH HAS BEEN INSTALLED, REPAIRED OR REPLACED, SHALL MATCH THE EXISTING ADJACENT SURFACES, AND THAT THE NEW WORK WILL NOT BE DISCERNABLE FROM THE EXISTING.
- 9. WHERE MINIMUM DIMENSIONS ARE INDICATED, EXISTING DIMENSIONS IN EXCESS OF THAT SHOWN MAY BE RETAINED UNLESS OTHERWISE NOTED.
- 10. CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY OF ALL OMISSIONS AND CONFLICTS BETWEEN THE ELEMENTS OF THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THE WORK INVOLVED.
- 11. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, LANDSCAPE SITE FEATURES TO REMAIN. ALL DAMAGED WORK SHALL BE REPLACED WITH THE SAME MATERIALS, INCLUDING MATCHING THE EXISTING COLORS AND TEXTURES BY THE CONTRACTOR AT HIS OWN EXPENSE WITH NO ADDITIONAL COST TO THE DISTRICT.
- 12. FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF THIS CODE AND THE APPLICABLE PROVISIONS OF CHAPTER 33 OF CFC
- 13. THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTIONAL PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY
- 14. LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).
- 15. MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.
- 16. ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.
- 17. A LISTING OF CERTIFIED ATT CAN BE FOUND AT: HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ACCEPTANCE.
- 18. THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.
- 19. PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

PLEASANT VALLEY SCHOOL DISTRICT LAS POSAS ELEMENTARY SCHOOL CAMPUS FIRE ALARM UPGRADES 75 E CALLE LA GUERRA, CAMARILLO, CA 93010



VICINITY MAP

APPLICABLE CODES

CONSTRUCTION SHALL COMPLY WITH THE FOLLOWING:

2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), TITLE 24 C.C.R.

2022 CALIFORNIA BUILDING CODE (CBC), TITLE 24 C.C.R.

2022 CALIFORNIA ELECTRICAL CODE (CEC), TITLE 24 C.C.R.

2022 CALIFORNIA MECHANICAL CODE (CMC), TITLE 24 C.C.R.

2022 CALIFORNIA PLUMBING CODE (CPC), TITLE 24 C.C.R.

2022 CALIFORNIA ENERGY CODE, TITLE 24 C.C.R. 2022 CALIFORNIA HISTORICAL BUILDING CODE, TITLE 24 C.C.R.

2022 CALIFORNIA FIRE CODE (CFC), TITLE 24, C.C.R

2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), TITLE 24, C.C.R.

PART 12 2022 CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24, C.C.R.

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), TITLE 24, C.C.R.

STATE BUILDING CODE (Part 1, Title 24, C.C.R.)

"The intent of these drawings and specification is that the work of the alteration, rehabilitation or reconstruction is to be in accordance with Title 24, California Code of Regulations. Should any existing conditions such as deterioration or noncomplying construction be discovered which is not covered by the contract documents wherein the finished work will not comply with Title 24. California Code of Regulations, a change order, or a separate set of plans and specifications, detailing and specifying the required work shall be submitted to and approved by the Division of the State Architect before proceeding with the work"

Changes to the approved drawings and specifications shall be made by an addenda or a construction change document (CCD) approved by the Division of the State Architect, as required by Section 4-338, Part 1, Title 24, CCR.

PROJECT TEAM

KRUGER BENSEN ZIEMER ARCHITECTS, INC. 199 FIGUEROA STREET, SUITE 100A VENTURA, CA 93001

OFFICE: (805) 963-1726 PRINCIPAL-IN-CHARGE: TODD A. JESPERSEN, AIA EMAIL ADDRESS: toddj@kbzarch.com PROJECT TEAM: JONATHAN D. LEE, AIA EMAIL ADDRESS: jonathanl@kbzarch.com

ELECTRICAL ENGINEER LUCCI & ASSOCIATES INC. 3251 CORTE MALPASO #511 CAMARILLO, CA 93010 OFFICE: (805) 389-6520 ENGINEER: KEN LUCCI EMAIL ADDRESS: ken@lucciland.com

OWNER

PLEASANT VALLEY SCHOOL DISTRICT 600 TEMPLE AVE, CAMARILLO, CA 93010 OFFICE: (805) 389-2100

PROJECT SCOPE

REPLACE (E) FIRE ALARM SYSTEM WITH NEW FULLY AUTOMATIC FIRE ALARM SYSTEM WITH VOICE EVACUATION

SHEET INDEX

GENERAL

1. G-001 TITLE SHEET

ARCHITECTURAL

2. A-101 SITE PLAN

ELECTRICAL

3. E100 GENERAL NOTES, ABBREVIATIONS, SYMBOLS & DRAWING LIST

4. E150 FIRE ALARM SITE PLAN - EXISTING CONDITIONS ELECTRICAL DETAILS

SITE FIRE ALARM CONDUIT PLAN

NEW FIRE ALARM MASTER LEGEND 8. E604 HONEYWELL CUT SHEETS MULTI-CRITERIA CO &

SMOKE SENSOR & MONITOR MODULE 9. E605 HONEYWELL CUT SHEETS SPEAKER STROBES &

PHOTOELECTRIC SMOKE SENSOR

10. E606 HONEYWELL CUT SHEETS TEMPERATURE SENSORS &

ADMIN BUILDING 100 FIRE ALARM PLAN - NEW

CLASSROOM BUILDING 200 FIRE ALARM PLAN - NEW

CLASSROOM BUILDING 300 FIRE ALARM PLAN - NEW LIBRARY BUILDING 500 FIRE ALARM PLAN - NEW

KINDERGARTEN BUILDING 600 FIRE ALARM PLAN - NEW

MULTIPURPOSE BUILDING 700 FIRE ALARM PLAN - NEW RELOCATABLE BUILDING 1A AND 1B FIRE ALARM PLAN

18. E690 RELOCATABLE BUILDING FIRE ALARM PLAN - NEW

19. E691 RELOCATABLE BUILDING FIRE ALARM PLAN - NEW

20. E700 FIRE RISER DIAGRAM #1

21. E701 FIRE RISER DIAGRAM #2

22. E702 FIRE RISER DIAGRAM #3 23. E703 EMERGENCY VOICE/ALARM/DETECTION FIRE SYSTEM

RISER DIAGRAM

24. E704 EMERGENCY VOICE/ALARM COMM SYSTEM - FIRE

ALARM DETAILS

25. E705 VBUS/SBUS RISER DIAGRAM

26. E710 ADMINISTRATION BUILDING 100 FIRE ALARM

EMERGENCY VOICE/ALARM PLAN FIRE SYSTEM CALCS

27. E720 CLASSROOM BUILDING 200 FIRE ALARM EMERGENCY VOICE/ALARM PLAN FIRE SYSTEM CALCS

28. E730 CLASSROOM BUILDING 300 FIRE ALARM EMERGENCY

VOICE/ALARM PLAN FIRE SYSTEM CALCS

29. E750 LIBRARY BUILDINGS 500 FIRE ALARM EMERGENCY

VOICE/ALARM PLAN FIRE SYSTEM CALCS

30. E760 KINDERGARTEN BUILDING 600 FIRE ALARM

EMERGENCY VOICE/ALARM PLAN FIRE SYSTEM CALCS

31. E770 MULTIPURPOSE BUILDING 700 FIRE ALARM EMERGENCY VOICE/ALARM PLAN FIRE SYSTEM CALCS

32. E780 RELOCATABLE 1A & 1B EMERGENCY VOICE/ALARM

PLAN FIRE SYSTEM CALCS

33. E790 RELOCATABLE BUILDING 2, 3, 4, & 5 EMERGENCY VOICE/ALARM COMM SYSTEM - CALCS

34. E791 RELOCATABLE BUILDING 6 & 7 EMERGENCY

VOICE/ALARM COMM SYSTEM - CALCS

35. E793 RELOCATABLE BUILDING 8 EMERGENCY VOICE/ALARM

COMM SYSTEM - CALCS

TOTAL: 35 SHEETS

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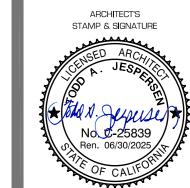
TODD A JESPERSEN, AIA

JONATHAN LEE PROJECT ARCHITECT

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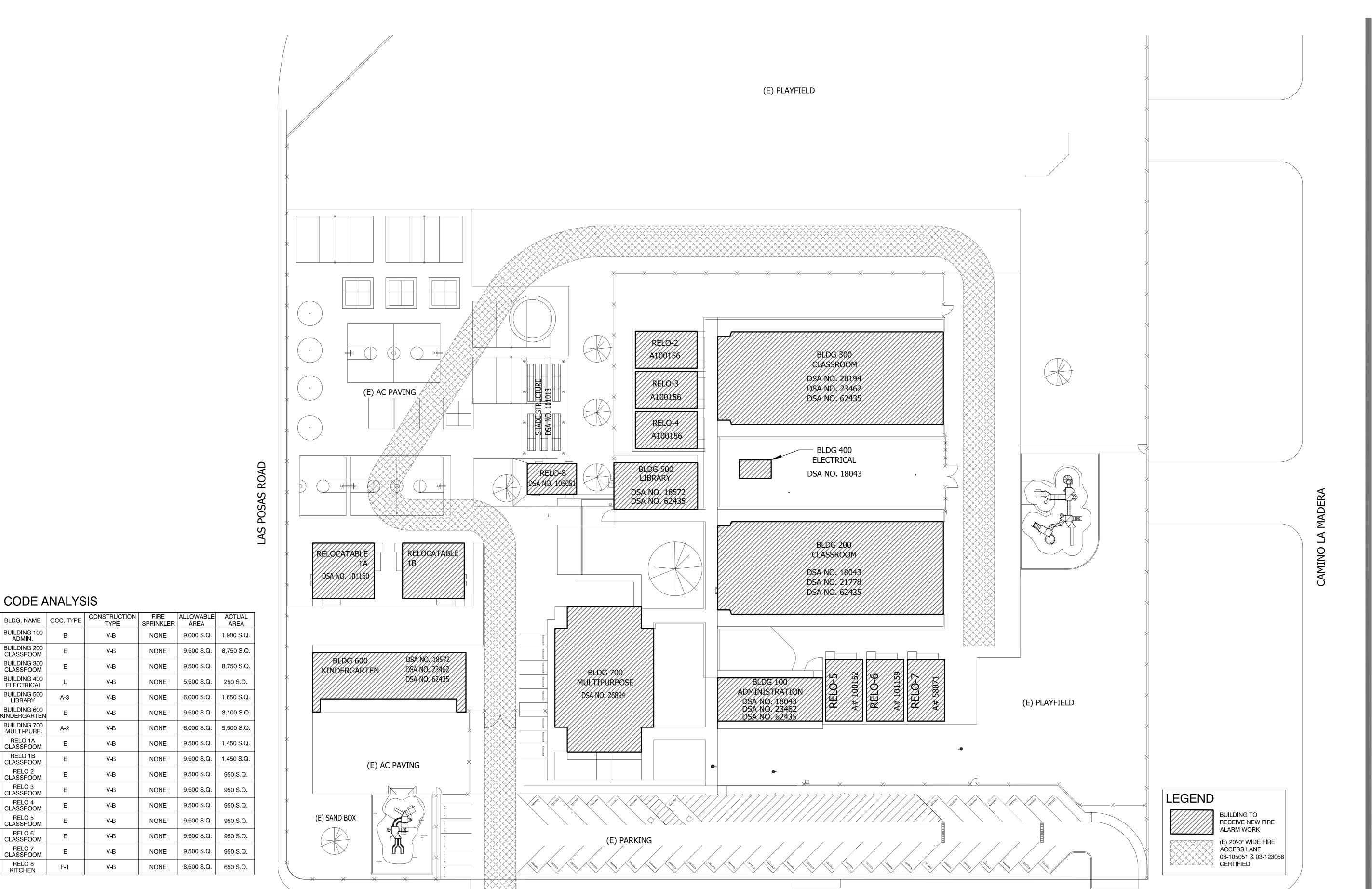
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CHECKED ti DATE 05/10/2024 JOB. NO. 24009 A#03-124307, FILE 56-24, PTN 72553-61

SHEET TITLE SHEET

TITLE

SHEET



E. CALLE LA GUERRA



CODE ANALYSIS

A-3

A-2

V-B

NONE

BUILDING 100

ADMIN. **BUILDING 200**

CLASSROOM

BUILDING 300

CLASSROOM

BUILDING 400

ELECTRICAL

BUILDING 500

LIBRARY **BUILDING 600**

KINDERGARTEN

BUILDING 700

MULTI-PURP.

CLASSROOM RELO 1B

CLASSROOM

CLASSROOM

CLASSROOM

CLASSROOM

CLASSROOM

CLASSROOM

CLASSROOM

RELO 8

KITCHEN



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PLEASANT VALLEY SCHOOL DISTRICT LAS POSAS ELEMENTARY SCHOOL

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JOB. NO. 24009 A#03-124307, FILE 56-24, PTN 72553-61 SHEET SITE PLAN

SHEET



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.

<u>PERMITS AND CHARGES</u>
AND PAY FOR ALL NECESSARY CONSTRUCTION PERMITS, INSPECTION FEES, AND OTHER CHARGES BY AGENCIES HAVING

PROVIDE AND INSTALL ALL MATERIALS IN CONFORMANCE WITH THE 2016 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.

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

COORDINATE ALL WORK WITH OTHER TRADES. OBTAIN ALL DRAWINGS THAT WILL REQUIRE COORDINATION AND PROVIDE ALI 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.

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.

PROVIDE RECORD DRAWINGS IN ACAD TO THE OWNER WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF TH

PROJECT. RECORD DRAWINGS SHALL BE SIGNED AND DATED BY CONTRACTOR PRIOR TO RELEASE OF FINAL RETENTION OF ALI

CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE ALL LABOR AND MATERIALS ON ALL WORK AGAINST DEFECTS IN

WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR.

Submit shop drawings and material list for review prior to commencing any work. All equipment to bear u. 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

CONTRACTOR'S BID SHALL BE BASED ON ALL WORK SHOWN ON THE PLANS AND AS SPECIFIED. IF CONTRACTOR PROPOSES TO SUBSTITUTE FOR FOLIPMENT 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

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.).

CONDUIT SHALL BE EMT, PVC, IMC, RIGID OR FLEXIBLE STEEL TYPE. CONDUIT SHALL BE MANUFACTURED IN ACCORDANCE WITH UL-1 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 STRING IN ALL EMPTY CONDUITS, NO MC, BX OR AC90 SHALL BE PERMITTED. FLEXIBLE STEEL CONDUIT RUNS SHALL BE LIMITED TO A MAXIMUM LENGTH OF 6 FOOT. ALL CONNECTIONS SHALL BE COMPRESSION & NOT SCREW TYPE. ALL FIRE ALARM CONDUITS SHALL BE PAINTED RED.

IDENTIFY FEEDERS WITH THE 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 &

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 NOTED, CONDUCTOR SIZE NO.1 AWG AND SMALLER WITH 90 DEGREE C INSULATION ARE TO USE THE 60 DEGREE COLUMN OF THE CODE, TABLE 310-16, TO DETERMINE AMPACITY. CONDUCTORS #1/0 AWG AND LARGER WITH 75 DEGREE AND 90 DEGREE INSULATION ARE TO USE THE 75 DEGREE COLUMN OF CODE, TABLE 310-16, TO DETERMINE AMPACITY. (110.14C) WHERE THE NUMBER OF CONDUCTORS IN A RACEWAY OR CABLE EXCEEDS THREE, THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED PER

STRUCTURAL SUPPORT (SEE E600 FOR MOUNTING DETAILS)

ELECTRICIANS" PERFORMING WORK ON THIS PROJECT SHALL BE CURRENTLY CERTIFIED IN ACCORDANCE WITH THE STATE OF CALIFORNIA AB931 AND THE DIVISION OF APPRENTISHIP 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 ON THE PREMISES AS DIRECTED BY OWNER, AND NEATLY PILE OR STORE THEM AND PROTECT FROM DAMAGE. REMOVE FROM PREMISES AND DISPOSE OF ALL MATERIALS CONSIDERED BY THE OWNER TO BE SCRAP

ALL EXISTING FIRE ALARM & ELECTRICAL DEVICES, CIRCUITS CONDUCTORS, FEEDERS ETC., WHEN NOTED TO BE REMOVED, SHALL BE REMOVED TO THE LAST ACTIVE DEVICE. 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. 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

BEGINNING OF DEMOLITION MEANS CONTRACTOR ACCEPTS EXISTING CONDITIONS.

. <u>EXECUTION</u>
1. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT 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

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. M 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.

1. 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

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 <u>INSTALLATION</u>

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

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

DETERMINE EXACT ROUTING OF CONCEALED FEEDERS AND BRANCH HOMERUNS IN COOPERATION WITH OTHER TRADES TO SIMPLIFY

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

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 DISCERN A FIRE RATING OF ONE HOUR OR MORE, PROVIDE A ONE, TWO OR THREE HOUR FIRE-RATED ENCLOSURE

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 NOT 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 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.

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.

PANEL CIRCUIT DIRECTORY SHALL COMPLY WITH CEC 408.4.

D. PROVIDE 90% COMPACTION OR SAND SLURRY OVER ALL UNDERGROUND CONDUITS, USE ONLY CLEAN FILL

MARKING - UNDERGROUND SYSTEM SHALL BE LEGIBLY MARKED "UNDERGROUND SYSTEM" AT THE SOURCE OR FIRST DISCONNECTING MEANS OF THE SYSTEM. THE MARKING SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.

THE ISSUANCE OF A PERMIT SHALL NOT PREVENT THE BUILDING OFFICIAL FROM REQUIRING THE CORRECTION OF ERRORS ON THESE PLANS OR FROM PREVENTING ANY VIOLATION OF THE CODES ADOPTED BY DSA, RELEVANT LAWS, ORDINANCES, RULES AND/OR

. FOR FIRE RATED WALL/CEILING PENETRATION AND/OR MEMBRANE PENETRATION, COMPLETE NRTL CLASSIFICATION SHEETS SHALL BE PROVIDED TO THE INSPECTOR AT THE TIME OF INSPECTION

PROVIDE SEPARATE SUBMITTAL; OBTAIN ALL REQUIRED PERMITS, INSPECTIONS AND APPROVALS FOR ALL FIRE ALARM SYSTEM INSTALLATIONS AND/OR MODIFICATIONS FROM THE FIRE DEPARTMENT.

5. ALL INSTALLED MATERIALS AND EQUIPMENT SHALL BE LISTED U.L., NRTL OR LISTED AND APPROVED BY AN APPROVED TESTING

. ALL NEW OVERCURRENT DEVICES INSTALLED IN EXISTING PANELS/SWITCHBOARDS SHALL MATCH THE MAKE, MODEL AND INTERRUPTING CAPACITY OF THE EXISTING OVERCURRENT DEVICES.

. RACEWAY SEALS, CONDUITS OR RACEWAYS THROUGH WHICH MOISTURE MAY CONTACT LIVE PARTS SHALL BE SEALED OR PLUGGED AT

8. THE IDENTIFICATION OF EVERY CIRCUIT OF A PANEL BOARD AND SWITCHBOARD SHALL BE LEGIBLY IDENTIFIED AS TO ITS CLEAR, EVIDENT, AND SPECIFIC PURPOSE OR USE AND SHALL INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. 2016 C.E.C 408.4 - PROVIDE MORE DETAIL ON PANEL SCHEDULE CIRCUIT DESCRIPTIONS.

GENERAL NOTES

1. FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL A SILENT KNIGHT FIRE ALARM SYSTEM FOR THE PROJECT AREA TO INCLUDE:

B) HEAT DETECTORS IN ALL REQUIRED AREAS

STROBES/SPEAKERS IN ALL REQUIRED AREAS SPEAKERS IN ALL REQUIRED AREAS

CONTRACTOR SHALL BE BUILDING STANDARD AND SHALL BE SELECTED FIRE ALARM SYSTEM FACTORY AUTHORIZED AND APPROVED VENDOR - NO "PARTS & SMARTS"

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

MONITORING OR INITIATING CIRCUITS WITH DUAL RATE BATTERY CHARGER. CONTRACTOR SHALL PROVIDE A SATISFACTORY SYSTEM TEST IN THE PRESENCE OF THE OWNER, FIRE PREVENTION BUREAU AND

CONTRACTOR SHALL PROVIDE A CENTRAL MASTER ANNUNCIATOR PANEL IN THE ADMINISTRATION BUILDING AND A REMOTE PANEL

AN AREA PER OWNERS REPRESENTATIVE AND LOCAL FIRE MARSHAL. ANNUNCIATOR PANEL SHALL BE NONGRAPHIC WITH NAMEPLATE AND LED FOR EACH DEVICE ADDRESS, WITH AUDIBLE ALARM AND

CONTRACTOR SHALL PROVIDE ALL CONNECTION TO POWER PANELS, CONDUIT AND WIRE AND CONNECTIONS REQUIRED TO PROVIDE

UNIQUELY LABEL ALL ADDRESSABLE DEVICES TO MATCH FIRE ALARM PROGRAMMING & AS BUILTS.

COLOR CODE FOR CONDUCTORS

PROVIDE CONDUCTOR COLOR CODE AS FOLLOWS: 120/208VAC,3Ø,4W OR 120/208VAC, 1Ø, 3W: BLUE,BLACK,RED FOR PHASE CONDUCTORS

AND WHITE FOR NEUTRAL, GREEN FOR GROUND.

277/480VAC,3Ø,4W: ORANGE,BROWN,YELLOW FOR PHASE CONDUCTORS AND WHITE FOR NEUTRAL, GREEN FOR GROUND.

DERATING TABLE

NEC #310-8 ADJUSTMENT FACTORS

(a) MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE. WHERE THE NUMBER OF CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR CABLE EXCEEDS THREE, THE ALLOWABLE AMPACITIES SHALL BE REDUCED AS SHOWN IN THE

PERCENT OF VALUES IN TABLES AS ADJUSTED FOR AMBIENT CURRENT-CARRYING TEMPERATURE IF NECESSARY 10 THROUGH 2 21 THROUGH 30 31 THROUGH 4

WHERE SINGLE CONDUCTORS OR MULTICONDUCTOR CABLES ARE STACKED OR BUNDLED LONGER THAN 24 INCHES (610 mm) WITHOUT MAINTAINING SPACING AND ARE NOT INSTALLED IN RACEWAYS, THE ALLOWABLE AMPACITY OF EACH CONDUCTOR SHALL BE REDUCED AS SHOWN IN THE ABOVE

EXCEPTION NO. 1: WHERE CONDUCTORS OF DIFFERENT SYSTEMS, AS PROVIDED IN SECTION 300-3, ARE INSTALLED IN A COMMON RACEWAY OR CABLE, THE DERATING FACTORS SHOWN ABOVE SHALL APPLY TO THE NUMBER OF POWER AND LIGHTING (ARTICLES 210, 215, 220, AND 230)

EXCEPTION NO. 3: DERATING FACTORS SHALL NOT APPLY TO CONDUCTORS IN NIPPLES HAVING A LENGTH NOT EXCEEDING 24 INCHES (610mm).

EXCEPTION NO. 2: FOR CONDUCTORS INSTALLED IN CABLE TRAYS, THE PROVISIONS OF SECTION 318-11 SHALL APPLY.

EXCEPTION NO. 4: DERATING FACTORS SHALL NOT APPLY TO UNDERGROUND CONDUCTORS ENTERING OR LEAVING AN OUTDOOR TRENCH IF THOSE CONDUCTORS HAVE PHYSICAL PROTECTION IN THE FORM OF RIGID METAL CONDUIT, INTERMEDIATE METAL CONDUIT, OR RIGID NONMETALLIC CONDUIT HAVING A LENGTH NOT EXCEEDING 10 FEET (3.05m) ABOVE GRADE AND THE NUMBER OF CONDUCTORS DOES NOT EXCEED FOUR.

(FNC): SEE APPENDIX B, TABLE B-310-11 FOR ADJUSTMENT FACTORS FOR MORE THAN THREE CURRENT-CARRYING CONDUCTORS IN A RACEWAY OR

EXCEPTION NO. 5: FOR OTHER LOADING CONDITIONS, ADJUSTMENT FACTORS AND AMPACITIES SHALL BE PERMITTED TO BE CALCULATED UNDER

(b) MORE THAN ONE CONDUIT, TUBE, OR RACEWAY. SPACING BETWEEN CONDUITS, TUBING, OR RACEWAYS SHALL BE MAINTAINED.

SYMBOLS (SEE E601 FOR FIRE ALARM DEVICE SYMBOLS) DUPLEX RECEPTACLE, WALL MOUNTED @ +18"AFF, NEMA 5-20R U.O.N. JUNCTION BOX (CEILING MTD.) SIZE PER TABLE AND NEC ARTICLE 370

BRANCH CIRCUIT PANELBOARD - 240/120V, 1Ø, 3W OR 3Ø, 3W, 240VAC OR 120/208VAC, 3Ø, 4W. 4'X8'X3/4" TELEPHONE BACKBOARD, MARINE PLYWOOD AND PAINTED WITH FIRE RESISTANT PAINT, PER OWNERS CONDUIT RUN CONCEALED ABOVE CEILING OR IN WALLS,

FLEXIBLE CONDUIT (WITH GROUND CONDUCTOR, PROVIDE LIQUID TIGHT CONDUIT IN ALL

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

CONDUIT RUN CONCEALED BELOW FLOOR OR UNDERGROUND

CODE. (3/4" CONDUIT MINIMUM). INDICATES A HOMERUN TO PNL 2LA, CKTS 1-3-5 WITH SHARED NEUTRAL & CKT 7 WITH DEDICATED NEUTRAL.

3/4"C-2#12 & 1#12 GND 3/4"C-3#12 & 1#12 GND 3/4"C-4#12 & 1#12 GND 3/4"C-5#12 & 1#12 GND

LIST OF APPLICABLE CODES

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN)

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

ARCHITECT

AMP TRIP

CONDUIT

CIRCUIT

CEILING

COPPER

(CU)

CIRCUIT BREAKER

CONTINUATION

CONDUIT ONL'

COLD WATER PIPE

AMP SWITCH

2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 TITLE 24 CCR

2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR PART 11, TITLE 24 CCR 2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR 2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR

2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR 2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR

APPLICABLE CODE: 2022 CBC

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30.

ALL PERMANENT EQUIPMENT AND COMPONENTS.

2. TEMPORARY, MOVEABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.

3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED

NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVE A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND

2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26. THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PRE-APPROVED INSTALLATION GUIDE (E.G. HCAI OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER

OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS. MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E)

MP□ MD□ PP□ E⊠ OPTION 1 DETAILED ON APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DETAILS

MP. MD. PP. E. OPTION 2: SHALL COMPLY WITH HCAI (OSHPD) PREAPPROVAL (OPM#) #_

SHEET # SHEET DESCRIPTION SHEET # | SHEET DESCRIPTION F100 GENERAL NOTES, ABBREVIATIONS, SYMBOLS & DRAWING LIST E700 FIRE RISER DIAGRAM #1 E701 FIRE RISER DIAGRAM #2 E150 FIRE ALARM SITE PLAN - EXISTING CONDITIONS E200 ELECTRICAL DETAILS E702 FIRE RISER DIAGRAM #3 E600 SITE FIRE ALARM CONDUIT PLAN E703 EMERGENCY VOICE/ ALARM/DETECTION FIRE SYSTEM RISER DIAGRAM E601 NEW FIRE ALARM MASTER LEGEND E704 EMERGENCY VOICE/ALARM COMM SYSTEM - FIRE ALARM DETAILS E604 HONEYWELL CUT SHEETS MULTI-CRITERIA CO & SMOKE SENSOR & MONITOR MODULE F705 VBUS/SBUS RISER DIAGRAM HONEYWELL CUT SHEETS SPEAKER STROBES & PHOTOELECTRIC SMOKE SENSOR F710 ADMIN BLDG 100 FIRE ALARM PLAN EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS E606 HONFYWELL CUT SHEETS TEMPERATURE SENSORS & RELAY F720 CLASSROOM BLDG 200 FIRE ALARM PLAN EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS F610 ADMINISTRATION BUILDING 100 FIRE ALARM PLAN - NEW WORK F730 CLASSROOM BLDG 300 FIRE ALARM PLAN EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS CLASSROOM BUILDING 200 FIRE ALARM PLAN - NEW WORK F750 LIBRARY BLDG 500 FIRE ALARM PLAN EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS E630 CLASSROOM BUILDING 300 FIRE ALARM PLAN - NEW WORK F760 KINDER, BLDG, 600 FIRE ALARM PLANS EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS LIBRARY BUILDINGS 500 FIRE ALARM PLAN - NEW WORK E770 | MULTIPURPOSE BLDG. 700 FIRE ALARM PLAN EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS KINDERGARTEN BUILDINGS 600 FIRE ALARM PLANS - NEW WORK E780 | RELOCATABLE 1A & 1B EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS E670 MULTIPURPOSE BUILDING 700 FIRE ALARM PLAN - NEW WORK E790 RELOCATABLE BUILDING 2, 3, 4, & 5 EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS RELOCATABLE 1A AND 1B FIRE ALARM PLANS - NEW WORK F791 | RELOCATABLE BUILDING 6 & 7 EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS E793 RELOCATABLE BUILDING 8 EMERGENCY VOICE/ALARM FIRE SYSTEM - CALCULATIONS F690 RELOCATABLE BUILDING FIRE ALARM PLANS - NEW WORK E691 RELOCATABLE BUILDING FIRE ALARM PLANS - NEW WORK

LIST OF DRAWINGS

SCOPE OF WORK

CONTRACTOR TO REPLACE EXISTING CAMPUS WIDE FIRE ALARM SYSTEM WITH NEW FULLY ADDRESSABLE FIRE ALARM SYSTEM WITH NEW SEPARATE SYSTEM WITH VOICE/SPEAKERS WHILE MAINTAINING EXISTING FIRE ALARM SYSTEM UNTIL REPLACEMENT IS COMPLETE & ACTIVE & DSA APPROVED. CONTRACTOR TO PROVIDE DETAILED CONSTRUCTION SCHEDULE INSTALLATION PLANS AND PROPOSED SCHEDULE TO MEET PVSD TIME SCHEDULE/CONSTRAINTS.

ABBREVIATIONS

AMP FRAME/AMP FUSE DISCONNECT SWITCH AVAILABLE FAULT CURRENT MOUNTING DRAWING ELECTRICAL CONTRACTOR ABOVE FINISHED FLOOR EMERGENCY LIGHT/FFFDFR METAL HALIDE ENGINEER OF RECORD MANUFACTURER AMERICAN WIRE GAGE SHALLOW FLOOR BOX GENERAL CONTRACTOR NOT IN CONTRACT NIGHT LIGHT GROUND FAULT INTERRUPTER NORMALLY OPEN GROUND HORSEPOWER ISOLATED GROUND POWER OR POLE JUNCTION BOX KILO VOLT AMPS=1000V CABLE TELEVISION LIGHTING CONTACTOR

LONG CONTINUOUS LOAD

LOW VOLTAGE

MAIN TELEPHONE BACKBOARD MEDIUM VOLTAGE NATIONAL ELECTRICAL CODE NORMALLY CLOSED PROVIDED BY OTHERS REMOVED RIGID GALVANIZED STEEL CONDUIT (X)

SYSTEM NEUTRAL TIME CLOCK TELEPHONE TERMINAL BOARD TELEPHONE TERMINAL CABINET TRANSFORMER TRANSIENT VOLTAGE SURGE SUPPRESSOR TYPICAL UNDERGROUND UNLESS OTHERWISE NOTED UNSW UNSWITCHED VOLT AMPS VOLTS/VOLTAGI

WATTS/WATTAGE WEATHERPROOF

SITE MAP





IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC APP: 03-124307 INC:

REVIEWED FOR

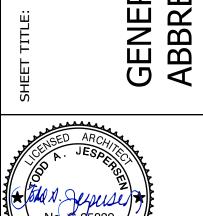
SS ☐ FLS ☑ ACS ☐

ムリウウト さ メララリウバイチラ ハリウ 3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094

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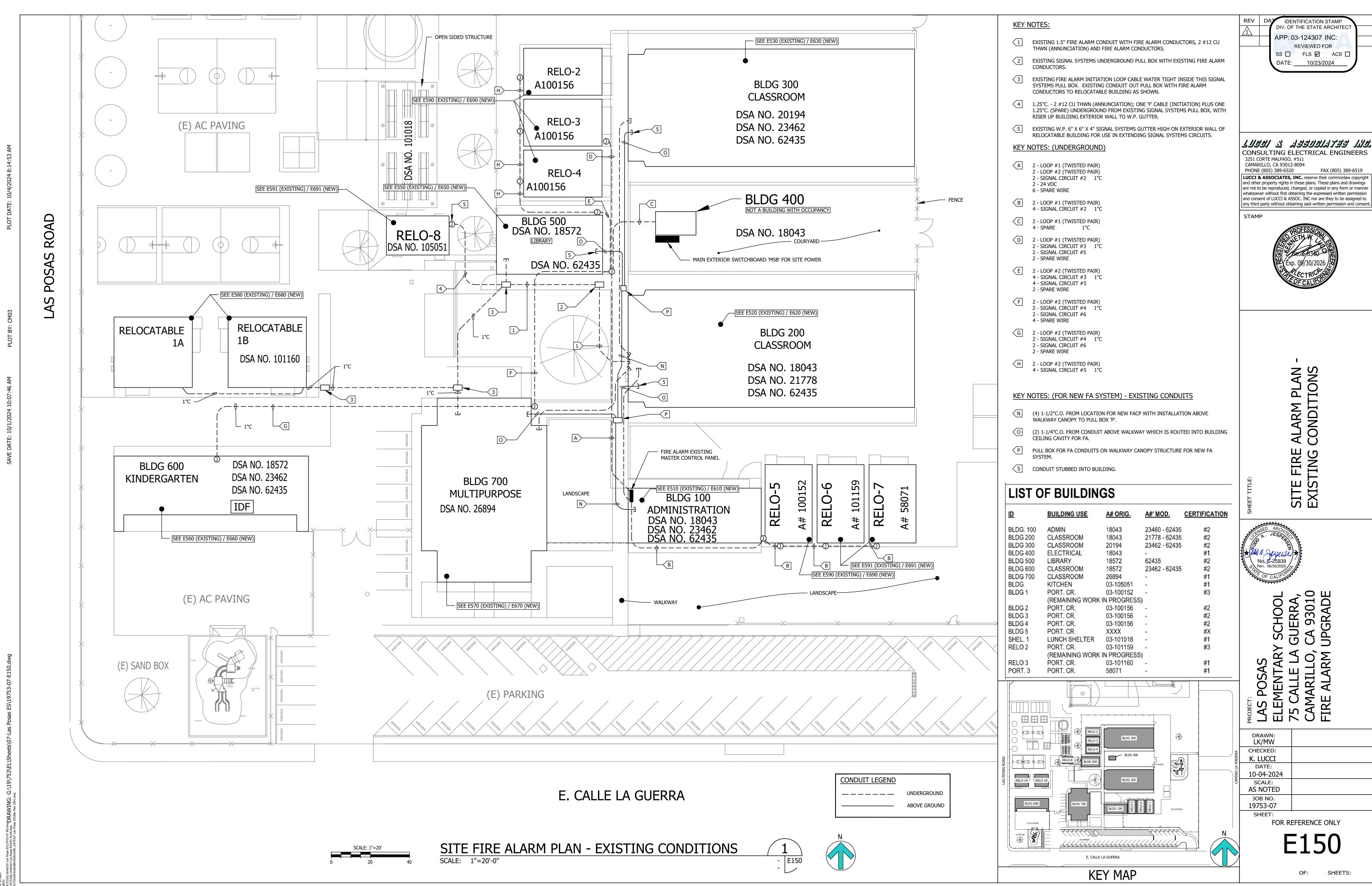


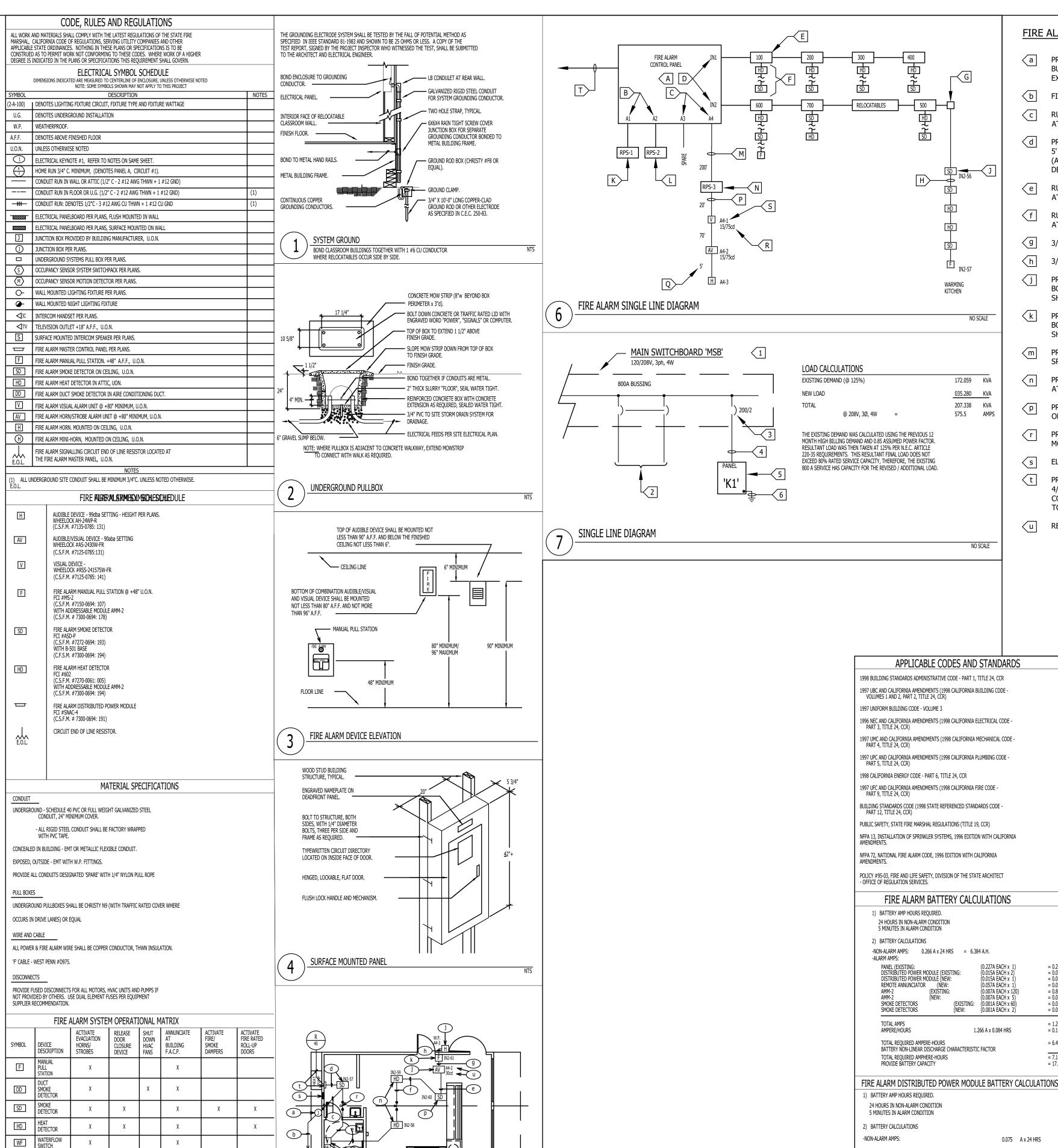


LK/MW CHECKED: K. LUCCI 10-04-2024 AS NOTED 19753-07

SHEETS:

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FIRE ALARM SYSTEM PLAN NOTES: (ALL EQUIPMENT IS EXISTING & CONNECTED)

PROVIDE 6" X 6" X 4" W.P. GUTTER MOUNTED HIGH ON EXTERIOR WALL OF RELOCATABLE BUILDING FOR FIRE ALARM CIRCUITS EXTENSION INSIDE BUILDING. PUNCH THROUGH EXTERIOR WALL INTO ACCESSIBLE ATTIC SPACE AND SEAL PENETRATION WATER TIGHT.

FIRE ALARM FEEDERS PER SITE FIRE ALARM DISTRIBUTION PLANS, SHEET E-1.30.

RUN 3/4"C. 6 #12 CU THWN (ANNUNCIATION), ONE 'F' CABLE (INITIATION) CONCEALED IN

PROVIDE FIRE ALARM SMOKE DETECTOR PER SPECIFICATIONS, MOUNT ON CEILING WITHIN 5' OF FIRE ALARM DISTRIBUTED POWER MODULE, RUN 3/4"C. 6 #12 CU THWN (ANNUNCIATION), ONE 'F' CABLE (INITIATION) CONCEALED IN ATTIC/WALLS AND CONNECT DETECTOR TO INITIATION LOOP PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

RUN 3/4"C. 4 #12 CU THWN (ANNUNCIATION), ONE 'F' CABLE (INITIATION) CONCEALED IN

RUN 3/4"C. 4 #12 CU THWN (ANNUNCIATION), ONE 'F' CABLE (INITIATION) CONCEALED IN

3/4"C. (EXISTING), PULL IN NEW 4 #12 CU THWN (ANNUNCIATION), ONE 'F' CABLE

035.280 KVA

207.338 KVA

575.5

3/4"C. (EXISTING), PULL IN 4 #12 CU THWN (ANNUNCIATION).

PROVIDE NEW FIRE ALARM ANNUNCIATION DEVICE PER SPECIFICATIONS, INSTALL IN BACK BOX PROVIDED BY BUILDING MANUFACTURER AND CONNECT TO ANNUNCIATION CIRCUIT AS

PROVIDE NEW FIRE ALARM MANUAL PULL STATION PER SPECIFICATIONS, INSTALL IN BACK BOX PROVIDED BY BUILDING MANUFACTURER AND CONNECT TO ANNUNCIATION CIRCUIT AS

PROVIDE NEW FIRE ALARM ANNUNCIATION DEVICE AND FLUSH MOUNTED BACK BOX PER SPECIFICATIONS AND CONNECT AS SHOWN.

PROVIDE NEW FIRE ALARM HEAT DETECTOR AND BACK BOX PER SPECIFICATIONS, MOUNT IN ATTIC SPACE AND CONNECT AS SHOWN.

PROVIDE NEW FIRE ALARM SMOKE DETECTOR AND BACK BOX PER SPECIFICATIONS, MOUNT ON CEILING AND CONNECT AS SHOWN.

PROVIDE FLEXIBLE CONDUIT CONNECTION IN ACCESSIBLE ATTIC SPACE BETWEEN BUILDING MODULES, TYPICAL WHERE OCCURS.

ELECTRICAL PANEL PROVIDED AND INSTALLED BY BUILDING MANUFACTURER TO REMAIN.

PROVIDE FIRE ALARM DISTRIBUTED POWER MODULE PER SPECIFICATIONS AND MOUNT PER 4/E-1.31. RUN 3/4"C. 2 #12 CU THWN + 1 #12 CU GROUND TO ELECTRICAL PANEL AND CONNECT DISTRIBUTED POWER MODULE POWER PER MANUFACTURER'S RECOMMENDATION TO 20/1 CIRCUIT BREAKER PROVIDED IN PANEL BY BUILDING MANUFACTURER.

REFER TO FIRE ALARM SINGLE LINE DIAGRAM, KEYNOTE S FOR COORDINATION/REFERENCE.

SEISMIC ANCHORAGE REQUIREMENTS

XED ELECTRICAL EQUIPMENT MOUNTED ON STRUCTURE 30 % OF OPERATING WEIGH EMERGENCY POWER EQUIPMENT MOUNTED ON GRADE 50% OF OPERATING WEIGHT

FOR FLEXIBLY MOUNTED ELECTRICAL EQUIPMENT, USE 4 x THE VALUES SHOWN. ACCEPTABLE SIMULTANEOUS VERTICAL FORCE - USE 1/3 x HORIZONTAL FORCE. THE ABOVE VALUES ARE FOR AN IMPORTANCE FACTOR OF I = 1.0 and a seismic

ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST A

EMERGENCY POWER EQUIPMENT MOUNTED ON STRUCTURE

WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE FIELD ENGINEER FOR THE DIVISION OF THE STATE ARCHITECT, OFFICE OF REGULATION SERVICES AND THE ELECTRICAL

FIRE ALARM APPROVAL

75% OF OPERATING WEIGHT

THE FIRE ALARM SYSTEM DESIGN IS A COMPLETE PLAN SUBMITTAL PER DSA-ORS POLICY #95-03 (FLS). THE CONTRACTOR SHALL INSTALL THE AUTOMATIC, ADDRESSABLE FIRE PROTECTION SYSTEM AS SHOWN AND AS HEREIN SPECIFIED. IF ANY SUBSTITUTION OF OF TEN BUSINESS DAYS PRIOR TO PROJECT BID DATE. THE ARCHITECT SHALL BE SOLEY RESPONSIBLE FOR SUBMITTING PER THE DSA-ORS POLICY GUIDELINES AND SHALL PAY ALL ADDITIONAL COSTS REQUIRED TO ACCOMMODATE SUCH REVIEW OF THE SUBSTITUTED FIRE ALARM SYSTEM BY DSA WHETHER OR NOT SUCH APPROVAL IS GIVEN. THE CONTRACTOR SUBMITTAL SHALL INCLUDE ALL MANUFACTURER'S CATALOG FOLIPMENT. SPECIFICATION SHEETS, THE CSFM LISTING SHEETS FOR INDIVIDUAL COMPONENTS OMPRISING THE SUBSTITUTED FIRE ALARM SYSTEM, BATTERY LOAD CALCULATIONS AND VOLTAGE DROP CALCULATIONS FOR EACH SIGNALLING CIRCUIT. SHOULD THE SUBSTITUTED SYSTEM BE APPROVED AND INSTALLED, THE CONTRACTOR SHALL PROVIDE ONE SET OF REPRODUCIBLE. CAD GENERATED. DSA-ORS APPROVED AND STAMPED 'AS-CONSTRUCTED' DRAWINGS TO THE ENGINEER UPON COMPLETION OF THE SYSTEM

FIRE ALARM SYSTEM INSTALLATION NOTES

SHALL VERIFY ALL CONDUIT ROUTING CONDITIONS AT THE PROJECT SITE AS CONSTRUCTION PROGRESSES. ALL FIRE ALARM DATA COMMUNICATIONS AND INITIATING CIRCUITS SHALL BE INSTALLED UTILIZING SOLID COPPER CONDUCTORS WIT DUTER COVERING COLORS PER THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS. ALL SMOKE DAMPER AND REMOTE TROUBLE NDICATOR CIRCUITS SHALL BE YELLOW. ALL CIRCUITS SHALL BE INDIVIDUALLY LABELLED, BOTH AT THE DEVICE END AND AT THE SIGNAL TERMINAL CABINET AND/OR FIRE ALARM MASTER PANEL TERMINATION POINT

LL DRAWINGS ARE DIAGRAMMATIC ONLY, AND SHALL NOT BE USED IN DETERMINING ACTUAL CONDUIT ROUTING. THE CONTRACTOR

ALL FIRE ALARM CIRCUITS SHALL CONTINUOUS FROM DEVICE TO DEVICE. SPLICES ARE NOT ALLOWED UNLESS IN COVERED JUNCTION BOXES ON APPROVED TERMINAL BLOCKS. 'T' TAPPING IS ALLOWED ONLY UNDER THESE CONDITIONS.

FIRE ALARM LEVEL OF AUDIBILITY ALARM INDICATING DEVICES OF A FIRE ALARM SYSTEM INTENDED TO ALERT ALL OCCUPANTS SHALL BE SO LOCATED AND UNOBSTRUCTED AS TO CAUSE A LEVEL OF AUDIBILITY OF NOT LESS THAN 15 DB ABOVE AMBIENT NOISE LEVELS MEASURED FOUR FEET

AMBIENT NOISE LEVELS SHALL BE CONSTRUED TO MEAN THAT WHICH CAN NORMALLY BE EXPECTED TO EXIST WHEN THE FACILITY, BUILDING, ROOM OR AREA IS FUNCTIONING UNDER NORMAL OPERATIVE OR WORKING CONDITIONS.

FIRE ALARM TESTING REQUIREMENTS UPON COMPLETION OF THE INSTALLATION OF THE FIRE PROTECTIVE SIGNALLING EQUIPMENT, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE ENFORCING FIRE AGENCY PER CHAPTER 7, NFPA 72, AND A CERTIFICATE OF COMPLETION SHALL BE PROVIDED TO THE OWNER PER CHAPTER 1, NFPA 72 AND THE CALIFORNIA FIRE CODE, SECTION 1007.3.4.

FIRE ALARM VOLTAGE DROP CALCULATIONS

Node	UNIT	TOTAL	WIRE	AWG	CIRC.	OHMS RES.	VOLT	PERCE
Ref.	AMP.	AMP.	LENGTH	SIZE	MILS	PER/FT.	DROP	DROP
1	0.015	0.015	200'	#12	6530	0.00164	0.0098	0.041

= 0.057 A = 0.840 A = 0.035 A

= 0.060 A = 0.002 A

= 1.266 A = 0.106 A.H.

= 6.490 A.H.

x 1.1 = 7.139 A.H. = 17.000 A.H.

= 0.041 A

= 0.098 A

= 0.081 A

= 0.235 A

= 0.020 A.H.

= 1.820 A.H.

= 2.002 A.H.

= 7.000 A.H.

0.007A EACH x 12

1.266 A x 0.084 HRS

0.075 A x 24 HRS

(0.015 A EACH x

(0.041 A EACH x

0.235 A x 0.084 HRS

30 cd (0.098 A EACH x 15/75 cd (0.081 A EACH x

(EXISTING: (0.001A EACH x 60 (NEW: (0.001A EACH x 2)

-ALARM AMPS

DISTRIBUTED POWER MODUL

REQUIRED AMPERE-HOURS FOR FIRE ALARM CONTROL PANE

BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR

TOTAL MINIMUM AMPERE HOURS REQUIRED

PROVIDED BATTERY CAPACITY

AUDIBLE/VISUALS

AMPERE/HOURS

TOTAL AMPS

NODE REF.	UNIT AMP.	TOTAL AMP.	WIRE LENGTH	AWG SIZE	CIRC. MILS	OHMS RES. PER/FT.	VOLT DROP	
1	0.065	0.183	20'	#12	6530	0.00164	0.0120	
2	0.077	0.118	70'	#12	6530	0.00164	0.0270	- 1
3	0.041	0.041	5'	#12	6530	0.00164	0.0007	

TOTAL VOLTAGE DROP: 0.040 TOTAL PERCENTAGE DROP IN CIRCUIT: 0.165% BASED UPON A 24 VDC CIRCUIT OPERATING AT 70 DEGREES CELSIUS SINGLE LINE DIAGRAM NOTES: (ALL EQUIPMENT IS EXISTING

EXISTING 800A, 120/208V, 3PH, 4W MAIN SWITCHBOARD TO REMAIN. EXISTING SERVICE HAS CAPACITY FOR ADDED LOAD. REFER TO LOAD CALCULATIONS, THIS SHEET FOR REFERENCE.

EXISTING SUB-FEED CIRCUIT BREAKERS AND FEEDERS TO REMAIN. NO WORK

PROVIDE NEW 200/2 CIRCUIT BREAKER AND INSTALL IN SPACE AVAILABLE IN EXISTING SWITCH BOARD DISTRIBUTION SECTION PER MANUFACTURER'S

WRITTEN INSTRUCTIONS. MATCH EXISTING EQUIPMENT MANUFACTURER AND I.C.

2"C. 3 #3/0 CU THWN + 1 #6 CU GROUND PER SITE ELECTRICAL PLANS, SHEET

ELECTRICAL PANEL PROVIDED BY RELOCATABLE BUILDING MANUFACTURER.

RATINGS, CONTRACTOR SHALL FIELD VERIFY.

SYSTEM GROUND PER 1/E-1.31.

FIRE ALARM SINGLE LINE DIAGRAM NOTES: (ALL EQUIPMENT IS **EXISTING & CONNECTED**

EXISTING FIRE ALARM MASTER PANEL LOCATED IN EXISTING ADMINISTRATION BUILDING STORAGE ROOM TO REMAIN. PANEL IS AN F.C.I. FC7200A PANEL, C.S.F.M. #7165-0694:174, INSTALLED UNDER D.S.A. APPLICATION 62435. REPLACE EXISTING BATTERY WITH A 17.0 AH BATTERY BACK UP SYSTEM. EXISTING PANEL HAS CAPACITY FOR ADDITIONAL MODULES/ COMPONENTS REQUIRED BY THE SCOPE OF THIS WORK. PROVIDE NEW DSU SIGNALING UNIT, INSTALL TO EXISTING FIRE ALARM MASTER PANEL AND CONNECT TO NEW SIGNALING CIRCUIT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

B DENOTES EXISTING SIGNALING CIRCUIT TO REMAIN, NO WORK REQUIRED. REFER TO FIRE ALARM PANEL BATTERY CALCULATIONS, THIS SHEET, FOR COORDINATION/REFERENCE.

DENOTES NEW SIGNALING CIRCUIT TO BE PROVIDED. REFER TO FIRE ALARM PANEL BATTERY CALCULATIONS, THIS SHEET, FOR COORDINATION/REFERENCE.

DENOTES EXISTING INITIATION LOOP CIRCUIT TO REMAIN. CONNECT NEW INITIATION DEVICES TO EXISTING LOOP AS SHOWN. REFER TO PARTIAL SITE FIRE ALARM DISTRIBUTION PLANS, SHEET E-1.30 FOR COORDINATION/REFERENCE.

EXISTING SIGNAL TERMINAL CABINET OR FIRE ALARM PULL BOX SERVING BUILDING NOTED TO REMAIN, TYPICAL.

EXISTING FIRE ALARM INITIATION CIRCUIT AND DEVICES SERVING RESPECTIVE BUILDING TO REMAIN, TYPICAL WHERE SHOWN FADED.

PICK UP EXISTING INITIATION CIRCUIT PER SITE FIRE ALARM DISTRIBUTION PLANS, SHEET E-1.30 AT EXISTING UNDERGROUND PULL BOX AND EXTEND TO NEW BUILDING ACCORDINGLY. PULL BOX IS SHOWN HERE FOR CLARITY ONLY.

ALARM DISTRIBUTION PLANS, SHEET E-1.30 AND FIRE ALARM SYSTEMS PLAN, THIS SHEET FOR EXACT CONDUIT AND ROUTING REQUIREMENTS.

ONE 'F' CABLE BETWEEN INITIATION DEVICES, TYPICAL. REFER TO SITE FIRE

PROVIDE SYSTEM INITIATION DEVICE PER SPECIFICATIONS AND INSTALL PER FIRE ALARM SYSTEMS PLAN, THIS SHEET. TYPICAL THIS BUILDING.

EXISTING FIRE ALARM SYSTEM DISTRIBUTED POWER MODULE SERVING BUILDING 200, 600 AND 700 TO REMAIN, NO WORK REQUIRED. REFER TO FIRE ALARM PANEL BATTERY CALCULATIONS, THIS SHEET FOR COORDINATION/ REFERENCE.

EXISTING FIRE ALARM SYSTEM DISTRIBUTED POWER MODULE SERVING BUILDING 400, 500 AND EXISTING RELOCATABLE BUILDINGS TO REMAIN, NO WORK REQUIRED. REFER TO FIRE ALARM PANEL BATTERY CALCULATIONS, THIS SHEET FOR COORDINATION/ REFERENCE.

2 #12 CU THWN (ANNUNCIATION). REFER TO SITE FIRE ALARM DISTRIBUTION PLANS, SHEET E-1.30 FOR EXACT CONDUIT AND ROUTING REQUIREMENTS.

NEW FIRE ALARM SYSTEM DISTRIBUTED POWER MODULE PER PLANS. ANNUNCIATION CIRCUIT END OF LINE RESISTORS ARE INSTALLED IN MODULE

4 #12 CU THWN BETWEEN ANNUNCIATION DEVICES, TYPICAL. REFER TO PARTIAL SITE FIRE ALARM DISTRIBUTION PLANS, SHEET E-1.30 AND FIRE ALARM SYSTEMS PLAN, THIS SHEET FOR EXACT CONDUIT AND ROUTING REQUIREMENTS.

DENOTES DISTANCE BETWEEN DEVICES USED FOR VOLTAGE DROP CALCULATIONS,

DENOTES FIRE ALARM VISUAL ANNUNCIATION DEVICE NOMINAL CANDELA RATING

ANNUNCIATION CIRCUIT DESIGNATION USED IN VOLTAGE DROP CALCULATIONS, THIS SHEET. TYPICAL FIRE ALARM DEVICE DESIGNATION AS FOLLOWS:

FIRST CHARACTER(S) DESIGNATE TYPE OF CIRCUIT AND ASSOCIATED CIRCUIT NUMBER, I.E., 'A1' INDICATES ANNUNCIATION CIRCUIT #1, ETC. 'IN2' INDICATES INITIATION CIRCUIT #2, ETC. NEXT CHARACTER DESIGNATES DEVICE NUMBER.

THEREFORE, A4-1 IS ANNUNCIATION CIRCUIT A4, DEVICE 1, IN2-1 IS INITIATION CIRCUIT IN2, DEVICE 1.

EXISTING 120V CIRCUIT TO REMAIN, NO WORK REQUIRED.

EXISTING PLANS FOR REFERENCE ONLY

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 03-124307 INC: REVIEWED FOR SS ☐ FLS ☑ ACS ☐ 10/23/2024

ムリピピト 注 コヨヨリピロイエヨ レリピ 3251 CORTE MALPASO, #511

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UERRA, A 93010 PGRADE

DRAWN: LK/MW CHECKED: K. LUCCI 10-04-2024 SCALE: **AS NOTED** 19753-07 SHEET:

SHEETS:

SUPERVISORY

FIRE ALARM SYSTEMS PLAN

- FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT.
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL
- 4. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.
- 1 EXISTING CONDUIT EXTENDED INTO BUILDING.
- 3 NEW 1-1/2"C UNDERGROUND WITH FA CABLES.

NO BUILDINGS ON CAMPUS

PROVIDE INTERFACE CABLING

- — — — UNDERGROUND (X) ABOVE GROUND (X) —— – UNDERGROUND NEW OUTDOOR SPEAKER (FA)

REVIEWED FOR SS ☐ FLS ☑ ACS ☐ DATE: 10/23/2024

IDENTIFICATION STAMP

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APP: 03-124307 INC:

LUGGI E HERVELEVEL SE ING. CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511

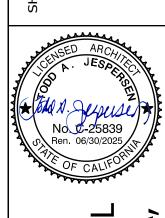
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GUERRA, CA 93010 UPGRADE

LK/MW CHECKED: K. LUCCI 10-04-2024 AS NOTED 19753-07 SHEET:

E600

OF: SHEETS:

KEY MAP

		EMERGENCY VOICE/ALARM COMMUNI	CATIONS SYSTEM LEGE	ND
MBOL	DESCRIPTION	MODEL #	C.S.F.M. #	BACK BOX REQUIREMENTS
ACP	FIRE ALARM CONTROL PANEL	SILENT KNIGHT IFP-2100 ECS	7165-0559:0505	SURFACE OR FLUSH MOUNT
ATC	FIRE ALARM TERMINAL CABINET	-	1 200 100 100 100 100 100 100 100 100 10	FURNISHED BY OTHERS
RPS	NEW REMOTE POWER SUPPLY, 4ckt.	SILENT KNIGHT RPS-5495	7300-0559:0123	SURFACE MOUNT
	NETWORK INTERFACE CARD	SILENT KNIGHT NIC	7165-0559:0505	INSTALL IN IFP-2100ECS
	SINGLE MODE FIBER MODULE	SILENT KNIGHT FSL	7165-0559:0505	INSTALL IN IFP-2100ECS
	ANNUNCIATOR & HANDSET	SILENT KNIGHT IFP-2100 ECS	7165-0559:0505	INSTALL IN IFP-2100ECS
SP O	SPEAKER ONLY, WALL MOUNT	SYSTEM SENSOR SPSRL	7320-1653:0505	4" SQ. DEEP BOX
4	PULL STATION	SILENT KNIGHT IDP-PULL	7150-0559:0157	SINGLE GANG BOX
MP	50 WATT AMPLIFIER	SILENT KNIGHT ECS-50W	7300-0559:0173	SURFACE OR FLUSH MOUNT
•	HEAT DETECTOR	SILENT KNIGHT IDP-HEAT	7270-0559:0147	4" SQ. BOX W/ 3" ROUND RING
● A	ATTIC SPACE HI-TEMP HEAT DETECTOR W/ BASE	SILENT KNIGHT IDP-HEAT-HT	7270-0559:0147	4" SQ. BOX W/ 3" ROUND RING
•	MULTI CRITERIA DETECTOR W/ BASE (SMOKE, HEAT, CO)	SILENT KNIGHT IDP-FIRE-CO-W	7275-0559:0520	4" SQ. BOX W/ 3" ROUND RING
A	INPUT MODULE	SILENT KNIGHT IDP-MINIMON	7300-0559:0155	4" SQ. BOX
SP 🗸	SPEAKER/STROBE COMBO, WALL MOUNT	SYSTEM SENSOR SPSRL	7320-1653:0505	4" SQ. DEEP BOX
SV) c	SPEAKER/STROBE COMBO, CEILING MOUNT	SYSTEM SENSOR SPSCRL	7320-1653:0505	4" SQ. DEEP BOX
<u></u>	SPEAKER ONLY, CEILING MOUNT	SYSTEM SENSOR SPCRL	7320-1653:0505	4" SQ. DEEP BOX
SPO _{WP}	OUTDOOR SPEAKER	GENTEX WSSPKR	7320-0569:0141	4" SQ. DEEP BOX WP
DD	HVAC DUCT DETECTOR	SILENT KNIGHT SK DUCT DETECTOR	3242-0559:0162	4" SQ. DEEP BOX
OM	ADDRESSABLE MONITOR MODULE FOR 2 DEVICES	SILENT KNIGHT SK-MONITOR 2	7300-0559:0155	4" SQ. DEEP BOX
RM	RELAY MODULE	FCI AOM-2RF	7300-1703:0102	4" SQ. DEEP BOX
ww—	END OF LINE RESISTOR (EOL)			

CALIFORNIA FIRE CODE NOTES:

907.2.3 A MANUAL AND AUTOMATIC FIRE ALARM SYSTEM THAT INTIATES THE OCCUPANT NOTIFICATION SIGNAL UTILIZING AN EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM MEETING THE REQUIREMENTS OF 907.5.2.2 AND INSTALLED IN ACCORDANCE WITH SECTION 907.6 SHALL BE INSTALLED IN GROUP E OCCUPANCIES WITH AN OCCUPANT LOAD OF 50 OR MORE PERSONS OR CONTAINING MORE THAN ONE CLASSROOM OR ONE OR MORE ROOMS USED FOR GROUP E OR -4 DAY CARE PURPOSES IN ACCORDANCE WITH THIS SECTION. WHEN AUTOMATIC SPRINKLER SYSTEMS OR SMOKE DETECTORS ARE INSTALLED, SUCH SYSTEMS OR DETECTORS SHALL BE CONNECTED TO THE BUILDING FIRE ALARM SYSTEM.

- 1. MANUAL FIRE ALARM BOXES ARE NOT REQUIRED IN GROUP E OCCUPANCIES WHERE ALL OF THE FOLLOWING APPLY:
- 1.1. INTERIOR CORRIDORS ARE PROTECTED BY SMOKE DETECTORS. 1.2. AUDITORIUMS, CAFETERIAS, GYMNASIUMS AND SIMILAR AREAS ARE PROTECTED BY HEAT DETECTORS OR OTHER APPROVED DETECTION DEVICES.
- 1.3. SHOPS AND LABORATORIES INVOLVING DUSTS OR VAPORS ARE PROTECTED BY HEAT DETECTORS OR OTHER APPROVED DETECTION DEVICES.
- 1.4. THE CAPABILITY TO ACTIVATE THE EVACUATION SIGNAL FROM A CENTRAL POINT IS PROVIDED.
- 2. MANUAL FIRE ALARM BOXES ARE NOT REQUIRED IN GROUP E OCCUPANCIES WHERE ALL OF THE FOLLOWING APPLY: 2.1. THE BUILDING IS EQUIPPED THROUGHOUT WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 907.3.1.1
- 2.2. THE EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM WILL ACTIVATE ON A SPRINKLER WATER FLOW.
- 2.3. MANUAL ACTIVATION IS PROVIDED FROM A NORMALLY OCCUPIED LOCATIONS. 2.4. THE CAPABILITY TO ACTIVATE THE EVACUATION SIGNAL FROM A CENTRAL POINT IS PROVIDED.
- 3. FOR PUBLIC SCHOOL STATE FUNDED CONSTRUCTION PROJECTS SEE SECTION 907.2.29

907.2.3.1 SYSTEM CONNECTION. WHERE MORE THAN ONE FIRE ALARM CONTROL UNIT IS USED AT THE SCHOOL CAMPUS, THEY SHALL BE INTERCONNECTED AND SHALL OPERATE ALL NOTIFICATION APPLIANCES.

EXCEPTION: INTERCONNECTION OF FIRE ALARM CONTROL UNITS IS NOT REQUIRED WHEN ALL OF THE FOLLOWING ARE

- 1. BUILDINGS THAT ARE SEPARATED A MINIMUM OF 20 FEET AND IN ACCORDANCE WITH THE CALIFORNIA BUILDING
- 2. THERE IS A METHOD OF TWO WAY COMMUNICATION BETWEEN EACH CLASSROOM AND THE SCHOOL ADMINISTRATIVE OFFICE APPROVED BY THE FIRE ENFORCING AGENCY: AND
- 3. A METHOD OF MANUAL ACTIVATION OF EACH FIRE ALARM SYSTEM IS PROVIDED.

907.2.3.2 ASSEMBLIES LOCATED WITHIN A GROUP E OCCUPANCY. ASSEMBLY OCCUPANCIES WITH AN OCCUPANT LOAD OF LESS THAN 1,000 AND LOCATED WITHIN A GROUP E OCCUPANCY CAMPUS OR BUILDING SHALL BE PROVIDED WITH A FIRE ALARM SYSTEM AS REQUIRED FOR THE GROUP E OCCUPANCY.

907.2.3.3 NOTIFICATION. THE FIRE ALARM SYSTEM NOTIFICATION SHALL COMPLY WITH THE REQUIREMENTS OF SECTION

907.2.3.4 ANNUNCIATION. ANNUNCIATION OF THE FIRE ALARM SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF

907.2.3.5. MONITORING. SCHOOL FIRE ALARM SYSTEMS SHALL BE MONITORED IN ACCORDANCE WITH SECTION 907.6.6.3.

907.2.3.6 AUTOMATIC FIRE ALARM SYSTEM. AUTOMATIC DETECTION SHALL BE PROVIDED IN ACCORDANCE WITH THIS

907.2.3.6.1 SMOKE DETECTORS. SMOKE DETECTORS SHALL BE INSTALLED AT THE CEILING OF EVERY ROOM AND IN 'CEILING-PLENUMS' UTILIZED FOR ENVIRONMENTAL AIR. WHERE THE CEILING IS ATTACHED DIRECTLY TO THE UNDER SIDE OF THE ROOF STRUCTURE, SMOKE DETECTORS SHALL BE INSTALLED ON THE CEILING ONLY.

EXCEPTION: WHERE THE ENVIRONMENTAL OR AMBIENT CONDITIONS EXCEED SMOKE DETECTOR INSTALLATION GUIDELINES, HEAT DETECTORS OR FIRE SPRINKLERS SHALL BE USED.

907.2.3.6.2 HEAT DETECTORS. MULTI-CRITERIA HEAT DETECTORS SHALL BE INSTALLED IN COMBUSTIBLE SPACES WHERE THE SPRINKLERS OR SMOKE DETECTORS ARE NOT INSTALLED.

907.5.2.2 EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS. EMERGENCY VOICE/ALARM COMMUNICATION SYSTEMS REQUIRED BY THIS CODE SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH NFPA 72. THE OPERATION OF ANY AUTOMATIC FIRE DETECTORS, SPRINKLER WATER FLOW DEVICE OR MANUAL FIRE ALARM BOX SHALL AUTOMATICALLY SOUND AN ALERT TONE FOLLOWED BY VOICE INSTRUCTIONS GIVING APPROVED INFORMATION AND DIRECTIONS FOR A GENERAL OR STAGED EVACUATION IN ACCORDANCE WITH THE BUILDING'S FIRE SAFETY AND EVACUATION PLANS REQUIRED

907.5.2.2.1 MANUAL OVERRIDE. A MANUAL OVERRIDE FOR EMERGENCY VOICE COMMUNICATION SHALL BE PROVIDED ON A SELECTIVE AND ALL-CALL BASIS FOR ALL PAGING ZONES.

907.5.2.22 LIVE VOICE MESSAGES. THE EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM SHALL BE ALSO HAVE THE CAPABILITY TO BROADCAST LIVE VOICE MESSAGES BY PAGING ZONES ON A SELECTIVE ALL-CALL BASIS.

907.5.2.23 ALTERNATE USES. THE EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM SHALL BE ALLOWED TO BE USED FOR OTHER ANNOUNCEMENTS, PROVIDED THE MANUAL FIRE ALARM USE TAKES PRECEDENCE OVER ANY OTHER USE.

907.5.2.4. GROUP E SCHOOLS. ONE AUDIBLE ALARM NOTIFICATION APPLIANCE SHALL BE MOUNTED ON THE EXTERIOR OF A BUILDING TO ALERT OCCUPANTS AT EACH PLAYGROUND AREA.

907.6.6.3 GROUP E SCHOOLS. FIRE ALARM SYSTEMS SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION IN ACCORDANCE WITH NFPA 72. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX (CENTRAL STATION) OR UUJS (REMOTE & PROPRIETARY) BY THE UNDERWRITERS LABORATORY INC. (UL) OR OTHER APPROVED LISTING AND TESTING LABORATORY OR SHALL COMPLY WITH THE REQUIREMENTS OF FM 3011.

		VIRE CHART			
SYMBOL	CIRCUIT DESCRIPTION	WIRE IN CONDUIT	UNDERGROUND/ WET SYMBOL	WIRE IN CONDUIT UNDERGROUND/WE	
SBUS 4-WIRE TOTAL	COMM CIRCUIT - POWER	2 CONDUCTOR 2/14 FPL SOLID TWISTED/UNSHIELDED	SBUSU	2 CONDUCTOR 2/14 FPL TWISTED WEST PENN #AQ225	
	COMM CIRCUIT - DATA	2 CONDUCTOR 2/14 FPL SOLID TWISTED/SHIELDED	SBUSU	2 CONDUCTOR 2/14 FPL TWISTED/SHIELDED WEST PENN #AQ295	
VBUS	AMPLIFIER COMM CIRCUIT	2 CONDUCTOR 2/16 FPL SOLID TWISTED/SHIELDED	VBUSU	2 CONDUCTOR 2/16 FPL STRANDED TWISTED/SHIELDED WEST PENN #AQ294	
D	SIGNAL LINE CIRCUIT (SLC)	LINE CIRCUIT (SLC) 2 CONDUCTOR 2/16 FPL SOLID TWISTED/UNSHIELDED		2 CONDUCTOR 2/16 FPL TWISTED/ UNSHIELDED WEST PENN #AQ225	
N	NOTIFICATION APPLIANCE CIRCUIT (NAC)	2 CONDUCTOR 2/12 FPL SOLID TWISTED/UNSHIELDED OR THHN	NN	2 CONDUCTOR 2/12 FPL TWISTED/ UNSHIELDED WEST PENN #AQ227	
S	SPEAKER APPLIANCE CIRCUIT (SAC)	2 CONDUCTOR 2/16 FPL SOLID TWISTED/SHIELDED	SS	2 CONDUCTOR 2/16 FPL STRANDED TWISTED/SHIELDED WEST PENN #AQ294	
Р	SOUNDER BASE POWER CIRCUIT	2 CONDUCTOR 2/16 FPL SOLID TWISTED/UNSHIELDED	PP	2 CONDUCTOR 2/16 FPL TWISTED/ UNSHIELDED WEST PENN #AQ22!	

SEQUENCE O	F O	PER	RAT]	ON					
ACTION	THROUGHOUT BUILDING SOUND GENERAL ALARM	SOUND TROUBLE BUZZER	ACTIVATE ADDRESSABLE MODULE FOR MONITORING	ANNUNCIATE AT PANEL	TRANSMIT TROUBLE SIGNAL FOR ALL APPLICABLE COMPONENTS TO SUPERVISING STATION	TRANSMIT ALARM SIGNAL TO SUPERVISING STATION	ACTIVE REMOTE POWER SUPPLY PANEL (FCPS)	DROP HORN BELL, TONES, SPEEAKERS & VISUAL ALARMS FROM F.A. SYSTEM	SHUT DOWN HVAC UNIT
INDICATING CIRCUIT FAILURE		•		•					
INITIATING CIRCUIT FAILURE		•		•					
AC / BATTERY FAILURE		•		•		•			
F.A. SYSTEM LOW BATTERY		•		•					
SMOKE DETECTORS	•			•		•	•	•	
HEAT DETECTORS	•			•		•	•	•	
CARBON MONOXIDE DETECTOR	•			•		•	•	•	
DUCT DETECTORS	•		•	•	•	•		•	•
ISOLATOR LINE TROUBLE		•		•					
EARTH GROUND FAULT		•			•				
ELECTRICAL ROOM SMOKE	•		•	•		•	•	•	

SCOPE OF WORK:

PROVIDE A NEW EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM FOR THE PLEASANT VALLEY SCHOOL DISTRICT REMODEL. NEW E.V.A.C.S SYSTEM WILL PROVIDE FULL AUTOMATIC COVERAGE (INCLUDING CARBON MONOXIDE DETECTION) AND INTELLIGENT

EXISTING CAMPUS FIRE ALARM CONTROL PANEL WILL BE REPLACED WITH A <u>SILENT KNIGHT IFP-2100ECS</u> FOR THE EXISTING CAMPUS

PROVIDE A FIRE WATCH IF ANY BUILDING IS WITHOUT A FUNCTIONAL FIRE ALARM SYSTEM. NEW FA SYSTEM SHALL BE ACTIVE & APPROVED PRIOR TO DECOMMISSIONING THE EXISTING FA SYSTEM.

GENERAL NOTES:

- 1. APPLICABLE STANDARD 2022 NFPA 72
- 2. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM HAS BEEN APPROVED BY DSA.
- 3. UPON COMPLETION OF THE INSTALLATION OF THE SYSTEMS, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
- 4. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
- 5. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
- 6. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR
- 7. ALL PENETRATIONS THROUGH RATED ASSEMBLIES, REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER LAB TESTING CRITERIA. APPROVED TYPE OF MATERIALS SHALL BE IDENTIFIED WITHIN THE SPECIFICATION WITHIN THE FIRE ALARM SECTION.
- 8. WALL MOUNTED VISUAL NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM
- 9. WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE.
- 10. AUDIBLE DEVICES TO BE AT LEAST 15 DBA ABOVE THE AVERAGE AMBIENT SOUND LEVEL BUT NOT LESS THAN 75 DBA AT 10 FEET OR MORE THAN 110 DBA AT THE MINIMUM HEARING DISTANCE. SOUND LEVEL SHALL BE MAINTAINED FOR DURATION OF AT LEAST 60 SECTIONS 5 DBA MUST BE MAINTAINED.
- 11. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
- 12. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
- 13. VISUAL DEVICES SHOULD NOT EXCEED 2 FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN 1 FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELA. VISUAL DEVICES WITHIN 55' FROM EACH OTHER
- 14. UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVAL FOR WET LOCATIONS.
- 15. ALL FIRE ALARM WIRING SHALL BE FLP OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE THHN OR THWN.
- 16. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE IN UNDERGROUND LOCATIONS. THERE MUST BE AT LEAST 6' OF LEAD WIRE FROM THE BOX TO
- THE DEVICE. ALL BOXES TO BE SIZED PER CEC. 17. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OF CONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM DEVICES SHALL BE COVERED UNTIL
- THAT AREA IS READY TO BE TURNED OVER TO THE OWNER. 18. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OR OPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED
- WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
- 19. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED THE WEIGHT OF 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
- 20. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL". CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
- 21. THE INSTALLING CONTRACTOR SHALL PROVIDE A RECORD OF COMPLETION PER NFPA 72, FIGURE 10.18.2.1.1.
- 22. CONTROL PANELS, REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48".
- 23. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION
- 24. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL
- 25. ALL CEILINGS BASED ON 10' SMOOTH CEILINGS UNLESS OTHERWISE NOTED.

PROJECT DATA:

LIST OF APPLICABLE CODES

2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR

2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR

2022 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR

2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR

2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 CCR

2022 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR

2022 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR

BUILDING

CLASSIFICATION:

A. OCCUPANCY TYPE: E-1 B. CONSTRUCTION TYPE: V-N C. SPRINKLERED: NOT

A. DIVISION OF THE STATE ARCHITECT **AGENCIES:**

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 (CALGREEN), PART 11, TITLE 24 CCR

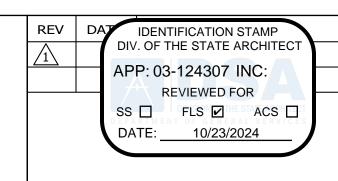
2022 CALIFORNIA REFERENCED STANDARDS CODE, PART 12 TITLE 24 CCR

TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

> A. OCCUPANCY TYPE: A-3 B. CONSTRUCTION TYPE: V-B-MS ONE STORY

C. SPRINKLERED: NOT A. DIVISION OF THE STATE ARCHITECTA



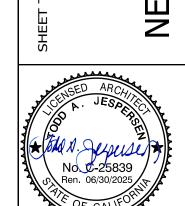
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3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094 FAX (805) 389-6519 PHONE (805) 389-6520 LUCCI & ASSOCIATES, INC. reserve their commonlaw copyright and other property rights in these plans. These plans and drawings are not to be reproduced, changed, or copied in any form or manner whatsoever without first obtaining the expressed written permission

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SHEETS:

INSTALLATION AND MAINTENANCE INSTRUCTIONS Farenhyt™ Series

Honeywell

12 Clintonville Road, Northford, CT 06472-1610

Phone: 203-484-7161 Fax: 203-484-7118

IDP-Monitor Module

SPECIFICATIONS Normal Operating Voltage:

BEFORE INSTALLING

15 to 32 VDC Maximum Current Draw: 5.0 mA (LED on) 375μA (group poll), 350 μA (direct poll), 600 μAmps (communication, IDC shorted) Average Operating Current: 47K Ohms **EOL** Resistance:

Max. IDC wiring resistance: 1,500 Ohms Maximum IDC Voltage: 11 Volts Maximum IDC Current: 450uA 32°F to 120°F (0°C to 49°C) Temperature Range:

 $4^{1}/2$ " H x 4" W x $1^{1}/4$ " D (Mounts to a 4" square by $2^{1}/8$ " deep box.) Dimensions: Accessories: SMB500 Electrical Box

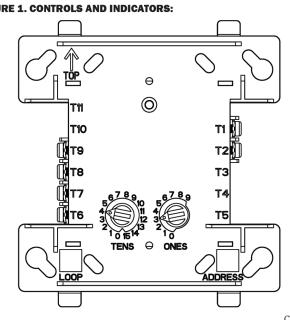
This information is included as a quick reference installation guide. Refer to The IDP-Monitor mounts directly to 4-inch square electrical boxes (see the control panel installation manual for detailed system information. If the Figure 2). The box must have a minimum depth of 2½ inches. Surface modules will be installed in an existing operational system, inform the operamounted electrical boxes (SMB500) are available from Honeywell. tor and local authority that the system will be temporarily out of service. Disconnect power to the control panel before installing the modules. NOTICE: This manual should be left with the owner/user of this equipment. within the control panel enclosure.

GENERAL DESCRIPTION

The IDP-Monitor Module is intended for use in intelligent, two-wire systems. where the individual address of each module is selected using the built-in rotary switches. It provides either a Class A or Class B fault tolerant initiating device circuit (IDC) for normally open contact fire alarm and supervisory devices, or either normally open or normally closed security devices. The module has a panel controlled LED indicator.

To ensure proper operation, this module shall be connected to a compatible Honeywell Farenhyt series system control panel (list available from Honeywell).

FIGURE 1. CONTROLS AND INDICATORS:



arenhyt™ is a trademark of and Honeywell® is a registered trademark of Honeywell International,

NOTE: For UL Listed security installations, the IDP-Monitor must be mounted

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. This module is intended for power limited wiring only. 1. Install module wiring in accordance with the job drawings and appropri-

ate wiring diagrams. Set the address on the module per job drawings. Secure module to electrical box (supplied by installer), as shown in Figure 2.

NOTE: All references to power limited represent "Power Limited (Class 2)".

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The detector will go into alarm if gas entry is successful. It may take up **SYMPTOMS OF CARBON MONOXIDE POISONING** to 1 minute for the device to alarm. Once the detector is in alarm allow Carbon monoxide bonds to the hemoglobin in the blood and reduces the 5 minutes for the CO to clear and exit the detector.

The detector will automatically enable the signal processing after 10 min-

Testing the detector will activate the alarm relay and send a signal to the panel.

Before removing the detector, notify the proper authorities that the smoke detector system is undergoing maintenance and will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent un-

1. Remove the sensor to be cleaned from the system.

2. Remove the sensor cover by pressing firmly on each of the four removal

tabs that hold the cover in place. (See Figure 4.) 3. Vacuum the screen carefully without removing it. If further cleaning is

required continue with Step 4, otherwise skip to Step 7. 4. Remove the chamber cover/screen assembly by pulling it straight out. 5. Use a vacuum cleaner or compressed air to remove dust and debris from

Also young children and pets may be the first to be affected.

the sensing chamber. 6. Reinstall the chamber cover/screen assembly by aligning the arrows on tested to the sensitivity limits defined in UL standard 2034. the top with the two round-top posts on the sensing chamber, and gently pressing it until it fits securely.

7. Replace the cover using the LEDs to align the cover and then gently pushing it until it locks into place. NOTE: Make sure that the thermistors do not become bent under the cover.

8. Reinstall the detector. 9. Test the detector as described in TESTING.

Reconnect disabled circuits. 11. Notify the proper authorities that the system is back on line. **ABOUT CARBON MONOXIDE DETECTORS**

CAUTION: This carbon monoxide detector is designed for indoor use only. **CO SENSOR LIFETIME** Do not expose to rain or moisture. Do not knock or drop the detector. The The CO cell has an expected lifetime of approximately ten years. The detector detector will not protect against the risk of carbon monoxide poisoning if is programmed to signal the approach of end of this lifetime to the control not properly wired. The detector will only indicate the presence of carbon panel. The CO cell is not a field replaceable component. The smoke sensor monoxide gas at the sensor. Carbon monoxide gas may be present in other will continue to operate using other sensing elements (photoelectric, heat and

This carbon monoxide detector is NOT:

• Designed to detect any gas other than carbon monoxide • To be seen as a substitute for the proper servicing of fuel-burning appliances or the sweeping of chimneys.

• To be used on an intermittent basis, or as a portable alarm for the spillage of combustion products from fuel-burning appliances or chimneys. Carbon monoxide gas is a highly poisonous gas which is released when fuels are burnt. It is invisible, has no smell and is therefore impossible to detect with the human senses. Under normal conditions in a room where fuel burning appliances are well maintained and correctly ventilated, the amount of carbon monoxide released into the room by appliances should not be danger-

amount of oxygen being circulated in the body. The following symptoms are examples taken from NFPA 72 and 720. They represent approximate values for healthy adults

Concentration (ppm CO)	Symptoms
200	Mild headache after 2-3 hours of exposure
400	Headache and nausea after 1-2 hours of exposure
800	Headache, nausea, and dizziness after 45 minutes of exposure; collapse and unconsciousness after 2 hours of exposure

Many causes of reported carbon monoxide poisoning indicate that while victims are aware that they are not well, they become so disoriented that they are unable to save themselves by either exiting the building or calling for

Per UL standard 2075, the IDP-FIRE-CO-W and IDP-FIRE-CO-IV has been

ALARM THRESHOLDS ARE AS FOLLOWS:

Detector response time, min. 60-240 10-50 150 ± 5 ppm 400 ± 10 ppm What to do if the carbon monoxide detector goes into alarm:

Immediately move to a spot where fresh air is available, preferably out-IMPORTANT: This detector should be tested and maintained regularly fol-

lowing National Fire Protection Association (NFPA) 720 requirements.

infrared) even though the CO cell is no longer operational. The CO detector will not operate once the CO cell has reached its end of life. **SPECIAL NOTE REGARDING SMOKE DETECTOR GUARDS**

Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.

INSTALLATION AND MAINTENANCE INSTRUCTIONS Farenhyt® Series Black

Honeywell

IDP-FIRE-CO-W and **IDP-FIRE-CO-IV**

Multi-Criteria CO and Smoke Sensor

12 Clintonville Road, Northford, CT 06472-1610 Phone: 203-484-7161 Fax: 203-484-7118

SPECIFICATIONS Operating Voltage Range:

200 uA (one communication every 5 seconds with green LED blink on communication) Operating Current @ 24 VDC: Maximum Alarm Current: 2 mA @ 24 VDC (one communication every 5 seconds with red LED solid on) Maximum Current: 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED solid on) Operating Humidity Range: 15% to 90% Relative Humidity, Non-condensing Operating Temperature Range: 32°F to 100°F (0°C to 38°C)

0 to 4000 ft./min. (0 to 1219.2 m/min.)

2.7" (69 mm) installed in B200S series sounder base 6.875" (175 mm) installed in B200S series sounder bases

Isolator Load Rating: *Please refer to your isolator base/module manual for isolator calculation instruction

UL 2075 listed for Carbon Monoxide UL 268 listed for Open Air Protection UL 521 listed for Heat Detectors

carbon monoxide alarm, it is recommended to install the multi-criteria Jurisdiction. Proper wire gauges should be used. The installation wires should carbon monoxide (CO) and smoke sensors into a B200S series sounder be color-coded to limit wiring mistakes and ease system troubleshooting. velop a proper response plan. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72 and NFPA 720. For a complete list

of compatible bases, refer to the Base/Sensor Cross Reference Chart at systemsensor.com. **GENERAL DESCRIPTION DOES THIS SUPPORT CLIP MODE**

Models IDP-FIRE-CO-W and IDP-FIRE-CO-IV are plug-in type multi-criteria smoke sensors that offer a photoelectric sensing chamber combined with a 4. After all sensors have been installed, apply power to the control panel carbon monoxide (CO) sensor, 135°F (57.2°C) fixed temperature heat detector and infrared (IR) sensors, as well as a carbon monoxide detector. The IDP-FIRE-CO-W and IDP-FIRE-CO-IV also transmit an alarm signal due to heat (135°F/57.2°C) per UL 521.

All sensors transmit an analog representation of smoke and/or carbon monoxide density over a communication line to a control panel. Rotary dial switches are provided for setting the sensor's address. (See Figure 2.)

Two LEDs on the sensor are controlled by the panel to indicate sensor status. An output is provided for connection to an optional remote LED annunciator (P/N RA100Z). Honeywell panels offer different features sets across different models. As a

result, certain features of the photoelectric sensors may be available on some control panels, but not on others. The multi-criteria CO and smoke sensors only support IDP protocol systems. The possible features available in the multi-criteria CO and smoke sensors, if

supported by the control unit are: 1. The sensor's LEDs can operate in three ways—on, off, and blinking—and they can be set to red, green, or amber. This is controlled by the panel 2. The remote output may be synchronized to the LED operation or con-

trolled independent of the LEDs. 3. Devices are point addressable up to 159 addresses.

Please refer to the operation manual for the UL listed control panel for specific operation. The photoelectric sensors require compatible addressable com-

munications to function properly. Connect these sensors to listed-compatible control panels only.

Honeywell recommends spacing sensors in compliance with NFPA 72. In low air flow applications with smooth ceilings, space sensors 30 feet apart (9.1 m). For specific information regarding sensor spacing, placement, and special ap-

plications, refer to NFPA 72 or the System Smoke Detector Application Guide, available from Honeywell

WIRING GUIDE This sensor must be installed in compliance with the control panel system installation manual. For local audible indication of a fire and/or applicable local codes, and any special requirements of the Authority Having

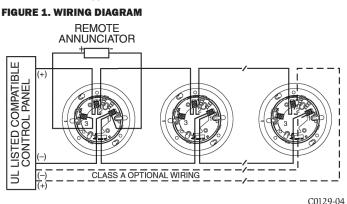
base. If a local audible device is not used, care should be taken to de-

Remove power from the communication line before installing sensors. Wire the sensor base (supplied separately) per the base wiring diagram.

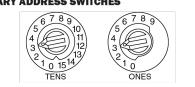
Set the desired address on the sensor address switches. (See Figure 2.) 3. Install the sensor into the sensor base. Push the sensor into the base while turning it clockwise to secure it in place.

and activate the communication line

Test the sensor(s) as described in the TESTING section of this manual.



of connections.



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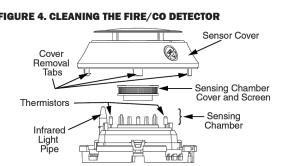


SPECIAL APPLICATION When configured at the fire alarm control panel, this detector is capable of op-

Suitable environments for special application mode could include early warning for hospitals, museums, assisted living and other areas that do not have airborne particulate or aerosols.

Refer to the fire alarm control panel documentation for information on how to

configure the detector for special application mode.



TAMPER RESISTANCE

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to

manufacturer's published instructions for proper use.

The sensor can be tested in the following ways:

A. Functional: Magnet Test (P/N M02-04-01 or M02-09-00) This sensor can be functionally tested with a test magnet. The test magnet electronically simulates smoke in the sensing chamber, testing the sensor electronics and connections to the control panel.

when the detector's signal processing software routines are not active.

The multi-criteria CO and smoke sensor uses algorithms to process sig-

isolate the individual sensors for testing. The device can be placed into test mode through either of the following methods.

NOTE: If the magnet is held in place for too long the fire alarm test function will be triggered. (See Magnet Test, above.) Reset the panel and proceed with testing the smoke entry portion of the device.

b. Perform smoke entry testing immediately following the magnet test. The magnet test initiates an approximately 10 minute period when the detector's signal processing software routines are not active. Once in test mode, test the smoke detector using one of the tested and approved aerosol smoke products. Refer to the manufacturer's published instructions for proper use of the canned smoke agent. When used properly, the canned smoke agent will cause the smoke detector to go into alarm.

Tested and approved aerosol smoke products include: 25S, 30S (PURCHECK) SMOKE CENTURION, SOLOA10, SMOKESABRE, TRUTEST, SOLO 365

TESTIFIRE 2000

Canned aerosol simulated smoke (canned smoke agent) formulas will vary by manufacturer. Misuse or overuse of these products may have long term adverse effects on the smoke detector. Consult the canned smoke agent manufacturer's published instructions for any further warnings or caution statements.

A hair dryer of 1000-1500 watts should be used to test the thermistors. Direct the heat toward the thermistor, holding the heat source approximately 12 inches (30 cm) from the detector in order to avoid damaging the plastic housing. The detector will reset only after it has had sufficient

time to cool. Make sure both thermistors are tested individually.

D. Multi-Criteria Testing Testifire® by SDi provides testing of the smoke, heat and CO sensors. Consult the manufacturer's published instructions for complete usage instructions. A sensor that fails any of these tests may need to be cleaned as described under CLEANING, and retested. When testing is complete, restore the system

NOTE: Check with local codes and the AHJ to determine whether or not a functional gas test is desired for an installation.

A canned CO testing agent may be used to verify the detector's ability to sense CO. Carbon Monoxide alarm thresholds are designed around CO concentrations over time, as defined in UL standard 2034. Therefore, a single burst of CO test agent will not immediately place the detector into an alarm condition. In order to perform functional testing of the CO sensor, the device must be placed into test mode. Test mode eliminates the time and concentration requirements needed for alarm and allows the CO sensor to be tested. The device can be placed into test mode through

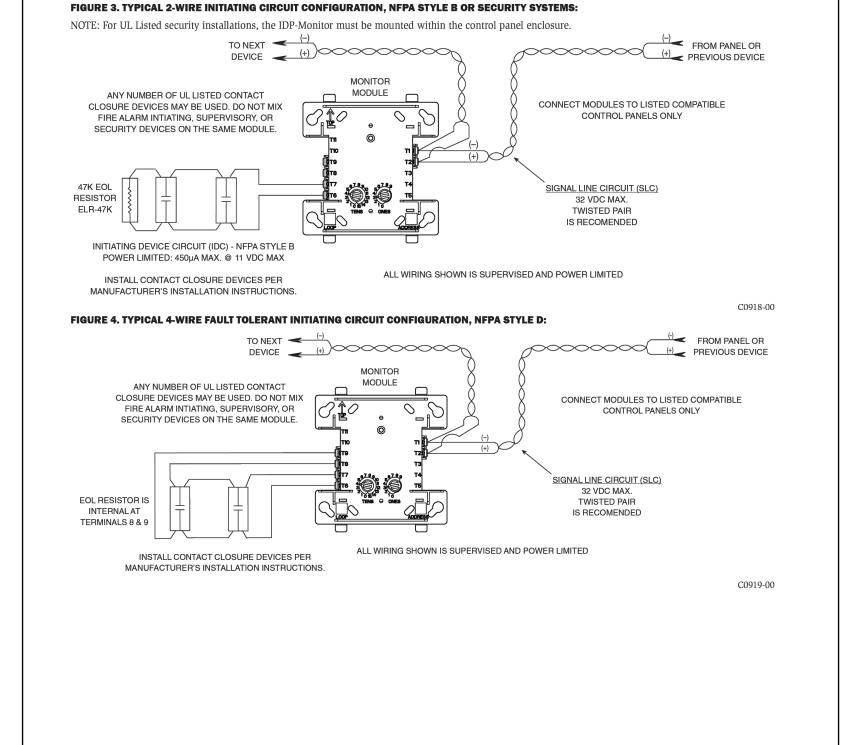
a. Put the device into test mode by holding a test magnet in the magnet test area as shown in Figure 3 for 6-12 seconds. NOTE: If the magnet is held in place for too long the fire alarm test func-

tion will be triggered. Reset the panel and proceed with testing the CO b. Perform functional gas entry testing immediately following the magnet test. The magnet test initiates an approximately 10 minute period when

the detector's signal processing software routines are not active. Once in test mode, test the CO sensor using a tested and approved canned CO testing agent. A tested and approved canned CO testing agent is Solo detector testers model C6 CO Detector Tester available from SDi. Complete the CO sensor testing as follows:

Spray a UL approved CO agent into the top of the detector near the CO sensor opening for at least 1 second. CO sensor opening is indicated by a triangle on the sensor cover. (See Figure 3.) Use the applicator straw included with the CO agent to more efficiently direct the CO into the detection cell during testing.

SHEET:



erating in a special application mode such that it has a higher sensitivity than is normally allowed by UL 268 for areas where early warning is important. In this mode, the detector does not comply with the Cooking Nuisance Smoke Test. Detectors (Sampling ports) set to the special application mode are not suitable for use in areas where cooking appliances may be used. If cooking appliances are used within the protected space, a normal application detector or normal application mode must be used for that area.

particulate sources is available in the Annex of NFPA 72.

It is the responsibility of the system owner to

panels, wiring etc., are adequately protected to

avoid tampering of the system that could result in information disclosure, spoofing, and integrity

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all-inclusive, some examples of unsuitable environments for special application mode are areas with airborne particulate or aerosols including sawing, drilling, and grinding operations, textile or agricultural processing, or areas with engines that are not vented to the outside. A complete list of aerosol and

Special application mode is not for general use and the detector may be more prone to false alarms if used in unsuitable environments. While no list is

Please refer to insert for the Limitations of Fire Alarm Systems

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference,

Before installing this product ensure that the

are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio with since leaving the factory. Do not install this

requency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there product if there are any indications of tampe

which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following should be returned to the point of purchase.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits

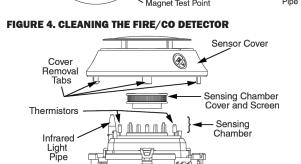
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Increase the separation between the equipment and receiver.

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FIGURE 3. FEATURES OF THE FIRE/CO DETECTOR



Dust covers provide limited protection against airborne dust particles during shipping. Dust covers must be removed before the sensors can sense smoke. C. Direct Heat Method (Hair Dryer of 1000-1500 watts) Remove sensors prior to heavy remodeling or construction.

Models IDP-FIRE-CO-W and IDP-FIRE-CO-IV include a tamper-resistant capability that prevents removal from the base without the use of a tool. Refer to the base manual for details on making use of this capability.

All sensors must be tested after installation and periodically thereafter. Test- to normal operation and notify the proper authorities that the system is back ing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors in operation offer maximum performance when tested and maintained in compliance with E. Functional Gas Test NFPA 72. Sensitivity readings are available through the FACP. Refer to the

b. The sensor should alarm the panel. Two LEDs on the sensor are controlled by the panel to indicate sensor status. Coded signals, transmitted from the panel, can cause the LEDs to blink, latch on, or latch off. Refer to the control panel technical documentation for sensor LED status operation and expected delay to alarm. NOTE: The magnet test initiates an approximately 10 minute period

a. Hold the test magnet in the magnet test area as shown in Figure 3.

B. Smoke Entry Canned aerosol simulated smoke (canned smoke agent) may be used for smoke entry testing of the smoke detector.

nals received from multiple sensors to determine alarm conditions and reduce false alarms. Therefore, a single burst of canned smoke will not immediately place the detector into an alarm condition because the detector algorithms correctly determine a burst of canned smoke is not fire. In order to perform functional testing of the photoelectric sensor, the device must be placed into test mode. Test mode allows the detector to

a. Put the device into test mode by holding a test magnet in the magnet test area as shown in Figure 3 for 6-12 seconds.

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IDENTIFICATION STAME DIV. OF THE STATE ARCHITEC APP: 03-124307 INC: **REVIEWED FOR** SS ☐ FLS ☑ ACS ☐

LUCCI i is is a subsisted list. CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511

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INSTALLATION AND MAINTENANCE INSTRUCTIONS Farenhyt® Series Black

Honeywell

. Wire the sensor base (supplied separately) as shown in the wiring

2. Set the desired address on the sensor address switches. (See Figure 1.)

Install the sensor into the sensor base. Push the sensor into the base while

4. After all sensors have been installed, apply power to the control panel and

Oust covers provide limited protection against airborne dust particles during

CAUTION: Do not loop wire under

terminal 1 or 2. Break wire run to

hipping. Dust covers must be removed before the sensors can sense smoke.

ntelligent photoelectric smoke sensors include a tamper-resistant capability

that prevents their removal from the base without the use of a tool. Refer to

5. Test the sensor(s) as described in the TESTING section of this manual.

IDP-PHOTO-W and **IDP-PHOTO-IV**

Intelligent Photoelectric Smoke Sensors

SPECIFICATIONS Operating Voltage Range:

Maximum Alarm Current: Maximum Current: Operating Humidity Range:

200 uA (one communication every 5 seconds with green LED blink on communication) Operating Current @ 24 VDC: 2 mA @ 24 VDC (one communication every 5 seconds with red LED solid on) 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED solid on) 10% to 93% Relative Humidity, Non-condensing Operating Temperature Range: 32°F to 122°F (0°C to 50°C) Air Velocity: 0 to 4000 ft./min. (0 to 1219.2 m/min.)

2.0" (51 mm) installed in B300-6 Base

WIRING GUIDE

diagram. (See Figure 2.)

turning it clockwise to secure it in place

activate the communication line.

6.2" (156 mm) installed in B300-6 Base; 4.1" (104 mm) installed in B501 Base Diameter: Isolator Load Rating:

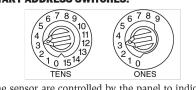
*Please refer to your isolator base/module manual for isolator calculation instruction

UL 268 listed for Open Air Protection. UL268A listed for Duct Applications

All wiring must be installed in compliance with the National Electrical Code. This sensor must be installed in compliance with the control panel system applicable local codes, and any special requirements of the Authority Having installation manual. The installation must meet the requirements of the AuJurisdiction. Proper wire gauges should be used. The installation wires should thority Having Jurisdiction (AHJ). Sensors offer maximum performance when be color-coded to limit wiring mistakes and ease system troubleshooting. Iminstalled in compliance with the National Fire Protection Association (NFPA); proper connections will prevent a system from responding properly in the see NFPA 72. Remove power from the communication line before installing sensors. **GENERAL DESCRIPTION**

Models IDP-PHOTO-W and IDP-PHOTO-IV are plug-in type smoke sensors that combine a photoelectronic sensing chamber with addressable-analog commu-The sensors transmit an analog representation of smoke density over a communication line to a control panel. Rotary dial switches are provided for set-

ting the sensor's address. (See Figure 1.)



Remove sensors prior to heavy remodeling or construction. Two LEDs on the sensor are controlled by the panel to indicate sensor status. An output is provided for connection to an optional remote LED annunciator **FIGURE 2. WIRING DIAGRAM:**

Honeywell Farenhyt panels offer different feature sets across different models. As a result, certain features of the photoelectric sensors may be available on some control panels, but not on others. These devices support IDP protocol mode. The possible features available if supported by the control panel in-

- 1. The sensor's LEDs can operate in three ways—on, off, and blinking-and they can be set to red, green, or amber. This is controlled by the panel. 2. The remote output may be synchronized to the LED operation or controlled independent of the LEDs.
- 3. Devices are point addressable up to 159 addresses. Please refer to the operation manual for the UL listed control panel for specific operation. The photoelectric sensors require compatible addressable communications to function properly. Connect these sensors to listed-compatible control panels only.

Honeywell recommends spacing sensors in compliance with NFPA 72. In low the base manual for details on making use of this capability. air flow applications with smooth ceilings, space sensors 30 feet apart (9.1 m). For specific information regarding sensor spacing, placement, and special applications, refer to NFPA 72 or the System Smoke Detector Application Guide, available from Honeywell. Duct Applications: IDP-PHOTO-W and IDP-PHOTO-IV are listed for use in

ducts. See Duct Smoke Detectors Applications Guide HVAG53 for details on pendant mount applications. NOTE: Intelligent photoelectric smoke sensors are also listed for use inside DNR(W) duct smoke detectors.

12 Clintonville Road, Northford, CT 06472-1610 Phone: 203-484-7161 Fax: 203-484-7118



System Sensor notification appliances come with a shorting spring that is pro-

final product. (See Figure 7.) This spring will automatically disengage when

the product is installed, to enable supervision of the final system.

System Sensor offers a wide range of power settings for your life safety needs, including ¼, ½, 1, and 2W.

Sound levels data per UL 1480 can be found in Table 3. TABLE 3. SOUND LEVELS FOR EACH TRANSFORMER POWER SETTING

Setting	UL Reverberant (dBA @10 ft)	UL Anechoic (dBA @10 ft)
½ W	77	77
½ W	80	80
1 W	83	83
2 W	86	86

Signal levels exceeding 130% rated signal voltage can damage the speaker. Consequently, an incorrect tap connection may cause speaker damage. This means that if a 25V tap is selected when a 70.7V amplifier is being used, speaker damage may result. Therefore, be sure to select the proper taps for the amplifier voltage/input power level combination being used.

MOUNTING AND REMOVNG APPLIANCE 1. Attach mounting plate to junction box using two of the provided Philips

head screws. (See Figures 8 and 9.) 2. Connect field wiring according to terminal designations. (See Figure 5.) cover to prevent contamination of the wiring terminals on the mounting screw (sold separately).

4. To attach product to mounting plate: a. Remove the protective dust cover.

b. Hook the tabs on the top of the product housing into the grooves on mountc. Pivot the product into position to engage the terminals on the mounting plate. Make sure that the tabs on the back of the product housing fully en-

gage with the mounting plate. d. Hold product in place with one hand, and secure product by tightening the single mounting screw in the front of the product housing. Ceiling Models only: To remove product from the mounting plate, press the

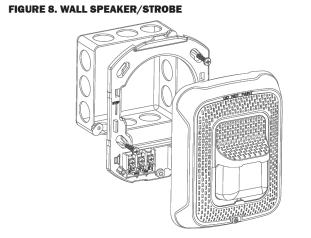
ACAUTION | The "hold in place" snaps are not intended to secure the product to the back box. The product must be secured to the back box using the screws provided.

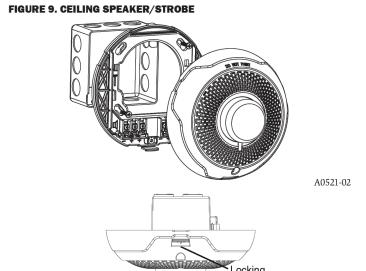
locking button after loosening the captive mounting screw.

Factory finish should not be altered: Do not paint!

ACAUTION vided between terminals 2 and 3 of the mounting plate to enable system con-

tinuity checks after the system has been wired, but prior to installation of the to flex.





TAMPER SCREW 3. If the product is not to be installed at this point, use the protective dust

For tamper resistance, the standard captive screw may be replaced with a Torx

> 1. To remove the captive screw, back out the screw and apply pressure to the UL 1480 and NEC 760 back of the screw until it disengages from the housing. Replace with Torx screw. (See Figure 10.)

> > A0502-01



1. The surface mount back box may be secured directly to the wall or ceiling. Use of grounding bracket with ground screw is optional. (See Figures 11 and 12.) 2. The wall mount box must be mounted with the up arrow pointing up. (See NOTE: Ceiling Surface Mount Back Box SBBCR/CWL is a common back box

for ceiling horn strobes, strobes and ceiling speakers and speaker strobes. Use 156-0002-002

INSTALLATION AND MAINTENANCE INSTRUCTIONS

Selectable Output Speaker Strobes - Wall and Ceiling Mount

For use with the following models: Wall Speakers: SPSRL, SPSWL, SPSRL-P, SPSWL-P, SPSRL-SP, SPSWL-CLR-ALERT Ceiling Speakers: SPSCRL, SPSCWL, SPSCWL-P, SPSCWL-SP, SPSCWL-CLR-ALERT

,,,,,,	
PRODUCT SPECIFICATIONS	
Standard Operating Temperature:	32°F to 120°F (0°C to 49°C)
Humidity Range:	10 to 93% Non-condensing
Nominal Voltage (speakers):	25 Volts or 70.7 Volts
Maximum Supervisory Voltage:	50 VDC
Speaker Frequency Range:	400 – 4000 Hz
Power Settings:	1/4, 1/2, 1, 2 Watts
Input terminal wire gauge:	12 to 18 AWG
Strobe Flash Rate:	1 flash per second
Nominal Voltage (strobes):	Regulated 12VDC, regulated 24VDC or FWR
Operating Voltage Range (includes fire alarm panels with built in sync):	8 to 17.5V (12V nominal) or 16 to 33V (24V nominal)
Operating Voltage with MDL3 Sync Module:	8.5 to 17.5V (12V nominal) or 16.5 to 33V (24V nominal)

SSORIES				
Length	Width		Depth	
6.5" (165 mm)	5.00" (127 mm)		27 mm) 2.30" (58.4 mm)	
Length	Width		Depth	
6.8" (173 mm)	N/A		2.87" (73mm)	
Length	Width		Depth	
6.62" (168mm)	5.12" (130 mm)		2.30" (58.4 mm)	
Diameter			Depth	
6.92" (176 m	m)	5.	37" (116mm)	
	Length 6.5" (165 mm) Length 6.8" (173 mm) Length 6.62" (168mm) Diameter	Length Wi 6.5" (165 mm) 5.00" (1 Length Wi 6.8" (173 mm) N, Length Wi 6.62" (168mm) 5.12" (1	Length Width 6.5" (165 mm) 5.00" (127 mm) Length Width 6.8" (173 mm) N/A Length Width 6.62" (168mm) 5.12" (130 mm) Diameter	

SBBSPRL/WL (wall), SBBCRL/WL (ceiling). 4" x 4" x 21/8" or deeper (When using 12AWG, 14 AWG, or adding extra wires in the box, a deeper box or extension ring is recommended.)

IOUNTING BOX OPTIONS

SPEAKER STROBES

800/736-7672, FAX: 630/377-6495

www.systemsensor.com

NOTICE: This manual shall be left with the owner/user of this equipment. **BEFORE INSTALLING**

provides detailed information on speaker notification devices, wiring and with NFPA 72, ANSI/UL 1480 and NEC 760. special applications. Copies of this manual are available from System Sensor. NFPA 72 and NEMA guidelines should be observed. System Sensor also recommends installing fire alarm speakers in compliance with NFPA 72, ANSI/

Important: The notification appliance used must be tested and maintained following NFPA 72 requirements.

one of four input power levels. Our speaker strobes are suitable for dry and 24 volt applications. damp environments. These products are electrically backwards compatible with previous generation of System Sensor speaker strobes. With its low total harmonic distortion, the System Sensor SPL series offers high fidelity sound

Speakers Strobes are public mode notification appliances intended to alert occupants of a life safety event. The speaker is listed to ANSI/UL 1480 (public mode) and the strobe is listed to ANSI UL 1638 (public mode).

FIRE ALARM SYSTEM CONSIDERATION

Please read the System Sensor Voice Evacuation Application Guide, which System Sensor also recommends installing fire alarm speakers in compliance

The system designer must make sure that the total current drawn by the devices on the loop does not exceed the current capability of the panel supply, and that the last device on the circuit is operated within its rated voltage. The current draw information for making these calculations can be found in the tables within this manual. For convenience and accuracy, use the voltage drop calculator on the System Sensor website (www.systemsensor.com).

System Sensor series of notification appliances offer a wide range of audible When calculating the voltage for the last device, it is necessary to consider and visible devices for life safety notification. Our indoor speaker strobes the voltage drop due to the resistance of the wire. The thicker the wire, the come with 7 field selectable candela setting. The strobe portion is designed smaller the voltage drop. Note that if Class A wiring is installed, the wire to be used in 12 VDC, 24VDC, or 24V FWR (full wave rectified) systems. The length may be up to twice as long as it would be circuits that are not fault speaker is designed to be used at either 25 or 70.7 volts, and operate at any tolerant. The total number of strobes on a single NAC must not exceed 69 for

AVAILABLE CANDELA SETTINGS System Sensor offers a wide range of candela settings for your life safety

needs. In order to select your candela output, adjust the slide switch on the rear of the product to the desired candela setting on the selector switch. (See

The candela setting can also be verified by looking into the small window on the front of the unit. See Tables 1 and 2 for candela settings for wall and ceiling products. All products meet the light output profiles specified in the appropriate UL Standards. (See Figures 2-4.)

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to

prevent unwanted alarms. All sensors must be tested after installation and periodically thereafter. Test- 8. Reinstall the detector. ing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with

The sensor can be tested in the following ways:

A. Functional: Magnet Test (P/N M02-04-01 or M02-09-00) electronically simulates smoke in the sensing chamber, testing the sensor tion has been evaluated and found suitable for that purpose. electronics and connections to the control panel. 1. Hold the test magnet in the magnet test area as shown in Figure 3.

2. The sensor should alarm the panel. Two LEDs on the sensor are controlled by the panel to indicate sensor status. Coded signals, transmitted from the panel, can cause the LEDs to blink, latch on, or latch off. Refer to the control panel technical documentation for sensor LED status operation and expected delay to alarm.

B. Smoke Entry Sensitivity readings are available through the FACP. Refer to the manufacturer's published instructions for proper use. Additionally, canned aerosol simulated smoke (canned smoke agent) may be used for smoke entry testing of the smoke detector. Tested and ap-

Manufacturer	Model
HSI Fire & Safety	25S, 30S (PURCHECK)
SDi	SMOKE CENTURIAN, SOLOA4 SMOKESABRE, TRUTEST
No Climb	TESTIFIRE 2000

proper use of the canned smoke agent.

Canned aerosol simulated smoke (canned smoke agent) formulas will vary SPECIAL APPLICATION by manufacturer. Misuse or overuse of these products may have long term When configured at the fire alarm control panel, this detector is capable of opadverse effects on the smoke detector. Consult the canned smoke agent manuerating in a special application mode such that it has a higher sensitivity than facturer's published instructions for any further warnings or caution statements. is normally allowed by UL 268 for areas where early warning is important. In

A sensor that fails any of these tests may need to be cleaned as described Test. Detectors (Sampling ports) set to the special application mode are not When testing is complete, restore the system to normal operation and notify appliances are used within the protected space, a normal application detector the proper authorities that the system is back in operation.

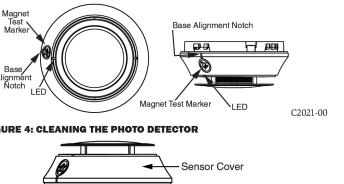
Before removing the detector, notify the proper authorities that the smoke detector system is undergoing maintenance and will be temporarily out of service. Disable the zone or system undergoing maintenance to prevent unwanted alarms.

- Remove the sensor to be cleaned from the system. 2. Remove the sensor cover by pressing firmly on each of the four removal tabs that hold the cover in place. (See Figure 4.) 3. Vacuum the screen carefully without removing it. If further cleaning is
- required continue with Step 4, otherwise skip to Step 7. 4. Remove the chamber cover/screen assembly by pulling it straight out. 5. Use a vacuum cleaner or compressed air to remove dust and debris from

- 6. Reinstall the chamber cover/screen assembly by sliding the edge over the sensing chamber. Turn until it is firmly in place. Replace the cover using the LEDs to align the cover and then gently push-
- 9. Test the detector as described in TESTING.

11. Notify the proper authorities that the system is back on line.

This sensor can be functionally tested with a test magnet. The test magnet Smoke detectors are not to be used with detector guards unless the combina-



— Sensing Chamber

Suitable environments for special application mode could include early warning for hospitals, museums, assisted living and other areas that do not have airborne particulate or aerosols. Refer to the fire alarm control panel documentation for information on how to configure the detector for special application mode.

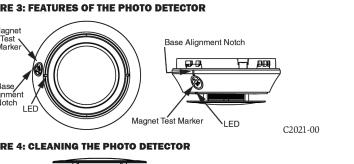
Please refer to insert for the Limitations of Fire Alarm Systems

FCC STATEMENT	
of the FCC Rules. Operation is subject to the following two conditions:	(
ny interference received, including interference that may cause undesire	ed

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio with since leaving the factory. Do not install this frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio or munications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following should be returned to the point of purchase Increase the separation between the equipment and receiver.

It is the responsibility of the system owner to ensure that all system components, i.e. devices, panels, wiring etc., are adequately protected to avoid tampering of the system that could result in information disclosure, spoofing, and integrity

SPECIAL NOTE REGARDING SMOKE DETECTOR GUARDS



this mode, the detector does not comply with the Cooking Nuisance Smoke suitable for use in areas where cooking appliances may be used. If cooking or normal application mode must be used for that area. Special application mode is not for general use and the detector may be more prone to false alarms if used in unsuitable environments. While no list is all-inclusive, some examples of unsuitable environments for special application mode are areas with airborne particulate or aerosols including sawing, drilling, and grinding operations, textile or agricultural processing, or areas with engines that are not vented to the outside. A complete list of aerosol and particulate sources is available in the Annex of NFPA 72.

This device may not cause harmful interference,
 Before installing this product ensure that the

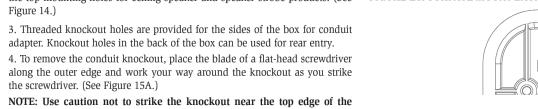
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

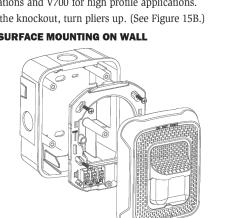
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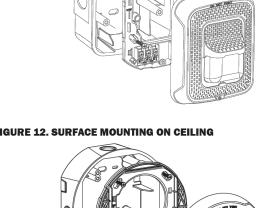
the top mounting holes for ceiling speaker and speaker strobe products. (See FIGURE 13. SURFACE MOUNT BACK BOX UP ARROW

FIGURE 14. CEILING INSTALLATION WITH A SURFACE MOUNT BACK

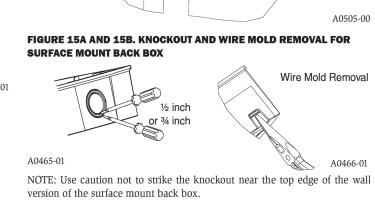


5. V500 and V700 raceway knockouts are also provided. Use V500 for low **BOX: KEY HOLE PATTERN** profile applications and V700 for high profile applications. 6. To remove the knockout, turn pliers up. (See Figure 15B.) FIGURE 11. SURFACE MOUNTING ON WALL









Naways make sure that the individual speakers are tested after installation per NFPA reguages. The speaker may not be heard if it is placed on a different floor from the person in lations. The speakers may not be heard. The loudness of the speaker meets (or exceeds) hazard or if placed too far away to be heard over the ambient noise such as traffic, air current Underwriters Laboratories' standards. However, the speaker may not alert a conditioners, machinery or music appliances that may prevent alert persons from hearing sound sleeper or one who has recently used drugs or has been drinking alcoholic bever- the alarm. The speaker may not be heard by persons who are hearing impaired.

FCC STATEMENT

System Sensor speakers have been tested and found to comply with the limits for a radio frequency energy and, if not installed and used in accordance with the instruction Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed manual, may cause harmful interference to radio communications. Operation of this to provide reasonable protection against harmful interference when the equipment is equipment in a residential area is likely to cause harmful interference in which case the operated in a commercial environment. This equipment generates, uses, and can radiate user will be required to correct the interference at his own expense.

System Sensor® is a registered trademark of Honeywell International, Inc

For the latest Warranty information, please go to: http://www.systemsensor.com/en-us/Documents/E56-4000.pdf For Limitations of Fire Alarm Systems, please go to: http://www.systemsensor.com/en-us/Documents/I56-1558.pdf Speakers only: For the latest Important Assembly Information, please go to: http://www.systemsensor.com/en-us/Documents/I56-6556.pdf







Speakers Only: Assembly Information

©2018 System Sensor. 12/10/2018

FIGURE 1. CANDELA SELECTOR



CURRENT DRAW AND AUDIBILITY RATINGS For the strobe, the current draw for each setting is listed in Tables 1 and 2.

NOTE: Products set at 15 and 30

candela automatically work on ei-

ther 12V or 24V power supplies.

The products are not listed for

DISPERSION. WALL TO FLOOR

12V DC operation when set to any

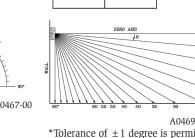
TABLE 1. WALL-MOUNT STROBE CURRENT DRAW (mA)

				1
Candela	8-17.5 Volts	16-33	Volts	
	DC	DC	FWR	
15	88	43	60	
30	143	63	83	NOTE: Products set a
75	-	107	136	candela automatically
95	-	121	155	ther 12V or 24V pov
110	-	148	179	The products are no
135	-	172	209	12V DC operation wh
185	-	222	257	other candela settings.
TABLE 2. C	EILING-	MOUNT	STROBE	CURRENT DRAW (mA)
Candela	8-17.5 Volts	16-33	Volts	
	DC	DC	FWR	
15	87	41	60	

HORIZONTAL DISPERSION

to the left

either 12V or 24V power supplies. The products are not listed for 12V candela settings.



*Tolerance of ±1 degree is permitted.

I56-0002-002

WIRING AND MOUNTING

All wiring must be installed in compliance with the National Electric Code and the local codes as well as the authority having jurisdiction. Wiring must not be of such length or wire size which would cause the notification appliance to operate outside of its published specifications. Improper connections can prevent the system from alerting occupants in the event of an emergency. Wire sizes up to 12 AWG (2.5 mm²) may be used with the mounting plate. The mounting plate ships with the terminals set for 12 AWG wiring. Make wire connections by stripping about 3/8" of insulation from the end of

NOTE: Products set at 15 and 30 plate and tighten the clamping plate screw. candela automatically work on See Figure 5 for wiring terminals and strip guide reference. 1. Connect the speaker. (See Figure 5.) DC operation when set to any other

2. There are two rotary switches on the back of the product. The first switch is used to select either 25 or 70.7 volts input and the second switch is used to

select the input power of ¼, ½, 1 or 2 watts. (See Figure 6.)

the wire. Then slide the bare end of the wire under the appropriate clamping

Wiring Terminals NOTE: Do not loop electrical wiring un-

. Positive (+). Line in and out | the device to the control panel must be

Positive (+). Line in and out broken at the device terminal connec-

tion in order to maintain electrical su FIGURE 6. SPEAKER WATTAGE AND VOLTAGE SETTING

ler terminal screws. Wires connecti

I56-0002-002

IDENTIFICATION STAME DIV. OF THE STATE ARCHITEC APP: 03-124307 INC: **REVIEWED FOR** SS ☐ FLS ☑ ACS ☐

LUGGI & NASUGINTES ING. CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094

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STAMP





DRAWN: LK/MW CHECKED: K. LUCCI 10-04-2024 SCALE: AS NOTED 19753-07 SHEET:

SHEETS:

Copyright Lucci and Associates Consulting Electrical Engineers. Deviations from this drawing will not be made without their expressed written permission. L.A.I.# 19753-07 PAPER SIZE 36"x24"

Farenhyt™ Series **IDP-Relay SPECIFICATIONS** Normal Operating Voltage: Maximum Current Draw: Average Operating Current: **EOL Resistance:** Temperature Range: Humidity: Dimensions:

INSTALLATION AND MAINTENANCE INSTRUCTIONS

12 Clintonville Road, Northford, CT 06472-1610 Phone: 203-484-7161 Fax: 203-484-7118

Honeywell

6.5 mA (LED on) 230μA direct poll; 255μA group poll Not used 32°F to 120°F (0°C to 49°C) 10% to 93% Non-condensing

15 to 32 VDC

4.675" H x 4.275" W x 1.4" D (Mounts to a 4" square by 21/8" deep box.) SMB500 Electrical Box Accessories:

RELAY CONTACT RATINGS:

CURRENT RATING	MAXIMUM VOLTAGE	LOAD DESCRIPTION	APPLICATION
2 A	25 VAC	PF = 0.35	NON-CODED
3 A	30 VDC	RESISTIVE	NON-CODED
2 A	30 VDC	RESISTIVE	CODED
0.46 A	30 VDC	(L/R = 20MS)	NON-CODED
0.7 A	70.7 VAC	PF = 0.35	NON-CODED
0.9 A	125 VDC	RESISTIVE	NON-CODED
0.5 A	125 VAC	PF = 0.75	NON-CODED
0.3 A	125 VAC	PF = 0.35	NON-CODED

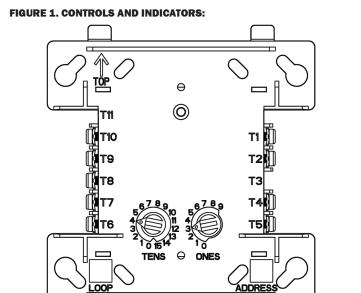
BEFORE INSTALLING

This information is included as a quick reference installation guide. Refer to the appropriate Honeywell Farenhyt series control panel installation manual for detailed system information. If the modules will be installed in an existing operational system, inform the operator and local authority that the system will be temporarily out of service. Disconnect power to the control panel before installing the modules.

NOTICE: This manual should be left with the owner/user of this equipment. **GENERAL DESCRIPTION**

The IDP-Relay is intended for use in intelligent, two-wire systems where the individual address of each module is selected using the built-in rotary switches. It allows a compatible control panel to switch discrete contacts by code command. The relay contains two isolated sets of Form-C contacts, which operate as a DPDT switch and are rated in accordance with the table in the manual. Circuit connections to the relay contacts are not supervised by the module. The module also has a panel controlled LED indicator.

To ensure proper operation, this module shall be connected to a compatible Honeywell Farenhyt series system control panel (list available from



The IDP-Relay mounts directly to 4-inch square electrical boxes (see Figure 2A). The box must have a minimum depth of $2^{1}/8$ inches. Surface mounted electrical boxes (SMB500) are available from Honeywell. The module can also mount to the SK-DUCT or DNR(W) housing.

C0151-00

156-2722-00R

Figure 3. Views showing position of test magnet

NOTE: Before cleaning notify the proper authorities that the system is undergoing maintenance, and therefore the system

It is recommended that the sensor be removed from its mounting base for easier cleaning and that sensors be cleaned at

will temporarily be out of service. Disable the loop or system undergoing maintenance to prevent unwanted alarms.

least once a year. Use a vacuum cleaner to remove dust from the sensing chamber.

TEST MAGNET

MAINTENANCE

K200-06-00

by Honeywell

Installation and Maintenance Instructions for IDP-Heat, IDP-Heat-ROR, and IDP-Heat-HT Intelligent **Plug-In Temperature Sensors**

SPECIFICATIONS

6.1 inches (155mm) installed in IDP-6AB 4.1 inches (104mm) installed in B501 2.0 inches (51mm) 4.8 ounces (137 gm) -4° F to 100°F (-20° C to 8°C); Installation Temperature: IDP-Heat and IDP-Heat-ROR

 -4° F to 150°F (-20° C to 66°C); IDP-Heat-HT Operating Humidity Range: 10% to 93% Relative Humidity Non-condensing IDP-6AB flanged base

B501 flange less base 15 to 32 Volts DC Peak Voltage Range: 300 μA @ 24 VDC Standby Current: LED Current: 6.5 mA @ 24 VDC Fixed Temperature Rating: 135°F (57°C); IDP-Heat

and IDP-Heat-ROR 190°F (88°C); IDP-Heat-HT Rate-of-Rise Detection: Responds to greater than 15°F/min.; IDP-Heat-ROR

This sensor must be installed in compliance with the control panel system installation manual. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72. Before installing sensors, please read the system wiring

and installation manual thoroughly. This manual provides detailed information on sensor spacing, placement, zoning, and special applications. Copies of these manuals are available from Silent Knight.

K200-06-00

A. Test Magnet (Model No. M02-04 - optional)

1. Place the optional test magnet against the cover

2. The LEDs should latch on within 10 seconds, indicating alarm and annunciating the panel. 3. Reset the detector at the system control panel. B. Direct Heat Method (Hair dryer of 1000–1500 watts) 1. From the side of the detector, direct the heat toward the sensor. Hold the heat source about 6 inches (15 cm) away to prevent damage to the cover during

in the magnet test area, as shown in Figure 3, to activate the test feature (part number K200-07-00).

2. The LEDs on the detector should light when the temperature at the detector reaches the alarm

3. Reset the detector at the system control panel.

Detectors that fail these tests should be cleaned as described

under MAINTENANCE and retested. If the detectors still

fail these tests, they should be returned for repair.

setpoint. If the LEDs fail to light, check the power

to the detector and the wiring in the detector base.

GENERAL DESCRIPTION

Models IDP-Heat, IDP-Heat-ROR and IDP-Heat-HT are intelligent sensors that utilize a state-of-the-art thermistor sensing circuit for fast response. These sensors are designed to provide open area protection with 50 foot spacing capability. Model IDP-Heat is a fixed temperature sensor with 135° F fixed temperature alarm. IDP-Heat-ROR is a rate-of-rise temperature sensor with 135° F fixed temperature alarm. Model IDP-Heat-HT is a high temperature sensor with 190° F fixed temperature alarm. Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (Part No. RA400Z). Models IDP-Heat, IDP-Heat-ROR, and IDP-Heat-HT require compatible addressable communications to function properly. Connect these sensors to listedcompatible control panels only.

WIRING GUIDE

All wiring must be installed in compliance with the National Electrical Code, applicable local codes and the Authority Having Jurisdiction. Proper wire gauges should be used. The installation wires should be color coded to limit wiring mistakes and ease system troubleshooting. Improper connections will prevent a system from responding properly in the event of a fire.

Remove power from the communication line before installing sensors.

1. Wire the sensor base (supplied separately) per the wiring diagram, see Figure 1.

2. Set the desired address on the sensor address switches, see Figure 2. 3. Install the sensor into the sensor base. Push the sensor into

the base while turning it clockwise to secure it in place. 4. After all sensors have been installed, apply power to

the control unit and activate the communication line. 5. Test the sensor(s) as described in the TESTING section of this manual.

TAMPER RESISTANCE

Caution: Do Not Loop Wire Under Terminal 1 or 2.

Break Wire To Provide Supervision of Connections.

The sensor base includes a tamper proof feature which when activated prevents removal of the sensor without the use of a tool. See the installation instruction manual for the sensor base for details in using this feature.

TESTING

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to prevent unwanted

All sensors must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with NFPA 72.

156-2722-00R

CLASS A OPTIONAL WIRING

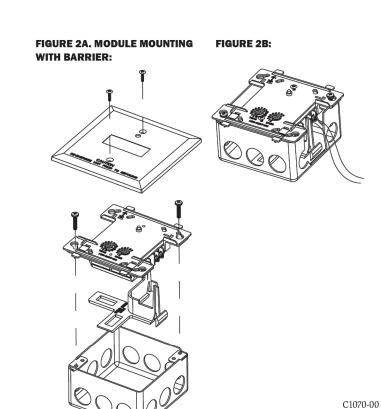


FIGURE 3. RELAY MODULE WIRING DIAGRAM:

RELAY COMMON 2 (

NORMALLY CLOSED 2

NORMALLY OPEN 2

RELAY COMMON 1

DEVICE (+)

MODULE DOES NOT SUPERVISE CONTROLLED CIRCUITS

arenhyt™ is a trademark of and Honeywell® is a registered trademark of Honeywell International, In

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. When using control modules in nonpower limited applications, the CB500 Module Barrier must be used to meet UL requirements for the separation of power-limited and nonpower-limited terminals and wiring. The barrier must be inserted into a 4" \times 4" \times 2 $^{1}/8$ " junction box, and the control module must be placed into the barrier and attached to the junction box (Figure 2A). The power-limited wiring must be placed into the isolated quadrant of the module barrier (Figure 2B).

1. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.

2. Set the address on the module per job drawings. 3. Secure module to electrical box (supplied by installer), as shown in

Wire should be stripped to the appropriate length (recommended strip length is $^{1}/_{4}$ " to $^{3}/_{8}$ "). Exposed conductor should be secured under the clamping plate and should not protrude beyond the terminal block area. Caution: Do not loop wire under terminals. Break wire run to provide supervision of connections.

FROM PANEL OR

I56-3601-005

©2017 Honeywell. 04-21

(+) PREVIOUS DEVICE

INFORMATION ON THE NAMEPLATE LABEL.

NOTE: All references to power limited represent "Power Limited (Class 2)".

All relay switch contacts are shipped in the standby state (open) state, but may have transferred to the activated (closed) state during shipping. To ensure that the switch contacts are in their correct state, modules must be made to communicate with the panel before connecting circuits controlled by the module.

*NOTE: ANY FAULT IN THE POWER SUPPLY IS LIMITED TO THAT ZONE AND DOES NOT RESULT IN A FAULT IN A SEPARATE ZONE.



7550 Meridian Circle Maple Grove, MN 55369-4927 763-493-6455; 800-328-0103 Fax: 763-493-6475 http://www.silentknight.com © 2005 Silent Knight

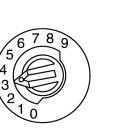
Please refer to insert for the Limitations of Fire Alarm Systems

FCC Statement

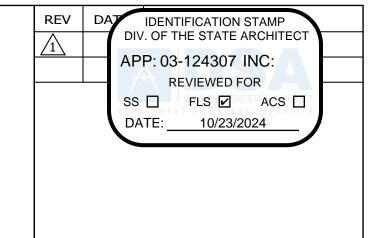
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver. - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. - Consult the dealer or an experienced radio/TV technician for help.

K200-06-00 156-2722-00R



K200-06-00 156-2722-00R

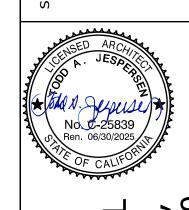


LUGGI i istanglistes lug. CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511

CAMARILLO, CA 93012-8094 FAX (805) 389-6519 PHONE (805) 389-6520 LUCCI & ASSOCIATES, INC. reserve their commonlaw copyright and other property rights in these plans. These plans and drawings are not to be reproduced, changed, or copied in any form or manner whatsoever without first obtaining the expressed written permission and consent of LUCCI & ASSOC. INC nor are they to be assigned to any third party without obtaining said written permission and consent.

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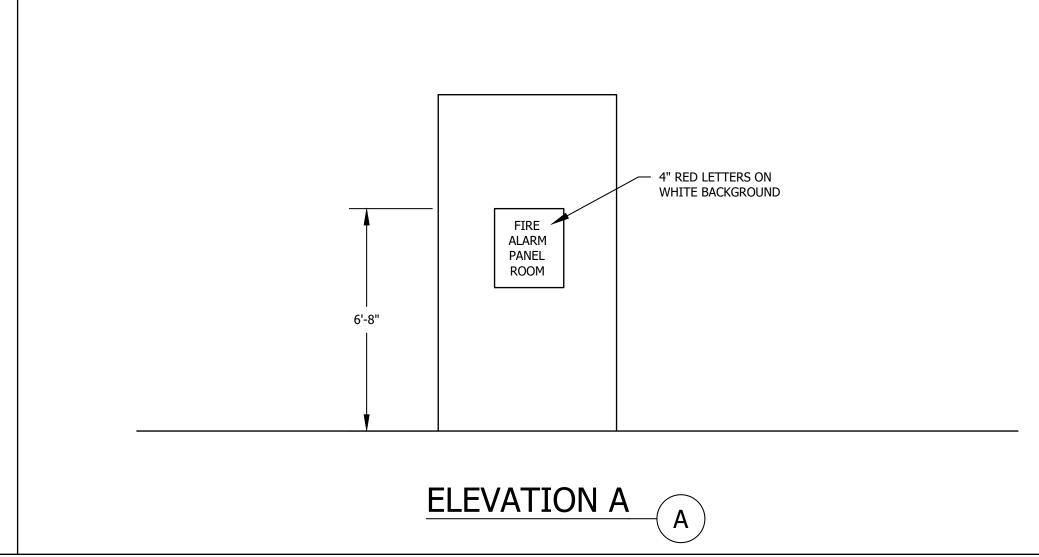


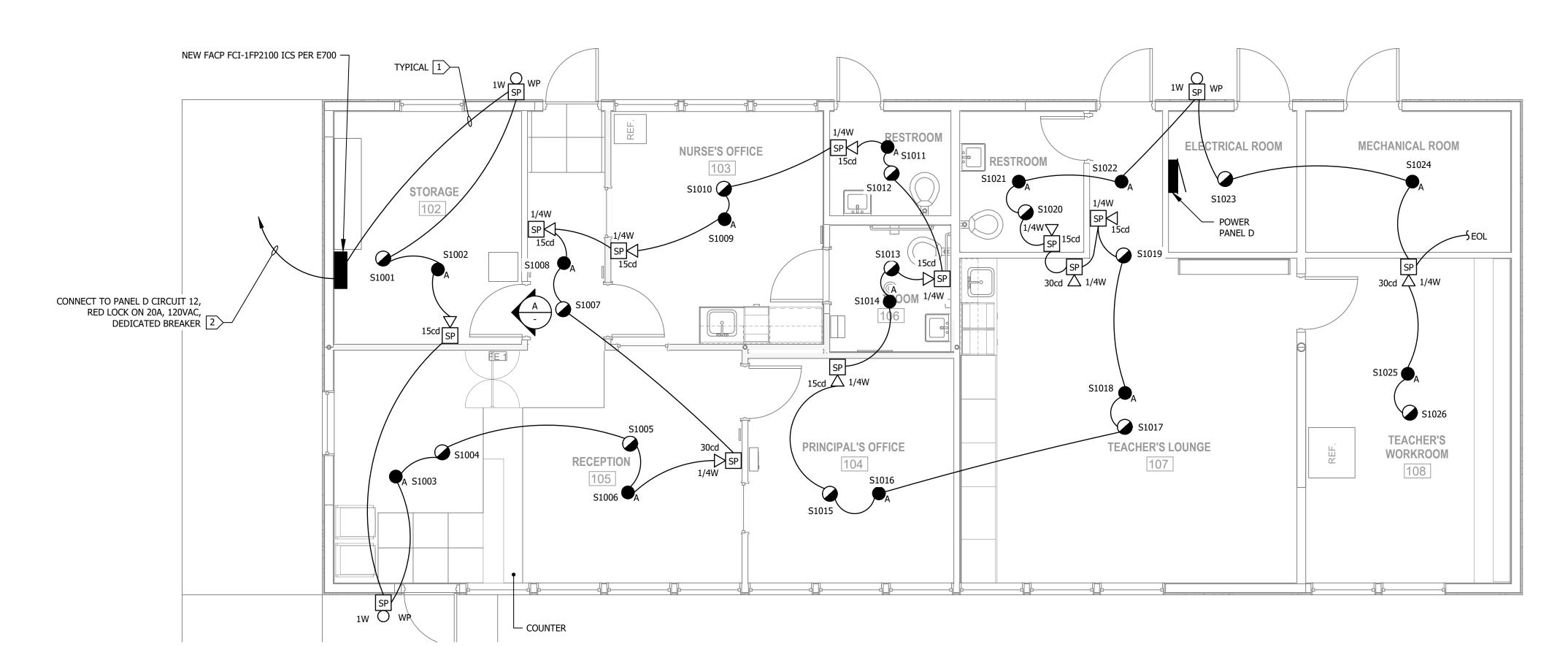
DRAWN: LK/MW CHECKED: K. LUCCI 10-04-2024 SCALE: **AS NOTED** 19753-07 SHEET:

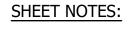
OF: SHEETS:

C0129-00

■ NEMA 1 ■ COPPER BUSS VOLTAGE <u>120/208</u> PHASE <u>3</u> WIRE <u>4</u> PANEL NUMBER D ■ MAIN CIRCUIT BREAKER 225 SOURCE DB A.I.C. <u>10,000</u> PANEL LOCATION BLDG. 100 BUS AMPERE RATING 225A ■ FLUSH MOUNTING BRKR BRKR LOAD(VA) LOAD(VA) CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION AMP POLE A B A | B | C POLE AMP 20 1 WIREMOLD AC-3 50 WIREMOLD AC-3 20 | 1 AC-3 20 1 LIGHTING EF-1 8 20 1 LIGHTING 1 | 15 | 7 EXISTING LOAD 20 | 1 EXISTING LOAD FIRE ALARM EXISTING LOAD 20 | 1 EXISTING LOAD 1 20 13 + 1 14 20 1 EXISTING LOAD EXISTING LOAD 1 20 15 EXISTING LOAD SPACE SPACE 17 SPACE 19 + 20 SPACE SPACE SPACE SPACE 23 | + + + | 24 | SPACE TOTALS TOTALS L.C.L. VOLT AMPS: PHASE A PHASE B PHASE C TOTAL VOLT AMPS: PHASE A PHASE B PHASE C TOTAL AMPS: PHASE A PHASE B PHASE C







- FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL COMMUNICATION CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
- 3. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

KEY NOTES:

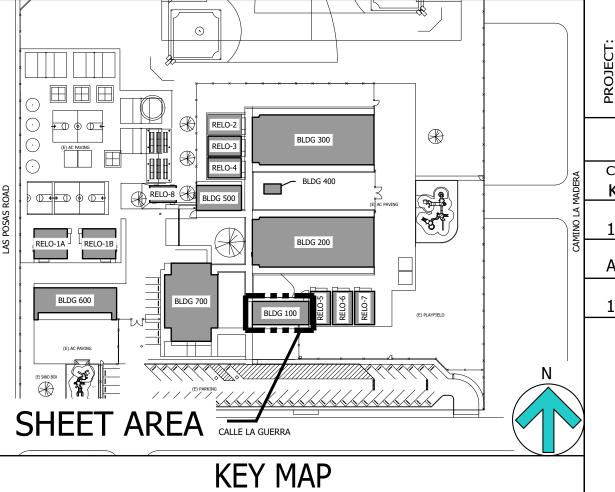
- 1 PROVIDE FA CABLING PER E700.
- RED HANDLE WITH LOCK ON FOR DEDICATED FIRE ALARM BREAKER.

EXTEND SITE CONDUITS TO FACP AS REQUIRED TO SATISFY FA RISER

NON SPRINKLER BUILDING

PROVIDE ACCESS PANELS IN HARD HD CEILING

PROJECT DATA: CLASSIFICATION: A. OCCUPANCY TYPE: EB. CONSTRUCTION TYPE: V-NC. SPRINKLERED: NOT A. DIVISION OF THE STATE ARCHITECT



LUGGI & ASSUGIATES ING. CONSULTING ELECTRICAL ENGINEERS

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

REVIEWED FOR

SS ☐ FLS ☑ ACS ☐

APP: 03-124307 INC:

DATE: 10/23/2024

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STAMP



/ORK

Y SCHOOL GUERRA, CA 93010 UPGRADE ELEMENTARY
75 CALLE LA C
CAMARILLO, C

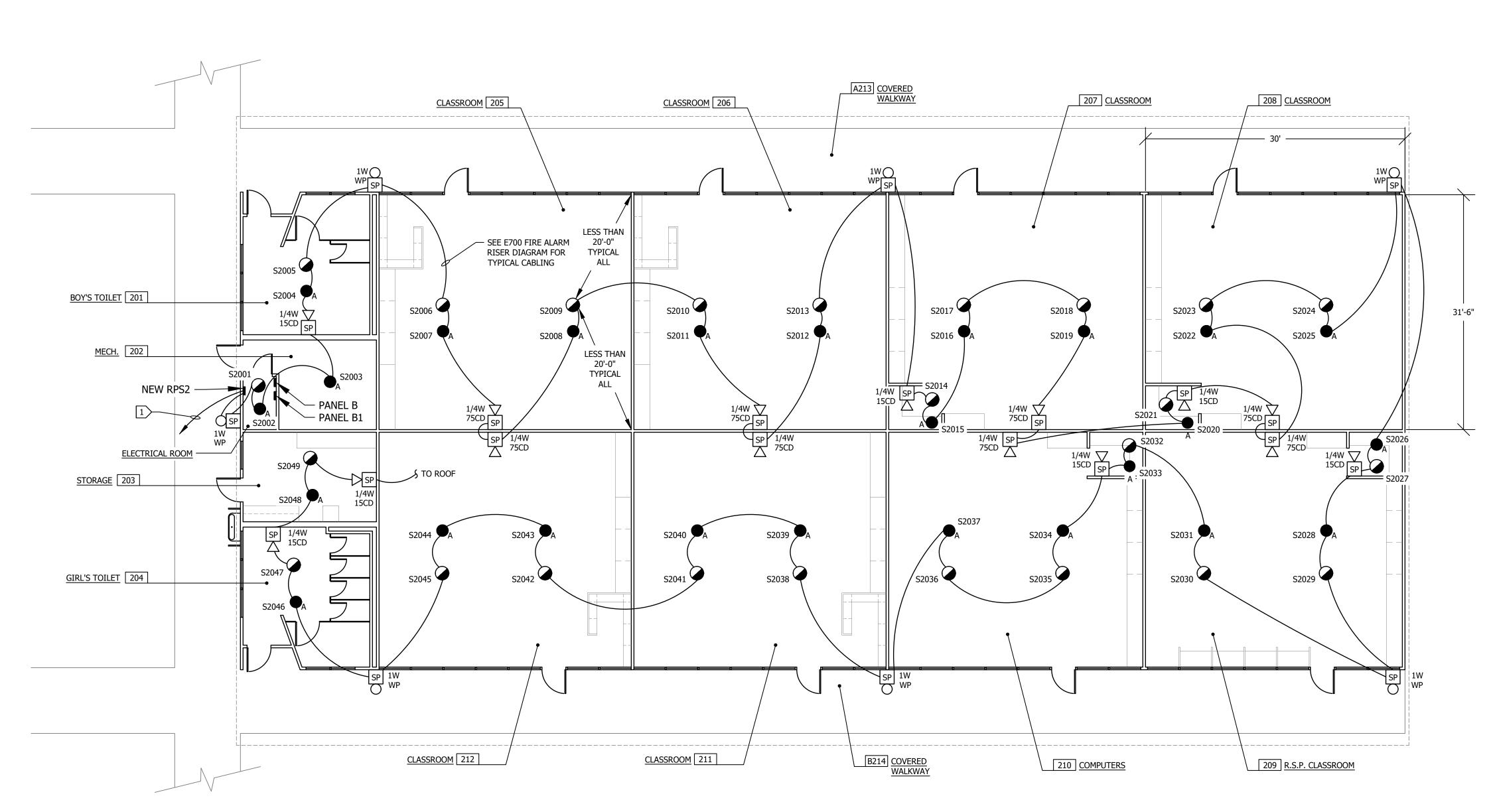
LK/MW CHECKED: K. LUCCI 10-04-2024 AS NOTED 19753-07

E610

OF: SHEETS:

ADMINISTRATION BUILDING 100 FIRE ALARM PLAN - NEW WORK SCALE: 1/4"=1'-0"

■ NEMA 1 ■ COPPER BUSS PANEL NUMBER SOURCE DB ■ MAIN CIRCUIT BREAKER _ A.I.C. <u>10,000</u> PANEL LOCATION BLDG 200 _ BUS AMPERE RATING 225 ■ SURFACE MOUNTING LOAD(VA) BRKR BRKR LOAD(VA) CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION A B C POLE AMP CKT PHASE CKT AMP POLE A B LIGHTS 1 20 1 + 1 2 2 20 1 WIREMOLD LIGHTS 1 20 3 + 4 20 1 WIREMOLD LIGHTS 1 20 5 + 6 20 1 WIREMOLD WIREMOLD LIGHTS 1 | 20 | 7 | + + | 8 | 20 | 1 WIREMOLD LIGHTS 1 | 20 | 9 | + | 10 | 20 | 1 1 | 20 | 11 | + | 12 | 20 | 1 WIREMOLD LIGHTS LIGHTS 1 20 13 + 1 14 20 1 WIREMOLD 1 20 15 + 16 20 1 LIGHTS WIREMOLD STORAGE RESTROOM 1 20 17 + 18 20 1 WIREMOLD EXISTING LOAD 1 | 20 | 19 | + | 20 | 20 | 1 WIREMOLD EXISTING LOAD 1 20 21 + 22 20 1 WIREMOLD EXISTING LOAD 1 20 23 + 24 20 1 WIREMOLD 1 20 25 26 20 1 EXISTING LOAD WIREMOLD EXISTING LOAD 1 20 27 + 28 20 1 WIREMOLD 1 20 29 30 20 1 EXISTING LOAD WIREMOLD EXISTING LOAD 1 20 31 + 32 20 1 WIREMOLD 1 20 33 + 34 20 1 FIRE ALARM EXISTING LOAD EXISTING LOAD 1 20 35 + 36 SPACE 37 38 40 SPACE SPACE SPACE SPACE 41 42 SPACE SPACE TOTALS TOTALS L.C.L. VOLT AMPS: PHASE A PHASE B PHASE C PHASE C TOTAL VOLT AMPS: PHASE A PHASE B TOTAL AMPS: PHASE A PHASE B PHASE C



CLASSROOM BUILDING 200 FIRE ALARM PLAN - NEW WORK
SCALE: 1/8"=1'-0"

SHEET NOTES:

- FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT.
- 2. CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL COMMUNICATION CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
- 3. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

KEY NOTES:

CONNECT TO PANEL B, 20A, 120VAC, LOCKABLE DEDICATED RED CIRCUIT BREAKER AT CIRCUIT 34.

PROJECT DATA: BUILDING CLASSIFICATION: A. OCCUPANCY TYPE: E B. CONSTRUCTION TYPE: V-N C. SPRINKLERED: NOT **AGENCIES:** A. DIVISION OF THE STATE ARCHITECT

EXTEND SITE CONDUITS TO FACP AS REQUIRED TO SATISFY FA RISER

NO FIRE WATER ON CAMPUS FOR BUILDING SPRINKLER SYSTEMS.

PROVIDE ACCESS PANELS IN HARD HD CEILING

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 03-124307 INC: REVIEWED FOR SS ☐ FLS ☑ ACS ☐ DATE: 10/23/2024

LUGGI & HTTUGHTTET LYG. CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511

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7 BUILDING

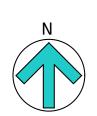


CA 93010 UPGRADE FIRE

LK/MW CHECKED: K. LUCCI 10-04-2024 AS NOTED 19753-07 SHEET:

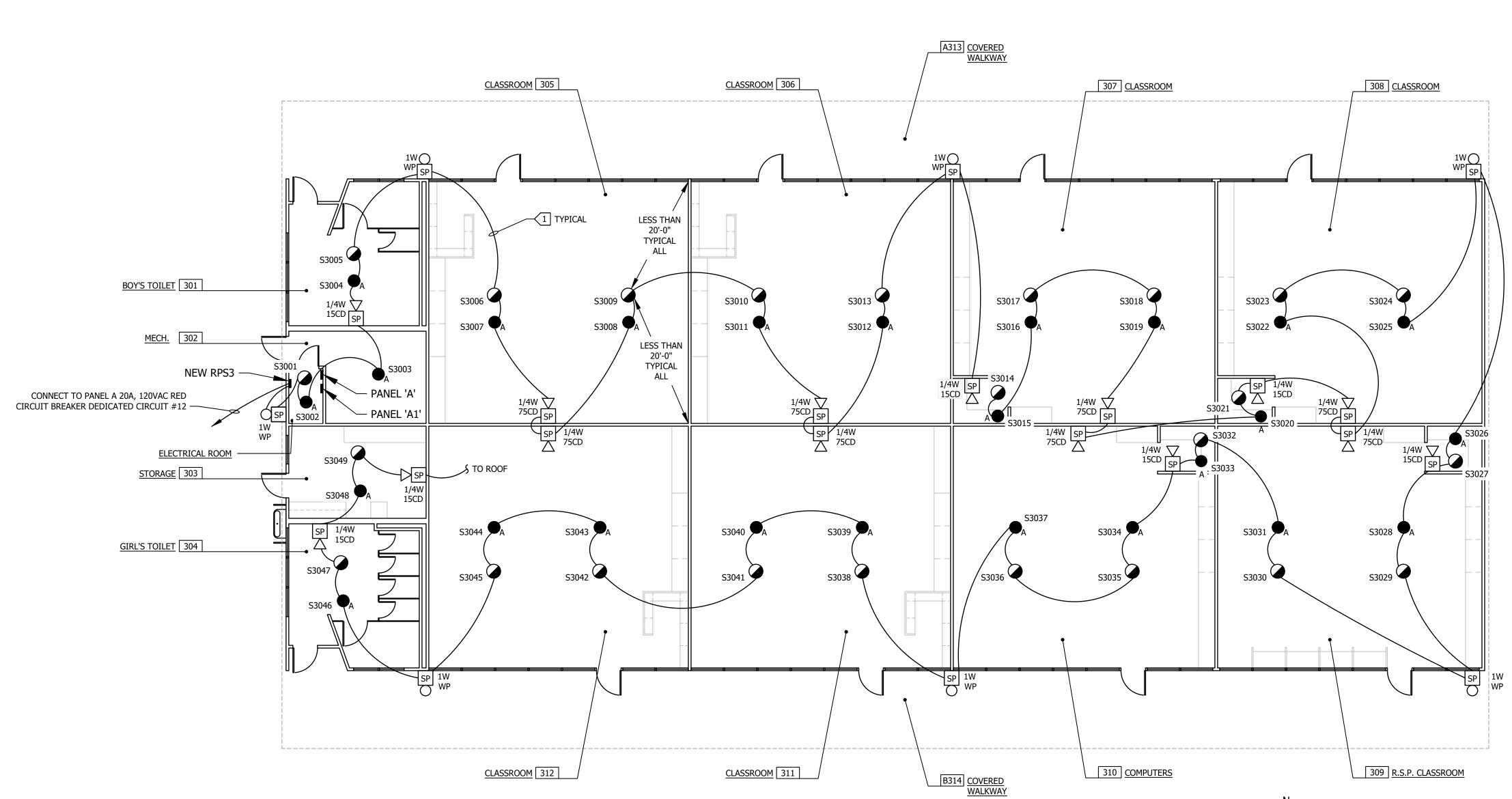
E620

OF: SHEETS:



E620

■ NEMA 1 ■ COPPER BUSS VOLTAGE $\frac{120/208}{}$ PHASE $\frac{3}{}$ WIRE $\frac{4}{}$ PANEL NUMBER ■ MAIN CIRCUIT BREAKER 100 SOURCE DB _ A.I.C. <u>10K</u> PANEL LOCATION BLDG. 300 ■ SURFACE MOUNTING BUS AMPERE RATING CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION POLE AMP CKT PHASE CKT AMP POLE A B C LIGHTS 1 20 1 + 2 20 1 WIREMOLD 17 18 STORAGE RESTROOM (E) LOAD 23 + 24 29 | + | 30 | 31 32 1 33 34 20 1 FIRE ALARM ▼ 35 → 36 SPACE SPACE 37 | + | | 38 | 39 40 42 TOTALS TOTALS L.C.L. VOLT AMPS: PHASE A PHASE B PHASE C TOTAL VOLT AMPS: PHASE A PHASE B PHASE C TOTAL AMPS: PHASE A PHASE B PHASE C



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

CLASSROOM BUILDING 300 FIRE ALARM PLAN - NEW WORK /

SHEET NOTES:

- FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL COMMUNICATION CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
- 3. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

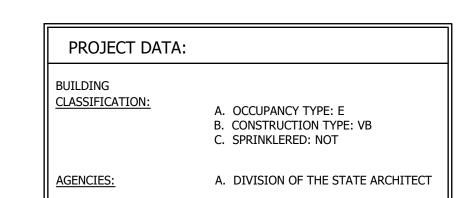
KEY NOTES:

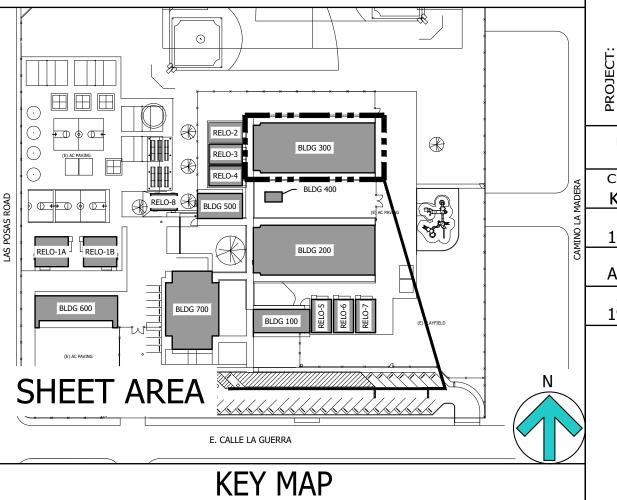
PROVIDE FA CABLING PER E700 RISER DIAGRAM.

EXTEND SITE CONDUITS TO FACP AS REQUIRED TO SATISFY FA RISER

NO FIRE WATER ON CAMPUS FOR BUILDING SPRINKLER SYSTEMS.

PROVIDE ACCESS PANELS IN HARD HD CEILING





८५५५ द अञ्चलकार्य । अस्त CONSULTING ELECTRICAL ENGINEERS

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DIV. OF THE STATE ARCHITEC

REVIEWED FOR

SS ☐ FLS ☑ ACS ☐

APP: 03-124307 INC:

DATE: 10/23/2024

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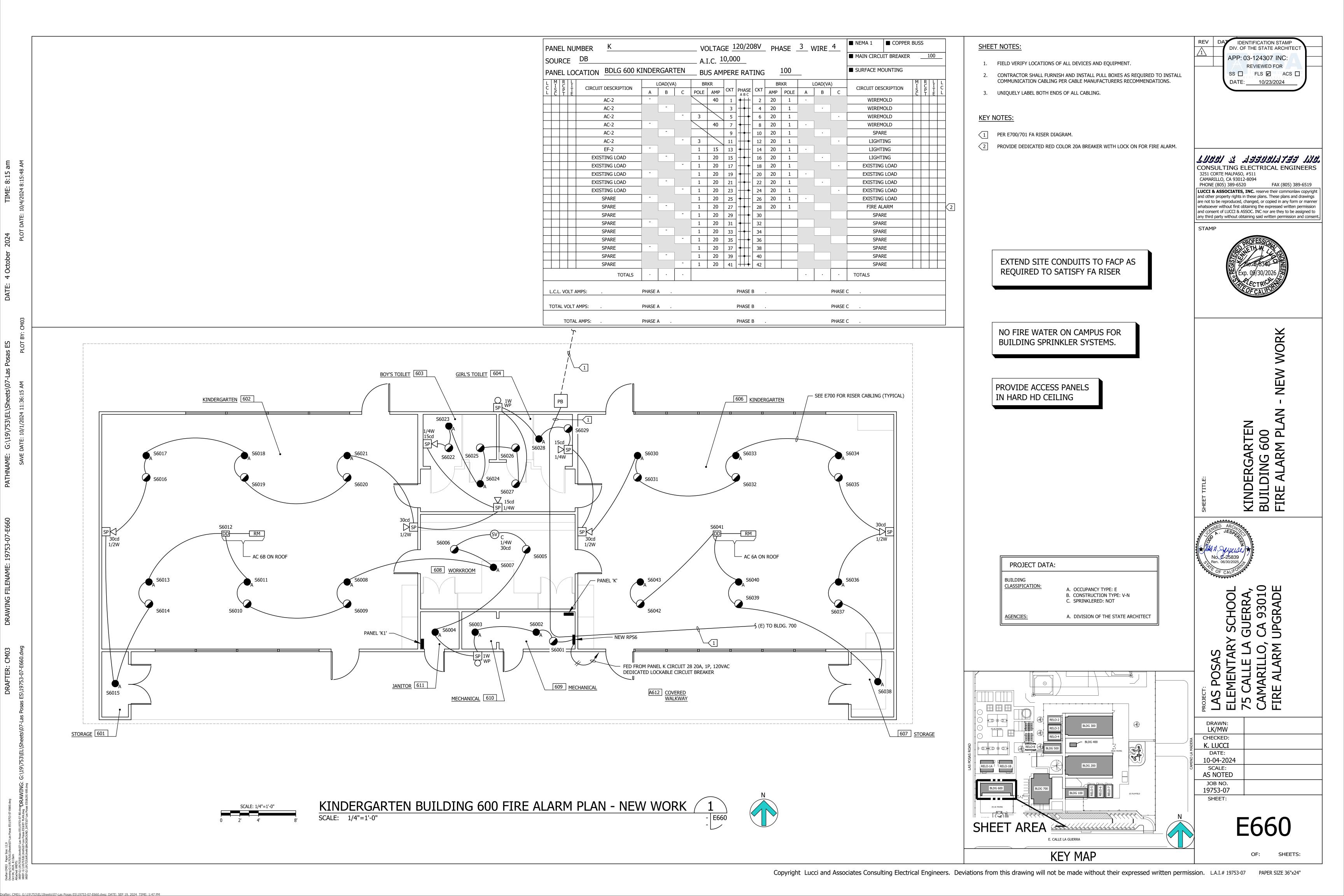
300 BUILDING PLAN -

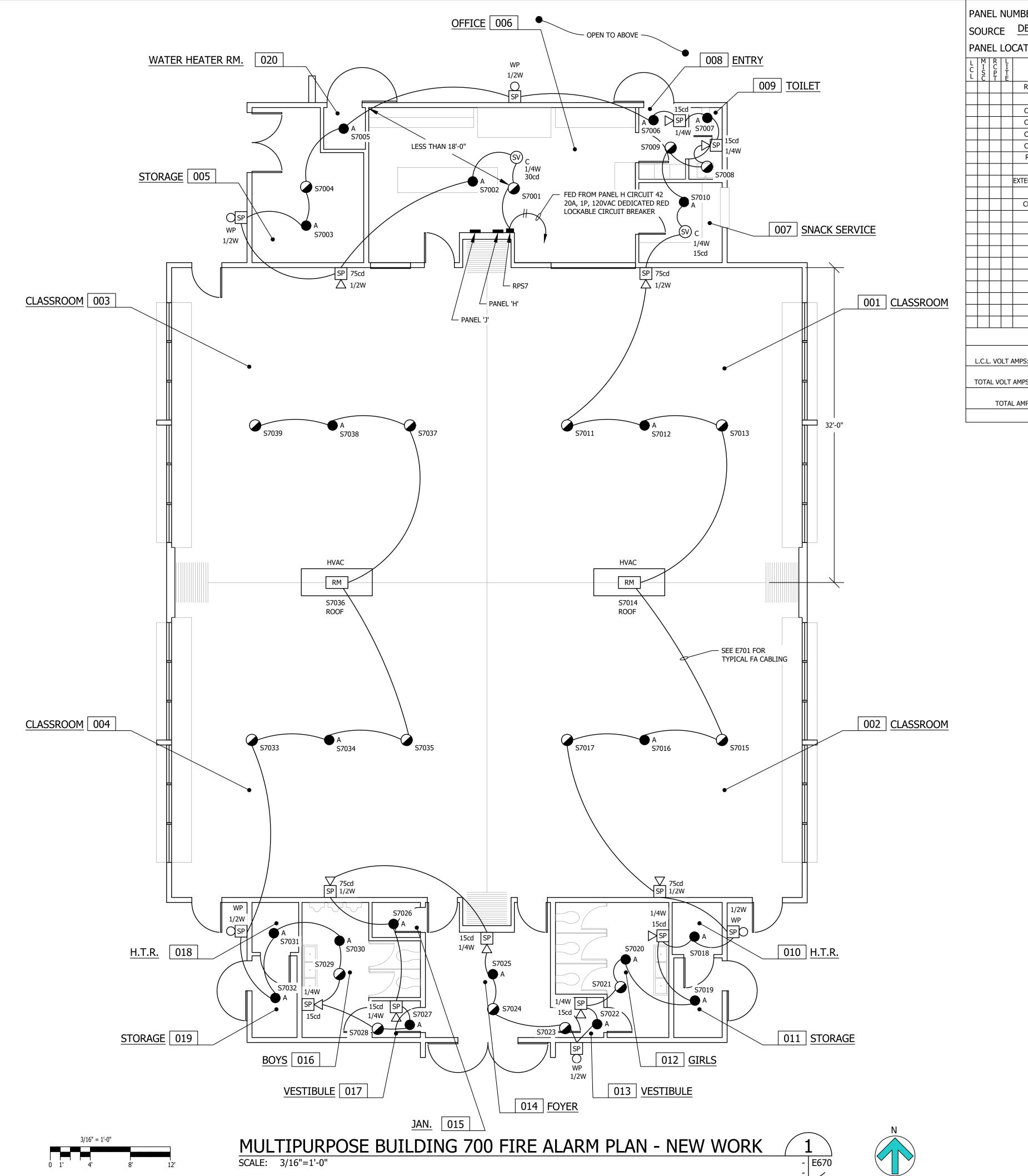
GUERRA, CA 93010 UPGRADE FIRE

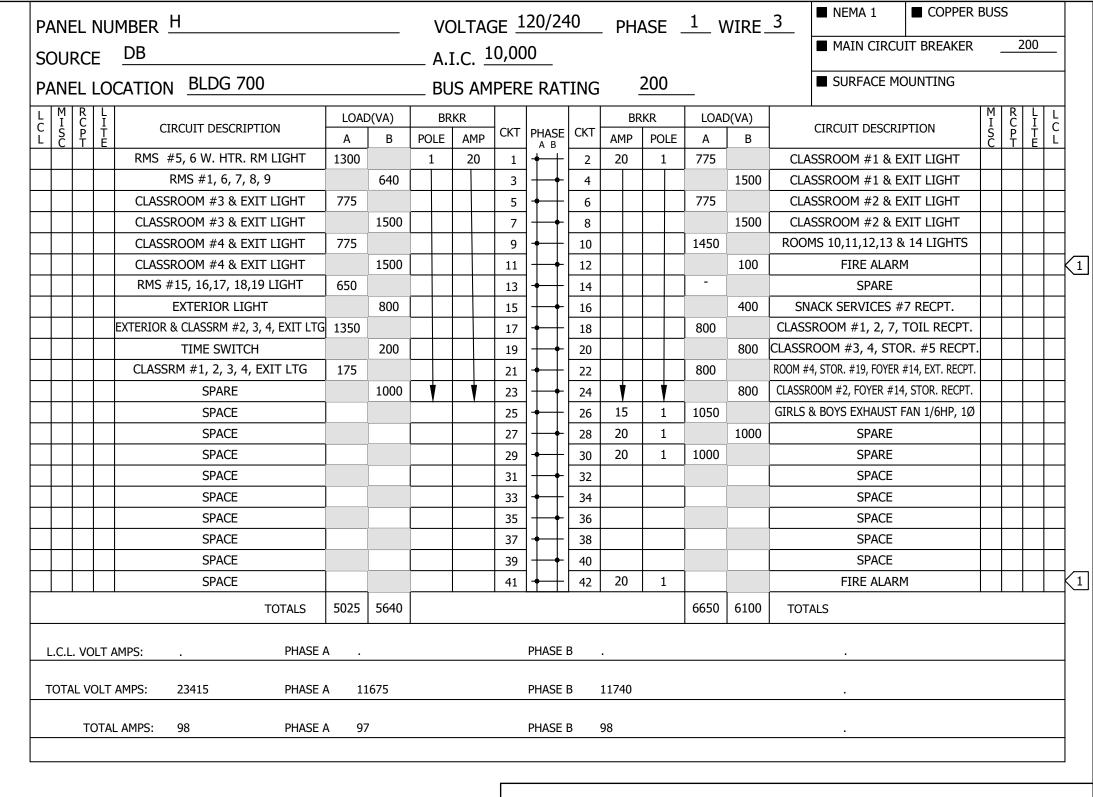
LK/MW CHECKED: K. LUCCI 10-04-2024 AS NOTED 19753-07 SHEET:

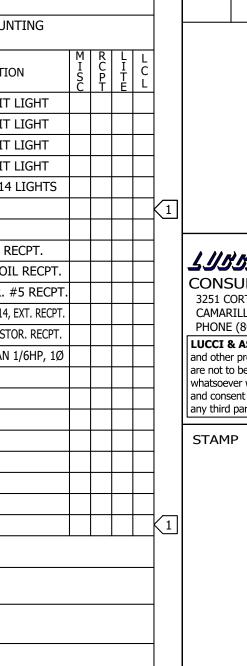
E630

IDENTIFICATION STAMP **SHEET NOTES:** DIV. OF THE STATE ARCHITEC ■ NEMA 1 ■ NEMA 3R VOLTAGE $\frac{120/208}{}$ PHASE $\frac{3}{}$ WIRE $\frac{4}{}$ PANEL NUMBER APP: 03-124307 INC: SOURCE DB ■ MAIN CIRCUIT BREAKER 100 FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT. _ A.I.C. <u>10K</u> REVIEWED FOR SS ☐ FLS ☑ ACS ☐ CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL PANEL LOCATION BLDG. 500 _ BUS AMPERE RATING 100 ■ SURFACE MOUNTING COMMUNICATION CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS. DATE: 10/23/2024 BRKR LOAD(VA) BRKR LOAD(VA) 3. UNIQUELY LABEL BOTH ENDS OF ALL CABLING. CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION POLE AMP CKT PHASE CKT AMP POLE A B DC-4 50 | 1 | + | 2 | 20 | WIREMOLD 3 + 4 4 WIREMOLD LIGHTING LIGHTING EF2 **KEY NOTES:** (E) LOAD (E) LOAD 1 20 9 + 10 PROVIDE DEDICATED RED BREAKER (20A) WITH LOCK ON FOR FIRE ALARM. ८५५४ द अञ्चलकार्य । अस्त CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094 SPACE PHONE (805) 389-6520 **LUCCI & ASSOCIATES, INC.** reserve their commonlaw copyright and other property rights in these plans. These plans and drawings are not to be reproduced, changed, or copied in any form or manner 25 + | 26 | | whatsoever without first obtaining the expressed written permission and consent of LUCCI & ASSOC. INC nor are they to be assigned to SPARE any third party without obtaining said written permission and consent, STAMP 33 + 34 | 37 | + | | 38 | | 39 40 EXTEND SITE CONDUITS TO FACP AS 41 42 1 REQUIRED TO SATISFY FA RISER FIRE ALARM TOTALS TOTALS L.C.L. VOLT AMPS: PHASE A PHASE B PHASE C TOTAL VOLT AMPS: PHASE A PHASE B PHASE C PHASE C PHASE A PHASE B TOTAL AMPS: NO FIRE WATER ON CAMPUS FOR BUILDING SPRINKLER SYSTEMS. 500 PROVIDE ACCESS PANELS CABLE PER FA RISER DIAGRAM E700 IN HARD HD CEILING LESS THAN 21'-0" **TYPICAL** LESS THAN 21'-0" TYPICAL S5006 21'-0" TYPICAL 501 LIBRARY PROJECT DATA: CLASSIFICATION: A. OCCUPANCY TYPE: EB. CONSTRUCTION TYPE: V-NC. SPRINKLERED: NOT A. DIVISION OF THE STATE ARCHITECT LESS THAN 21'-0" TYPICAL PROVIDE FROM PANEL L CIRCUIT 42, 20A LOCKABLE RED COLOR DEDICATED CIRCUIT BREAKER LK/MW CHECKED: K. LUCCI 10-04-2024 RELO-1A RELO-1B AS NOTED 19753-07 SHEET AREA E650 LIBRARY BUILDING 500 FIRE ALARM PLAN - NEW WORK SCALE: 1/4"=1'-0" KEY MAP OF: SHEETS:









८५५५। द अञ्चएकाअ४३५ । । 3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094

IDENTIFICATION STAMP

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SS ☐ FLS ☑ ACS ☐

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DATE: 10/23/2024

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SHEET NOTES:

- 1. FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT.
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL COMMUNICATION CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
- 3. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

KEY NOTES:

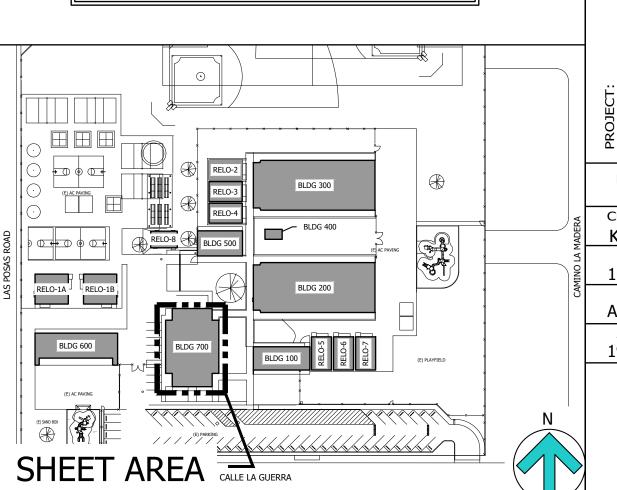
PROVIDE RED DEDICATED 20A, 1P BREAKER WITH LOCK ON DEVICE.

EXTEND SITE CONDUITS TO FACP AS REQUIRED TO SATISFY FA RISER

NO FIRE WATER ON CAMPUS FOR BUILDING SPRINKLER SYSTEMS.

PROVIDE ACCESS PANELS IN HARD HD CEILING

PROJECT DATA: BUILDING **CLASSIFICATION**: A. OCCUPANCY TYPE: A-3
B. CONSTRUCTION TYPE: V-N
C. SPRINKLERED: NOT
D. ONE STORY **AGENCIES:** A. DIVISION OF THE STATE ARCHITECT

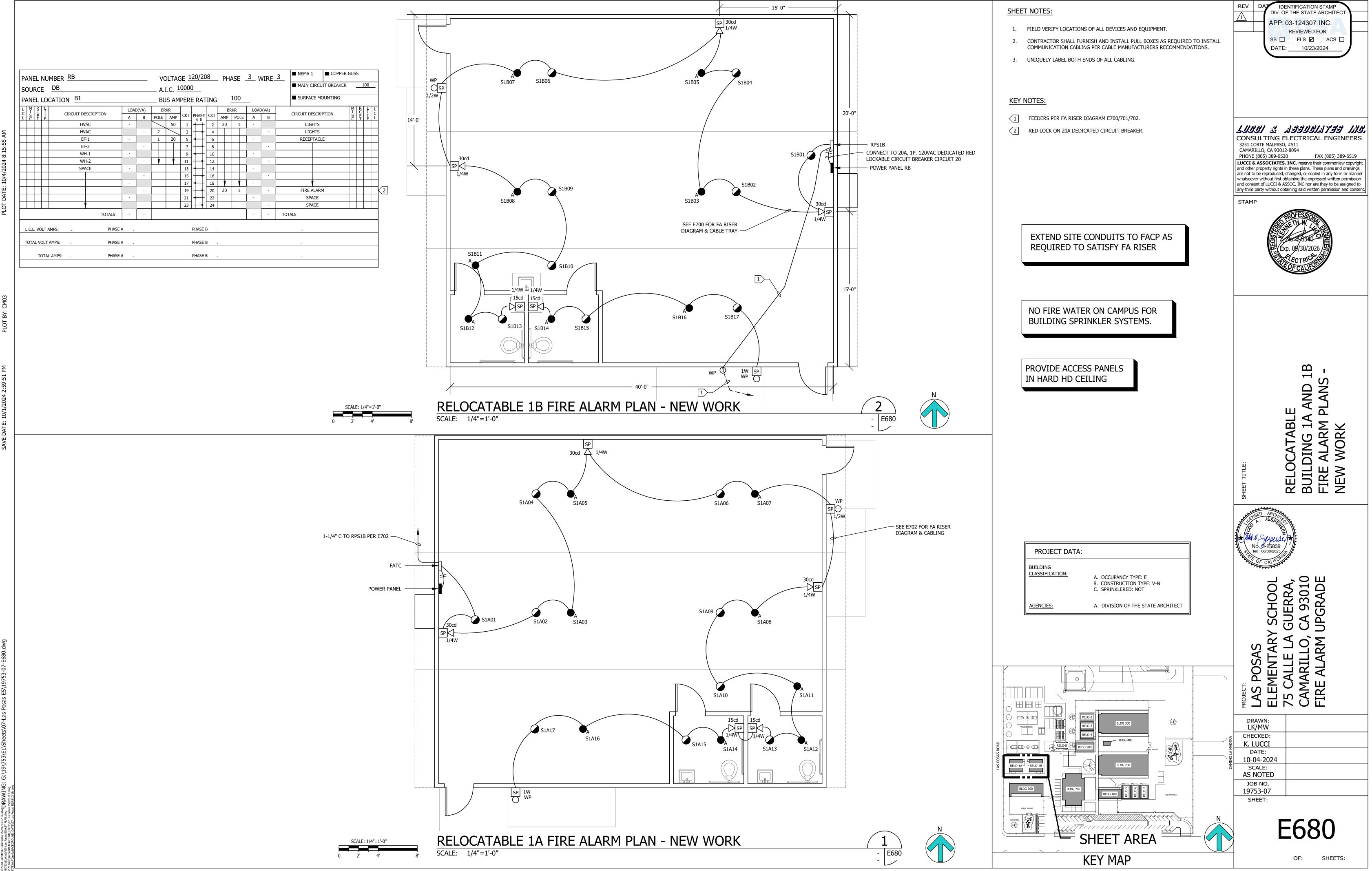


KEY MAP

Y SCHOOL GUERRA, CA 93010 UPGRADE LAS POSAS
ELEMENTARY
75 CALLE LA C
CAMARILLO, C

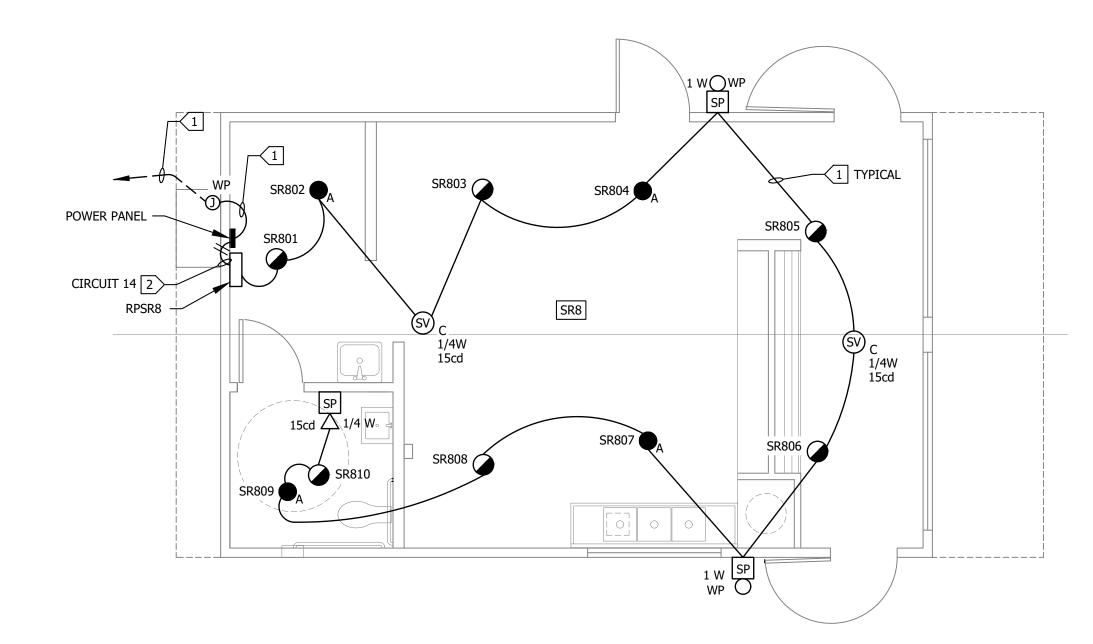
	—	
	drawn: LK/MW	
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CAMINO LA MADERA	K. LUCCI	
Š	DATE:	
MINO	10-04-2024	
S	SCALE: AS NOTED	
	јов NO. 19753-07	
	SHEET:	

E670

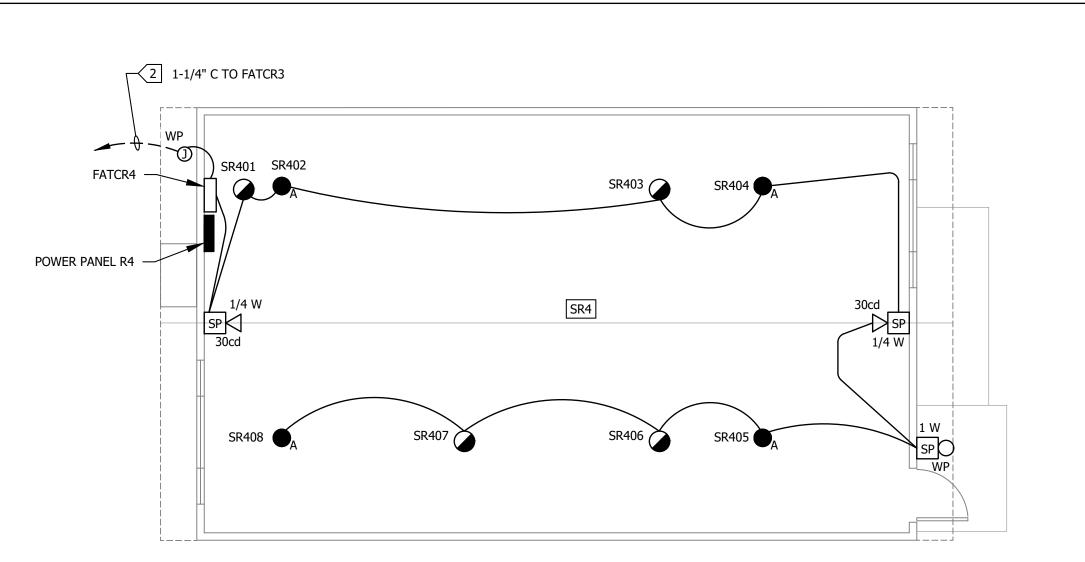


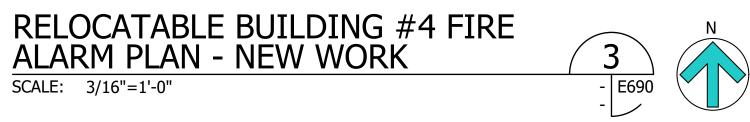
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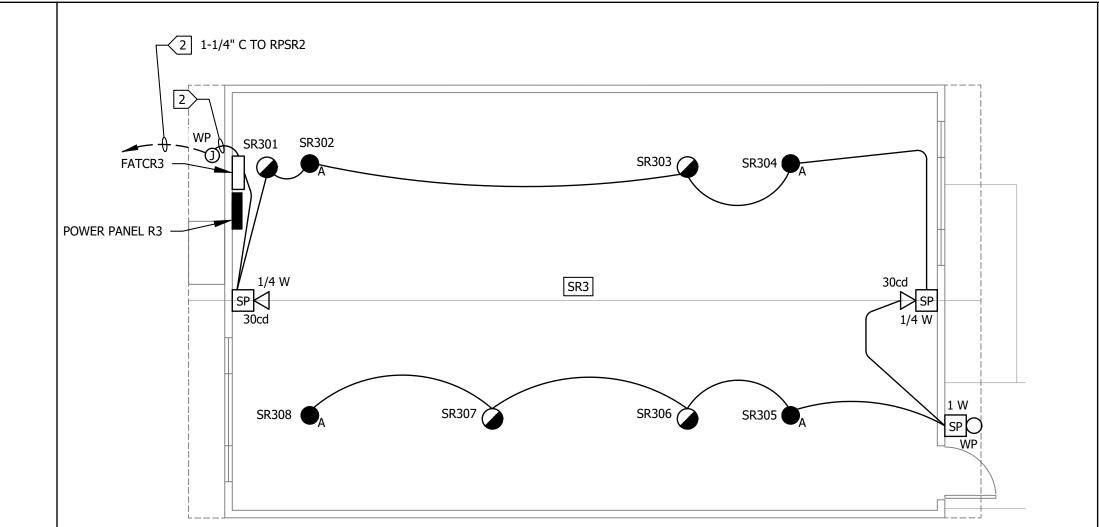
■ NEMA 1 ■ COPPER BUSS PANEL NUMBER R8 VOLTAGE 120/240 PHASE 1 WIRE 3 ■ MAIN CIRCUIT BREAKER SOURCE DB A.I.C. 10000 PANEL LOCATION RELOCATABLE 8 _ BUS AMPERE RATING 100 ■ SURFACE MOUNTING BRKR BRKR LOAD(VA) CIRCUIT DESCRIPTION CIRCUIT DESCRIPTION A B POLE AMP CKT PHASE CKT AMP POLE A B LIGHTS LIGHTS HVAC RECEPTACLE SPACE FIRE ALARM SPACE TOTALS TOTALS L.C.L. VOLT AMPS: PHASE A PHASE B TOTAL VOLT AMPS: PHASE B PHASE A PHASE B TOTAL AMPS: PHASE A





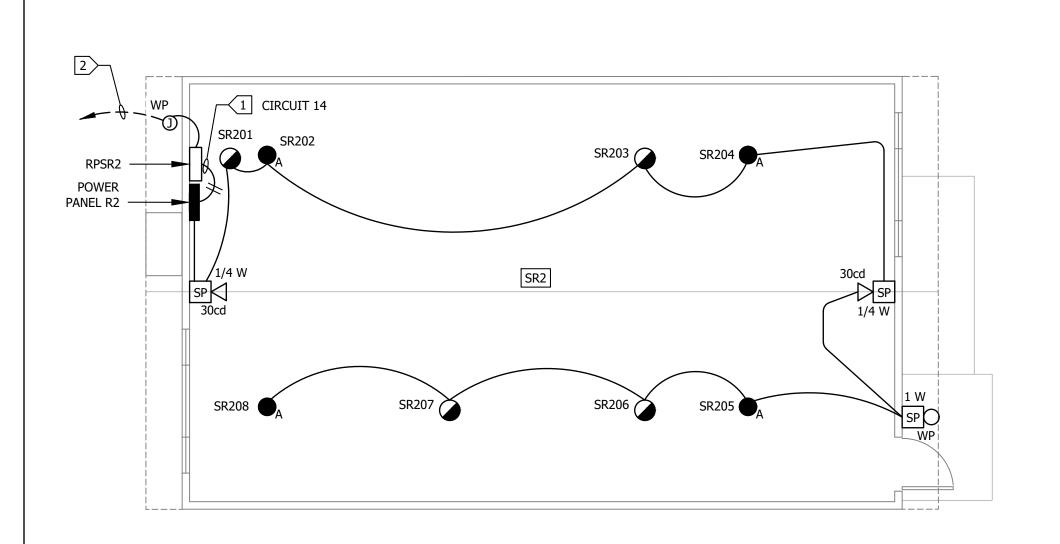








PANE	ΞL	NUI	MBER R2				VC	LTAG	SE <u>1</u>	20/2	40	. PH	ASE	_1_	WIRE	3_	■ NEMA 1				
SOUI	RC	E	DB				A.I	i.c. <u>1</u>	.000)							■ MAIN CIRCU	IIT BREAKEI	R	10)0
PANE	ΞL	LOC	CATION REL	OCATABLE 2			BU				ΓING		100				■ SURFACE MO	OUNTING			
L M C S L C	R C	L I T E	CIRCUIT DE	ESCRIPTION		D(VA)	BR		CKT	PHASE	CKT		RKR		AD(VA)		CIRCUIT DESCRI	PTION	M I S C	R C P T	L L T C E L
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				ACE			2		3 5		6	_	++	-			RECEPTACL		+	\vdash	+
			37/	1	-				7	\prod	8			-			RECEPTACE	<u> </u>	+	\vdash	+
											10		++	<u> </u>					+	\vdash	+
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TOTA	AL V	OLT /	AMPS: .	PHASE A		PHASE B .															
	T	OTAL	. AMPS: .	PHASE A	Α .		PHASE B .														





SHEET NOTES:

- 1. FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL COMMUNICATION CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
- 3. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

KEY NOTES:

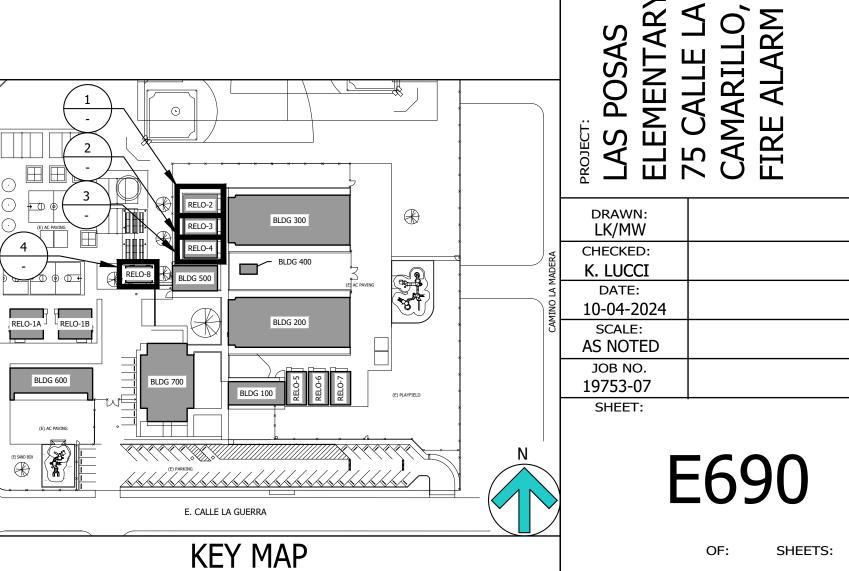
- CONNECT TO LOCKABLE 20A, 120VAC, 1 POLE DEDICATED RED COLORED CIRCUIT BREAKER.
- 2 CABLING PER FA RISER E700/701/E702.

EXTEND SITE CONDUITS TO FACP AS REQUIRED TO SATISFY FA RISER

NO FIRE WATER ON CAMPUS FOR BUILDING SPRINKLER SYSTEMS.

PROVIDE ACCESS PANELS IN HARD HD CEILING

PROJECT DATA: BUILDING CLASSIFICATION: A. OCCUPANCY TYPE: E
B. CONSTRUCTION TYPE: V-N
C. SPRINKLERED: NOT A. DIVISION OF THE STATE ARCHITECT



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CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094 PHONE (805) 389-6520 **LUCCI & ASSOCIATES, INC.** reserve their commonlaw copyright and other property rights in these plans. These plans and drawings are not to be reproduced, changed, or copied in any form or manner whatsoever without first obtaining the expressed written permission and consent of LUCCI & ASSOC. INC nor are they to be assigned to any third party without obtaining said written permission and consent STAMP

BUILDING LANS -

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC

REVIEWED FOR

SS ☐ FLS ☑ ACS ☐

APP: 03-124307 INC:

DATE: 10/23/2024

LUBBI & ABBUBLATES INB.

SR504

SR503 (

SR5

■ NEMA 1 ■ COPPER BUSS VOLTAGE <u>120/240</u> PHASE <u>1</u> WIRE <u>3</u> PANEL NUMBER R5 ■ MAIN CIRCUIT BREAKER SOURCE DB A.I.C. 10000 PANEL LOCATION RELOCATABLE 5 ■ SURFACE MOUNTING BUS AMPERE RATING LOAD(VA) BRKR BRKR LOAD(VA) CIRCUIT DESCRIPTION A B POLE AMP CKT PHASE CKT CIRCUIT DESCRIPTION AMP POLE A B 50 | 1 | + + + HVAC LIGHTS HVAC LIGHTS RECEPTACLE FIRE ALARM SPARE SPACE | 19 | +-TOTALS TOTALS PHASE B L.C.L. VOLT AMPS: PHASE A TOTAL VOLT AMPS: PHASE A PHASE B PHASE B PHASE A TOTAL AMPS:

SHEET NOTES:

- 1. FIELD VERIFY LOCATIONS OF ALL DEVICES AND EQUIPMENT
- CONTRACTOR SHALL FURNISH AND INSTALL PULL BOXES AS REQUIRED TO INSTALL COMMUNICATION CABLING PER CABLE MANUFACTURERS RECOMMENDATIONS.
- 3. UNIQUELY LABEL BOTH ENDS OF ALL CABLING.

KEY NOTES:

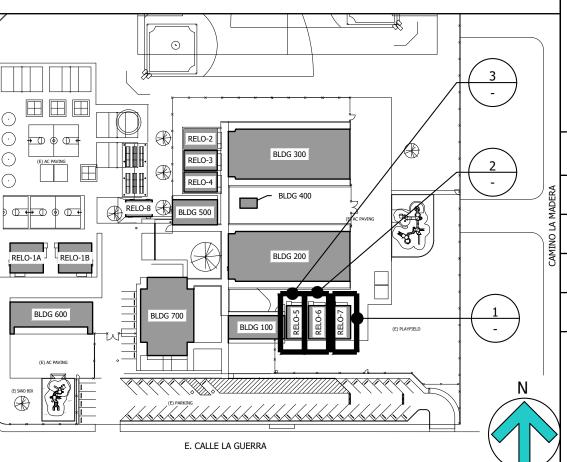
- SEE E701 FOR FA CABLING PER RISER DIAGRAM FEEDERS/REQUIREMENTS.
- CONNECT TO DEDICATED 20A, 1P, 120 VAC RED COLOR CIRCUIT

EXTEND SITE CONDUITS TO FACP AS REQUIRED TO SATISFY FA RISER

NO FIRE WATER ON CAMPUS FOR BUILDING SPRINKLER SYSTEMS.

PROVIDE ACCESS PANELS IN HARD HD CEILING

PROJECT DATA: CLASSIFICATION: A. OCCUPANCY TYPE: E
B. CONSTRUCTION TYPE: V-N C. SPRINKLERED: NOT A. DIVISION OF THE STATE ARCHITECT



KEY MAP

LUBBI E HERUBLITES INB. CONSULTING ELECTRICAL ENGINEERS

IDENTIFICATION STAMP

DIV. OF THE STATE ARCHITEC APP: 03-124307 INC:

DATE: 10/23/2024

REVIEWED FOR SS ☐ FLS ☑ ACS ☐

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STAMP

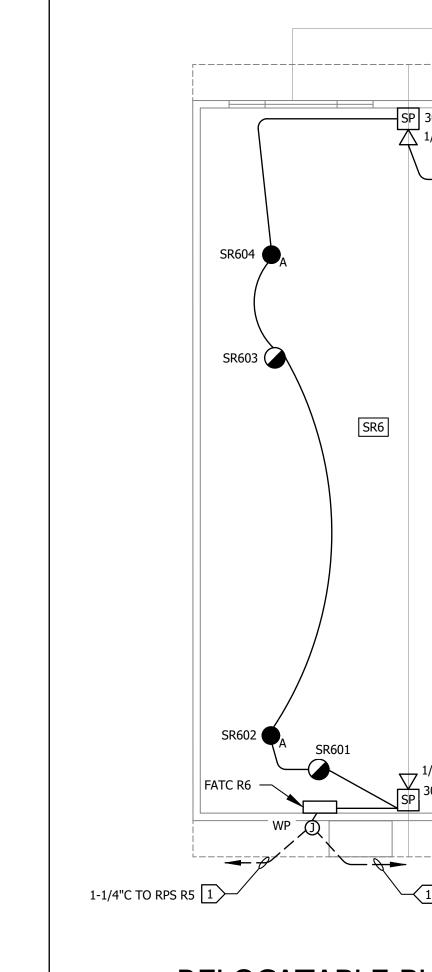


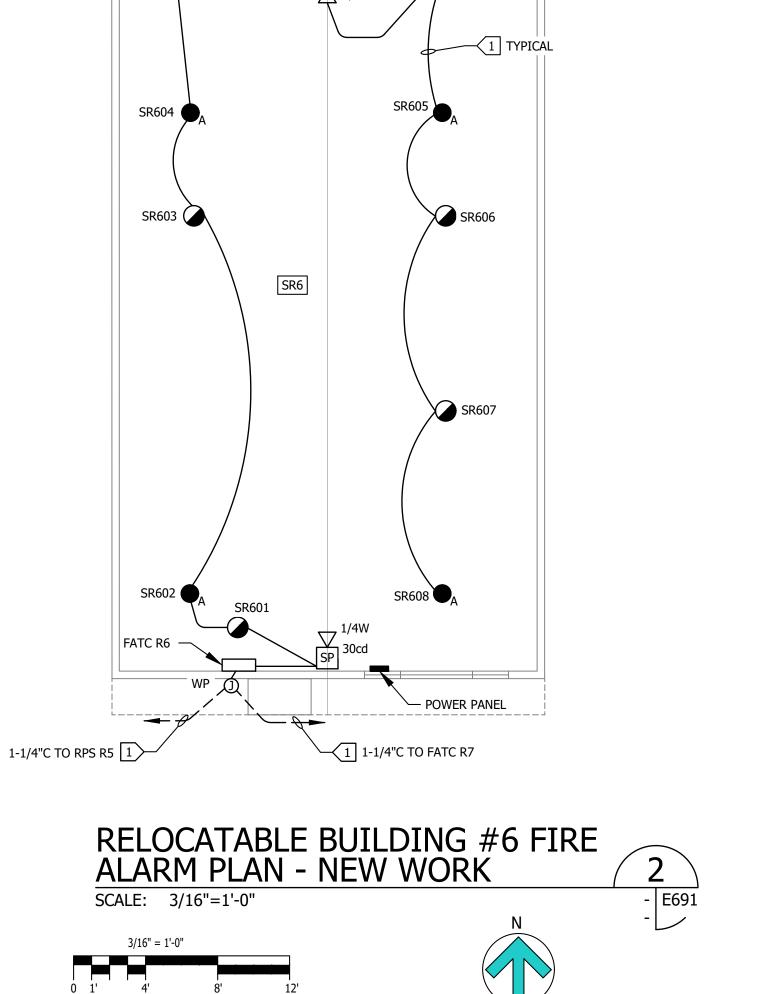
BUILDING LANS -

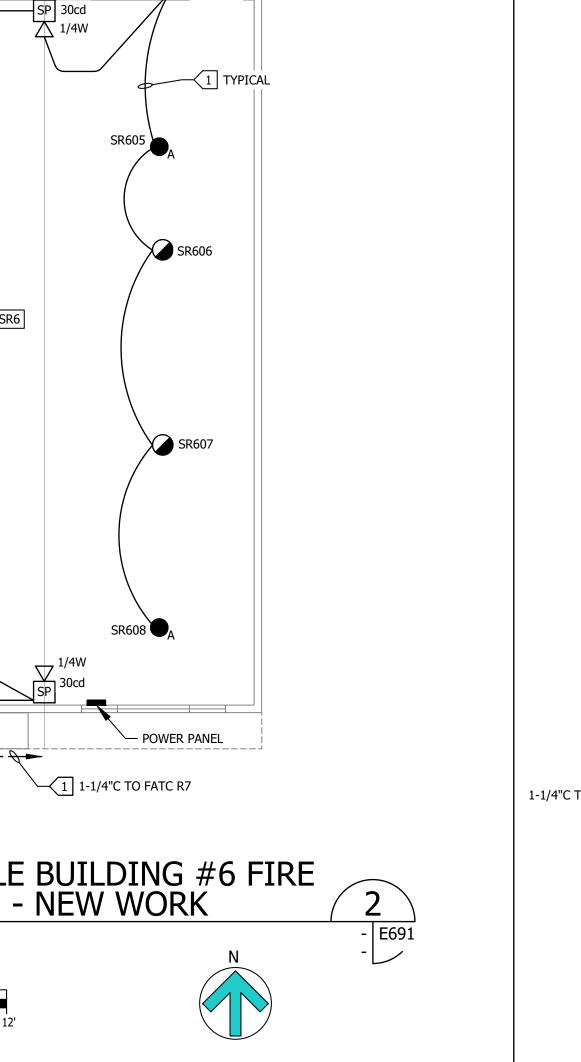
DRAWN: LK/MW CHECKED: K. LUCCI 10-04-2024 SCALE: AS NOTED 19753-07 SHEET:

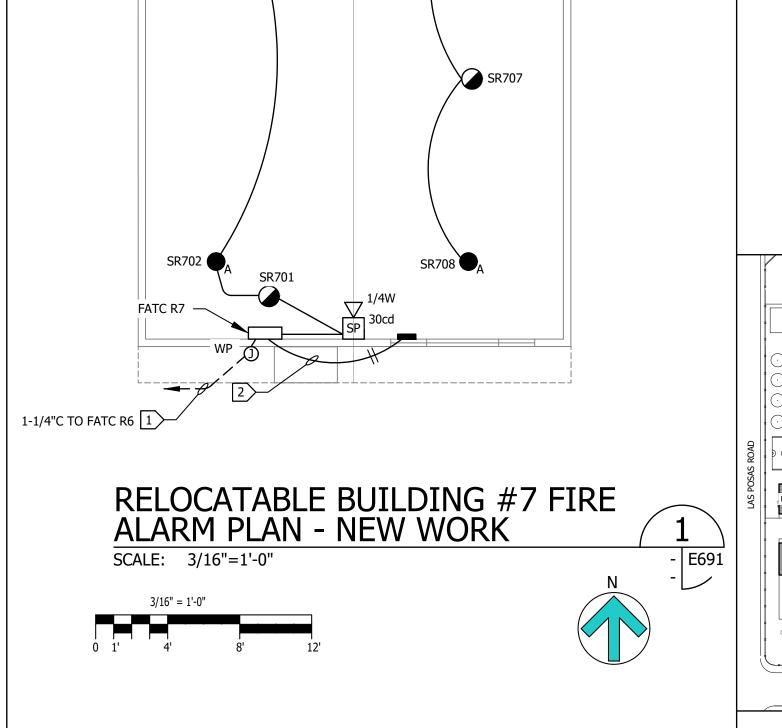
E691

OF: SHEETS:









SR705

SR706

SR704

SR703 (

SR7

SR506

SR507

BUILT IN LCD DISPLAY AND REMOTE PAGING UNIT

SPARE |

SPARE =

SPARE 📙

NAC-1

SLC CARD

TROUBLE CONTACT N/O

ECS-INT50

SLC CARD

SPARE -

SPARE -

SPARE 🖹

NAC-1

SAC-1 🗟

SPARE -

SPARE -

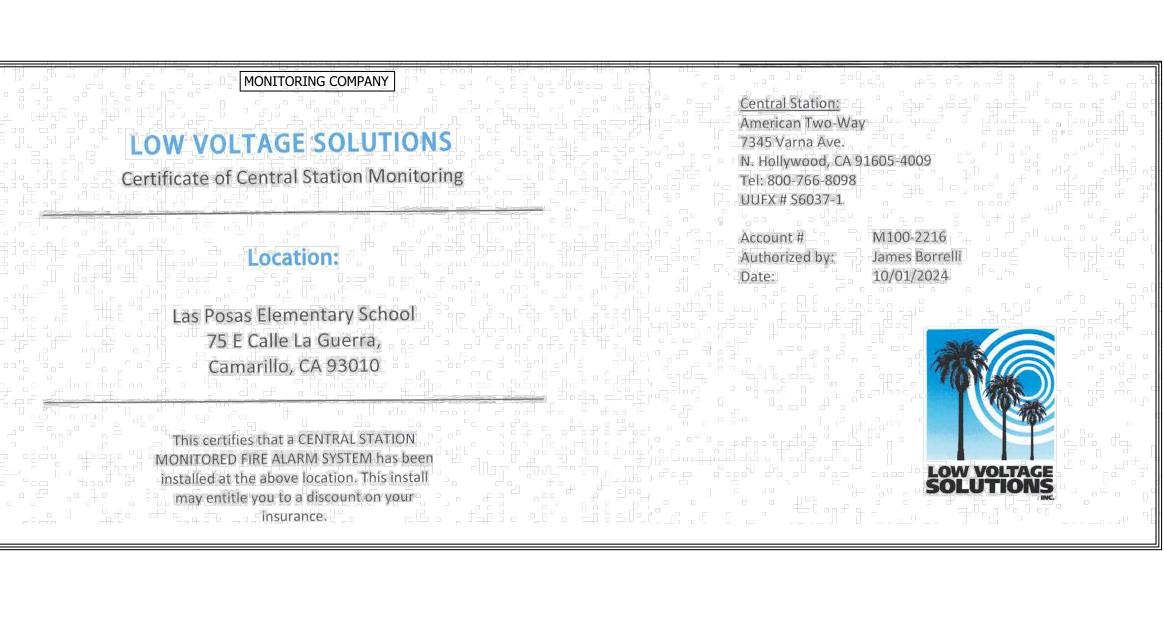
SPARE -

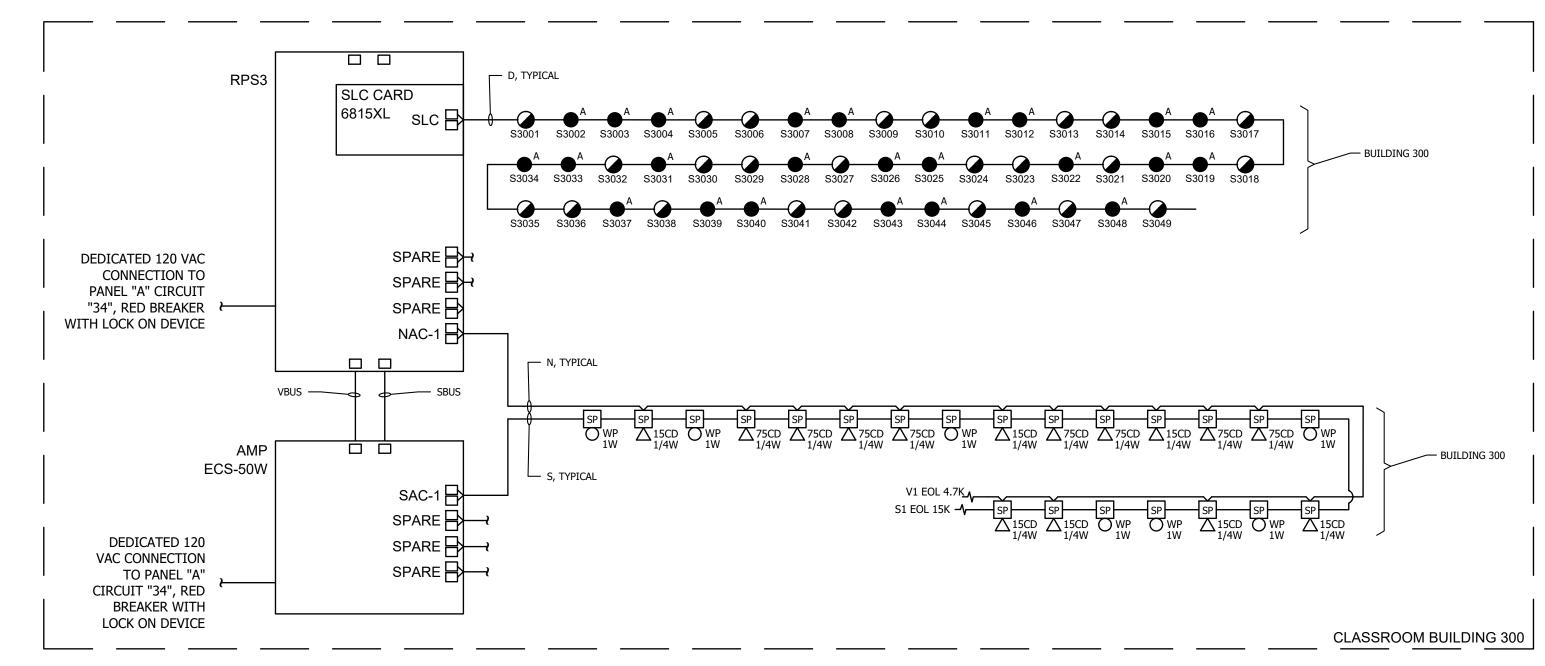
N, TYPICAL

└─ S, TYPICAL

RPS2

ECS-50W

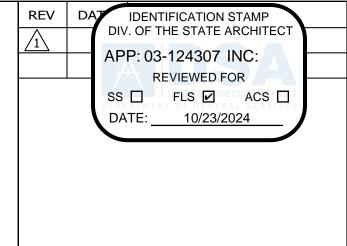




D, TYPICAL

RPS5

BUILDING 200



LUGGI & NEGUGINTES ING.

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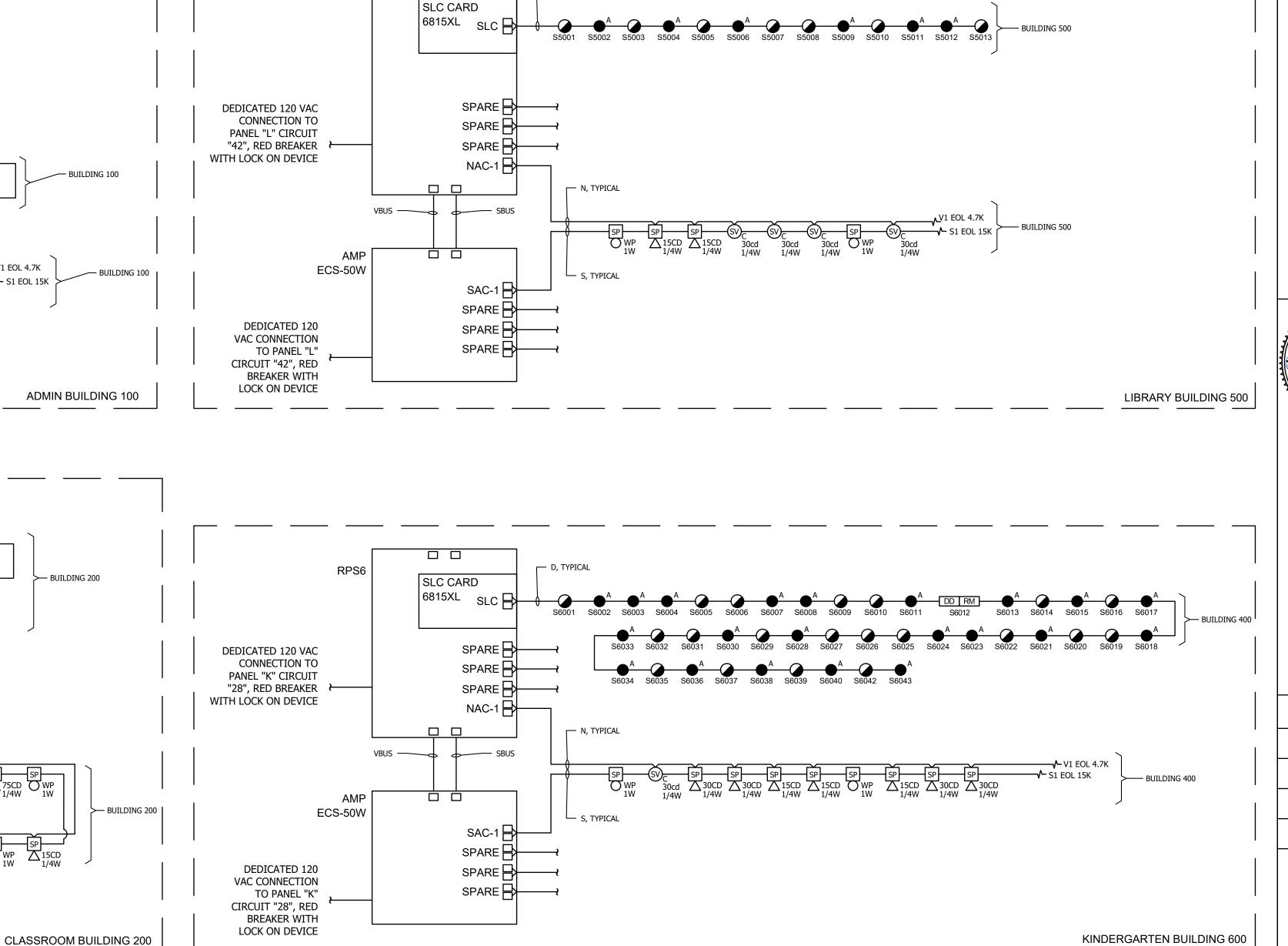
Y SCHOOL GUERRA, CA 93010 UPGRADE

ELEMENTARY
75 CALLE LA G
CAMARILLO, C
FIRE ALARM U

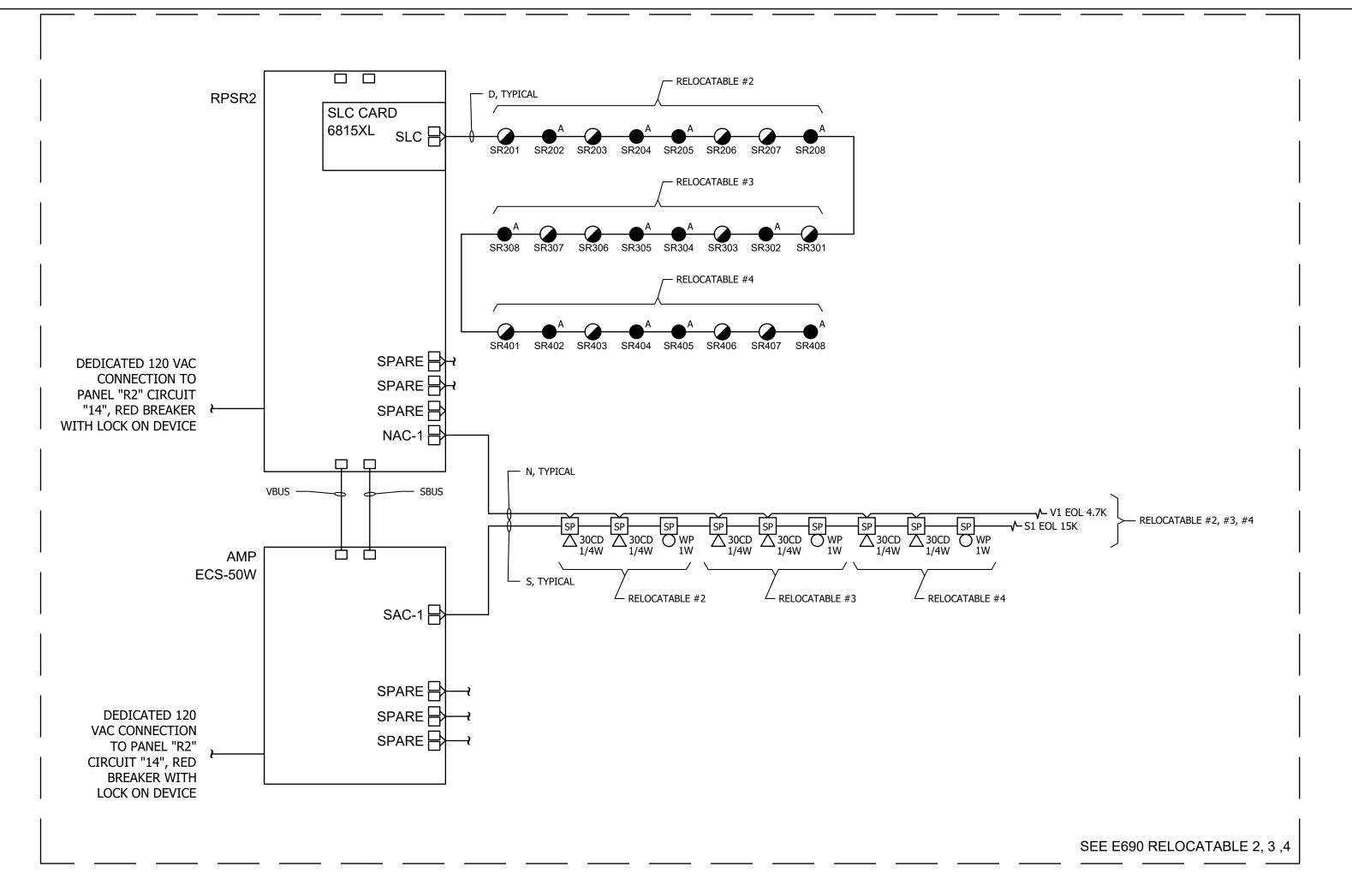
DRAWN: LK/MW CHECKED: K. LUCCI DATE: 10-04-2024 SCALE: AS NOTED 19753-07 SHEET:

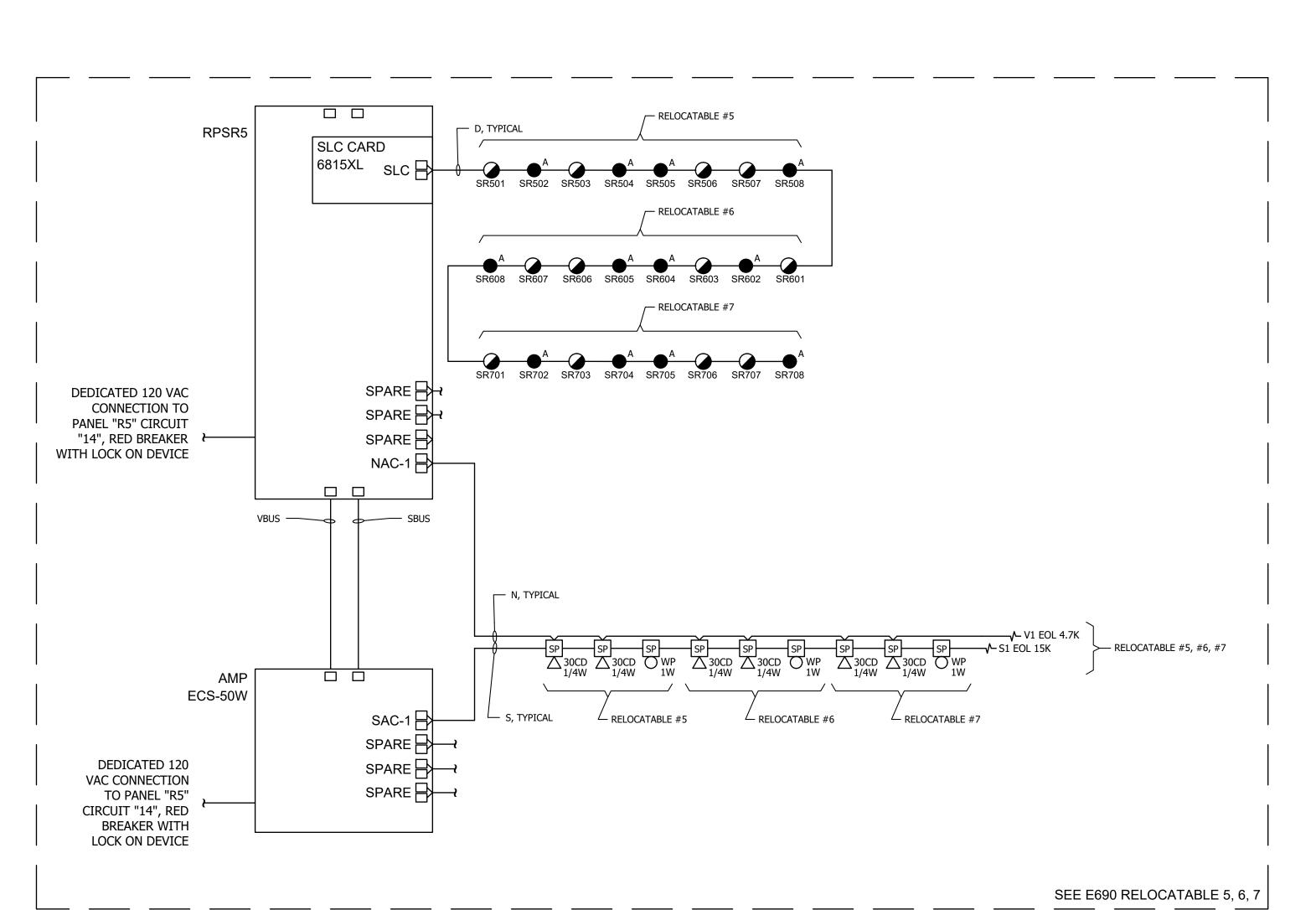
E700

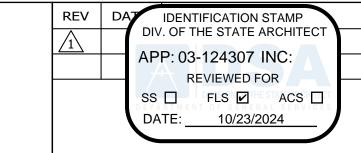
SHEETS:



D, TYPICAL RPSR8 SLC CARD SPARE = DEDICATED 120 VAC CONNECTION TO SPARE 🕞 PANEL "R8" CIRCUIT SPARE 🖹 WITH LOCK ON DEVICE NAC-1 N, TYPICAL ─ RELOCATABLE #8 ECS-50W └─ S, TYPICAL SPARE ---SPARE -DEDICATED 120 VAC CONNECTION SPARE -TO PANEL "R8" CIRCUIT "14", RED BREAKER WITH LOCK ON DEVICE SEE E690 RELOCATABLE 8







LUBBI दे अञ्चलकार्य । अक्ष

CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511

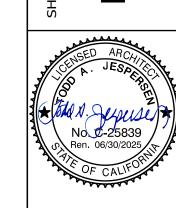
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FIRE

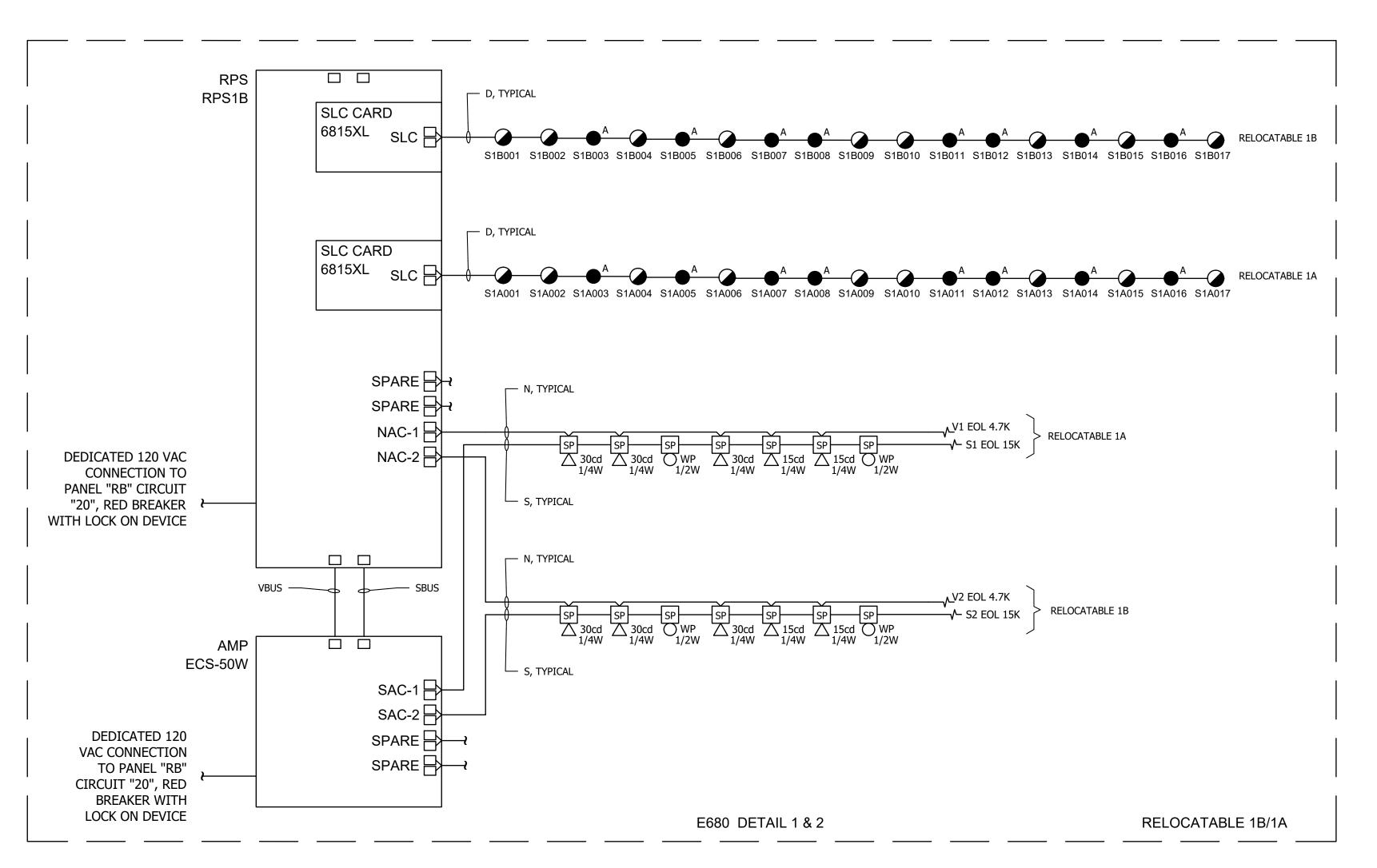


GUERRA, CA 93010 UPGRADE

drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
ЈОВ NO. 19753-07	
SHEET:	

E701

___ D, TYPICAL RPS7 SLC CARD ├── BUILDING 700 S3039 S7038 S7037 S7036 S7035 S7034 S7033 S7032 S7031 S7030 S7029 S7028 S7027 S7026 S7025 S7024 S7023 S7022 S7021 SPARE -DEDICATED 120 VAC CONNECTION TO SPARE = PANEL "H" CIRCUIT SPARE -WITH LOCK ON DEVICE NAC-1 ── N, TYPICAL ECS-50W >─ BUILDING 300 └─ S, TYPICAL SPARE -**DEDICATED 120** SPARE -VAC CONNECTION SPARE -TO PANEL "H" CIRCUIT "42", RED BREAKER WITH LOCK ON DEVICE E670 **MULTIPURPOSE BUILDING 700**



IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC APP: 03-124307 INC: REVIEWED FOR SS ☐ FLS ☑ ACS ☐

DATE: 10/23/2024

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3251 CORTE MALPASO, #511

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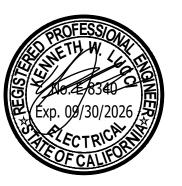


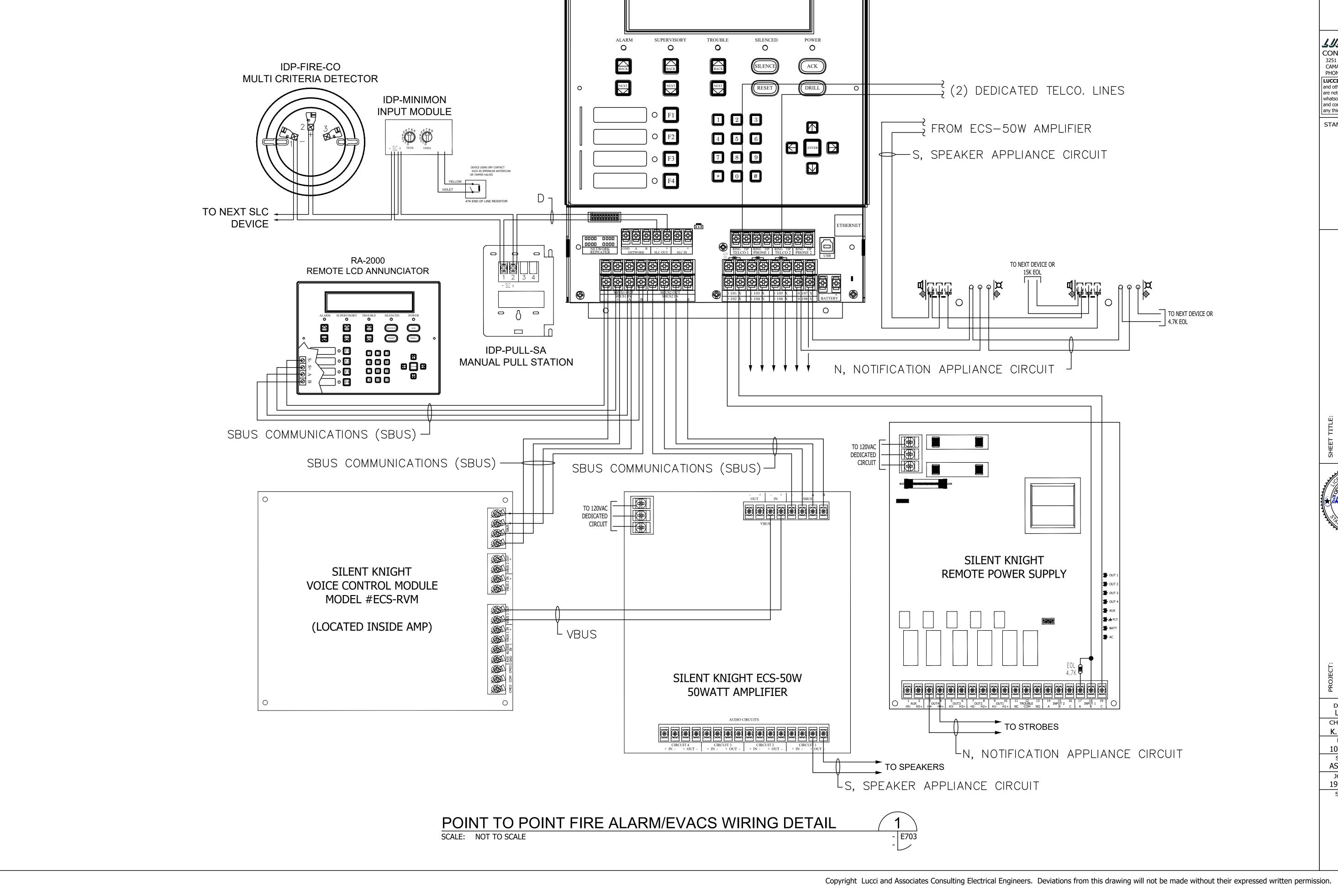
DIAGRAM FIRE



Y SCHOOL GUERRA, CA 93010 UPGRADE

drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
JOB NO.	
19753-07	
SHEET:	

E702



TO 120VAC DEDICATED CIRCUIT

TROUBLE RELAY 1 RELAY 2 NO COM NC NO COM NC NO COM NO

(NEW) FARENHYT IFP-2100ECS

W/ EVACS

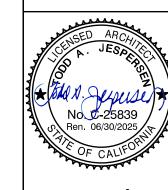
MAIN FIRE ALARM CONTROL PANEL

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> LUGGI & ASSUGLATES LUG. 3251 CORTE MALPASO, #511

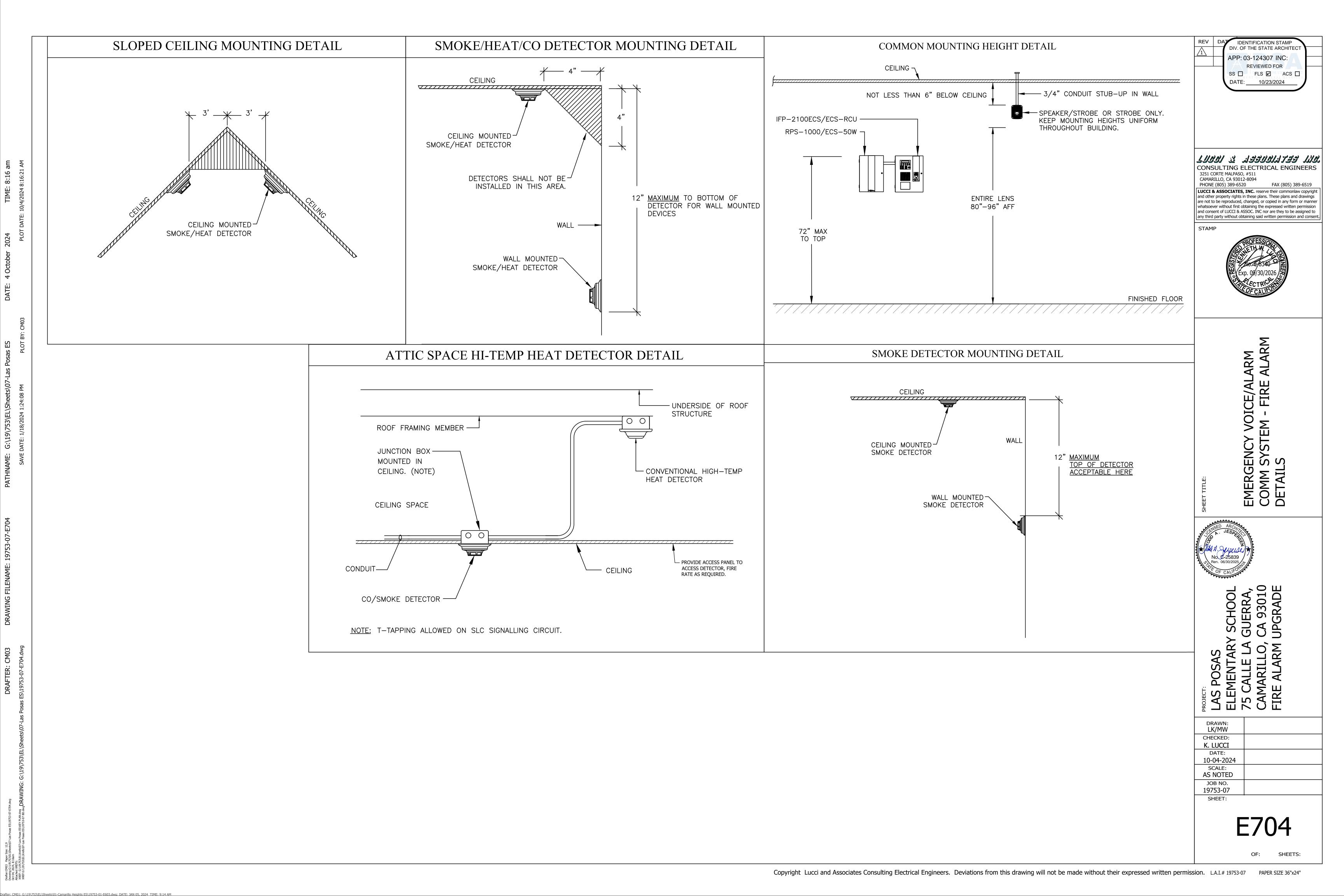
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K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
јов no. 19753-07	
SHEET:	

E703



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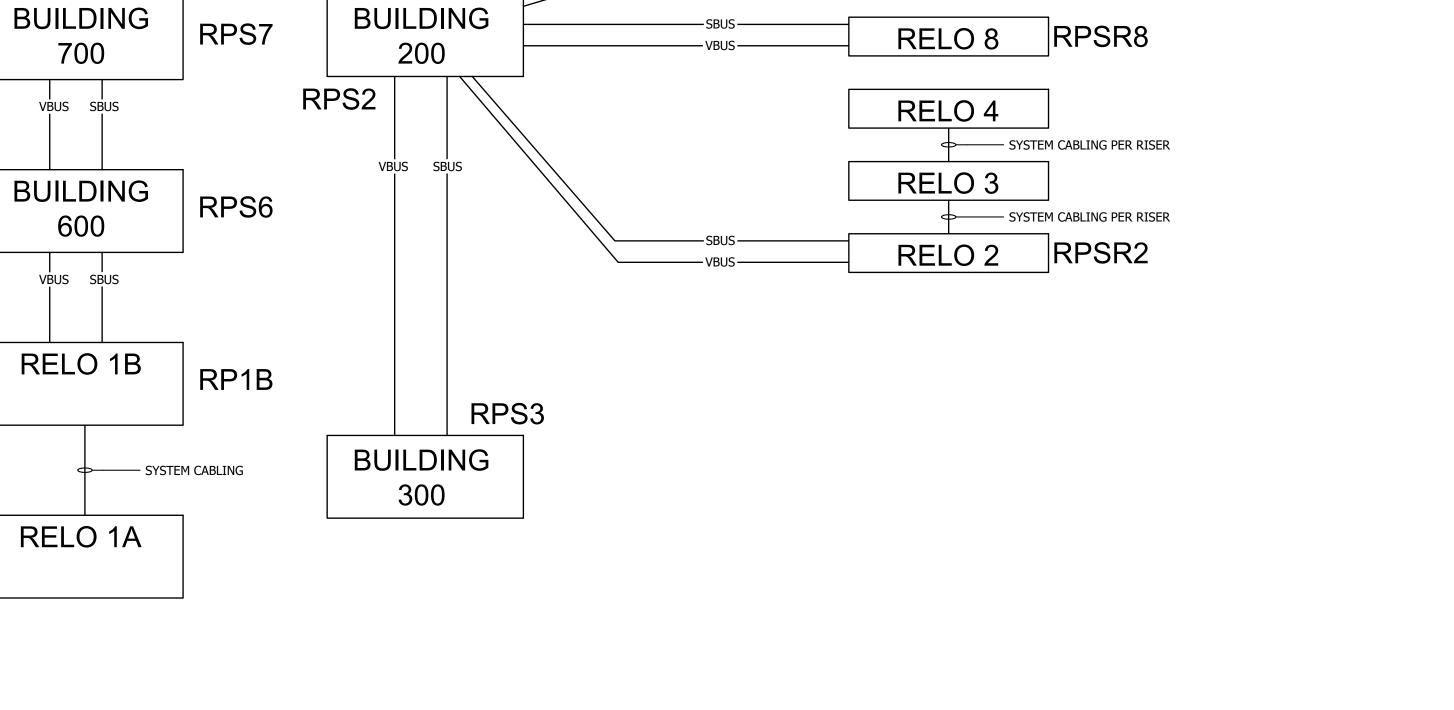
DIAGRAM RISER VBUS/



DRAWN: LK/MW CHECKED: K. LUCCI 10-04-2024 SCALE: AS NOTED 19753-07

E705

OF: SHEETS:



RELO 5

RPSR5

— SYSTEM CABLING PER RISER —

RELO 6

BUILDING 500 RPS5



ADMIN

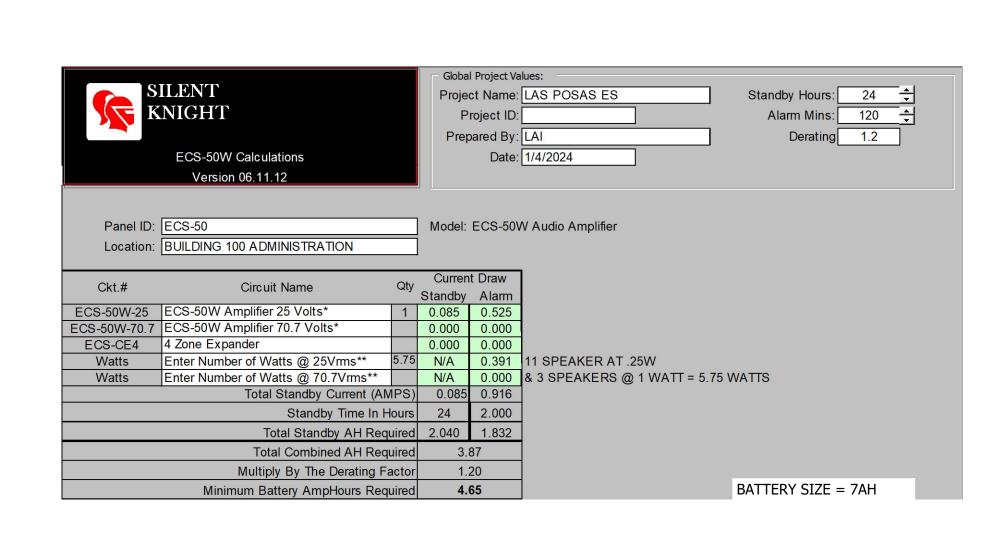
BUILDING

IFP-2100ECS

VBUS SBUS

FACP

RELO 7



						VO	LTA	GE I	DRC	P C	ALC	ULA	ATIO	NS -	- SP	EAK	ER /	4PP	LIA	NCE (CIRCI	JITS				
PANEL ID	СКТ#	1/4 \ 0.0 QTY.		1/2 V 0.0 QTY.	034	1 W 0.0 QTY.	ATT 068 AMP	2 W 0.1 QTY.	ATT 32 AMP	0.0 QTY.	00 AMP	0.0 QTY.		0.0 QTY.	- 000 AMP	0.0 QTY.	- 000 AMP	0.0 QTY.	000 AMP	(I) TOTAL CURRENT	x LENGTI	x 21.6	CIR ÷ MILS 14awg	= VOLTS DROPPED	÷ 24(V) x 100	% VOLTAGE DROP
AMP	S1	11	0.187	0	0.000	3	0.204		0.000		0.000		0.000		0.000		0.000		0.000	0.391	x 120	x 21.6	÷ 2580	= 0.393	÷ 24 × 100	1.6

I x FEET x 21.6 VOLTAGE DROPPED

C.M.

I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

AWG 12 1.59 PER 1000' 6530 2.52 PER 1000' 4.02 PER 1000' 2580 6.39 PER 1000' 1620

		Calculations-IDP 04.16.18			Duto.	1/4/2024			rop Warning nreshold %		
	Panel ID:					Add. Fire Alarm	Panel			3.0 Amps	
	Location:	BUILDING 100 ADMINISTRA	ATION	Volts:	24 VDC			Max Pan	el Current:	9.0 Amps	
Part.#		Description	Qty		nt Draw	Wire AWG	Ohms Per	Length(ft)	Actual Ohms	Volts @ EOL	%Dro
IFP-2100		IFP-2100		Standby 0.230	0.415	& Type	1000 Ft.	One-Way	Onns	EOL	
IDP-Photo, Photo-T,	PhotoR	Smoke detector		0.0000	0.0000						
IDP-Fire-CO	DOD	Fire-CO detector	12	0.0036	0.0072					,	
IDP-Heat, Heat-HT, IDP-Beam, Bean		Heat detector Beam detector		0.0000	0.0000						
DNR	11-1	Duct housing		0.0000	0.0000						
IDP-IDP Acclima	te	IDP Acclimate		0.0000	0.0000						
IDP-Photo W		Photo W		0.0000	0.0000						
IDP-Photo-R-V IDP-Photo-T-W		Photo-R-W Photo-T-W		0.0000	0.0000						
IDP-Heat-W	<u> </u>	Heat-W		0.0000	0.0000			\ /			
IDP-Heat-ROR-	W	Heat-ROR-W		0.0000	0.0000			Nya			
IDP-Heat-HT-V	V	Heat-HT-W	14	0.0028	0.0630						
IDP-Control		Control Control-6		0.0000	0.0000			/ \			
IDP-Control-6 IDP-Monitor, Mini		Monitor, Minimon		0.0000	0.0000						
IDP-Monitor-2		Monitor-2		0.0000	0.0000						
IDP-Monitor-10		Monitor-10		0.0000	0.0000						
IDP-Pull-SA, Pull	-DA	Pull-SA, Pull-DA		0.0000	0.0000	/					
IDP-Relay IDP-Relay-6		Relay Relay-6		0.0000	0.0000						
IDP-RelayMon-	2	RelayMon-2		0.0000	0.0000						/
IDP-Zone		Zone		0.0000	0.0000						
IDP-Zone-6	odula)	Zone-6		0.0000	0.0000	\leftarrow					
IDP-Iso (Isolator Mo IDP-ISO-6	odule)	Iso (Isolator Module)		0.0000	0.0000						
B224BI		Isolator Base		0.0000	0.0000						
B200S		Sounder Base		0.0000	0.0000						
B200SR		Sounder Base		0.0000	0.0000			< /			
B200S-LF B200SR-LF		Sounder Base LF Sounder Base LF		0.0000	0.0000			\nearrow			
B224RB		Relay Base		0.0000	0.0000						
RTS151		Magnetic Remote Test		0.000	0.0000	_					
RTS151KEY		Key Activated Test		0.000	0.0000						\
RA100Z		Remote LED		0.000	0.000						
6815 RA-2000		SLC Expander LCD Remote Annunc	1	0.000	0.000 0.025						,
RA-1000		LCD Remote Annunc	,	0.000	0.000						
RA-100		LCD Remote Annunc	<u> </u>	0.000	0.000						
5824		Serial/Parallel Module		0.000	0.000					/	
5496 RPS-1000		Power Expander Power Expander		0.000	0.000						
5865-4		LED Annunciator (4G)		0.000	0.000						
5865-3		LED Annunciator (3G)		0.000	0.000						
5880		LED Driver Module		0.000	0.000						
5883 CELL-MOD		Relay Module Communicator	3	0.000	0.660 0.100						
SK-NIC		Network Interface Card	1	0.000	0.021						
SK-FML		Fiber Module		0.000	0.000			\ /			
SK-FSL		Fiber Module	1	0.021	0.021						
WIDP-WG1		Wireless Gateway		0.000	0.000			NXA			
ECS-NVCM		Voice control		0.000	0.000						
ECS-SW24		Zone Expander		0.000	0.000		/				
ECS-RPU		Remote Paging Unit	1	0.070	0.250						
ECS-LOC		Local Operating Console		0.000	0.000						
ECS-LOC2100)	Local Operating Console		0.000	0.000					\	
ECS-INT50W		50 Watt Internal Amp 25		0.000	0.000						
		volts 50 Watt Internal Amp 70	•								
ECS-INT50W		volts		0.000	0.000						
ECS-50W		50 Watt Amplifier	1	0.010	0.010						
ECS-125W		125 Watt Amplifier		0.000	0.000						
ECS-DUAL50V	V	50/100 Watt Amp		0.000	0.000						
ECS-50WBU		50 Watt Backup Amplifier		0.000	0.000						
NAC-1		Notification Appl Circuit	cfg.	0.000	0.533	#12 Solid	▼ 1.59	160	0.51	23.70	1.20
NAC-2		Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	▼ 1.59		0.00		
NAC-3		Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	1.59		0.00		
SPARE		Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	1.59		0.00		100.0
SPARE		Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	▼ 1.59		0.00		100.0
SPARE		Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	▼ 1.59		0.00		100.0
SPARE		Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	▼ 1.59		0.00		100.0
SPARE		Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	▼ 1.59		0.00		100.0
OFFICE		Total Standby Current		0.378		Total Alarm Curr					
OTAILE		Standby Time I	n Hours	24	2.000	Alarm Time In M		(120 Mins)			
OTAILE				0.000	1010	T-4.1 A1	D 1				
OFFICE		Total Standby AH F				Total Alarm AH F	Required		<u> </u>		
OFFICE			Required	13	4.210 3.29 20		Required ERY SIZE = 2				

Project Name: LAS POSAS ES

Date: 1/4/2024

Prepared By: LAI

Farenhyt™ Series

IFP-2100/ECS Calculations-IDP

Standby Hours: 24

Derating Factor: 1.2

Voltage Drop Warning

Alarm Mins: 120

					V	OL7	ΓAGE	E DR	OP	CAL	CUL	_ATI	ONS	6 - N	OTII	FICA	TIO	NΑ	PPLI	IANCE	E CIR	CUIT	S					
PANEL ID	CKT#		TROBE		TROBE		STROBE	110cd S		0.0		0.0	-	0.00	00	0.0		0.1	-	(I) TOTAL	LENGTI × FT.	i x 21.6	CIR ÷ MILS	= VOL DROP	÷	24(V)	100	% VOLTAGE
		QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP		AMP	QTY.	AMP	QTY.	AMP	CURRENT			14awg	S DIGI	110			DROP
RPS1	N1	8	0.344	3	0.189		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.533	x 160	x 21.6	÷ 6530	= 0.28	82 ÷	24	100	1.2

<u>I x FEET x 21.6</u> VOLTAGE DROPPED

C.M.

I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE 21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE RESISTANCE 1.59 PER 1000' 6530 4110 2.52 PER 1000' 4.02 PER 1000' 2580 1620 6.39 PER 1000'

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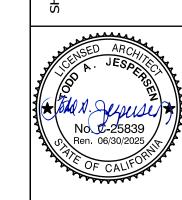
שעל בבצונלעוניבוג א אששעל

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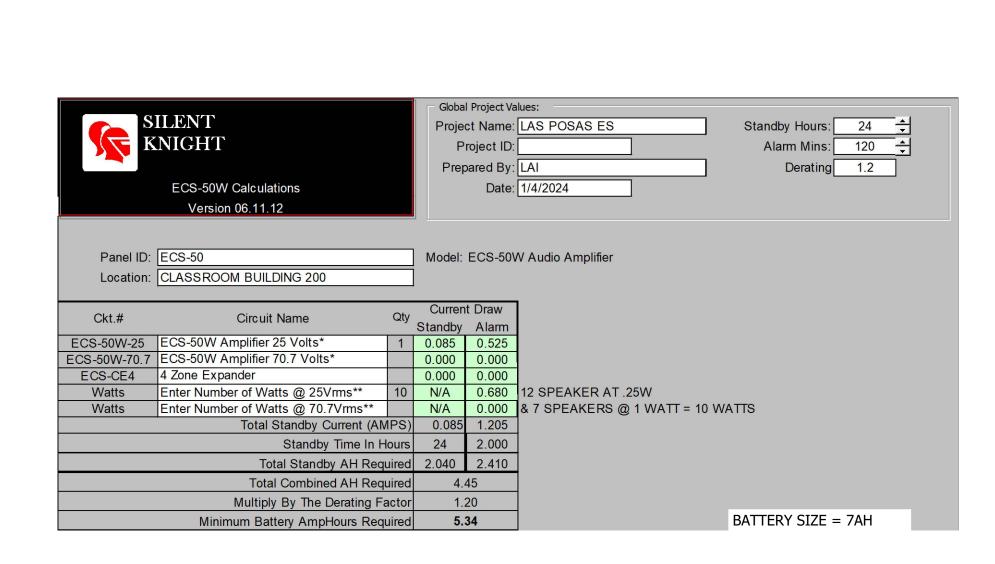
STAMP





Y SCHOOL GUERRA, CA 93010 UPGRADE

drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
јов no. 19753-07	
SHEET:	



						VO	LTA	GE	DRC	PC	ALC	ULA	ATIO	NS -	- SP	EAK	ER /	APP	LIAN	ICE (CIRC	CUI	TS					
PANEL ID	CKT#	0.	WATT	0.	WATT 034	0.0	/ATT	0.1	0.2775		000		- 000		000		000	0.0	000	(I) TOTAL CURRENT	x LENG	X	21.6	CIR ÷ MILS 14awg	= VOLTS DROPPED	÷ 24(V) x	100	% VOLTAGE DROP
AMP	S1	QTY. 12	0.204	QTY.	0.000	QTY. 7	AMP 0.476	QTY.	AMP 0.000	QTY.	0.000	QTY.	0.000	QTY.	0.000	QTY.	AMP 0.000	QTY.	0.000	0.680	x 21	LO x	21.6	÷ 2580	= 1.196	÷ 24 x	100	5.0

1 x FEET x 21.6 VOLTAGE DROPPED

C.M.

I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE SIZE	WIRE RESISTANCE	CIR. MIL
AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110
AWG 16	4.02 PER 1000'	2580
AWG 18	6.39 PER 1000'	1620

THE POWER OF CONNECTED	Farenhyt' Series			roject ID:			,	larm Mins:		<u>+</u>
IED 2100/ECS	Calculations-IDP		Prep	pared By:	1/4/2024	1		ing Factor op Warning		
	n 04.16.18			Date.	1/4/2024		_	reshold %		
. 51.51.5										
Panel ID:	- IDD92		Model:	DV 2000	Add. Fire Alarm P	anol	May NA	C Current:	3.0 Amps	
	CLASSROOM BUILDING 20	00	-	24 VDC		anei			9.0 Amps	
2004.1011.	eziteetteem Beizbitte									
Part.#	Description	Qty	Curren Standby	nt Draw Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Drop
IFP-2100	IFP-2100		0.230	0.415	α Type	100011.	Offe-vvay	Ollilis	LOL	
IDP-Photo, Photo-T,PhotoR	Smoke detector	2	0.0006	0.0006						
IDP-Fire-CO	Fire-CO detector	23	0.0069	0.0072						
IDP-Heat, Heat-HT, ROR IDP-Beam, Beam-T	Heat detector Beam detector		0.0000	0.0000						
DNR	Duct housing		0.0000	0.0000						
IDP-IDP Acclimate	IDP Acclimate		0.0000	0.0000						
IDP-Photo W IDP-Photo-R-W	Photo W Photo-R-W		0.0000	0.0000						
IDP-Photo-T-W	Photo-T-W		0.0000	0.0000						
IDP-Heat-W	Heat-W		0.0000	0.0000			\ /			
IDP-Heat-ROR-W	Heat-ROR-W	25	0.0000	0.0000			NA			
IDP-Heat-HT-W IDP-Control	Heat-HT-W Control	25	0.0000	0.1125			$/\setminus$			
IDP-Control-6	Control-6		0.0000	0.0000						
IDP-Monitor, Minimon	Monitor, Minimon	0	0.0000	0.0000						
IDP-Monitor-2 IDP-Monitor-10	Monitor-2 Monitor-10		0.0000	0.0000						
IDP-Pull-SA, Pull-DA	Pull-SA, Pull-DA		0.0000	0.0000	/					
IDP-Relay	Relay		0.0000	0.0000						
IDP-Relay-6	Relay-6		0.0000	0.0000						
IDP-RelayMon-2 IDP-Zone	RelayMon-2 Zone		0.0000	0.0000						
IDP-Zone-6	Zone-6		0.0000	0.0000						
IDP-lso (Isolator Module)	Iso (Isolator Module)		0.0000							
IDP-ISO-6 B224BI	ISO-6 Isolator Base		0.0000	0.0000						
B200S	Sounder Base		0.0000	0.0000						
B200SR	Sounder Base		0.0000	0.0000						
B200S-LF	Sounder Base LF Sounder Base LF		0.0000	0.0000			$\nearrow \searrow$			
B200SR-LF B224RB	Relay Base		0.0000	0.0000						
RTS151	Magnetic Remote Test		0.000	0.0000						
RTS151KEY	Key Activated Test		0.000	0.0000						
RA100Z 6815	Remote LED SLC Expander		0.000	0.000						
RA-2000	LCD Remote Annunc		0.000	0.000						
RA-1000	LCD Remote Annunc		0.000	0.000						
RA-100 5824	LCD Remote Annunc Serial/Parallel Module		0.000	0.000						
5496	Power Expander		0.000	0.000						
RPS-1000	Power Expander		0.000	0.000						
5865-4 5865-3	LED Annunciator (4G)		0.000	0.000						
5880	LED Annunciator (3G) LED Driver Module		0.000	0.000				/		
5883	Relay Module	2	0.000	0.440						
CELL-MOD	Communicator	1	0.000	0.100						
SK-NIC SK-FML	Network Interface Card Fiber Module	1	0.021	0.021			. /			
SK-FSL	Fiber Module	1	0.021	0.021			\ /			
WIDP-WG1	Wireless Gateway		0.000	0.000			NXA			
ECS-NVCM	Voice control		0.000	0.000						
ECS-SW24	Zone Expander		0.000	0.000		/	,			
ECS-RPU	Remote Paging Unit	1	0.070	0.250						
ECS-LOC	Local Operating Console		0.000	0.000						
ECS-LOC2100	Local Operating Console		0.000	0.000					\	
ECS-INT50W	50 Watt Internal Amp 25 volts		0.000	0.000	/					
ECO INTEGIAL	50 Watt Internal Amp 70	•	0.000	0.000						
ECS-INT50W	volts		0.000	0.000						
ECS-50W	50 Watt Amplifier	1	0.010	0.010						
ECS-125W	125 Watt Amplifier		0.000	0.000						
ECS-DUAL50W	50/100 Watt Amp		0.000	0.000						
ECS-50WBU	50 Watt Backup Amplifier	cfa	0.000	0.000	#12 Solid ▼	1.50	240	0.67	22.50	2 4 40/
NAC-1 NAC-2	Notification Appl Circuit Notification Appl Circuit	cfg.	0.000	1.157 0.000	#12 Solid ▼ #12 Solid ▼	1.59 1.59	210	0.67	23.50	2.14%
NAC-2 NAC-3	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼	1.59		0.00		
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid 🔻	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid <u>▼</u>	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid <u>▼</u>	1.59		0.00		100.00%
	Total Standby Current		0.365	2.534	Total Alarm Current	· · ·	/400 h			
	Standby Time Total Standby AH F			2.000 5.069	Alarm Time In Minu		(120 Mins)			
	Total Combined AH F			.82	Total Alarm AH Rec	_l uneu		<u> </u>		
	Multiply By The Derating			20	D * * * * * * * * * * * * * * * * * * *	V CI7E - 24				
	Minimum Battery AmpHours F			.58	BATTER	Y SIZE = 28	АП			
					- [

Project Name: LAS POSAS ES

Farenhyt™ Series

Standby Hours: 24

					V	OLT	TAGE	E DR	ROP	CAL	CUL	_ATI	ONS	6 - N	OTIF	FICA	TIO	n af	PPLI	ANC	E CIR	CUIT	S				
PANEL ID	CKT#		TROBE	30cd S			STROBE	110cd S					-	-		-		-		(I) TOTAL	LENGTH	x 21.6	CIR ÷ MILS	VOLTS	÷ 24(V) x	100	% VOLTAGE
		0.0 QTY.	043 AMP	QTY.	063 AMP	QTY.	107 AMP	QTY.	.48 AMP	0.0 QTY.	AMP	QTY.	AMP	0.00 QTY.	AMP	0.0 QTY.	AMP	0.0 QTY.	OO AMP	CURRENT	FT.		14awg	DROPPED			DROP
RPS2	N1	7	0.301	0	0.000	8	0.856		0.000		0.000		0.000		0.000		0.000		0.000	1.157	x 210	x 21.6	÷ 6530	= 0.804	÷ 24 x	100	3.3

<u>I x FEET x 21.6</u> VOLTAGE DROPPED

C.M.

I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE RESISTANCE 1.59 PER 1000' 4110 2.52 PER 1000' 4.02 PER 1000' 2580 1620 6.39 PER 1000'

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC

APP: 03-124307 INC: REVIEWED FOR SS ☐ FLS ☑ ACS ☐

שעל בבצונלעוניבוג א אששעל CONSULTING ELECTRICAL ENGINEERS

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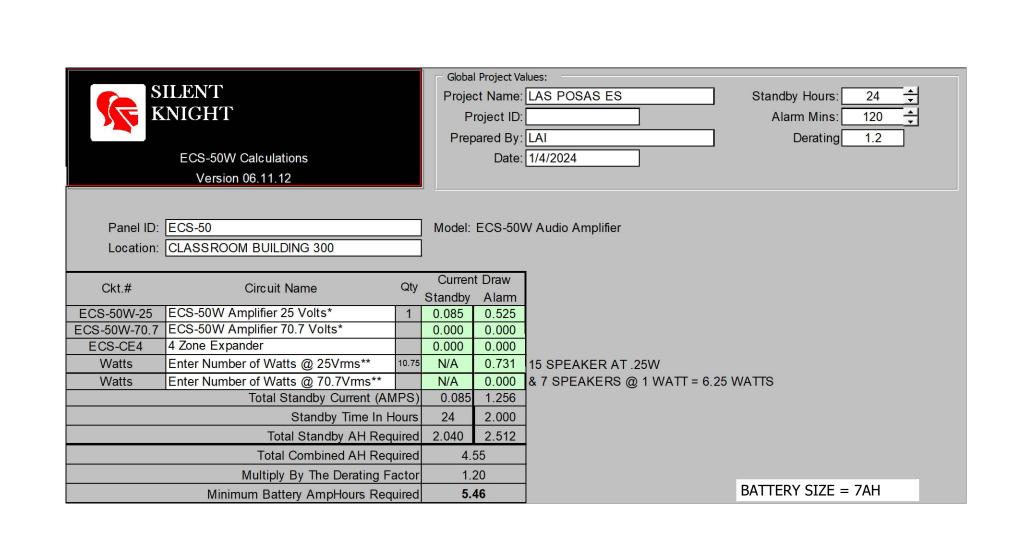
3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094 PHONE (805) 389-6520

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drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
JOB NO. 19753-07	
SHEET:	

1 x FEET x 21.6 C.M. I = TOTAL CIRCUIT CURRENT

NOTE: EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM POWER SOURCE IS CALCULATED FOR 24-HOUR STANDBY AND 2-HOUR LOAD DURATION PER CFC SECTIONS: 604.1.4; 604.2.4; 907.5.2.2.5



						VO	LTA	GE	DRC)P C	ALC	ULA	ATIO	NS ·	- SP	EAK	ŒR /	APF	PLIAN	NCE (CIR	CU	ITS				
PANEL ID	СКТ#	1/4 V 0.0 QTY.	VATT 017 AMP		WATT 034 AMP		/ATT 068 AMP		ATT 132 AMP	0.0 QTY.	000 AMP	0.0 QTY.	- 000 AMP	0.0 QTY.	- 000 AMP	0.0 QTY.	- 000 AMP	0. QTY.	- 000 AMP	(I) TOTAL CURRENT	x LE	NGTH FT.	x 21.6	CIR ÷ MILS 14awg	= VOLTS DROPPED	÷ 24(V) x 10	% 0 VOLTAGE DROP
AMP	S1	15	0.255	0	0.000	7	0.476	<u> </u>	0.000	7.11	0.000	Ψ	0.000	٠,	0.000	7,11	0.000	٠	0.000	0.731	x	210	x 21.6	÷ 2580	= 1.285	÷ 24 × 10	0 5.4

VOLTAGE DROPPED

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE SIZE	WIRE RESISTANCE	CIR. MIL
AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110
AWG 16	4.02 PER 1000'	2580
AWG 18	6.39 PER 1000'	1620

THE POWER OF CONNECTED	Farenhyt™ Series			roject ID:]	,	larm Mins:		<u> </u>
IED 2100/ECS	Calculations-IDP		Prep	pared By:	1/4/2024	1		ing Factor op Warning		
	n 04.16.18			Date.	1/4/2024	J	_	reshold %		I
Vereio	0 1.10.10								10	
Panel ID:	IDDS2		Model:	DV 2000	Add. Fire Alarm P	anol	May NA	C Current:	3.0 Amps	
	CLASSROOM BUILDING 30	00	4	24 VDC		anei			9.0 Amps	
Loodiion	CENTOON BOILDING OF	50					Wax r arr	er ourrent.		
Part.#	Description	Qty		t Draw	Wire AWG	Ohms Per	Length(ft)	Actual	Volts @	%Drop
IFP-2100	IFP-2100		Standby 0.230	Alarm 0.415	& Type	1000 Ft.	One-Way	Ohms	EOL	
IDP-Photo, Photo-T,PhotoR	Smoke detector	2	0.0006	0.0006						
IDP-Fire-CO	Fire-CO detector		0.0000	0.0072						
IDP-Heat, Heat-HT, ROR IDP-Beam, Beam-T	Heat detector Beam detector		0.0000	0.0000						
DNR	Duct housing		0.0000	0.0000						
IDP-IDP Acclimate	IDP Acclimate		0.0000	0.0000						
IDP-Photo W IDP-Photo-R-W	Photo W Photo-R-W		0.0000	0.0000						
IDP-Photo-T-W	Photo-T-W		0.0000	0.0000						
IDP-Heat-W	Heat-W		0.0000	0.0000		`	\ /			
IDP-Heat-ROR-W IDP-Heat-HT-W	Heat-ROR-W Heat-HT-W	25	0.0000	0.0000			NA			
IDP-Control	Control	23	0.0000	0.0000			/			
IDP-Control-6	Control-6		0.0000	0.0000						
IDP-Monitor, Minimon	Monitor, Minimon Monitor-2		0.0000	0.0000						
IDP-Monitor-2 IDP-Monitor-10	Monitor-10		0.0000	0.0000						
IDP-Pull-SA, Pull-DA	Pull-SA, Pull-DA		0.0000	0.0000	/					
IDP-Relay	Relay Relay-6		0.0000	0.0000						
IDP-Relay-6 IDP-RelayMon-2	RelayMon-2		0.0000	0.0000						
IDP-Zone	Zone		0.0000	0.0000						
IDP-Zone-6	Zone-6		0.0000	0.0000	K					
IDP-Iso (Isolator Module) IDP-ISO-6	Iso (Isolator Module) ISO-6		0.0000	0.0000						
B224BI	Isolator Base		0.0000	0.0000		_				
B200S	Sounder Base		0.0000	0.0000						
B200SR B200S-LF	Sounder Base Sounder Base LF		0.0000	0.0000			\			
B200SR-LF	Sounder Base LF		0.0000	0.0000			/			
B224RB	Relay Base		0.0000	0.0000						
RTS151 RTS151KEY	Magnetic Remote Test Key Activated Test		0.000	0.0000						
RA100Z	Remote LED		0.000	0.000						
6815	SLC Expander	1	0.078	0.078						
RA-2000	LCD Remote Annunc		0.000	0.000						
RA-1000 RA-100	LCD Remote Annunc	•	0.000	0.000						
5824	Serial/Parallel Module	<u> </u>	0.000	0.000						
5496 RPS-1000	Power Expander		0.000	0.000						
5865-4	Power Expander LED Annunciator (4G)		0.000	0.000						
5865-3	LED Annunciator (3G)		0.000	0.000						
5880	LED Driver Module	2	0.000	0.000						
5883 CELL-MOD	Relay Module Communicator	2	0.000	0.440						
SK-NIC	Network Interface Card	1	0.021	0.021						
SK-FML	Fiber Module		0.000	0.000		`	\ /			
SK-FSL	Fiber Module Wireless Cateway	1	0.021	0.021			NKA			
WIDP-WG1 ECS-NVCM	Wireless Gateway Voice control		0.000	0.000						
ECS-NVCW ECS-SW24	Zone Expander		0.000	0.000				\		
ECS-RPU	Remote Paging Unit	1	0.070	0.250						
ECS-LOC	Local Operating Console	_	0.000	0.000						
ECS-LOC2100	Local Operating Console		0.000	0.000					\	
ECS-INT50W	50 Watt Internal Amp 25		0.000	0.000						
	volts									
ECS-INT50W	50 Watt Internal Amp 70 volts		0.000	0.000						
ECS-50W	50 Watt Amplifier	1	0.010	0.010						
ECS-125W	125 Watt Amplifier		0.000	0.000						
ECS-DUAL50W	50/100 Watt Amp		0.000	0.000						
ECS-50WBU	50 Watt Backup Amplifier		0.000	0.000	/	1			1	
NAC-1	Notification Appl Circuit	cfg.	0.000	1.157	#12 Solid		130	0.41	23.50	2.14%
NAC-2 NAC-3	Notification Appl Circuit Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼ #12 Solid ▼	1.59 1.59		0.00		
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid 🔻	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼	1.59		0.00		100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼			0.00		100.00%
	Total Standby Current		0.436	2.612	Total Alarm Current	· · · ·	4462			
	Standby Time I		24		Alarm Time In Minu		(120 Mins)			
	Total Standby AH F Total Combined AH F			5.225	Total Alarm AH Red	quired				
	Multiply By The Derating			20	DATTER)V CI7E = 20				
	Minimum Battery AmpHours F			.81	BALLER	RY SIZE = 28	ПАС			

Project Name: LAS POSAS ES

Farenhyt™ Series

Standby Hours: 24

					V	OLT	AGE	E DR	OP	CAL	CUL	_ATI	ONS	6 - N	OTI	FICA	ATIO	N Al	PPLI	ANCE	CIRC	CUITS	3					
PANEL ID	CKT#		TROBE		STROBE			110cd S		_			-							(I) TOTAL	LENGTH	x 21.6	CIR ÷ MILS	VOLTS	÷ 24(V) >	x 100	% VOLTAGE	
		1,500	043 AMP	QTY.	.063 AMP	0.1 QTY.	L07 AMP	0.1 QTY.	(GOLDES	0.0 QTY.	AMP	0.0 QTY.	AMP		000 AMP	QTY.	000 AMP		AMP	CURRENT	FT.		14awg	DROPPED	, ,		DROP	
RPS3	N1	7	0.301	0	0.000	8	0.856		0.000		0.000		0.000		0.000		0.000		0.000	1.157	x 130	x 21.6	÷ 6530	= 0.498	÷ 24	x 100	2.1	

<u>I x FEET x 21.6</u> VOLTAGE DROPPED

C.M.

I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE 21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE RESISTANCE 1.59 PER 1000' 6530 4110 2.52 PER 1000' 4.02 PER 1000' 2580 1620 6.39 PER 1000'

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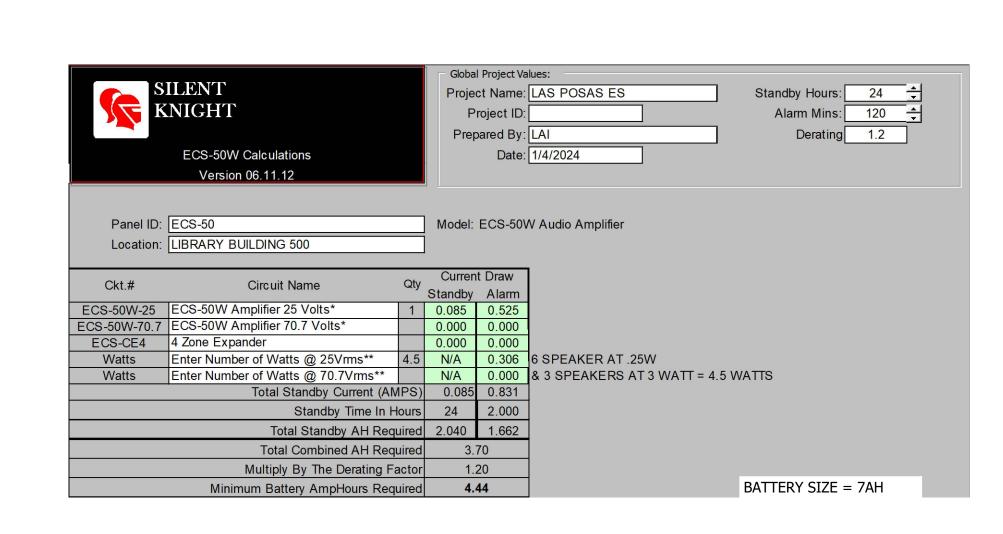
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K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
JOB NO.	
19753-07	
SHEET:	



						VO	LTA	GE	DRC	PC	ALC	ULA	ATIO	NS -	- SP	EAK	ER /	APP	LIAN	ICE (CIRC	CUI	TS					
PANEL ID	CKT#	0.	WATT 017	0.0	WATT 034	0.0	/ATT	0.1	10-775-0		000		- 000		- 000	0.0		0.0	000	(I) TOTAL CURRENT	x LEN	GТН т.	x 21.6	CIR ÷ MILS 14awg	= VOLTS DROPPED	÷ 24(V) x	100	% VOLTAGE DROP
AMP	S1	QTY. 6	0.102	QTY.	0.000	QTY. 3	0.204	QTY.	0.000	QTY.	0.000	QTY.	0.000	QTY.	0.000	QTY.	AMP 0.000	QTY.	0.000	0.306		20	x 21.6	÷ 2580	= 0.564	÷ 24 x	100	2.3

1 x FEET x 21.6 VOLTAGE DROPPED

C.M. I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE SIZE	WIRE RESISTANCE	CIR. MIL
AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110
AWG 16	4.02 PER 1000'	2580
AWG 18	6.39 PER 1000'	1620

Version	04.16.18							reshold %	10	
			•							
Panel ID: Location:	LIBRARY BUILDING 500			24 VDC	Add. Fire Alarm I	Panel			3.0 Amps 9.0 Amps	
Part.#	Description	Qty	Curren Standby	t Draw Alarm	Wire AWG & Type	Ohms Per 1000 Ft.	Length(ft) One-Way	Actual Ohms	Volts @ EOL	%Dro
IFP-2100	IFP-2100		0.230	0.415	Q Type	100011.	One-vvay	Offilia	LOL	
IDP-Photo, Photo-T,PhotoR	Smoke detector		0.0000	0.0000						
IDP-Fire-CO	Fire-CO detector	6	0.0018							
IDP-Heat, Heat-HT, ROR	Heat detector		0.0000	0.0000						
IDP-Beam, Beam-T DNR	Beam detector		0.0000							
IDP-IDP Acclimate	Duct housing IDP Acclimate		0.0000							
IDP-Photo W	Photo W		0.0000	0.0000				/		
IDP-Photo-R-W	Photo-R-W		0.0000	0.0000						
IDP-Photo-T-W	Photo-T-W		0.0000	0.0000						
IDP-Heat-W	Heat-W		0.0000	0.0000			\ /			
IDP-Heat-ROR-W	Heat-ROR-W		0.0000	0.0000			N#A			
IDP-Heat-HT-W IDP-Control	Heat-HT-W Control	6	0.0012	0.0270						
IDP-Control-6	Control-6		0.0000	0.0000		/				
IDP-Monitor, Minimon	Monitor, Minimon		0.0000	0.0000						
IDP-Monitor-2	Monitor-2		0.0000	0.0000						
IDP-Monitor-10	Monitor-10		0.0000	0.0000						
IDP-Pull-SA, Pull-DA	Pull-SA, Pull-DA		0.0000	0.0000		'				
IDP-Relay	Relay		0.0000	0.0000						
IDP-Relay-6 IDP-RelayMon-2	Relay-6 RelayMon-2		0.0000	0.0000						
IDP-Zone	Zone		0.0000	0.0000						
IDP-Zone-6	Zone-6		0.0000	0.0000						
IDP-lso (Isolator Module)	lso (Isolator Module)		0.0000	0.0000						
IDP-ISO-6	ISO-6		0.0000	0.0000						
B224BI	Isolator Base		0.0000							
B200S	Sounder Base			0.0000						
B200SR B200S-LF	Sounder Base Sounder Base LF		0.0000	0.0000			\			
B200SR-LF	Sounder Base LF		0.0000				/			
B224RB	Relay Base		0.0000	0.0000						
RTS151	Magnetic Remote Test		0.000	0.0000						
RTS151KEY	Key Activated Test		0.000	0.0000						\
RA100Z	Remote LED		0.000	0.000						
6815	SLC Expander		0.000	0.000						,
RA-2000 RA-1000	LCD Remote Annunc LCD Remote Annunc	-	0.000	0.000						
RA-1000	LCD Remote Annunc	•	0.000	0.000						
5824	Serial/Parallel Module		0.000	0.000					,	
5496	Power Expander		0.000	0.000						
RPS-1000	Power Expander		0.000	0.000						
5865-4	LED Annunciator (4G)		0.000	0.000	`					
5865-3 5880	LED Annunciator (3G) LED Driver Module		0.000	0.000				,		
5883	Relay Module		0.000	0.000						
CELL-MOD	Communicator		0.000	0.100						
SK-NIC	Network Interface Card	1	0.021	0.021						
SK-FML	Fiber Module		0.000	0.000			\ /	/		
SK-FSL	Fiber Module	1	0.021	0.021						
WIDP-WG1	Wireless Gateway		0.000	0.000			NXA			
ECS-NVCM	Voice control		0.000	0.000						
ECS-SW24	Zone Expander		0.000	0.000		/				
ECS-RPU	Remote Paging Unit	1	0.070	0.250						
ECS-LOC	Local Operating Console		0.000	0.000						
ECS-LOC2100	Local Operating Console		0.000	0.000					\	
ECS-INT50W	50 Watt Internal Amp 25		0.000	0.000						
	volts									
ECS-INT50W	50 Watt Internal Amp 70 volts		0.000	0.000						
ECS-50W	50 Watt Amplifier	1	0.010	0.010						
ECS-50VV ECS-125W	125 Watt Amplifier		0.000	0.000						
ECS-125W ECS-DUAL50W	50/100 Watt Amp		0.000	0.000						
ECS-50WBU	50 Watt Backup Amplifier		0.000	0.000						
NAC-1	Notification Appl Circuit	cfg.	0.000	0.338	#12 Solid ▼	1.59	220	0.70	23.70	1.02%
NAC-2	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid		220	0.00	20.10	1.027
NAC-2 NAC-3	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid			0.00		
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid	7		0.00		100.00
SPARE SPARE		cfg.	0.000	0.000	#12 Solid					100.00
	Notification Appl Circuit	cfg.			#12 Solid	7		0.00		
SPARE	Notification Appl Circuit		0.000	0.000	an and a second second	1.00		0.00		100.00
	Notification Appl Circuit Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼ #12 Solid ▼			0.00		100.00
SPARE	Inomication Appl Circuit	cfg.	0.000	1.189		_		0.00		100.00
SPARE	Total Standby Curren		1 1 1 1	1 109	Total Alarm Currer	it (Amps)				
	Total Standby Curren				Alarm Time In Min	utoc / 60	(120 Mina)			
	Standby Time	In Hours	24	2.000	Alarm Time In Min		(120 Mins)			
	Standby Time Total Standby AH	In Hours Required	24 8.520	2.000 2.378	Alarm Time In Min Total Alarm AH Re		(120 Mins)			
	Standby Time	In Hours Required Required	24 8.520 10.	2.000 2.378 .90	Total Alarm AH Re					

Project Name: LAS POSAS ES

Date: 1/4/2024

Prepared By: LAI

Farenhyt™ Series

IFP-2100/ECS Calculations-IDP

THE POWER OF CONNECTED

Standby Hours: 24

Derating Factor: 1.2

Voltage Drop Warning

Threshold %:

Alarm Mins: 120

					V	OLT	AGE	E DR	OP	CAL	CUL	ATI	ONS	- NO	OTIF	FICA	TIO	N APPLI	ANCE	CIR	CUITS	3				
PANEL ID	CKT#		TROBE	30cd S		11 0								-		-			(I) TOTAL >	LENGTH	x 21.6	CIR ÷ MILS	VOLTS	÷ 24(V) x	100	% VOLTAGE
	370.00.000	0.0 QTY.	43 AMP	0.0 QTY.	AMP	0.1 QTY.	107 AMP	0.1 QTY.	48 AMP	0.0 QTY.	AMP	0.0 QTY.	AMP	QTY.	AMP	0.0 QTY.	AMP	0.000 QTY. AMP	CURRENT	FT.		14awg	DROPPED			DROP
RPS5	N1	2	0.086	4	0.252		0.000		0.000		0.000		0.000		0.000		0.000	0.000	0.338 ×	220	x 21.6	÷ 6530	= 0.246	÷ 24 x	100	1.0

<u>I x FEET x 21.6</u> VOLTAGE DROPPED

C.M.

I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE 21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE RESISTANCE 1.59 PER 1000' 4110 2.52 PER 1000' 4.02 PER 1000' 2580 1620 6.39 PER 1000'

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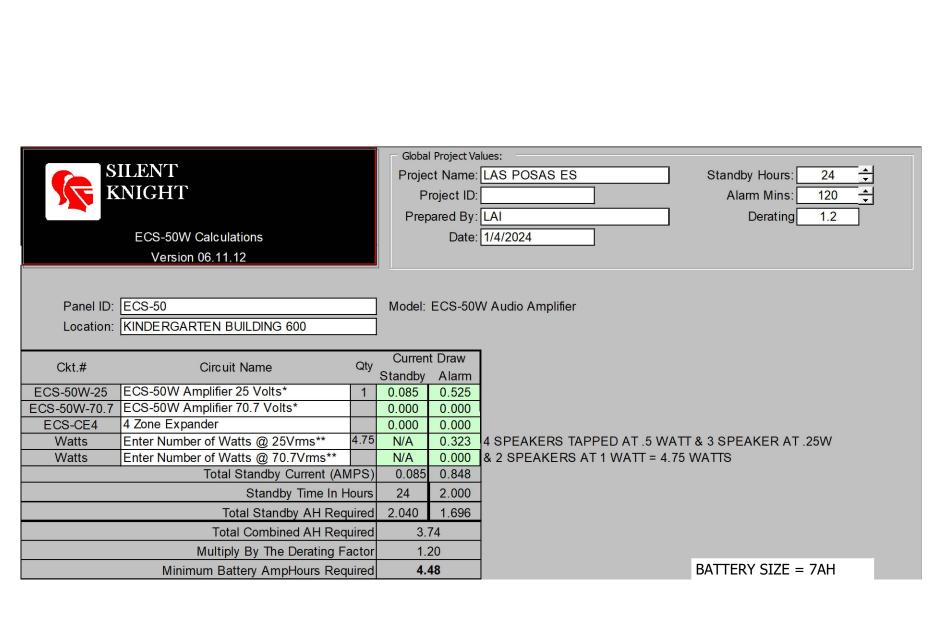
APP: 03-124307 INC:



drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
јов no. 19753-07	
SHEET:	

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

NOTE: EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM POWER SOURCE IS CALCULATED FOR 24-HOUR STANDBY AND 2-HOUR LOAD DURATION PER CFC SECTIONS: 604.1.4; 604.2.4; 907.5.2.2.5



						VO	LTA	GE I	DRC	PC	ALC	ULA	ATIO	NS ·	- SP	EAK	ER /	4PF	PLIA	NCE (CIRCL	JITS					
PANEL ID	СКТ#	0.0	WATT)34	0.0	(M. 10 (M. 10))				000	0.0			000	0.0		-	.000	(I) TOTAL CURRENT	x LENGTH x FT.	x 21.6	CIR ÷ MILS 14awg	= VOLTS DROPPED	÷ 24(V) >	100	% VOLTAGE DROP
		QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP								
AMP	S1	3	0.051	4	0.136	2	0.136		0.000		0.000		0.000		0.000		0.000		0.000	0.323	x 120	x 21.6	÷ 2580	= 0.325	÷ 24 >	100	1.4

I x FEET x 21.6 VOLTAGE DROPPED

C.M. I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

21.6 = FORMULA CONSTANT

WIRE SIZE WIRE RESISTANCE CIR. MILS

AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110
AWG 16	4.02 PER 1000'	2580
AWG 18	6.39 PER 1000'	1620

			_ Globa	I Project Va	lues:	
Honovavoll					LAS POSAS ES	Standby Hours: 24
Honeywell	Farenhyt™ Series			roject ID:		Alarm Mins: 120 💠
THE POWER OF CONNECTED				oared By:		Derating Factor: 1.2
IEP-2100/ECS	Calculations-IDP		1 10		1/4/2024	Voltage Drop Warning
	1 04.16.18			Date.	17472024	Threshold %: 10
Version	1 04. 10. 10					
Panel ID:	RPS6		Model:	RA-2000	Add. Fire Alarm Panel	Max NAC Current: 3.0 Amps
Location:	KINDERGARTEN BUILDING	600	Volts:	24 VDC		Max Panel Current: 9.0 Amps
]			
Part.#	Description	Qty		nt Draw	Wire AWG Ohms Per	0 %1)[0
	•		Standby		& Type 1000 Ft.	One-Way Ohms EOL
IFP-2100	IFP-2100		0.230	0.415		
IDP-Photo, Photo-T,PhotoR IDP-Fire-CO	Smoke detector Fire-CO detector	24	0.0000	0.0000		
IDP-Heat, Heat-HT, ROR	Heat detector	24	0.0072	0.0000		
IDP-Beam, Beam-T	Beam detector		0.0000	0.0000		
DNR	Duct housing		0.0000	0.0000		
IDP-IDP Acclimate	IDP Acclimate		0.0000	0.0000		
IDP-Photo W	Photo W		0.0000	0.0000		
IDP-Photo-R-W	Photo-R-W		0.0000	0.0000		
IDP-Photo-T-W IDP-Heat-W	Photo-T-W Heat-W		0.0000	0.0000		
IDP-Heat-ROR-W	Heat-ROR-W		0.0000	0.0000		
IDP-Heat-HT-W	Heat-HT-W	21	0.0000	0.0000) * A
IDP-Control	Control		0.0000	0.0000		
IDP-Control-6	Control-6		0.0000	0.0000		
IDP-Monitor, Minimon	Monitor, Minimon		0.0000	0.0000		
IDP-Monitor-2	Monitor-2		0.0000	0.0000		
IDP-Monitor-10	Monitor-10		0.0000	0.0000		
IDP-Pull-SA, Pull-DA IDP-Relay	Pull-SA, Pull-DA Relay		0.0000	0.0000		
IDP-Relay-6	Relay-6		0.0000	0.0000		
IDP-RelayMon-2	RelayMon-2			0.0000		
IDP-Zone	Zone		0.0000	0.0000		
IDP-Zone-6	Zone-6		0.0000	0.0000		
IDP-Iso (Isolator Module)	Iso (Isolator Module)		0.0000	0.0000		
IDP-ISO-6	ISO-6		0.0000	0.0000		
B224BI	Isolator Base		0.0000	0.0000		
B200S	Sounder Base		0.0000	0.0000		
B200SR	Sounder Base		0.0000	0.0000		
B200S-LF B200SR-LF	Sounder Base LF Sounder Base LF		0.0000	0.0000		
B2003R-Ei	Relay Base		0.0000	0.0000		
RTS151	Magnetic Remote Test		0.000	0.0000		
RTS151KEY	Key Activated Test		0.000	0.0000		
RA100Z	Remote LED		0.000	0.000		
6815	SLC Expander		0.000	0.000		
RA-2000	LCD Remote Annunc		0.000	0.000		/
RA-1000	LCD Remote Annunc		0.000	0.000		
RA-100 5824	LCD Remote Annunc Serial/Parallel Module		0.000	0.000		
5496	Power Expander		0.000	0.000		
RPS-1000	Power Expander		0.000	0.000		
5865-4	LED Annunciator (4G)		0.000	0.000		
5865-3	LED Annunciator (3G)		0.000	0.000		
5880	LED Driver Module		0.000	0.000		
5883	Relay Module	2	0.000	0.440		
CELL-MOD	Communicator	4	0.000	0.100		
SK-NIC SK-FML	Network Interface Card Fiber Module	1	0.021	0.021		
SK-FML SK-FSL	Fiber Module	1	0.000	0.000		
		1	0.021	0.021		NA
WIDP-WG1	Wireless Gateway		0.000	0.000		
ECS-NVCM	Voice control		0.000	0.000		
ECS-SW24	Zone Expander					
ECS-RPU	Remote Paging Unit	1	0.070	0.250		
ECS-LOC	Local Operating Console		0.000	0.000		
ECS-LOC2100	Local Operating Console		0.000	0.000		
ECS-INT50W	50 Watt Internal Amp 25		0.000	0.000		
	volts					
ECS-INT50W	50 Watt Internal Amp 70		0.000	0.000		
F.00 F0/4/	volts	4	0.010	0.010		
ECS-50W	50 Watt Amplifier	1		0.010		
ECS-125W	125 Watt Amplifier		0.000			
ECS-DUAL50W	50/100 Watt Amp		0.000	0.000		
ECS-50WBU	50 Watt Backup Amplifier		0.000	0.000	#12.5-E-1	000 000
NAC-1	Notification Appl Circuit	cfg.	0.000	0.444	#12 Solid <u>1.59</u>	230 0.73 23.60 1.409
NAC-2	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid <u>▼</u> 1.59	0.00
NAC-3	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid <u>1.59</u>	0.00
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼ 1.59	0.00 100.00
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼ 1.59	0.00 100.00
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼ 1.59	0.00 100.00
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼ 1.59	0.00 100.00
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid ▼ 1.59	0.00
	Total Standby Current	(Amps)	0.363	1.803	Total Alarm Current (Amps)	
	Standby Time I		24		Alarm Time In Minutes / 60	(120 Mins)
	Total Standby AH R				Total Alarm AH Required	
		_				

					V	OLT	AGE	E DR	OP	CAL	CUL	_ATI	ONS	6 - N	OTIF	FICA	TIO	n af	PPLI	ANC	E CIR	CUIT	S				
PANEL ID	CKT#		TROBE	30cd S				110cd S		-			-	-		-		-		(I) TOTAL	LENGTH	x 21.6	CIR .	VOLTS	÷ 24(V) x	100	% VOLTAGE
		0.0 QTY.	043 AMP	QTY.	063 AMP	QTY.	107 AMP	0.1 QTY.		0.0 QTY.	AMP	CURRENT	FT.		14awg	DROPPED			DROP								
RPS6	N1	3	0.129	5	0.315		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.444	x 230	x 21.6	÷ 6530	= 0.338	÷ 24 x	100	1.4

BATTERY SIZE = 21AH

<u>I x FEET x 21.6</u> VOLTAGE DROPPED

I = TOTAL CIRCUIT CURRENT

21.6 = FORMULA CONSTANT

WIRE RESISTANCE **AWG 12** 1.59 PER 1000' 6530

2.52 PER 1000' 4.02 PER 1000' 1620 6.39 PER 1000'

Total Combined AH Required 12.33

Multiply By The Derating Factor

Minimum Battery AmpHours Required

C.M.

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

4110 2580

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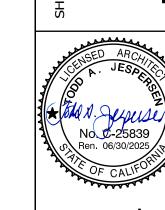
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KINDERGARTEN I EMERGENCY VOI FIRE SYSTEM - C



drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
JOB NO.	
19753-07	
SHEET:	
ĺ	

PANEL ID CKT# **AMP** I x FEET x 21.6 VOLTAGE DROPPED C.M. I = TOTAL CIRCUIT CURRENT 21.6 = FORMULA CONSTANT **AWG 12** 1.59 PER 1000' 6530

2.52 PER 1000'

4.02 PER 1000'

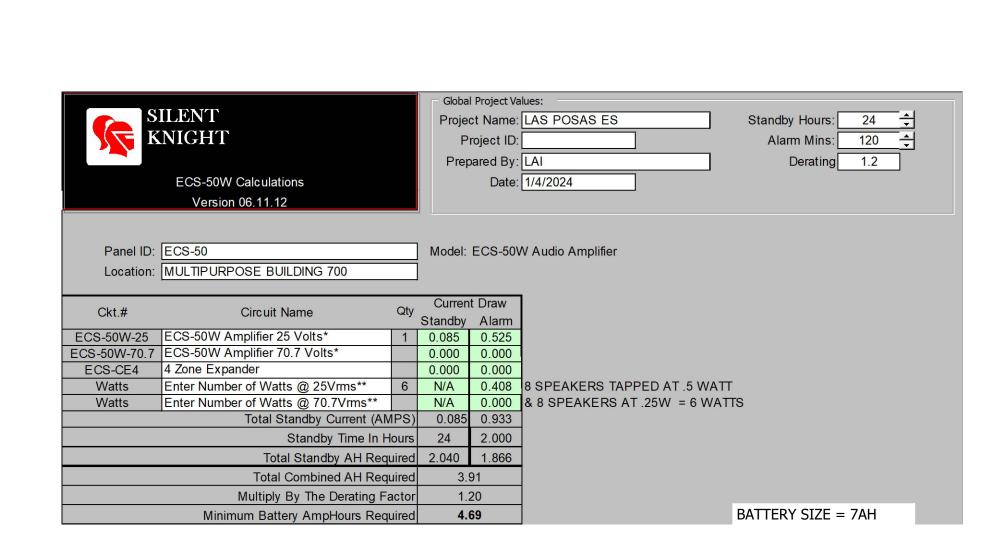
6.39 PER 1000'

4110

2580

1620

NOTE: EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM POWER SOURCE IS CALCULATED FOR 24-HOUR STANDBY AND 2-HOUR LOAD DURATION PER CFC SECTIONS: 604.1.4; 604.2.4; 907.5.2.2.5



				VO	LTA	GE	DRC	P C	ALC	ULA	ATIO	NS -	- SP	EAK	ER	APP	LIA	NCE C	IRCU	ITS					
1/4 V	VATT	1/2 \	WATT	1 W	'ATT	2 W	/ATT				-		-				-	(I) TOTAL X	LENGTH	v 21.6	CIR	VOLTS	. 24()()	y 100	% VOLTAGE
0.0 QTY.	17 AMP	0.0 QTY.	034 AMP	0.0 QTY.	068 AMP	0.1 QTY.	132 AMP	0.0 QTY.	000 AMP	0.0 QTY.	000 AMP	0.0 QTY.	000 AMP	0.0 QTY.	000 AMP		AMP	CURRENT	FT.	x 21.6 -	14awg	DROPPED	÷ 24(V)	x 100	DROP
8	0.136	8	0.272		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.408 x	230	x 21.6	÷ 2580	= 0.786	÷ 24	x 100	3.3

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE SIZE	WIRE RESISTANCE
AWG 12	1.59 PER 1000'
AWG 14	2.52 PER 1000'
AWG 16	4.02 PER 1000'
AWG 18	6.39 PER 1000'

Honeywell THE POWER OF CONNECTED	Farenhyt™ Series		Proje P	roject ID: pared By:	Standby Hours: 24 This land is the standard of
	Calculations-IDP n 04.16.18			Date:	Voltage Drop Warning Threshold %: 10
Panel ID: Location:	RPS7 MULTIPURPOSE BUILDING	3 700		RA-2000 24 VDC	O Add. Fire Alarm Panel Max NAC Current: 3.0 Amps Max Panel Current: 9.0 Amps
Part.#	Description	Qty	Currer Standby	it Draw Alarm	Wire AWG Ohms Per Length(ft) Actual Volts @ %Drop & Type 1000 Ft. One-Way Ohms EOL
IFP-2100 IDP-Photo, Photo-T,PhotoR	IFP-2100 Smoke detector	2	0.230 0.0006	0.415 0.0006	
IDP-Fire-CO	Fire-CO detector	16	0.0048	0.0072	
IDP-Heat, Heat-HT, ROR IDP-Beam, Beam-T	Heat detector Beam detector		0.0000	0.0000	
DNR	Duct housing		0.0000	0.0000	
IDP-IDP Acclimate IDP-Photo W	IDP Acclimate Photo W		0.0000	0.0000	
IDP-Photo-R-W	Photo-R-W		0.0000	0.0000	
IDP-Photo-T-W	Photo-T-W Heat-W		0.0000	0.0000	
IDP-Heat-W IDP-Heat-ROR-W	Heat-ROR-W		0.0000	0.0000	\ /
IDP-Heat-HT-W	Heat-HT-W	21	0.0042	0.0945	/ \
IDP-Control IDP-Control-6	Control Control-6		0.0000		
IDP-Monitor, Minimon	Monitor, Minimon	4	0.0015	0.0015	
IDP-Monitor-2 IDP-Monitor-10	Monitor-2 Monitor-10		0.0000	0.0000	
IDP-Pull-SA, Pull-DA	Pull-SA, Pull-DA		0.0000	0.0000	
IDP-Relay	Relay Relay-6			0.0000	
IDP-Relay-6 IDP-RelayMon-2	Relay Mon-2		0.0000		_
IDP-Zone	Zone		0.0000	0.0000	
IDP-Zone-6 IDP-Iso (Isolator Module)	Zone-6 Iso (Isolator Module)		0.0000	0.0000	
IDP-ISO-6	ISO-6		0.0000	0.0000	
B224BI B200S	Isolator Base Sounder Base		0.0000	0.0000	
B200SR	Sounder Base		0.0000		
B200S-LF B200SR-LF	Sounder Base LF Sounder Base LF		0.0000		
B224RB	Relay Base		0.0000	0.0000	
RTS151	Magnetic Remote Test		0.000	0.0000	
RTS151KEY RA100Z	Key Activated Test Remote LED		0.000	0.0000	
6815	SLC Expander		0.000	0.000	
RA-2000 RA-1000	LCD Remote Annunc LCD Remote Annunc	1	0.020	0.025	- /
RA-100	LCD Remote Annunc		0.000	0.000	
5824 5496	Serial/Parallel Module Power Expander		0.000	0.000	_ / /
RPS-1000	Power Expander		0.000	0.000	
5865-4	LED Annunciator (4G)		0.000	0.000	
5865-3 5880	LED Annunciator (3G) LED Driver Module		0.000	0.000	
5883	Relay Module	2	0.000	0.440	
CELL-MOD SK-NIC	Communicator Network Interface Card	1	0.000	0.100 0.021	
SK-FML	Fiber Module		0.000	0.000	
SK-FSL	Fiber Module	1	0.021	0.021	
WIDP-WG1 ECS-NVCM	Wireless Gateway Voice control		0.000	0.000	- IMA
ECS-NVCM ECS-SW24	Zone Expander		0.000	0.000	
ECS-RPU	Remote Paging Unit	1	0.070	0.250	
ECS-LOC	Local Operating Console		0.000	0.000	
ECS-LOC2100	Local Operating Console		0.000	0.000	
ECS-INT50W	50 Watt Internal Amp 25 volts		0.000	0.000	
ECS-INT50W	50 Watt Internal Amp 70		0.000	0.000	
	volts				
ECS-50W ECS-125W	50 Watt Amplifier 125 Watt Amplifier	1	0.010	0.010	
ECS-DUAL50W	50/100 Watt Amp		0.000	0.000	
ECS-50WBU	50 Watt Backup Amplifier		0.000	0.000	
NAC-1	Notification Appl Circuit	cfg.	0.000	0.835	#12 Solid <u>1.59</u> 220 0.70 23.40 2.50%
NAC-2	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid 1.59 0.00
NAC-3 SPARE	Notification Appl Circuit Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid 1.59
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid 1.59 0.00 100.00%
SPARE	Notification Appl Circuit	cfg.	0.000	0.000	#12 Solid
	Total Standby Current Standby Time I		0.383		Total Alarm Current (Amps) Alarm Time In Minutes / 60 (120 Mins)
	Total Standby AH R				Total Alarm AH Required
	Total Combined AH R			.64	
	Multiply By The Derating			20	BATTERY SIZE = 21AH
	Minimum Battery AmpHours R	اء مسندسم ما	40	.36	■ 1

					V	OLT	AGE	E DR	OP	CAL	.CUL	_ATI	ONS	6 - N	OTIF	FICA	TIO	N AF	PPLI	ANCE	E CIF	RCL	JITS	}				
PANEL ID	CKT#		TROBE	30cd S	TROBE		STROBE	110cd S		-			-	-	00	0.0		0.0		(I) TOTAL	x LENG	TH x	21.6 ÷	CIR - MILS	= VOLTS DROPPED	÷ 24(V) >	100	% VOLTAGE
		0.0 QTY.	AMP	QTY.	20 10 10	QTY.	107 AMP	0.1 QTY.	AMP	0.0 QTY.		0.0 QTY.	AMP	0.0 QTY .		(190.00.000)	AMP	0.0 QTY.	AMP	CURRENT	FI.			14awg	DROPPED			DROP
RPS7	N1	8	0.344	1	0.063	4	0.428		0.000		0.000		0.000		0.000		0.000		0.000	0.835	x 220) x	21.6 ÷	6530	= 0.608	÷ 24 >	100	2.5

<u>I x FEET x 21.6</u> VOLTAGE DROPPED

C.M.

I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE 21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

CE CIR. MILS 6530 4110 2580 1620

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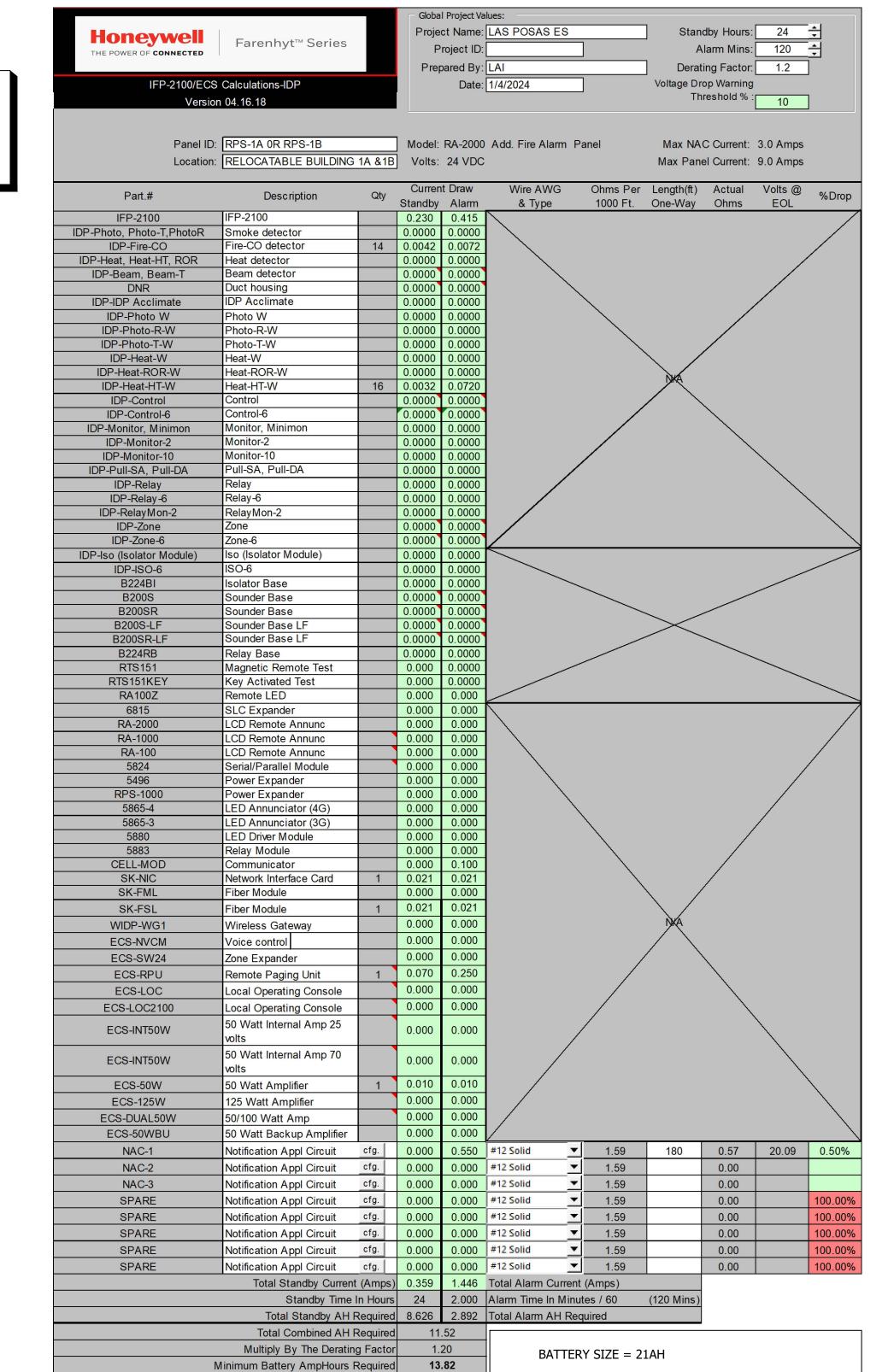
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drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
јов no. 19753-07	
SHEET:	



RELOCATABLES 1A & 1B

					VOL	TAC	SE D	RO	P CA	ALC	JLA	ΓΙΟΝ	1S -	TON	ΓIFIC	CATI	ON A	APP	LIAN	ICE C	CIRCU	TIL	S						
PANELID	CKT#	0.0	TROBE	30cd S	063	0.1	107	0.:	STROBE		-	0.0		0.0		-	-	0.0	-	(I) TOTAL CURRENT	× LENGT	H x	21.6	CIR - MILS 14awg	= VOLTS DROPPED	÷ 2	24(V) x	100	% VOLTAGE DROP
		QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP										2
RPS-1B	N1	4	0.172	6	0.378		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.550	x 150	x	21.6	6530	= 0.273	÷	24 x	100	1.1

I x FEET x 21.6 VOLTAGE DROPPED

VOLTAGE DROP CALCULATIONS - SPEAKER APPLIANCE CIRCUITS

0.000

0.000

SILENT KNIGHT

ECS-50W-25 ECS-50W Amplifier 25 Volts*

ECS-CE4 4 Zone Expander

0.000

0.000

ECS-50W-70.7 ECS-50W Amplifier 70.7 Volts*

Panel ID: ECS-50

Ckt.#

ECS-50W Calculations

Version 06.11.12

Location: RELOCATABLE BUILDING 1A OR 1B

Circuit Name

Enter Number of Watts @ 70.7Vrms**

Total Standby Current (AMPS) 0.085

Total Combined AH Required

Multiply By The Derating Factor

Minimum Battery AmpHours Required

Standby Time In Hours 24

0.000

Total Standby AH Required 2.040 1.662

C.M. I = TOTAL CIRCUIT CURRENT

1/4 WATT

PANELID CKT#

AMP

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

1/2 WATT

0.034

4 0.136

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

0.068

0.000

0.132

0.000

0.000

0.000

QTY. AMP QTY. AMP

C.IVI ChO33	SECTIONAL AREA OF	CONDUCT
WIRE SIZE	WIRE RESISTANCE	CIR. MIL
AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110
AWG 16	4.02 PER 1000'	2580
AWG 18	6.39 PER 1000'	1620

Ix FEET x 21.6 VOLTAGE DROPPED C.M.

I = TOTAL CIRCUIT CURRENT

Standby Hours: 24

BATTERY SIZE = 7AH

180 | x | 21.6 | ÷ | 2580 | = | 0.461 | ÷ | 24 | x | 100 | **1.9**

÷ 24(V) x 100 **VOLTAGE**

0.306 4 SPEAKERS TAPPED AT .5 WATT & 10 SPEAKER AT .25W = 4.5W

x 21.6 **:** MILS

Alarm Mins: 120

Derating 1.2

Project Name: LAS POSAs ES

Date: 1/4/2024

Model: ECS-50W Audio Amplifier

2.000

TOTAL x

CURRENT

0.000 0.306 x

3.70

0.000

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE 21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE RESISTANCE **AWG 12** 1.59 PER 1000' 6530 2.52 PER 1000' 4110 2580 4.02 PER 1000' 1620 6.39 PER 1000'

REVIEWED FOR SS ☐ FLS ☑ ACS ☐

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC

APP: 03-124307 INC:

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CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511

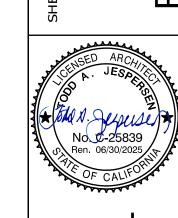
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ATABLE

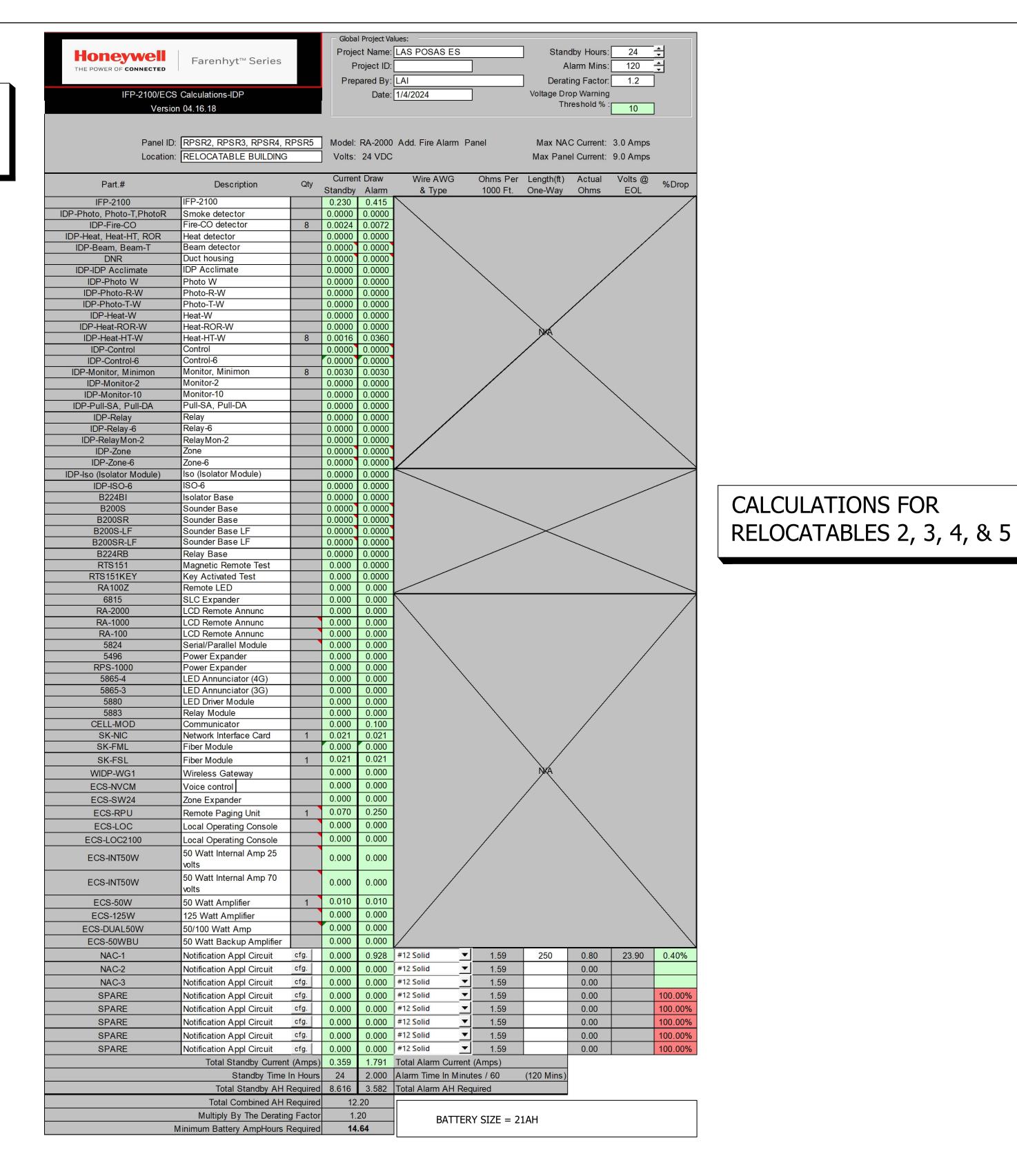


Y SCHOOL GUERRA, CA 93010 UPGRADE

LK/MW CHECKED: K. LUCCI 10-04-2024 SCALE: AS NOTED 19753-07 SHEET:

Alarm Mins: 120

Derating 1.2



IDENTIFICATION STAMP APP: 03-124307 INC: REVIEWED FOR SS ☐ FLS ☑ ACS ☐

LUGGI & ASSUGIATES ING.

CONSULTING ELECTRICAL ENGINEERS 3251 CORTE MALPASO, #511

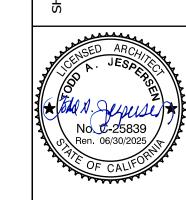
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BUILDING



Y SCHOOL GUERRA, CA 93010 UPGRADE

drawn: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
JOB NO.	
19753-07	
SHEET:	

Total Standby AH Required 2.040 1.322 Total Combined AH Required Multiply By The Derating Factor BATTERY SIZE = 7AH Minimum Battery AmpHours Required

Project Name: LAS POSAS ES

Date: 1/4/2024

Model: ECS-50W Audio Amplifier

2.000

0.136 8 SPEAKER AT .25W = 2W

sas E						VO	LTA	GE	DRC)P C	ALC	ULA	OITA	NS -	- SP	EAK	ER.	APP	LIAN	ICE C	IRCL	JIT	S					
-Las Pc	Т#	,	VATT	1/2 V			/ATT		'ATT		-				-		-	_		(I)	LENGTH	l x	21.6	CIR - MILS	VOLTS	÷ 24(V) ×	100	% VOLTAGE
:s\0/s		0.0 QTY.	17 AMP	0.0 QTY.	34 AMP	0.0 QTY.	068 AMP	0.1 QTY.	132 AMP	QTY.	AMP	0.0 QTY.	AMP	0.0 QTY.	000 AMP	QTY.	000 AMP	0.0 QTY.	AMP	CURRENT	FT.			14awg	DROPPED			DROP
sheet	1	8	0.136		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.136	250	x	21.6	2580	= 0.285	÷ 24 ×	100	1.2

SILENT KNIGHT

ECS-50W-25 ECS-50W Amplifier 25 Volts*

ECS-CE4 4 Zone Expander

ECS-50W-70.7 ECS-50W Amplifier 70.7 Volts*

Panel ID: ECS-50

Ckt.#

ECS-50W Calculations

Version 06.11.12

Location: RELOCATABLE BUILDING 2, 3, 4, & 5

Circuit Name

Enter Number of Watts @ 25Vrms**
Enter Number of Watts @ 70.7Vrms**

Total Standby Current (AMPS) 0.085

VOLTAGE DROPPED

OTAL CIRCUIT CURRENT = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

= CKOSS	SECTIONAL AREA OF	CONDUCTORII
SIZE	WIRE RESISTANCE	CIR. MILS
i 12	1.59 PER 1000'	6530
i 14	2.52 PER 1000'	4110
i 1 6	4.02 PER 1000'	2580
i 18	6.39 PER 1000'	1620

VOLTAGE DROP CALCULATIONS - NOTIFICATION APPLIANCE CIRCUITS PANELID CKT #																									
PANEL ID	СКТ#	0.0	043	0.0	063	0.3	107	0.1	48			1000000				4,7 8,00	46 400.000			X	-	=	÷ 24(V) x 100		
RPSR2, RPSR3, RPSR4, RPSR5	N1	4	0.172	12	0.756		0.000		0.000		0.000		0.000		0.000		0.000	0.000	0.928 x	250 x 2	21.6 ÷ 6530	= 0.767	÷ 24 × 100	3.2	i

I x FEET x 21.6 VOLTAGE DROPPED C.M. I = TOTAL CIRCUIT CURRENT FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE 21.6 = FORMULA CONSTANT C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW WIRE RESISTANCE **AWG 12** 1.59 PER 1000' 6530 **AWG 14** 2.52 PER 1000' 4110 **AWG 16** 4.02 PER 1000' 2580

1620

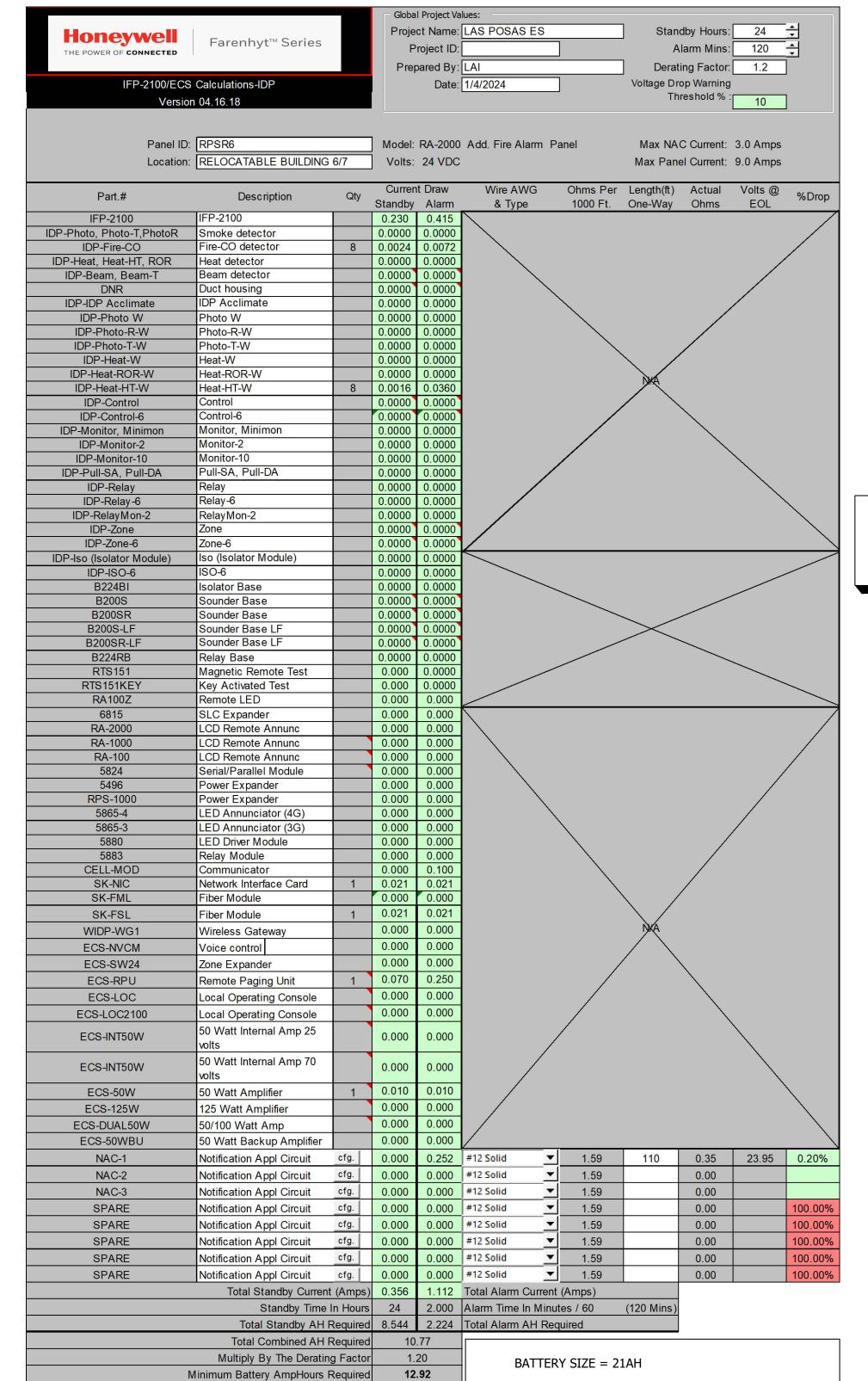
6.39 PER 1000'

Standby Hours: 24

BATTERY SIZE = 7AH

Alarm Mins: 120

Derating 1.2



SAME CALCULATIONS FOR RELOCATABLE 6 & 7

BUILDING **ATABL**

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITEC

REVIEWED FOR

SS ☐ FLS ☑ ACS ☐

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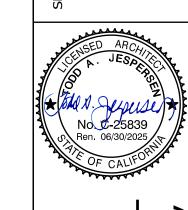
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3251 CORTE MALPASO, #511

CAMARILLO, CA 93012-8094

PHONE (805) 389-6520

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Y SCHOOL GUERRA, CA 93010 UPGRADE

	, O H
DRAWN: LK/MW	
CHECKED:	
K. LUCCI	
DATE:	
10-04-2024	
SCALE: AS NOTED	
JOB NO.	
19753-07	
SHEET:	

E791

SHEETS:

VOLTAGE DROP CALCULATIONS - SPEAKER APPLIANCE CIRCUITS PANEL ID CKT# TOTAL X x 21.6 **:** MILS - 24(V) x 100 **VOLTAGE** 0.000 0.000 DROPPED 0.000 0.000 0.000 CURRENT DROP QTY. AMP QTY. AMP QTY. AMP QTY. AMP QTY. AMP QTY. AMP $\begin{vmatrix} 0.000 & 0.272 & x & 120 & x & 21.6 & 0.273$ 4 0.136 0.000 0.000 0.000 0.000 0.136 0.000 **AMP**

SILENT KNIGHT

Panel ID: ECS-50

ECS-CE4 4 Zone Expander

Ckt.#

ECS-50W Calculations

Version 06.11.12

Location: RELOCATABLE BUILDING 6 & 7

ECS-50W-25 ECS-50W Amplifier 25 Volts*

ECS-50W-70.7 ECS-50W Amplifier 70.7 Volts*

Circuit Name

Enter Number of Watts @ 70.7Vrms**

Project Name: LAS POSAs ES

Date: 1/4/2024

Model: ECS-50W Audio Amplifier

2.000

N/A

Total Standby Current (AMPS) 0.085

Total Combined AH Required

Multiply By The Derating Factor

Minimum Battery AmpHours Required

Total Standby AH Required 2.040 1.594

0.272 4 SPEAKERS TAPPED AT .5 WATT

0.000 & 2 SPEAKERS AT 1 WATT = 4 WATTS

I x FEET x 21.6 VOLTAGE DROPPED

I = TOTAL CIRCUIT CURRENT FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE 21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW 1.59 PER 1000' 6530 4110 2.52 PER 1000' 2580 4.02 PER 1000' 6.39 PER 1000' 1620

						VO	LTA	GE [ORC	PC	ALC	ULA	TIOI	NS -	NO	TIFIC	CAT	ION	APF	PLIA	NCE	CIR	CU	IITS				
	PANEL ID	СКТ#	15cd S	TROBE		TROBE		TROBE	110cd S	TROBE	0.0	00	0.0	00	0.0	00	0.0	000	0.0	-	(I) TOTAL CURRENT	x LEN	IGTH T.	x 21.6	CIR ÷ MILS 14awg	= VOLTS DROPPED	÷ 24(V) x 10	% 0 VOLTAGE DROP
_			QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	CORRENT				14awg			DROP
	RPSR6	N1		0.000	4	0.252		0.000		0.000		0.000		0.000		0.000		0.000		0.000	0.252	x 1	10	x 21.6	÷ 6530	= 0.092	÷ 24 × 10	0 0.4

1 x FEET x 21.6 VOLTAGE DROPPED C.M.

I = TOTAL CIRCUIT CURRENT

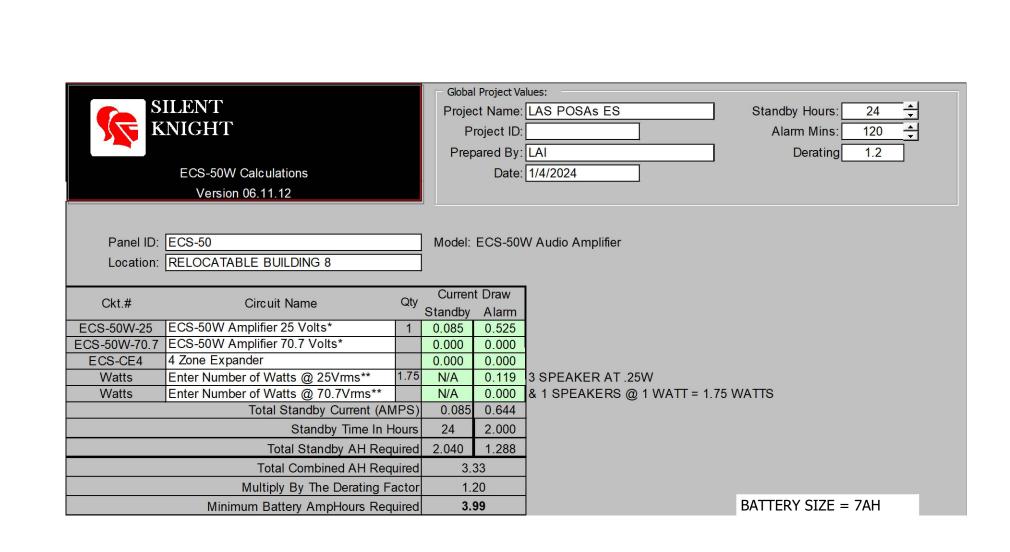
FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

21.6 = FORMULA CONSTANT C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE RESISTANCE CIR. MILS 1.59 PER 1000' 2.52 PER 1000' 4110 4.02 PER 1000' 2580 6.39 PER 1000'

I x FEET x 21.6 C.M. I = TOTAL CIRCUIT CURRENT 21.6 = FORMULA CONSTANT WIRE RESISTANCE CIR. MILS

NOTE: EMERGENCY VOICE/ALARM COMMUNICATION SYSTEM POWER SOURCE IS CALCULATED FOR 24-HOUR STANDBY AND 2-HOUR LOAD DURATION PER CFC SECTIONS: 604.1.4; 604.2.4; 907.5.2.2.5



						VO	LTA	GE	DRC)P C	ALC	CULA	OITA	NS ·	- SP	EAK	ER /	APP	LIAN	ICE (CIF	RCU	ITS						
PANEL ID	СКТ#	0.0	WATT	0.0	WATT	0.0	/ATT 068	0.1			000		- 000		- 000	0.0		0.0	000	(I) TOTAL CURRENT	X		x 21.6	CI ÷ MI 14a	ILS =	VOLTS DROPPED	÷ 24(V) >	100	% VOLTAGE DROP
		QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	CURRENT									
AMP	S1	3	0.051		0.000	1	0.068		0.000		0.000		0.000		0.000		0.000		0.000	0.119	х	120	x 21.6	÷ 25	80 =	0.120	÷ 24 >	100	0.5

VOLTAGE DROPPED

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

AWG 12	1.59 PER 1000'	6530
AWG 14	2.52 PER 1000'	4110
AWG 16	4.02 PER 1000'	2580
AWG 18	6.39 PER 1000'	1620

			al Project Va			
Honeywell THE POWER OF CONNECTED	Farenhyt™ Series		ect Name: Project ID:	LAS POSAS ES		Alarm Mins: 120 💠
			pared By:	LAI	Derat	ting Factor: 1.2
	Calculations-IDP n 04.16.18		Date:	1/4/2024	_	rop Warning nreshold % : 10
Version	1 04.10.10					10
Panel ID:	RPSR8	Model	: RA-2000) Add. Fire Alarm Panel	Max NA	C Current: 3.0 Amps
Location:	RELOCATABLE BUILDING 8	Volts	: 24 VDC	;	Max Pan	el Current: 9.0 Amps
Part.#	Description Qty		nt Draw Alarm	Wire AWG Ohms & Type 1000 I	• , ,	Actual Volts @ %Drop Ohms EOL
IFP-2100	IFP-2100	0.230	0.415	4 Type 1000 T	t. One-vvay	Olilis EOE
IDP-Photo, Photo-T,PhotoR IDP-Fire-CO	Smoke detector Fire-CO detector 6	0.0000	0.0000			
IDP-Heat, Heat-HT, ROR	Heat detector	0.0000	0.0000			
IDP-Beam, Beam-T	Beam detector	0.0000				
DNR IDP-IDP Acclimate	Duct housing IDP Acclimate	0.0000	0.0000			
IDP-Photo W	Photo W	0.0000	0.0000			
IDP-Photo-R-W	Photo-R-W	0.0000				
IDP-Photo-T-W IDP-Heat-W	Photo-T-W Heat-W	0.0000	0.0000	-		
IDP-Heat-ROR-W	Heat-ROR-W	0.0000	0.0000			
IDP-Heat-HT-W	Heat-HT-W 4	0.0008	0.0180		138KA	
IDP-Control IDP-Control-6	Control Control-6	0.0000				
IDP-Monitor, Minimon	Monitor, Minimon	0.0000	0.0000	-		
IDP-Monitor-2	Monitor-2	0.0000	0.0000			
IDP-Monitor-10	Monitor-10	0.0000	0.0000	. /		
IDP-Pull-SA, Pull-DA IDP-Relay	Pull-SA, Pull-DA Relay	0.0000	0.0000			
IDP-Relay-6	Relay-6		0.0000			
IDP-RelayMon-2	RelayMon-2	0.0000				
IDP-Zone IDP-Zone-6	Zone Zone-6	0.0000				
IDP-Iso (Isolator Module)	Iso (Isolator Module)	0.0000	0.0000			
IDP-ISO-6	ISO-6	0.0000				
B224BI B200S	Isolator Base Sounder Base	0.0000				
B200SR	Sounder Base Sounder Base	0.0000				
B200S-LF	Sounder Base LF	0.0000	0.0000		\rightarrow	
B200SR-LF	Sounder Base LF	0.0000		_		
B224RB RTS151	Relay Base Magnetic Remote Test	0.0000	0.0000	-		
RTS151KEY	Key Activated Test	0.000	0.0000			
RA100Z	Remote LED	0.000	0.000			
6815 RA-2000	SLC Expander LCD Remote Annunc	0.000	0.000	-		
RA-1000	LCD Remote Annunc	0.000	0.000			
RA-100	LCD Remote Annunc	0.000	0.000			
5824 5496	Serial/Parallel Module Power Expander	0.000	0.000			
RPS-1000	Power Expander	0.000	0.000			
5865-4	LED Annunciator (4G)	0.000	0.000			
5865-3 5880	LED Annunciator (3G) LED Driver Module	0.000	0.000			
5883	Relay Module	0.000	0.000			
CELL-MOD	Communicator	0.000	0.100			
SK-NIC	Network Interface Card 1	0.021	0.021			
SK-FML SK-FSL	Fiber Module 1	0.000	0.000			
WIDP-WG1	Wireless Gateway	0.021	0.000		NXA	
ECS-NVCM	Voice control	0.000	0.000			
ECS-SW24	Zone Expander	0.000	0.000			
ECS-RPU	Remote Paging Unit 1	0.070	0.250			
ECS-LOC	Local Operating Console	0.000	0.000			
ECS-LOC2100	Local Operating Console	0.000	0.000			
ECS-INT50W	50 Watt Internal Amp 25	0.000	0.000			
	volts 50 Watt Internal Amp 70					
ECS-INT50W	volts	0.000	0.000			
ECS-50W	50 Watt Amplifier 1	0.010	0.010			
ECS-125W	125 Watt Amplifier	0.000	0.000			
ECS-DUAL50W	50/100 Watt Amp	0.000	0.000			
ECS-50WBU	50 Watt Backup Amplifier	0.000	0.000	#13 Salid — 4 50	100	0.41 20.04 0.000
NAC-1 NAC-2	Notification Appl Circuit cfg. Notification Appl Circuit cfg.	0.000	0.149	#12 Solid		0.41 23.94 0.30%
NAC-2 NAC-3	Notification Appl Circuit cfg.	0.000	0.000	#12 Solid		0.00
SPARE	Notification Appl Circuit cfg.	0.000	0.000	#12 Solid • 1.59		0.00 100.00%
SPARE	Notification Appl Circuit cfg.	0.000	0.000	#12 Solid ▼ 1.59		0.00 100.00%
SPARE	Notification Appl Circuit cfg.	0.000	0.000	#12 Solid ▼ 1.59		0.00 100.00%
SPARE	Notification Appl Circuit cfg.	0.000	0.000	#12 Solid ▼ 1.59)	0.00 100.00%
SPARE	Notification Appl Circuit cfg.	0.000	0.000	#12 Solid <u>▼</u> 1.59)	0.00 100.00%
	Total Standby Current (Amps	,	0.991	Total Alarm Current (Amps)	/400 N4:	
	Standby Time In Hour		2.000	Alarm Time In Minutes / 60	(120 Mins)	
	Total Standby AH Require	8.510	1.982	Total Alarm AH Required		Į

					V	OLT	AGE	E DF	ROP	CAL	CUL	_ATI	ONS	6 - N	OTII	FICA	TIO	N APPLI	IANC	E CIR	CUIT	S					
PANEL ID	VOLTAGE DROP CALCULATIONS - NOTIFICATION APPLIANCE CIRCUITS PANEL ID CKT # 15cd STROBE 30cd STROBE 75cd STROBE 110cd STROBE - - -																										
			AMP	QTY.	AMP	QTY.		QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	AMP	QTY.	1000		CURRENT	FI.		14awg	DKOPPED			DROP	ļ
RPSR8	N1	2	0.086	1	0.063		0.000		0.000		0.000		0.000		0.000		0.000	0.000	0.149	x 130	x 21.6	÷ 6530	= 0.064	÷ 24 x	100	0.3	

BATTERY SIZE = 21AH

<u>I x FEET x 21.6</u> VOLTAGE DROPPED

C.M. I = TOTAL CIRCUIT CURRENT

FEET = ONE WAY DISTANCE IN FEET MEASURED FROM SOURCE TO THE LAST DEVICE

Total Combined AH Required

1.20

Multiply By The Derating Factor

Minimum Battery AmpHours Required

21.6 = FORMULA CONSTANT

C.M. = CROSS SECTIONAL AREA OF CONDUCTOR IN CIRCULAR MILS. SEE CHART BELOW

WIRE RESISTANCE 1.59 PER 1000' 2.52 PER 1000' 4110 4.02 PER 1000' 2580 1620 6.39 PER 1000'

IDENTIFICATION STAMP DIV. OF THE STATE ARCHITECT

APP: 03-124307 INC: REVIEWED FOR SS ☐ FLS ☑ ACS ☐

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3251 CORTE MALPASO, #511 CAMARILLO, CA 93012-8094 PHONE (805) 389-6520

STAMP

OF: SHEETS:

DRAWN: LK/MW CHECKED: K. LUCCI

10-04-2024

AS NOTED

19753-07

SHEET: