MECHANICAL SYMBOLS, LEGENDS & GENERAL NOTES

M-000

FOR BLUEBEAM LABELING/OCR:

0"

1"

TITLE 24 NOTES

THE FOLLOWING SHALL BE REQUIRED WHETHER OR NOT SPECIFICALLY SHOWN OR MENTIONED IN DRAWINGS AND/OR SPECIFICATIONS:

1. EQUIPMENT SHALL MEET EFFICIENTY REQUIREMENTS OF TABLES 110.2-A THROUGH 110.2-K.
2. ALL AIR-COOLED, UNITARY, DX UNITS (PACKAGED, SPLIT-SYSTEM, HEAT PUMPS AND VRF) WITH ECONOMIZERS SHALL BE EQUIPPED WITH FAULT DETECTION AND DIAGNOSTICS SYSTEMS.
3. PIPE INSULATION FOR SPACE CONDITIONING AND SERVICE WATER-HEATING WITH FLUID TEMPERATURES LISTED IN TABLE 120.3-A SHALL HAVE INSULATION LEVELS AS SPECIFIED IN SUBSECTION (A) AND (B).
4. MECHANICAL HEATING AND COOLING EQUIPMENT SHALL BE THE SMALLEST SIZE, WITHIN THE AVAILABLE OPTIONS OF THE DESIRED EQUIPMENT LINE, NECESSARY TO MEET THE DESIGN HEATING AND COOLING LOADS OF THE BUILDING, AS CALCULATED ACCORDING TO THE REQUIREMENTS OF SECTION 140.4(B).
5. HVAC MOTORS FOR FANS THAT ARE LESS THAN 1 HP AND 1/12 HP OR GREATER SHALL BE ECM OR HAVE A MINIMUM MOTOR EFFICIENCY OF 70%. MOTORS SHALL ALSO HAVE MEANS TO ADJUST MOTOR SPEED FOR BALANCING OR REMOTE CONTROL.
6. ELECTRIC RESISTANCE HEATING SYSTEMS ARE NOT PROVIDED FOR SPACE HEATING.
7. IN DRIER CLIMATES AND WHEN LARGE OUTDOOR AIR FRACTIONS ARE REQUIRED, EVAPORATIVE PRE-COOLING PACKAGES WERE EVALUATED TO PRE-COOL OUTSIDE AIR AND COOL THE AIR FLOWING OVER THE DX CONDENSING UNIT.
8. ZONE EACH AIR HANDLER TO SERVE ONLY AREAS WITH COMMON LOADS TO ALLOW MORE AGGRESSIVE CONTROL STRATEGIES AND IMPROVE COMFORT. HAVE DIFFERENT AHU'S SERVING CORE VS. PERIMETER AREAS.
9. THE DESIGN ACCOMMODATES PARTIAL OCCUPANCY ENERGY SAVINGS WHEN THE OWNER'S REQUIREMENTS OR NARRATIVE DESCRIBE ANY POSSIBILITY OF PARTIAL OCCUPANCY, BY ZONING AIR HANDLERS BY FLOOR OR BY PART OF A FLOOR, OR BY INCORPORATING CONTROLLED FLOOR DAMPERS, OR VAV AIR TERMINALS GOING TOTALLY SHUT WHEN NOT OCCUPIED, ETC.
10. EACH ZONE IS CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL. CONTROLS SHALL BE CAPABLE OF SETTING TEMPERATURES TO 55 DEG F FOR HEATING AND 85 DEG F FOR COOLING AND PROVIDE A TEMPERATURE DEADBAND OF AT LEAST 5 DEG F IF CONTROLLING BOTH HEATING AND COOLING.
11. EACH SPACE CONDITIONING SYSTEM SHALL BE EQUIPPED WITH CONTROLS TO SHUT THE SYSTEM OFF DURING PERIODS OF NONUSE AND WILL TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN SETBACK AND SETUP TEMPERATURES WHILE KEEPING VENTILATION DAMPERS CLOSED.
12. SYSTEMS SERVING MULTIPURPOSE ROOMS LESS THAN 100 SF AND CLASSROOMS, CONFERENCE, AUDITORIUM OR MEETING CENTER ROOMS GREATER THAN 750 SF SHALL HAVE OCCUPANCY SENSORS THAT INTERFACE WITH HVAC CONTROLS TO AUTOMATICALLY SETUP THE COOLING SETPOINT BY 2F OR MORE AND AUTOMATICALLY RESET THE MINIMUM REQUIRED VENTILATION RATE. THESE OCCUPANT SENSOR VENTILATION CONTROL DEVICES MUST MEET THE REQUIREMENTS OF SECTION 120.1(C)5.
13. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON EF FAN SHUTDOWN.
14. HVAC SYSTEMS WITH DDC TO THE ZONE LEVEL SHALL BE PROGRAMMED TO ALLOW CENTRALIZED DEMAND SHED FOR NON-CRITICAL ZONES.
15. ZONE CONTROLS PREVENT REHEATING, RECOOLING AND SIMULTANEOUS PROVISIONS OF HEATING AND COOLING TO THE SAME ZONE.
16. EACH WALL MOUNTED THRMOSTAT SHALL BE LOCATED AWAY FROM POTENTIAL SOURCES THAT WOULD ADVERSELY AFFECT THE READING (CLOSE TO COPIERS, DIRECT SUNLIGHT, BELOW OR ABOVE A SUPPLY AIR DIFFUSER OR CONVECTOR, ETC.). ANY THERMOSTATS MOUNTED ON EXTERIOR WALLS SHALL BE INSTALLED IN SEALED AND INSULATED JUNCTION BOXES.
17. CORNER OFFICE SHALL ALWAYS HAVE THEIR OWN THERMOSTATS, AIR TERMINAL BOXES OR FAN-TUBE RADIATORS.
18. CONTROL SEQUENCES SHALL BE LISTED FOR EQUIPMENT OPERATED BY STAND-ALONE PACKAGED CONTROLS. UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
19. CONTROL SEQUENCES SHALL BE PROVIDED FOR EACH PIECE OF EQUIPMENT LISTED IN THE EQUIPMENT SCHEDULE THAT IS MONITORED OR CONTROLLED BY THE BUILDING AUTOMATION SYSTEM (BAS). UNOCCUPIED SEQUENCES SHALL BE INCLUDED.
20. OUTSIDE AIR TEMPERATURE SENSORS SHALL BE IN A COMMERCIALLY DESIGNED SOLAR SHIELD LOCATED ON A NORTH WALL OR SOME OTHER LOCATION OUT OF DIRECT SUNLIGHT AND AWAY FROM BUILDING EXHAUST OR HEAT REJECTION EQUIPMENT.
21. THE OUTDOOR AIR/VENTILATION RATE AND AIR-DISTRIBUTION ASSUMPTIONS MADE IN THE DESIGN OF THE VENTILATING SYSTEM ARE CLEARLY IDENTIFIED ON THE PLANS.
22. EACH SPACE IS DESIGNED TO HAVE NATURAL VENTILATION OR MECHANICAL VENTILATION THAT IS NO LESS THAN THE LARGER OF CONDITIONED FLOOR AREA TIMES THE REQUIREMENTS IN TABLE 120.1-A OR 15 CFM TIMES THE EXPECTED NUMBER OF OCCUPANTS.
23. THE MINIMUM AND MAXIMUM OUTDOOR AIR RATES FOR EACH AIR HANDLER ARE LISTED ON THE EQUIPMENT SCHEDULES.
24. THE OUTDOOR AIR/VENTILATION RATES ARE BASED ON PLANNED OWNER OCCUPANCY AS DEFINED IN OWNER'S DESIGN INTENT AND ARE NOT BASED ON MAXIMUM EGRESS OCCUPANCY RATES.
25. HVAC SYSTEMS THAT HAVE AN ECONOMIZER, SERVE A SPACE WITH A DESIGN OCCUPANT DENSITY GREATER THAN OR EQUAL TO 25 PEOPLE PER 1000 SF, AND ARE EITHER A SINGLE ZONE SYSTEM WITH ANY CONTROLS OR MULTIPLE ZONE SYSTEM WITH DDC CONTROLS TO THE ZONE LEVEL MUST HAVE DEMAND CONTROL VENTILATION CONTROLS. THE FOLLOWING MUST BE MET:

   A. CO2 SENSORS INSTALLED IN EACH ROOM SERVED BY SYSTEMS WITH DCV CONTROLS.
   B. CO2 SENSORS ARE LOCATED BETWEEN 3 FT AND 6 FT ABOVE THE FLOOR.
   C. CO2 CONCENTRATIONS MAINTAINED AT LESS THAN OR EQUAL TO 600 PPM PLUS OUTDOOR PPM.
   D. DURING HOURS OF EXPECTED OCCUPANCY, CONTROLS MAINTAIN THE SYSTEM VENTILATION RATE.

26. EACH COOLING FAN SYSTEM THAT HAS A DESIGN MECHANICAL COOLING CAPACITY OVER 54,000 BTU/H SHALL HAVE AN AIR ECONOMIZER OR A WATER ECONOMIZER. AIR ECONOMIZERS MUST COMPLY WITH THE HIGH LIMIT SHUTOFF CONTROLS SHOWN IN TABLE 140.4-B.
27. INTEGRATED ECONOMIZER CONTROLS SHALL BE SET UP SUCH THAT PARTIAL COOLING IS PROVIDED BY THE ECONOMIZER EVEN WHEN ADDITIONAL MECHANICAL COOLING IS REQUIRED.
28. ECONOMIZER DAMPERS SHALL BE DRIVEN BY DIRECT DRIVE ACTUATORS RATHER THAN ROD LINKAGES, WHICH CAN BE A MAJOR CAUSE OF ECONOMIZER MALFUNCTION.
29. BAROMETRIC RELIEF IS USED, IF POSSIBLE. IF NOT, RELIEF FANS (RATHER THAN RETURN FANS) SHALL BE USED IN MOST CASES.
30. OUTDOOR AND RETURN AIR SENSORS SHALL BE PROPERLY SELECTED, PROPERLY LOCATED TO PROVIDE ACCURATE AND REPEATABLE MEASUREMENTS FOR CONTROLLING ECONOMIZER OPERATION. AVERAGING SENSORS COVER THE ENTIRE DUCT OR COIL FACE AREAS.
31. ALL AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS MUST BE INSTALLED, SEALED AND INSULATED AS REQUIRED BY 120.4(A).
32. DUCT SEALING LEAKAGE RATES SHALL BE NO MORE THAN 6% OF AIR FLOW FOR NEW DUCT SYSTEMS AND NO MORE THAN 15% OF AIR FLOW FOR ALTERED EXISTING DUCT SYSTEMS.
33. DUCT SHALL UTILIZE LOW STATIC PRESSURE DESIGN. IDENTIFY THE MOST RESTRICTIVE BRANCH FROM THE FAN TO THE LAST AIR TERMINAL UNIT. IDENTIFY POSSIBLE MEANS OF SIGNIFICANTLY REDUCING THE PRESSURE DROP. BRANCH DUCT SYSTEMS SHALL DESIGNED FOR EQUAL PRESSURE DROP, WHEN POSSIBLE.
34. DUCT BRANCHES WITH SIGNIFICANTLY DIFFERING STATIC PRESSURE REQUIREMENTS SHALL HAVE VOLUME CONTROL STRATEGICALLY PLACED TO AID IN TAB WORK.
35. FAN SHALL DISCHARGE INTO DUCT SECTIONS THAT REMAIN STRAIGHT FOR AS LONG AS POSSIBLE (IDEALLY 10 DUCT DIAMETERS) TO REDUCE FAN INEFFICIENCIES FROM SYSTEM EFFECTS.
36. DUCT VELOCITIES SHALL GENERALLY BE BELOW 2,000 FPM FOR DUCTS IN CEILING PLENUMS, 1500 FPM FOR EXPOSED DUCTS AND 3500 FPM IN MECHANICAL ROOMS AND NON-NOISE SENSITIVE SHAFTS AND DO NOT REDUCE ANY DUCT SIZES LISTED ON PLANS.
37. DUCT FRICTION RATES SHALL GENERALLY BE LESS THAN 0.25" WC PER 100 LINEAL FEET NEARER THE FAN, 0.15 TO 0.20" IN THE MAIN DUCTS AND 0.08 TO 0.12" WC/100' NEARER THE END OF THE SYSTEM. DESIGNS OVER THESE RATES SHALL BE QUESTIONED. VERY ENERGY EFFICIENT DESIGN CAN LOWER THESE VALUES BY UP TO 40%.
38. CONTRACTOR SHOP DRAWINGS SHALL BE SUFFICIENTLY DETAILED TO ENSURE THAT DISTRIBUTION SYSTEM DESIGN INTENT IS ADEQUATELY CONVEYED TO MATCH PLANS. IF SUFFICIENT DETAIL IS NOT INCLUDED IN DRAWINGS, INSTALLATIONS MAY RESULT IN SIGNIFICANTLY HIGHER PRESSURE DROPS AND HENCE HIGHER ENERGY CONSUMPTION AND OTHER OPERATING ISSUES.
39. ACCEPTANCE REQUIREMENTS ARE CLEARLY IDENTIFIED IN CONSTRUCTION DOCUMENTS.
40. COMMISSIONING MEASURES OR REQUIREMENTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
41. REQUIREMENTS FOR FUNCTIONAL PERFORMANCE TESTS ARE REFLECTED IN THE CONSTRUCTION DOCUMENTS.
42. COOLING SYSTEMS IDENTIFIED IN TABLE 140.4-D SHALL HAVE FAN CONTROLS TO VARY THE INDOOR FAN AIRFLOW AS A FUNCTION OF LOAD:
   A. DX AND CHILLED WATER COOLING SYSTEMS THAT CONTROL CAPACITY BASED ON OCCUPIED SPACE TEMPERATURE SHALL HAVE A MINIMUM OF 2 STAGES OF CONTROL.
   B. SYSTEMS THAT CONTROL SPACE TEMPERATURE BY MODULATING AIRFLOW TO THE SPACE SHALL HAVE PROPORTIONAL FAN CONTROL.
   C. SYSTEMS WITH AIR SIDE ECONOMIZER SHALL HAVE A MINIMUM OF 2 SPEEDS OF FAN CONTROL DURING ECONOMIZER OPERATION.
43. FAN CABINET ENCLOSURE AND INTERNAL COMPONENTS SHALL BE ELECTED TO MINIMIZE PRESSURE DROP, E.G. FACE VELOCITY IS LESS THAN 500 FPM, LOW PRESSURE DROP COILS, FILTERS, ETC.
44. FAN WHEEL SHALL BE SELECTED FOR EFFICIENT OPERATION, E.G. LARGER DIAMETER ROTATING AT LOWER SPEED.
45. SYSTEMS THAT SERVE MULTIPLE ZONES SHALL HAVE CONTROLS THAT AUTOMATICALLY RESET SUPPLY AIR TEMPERATURE. ZONES WITH HIGH INTERNAL LOADS WITH NEAR CONSTANT AIRFLOW SHALL BE DESIGNED FOR THE ELEVATED RESET SUPPLY AIR TEMPERATURE. RESET CONTROLS SHALL BE IN RESPONSE TO BUILDING LOADS OR TO OUTDOOR AIT TEMPERATURE AND SHALL BE AT LEAST 25% OF THE DIFFERENCE BETWEEN SUPPLY AIR AND DESIGN ROOM AIR TEMPERATURE. CONTROL SEQUENCES ARE IDENTIFIED IN CONSTRUCTION DOCUMENTS.
46. SAT RESET SHALL BE ESTABLISHED WITH AN AGGRESSIVE RESET SCHEDULE OF 10F, E.G. 55F DURING WARM WEATHER AND 65F DURING COOL WEATHER.

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH 2022 CALIFORNIA CODE OF REGULATIONS TITLE 24, ALL OTHER APPLICABLE CODES AND REGULATIONS, SMACNA AND ASHRAE GUIDELINES, AND LOCAL CODES.
2. ALL HVAC EQUIPMENT SHALL BE COMPLIANT WITH EFFICIENCY STANDARDS PER TITLE-24, PART 6.
3. ALL FRESH AIR INTAKES SHALL BE AT LEAST 10 FEET IN A HORIZONTAL DIRECTION FROM ALL EXHAUST, FLUE, FUEL BURNING APPLIANCE AND PLUMBING VENT OUTLETS. FOR GAS/ELECTRIC AIR CONDITIONING UNITS WHERE THE CODE REQUIRED CLEARANCES ARE NOT MET, A FACTORY FLUE GAS DEFLECTOR AND EXTENSION SHALL BE USED TO MINIMIZE THESE CLEARANCES. CONTRACTOR SHALL DETERMINE LOCATIONS WHERE REQUIRED PRIOR TO BID. THIS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
4. AIR FILTERS SHALL BE STATE FIRE MARSHAL APPROVED AND LISTED. PREFORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS IN ALL OCCUPANCIES SHALL BE PER TITLE-24 PART 6 AND APPLICABLE ASHRAE REQUIREMENTS. FILTERS SHALL BE ACCESSIBLE
5. REVIEW THESE PLANS AND SPECIFICATIONS PRIOR TO BID. REVIEW PLANS AND SPECIFICATIONS OF OTHER RELATED TRADES INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, AND FIRE PROTECTION.
6. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AS THESE ARE PART OF THE CONTRACT DOCUMENTS. WHERE A CONFLICT OCCURS BETWEEN THIS SPECIFICATION AND OTHER SPECIFICATIONS ISSUED AS A PART OF THE CONTRACT DOCUMENTS, THE MORE STRINGENT REQUIREMENT SUPERCEDES.
7. THESE DRAWINGS ARE DIAGRAMMATIC ONLY AND NOT INTENDED TO INDICATE ALL REQUIRED OFFSETS, BENDS, ELBOWS, TRANSITIONS, FITTINGS AS REQUIRED TO CONFORM TO THE BUILDING STRUCTURE, CLEARANCE INSIDE CEILINGS, AVOIDANCE OF OBSTRUCTIONS, AND MAINTAINING HEAD CLEARANCE.
8. COORDINATE INSTALLATION WITH ALL OTHER TRADES PRIOR TO INSTALLATION OF EQUIPMENT OR MATERIALS, INCLUDING BUT NOT LIMITED TO, STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND PLUMBING.
9. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLANS, ELECTRICAL LIGHTING LAYOUT, AND ARCHITECTURAL ROOM ELEVATIONS. THE ARCHITECT AND ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS PRIOR TO FABRICATION AND INSTALLATION.
10. COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATIONS OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL WEIGHTS FOR PLATFORM AND CURB SIZES, FOR ROOF AND WALL PENETRATION DETAILS AND REQUIREMENTS, SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS. REQUIRED PLATFORMS AND FLASHINGS FOR MECHANICAL EQUIPMENT SHALL BE AS INDICATED ON THE STRUCTURAL AND ARCHITECTURAL PLANS, UNLESS NOTED OTHERWISE.
11. HIRE A TEST AND BALANCE AGENCY TO PERFORM THE TESTING PROCEDURES, REQUIRED BY THE MECH-2A THROUGH MECH-11A CERTIFICATE OF ACCEPTANCE FORMS, AS APPLICABLE FOR ALL NEWLY INSTALLED HEATING AND COOLING SYSTEMS. THE CONTRACTOR AND TEST AND BALANCE AGENCY ARE RESPONSIBLE FOR OBTAINING THE CERTIFICATE OF ACCEPTANCE FORMS REQUIRED BY THE IOR. THE TEST AND BALANCE AGENCY SHALL BE WELL VERSED WITH ALL THE REQUIREMENTS OF THESE CERTIFICATE OF ACCEPTANCE FORMS, AND SHALL COORDINATE AND WORK WITH THE EQUIPMENT AND CONTROLS INSTALLERS TO COMPLY WITH THESE REQUIREMENTS IN A TIMELY MANNER WITHIN THE PROJECT SCHEDULE. THE AIR BALANCE CONTRACTOR SHALL BE A MEMBER OF AABC (ASSOCIATED AIR BALANCE COUNCIL).
12. PAINT ALL EXPOSED DUCTWORK, DUCT SUPPORTS, ACCESSORIES, REGISTERS, GRILLES, DIFFUSERS, AND APPURTENANCES, WHETHER OR NOT COLORS ARE DESIGNATED IN SCHEDULES, EXCEPT WHERE A SURFACE OR MATERIAL IS SPECIFICALLY INDICATED NOT TO BE PAINTED OR IS TO REMAIN NATURAL. WHERE AN ITEM OR SURFACE IS NOT SPECIFICALLY MENTIONED, PAINT THE SAME AS SIMILAR ADJACENT MATERIALS OR SURFACES. IF COLOR OR FINISH IS NOT DESIGNATED, THE ARCHITECT WILL SELECT FROM STANDARD COLORS OR FINISHES AVAILABLE. PAINTING INCLUDES FIELD PAINTING EXPOSED BARE AND COVERED PIPES AND DUCTS (INCLUDING COLOR CODING), HANGERS, EXPOSED STEEL AND IRON WORK, AND PRIMED METAL SURFACES OF MECHANICAL EQUIPMENT.
13. PROVIDE ALL LABOR, MATERIAL, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, AND OTHER WORK AS REQUIRED. FOR A COMPLETE AND PROPERLY OPERATING MECHANICAL SYSTEM.
14. ALL MATERIALS SHALL BE NEW AND OF THE SAME MANUFACTURER FOR EACH CLASS OR GROUP OF EQUIPMENT. EQUIPMENT SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES, AND SHALL BEAR THE INSPECTION LABEL WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH THE APPROVAL OF THE GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY THE LATEST EDITION OF CMC, CBC U.L., SMACNA AND ASHRAE GUIDELINES. INSTALL PER MANUFACTURERS' RECOMMENDATIONS, AND INSTALLATION INSTRUCTIONS.
15. OBTAIN AND PAY FOR ALL NECESSARY BUILDING PERMITS AND VARIANCES. COORDINATE TEMPORARY CONSTRUCTION REQUIREMENTS WITH ALL TRADES PRIOR TO CONSTRUCTION. INCLUDE ALL COSTS IN THE BID.
16. IF THE CONTRACTOR PROPOSES ALTERNATE EQUIPMENT OR MATERIAL, THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL DSA APPROVALS, PAY ALL RELATED FEES AND OBTAIN APPROVAL FROM OWNER'S ENGINEER OF RECORD. PROVIDE TITLE-24 COMPLIANCE CERTIFICATION AND ALL ASSOCIATED FEES REQUIRED. COORDINATE SUBMITTED EQUIPMENT WITH OTHER TRADES. INCLUDE IN THE SHOP DRAWINGS THE EQUIPMENT SUBMITTED FOR APPROVAL WITH A DIFFERENT PHYSICAL SIZE OR ARRANGEMENT FROM THAT SHOWN.
17. PROVIDE SHOP DRAWINGS PER PROJECT SCHEDULE. SEE 23 00 00 SPECIFICATIONS FOR REQUIREMENTS. IF SHOP DRAWINGS ARE NOT PROVIDED TO THE ENGINEER FOR REVIEW, AND ANY CONFLICTS OCCUR BETWEEN TRADES, DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK NECESSARY TO RESOLVE THE CONFLICT AND BEAR ALL COSTS INCURRED FOR ALL REVISIONS, AT NO ADDITIONAL COST TO THE DISTRICT. THE DISTRICT AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY PRIOR TO FABRICATION AND INSTALLATION OF ALL WORK THAT CAUSES CONFLICTS BETWEEN TRADES.
18. PROVIDE ALL MANUFACTURER'S PRODUCT DATA CLEARLY INDICATING MODEL NUMBERS, CAPACITIES, CONSTRUCTION, ELECTRICAL INFORMATION, AND OPTIONAL ACCESSORIES, PER PROJECT SCHEDULE AND PRIOR TO THE START OF WORK. THESE SHALL BE REVIEWED BY THE MECHANICAL ENGINEER PRIOR TO PURCHASING.
19. SUBMIT TO THE OWNER ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, "AS-BUILTS", ETC. AT THE COMPLETION OF THE JOB. PROVIDE THE OWNER WITH COMPLETE MECHANICAL "AS-BUILTS" INDICATING FINAL EQUIPMENT LOCATIONS, DUCTWORK AND PIPE ROUTING, ETC.
20. OBTAIN APPROVAL FROM THE OWNER ON ALL ADDENDA AND CONSTRUCTION CHANGE DOCUMENT (CCD) PRIOR TO DOING THE WORK.
21. INSTALL ALL EQUIPMENT, ACCESSORIES, AND MATERIAL IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS.
22. PROVIDE FIRESTOPPING FOR PIPE AND DUCT PENETRATIONS THROUGH RATED WALLS. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
23. ANY MATERIAL EXPOSED WITHIN A PLENUM OR DUCT MUST HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25, AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50, AND A MOLDHUMIDITY RESISTANCE PER U.L. 181.
24. ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.
25. LOCATE ALL EQUIPMENT SUCH THAT CODE REQUIRED ACCESS IS MAINTAINED, INCLUDING N.E.C. REQUIREMENTS. ACCESS PANELS WHERE REQUIRED, SHALL BE COORDINATED WITH ARCHITECT, AND PROVIDED BY FACTORY OR BE FIELD-PROVIDED. FOR ATTIC EQUIPMENT, G.C. TO PROVIDE A CATWALK & LIGHT PER CMC FOR ATTIC EQUIPMENT.
26. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DAMPERS, EQUIPMENT, SMOKE DETECTORS, AND CONTROL DEVICES. THESE PANELS SHALL MATCH THE RATING OF THE WALL AND/OR CEILING WHERE THEY ARE LOCATED IN. MINIMUM ACCESS PANEL SIZES SHALL BE AS FOLLOWS:
   1) HAND ACCESS: 12"x12" MIN.
   2) BODY ACCESS: 30"x30" MIN.
27. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH FLEXIBLE DUCT AND PIPE CONNECTIONS.
28. LABEL ALL EQUIPMENT AS TO THE SPACE IT SERVES. SEE SPECIFICATIONS FOR IDENTIFICATION STANDARDS. LABEL DUCT SMOKE DETECTOR LOCATIONS (AT CEILING) AS TO THE EQUIPMENT IT SERVES.
29. A/C UNITS PROVIDED WITH ECONOMIZER CYCLE DAMPERS SHALL HAVE OSA DAMPERS SET UP TO CLOSE AUTOMATICALLY ON FAN SHUT DOWN.
30. PROVIDE MANUAL VOLUME DAMPERS AND BACKDRAFT DAMPERS FOR FRESH AIR INTAKES ON ALL AIR HANDLING EQUIPMENT AND EXHAUST FANS SERVING CONDITIONED SPACES. EXCEPTION: EQUIPMENT WITH FACTORY-ECONOMIZERS.
31. DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY EXISTING CONDITION PRIOR TO BID DATE.
32. OWNER RETAINS SALVAGE RIGHTS, PROVIDE A MINIMUM OF 72 HOURS NOTICE PRIOR TO REMOVAL OF ROOF TOP UNITS AND EXHAUST FANS.
33. PATCH AND SEAL ALL SLAB, ROOF AND WALL OPENINGS WITH LIKE MATERIAL WHERE MECHANICAL EQUIPMENT ONCE PENETRATED.
34. REMOVE EXISTING AND PROVIDE ALL NEW DUCT AND PIPE HANGER SUPPORTS WHERE DUCT AND PIPE IS BEING REPLACED.
35. PROVIDE ALL NEW PIPE SUPPORTS WHERE PIPING IS SCHEDULED TO BE REPLACED.
36. OUTDOOR REFRIGERANT PIPING TO BE INSULATED AND ALUMINUM WRAPPED.
37. CONTRACTOR IS RESPONSIBLE FOR COMPLETE AND OPERABLE SYSTEM.
38. ALL MECHANICAL EQUIPMENTS, PIPES AND DUCTS SHALL BE SUPPORTED AND BRACED PER THE CURRENT CALIFORNIA BUILDING CODE. ALL MECHANICAL COMPONENTS SHALL BE ABLE TO RESIST THE EFFECTS OF SEISMIC FORCES.
39. MECHANICAL WORK SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
40. CONTRACTOR SHALL PROTECT EXISTING BUILDING INFRASTRUCTURE DURING CONSTRUCTION FROM OUTDOOR ELEMENT. IF DAMAGED, CONTRACTOR SHALL REPLACE DAMAGED BUILDING COMPONENTS WITH NEW AT NO ADDITIONAL COST TO THE OWNER.
41. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF THE SMACNA LOW PRESSURE DUCT CONSTRUCTION STANDARDS.
42. ALL DUCT JOINTS SHALL BE MADE WITH MASTIC SEALANT, SHEET METAL SCREWS AND TAPED AIR TIGHT WITH HARDCAST OR EQUIV., MINIMUM 2-1/2" WIDTH.
43. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, MECHANICAL ENGINEER AND DSA FIELD ENGINEER.
44. A COPY OF THE GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY DSA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB AT ALL TIMES.
45. CONTRACTOR SHALL COORDINATE ALL DUCTWORK ROUTING WITH WORK OF OTHER TRADES AND MAKE ANY OFFSET AS REQUIRED TO AVOID CONFLICT WITH PIPING, LIGHT FIXTURES, TRUSSES, ETC.
46. COORDINATE ALL EQUIPMENT VOLTAGES WITH ELECTRICAL PRIOR TO ORDERING ANY EQUIPMENT.

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 CHAPTER 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, 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 PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

1. 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.
2. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUND 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 ABOVE REQUIREMENTS.

MEP DISTRIBUTION SYSTEM BRACING NOTES FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 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 SYSTEMS ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☒ PP ☐ E OPTION 1: PROJECT-SPECIFIC DESIGN

MP ☐ MD ☐ PP ☐ E OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL

MP ☐ MD ☐ PP ☐ E OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL

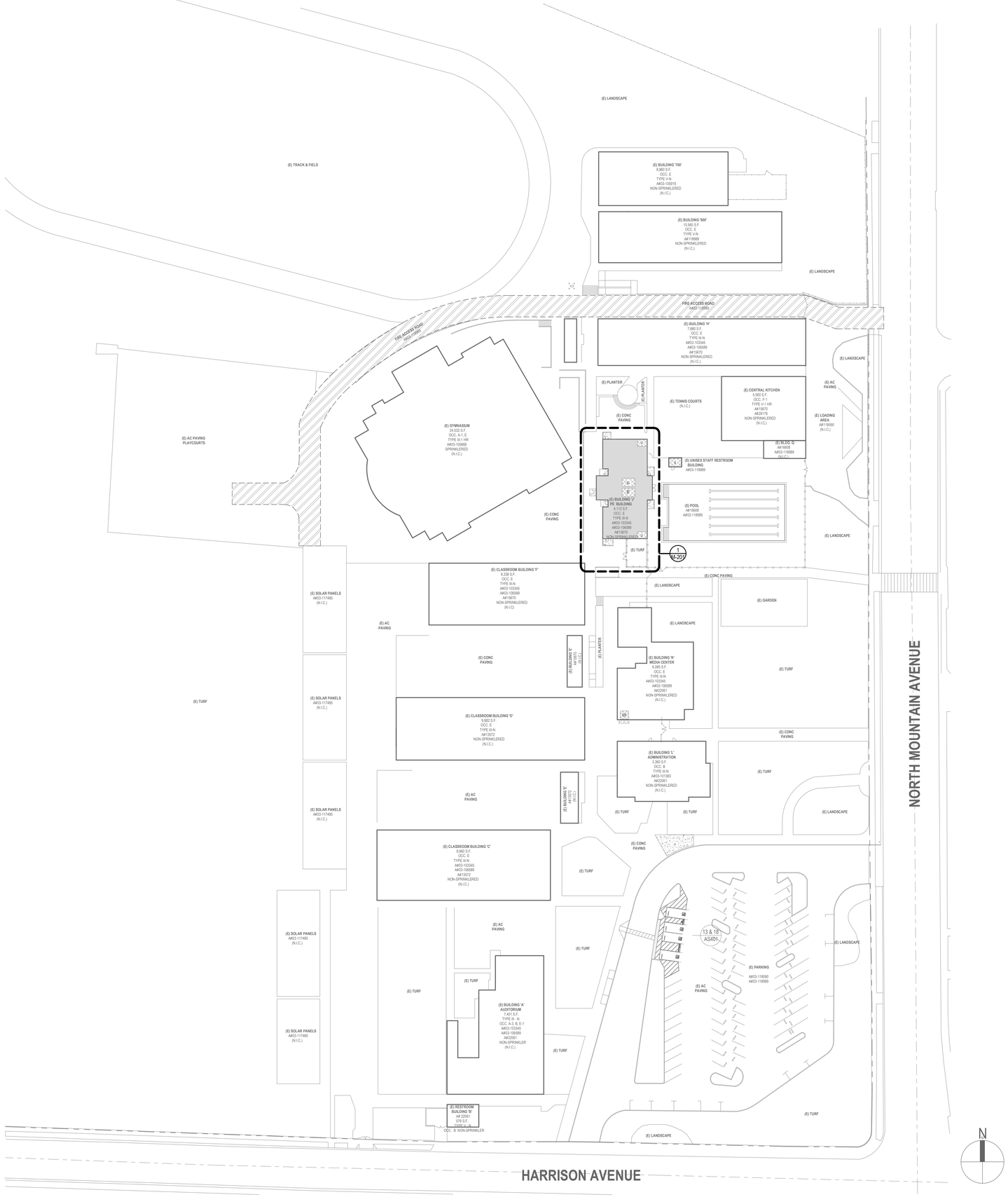
CAL GREEN NOTES

1. TESTING AND ADJUSTING. TESTING AND ADJUSTING OF SYSTEMS SHALL BE REQUIRED FOR NEW BUILDING LESS THAN 10,000 SQUARE FEET OR NEW SYSTEMS TO SERVE AN ADDITION OR ALTERATION SUBJECT TO SECTION 303.1

2. SYSTEMS. DEVELOP A WRITTEN PLAN OF PROCEDURES FOR TESTING AND

MECHANICAL SITE PLAN
M-101
FOR BLUEBEAM LABELING/OCR:

0"
1"



1 MECHANICAL SITE PLAN
1" = 40'-0"

GENERAL NOTES

A. REFER TO SHEET M-000 FOR LEGEND, ABBREVIATIONS AND NOTES

KEY NOTES

1 AREA OF WORK

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RANCHO CUCAMONGA, CA

PE BUILDING MODERNIZATION AT EL ROBLE IS

666 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPC NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT
UNIFIED SCHOOL DISTRICT

CONSULTANT LEAF Engineers
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LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
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BASANTO AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
REX DAVID IRAND
No.M36155
Exp.09-30-2026
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

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DRAWN BY: PK

MECHANICAL SITE PLAN

M-101

Plot Stamp:
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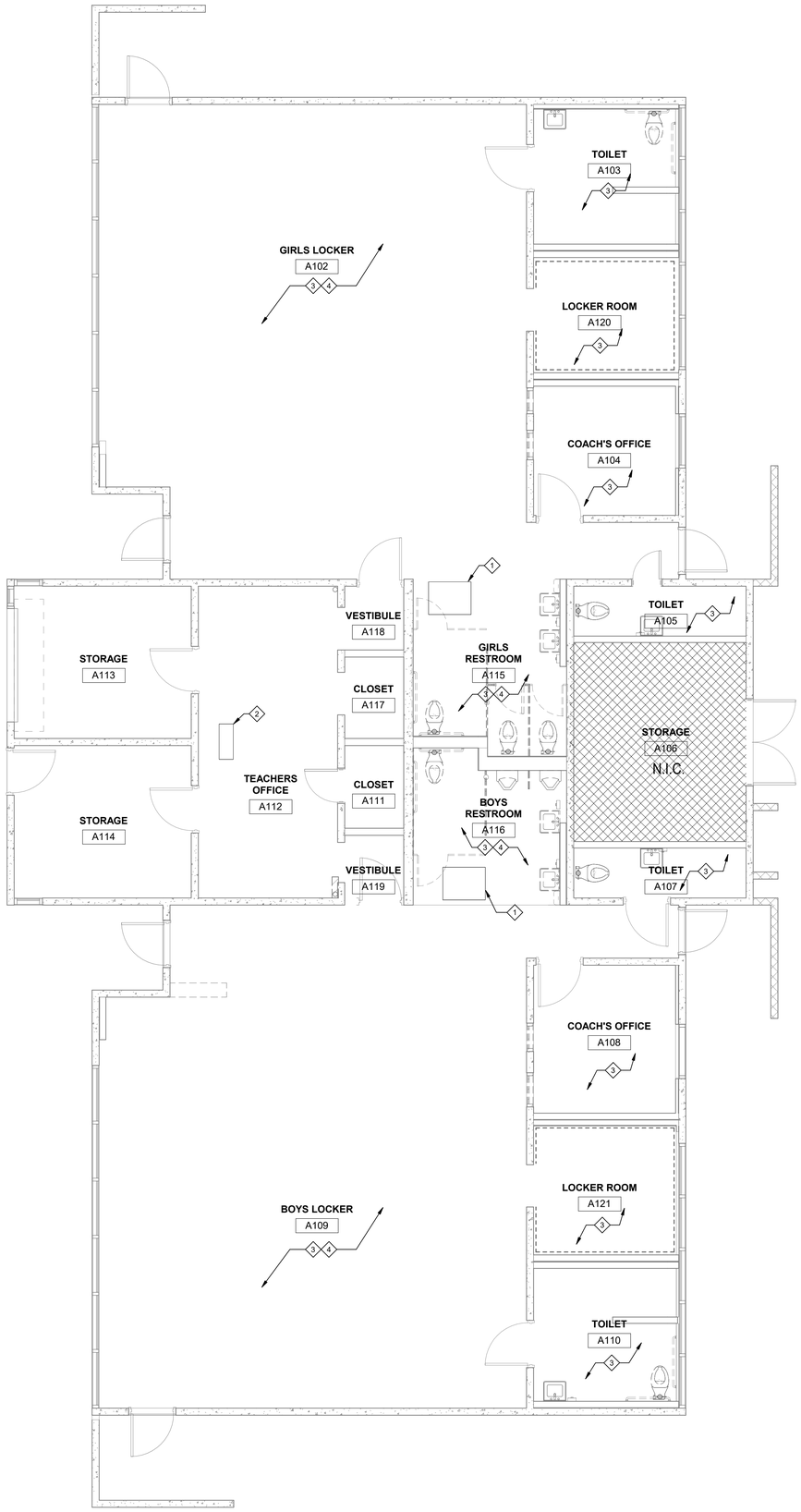
MECHANICAL FLOOR PLAN - DEMOLITION
MD-201
FOR BLUEBEAM LABELING/OCR:

0"
1"



1 DEMOLITION FLOOR PLAN
1/4" = 1'-0"

DEMOLITION SHEET NOTES

A. REFER TO SHEET M-000 FOR LEGEND, ABBREVIATIONS AND NOTES.
B. PATCH AND PAINT (E) OPENINGS TO MATCH EXISTING.

DEMOLITION KEY NOTES

1. DEMO (E) UNIT HEATER INCLUDING FLUE, CONTROLS AND RELATED ACCESSORIES. DEMO (E) GAS PIPING AND CAP AT MAIN, SEE PLUMBING DRAWINGS.
2. DEMO (E) SPLIT SYSTEM INCLUDING FAN COIL UNIT, CONDENSING UNIT, REFRIGERANT PIPING, THERMOSTAT AND RELATED ACCESSORIES.
3. DEMO (E) EXHAUST FAN AT ROOF INCLUDING DUCTWORK, GRILLES AND RELATED ACCESSORIES.
4. DEMO (E) MAKE UP GRAVITY VENT AT ROOF INCLUDING DUCTWORK, GRILLES AND RELATED ACCESSORIES.

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8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
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MECHANICAL FLOOR PLAN - DEMOLITION

MD-201

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MECHANICAL FLOOR PLAN
M-201

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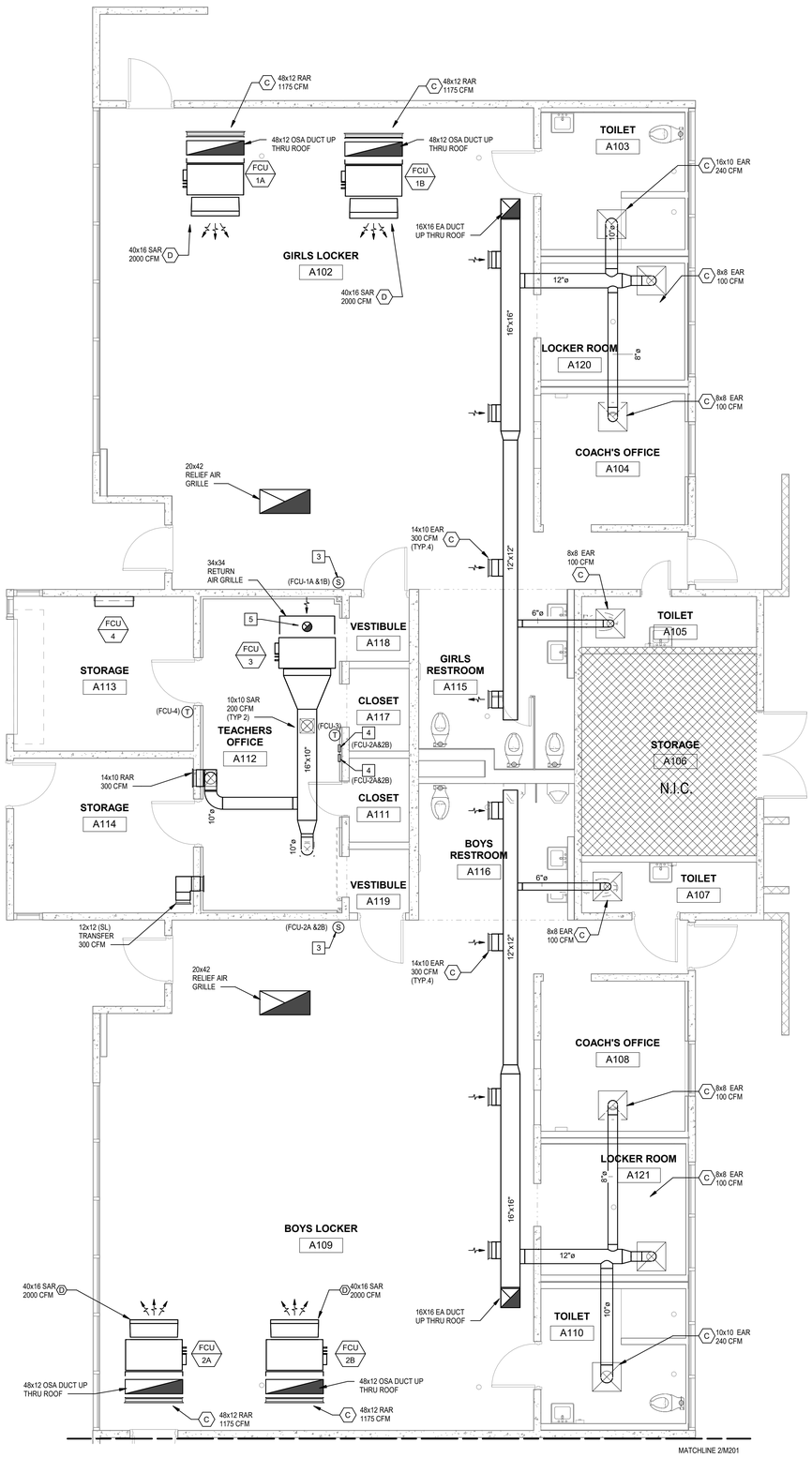
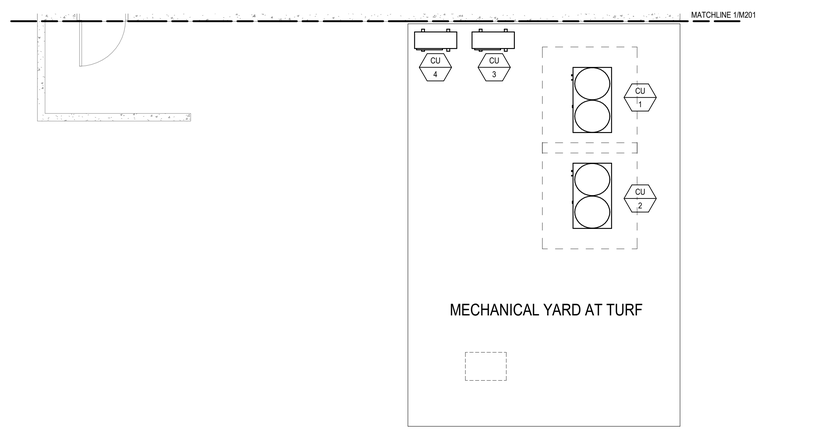


1 FLOOR PLAN
1/4" = 1'-0"



2 MECH YARD
1/4" = 1'-0"

SHEET NOTES

A. REFER TO SHEET M-000 FOR LEGEND, ABBREVIATIONS AND NOTES.
B. FOR DUCT PENETRATION THRU CONCRETE WALL REFER TO DETAIL 9/S4.2

KEY NOTES

1. FAN COIL UNIT. MOUNT AS HIGH AS POSSIBLE. COORDINATE EXACT LOCATION WITH LIGHTS AND STRUCTURE.
2. CONDENSING UNIT ON 6" CONCRETE PAD.
3. REMOTE ROOM TEMPERATURE SENSOR.
4. FAN COIL UNIT CONTROLLER
5. 8" OSA DUCT UP THRU ROOF AND TERMINATE WITH GOOSENECK & BIRD SCREEN BALANCE FOR 150 CFM.
6. EXISTING LANDSCAPE EQUIPMENT TO REMAIN VERIFY EXACT LOCATION IN FIELD.

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Rancho Cucamonga, CA 91730
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C-31009
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REX DAVID RAMAG
No.M36155
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MECHANICAL FLOOR PLAN

M-201

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MECHANICAL ROOF PLAN
M-401

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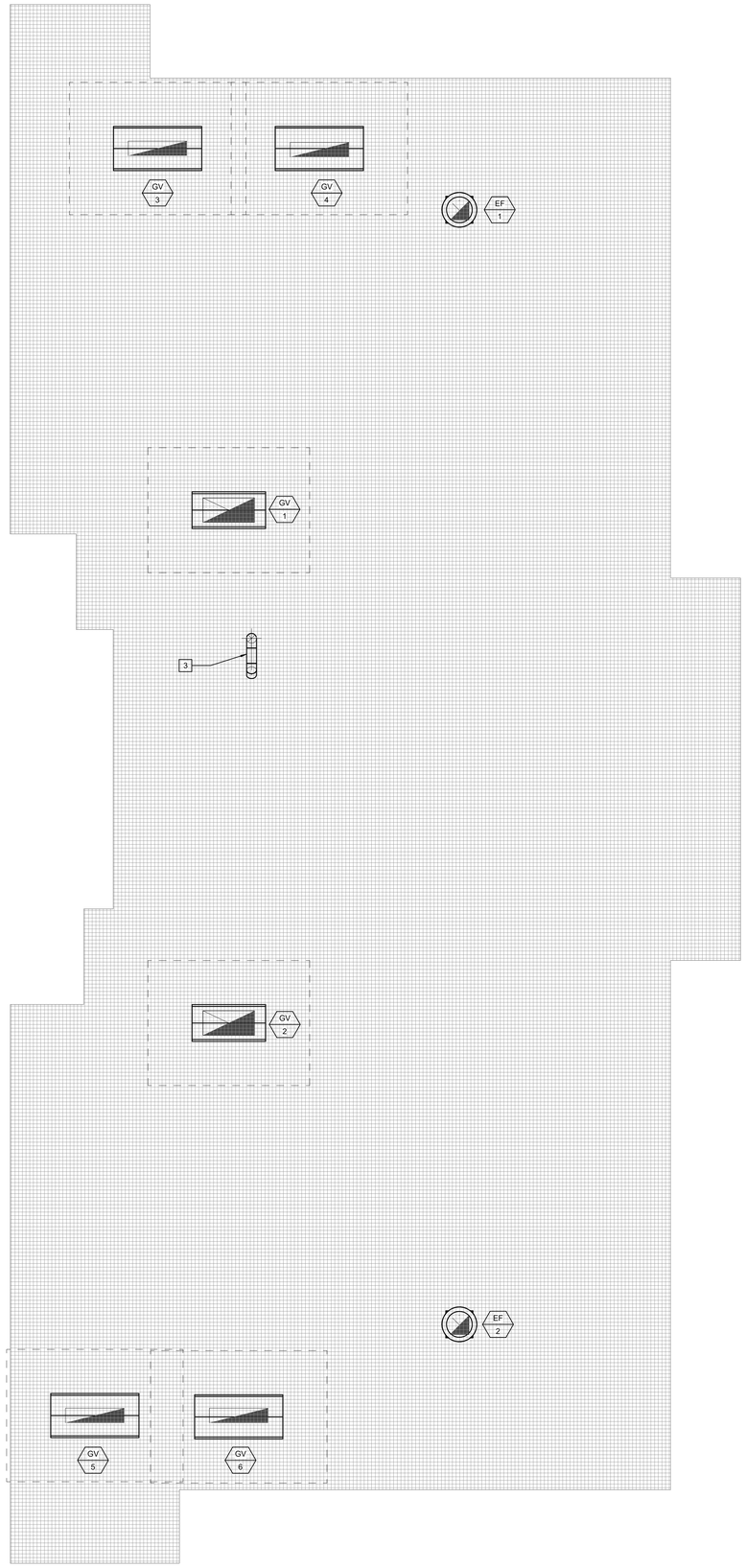
0"
1"



N

1 MECHANICAL ROOF PLAN
1/4" = 1'-0"

SHEET NOTES

A. REFER TO SHEET M-000 FOR LEGEND, ABBREVIATIONS AND NOTES

KEY NOTES

1. GRAVITY VENT RELIEF WITH BAROMETRIC RELIEF DAMPER.
2. CURB MOUNTED EXHAUST FAN (DOWNBLAST).
3. 8" OSA DUCT UP TERMINATE WITH GOOSENECK & BIRD SCREEN LOCATE TERMINATION 10'-0" MIN FROM ANY EXHAUST AND VENT.

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LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
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LICENSED ARCHITECT
RICHARD AGUSTIADI
C-31009
08-31-27
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REGISTERED PROFESSIONAL ENGINEER
REZ DAVID IMANG
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Exp.09-30-2026
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DATE	PROJECT NUMBER
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MECHANICAL ROOF PLAN

M-401

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MECHANICAL SCHEDULES
M-501
FOR BLUEBEAM LABELING/OCR:

FAN SCHEDULE

UNIT	MANUFACTURER & MODEL NO.	SERVICE	TYPE	CFM	SP IN W.G.	TS OR OV (FPM)	FAN RPM	MOTOR HP	MOTOR VOLT	MOTOR PH	MOTOR HZ	OPER WT. (LBS)	REMARKS
EF 1	GREENHECK G-130-VG	GIRLS LOCKER	ROOF MOUNTED	1650	0.5	4737	1379	1/2	115	1	60	100	1-5
EF 2	GREENHECK G-130-VG	BOYS LOCKER	ROOF MOUNTED	1650	0.5	4737	1379	1/2	115	1	60	100	1-5

NOTES:
1. COORDINATE WITH ELECTRICAL FOR POWER AND DISCONNECT AS REQUIRED.
2. PROVIDE ECM (ELECTRONICALLY COMMUTATED MOTOR) WITH FACTORY MOUNTED POTENTIOMETER FOR SPEED ADJUSTMENT.
3. PROVIDE BACKDRAFT DAMPER.
4. PROVIDE BIRDSCREEN.
5. PROVIDE FACTORY STANDARD ROOF CURB AND CURB SEAL.

AIR DISTRIBUTION SCHEDULE

SYMBOL	TYPE	MAKE & MODEL	DESCRIPTION
A	SQUARE CEILING SUPPLY	TITUS MODEL MCD-3	MODULAR CORE DIFFUSER WITH FRAME FOR LAY-IN T-BAR CEILING, FLUSH FACE MOUNTING.
B	SQUARE CEILING RETURN	TITUS MODEL PAR-3	PERFORATED FACE DIFFUSER WITH FRAME FOR LAY-IN T-BAR CEILING, FLUSH FACE MOUNTING.
C	AEROBLADE RETURN/EX/HAUST	TITUS MODEL 23RL	LOUVERED TYPE, 3/4" SPACING, 45 DEGREE SINGLE DEFLECTION, STEEL
D	AEROBLADE SUPPLY	TITUS MODEL 272RS	3/4" SPACING, DOUBLE DEFLECTION, STEEL

NOTES:
1. EQUIVALENT MODELS OF KRUEGER, ANEMOSTAT OR PRICE ARE ACCEPTABLE.
2. REFER TO THE FLOOR PLANS FOR NECK SIZE, CFM, AIR DIFFUSION PATTERN AND FIRE/DAMPER, IF REQUIRED.
3. PROVIDE AIR CONTROL GRID FOR ALL CEILING SUPPLY DIFFUSERS SET AT 90°.
4. INTERIOR OF ALL GRILLES SHALL BE PAINTED FLAT BLACK.

SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE

INDOOR UNIT

UNIT	MANUFACTURER & MODEL NO.	SERVED	CFM	EXT. STATIC PRESS. (IN. W.G.)	COOLING CAPACITY (MBH)	HEATING CAPACITY (MBH)	FAN MOTOR WATTS	FAN MOTOR VOLT/PH/HZ	OPER. WT. (LBS.)	O.S.A. INTAKE (CFM)	ANCHORAGE DETAIL
FCU 1A	SAMSUNG AM054JNHDCH/AA	GIRLS LOCKER	2,000	0.5	54	61.4	(2)183	208/1/60	150	825	1/M-602
FCU 1B	SAMSUNG AM054JNHDCH/AA	GIRLS LOCKER	2,000	0.5	54	61.4	(2)183	208/1/60	150	825	1/M-602
FCU 2A	SAMSUNG AM054JNHDCH/AA	BOYS LOCKER	2,000	0.5	54	61.4	(2)183	208/1/60	150	825	1/M-602
FCU 2B	SAMSUNG AM054JNHDCH/AA	BOYS LOCKER	2,000	0.5	54	61.4	(2)183	208/1/60	150	825	1/M-602
FCU 3	SAMSUNG AC024DNHDCG/AA	TEACHERS OFFICE	735	0.5	24	27	153	SEE NOTE 2	100	150	1/M-602
FCU 4	SAMSUNG AC024DNADCG/AA	STORAGE A113 (IDF)	540	N/A	24	N/A	-	SEE NOTE 2	30	N/A	4/M-602

OUTDOOR UNIT

UNIT	MANUFACTURER & MODEL NO.	AMBIENT TEMP. (°F)	SEER2	EER2	HSPF2	COP	REFRIGERANT TYPE	COMPRESSOR NO.	COMPRESSOR RLA	CONDENSER FAN NO.	CONDENSER FAN WATTS	CONDENSER FAN FLA	CONDENSER FAN MCA	CONDENSER FAN MOCP	POWER (VOLT-PH-HZ)	OPER. WT. (LBS.)	ANCHORAGE DETAIL	REMARKS
CU 1	SAMSUNG AM120BXVGJH/AA	97	-	25.3	-	3.85	R32	2	6.6	1	(2) 620	(2) 2.1	19.4	25	460-3-60	650	2/M-602	1,3,4,5
CU 2	SAMSUNG AM120BXVGJH/AA	97	-	25.3	-	3.85	R32	2	6.6	1	(2) 620	(2) 2.1	19.4	25	460-3-60	650	2/M-602	1,3,4,5
CU 3	SAMSUNG AC024DXSCCG/AA	97	18	12.0	9.5	1.8	R32	1	17.3	1	125	1.2	26.7	30	208-3-60	175	3/M-602	1,2
CU 4	SAMSUNG AC024DXSCCG/AA	97	-	-	-	-	R32	1	-	1	-	-	26.7	30	208-1-60	120	3/M-602	1,2

NOTES:
1. COORDINATE WITH ELECTRICAL FOR POWER AND DISCONNECT AS REQUIRED.
2. FAN COIL UNIT IS POWERED FROM CONDENSING UNIT. COORDINATE WITH ELECTRICAL.
3. PROVIDE FAN COIL UNIT REMOTE CONTROLLER WITH REMOTE ROOM SENSOR OPTION.
4. PROVIDE FIRE ALARM RELAY MODULE FOR UNIT SHUTDOWN. COORDINATE WITH FIRE ALARM.
5. PROVIDE FAN COIL UNIT MIXING BOX WITH ECONOMIZER DRYBULB CONTROLS. PROVENT MODEL MB-SAC54-DB.

GRAVITY INTAKE/RELIEF VENTILATOR SCHEDULE

UNIT	INTAKE/RELIEF	MAKE	MODEL/SIZE	TYPE	CFM	TOTAL STATIC PRESSURE "WC	WEIGHT LBS	COMMENTS
GV 1	RELIEF	GREENHECK	FGR / 42X20	SPUN ALUMINUM	2350	0.125	200	1,2
GV 2	RELIEF	GREENHECK	FGR / 42X20	SPUN ALUMINUM	2350	0.125	200	1,2
GV 3	INTAKE	GREENHECK	FGI / 48X12	SPUN ALUMINUM	2000	0.125	200	1
GV 4	INTAKE	GREENHECK	FGI / 48X12	SPUN ALUMINUM	2000	0.125	200	1
GV 5	INTAKE	GREENHECK	FGI / 48X12	SPUN ALUMINUM	2000	0.125	200	1
GV 6	INTAKE	GREENHECK	FGI / 48X12	SPUN ALUMINUM	2000	0.125	200	1

NOTES:
1. ALL UNITS WITH OPTIONAL FLASHING FLANGE AND BIRD SCREEN.
2. PROVIDE BAROMETRIC DAMPER FOR RELIEF.

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PROJECT NUMBER 250176

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MECHANICAL SCHEDULES

M-501

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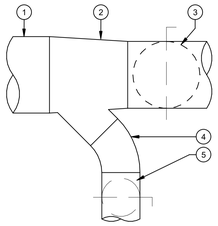
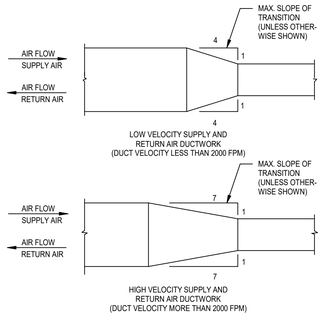
MECHANICAL DETAILS
M-601
FOR BLUEBEAM LABELING/OCR:



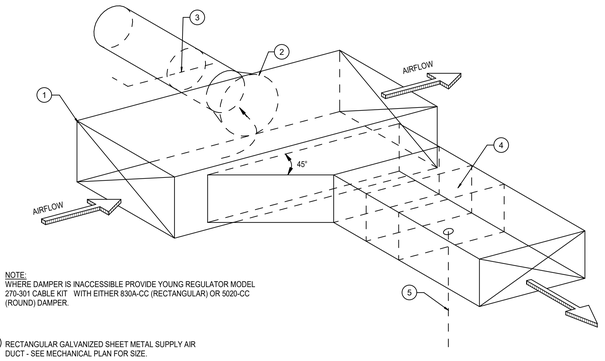
1. SHEET METAL DUCT.
2. SHEET METAL TAPER WITH BRANCH STUB.
3. DAMPER AT END OF DUCT RUN ONLY.
4. BRANCH TAKE-OFF.
5. BUTTERFLY DAMPER W/ LOCKING QUAD. (TYP)

NOTE:
A. WHERE DAMPER IS INACCESSIBLE PROVIDE YOUNG REGULATOR MODEL 270-301 CABLE KIT WITH EITHER 820A-CC (RECTANGULAR OR 5020-CC (ROUND) DAMPER.
B. PROVIDE DAMPER WITH LOCKING QUADRANT AT ALL SINGLE RUNOUTS.

2 BRANCH DUCT DAMPER DETAIL
NOT TO SCALE



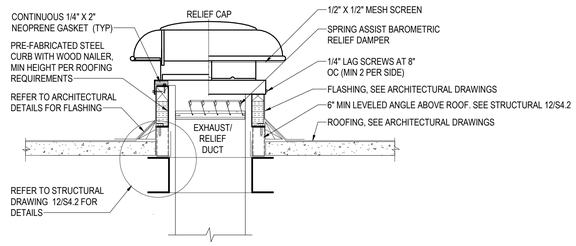
1 RECTANGULAR DUCT TRANSITION DETAIL
NOT TO SCALE



NOTE:
WHERE DAMPER IS INACCESSIBLE PROVIDE YOUNG REGULATOR MODEL 270-301 CABLE KIT WITH EITHER 830A-CC (RECTANGULAR) OR 5020-CC (ROUND) DAMPER.

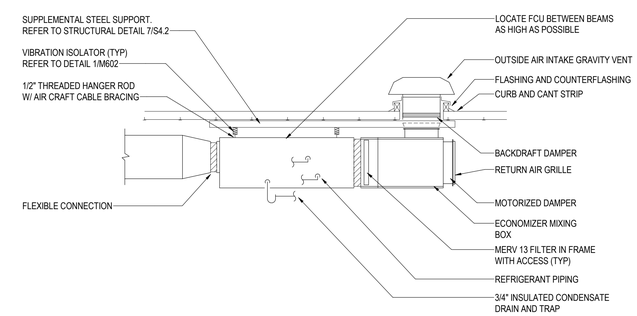
1. RECTANGULAR GALVANIZED SHEET METAL SUPPLY AIR DUCT - SEE MECHANICAL PLAN FOR SIZE.
2. CUT OPENING ACCURATELY FOR SPIN IN (FLARED) FITTING - WHERE POSSIBLE.
3. BUTTERFLY DAMPER W/ LOCKING QUAD. (TYP)
4. VOLUME CONTROL DAMPER WITH LOCKING QUADRANT.
5. DAMPER REGULATOR

3 BRANCH DUCT TAKE-OFF & DMP. DETAIL
NOT TO SCALE



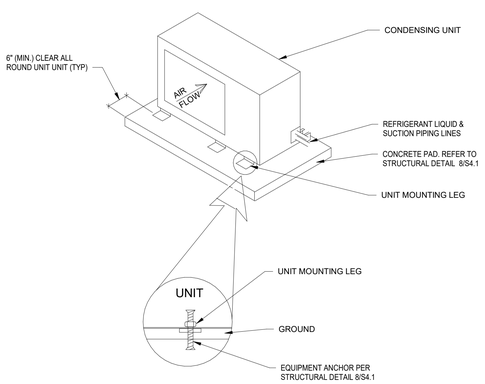
NOTES:
1. COORDINATE ROOF OPENING, BLOCKING, CURB, CANT STRIPS & FLASHING WITH ROOFING INSTALLER. ROOF PENETRATIONS SHALL NOT VOID ROOF WARRANTY.
2. MAINTAIN 10' MINIMUM CLEARANCE BETWEEN OUTSIDE AIR INTAKE AND EXHAUST/RELIEF, PLUMBING VENT OPENINGS.

5 GRAVITY VENT DETAIL (EXHAUST/RELIEF)
NOT TO SCALE

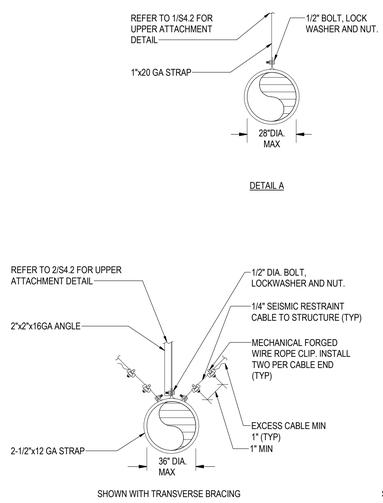


NOTES:
1. REFER TO PLANS FOR SIZES AND CONTINUATION.
2. REFER TO MANUFACTURER RECOMMENDATION FOR REFRIGERANT PIPE SIZES.
3. COORDINATE IN FIELD ACCESS REQUIRED CLEARANCE.

4 FAN COIL-SUSPENDED WITH OSA
NOT TO SCALE

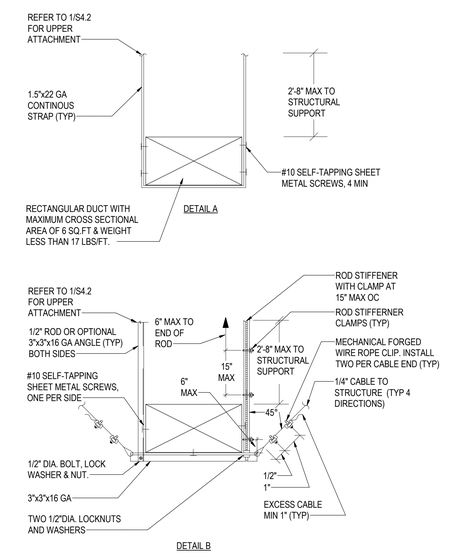


6 CONDENSING UNIT MOUNTING DETAIL
NOT TO SCALE



NOTES:
1. HANGERS SHALL BE INSTALLED AT EVERY CHANGE OF DIRECTION AND NO MORE THAN 8'-0" APART.
2. PROVIDE SEISMIC CABLE TRANSVERSE BRACING AT 30 FT AND SEISMIC CABLE LONGITUDINAL BRACING AT 60 FT.
3. REFER TO STRUCTURAL SHEET S4.10 FOR UPPER ATTACHMENT DETAILS.

8 ROUND DUCT SUPPORT
NOT TO SCALE



NOTES:
1. MAXIMUM SPACING OF HANGERS SHALL BE 5'-0".
2. PROVIDE TRANSVERSE BRACING AT 30 FT AND LONGITUDINAL BRACING AT 60 FT.
3. REFER TO STRUCTURAL SHEET S4.2 FOR ATTACHMENT TO STRUCTURE.
4. INSTALL ROD STIFFENER AS REQUIRED. REFER TO STRUCTURAL DESIGN FOR ADDITIONAL ATTACHMENT REQUIREMENTS.

7 RECTANGULAR DUCT HANGER DETAIL
NOT TO SCALE

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PE BUILDING MODERNIZATION AT EL ROBLE IS

665 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPL NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT
CITY OF ROOTS & WINGS

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
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LICENSED ARCHITECT
DIDIS AGUSTIADI
AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
SEA DAVID WANG
No.M36155
Exp.09-30-2026
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT
DATE 10/10/25
PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM
DRAWN BY: PK

MECHANICAL DETAILS

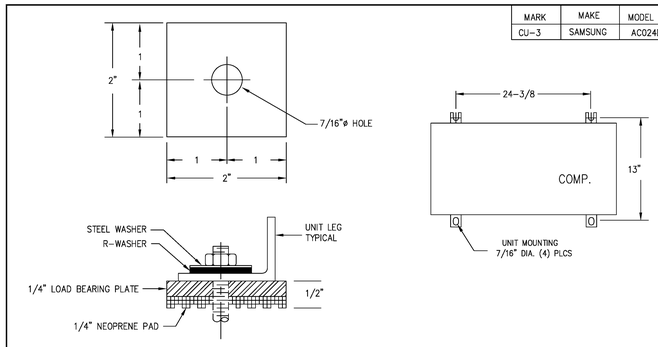
M-601

Plot Stamp:
3/2/2026 4:56:01 PM

MECHANICAL DETAILS
M-602
FOR BLUEBEAM LABELING/OCR:

0"
1"

MARK	MAKE	MODEL
CU-3	SAMSUNG	AC024DX



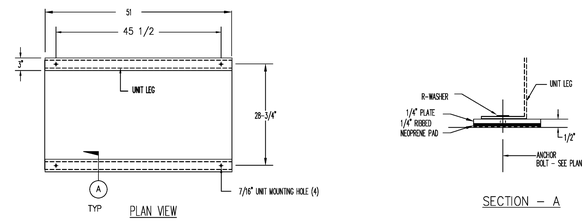
NOTES:
1. M.W. SAUSSE & CO. INC. IS NOT RESPONSIBLE FOR THE STRUCTURAL INTEGRITY OF THE EQUIPMENT WHEN ANCHORED AS SHOWN.
2. ALL DIMENSIONS REQUIRE FINAL REVIEW BEFORE CONSTRUCTION.
3. USE 3/8" DIA. HILTI KB TZ2 ANCHORS IN 3000 PSI NW CONCRETE, 2-1/2" NOMINAL EMBEDMENT, 4" CONCRETE THICKNESS & 5" END DISTANCE. INSTALL ANCHORS WITH SPECIAL INSPECTION PER ICC ESR 4266.

M. W. SAUSSE & CO., INC.
28744 Whitherspoon Pkwy, Valencia, CA 91355
Phone: (661) 257-3311 Fax: (661) 257-7673
Vibrex RPW

JOB NAME: EL ROBLE MS	REVISIONS:	DRN: TDT	
CUST.:	A:	DATE: 9-4-25	
CUST. P.O.:	B:	SHEET NO.:	
MECH. ENGR LEAF ENGINEERS	C:	-3	
MARK: CU-3	D:		

3 SPLIT CONDENSING UNIT MOUNTING DETAIL
NOT TO SCALE

MARK	MAKE	MODEL
CU-1,1	SAMSUNG	AM120BX



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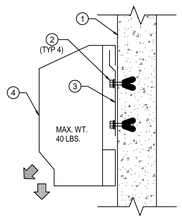
Vibrex RPW

JOB NAME: EL ROBLE MS	REVISIONS:	DRN: TDT	CHK.:
CUST.:	A:	DATE: 9-4-25	
CUST. P.O.:	B:	SHEET NO.:	
MECH. ENGR.: LEAF ENGINEERS	C:	-2	
MARK: CU-1,2	D:		

2 VRF CONDENSING UNIT DETAIL
NOT TO SCALE

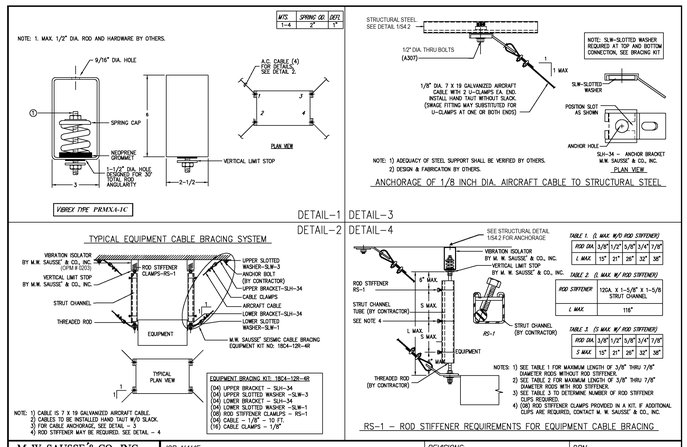
NOTES:
1. CONCRETE WALL, SEE ARCHITECTURAL & STRUCTURAL DRAWINGS.
2. (4) 3/8" HILTI KWIK BOLT TZ2 WITH 2.5" MIN EMBEDMENT .
3. UNIT MANUFACTURER MOUNTING PLATE.
4. WALL MOUNTED INDOOR UNIT SLIPS ONTO MOUNTING PLATE.



4 INDOOR UNIT WALL MOUNTING DETAIL (CONCRETE)
NOT TO SCALE

WT.	SPRING GD.	DEFL.
1-4	2"	1"

NOTE: 1. MAX. 1/2" DIA. ROD AND HARDWARE BY OTHERS.



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Phone: (661) 257-3311 Fax: (661) 257-7673
Vibrex CABLE RESTRAINTS

JOB NAME:	REVISIONS:	DRN:
CUST.:	A:	DATE:
CUST. P.O.:	B:	DRAWING NO.:
MECH. ENGR.:	C:	
MARK:	D:	

1 DUCTED FCU MOUNTING DETAIL
NOT TO SCALE

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CLAREMONT
WHERE SCHOOL STARTS

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CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM
DRAWN BY: PK

MECHANICAL DETAILS

M-602

Plot Stamp:
3/2/2026 5:41:53 PM

SPLIT SYSTEM - COOLING ONLY- BAS INTERFACE

A. RUN CONDITIONS - SCHEDULED:
   1. THE UNIT SHALL RUN ACCORDING TO A USER DEFINABLE TIME SCHEDULE IN THE FOLLOWING MODES:
   2. OCCUPIED MODE TEMPERATURES:
      A. COOLING SETPOINT - REFER TO BUILDING SCHEDULE
   3. STANDBY MODE TEMPERATURES (AFTER MORNING WARMUP AND PRIOR TO OCCUPANCY SENSED):
      A. COOLING SETPOINT - REFER TO BUILDING SCHEDULE
   4. ZONE UNOCCUPIED OVERRIDE:
      A. A TIMED LOCAL OVERRIDE CONTROL SHALL ALLOW AN OCCUPANT TO OVERRIDE THE SCHEDULE AND PLACE THE UNIT INTO AN OCCUPIED MODE FOR 4 HOURS. AT THE EXPIRATION OF THIS TIME, CONTROL OF THE UNIT SHALL AUTOMATICALLY RETURN TO THE SCHEDULE
   5. ZONE SETPOINT ADJUSTMENT:
      A. THE OCCUPANT SHALL BE ABLE TO ADJUST THE ZONE TEMPERATURE COOLING SETPOINTS AT THE ZONE SENSOR.
   6. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      A. HIGH ZONE TEMP: IF THE ZONE TEMPERATURE IS GREATER THAN THE COOLING SETPOINT BY 5°F.

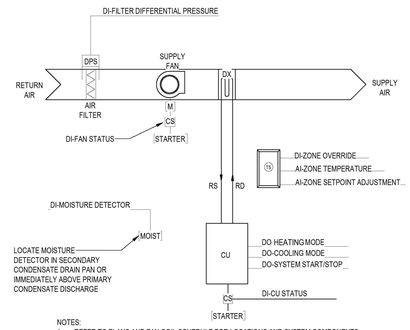
B. FAN COIL UNIT:
   1. THE FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED PERIODS, UNLESS SHUTDOWN ON SAFETIES.
   2. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      A. FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
      B. RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS 6 MONTHS.

C. CONDENSING UNIT:
   1. THE CONDENSING UNIT SHALL BE ENABLED CONTINUOUSLY DURING OCCUPIED PERIODS, UNLESS SHUTDOWN ON SAFETIES.
   2. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      A. CONDENSING UNIT FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.

D. COOLING:
   1. THE BAS SHALL MEASURE THE ZONE TEMPERATURE AND ENABLE THE COOLING TO MAINTAIN ITS COOLING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE MINIMUM RUNTIME.
   2. THE COOLING SHALL BE ENABLED WHENEVER:
      A. THERE IS A CALL FOR COOLING.
      B. AND, THE ZONE TEMPERATURE IS ABOVE COOLING SETPOINT.

E. HEATING:
   1. THE BAS SHALL MEASURE THE ZONE TEMPERATURE AND ENABLE THE HEATING TO MAINTAIN ITS HEATING SETPOINT. TO PREVENT SHORT CYCLING, THERE SHALL BE A USER DEFINABLE MINIMUM RUNTIME.
   2. THE HEATING SHALL BE ENABLED WHENEVER:
      A. THERE IS A CALL FOR HEATING
      B. AND, THE ZONE TEMPERATURE IS ABOVE HEATING SETPOINT.

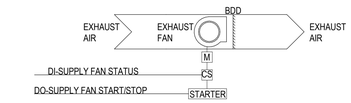
F. MOISTURE SENSOR
   1. THE BAS SHALL MONITOR THE MOISTURE SENSOR OF THE FAN COIL UNIT CONDENSATE. UPON DETECTION OF MOISTURE, AND A MOISTURE ALARM SHALL BE GENERATED AT THE BAS.



NOTES:
1. REFER TO PLANS AND FAN COIL SCHEDULE FOR LOCATIONS AND SYSTEM COMPONENTS.
2. REFER TO SEQUENCE OF OPERATION FOR ADDITIONAL REQUIREMENTS.

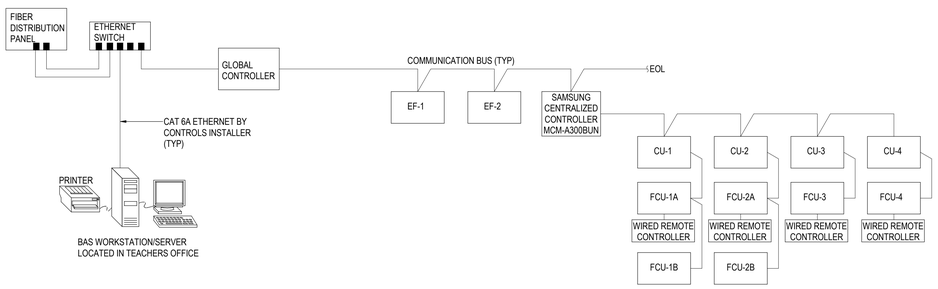
4 SPLIT SYSTEM CONTROLS
NOT TO SCALE

EXHAUST FAN - ON/OFF/SCHEDULED
1. RUN CONDITIONS - SCHEDULED: THE FAN(S) SHALL OPERATE PER THE BUILDING SCHEDULE.
2. FAN STATUS: THE BAS SHALL MONITOR THE FAN STATUS.
   A. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      a. FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
      b. FAN IN HAND: COMMANDED OFF, BUT THE STATUS IS ON.
      c. FAN RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS 6 MONTHS.



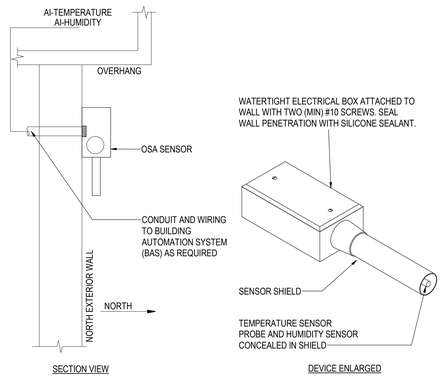
NOTES:
1. REFER TO PLANS FOR DUCTWORK ARRANGEMENT.
2. REFER TO SEQUENCE OF OPERATION FOR ADDITIONAL REQUIREMENTS.

2 EXHAUST FAN-CONTROL
NOT TO SCALE



NOTES:
1. REFER TO PLANS FOR LOCATIONS.
2. REFER TO SPECIFICATIONS AND SEQUENCE OF OPERATION FOR ADDITIONAL REQUIREMENTS.
3. COORDINATE LINE VOLTAGE POWER SUPPLY WITH ELECTRICAL INSTALLER.
4. COORDINATE ALL BAS WIRING AND DEVICES BETWEEN MECHANICAL INSTALLER AND CONTROLS INSTALLER.
5. PROVIDE AREA AND NETWORK CONTROLLERS AS REQUIRED.
6. COORDINATE WITH VRF AND SPLIT SYSTEM MANUFACTURER FOR CONTROL WIRING AND BAS INTEGRATION REQUIREMENTS.

3 BAS ARCHITECTURE-CONTROL
NOT TO SCALE



NOTES:
1. MOUNT TEMPERATURE/HUMIDITY SENSOR VERTICALLY WITH OPENING AT BOTTOM.
2. PRIME AND PAINT TO MATCH BUILDING.
3. LOCATE SENSOR AWAY FROM EXHAUST OUTLETS OR FLUES.

1 OUTDOOR TEMPERATURE HUMIDITY SENSOR
NOT TO SCALE

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REA DAVID WANG
No.M36155
Exp.09-30-2026
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM
DRAWN BY: PK

MECHANICAL CONTROLS

M-701

MECHANICAL CONTROLS
M-701
FOR BLUEBEAM LABELING/OCR:

0"
1"

Plot Stamp:
1/27/2026 1:54:29 AM

ELECTRICAL SHEET INDEX, LEGEND & NOTES
E-001
FOR BLUEBEAM LABELING/OCR:

ELECTRICAL NOTES & SYMBOL LEGEND

SYMBOLS SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS

MEP COMPONENT ANCHORAGE NOTES

1. 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 2022CBC, SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTER 13, 26 AND 30:

A. ALL PERMANENT EQUIPMENT AND COMPONENTS.

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

C. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVETHE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

2. THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BEPOSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGNCOMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALLHAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. 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 POUND PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

3. THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERALRESPONSIBLE 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 ABOVE REQUIREMENTS.

UL LISTINGS NOTE

ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITER'S LABORATIES (UL) AND BEAR THEIR LABEL OR LISTED AND CERTIFIED BY A NATIONALLY RECOGNIZED TESTING AUTHORITY.

ALL EQUIPMENT/DEVICES INSTALLED RECESSED IN FIRE RATED CEILINGS OR WALLS SHALL BE ENCLOSED WITH AN APPROVED UL LISTED ENCLOSURE CARRYING THE SAME FIRE RATING AS THE CEILING OR WALL.

DEVICE LOCATION NOTE

THE LOCATION OF ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE COORDINATED WITH THE ARCHITECTURAL ELEVATIONS, DETAILS, OR SECTIONS PRIOR TOINSTALLATIONS. ALL ELECTRICAL DEVICES AND EQUIPMENT SHALL BE RECESSED INWALLS UNLESS OTHERWISE NOTED. OUTLETS NOT INDICATED ON ARCHITECTURAL ELEVATIONS SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ROUGH-IN, UNLESS OTHERWISE NOTED. ELECTRICAL DEVICES SHALL BE MOUNTED PER "ACCESSIBLE DEVICE MOUNTING HEIGHT" DETAIL.

COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT SUPPLY POWER AND MAKE CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON THE SINGLE LINE DIAGRAM, ELECTRICAL DRAWINGS, AND DRAWINGS OF OTHER TRADES. REVIEW THE DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT. DISCONNECT SWITCHES, STARTERS, WIRING, CONTROLS, AND CONDUIT FOR MECHANICAL AND PLUMBING OPERATIONS SHALL BE PROVIDED THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUIT TO THIS EQUIPMENT.

GENERAL NOTES

1. THE CONTRACTOR SHALL VISIT THE SITE INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL THOROUGHLY FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS BY SUBMITTING A BID, ACCEPTS THE CONDITIONS UNDER WHICH HE SHALL BE REQUIRED TO PERFORM HIS WORK, AND SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION, CEC, ALL STATE AND LOCAL CODES AND AMENDMENT

2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS AND ADDENDA (DRAWINGS AND SPECIFICATIONS.) HE SHALL CHECK THE CONTRACT DOCUMENTS OF THE OTHER TRADES AND DETERMINE HIS RESPONSIBILITES. FAILURE TO DO SO SHALL NOT RELEASE THE CONTRACTOR FROM COMPLETING ALL RESPONSIBLE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

3. THE CONTRACTOR SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENTAL AGENCIES.

4. ALL ELECTRICAL WORK REFERENCED HEREIN SHALL BE COORDINATED WITH OTHER TRADES AND SITE CONDITIONS. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE CONTRACT DOCUMENTS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

5. PROVIDE TEMPORARY POWER FACILITIES AND CONNECTIONS FOR ALL FEEDERS, BRANCH CIRCUITS, OR SIGNAL AND COMMUNICATIONS SYSTEMS BEING DISCONNECTED TO MAINTAIN SYSTEMS IN OPERATION.

6. ALL INTERRUPTION OF ELECTRICAL POWER SHALL BE KEPT TO A MINIMUM. HOWEVER, WHEN AN INTERRUPTION IS NECESSARY, THE SHUTDOWN MUST BE COORDINATED WITH THE OWNER AND ENGINEER 14 DAYS PRIOR TO THE OUTAGE, AND OVERTIME PAY SHALL BE INCLUDED IN THE CONTRACTOR'S BID. WORK IN EXISTING SWITCHBOARDS OR PANEL BOARDS SHALL BE COORDINATED WITH THE OWNER PRIOR TO REMOVING ACCESS PANELS OR DOORS.

7. AFTER ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNERS WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.

8. FURNISH A ONE-YEAR WRITTEN GUARANTEE OF MATERIALS AND WORKMANSHIP FROM THE DATE OF PUNCH LIST COMPLETION.

9. ALL FINAL CONNECTIONS TO OWNER-FURNISHED EQUIPMENT SHALL BE MADE BY THE CONTRACTOR.

10. THE EXACT METHOD AND LOCATION OF CONDUIT PENETRATION AND OPENINGS IN CONCRETE OR MASONRY WALLS, GRADE BEAMS, FLOORS, OR STRUCTURAL STEEL MEMBERS SHALL BE AS DIRECTED BY THE STRUCTURAL ENGINEER. PERFORM CORING, SAW CUTTING, PATCHING, AND REFINISHING OF WALLS AND SURFACES WHEREVER IT IS NECESSARY TO PENETRATE. OPENINGS SHALL BE SEALED IN AN APPROVED METHOD TO MEET THE FIRE RATING OF THE PARTICULAR WALL, FLOOR, OR CEILING. THE EXACT METHOD AND LOCATION OF CONDUIT PENETRATIONS AND OPENINGS IN CONCRETE WALLS OR FLOORS SHALL BE UL APPROVED.

11. FINAL CONNECTIONS TO VIBRATING EQUIPMENT AND AT SEISMIC SEPARATIONS SHALL BE FLEXIBLE STEEL CONDUIT IN DRY INTERIOR LOCATIONS, AND LIQUID-TIGHT FLEXIBLE STEEL CONDUIT IN AREAS EXPOSED TO WEATHER, DAMP LOCATIONS, CONNECTIONS TO TRANSFORMER ENCLOSURES, AND FINAL CONNECTIONS TO MOTORS.

12. EQUIPMENT OUTLETS, LIGHTING FIXTURES, CONDUIT, WIRE, AND CONNECTION METHODS IN HVAC AIR PLENUMS SHALL BE APPROVED FOR USE IN PLENUMS AND SHALL CONFORM TO THE CALIFORNIA ELECTRICAL CODE.

13. ROUTE EXPOSED CONDUIT AND CONDUIT ABOVE ACCESSIBLE CEILING SPACES PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.

14. CONDUIT SHALL NOT BE INSTALLED IN ANY FLOOR SLAB. CONDUIT SHALL BE INSTALLED CONCEALED IN THE CEILING SPACE, CONCEALED WALLS, OR 24" MINIMUM BELOW SLAB ON GRADE UNLESS NOTED OTHERWISE.

15. LOCATE ELECTRICAL EQUIPMENT AND BOXES IN ACCESSIBLE CEILING SPACE OR PROVIDE AN ACCESS PANEL FOR INACCESSIBLE CEILING SYSTEMS. ACCESS DOORS SHALL BE A MINIMUM DIMENSION OF 24" X 24". ACCESS DOOR LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.

16. COORDINATE REQUIRED ACCESS DOORS IN NON-ACCESSIBLE CEILINGS TO SUIT FIELD CONDITIONS. THE EXACT SIZES AND PHYSICAL LOCATIONS SHALL SUIT ACCESSIBILITY AND CONSTRUCTION CONDITIONS. ACCESS DOORS SHALL BE PROVIDED IN OTHER SECTIONS OF THE SPECIFICATIONS. ACCESS DOORS SHALL HAVE A FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.

17. WHENEVER A DISCREPANCY OF ANY SYSTEM AND/OR EQUIPMENT ARISES ON THE CONTRACT DOCUMENTS OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON THE DRAWINGS OR SPECIFICATIONS TO ENSURE COMPLETE AND OPERABLE SYSTEMS AS REQUIRED BY THE OWNER AND ARCHITECT/ENGINEER.

18. STRAIGHT FEEDER BRANCH CIRCUIT AND CONDUIT RUNS SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS.

19. PANEL SCHEDULES SHALL BE REVISED TO REFLECT FINAL ROOM NAMES AND NUMBERS USING THE OWNER'S ROOM NAMES AND NUMBERS DESIGNATIONS. CONTRACTOR TO PROVIDE FINAL PANEL SCHEDULE TO EEOR AT COMPLETION OF PROJECT.

20. WHERE OUTLETS OCCUR AT TACKABLE WALL PANELS OR OTHER WALL FINISHES, PROVIDE EXTENSION RINGS AS REQUIRED SO THAT NO SPACE WILL EXIST BETWEEN DEVICE PLATE AND BACKBOX PER CALIFORNIA ELECTRICAL CODE 314.20. SEE ARCHITECTURAL ELEVATIONS FOR WALL FINISHES AND LOCATIONS.

21. COORDINATE LOCATIONS OF ALL SEISMIC SEPARATIONS.

22. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF ALL LOW VOLTAGE / TECHNOLOGY SYSTEMS SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. CABLING CONTRACTOR SHALL COORDINATE ALL 120V POWER REQUIREMENTS AND LOCATIONS WITH ELECTRICAL CONTRACTOR FOR ALL EQUIPMENT.

23. ALL AC POWER CABLES ARE TO BE INSTALLED WITH A MINIMUM OF 12 INCHES OF SEPARATION FROM TECHNOLOGY LOW VOLTAGE CABLES, INTERCOM, FIRE ALARM, SECURITY CABLES IN ANY PARALLEL OPEN WIRE RUN.

24. CONTRACTOR SHALL PROVIDE AND INSTALL ALL SLEEVES REQUIRED TO INSTALL COMMUNICATION CABLING THROUGH RATED WALLS. ALL TECHNOLOGY SYSTEM CONDUIT SLEEVES SHALL HAVE PROTECTIVE BUSHING ON BOTH ENDS, BE DEDICATED FOR TECHNOLOGY SYSTEMS ONLY AND SHALL NOT SHARE WITH OTHER BUILDING TRADES.

25. CONTRACTOR SHALL MAINTAIN WALL RATING WITH PROPER FIRE BLOCKING METHODS.

26. ALL CONDUCTORS SHALL BE UL LISTED, COPPER #12 MINIMUM SIZE, TYPE THHN/THWN THERMOPLASTIC, 600 VOLT, 75 DEGREES CELSIUS WET AND 90 DEGREES CELSIUS DRY, UNLESS NOTED OTHERWISE.

27. ALL CABLING SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH MAXIMUM 40% CABLE FILL. MINIMUM CONDUIT SIZE SHALL BE 3/4" INTERIOR & 1" EXTERIOR.

28. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED.

29. COORDINATE MOUNTING HEIGHTS AND DETAILS OF ALL OUTLETS (POWER, SIGNAL, ETC.) WITH ARCHITECTURAL CASEWORK DRAWINGS PRIOR TO DIVISION 26 ROUGH-IN. PROVIDE COORDINATION DRAWINGS IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS WHERE CONFLICTS EXIST. OBTAIN APPROVAL FROM ARCHITECT BEFORE ELECTRICAL ROUGH-IN WHEN CONFLICTS ARISE.

30. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION OF ALL HVAC AND PLUMBING EQUIPMENT.

31. CIRCUITING:

A. BRANCH CIRCUITING IS SCHEMATIC IN NATURE AND IS INTENDED TO INDICATE CIRCUIT LOADING AND CONTROL, NOT METHODS OF INSTALLATION. REFER TO SPECIFICATIONS FOR METHODS OF INSTALLATION AND MATERIALS, INCLUDING WHETHER OR NOT BX IS ALLOWED AND WHETHER "THROUGH-FIXTURE" OR"OCTOPUS (EMT WITH FLEXIBLE WHIPS)" TYPE LIGHTING BRANCH CIRCUITING IS REQUIRED.

B. WHERE WIRE SIZE AND CONDUIT SIZE IS NOT INDICATED ON THE DRAWINGS AND/OR PANELSCHEDULES, REFER TO SPECIFICATIONS FOR MINIMUM SIZE REQUIRED.

C. BRANCH CIRCUITS ON THE DRAWINGS ARE GENERALLY NOT SHOWN GROUPED IN SINGLE RACEWAYS. HOWEVER, GROUPING IS ALLOWED UNDER CERTAIN CONDITIONS. REFER TO DIVISION 26 SPECIFICATIONS UNDER SECTION ENTITLED "ELECTRICAL WIRING" FOR REQUIREMENTS.

D. THE DRAWINGS GENERALLY INDICATE QUANTITY OF CONDUCTORS ON BRANCH CIRCUIT HOME RUNS ONLY. ELSEWHERE WITHIN CIRCUITS, PROVIDE QUANTITY OF CONDUCTORS AS NEEDED TO ACCOMPLISH CIRCUITING AND SWITCHING REQUIREMENTS SHOWN.

32. WHEN REMOVING EXISTING ELECTRICAL WORK WHERE OTHER ITEMS REMAIN ON THE SAME CIRCUIT, THE CONTRACTOR SHALL TAKE WHATEVER STEPS ARE NECESSARY TO MAINTAIN CIRCUIT CONTINUITY.

33. ALL ITEMS NOTED TO BE REMOVED ARE TO REMAIN THE PROPERTY OF THE OWNER; HOWEVER, CONTRACTOR SHALL REMOVE FROM JOB SITE ALL MATERIAL NOT RETAINED BY OWNER.

34. FIELD VERIFY CONDITION OF, AND MODIFICATIONS AND ADDITIONS TO, ALL EXISTING ELECTRICAL FIXTURES, PANELS, WIRING, ETC.

35. CONTRACTOR SHALL FIELD VERIFY EXISTING BRANCH CIRCUIT LOADING WHEN MAKING MODIFICATIONS AND/OR ADDITIONS TO THAT CIRCUIT. IF NEW WORK WOULD OVERLOAD EXISTING CIRCUIT, CONTRACTOR SHALL LOCATE ANOTHER EXISTING CIRCUIT (THE CLOSEST), WHICH WOULD NOT BE OVERLOADED UPON ADDING NEW LOAD, AND SHALL TIE NEW LOAD INTO THAT CIRCUIT.

36. CONTRACTOR TO REFER TO ARCHITECTURAL PHASING PLANS AND HAVE A GOOD UNDERSTANDING OF SCOPE OF PROJECT PRIOR TO COMMENCEMENT OF WORK.

37. LUMINAIRE SUPPORT IN SUSPENDED CEILINGS:

A. PROVIDE MEANS OF SUPPORT FOR LUMINAIRES PER NEC 410-16. T BAR CLIPS SHALL BE INSTALLED ON THE LUMINAIRE AND SHALL BE FIELD SECURED TO THE INVERTED CEILING TEES SO THAT THE LUMINAIRE IS SECURELY FASTENED TO THE CEILING SYSTEM FRAMING MEMBERS.

B. CEILING TILES SHALL NOT BEAR THE WEIGHT OF LUMINAIRES. SURFACE MOUNT LUMINAIRES, RECESSED DOWNLIGHTS, LIGHT TRACK, EXIT SIGN, ETC. SHALL BE SUPPORTED BY PROPER FRAMES OR OTHER ATTACHMENT TO MAIN CEILING SYSTEM GRID OR BUILDING STRUCTURE ABOVE CEILING.

C. LUMINAIRES SHALL BE CENTERED IN CEILING TILE.

D. LUMINAIRE SHALL HAVE FLANGE OR TRIM RING FOR CLOSURE OF CEILING CUTOUT OR OPENING.

E. FIRE-RATED CEILING ASSEMBLY: FOR LUMINAIRES TO BE FLUSH-MOUNTED INTO A FIRE-RATED CEILING OR SURFACE MOUNTED TO A FIRE-RAGED CEILING, INSTALL WITH INDEPENDENT, SECURE SUPPORT. RACEWAY, CABLE ASSEMBLIES, BOXES AND FITTINGS LOCATED ABOVE A FIRE-RATED FLOOR/CEILING OR ROOF CEILING ASSEMBLY SHALL NOT BE SECURED TO, OR SUPPORTED BY, THE CEILING ASSEMBLY INCLUDING THE CEILING SUPPORT WIRES. PROVIDE AN INDEPENDENT MEANS OF SECURE SUPPORT. INDEPENDENT SUPPORT WIRES SHALL BE DISTINGUISHABLE BY COLOR, TAGGING, OR OTHER EFFECTIVE MEANS FROM THOSE THAT ARE PART OF THE FIRE-RATED DESIGN.

38. CONTRACTOR SHALL FIELD VERIFY ANY EXISTING UNDERGROUND PIPING, WIRING OR OTHER FACILITIES PRIOR TO TRENCHING, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED BY INSTALLATION OF NEW WORK.

ELECTRICAL ABBREVIATIONS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A OR AMP	AMPERES	LV	LOW VOLTAGE
ABV	ABOVE	MAX	MAXIMUM
AFF	ABOVE FINISHED FLOOR	MCA	MINIMUM CIRCUIT AMPS
AFG	ABOVE FINISH GRADE	MCC	MOTOR CONTROL CENTER
AIC	AMPERE INTERRUPTING CAPACITY	MFR	MANUFACTURER
AL	ALUMINUM	MH	MANHOLE
AS	DISCONNECT SWITCH SIZE RATING	MOCP	MAXIMUM OVERCURRENT PROTECTION
ATS	AUTOMATIC TRANSFER SWITCH	MTD	MOUNTED
AUX	AUXILIARY	MTG	MOUNTING
AWG	AMERICAN WIRE GAUGE	MV	MEDIUM VOLTAGE
B.S.	BARE STRANDED	NAC	NOTIFICATION APPLIANCE CIRCUIT
BKBD	BACKBOARD	NC	NORMALLY CLOSED
BKR	BREAKER	NEC	NATIONAL ELECTRICAL CODE
BLDG	BUILDING	NF	NON-FUSED
C	CONDUIT	NIC	NOT IN CONTRACT
C.O.	CONDUIT ONLY WITH PULL WIRE	NO.	NUMBER
CB	CIRCUIT BREAKER	OC	ON CENTER
CKT	CIRCUIT	OD	OUTSIDE DIAMETER
CL	CENTER LINE	PB	PULL BOX
CLG.	CEILING	PC	PHOTOCELL
COL	COLUMN	PH OR Ø	PHASE
CU	COPPER	PIV	POST INDICATING VALVE
DIS	DISCONNECT	PNL	PANEL
DP	DISTRIBUTION PANEL	POC	POINT OF CONNECTION
DWG	DRAWING	PRI	PRIMARY
EA	EACH	PVC	POLY-VINYL CHLORIDE
ELEC.	ELECTRICAL	PWR	POWER
EMH	ELECTRICAL MANHOLE	REC/RECEPT	RECEPTACLE
EMT	ELECTRICAL METALLIC TUBING	REQ'D	REQUIRED
EPO	EMERGENCY POWER OFF	RGS	RIGID GALVANIZED STEEL
EQ	EQUIPMENT	RPBP	REDUCED PRESSURE BACK FLOW PREVENTER
FA	FIRE ALARM		
FACP	FIRE ALARM CONTROL PANEL	SF	SQUARE FEET
FATC	FIRE ALARM TERMINAL CABINET	SP	SPARE
FF	FINISHED FLOOR	SPECS	SPECIFICATIONS
FLA	FULL LOAD AMPS	STD	STANDARD
FO	FIBER OBTIC	SW	SWITCH
FT	FEET	SWBD	SWITCHBOARD
GFI	GROUND FAULT INTERRUPTER	TB	TERMINAL BLOCK
GFR	GROUND FAULT RELAY	TEL /TELE	TELEPHONE
GND	GROUND	TPS	TWISTED SHIELDED PAIR
HP	HORSEPOWER	TRANSF/XFMR	TRANSFORMER
HTR	HEATER	TS	TAMPER SWITCH
HV	HIGH VOLTAGE	TYP	TYPICAL
ISC	SHORT CIRCUIT CURRENT	UG	UNDERGROUND
KCMIL	THOUSAND CIRCULAR MILS	UNO	UNLESS NOTED OTHERWISE
KV	KILOVOLT	V	VOLTS
KVA	KILOVOLT-AMPERES	VA	VOLT-AMPERES
KW	KILOWATT	VFD	VARIABLE FREQUENCY DRIVE
LF	LINEAR FEET	W	WATTS
LIS	LOAD INTERRUPTER SWITCH	WP	WEATHERPROOF
LOC.	LOCATION	Z	IMPEDANCE
LTG	LIGHTING		

SHEET OR DETAIL REFERENCE
- NUMBER ON TOP INDICATES DETAIL NUMBER
- NUMBER ON BOTTOM INDICATES SHEET NUMBER

MECHANICAL EQUIPMENT CALLOUT
SEE MECHANICAL PLANS FOR EXACT LOCATION AND REQUIREMENTS

KEY NOTE

CIRCUITING

ARROW INDICATES HOME RUN, LONGER TICK(S) INDICATE NEUTRAL WIRE(S), SHORTER STRAIGHT TICK(S) INDICATE PHASE WIRE(S), SLANTED SHORTER TICK(S) INDICATE SWITCH LEG(S), DOT(S) INDICATE GROUNDING CONDUCTOR(S), DASHED WIRING (LONG-SHORT-LONG DASHES) INDICATES WIRING BELOW SLAB OR GRADE, DASHED WIRING (SERIES OF SHORT DASHES) INDICATES EXISTING WIRING, SLASH THROUGH ARROWINDICATES PARTIAL CIRCUIT, "D" ON HOMERUN ARROW INDICATES DEDICATED CIRCUIT:

PROVIDE A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR FOR ENTIRE LENGTH OF CIRCUIT FROM PANEL TO OUTLET; COUNT EACH NEUTRAL AS CURRENT-CARRYING AND GROUP A MAXIMUM OF SIX THHN/THWN CONDUCTORS IN A SINGLE RACEWAY; GROUNDING CONDUCTOR IS NOT COUNTED.

LC1-X — LIGHTING CIRCUIT DESIGNATION FOR SPACE, U.N.O.

LC1-X — CIRCUIT DESIGNATION NEXT TO RECEPTACLE DEVICES INDICATES BRANCH CIRCUIT NUMBER. SEE PANEL SCHEDULES FOR INFORMATION.

+42" — A NOTATION INDICATING THE MOUNTING HEIGHT OF A DEVICE AS MEASURED FROM FINISHED FLOOR OR GRADE TO CENTER LINE OF DEVICE

MOUNTING OVER OBSTRUCTION DETAIL

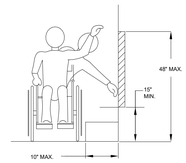
NOTE: SIDE REACH

1. UNOBSTRUCTED: WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES MAX, AND THE LOW SIDE REACH SHALL BE 15 INCHES MIN ABOVE THE FINISH FLOOR OR GROUND.

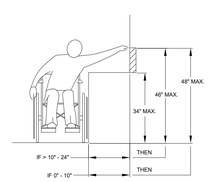
1.1. EXCEPTION: AN OBSTRUCTION SHALL BE PERMITTED BETWEEN THE CLEAR FLOOR OR GROUND SPACE AND THE ELEMENT WHERE THE DEPTH OF THE OBSTRUCTION IS 10 INCHES MAX.

2. OBSTRUCTED HIGH REACH: WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE HIGH SIDE REACH IS OVER AN OBSTRUCTION, THE HEIGHT OF THE OBSTRUCTION SHALL BE 34 INCHES MAX, AND THE DEPTH OF THE OBSTRUCTION SHALL BE 24 INCHES MAX. THE HIGH SIDE REACH SHALL BE 48 INCHES MAX FOR A REACH DEPTH OF 10 INCHES MAX. WHERE THE REACH DEPTH EXCEEDS 10 INCHES, THE HIGH SIDE REACH SHALL BE 46 INCHES MAX FOR A REACH DEPTH OF 24 INCHES MAX.

3. OPERATION: OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAX.



UNOBSTRUCTED SIDE REACH 2022 CBC 11B-308.3.1



OBSTRUCTED SIDE REACH 2022 CBC 11B-308.3.2

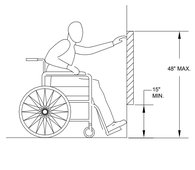
NOTES: FORWARD REACH

1. UNOBSTRUCTED:

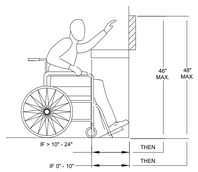
WHERE A FORWARD REACH IS UNOBSTRUCTED, THE HIGH FORWARD REACH SHALL BE 48 INCHES MAX, AND THE LOW FORWARD REACH SHALL BE 15 INCHES MIN ABOVE THE FINISH FLOOR OR GROUND.

2. OBSTRUCTED REACH: WHERE A CLEAR FLOOR OR GROUND SPACE THAT ALLOWS A FORWARD REACH IS OVER AN OBSTRUCTION, THE CLEAR SPACE SHALL EXTEND BENEATH THE ELEMENT FOR A DISTANCE NOT LESS THAN THE REQUIRED REACH DEPTH OVER THE OBSTRUCTION, AND THE DEPTH OF THE OBSTRUCTION SHALL BE 25 INCHES MAX. THE HIGH FORWARD REACH SHALL BE 44 INCHES MAX FOR A DEPTH OF 25 INCHES MAX.

3. OPERATION: OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS MAX.



UNOBSTRUCTED FORWARD REACH 2022 CBC 11B-308.2.1



OBSTRUCTED FORWARD REACH 2022 CBC 11B-308.2.2

ELECTRICAL DEVICES & EQUIPMENT

- JUNCTION BOX
- 20A MOTOR-RATED TOGGLE SWITCH
- 20A-125V DUPLEX RECEPTACLE
- 20A-125V GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE
- 20A-125V DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP
- 20A-125V CONTROLLED PLUG-LOAD DUPLEX RECEPTACLE
- 20A-125V ISOLATED GROUND TYPE DUPLEX RECEPTACLE
- 20A-125V DUPLEX TAMPER RESISTANT RECEPTACLE WITH (2) USB CHARGING PORTS
- 20A-125V FOURPLEX RECEPTACLE (SAME SYMBOLOGY TYPES AS DUPLEX RECEPTACLE)
- SPECIAL PURPOSE SINGLE POWER RECEPTACLE. RATED AS INDICATED (IF NO RATING INDICATED, RECEPTACLE RATING SHALL MATCH BRANCH CIRCUIT OVERCURRENT PROTECTIVE DEVICE AND SHALL MEET REQUIREMENTS OF EQUIPMENT BEING CONNECTED)
- 20A-125V FLUSH FLOOR DUPLEX RECEPTACLE
- 20A-125V CEILING MOUNTED DUPLEX RECEPTACLE
- BELL
- EMERGENCY POWER OFF (EPO)
- PUSHBUTTON
- DISCONNECT SWITCH. DISCONNECT SWITCHES SHALL BE 30/NF/3 UON. NF = NON-FUSIBLE, NEMA 1 ENCLOSURE. PROVIDE FUSED BUSWAY PLUG WHEN SWITCH IS INDICATED ON BUSWAY.
- TRANSFORMER
- PANELBOARD
- SWITCHBOARD OR DISTRIBUTION PANELBOARD
- PHOTOVOLTAIC SOLAR PANEL

LIGHTING FIXTURES

EMERGENCY | NORMAL

FIXTURE TYPE DESIGNATION — A; PANEL AND CIRCUIT NUMBER — LC1-X; SWITCHLEG CONTROL IDENTIFICATION — a

- LED 2' x 2' FIXTURE
- LED 2' x 4' FIXTURE
- LED LINEAR FIXTURE (SURFACE/RECESSED/SUSPENDED)
- LED SURFACE MOUNTED FIXTURE
- LED STRIP FIXTURE
- LED DOWNLIGHT (ROUND)
- LED DOWNLIGHT (SQUARE)
- LED INDOOR WALL SCONCE FIXTURE
- LED WALL MOUNTED FIXTURE
- LED OUTDOOR PEDESTRIAN STYLE POST-TOP AREA FIXTURE
- LED OUTDOOR ARM MOUNT AREA FIXTURE
- SPORTS LIGHTING FIXTURE
- LED ACCENT SPOT LIGHT
- EMERGENCY EXIT LIGHT SIGN, REFER TO LIGHTING PLAN FOR NUMBER OF FACES AND DIRECTIONAL ARROWS

REFER TO LIGHT FIXTURE SCHEDULE FOR MANUFACTURER ORDER NUMBERS

LIGHTING CONTROLS

FINSHES SHALL BE SELECTED BY CAMPUS REPRESENTATIVE PRIOR TO ORDERING
MANUFACTURER - nLIGHT

WALL SWITCH DESIGNATION: D $ a; LIGHTING CONTROL SEQUENCE

- $ — WALL SWITCH - #NPODMA

TYPES LISTED BELOW:

P - PILOT
3 - THREE-WAY
4 - FOUR-WAY
WP - WEATHERPROOF

- $D — DIMMER WALL SWITCH - #NPODMA-DX
- $OC — WALL OCCUPANCY SENSOR - #WSX

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
This document is used to demonstrate compliance with requirements in 110.9, 110.12(c), 130.0, 130.1, 140.6 and 141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e) and 180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.		
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 1 of 7)**
Project Address:	**Date Prepared:**	2025-10-08T17:02:33-04:00

A. GENERAL INFORMATION					
01	Project Location (city)	CLAREMONT	04	Total Conditioned Floor Area (ft^2)	4,112
02	Climate Zone	9	05	Total Unconditioned Floor Area (ft^2)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1
• School or Classroom					

B. PROJECT SCOPE				
This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.6 / 170.2(e) or 141.0(b)2 / 180.2(b)4 for alterations.				
Scope of Work	**Conditioned Spaces**		**Unconditioned Spaces**	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft^2)	Calculation Method	Area (ft^2)
☐ New Lighting System	N/A	0	N/A	0
☐ New Lighting System - Parking Garage	N/A	0	N/A	0
☒ Altered Lighting System	Complete Building Method	4112	N/A	0
Total Area of Work (ft^2)	4112			

STATE OF CALIFORNIA
Indoor Lighting
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CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 2 of 7)**
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C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per 140.6(b)1 /170.2(e)	Allowed Lighting Power per 140.6(b) /170.2(e) (Watts)						Adjusted Lighting Power per 140.6(a) /170.2(e) (Watts)				Compliance Results
	01	02	03	04		05		06	07		08	09
	Complete Building 140.6(c)1	Area Category 140.6(c)2 /170.2(e)4	Area Category Additional 140.6(c)2G / 170.2(e)4Av (+)	Tailored 140.6(c)3 /170.2(e)4B (+)	=	**Total Allowed** (Watts)	≥	Total Designed (Watts)	Adjustments PAF Lighting Control Credits 140.6(a)2 /170.2(e)1B (-)	=	**Total Adjusted** (Watts) *Includes Adjustments	**05 must be >= 08 140.6 /170.2(e)**
	(See Table I)	(See Table I)	(See Table J)	(See Table K)				(See Table F)	(See Table P)			
Conditioned	2,067				=	2,067	≥	1,617.9		=	1617.9	COMPLIES
Unconditioned					=		≥			=		
Controls Compliance (See Table H for Details)												COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)												

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 3 of 7)**
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F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
									Field Inspector	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change [1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per 140.6(a)3 / 170.2(e)2C	Design Watts	Pass	Fail
A/AE	1X4 Troffer	No	NA	36.7	Mfr. Spec	37	No	1,357.9	☐	☐
B/BE	2X4 TROFFER	No	NA	33.2	Mfr. Spec	4	No	132.8	☐	☐
C	STRIP LIGHT	No	NA	31.8	Mfr. Spec	4	No	127.2	☐	☐
Total Designed Watts: CONDITIONED SPACES								1,617.9		

[1]FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per 140.6(a)4B /170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

[2]Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) /160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.

G. MODULAR LIGHTING SYSTEMS
This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
Mandatory Demand Response 110.12(c)	Shut-off controls 130.1(c) / 160.5(b)4C	Pass	Fail
NA < 4,000W subject to multilevel	See Area/Space Level Controls	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
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H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12	
								Field Inspector	
Area Description	Complete Building or Area Category Primary Function Area	Manual Area Controls 130.1(a) /160.5(b)4A	Multi-Level Controls 130.1(b) /160.5(b)4B	Shut-Off Controls 130.1(c) //160.5(b)4C	Primary/Skylit Daylighting 130.1(d) /160.5(b)4D	Secondary Daylighting 130.1(d) /160.5(b)4D	Interlocked Systems 140.6(a)1/170.2(e)2A	Pass	Fail
LOCKER ROOMS	School or Classroom	Readily Accessible	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
OFFICES	Office	Readily Accessible	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
RESTROOMS	School or Classroom	Readily Accessible	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
					13				
					Plan Sheet Showing Daylit Zones:				

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per 140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per 140.6(c) or adjustments per 140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
					Additional Allowance / Adjustment	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft^2)	Area (ft^2)	Allowed Wattage (Watts)	Area Category	PAF
LOCKER ROOMS	School or Classroom	0.6	2,321	1,392.6	No	No
OFFICES	Office	0.6	762	457.2	No	No
RESTROOMS	School or Classroom	0.6	362	217.2	No	No
		TOTALS:	3,445	2,067	See Tables J, or P for detail	

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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 5 of 7)**
	Date Prepared:	2025-10-08T17:02:33-04:00

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM
This section does not apply to this project.

K. TAILORED METHOD GENERAL LIGHTING POWER ALLOWANCE
This section does not apply to this project.

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This section does not apply to this project.

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED DECORATIVE /SPECIAL EFFECTS
This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This section does not apply to this project.

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This section does not apply to this project.

Q. RATED POWER REDUCTION COMPLIANCE FOR ONE-FOR-ONE ALTERATIONS
This section does not apply to this project.

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 6 of 7)**
	Date Prepared:	2025-10-08T17:02:33-04:00

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS
This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This section does not apply to this project.

T. DWELLING UNIT LIGHTING
This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	LOCKER ROOMS; OFFICES; RESTROOMS

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTI-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 7 of 7)**
Project Address:	**Date Prepared:**	2025-10-08T17:02:33-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Nicole Oropeza	Documentation Author Signature: Nicole Oropeza
Company: LEAF Engineers	Signature Date: 10-08-25
Address: 8163 Rochester Ave.	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Rancho Cucamonga, CA 91730	Phone: 909-987-0909

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: Steven Charlie Musser	Responsible Designer Signature:
Company: LEAF Engineers	Date Signed: 10-08-25
Address: 8163 Rochester Ave.	License: E-19817
City/State/Zip: Rancho Cucamonga, CA 91730	Phone: 909-987-0909

TITLE 24 COMPLIANCE FORMS - INDOOR
E-002
FOR BLUEBEAM LABELING/OCR:

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125612 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/02/2026

PBK
www.pbk.com
909-987-0909
RANCHO CUCAMONGA, CA

PE BUILDING MODERNIZATION AT EL ROBLE IS
665 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPL. NO. : 03-125612 DSA FILE NO. : 19-21

CLAREMONT

CONSULTANT	LEAF Engineers
LEAF ENGINEERS	leafengineers.com
8163 Rochester Avenue, Suite 100 Rancho Cucamonga, CA 91730 909.987-0909 leafengineers.com	

ARCHITECT
LICENSED ARCHITECT
DISSANTO AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MUSSER
E-19817
Exp. 03-31-26
ELECTRICAL
STATE OF CALIFORNIA

CLIENT	
CLAREMONT UNIFIED SCHOOL DISTRICT	
DATE 10/10/25	PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: NO

TITLE 24 COMPLIANCE FORMS - INDOOR

E-002

Plot Stamp:
1/27/2026 9:06:48 PM

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
This document is used to demonstrate compliance with requirements in 110.9, 130.0, 130.2, 140.7, and 141.0(b)2L for outdoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in 160.5, 170.2(e)6, 180.1(o) and 180.2(b)4Bv for outdoor lighting scopes using the prescriptive path for multifamily and mixed-use occupancies. Multifamily includes dormitory and senior living facilities.		
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 1 of 7)**
Project Address:	**Date Prepared:**	2025-10-08T16:59:29-04:00

A. GENERAL INFORMATION					
01	Project Location (city)	CLAREMONT	04	Total Illuminated Hardscape Area (ft^2)	3000
02	Climate Zone	9			
03	Outdoor Lighting Zone per Title 24 Part 1 10.114 or as designated by Authority Having Jurisdiction (AHJ):				
☐	LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Urban Clusters		☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐	LZ-1: Low - Rural Areas	☒ LZ-3: Moderately High - Urban Areas			
05	Occupancy Types within Project				
♦ School or Classroom					

B. PROJECT SCOPE		
This table includes outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv for alterations.		
My Project Consists of:		
01	02	
☐ New Lighting System	Must Comply with Allowances from 140.7 / 170.2(e)6	
☒ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)?	● Yes ○ No
03	04	05
% of Existing Luminaires Being Altered[1]	Sum Total of Luminaires Being Added or Altered	Calculation Method
☐ < 10% ☐ >= 10% and < 50% ☐ >= 50%		
Please proceed to Table F. Outdoor Lighting Fixture Schedule to define the project's luminaires.		
[1] FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100.		

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 2 of 7)**
	Date Prepared:	2025-10-08T16:59:29-04:00

C. COMPLIANCE RESULTS														
Results in this table are automatically calculated from data input and calculations in Tables F through N. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.														
Calculations of Total Allowed Lighting Power (Watts) 140.7 / 170.2(e)6 or 141.0(b)2L / 180.2(b)4Bv											**Compliance Results**			
01		02		03		04		05		06		07		08	09
General Hardscape Allowance 140.7(d)1 / 170.2(e)6 (See Table I)	+	Per Application 140.7(d)2 / 170.2(e)6 (See Table J)	+	Sales Frontage 140.7(d)2 (See Table K)	+	Ornamental 140.7(d)2 / 170.2(e)6 (See Table L)	+	Per Specific Area 140.7(d)2 / 170.2(e)6 (See Table M)	OR	Existing Power Allowance 141.0(b)2L / 180.2(b)4Bv (See Table N)	=	**Total Allowed** (Watts)	≥	**Total Actual** (Watts)	**07 must be >= 08**
---	+	280	+	---	+	---	+	0	OR	---	=	280	≥	210	COMPLIES
Shielding Compliance (See Table G for Details)															N/A
Controls Compliance (See Table H for Details)															COMPLIES

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 3 of 7)**
	Date Prepared:	2025-10-08T16:59:29-04:00

F. OUTDOOR LIGHTING FIXTURE SCHEDULE										
For new or altered lighting systems demonstrating compliance with 140.7 / 170.2(e)6 all new luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application are included in the Table below. For altered lighting systems using the Existing Power method per 141.0(b)2L only new luminaires being installed and replacement luminaires being installed as part of the project scope are included (ie, existing luminaires remaining or existing luminaires being moved are not included). Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.										
Designed Wattage:										
01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Watts per luminaire[1, 2]	How is Wattage determined	Total Number Luminaires[2]	Luminaire Status[3]	Excluded per 140.7(a) / 170.2(e)6A	Design Watts	Cutoff Req. > 6,200 initial lumen output 130.2(b) /160.5(c)1[4]	Field Inspector	
									Pass	Fail
G	FENCE - FLOOD LIGHT ☐ Linear	35	Mfr. Spec	6	New	☐	210	NA: Illuminate public right-of-way	☐	☐
						Total Design Watts:	210			

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to 130.2(b)

[1]FOOTNOTES: Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per 130.0(c) / 160.5(b)
[2] For linear luminaires, wattage should be indicated as W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 05 instead of number of luminaires.
[3] Select "New" for new luminaires in a new outdoor lighting project, or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope.
[4] Compliance with mandatory shielding requirements is required for luminaires with initial lumen output >= 6,200 unless exempted by 130.2(b)/ 160.5(c)

G. SHIELDING REQUIREMENTS (BUG)
This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 4 of 7)**
	Date Prepared:	2025-10-08T16:59:29-04:00

H. OUTDOOR LIGHTING CONTROLS				
This table demonstrates compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application. *Outdoor lighting for nonresidential buildings, parking garages and common service areas in multifamily buildings must be documented separately from outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit*				
Mandatory Controls for Nonresidential Occupancies, Parking Garages & Common Areas in Multifamily Buildings				
01	02	03	04	05
Area Description	Shut-Off 130.2(c)1 / 160.5(c)	Auto-Schedule 130.2(c)2 / 160.5(c)	Motion Sensor 130.2(c)3 / 160.5(c)	Field Inspector
				Pass / Fail
Pathway: "G"	Astronomical Timer	Provided	NA: >=24 ft	☐ / ☐

[1]FOOTNOTE: Text has been abbreviated, please refer to Table 160.5-A to confirm compliance with the specific light source technologies listed.
[2]Authority having jurisdiction may ask for cutsheets or other documentation to confirm compliance of light source.
[3]Recessed luminaires marked for use in fire-rated installations, and recessed luminaires installed in non-insulated ceilings are excepted from ii and iii.

I. LIGHTING POWER ALLOWANCE (per 140.7 /170.2(e))					
This table includes areas using allowance calculations per 140.7 /170.2(e). General Hardscape Allowance is per Table 140.7-A/Table 170.2-R while "Use it or lose it" Allowances are per Table 140.7-B /Table 170.2-S. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance. *Outdoor lighting attached to multifamily buildings and controlled from the inside of a dwelling unit are included in Table H. and are not included here. All other multifamily outdoor lighting is included here.*					
	01				
		"Use it or lose it" Allowance (select all that apply) (select all that apply)			
	☐ General Hardscape Allowance Table I (below)	☒ Per Application Table J	☐ Sales Frontage Table K	☐ Ornamental Table L	☒ Per Specific Area Table M

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 5 of 7)**
	Date Prepared:	2025-10-08T16:59:29-04:00

J. LIGHTING ALLOWANCE: PER APPLICATION										
This table includes areas using the wattage allowance per application from Table 140.7-B / Table 170.2-S.										
01	02	03	04	05	06	07	08	09	10	
Area Description	Application per Table 140.7-B[1]	CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				Additional Allowance (Watts)	
		# of Locations	Allowance per Location[3]	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts		
EGRESS PATHWAY	Building Entrance/Exit	15	19	285	G	35	8	280	280	
Total Design Watts for this Area:								280		
Total Allowance (Watts) All Areas:									280	

[1] FOOTNOTES: Primary entrance applications are only available for senior care facilities, healthcare facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.
[2] The Allowance per Location for ATMs is 100W for the first ATM and 35W for each additional per Table 140.7-B /Table 170.2-S.
[3] For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.

K. LIGHTING ALLOWANCE: SALES FRONTAGE
This section does not apply to this project.

L. LIGHTING ALLOWANCE: ORNAMENTAL
This section does not apply to this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 6 of 7)**
	Date Prepared:	2025-10-08T16:59:29-04:00

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA										
This table includes areas using the wattage allowance per specific area from Table 140.7-B /Table 170.2-S. More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.										
01	02	03	04	05	06	07	08	09	10	
Area Description	Specific Area Type per Table 140.7-B	CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				Additional Allowance (Watts)	
		Specific Area (ft^2)[1]	Allowed Density (W/ft^2)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire	# of Luminaires	Design Watts		
Total Allowance (Watts) All Areas:										

[1] FOOTNOTES: See Table 140.7-B /Table 170.2-S for rules for calculating the specific areas (ft^2 for these additional lighting allowances.
[2] For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet should be indicated in column 08 instead of number of luminaires.

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)
This section does not apply to this project.

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Selections have been made based on information provided in this document. If any selection has been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online
Form/TItle
NRCI-LTO-E - Must be submitted for all buildings

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
There are no NRCA forms required for this project.

STATE OF CALIFORNIA
Outdoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-LTO-E
Project Name: EL ROBLE IS - PE BLDG. MODERNIZATION	**Report Page:**	**(Page 7 of 7)**
Project Address:	**Date Prepared:**	2025-10-08T16:59:29-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Nicole Oropeza	**Documentation Author Signature:** Nicole Oropeza
Company: LEAF Engineers	**Signature Date:** 10-08-25
Address: 8163 Rochester Ave.	**CEA/ HERS Certification Identification (if applicable):**
City/State/Zip: Rancho Cucamonga, CA. 91730	**Phone:** 909-987-0909
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California: 1. The information provided on this Certificate of Compliance is true and correct. 2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer) 3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. 5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.	
Responsible Designer Name: Steven Charlie Musser	**Responsible Designer Signature:**
Company: LEAF Engineers	**Date Signed:** 10-08-25
Address: 8163 Rochester Ave.	**License:** E-19817
City/State/Zip: Rancho Cucamonga, CA. 91730	**Phone:** 909-987-0909

TITLE 24 COMPLIANCE FORMS - OUTDOOR
E-003
FOR BLUEBEAM LABELING/OCR:

Plot Stamp:
1/27/2026 9:06:48 PM

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125612 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/02/2026

PBK
www.pbk.com
909-987-0909
RANCHO CUCAMONGA, CA

PE BUILDING MODERNIZATION AT EL ROBLE IS
655 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPL. NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT HIGH SCHOOL DISTRICT

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT BERNARDO AGUSTIADI C-31009 08-31-27 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER STEVEN C. MUSSER E-19817 Exp. 03-31-08 ELECTRICAL STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: NO

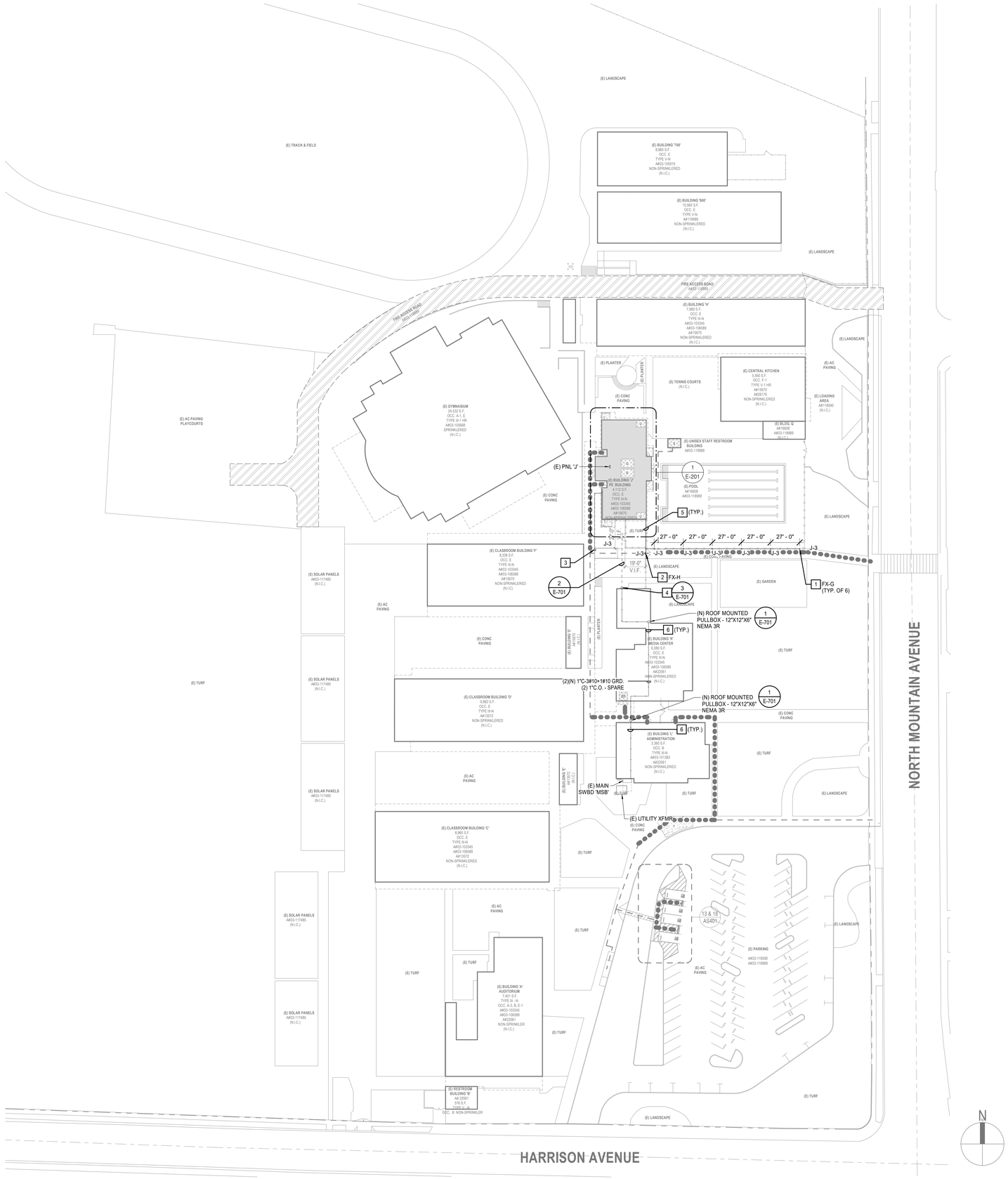
TITLE 24 COMPLIANCE FORMS - OUTDOOR

E-003

ELECTRICAL SITE PLAN
E-101

FOR BLUEBEAM LABELING/OCR:

0"
1"



1 ELECTRICAL SITE PLAN
1" = 40'-0"

GENERAL NOTES

1. COORDINATE ROUTING FOR ALL UNDERGROUND ELECTRICAL BRANCH CIRCUITS AND FEEDERS WITH OTHER DISCIPLINES PRIOR TO TRENCHING.

2. UNLESS NOTED OTHERWISE ALL UNDERGROUND CONDUIT SHOWN ON THIS PLAN TO BE MINIMUM 1" IN SIZE.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY INSTALLATION OF NEW WORK.

KEYNOTES

1. NEW LED LIGHT FIXTURE, MOUNT FIXTURE TO EXISTING FENCING 27' O.C. SPACING. ROUTE CIRCUIT THRU NEW TIMECLOCK. SEE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
2. NEW LED LIGHT FIXTURE, MOUNT FIXTURE TO EXISTING GATE DOOR. ROUTE CIRCUIT THRU NEW TIMECLOCK. SEE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
3. NEW LED LIGHT FIXTURE, MOUNT FIXTURE TO EXISTING BREEZEWAY. ROUTE CIRCUIT THRU NEW TIMECLOCK. SEE LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
4. NEW WALL MOUNTED PULLBOX - 12"x12"x6", NEMA 3R RATED.
5. ROUTE NEW CONDUIT/S ALONG EXISTING FENCE WITH CONDUIT CLAMPS SPACED PER NEC SPACING REQUIREMENTS.
6. SURFACE MOUNT CONDUIT/S, PROVIDE DURABLOK SUPPORTS AS REQUIRED PER NEC SPACING REQUIREMENTS.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125612 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/02/2026

PBK
www.pbk.com
909.987.0909
RANCHO CUCAMONGA, CA

PE BUILDING MODERNIZATION AT EL ROBLE IS

665 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPL. NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT
LIFE LONG LEARNING

CONSULTANT	LEAF Engineers
LEAF ENGINEERS	leafengineers.com
8163 Rochester Avenue, Suite 100 Rancho Cucamonga, CA 91730 909.987-0909 leafengineers.com	

ARCHITECT
LICENSED ARCHITECT
AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MUSSER
E-19617
Exp.03-31-26
ELECTRICAL
STATE OF CALIFORNIA

CLIENT	
CLAREMONT UNIFIED SCHOOL DISTRICT	
DATE 10/10/25	PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: NO

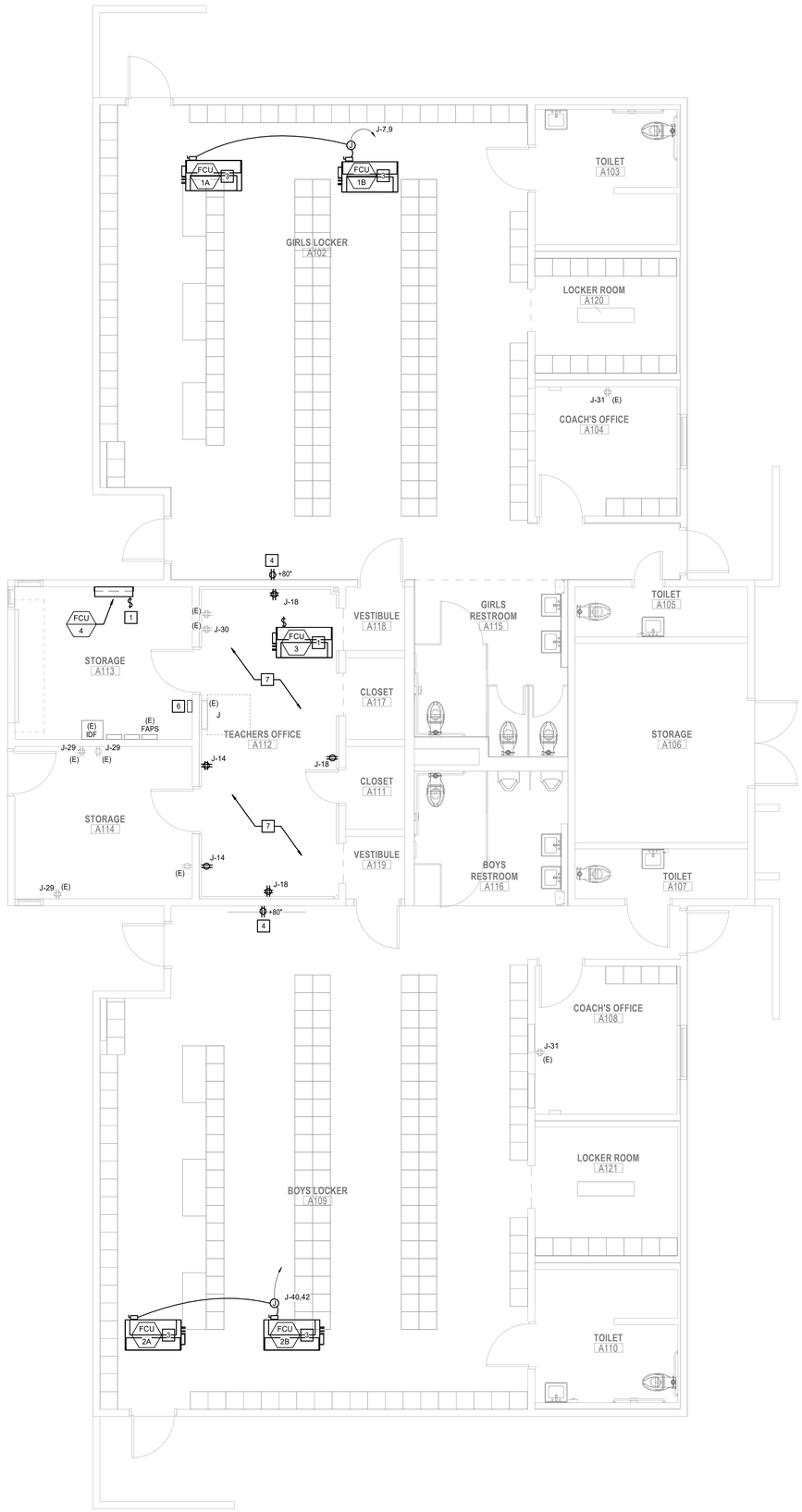
ELECTRICAL SITE PLAN

E-101

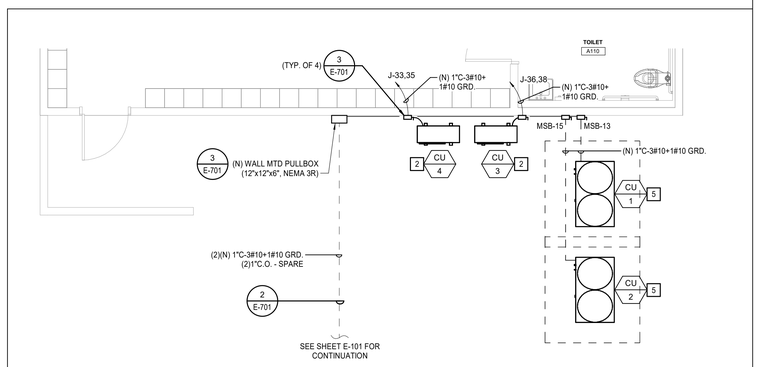
Plot Stamp:
1/27/2026 9:06:49 PM

ELECTRICAL POWER PLAN
E-201

FOR BLUEBEAM LABELING/OCR:



1 ELECTRICAL POWER PLAN
1/4" = 1'-0"



2 ENLARGED ELECTRICAL POWER PLAN
1/4" = 1'-0"

GENERAL NOTES

1. ELECTRICAL ENGINEERING FOR THIS PROJECT IS BASED ON EXISTING DRAWINGS, AND A FIELD VISIT OF THE ELECTRICAL SYSTEM. IN CASE OF ANY DISCREPANCIES WITH EXISTING FIELD CONDITIONS, ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT DIFFERENCES AND NOTIFY THE ELECTRICAL ENGINEER FOR POSSIBLE REVISION TO THESE DOCUMENTS.

2. ANY ELECTRICAL AND/OR SIGNAL UTILITY SHUTDOWNS WITHIN THE AREA OF WORK SHALL BE COORDINATED AND SCHEDULED IN ADVANCE WITH THE OWNER'S REPRESENTATIVE.

KEYNOTES

1. INDOOR FAN COIL IS POWERED FROM OUTDOOR CONDENSING UNIT 'CU'. INSTALL LOCAL DISCONNECT SWITCH. REFER TO MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION.
2. PROVIDE 208V/1PH POWER CONNECTION TO CONDENSING UNIT/S. INSTALL 30AS/30AF LOCAL DISCONNECT SWITCH, NEMA 3R RATED.
3. PROVIDE 208V/1PH POWER FOR FAN COIL UNITS 'FCU-1A','FCU-1B', 'FCU-2A', 'FCU-2B'. INSTALL LOCAL DISCONNECT SWITCH. REFER TO MECHANICAL SCHEDULE FOR ADDITIONAL INFORMATION.
4. PUNCH CONDUIT THROUGH THE TEACHER'S OFFICE SIDE OF THE CONCRETE WALL TO FEED THIS RECEPTACLE, SO THERE WILL BE NO EXPOSED CONDUIT.
5. PROVIDE 480V/3PH POWER CONNECTION TO CONDENSING UNIT. INSTALL 30AS/25AF LOCAL DISCONNECT SWITCH, NEMA 3R RATED.
6. PROVIDE NEW 365-DAYS ASTRONOMICAL TIME CLOCK SWITCH WITH PHOTOCELL SENSOR AT ROOF LEVEL FACING NORTH.
7. PROTECT IN PLACE EXISTING RECEPTACLES AND CONDUITS - CONTRACTOR TO COORDINATE WITH ARCHITECTURAL PLANS FOR 2" FURRED OUT WALL LOCATIONS AND ALL WORK EFFORTS TO AVOID AND ROUTE AROUND EXISTING ELECTRICAL OUTLETS AND CONDUITS. REPLACE EXISTING FACEPLATES ON RECEPTACLES.

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DSA APPL. NO. : 03-125612 DSA FILE NO. : 19-21

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LICENSED ARCHITECT
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C-31009
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STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
STEVENC MUSSER
E-19817
Exp. 03-31-26
ELECTRICAL
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: NO

ELECTRICAL POWER PLAN

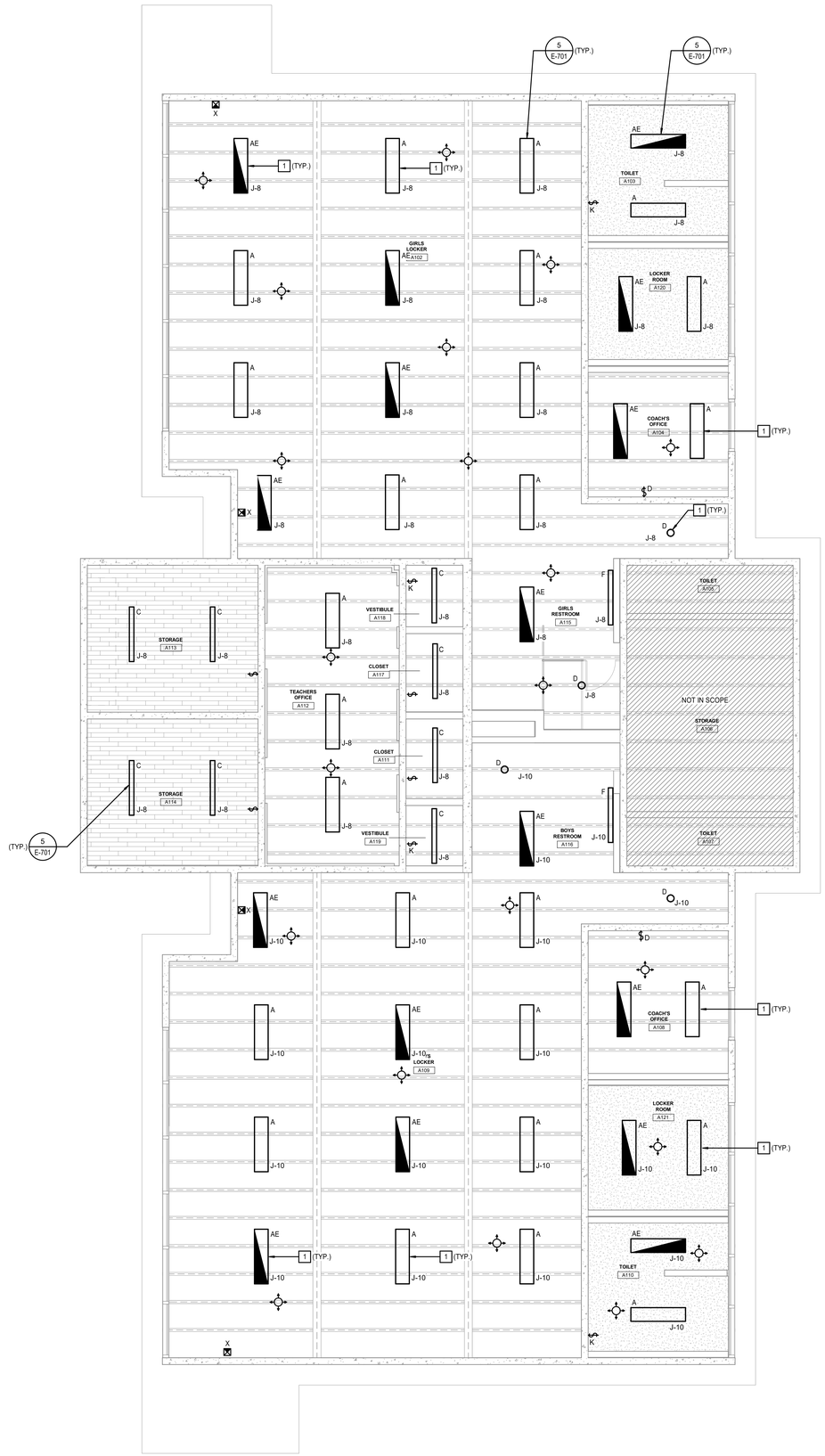
E-201

Plot Stamp:
1/27/2026 9:06:50 PM

ELECTRICAL LIGHTING PLAN
E-301

FOR BLUEBEAM LABELING/OCR:

0"
1"



1 ELECTRICAL LIGHTING PLAN
1/4" = 1'-0"

GENERAL NOTES

1. BRANCH CIRCUITS (INTERIOR) - 3/4"C-2#12, 1#12G, U.N.O.
   BRANCH CIRCUITS (EXTERIOR) - 3/4"C-2#10, 1#10G, U.N.O.

2. LIGHTING CONTROL SYSTEM - PROVIDE REQUIRED ASSOCIATED DEVICES FOR A COMPLETE AND OPERABLE LIGHTING CONTROL SYSTEM. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER.

3. LIGHT FIXTURES - REFER TO LIGHT FIXTURE SCHEDULE ON SHEET E-501 FOR LIGHT FIXTURE ORDERING INFORMATION.

4. PROVIDE EMERGENCY BATTERY PACKS FOR ALL LIGHTING FIXTURES DESIGNATED TO BE ON EMERGENCY POWER AND EXIT SIGNS. PROVIDE UNSWITCHED HOT TO BATTERY SO THAT LAMPS CAN BE SWITCHED OFF AND ON WITHOUT DRAINING BATTERY. RE: DIVISION 26 SPECIFICATIONS FOR ADDITIONAL INFORMATION. PROVIDE 20A UNSWITCHED BRANCH CIRCUIT (2#12, 1#12G, 3/4"C) FROM LIGHTING PANEL TO ALL EXIT SIGNS IN THIS AREA.

5. PROVIDE 1-HOUR SEALANT FOR ALL (N) WALL PENETRATIONS.

KEY NOTES

1 NEW LED LIGHT FIXTURE, SEE LIGHT FIXTURE SCHEDULE ON SHEET E-501 FOR ADDITIONAL INFORMATION.

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C-31009
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REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MOSSER
E-19817
Exp. 03-31-026
ELECTRICAL
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DATE 10/10/25	PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: NO

ELECTRICAL LIGHTING PLAN

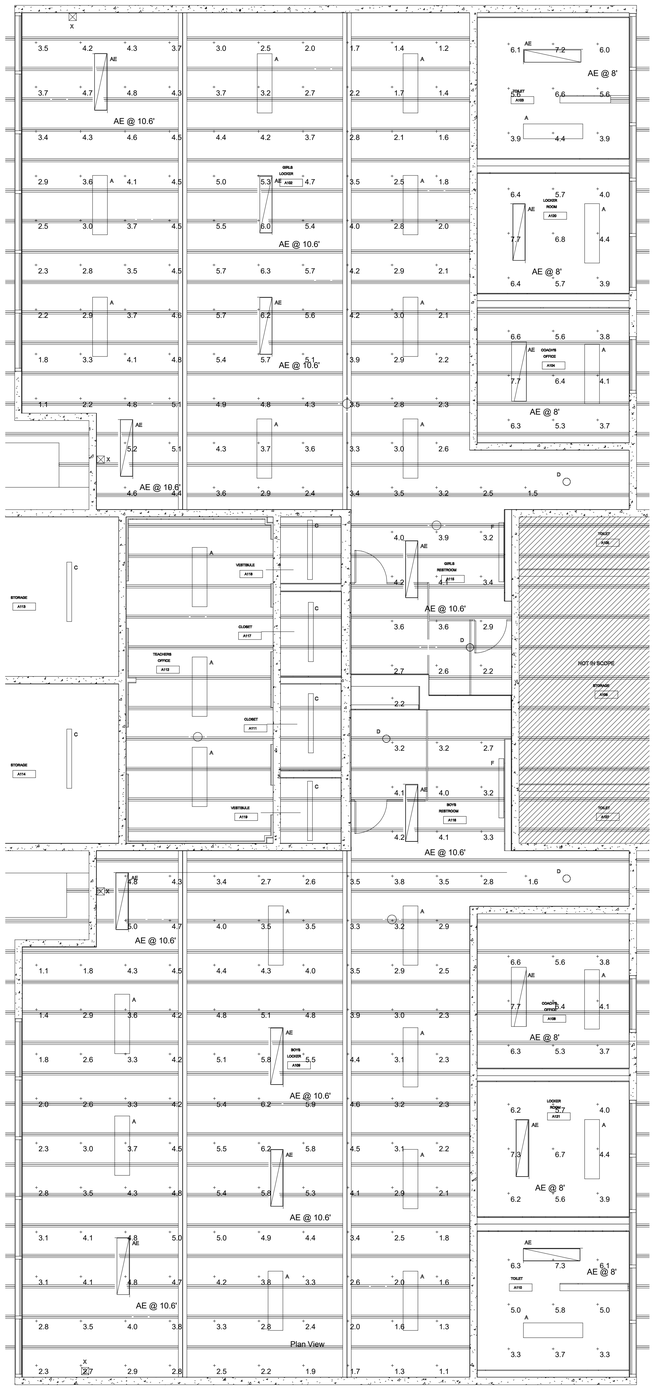
E-301

Plot Stamp:
1/27/2026 9:06:51 PM

EMERGENCY PHOTOMETRIC PLAN
E-301P

FOR BLUEBEAM LABELING/OCR:

0"
1"



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
A102 GIRLS LOCKER/RESTROOM	+	3.6 fc	6.3 fc	1.1 fc	5.7:1	3.3:1
A103 TOILET	+	5.5 fc	7.2 fc	3.9 fc	1.8:1	1.4:1
A104 COACHS OFFICE	+	5.5 fc	7.7 fc	3.7 fc	2.1:1	1.5:1
A108 COACHS OFFICE	+	5.4 fc	7.5 fc	3.5 fc	2.1:1	1.5:1
A109 BOYS LOCKER/RESTROOM	+	3.5 fc	6.2 fc	1.1 fc	5.6:1	3.2:1
A110 TOILET	+	5.1 fc	7.3 fc	3.3 fc	2.2:1	1.5:1
A120 LOCKER ROOM	+	5.7 fc	7.7 fc	3.9 fc	2.0:1	1.5:1
A121 LOCKER ROOM	+	5.6 fc	7.3 fc	3.9 fc	1.9:1	1.4:1

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DATE 10/10/25
PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
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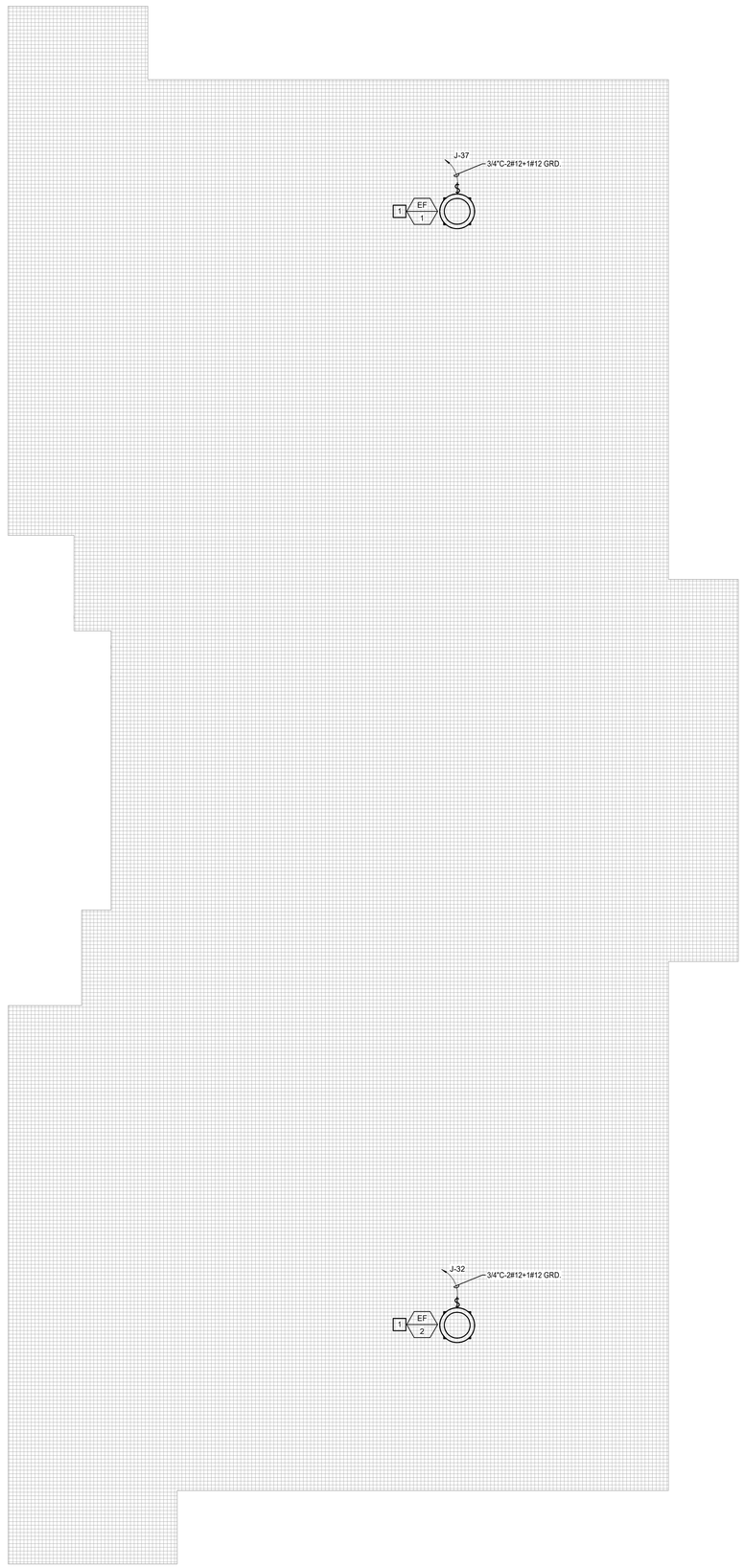
EMERGENCY PHOTOMETRIC PLAN

E-301P

Plot Stamp:
1/27/2026 9:10:24 PM

ELECTRICAL ROOF PLAN
E-401
FOR BLUEBEAM LABELING/OCR:

0"
1"



1 ELECTRICAL ROOF PLAN
1/4" = 1'-0"

GENERAL NOTES

1. ALL ELECTRICAL EQUIPMENT/DEVICES ON THE ROOF SHALL BE WEATHER PROOF, NEMA 3R AND +8" ABOVE FINISHED ROOF LEVEL.
2. ALL CONDUITS TO RUN BELOW THE ROOF.
3. ALL ELECTRICAL ROOF PENETRATIONS SHALL BE FLASHED.

KEYNOTES

1 PROVIDE 120V POWER CONNECTION TO EXHAUST FAN. INSTALL NEW LOCAL TOGGLE MOTOR RATED DISCONNECT SWITCH IN WEATHER COVER ENCLOSURE. REFER TO DETAIL 1/E-701 FOR DISCONNECT MOUNTING.

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E-19817
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DATE	PROJECT NUMBER
10/10/25	250176

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No.	Description	Date

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ELECTRICAL ROOF PLAN

E-401

Plot Stamp:
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ELECTRICAL PANEL SCHEDULES
E-501
FOR BLUEBEAM LABELING/OCR:

0"
1"

INDOOR LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	VOLTAGE	MOUNTING	MANUFACTURER & NO.	REMARKS
A	1X4 TROFFER	120	SURFACE 5/E-701	LITHONIA LIGHTING CPX 1X4 4000LM 80CRI SWL MIN10 ZT MVOLT	PROVIDE SURFACE MOUNT KIT '1X4SMKSH'
AE	1X4 TROFFER	120	SURFACE 5/E-701	SAME AS FIXTURE TYPE 'A' EXCEPT WITH 90-MIN EMERGENCY BACKUP BATTERY OPTION	'EM' - PROVIDE WITH E10WLCP EM BATTERY PACK.
C	STRIP LIGHT	120	SURFACE 5/E-701	LITHONIA CLX L48 4000 SEF FDL MVOLT GZ10 40K 80CRI WH	
D	6" DOWNLIGHT	120	SURFACE	GOTHAM LIGHTING IVO6CYL SC D 30LM 40K 80CRI MWD MIN10 120 EZT L7 JBXCC P AR LD FINISH TBD BY ARCHITECT	
F	WALL MTD LINEAR	120	SURFACE	LUMINAIRE LED - VERTEX CLF7L LSL #FT MSL2 NODIM 2DRV 40W 27K 120 CLP WHT	
X	EXIT SIGN	MVOLT	SURFACE	BEGHELLI CYC SA LR (PER PLANS) MIR WCS FINISH TBD BY ARCH	

OUTDOOR LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	VOLTAGE	MOUNTING	MANUFACTURER & NO.	REMARKS
G	FENCE - FLOOD LIGHT	120	POLE STRAP	LIGMAN LIGHTING UOD-50011 - 40w - W - W40 - 01 - 120/277v	PROVIDE POLE CLAMP - CONTRACTOR TO FIELD VERIFY SIZING PRIOR TO PROCUREMENT.
H	GATE DOOR - FLOOD LIGHT	120	SURFACE	HYDREL LIGHTING WANDER3 SM P1 90CRI 40K MVOLT LM ZT BL	CONTRACTOR TO COORDINATE ANY ADDITIONAL BACKBOX REQUIREMENTS FOR INSTALLATION.

Branch Panel: J

EXISTING PANEL

NEUTRAL BUS: Yes
NEUTRAL RATING: 100%
GROUND BUS: Yes
MOUNTING: SURFACE

VOLTAGE: 208Y/120V, 3PH, 4W
MAIN BUS: 225 A
MCB: 225 A
AIC RATING: EXISTING

LOCATION: TEACHERS OFFICE A112

CIR NO	Circuit Description	Breaker Amps/ Poles			A		B		C		Breaker Amps/ Poles			Circuit Description	CIR NO
1	EXISTING LOAD	15 A	1	--	750	750					--	1	15 A	EXISTING LOAD	2
3	EXTERIOR LTG.	20 A	1				384	200			--	1	15 A	ADA - BATH FAN	4
5	CU - FC	15 A	1	--					800	750	--	1	15 A	EXISTING LOAD	6
7	(N) FCU-1A & 1B	50 A	2		2152	873						1	20 A	GIRLS LOCKER RM, STOR. RM. LTS.	8
9							2152	750				1	20 A	BOYS LOCKER RM, STOR. RM. LTS.	10
11	EXISTING LOAD	20 A	1	--					750	750	--	1	15 A	EXISTING LOAD	12
13	COOLER	20 A	1	--	800	540						1	20 A	TEACHERS OFFICE - RECEPTS.	14
15	COOLER	20 A	1	--			800	750			--	1	15 A	EXISTING LOAD	16
17	EXISTING LOAD	20 A	1	--					750	900		1	20 A	TEACHERS OFFICE - RECEPTS.	18
19	EXISTING LOAD	15 A	1	--	750	750					--	1	15 A	EXISTING LOAD	20
21	H2O HEATER	20 A	1	--			0	750			--	1	15 A	EXISTING LOAD	22
23	H2O HEATER	20 A	1	--					0	750	--	1	15 A	EXISTING LOAD	24
25	EXISTING LOAD	15 A	1	--	750	750					--	1	15 A	EXISTING LOAD	26
27	RECEPTS. - AIDE OFFICE - BOYS	15 A	1	--			540	750			--	1	15 A	EXISTING LOAD	28
29	RECEPTS. - DRINKS	15 A	1						900	720		1	20 A	RECEPT. - MICRO/MALLOYS PLUG	30
31	RECEPTS.	15 A	1		720	1176						1	20 A	(N) EF-2	32
33	(N) CU-4	30 A	2				4806	500			--	1	20 A	FIRE ALARM	34
35									4806	250		2	30 A	(N) CU-3	36
37	(N) EF-1	20 A	1		1176	250									38
39								2152				2	50 A	(N)FCU-2A & 2B	40
41	SPACE	--	1	--					--	2152					42

LEGEND:
** 6 mA GROUND FAULT CIRCUIT BREAKER
*30 mA GROUND FAULT CIRCUIT BREAKER
LOCK-ON CIRCUIT BREAKER HANDLE
ST - SHUNT TRIP

CONNECTED LOAD BY PHASE	
A:	12187
B:	14534
C:	14278

CONNECTED LOAD	
40999	KVA
114	3PH AMPS
DEMAND LOAD	
114	3PH AMPS

REMARKS:

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STEVEN C. MUSSER
E-19817
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DATE	PROJECT NUMBER
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DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
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ELECTRICAL PANEL SCHEDULES

E-501

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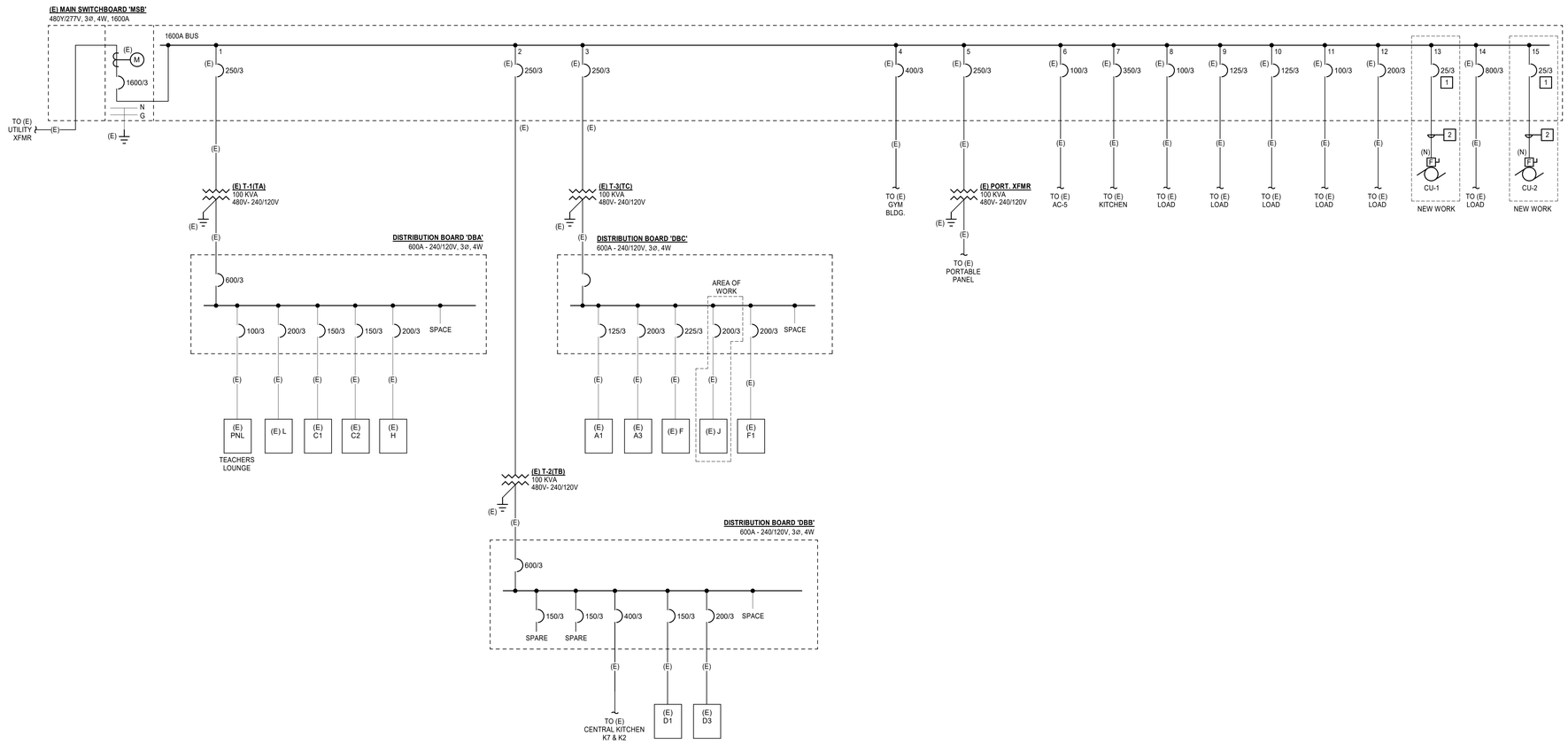
1/27/2026 9:06:52 PM

ELECTRICAL SINGLE LINE DIAGRAM & SCHEDULES
E-601
FOR BLUEBEAM LABELING/OCR:



KEYNOTES

1. INSTALL NEW CIRCUIT BREAKER AS SHOWN ON SINGLE LINE DIAGRAM.
2. REFER TO POWER PLAN ON SHEET E-201 FOR DISCONNECT SIZING AND CONDUIT AND FEEDER SIZING.

1 SINGLE LINE DIAGRAM
NOT TO SCALE

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10/10/25	250176

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No.	Description	Date

CHECKED BY: CM
DRAWN BY: Author

ELECTRICAL SINGLE LINE DIAGRAM & SCHEDULES

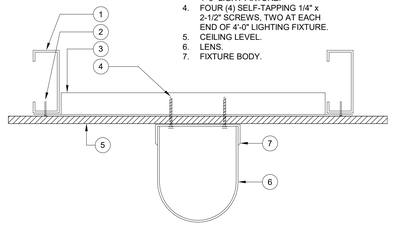
E-601

Plot Stamp:
1/27/2026 9:06:53 PM

ELECTRICAL DETAILS
E-701
FOR BLUEBEAM LABELING/OCR:

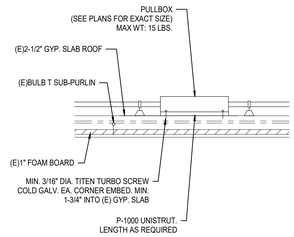
0"
1"

1. METAL CEILING JOIST (TYP.).
2. FOUR (4) #12 SELF-TAPPING SCREWS, TYP. AT EACH END.
3. FLANGE CUT 600S137-53 STEEL STUD BLOCKING, TWO PER EACH 4'-0" LIGHT FIXTURE.
4. FOUR (4) SELF-TAPPING 1/4" x 2-1/2" SCREWS, TWO AT EACH END OF 4'-0" LIGHTING FIXTURE.
5. CEILING LEVEL.
6. LENS.
7. FIXTURE BODY.



20 LBS. MAX WEIGHT

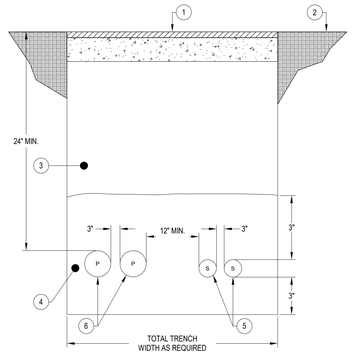
5 SURFACE MOUNTED LIGHT - WOOD SLATS (METAL STUD)
NOT TO SCALE



1 ROOF MOUNTED PULLBOX
NOT TO SCALE

GENERAL NOTES:

1. THE EXTENT THAT PEDESTRIAN SURFACES ARE TRENCHED AND PATCHED, THE PATCH SHALL COMPLY WITH CBC §11B-302.1 AND §11B-303.

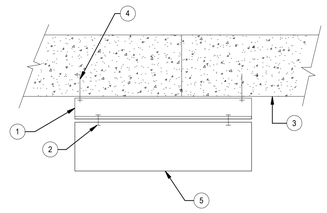


NOTES:

1. SAWCUT AND REMOVE CONCRETE OR PAVING WHERE APPLICABLE. WHERE EXISTING SURFACE IMPROVEMENTS (CONCRETE, PAVING, LANDSCAPING, TURF, ETC.) HAVE BEEN REMOVED OR DISTURBED, REPAIR OR REPLACE TO MATCH SURROUNDING CONDITIONS.
2. FINISHED GRADE.
3. ROCK FREE NATIVE BACKFILL. 90% COMPACTION.
4. #4 MINIMUM SALT-FREE SAND.
5. S = SIGNAL (INCLUDES TELECOM, CATV, FIRE ALARM, SECURITY OR SIMILAR CABLING. QTY. AND SIZE AS SHOWN ON PLANS.
6. P = POWER (THIS DETAIL APPLIES TO CONDUITS CARRYING 600V OR BELOW CONDUCTORS. HIGHER VOLTAGE HAS DIFFERENT REQUIREMENTS. QTY. AND SIZE AS SHOWN ON PLANS

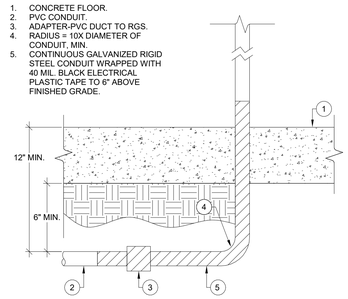
2 TRENCH DETAIL
NOT TO SCALE

1. P1000 UNISTRUT AT TOP AND BOTTOM OF PANEL.
2. UNITSTRUT SPRING NUT, (4) 3/8" BOLT AND LOCK WASHER.
3. CONCRETE WALL SURFACE
4. FASTEN TO CONCRETE WALL WITH (2) 1/2" X 2-1/2" HILTI KB-TZ2 (ICC ESR-4266) ANCHORS AT EACH UNISTRUT.
5. PANELBOARD OR CABINET (WT = 250 LBS. MAX.)



3 SURFACE MOUNTED PANEL/PULLBOX AT CONC WALL
NOT TO SCALE

1. CONCRETE FLOOR.
2. PVC CONDUIT.
3. ADAPTER-PVC DUCT TO RGS.
4. RADIUS = 10X DIAMETER OF CONDUIT, MIN.
5. CONTINUOUS GALVANIZED RIGID STEEL CONDUIT WRAPPED WITH 40 MIL. BLACK ELECTRICAL PLASTIC TAPE TO 6" ABOVE FINISHED GRADE.



4 CONDUIT RISER DETAIL
NOT TO SCALE

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DSA APPL. NO. : 03-125612 DSA FILE NO. : 19-21

CLAREMONT

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT
GUSTAVO AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MUSSER
E-19817
Exp.03/31/26
ELECTRICAL
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: NO

ELECTRICAL DETAILS

E-701

Plot Stamp:
2/26/2026 2:38:00 PM

PLUMBING LEGEND, NOTES & SCHEDULES
P-000
FOR BLUEBEAM LABELING/OCR:

0"
1"

PLUMBING EQUIPMENT SCHEDULE

SYMBOL	MAKE	MODEL	DESCRIPTION
CP 1	B & G	NBF-8S/LW	CIRCULATION PUMP, LEAD FREE BRONZE CONSTRUCTION, 2.1 GPM, 5' HEAD. PROVIDE TIMER KIT AND AQUASTAT. WEIGHT: XXX LBS ELECTRICAL: 115V, 39W, 1PH

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	SS or W	V	CW	HW	DESCRIPTION
WC-1 ACCESSIBLE	WATER CLOSET	4"	2"	1-1/2"	--	AMERICAN STANDARD 3465.001 MADERA FLOOR MOUNTED WATER CLOSET WITH ELONGATED BOWL, TOP SPUD, 16-1/2" RIM HEIGHT. SLOAN ROYAL 111-1.28 MANUAL LOW CONSUMPTION FLUSH VALVE (1.28 GPF). ZURN Z5955SS-EL COMMERCIAL HEAVY DUTY OPEN-FRONT SEAT WITH STAINLESS STEEL CHECK HINGE. PROVIDE SUPPLY AND STOP. MOUNT FLUSH VALVE LEVER ON WIDE SIDE OF STALL.
WC-2	WATER CLOSET	4"	2"	1-1/2"	--	AMERICAN STANDARD 3451.001 MADERA FLOOR MOUNTED WATER CLOSET ELONGATED BOWL, TOP SPUD, 15" RIM HEIGHT. SLOAN ROYAL 111-1.28 MANUAL LOW CONSUMPTION FLUSH VALVE (1.28 GPF). ZURN Z5955SS-EL COMMERCIAL HEAVY DUTY OPEN-FRONT SEAT WITH STAINLESS STEEL CHECK HINGE. PROVIDE SUPPLY AND STOP.
UR-1 ACCESSIBLE	URINAL	2"	1-1/2"	1-1/4"	--	AMERICAN STANDARD 6590.001 WASHBROOK WALL-HUNG, 3/4" TOP SPUD, 2" THREADED OUTLET. SLOAN ROYAL 186-0.125 MANUAL FLUSH VALVE. (0.125 GPF) PROVIDE COMMERCIAL CARRIER AND WALL CLEANOUT. MOUNTING HEIGHT PER ARCHITECTURAL PLANS.
UR-2	URINAL	2"	1-1/2"	1-1/4"	--	AMERICAN STANDARD 6590.001 WASHBROOK WALL-HUNG, 3/4" TOP SPUD, 2" THREADED OUTLET. SLOAN ROYAL 186-0.125 MANUAL FLUSH VALVE. (0.125 GPF) PROVIDE COMMERCIAL CARRIER AND WALL CLEANOUT. MOUNTING HEIGHT PER ARCHITECTURAL PLANS.
L-1	LAVATORY	2"	1-1/2"	1/2"	--	AMERICAN STANDARD LUCERN 0356.421. SINGLE CENTER HOLE, INCLUDED WALL HANGER WITH CONCEALED ARM SUPPORTS. CHICAGO FAUCET 807-E2805-665-PSHAB MANUAL METERED FAUCET. SINGLE SUPPLY, SET TIMER TO 20 SECONDS, SELF CLOSEING. (0.5 GPM)
L-2	LAVATORY (STAFF, ACCESS.)	2"	1-1/2"	1/2"	1/2"	AMERICAN STANDARD LUCERN 0356.421. SINGLE CENTER HOLE, INCLUDED WALL HANGER WITH CONCEALED ARM SUPPORTS. CHICAGO FAUCET 807-E2805-665-PSHAB MANUAL METERED FAUCET. SINGLE SUPPLY, SET TIMER TO 20 SECONDS, SELF CLOSEING. (0.5 GPM)
DF-1	DRINKING FOUNTAIN (ACCESS.)	2"	1-1/2"	1/2"	--	HAWS 1119.14/BP32/1920/6469 WALL-HUNG HIGH-LOW 14 GA. STAINLESS STEEL UNIT WITH PUSH BUTTON BOTTLE FILLER, BACK PANEL AND DROP TRAY. SEE ARCH. SHEETS FOR MOUNTING HEIGHT. CBC COMPLIANT.
SH-1 ACCESSIBLE	SHOWER	2"	1-1/2"	3/4"	3/4"	AMERICAN STANDARD TU662SG.213 SINGLE HANDLE, 36" SLIDE BAR MEETS 250 LSB ANSI STANDARD PULL TEST, PRESSURE BALANCING SHOWER VALVE. HAND HELD SHOWER W/ PAUSE FEATURE. 59" METAL HOSE AND VACUUM BREAKER. (1.5 GPM)
AP-1	ACCESS PANEL	--	--	--	--	ELMDOR DW SERIES 12" x 12" WALL ACCESS PANEL WITH GALVANNEALED STEEL AND PRIME COAT FINISH, CYLINDER LOCK.
WHA-1	WATER HAMMER ARRESTER	--	--	VARIES	VARIES	PPP SC-750B. SEAMLESS COPPER CHAMBER SUITABLE FOR CONCEALED INSTALLATION, PDI SIZE INDICATED ON PLANS. INSTALL PER MANUFACTURER RECOMMENDATION. INSTALL AT END OF LINE AT ALL QUICK CLOSING FIXTURES.
TP-1	TRAP PRIMER	--	--	1/2"	--	P.P.P INC. NO. P1-500 TRAP PRIMER VALVE WITH DISTRIBUTION UNIT AND INTEGRAL VACUUM BREAKER. PROVIDE INLET BALL VALVE AND ACCESS PANEL. SEE PLANS FOR NO. OF TRAPS SERVED (MAXIMUM OF 4).
TP-2	TRAP PRIMER	--	--	1/2"	--	P.P.P. NO. MP-500-115V, MINI PRIME ELECTRONIC TRAP PRINMING MANIFOLD, COPPER BODY, ADJUSTABLE, WITH DISTRIBUTION UNIT COMPLETE WITH 1/2" COPPER TYPE "L" PIPE TO FLOOR DRAIN OR FLOOR SINK.
HB-1	HOSE BIBB	--	--	3/4"	--	BRASS FAUCET, SHIELDED LOOSE KEY HANDLE, NON REMOVABLE VACUUM BREAKER, & ROUGH CHROME FINISH FOR OUTDOORS; POLISHED CHROME INDOORS.WOODFORD 24P-3/4 WITH WALL FLANGE AT WALLS.
FD	FLOOR DRAIN	2"	1-1/2"	TP	--	ZURN ZN415-5B COATED CAST IRON WITH 5" ROUND CHROME PLATED GRATE. DOUBLE DRAINAGE FLANGE & NO HUB OUTLET. TRAP PRIMER CONNECTION.
TD-1	TRENCH SHOWER DRAIN	2"	1-1/2"	TP	--	ZURN ZS880-40-BW COATED CAST IRON LINEAR SLOT DRAIN. 2" CENTER BOTTOM OUTLET, 42" LENGTH X 4-15/32", BASKET WEAVE GRATE. GRATE OPENING NOT MORE THAN 1/4".

NOTES:
1. ALL PLUMBING FIXTURES, FLUSH VALVES, FAUCETS, FLOOR DRAINS, FLOOR SINKS, DRINKING FOUNTAINS, ETC. SHALL BE VANDAL RESISTANT.
2. ALL PLUMBING FIXTURES SHALL COMPLY WITH CAL GREEN FLOW RATES FOR 20 PERCENT FLOW RATE REDUCTION PER TABLE 5.303.2.3.
3. PROVIDE SEPARATE STOP VALVES AT SINKS FOR FAUCETS, BUBBLERS, DISHWASHER, EYEWASHES, ETC.
4. PROVIDE WRAP BELOW ALL ADA LAVATORIES AND SINKS. HOT AND COLD-WATER SUPPLY AND DRAIN PIPES SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER LAVS OR SINKS.

PLUMBING LEGEND

SYMBOL	ITEM	ABBR.
01 P-1	DETAIL DESIGNATION DETAIL NUMBER SHEET NUMBER	XX 1 — EQUIPMENT DESIGNATION EQUIPMENT CALLOUT EQUIPMENT NUMBER
	DOMESTIC COLD WATER	CW
	HOT WATER (140 DEG F)	HW
	HOT WATER RETURN (135 DEG F)	HWR
	SANITARY SEWER, WASTE	SS, W
	VENT	V
AW	ACID WASTE	AW
AV	ACID VENT	AV
RWL	RAINWATER LEADER	RWL
OF	RAINWATER LEADER OVERFLOW	OF
CD	CONDENSATE DRAIN	CD
SD	SECONDARY CONDENSATE DRAIN	SD
G	GAS	
X	PIPE TO BE REMOVED	
	SHUT OFF VALVE IN BOX	
	PIPING RISE	
	PIPING DROP	
	POINT OF CONNECTION	POC
	POINT OF DEMOLITION	POD
	FLOOR CLEANOUT/ CLEANOUT TO GRADE	
	WALL CLEANOUT/ END OF LINE CLEANOUT	
	HOSE BIBB	HB
	BALL VALVE	
	BALANCING VALVE	
	CHECK VALVE	
	CIRCUIT SETTER	
	GATE VALVE	
	UNION	
	PUMP	
	CONDENSATE DRAIN TRAP	
	WATER HAMMER ARRESTER	WHA

ABBREVIATIONS

ABOVE CEILING	ABC
ABOVE FINISHED FLOOR	AFF
ABOVE FINISHED GRADE	AFG
AMERICAN DISABILITIES ACT	ADA
BALL VALVE	BV
CEILING	CLG
CLEANOUT	CO
COLD WATER	CW
COLD WATER RISER	CWR
CONTINUATION	CONT
DRAWING	DWG
EACH	EA
EXISTING	(E)
ELECTRIC WATER HEATER	EWH
FEET	FT
FINISHED FLOOR	FF
FINISHED FLOOR ELEVATION	FFE
FROM ABOVE	FA
FROM BELOW	FB
FLOOR CLEANOUT	FCO
FLUSH VALVE	FV
FLOOR MOUNT	FM
FIRE SPRINKLER RISER	FSR
GAS	G
GAS RISER	GR
GRADE CLEANOUT	GCO
GAS PRESSURE REGULATOR	GPR
GATE VALVE	GV
GAS WATER HEATER	GWH
HOT WATER	HW
INVERT ELEVATION	I.E.
KILOWATTS	KW
MIXING VALVE	MV
NOT IN CONTRACT	NIC
NEW	(N)
POINT OF DEMOLITION	POD
PRESSURE AND TEMPERATURE RELIEF VALVE	P&TRV
PRESSURE REGULATING VALVE	PRV
POUNDS PER SQUARE INCH	PSI
ROOF DRAIN	RD
RAINWATER LEADER	RWL
SHUT OFF COCK	SOC
SHUT OFF VALVE	SOV
TO ABOVE	TA
TO BELOW	TB
TEMPERED WATER	TW
TYPICAL	TYP
UNDER FLOOR	UF
UNDER SLAB	US
URINAL	UR
VENT	V
VENT RISER	VR
VENT THRU ROOF	VTR
WALL MOUNT	WM
WALL CLEANOUT	WCO
WATER CLOSET	WC
WASTE	W

DRAWING INDEX

SHEET	DESCRIPTION
P-000	PLUMBING LEGEND, NOTES & SCHEDULES
P-101	PLUMBING FIRST FLOOR CONDENSATE, WASTE & VENT
P-102	PLUMBING FIRST FLOOR COLD & HOT WATER
P-601	PLUMBING DETAILS
P-S101	PLUMBING SITE PLAN
PD-101	PLUMBING FIRST FLOOR DEMOLITION PLAN

PLUMBING GENERAL NOTES

1. SUPPORT AND BRACING OF ALL PIPING SHALL BE IN ACCORDANCE WITH 2022 C.B.C.
2. DRAINAGE PIPING SMALLER THAN OR EQUAL TO 4" SHALL SLOPE 1/4" PER FOOT.
3. FOR PLUMBING FIXTURE MOUNTING HEIGHTS AND LOCATIONS, REFER TO ARCHITECTURAL DRAWINGS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PIPE ROUTING WITH WORK OF OTHER TRADES AND MAKE ANY OFFSETS AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, LIGHT FIXTURES, SKYLIGHTS, ETC.
5. PLUMBING CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL GAS AND CONDENSATE DRAIN CONNECTIONS TO MECHANICAL EQUIPMENT.
6. ALL PIPE, PIPE OR PLUMBING FITTING OR FIXTURE, SOLDER, OR FLUX SHALL BE LEAD FREE THAT PROVIDES WATER FOR HUMAN CONSUMPTION PER CALIFORNIA ASSEMBLY BILL 1953.
7. GALVANIZED MALLEABLE IRON, GALVANIZED WROUGHT IRON, OR GALVANIZED STEEL ARE PROHIBITED MATERIALS FOR WATER SUPPLY AND BUILDING WATER PIPING BOTH UNDERGROUND AND IN BUILDINGS.
8. ALL FIXTURES SHALL BE PROVIDED WITH STOP VALVES. VALVES MAY BE IN SUPPLY PIPES OR INTEGRAL WITH SUPPLY FITTINGS.
9. WHERE FLUSHOMETER VALVE CONFLICTS WITH GRAB BARS, CONTRACTOR SHALL MODIFY VACUUM BREAKER TUBE TO ENSURE VALVE AND GRAB BAR ARE ADEQUATELY SEPARATED.
10. CONTRACTOR SHALL COORDINATE ALL PLUMBING LINE LOCATIONS WITH OTHER TRADES.
11. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF FIXTURES AND MOUNTING HEIGHTS.
12. ALL SANITARY SEWER VENT PIPE PENETRATIONS THROUGH ROOF SHALL TERMINATE AT A MINIMUM DISTANCE OF 10' FROM ANY FRESH AIR INTAKE.
13. ALL WASTE, WATER, FIRE AND STORM DRAIN PIPING SHALL BE STUBBED 5' OUTSIDE BUILDING TO CONNECTION POINT SHOWN. SEE CIVIL DRAWINGS FOR CONTINUATION. CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO SITE PIPING.
14. ALL HOSE BIBBS SHALL BE 3/4" AND MOUNTED AT 12" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. ALL HOSE BIBBS SHALL HAVE A NON-REMOVABLE VACUUM BREAKER.
15. CONTRACTOR SHALL SAWCUT AND PATCH EXISTING SLAB AS REQUIRED FOR INSTALLATION OF THE PIPING SYSTEM.
16. THE WATER CLOSET CONTROLS (FLUSH HANDLE) MUST BE LOCATED ON THE CLEAR/ WIDE SIDE OF THE ACCESSIBLE WATER CLOSETS.
17. ANY HORIZONTAL DRAINAGE PIPE SERVING SINKS OR URINALS SHALL BE PROVIDED WITH A CLEANOUT AT ITS UPPER TERMINAL PER CPC 2022.707.4. A CLEANOUT SHALL BE FURNISHED ABOVE THE FIXTURE CONNECTION FITTING SERVING EACH URINAL, REGARDLESS OF THE LOCATION OF THE URINAL IN THE BUILDING.
18. WHERE EXISTING FIXTURES ARE BEING REMOVED, THE CONTRACTOR SHALL INCLUDE THE REMOVAL OF ALL SUPPORT MECHANISMS SUCH AS CARRIERS, SUPPORT PLATES, PEDESTALS, ETC. AND SHALL PROVIDE DEMOLITION OF WALLS, FLOOR AND CONCRETE CURBS AS NECESSARY WHERE NEW FIXTURES ARE TO BE INSTALLED. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF NEW CHAIR CARRIERS AND PEDESTAL SUPPORTS WITH THE NEW PLUMBING FIXTURE AND WITH ARCHITECTURAL AND STRUCTURAL.
19. A CLEANOUT IS REQUIRED ON ALL RAINWATER LEADERS AT THE BASE OF THE LEADER BEFORE IT DROPS BELOW GRADE TO CONNECT TO THE HORIZONTAL DRAIN. CLEANOUTS SHALL ALSO BE INSTALLED ON LEADERS AT INTERVALS NOT TO EXCEED 100 FEET IN STRAIGHT HORIZONTAL RUNS, AND FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135 DEGREES.
20. CONTRACTOR SHALL VERIFY LOCATION AND ADEQUACY OF SIZE AND DEPTH OF EXISTING PLUMBING UTILITIES PRIOR TO COMMENCEMENT OF ANY WORK OR ORDERING ANY MATERIALS.
21. THE CONDENSATE DRAIN RECEPTACLE, AND ASSOCIATED WASTE AND VENT PIPING, IS NOT REQUIRED AT SITES WHERE THE ROOF DRAINS CONNECT TO A STORM DRAIN SYSTEM. CONDENSATE LINES FROM THE ROOFTOP MECHANICAL EQUIPMENT MAY SPILL OVER THE ROOF DRAINS WITH A TURNED DOWN ELBOW WHERE LOCAL JURISDICTION ALLOWS.

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 CHAPTER 13, 26 AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRIC, 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 PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. 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 POUND 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 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 SECTION 13.6.5, 13.6.6, 13.6.7, 13.6.8, AND 2022 CBC, SECTION 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 AND SHALL BE IN ACCORDINANCE WITH DSA R 16-13. THE MEP DESIGN PROFESSIONALENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARF IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☐ PP ☒ E ☐ OPTION 1: PROJECT-SPECIFIC DESIGN

MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL

MP ☐ MD ☐ PP ☐ E ☐ OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125612 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/02/2026

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RANCHO CUCAMONGA, CA | 909.987.0909 | www.pbk.com

PE BUILDING MODERNIZATION AT EL ROBLE IS

666 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPL NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT
EXCELLENCE IN EDUCATION

CONSULTANT — LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT — SIGSANTO AGUSTIADI — C-31009 — 08-31-27 — STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER — REX DAVID TRANE — No.M36155 — Exp.09-30-2026 — STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM
DRAWN BY: AA

PLUMBING LEGEND, NOTES & SCHEDULES

P-000

Plot Stamp:
3/2/2026 5:21:46 PM

PLUMBING SITE PLAN
P-S101
FOR BLUEBEAM LABELING/OCR:

0"
1"

1 PLUMBING SITE PLAN
1" = 40'-0"

SHEET NOTES

1. THE PLUMBING SCOPE OF WORK IS IDENTIFIED BY THE ENLARGED PLAN CALLOUT SHOWN HERE. THE SITE PLAN IS SHOWN FOR COORDINATION ONLY.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125612 INC:
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SS ☑ FLS ☑ ACS ☑
DATE: 04/02/2026

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PE BUILDING MODERNIZATION AT EL ROBLE IS

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CLAREMONT
HIGH SCHOOL

CONSULTANT	LEAF Engineers
LEAF ENGINEERS	leafengineers.com
8163 Rochester Avenue, Suite 100 Rancho Cucamonga, CA 91730 909.987-0909 leafengineers.com	

ARCHITECT
LICENSED ARCHITECT
AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
ALEX DAVID WANG
No.M38155
Exp.06-30-2026
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM
DRAWN BY: AA

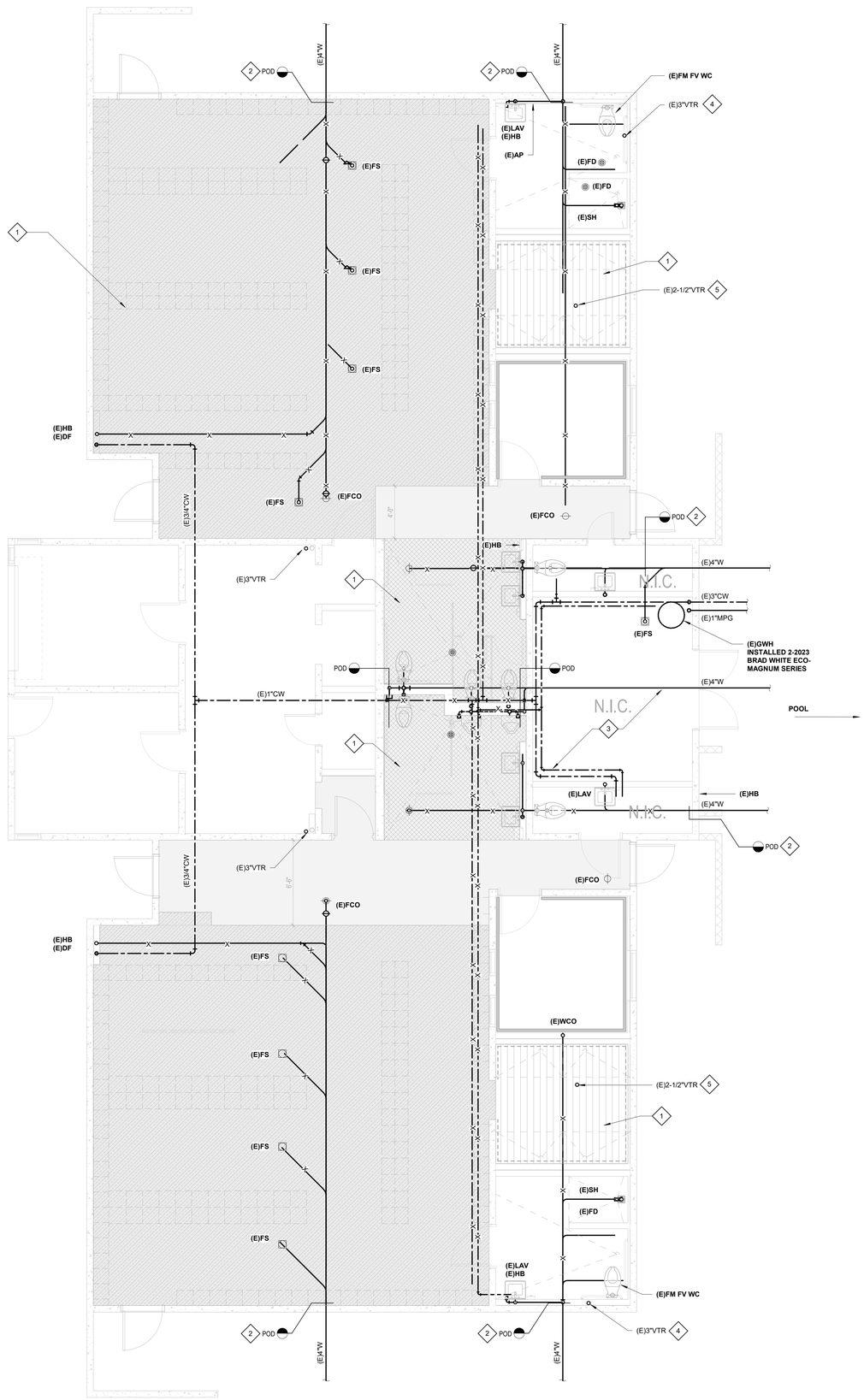
PLUMBING SITE PLAN

P-S101

Plot Stamp:
11/17/2025 11:53:41 AM

PLUMBING FIRST FLOOR DEMOLITION PLAN
PD-101

FOR BLUEBEAM LABELING/OCR:



1 First Floor - Demo
1/4" = 1'-0"

SHEET NOTES

1. PLANS ARE BASED ON AVAILABLE EXISTING DRAWINGS AND SITE SURVEYS, AND SHOWN FOR REFERENCE ONLY. NOT ALL PIPE WORK BELOW GRADE AND OVERHEAD ARE SHOWN. THERE WILL BE BELOW GRADE TRAP PRIMER LINES, WALL CLEANOUTS AND OTHER SUPPORTING PIPE WORK THAT MIGHT NOT BE KNOWN. CONTRACTOR SHALL FIELD VERIFY PRIOR TO ANY WORK.
2. ANY EQUIPMENT, FIXTURES OR PIPING CALLED OUT TO REMAIN THAT GETS DAMAGED DURING THE DEMOLITION OR REMODELING PHASE SHALL BE REPLACED AT NO COST TO THE OWNER/DISTRICT.
3. FOR NEW WORK, BOTH GRAVITY AND WATER, REFER TO SHEETS **P-101** AND **P-102**.

DEMOLITION KEYED NOTES

1. ALL FIXTURES AND PIPING ARE TO BE REMOVED INCLUDING ALL APPURTENANCES UNLESS NOTED OTHERWISE. REMOVE ALL FLOOR CLEANOUTS AND WALL CLEANOUTS INCLUDING ANY OTHER BELOW GRADE VENT LINES AND TRAP PRIMER LINES INCLUDING ALL OVERHEAD VENT UNLESS NOTED OTHERWISE.
2. POINT OF DEMOLITION. REMOVE ALL BUILDING DRAIN SEWER PIPE BACK TO POINT INDICATED BY THIS KEYNOTE AND MAINTAIN PIPE FOR RECONNECTION DURING NEW CONSTRUCTION PHASE. REFER TO SHEET **P-101** FOR NEW PIPING.
3. (E) PIPING AND WATER HEATER WITHIN THE STORAGE ROOM ARE TO REMAIN. UNLESS NOTED OTHERWISE.
4. REMOVE ALL OVERHEAD VENT UP TO THE VTR IDENTIFIED BY THIS KEYNOTE AND PREPARE FOR RECONNECTION OF NEW VENTING. MAINTAIN THE THROUGH ROOF PENETRATION AND PREPARE OPENING FOR NEW VTR.
5. REMOVE ALL OVERHEAD VENT UP TO THE VTR IDENTIFIED BY THIS KEYNOTE. CUT PIPE TIGHT JUST BELOW THE VTR. CAP PIPE AT THE ROOF LEVEL.

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CHECKED BY: RM
DRAWN BY: AA

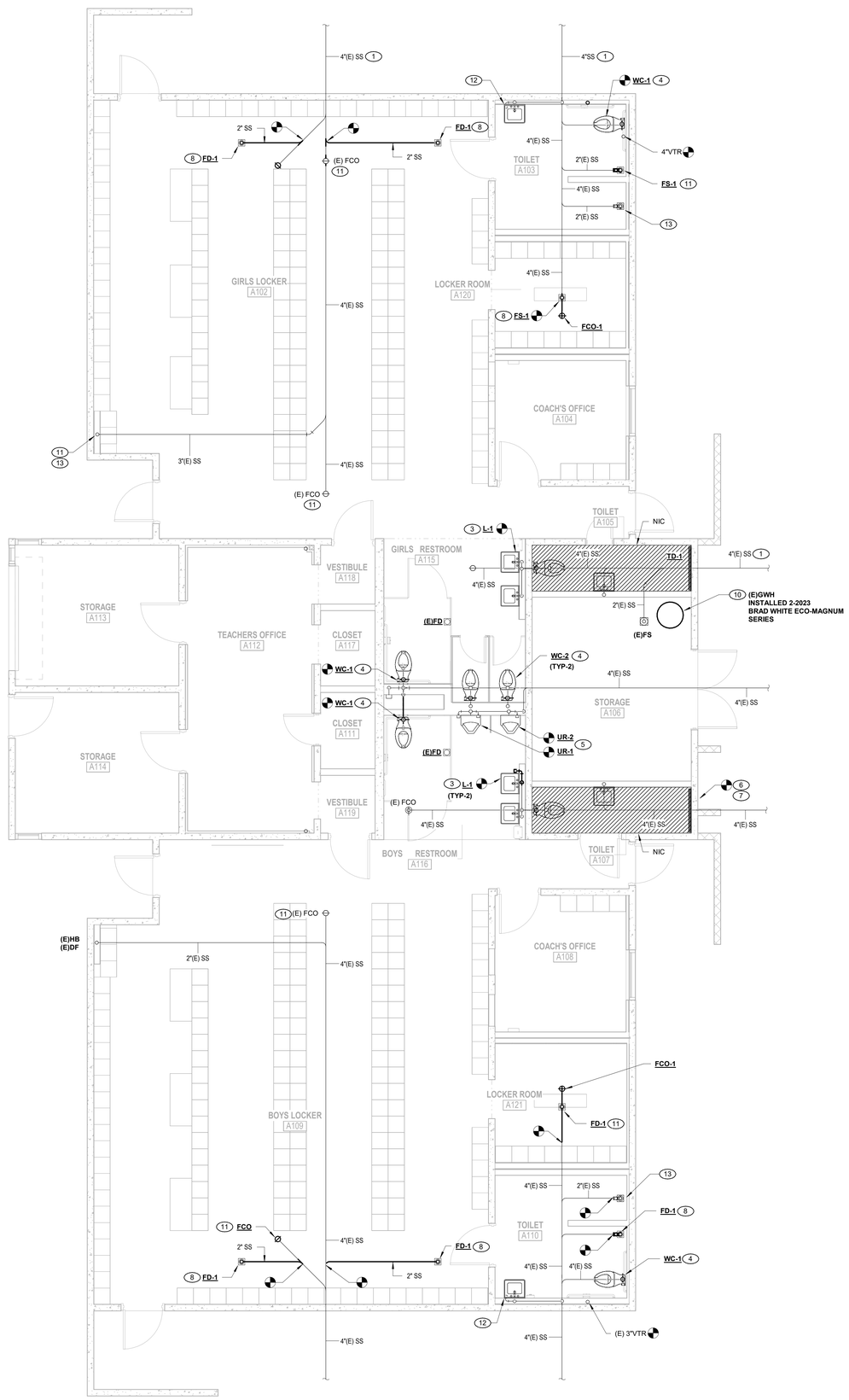
PLUMBING FIRST FLOOR DEMOLITION PLAN

PD-101

Plot Stamp:
11/17/2025 11:53:43 AM

PLUMBING FIRST FLOOR CONDENSATE, WASTE & VENT
P-101

FOR BLUEBEAM LABELING/OCR:



1 PLUMBING FIRST FLOOR CONDENSATE, WASTE & VENT
1/4" = 1'-0"

GENERAL NOTES

1. BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL UTILITIES AND PIPING BY PHYSICAL EXCAVATION, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
2. THE PLUMBING CONTRACTOR SHALL RUN ALL SERVICE LINES, ROUGH-IN AND MAKE FINAL CONNECTIONS TO ALL FIXTURES AND EQUIPMENT. PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL ALL TRIMS, TAILPIECES, STRAINERS, P-TRAPS, ARMS, HOT COLD WATER STOPS AND FAUCETS AS REQUIRED.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING OF WALLS, ROOFS, FOOTINGS, FLOORS, INCLUDING ALL SAW CUTTING AND CORE DRILLING. COORDINATE ALL SAW CUTTING AND CORE DRILLING WITH STRUCTURAL DRAWINGS. ANY CUTTING AND DRILLING REQUIRED OF STRUCTURAL ELEMENTS THAT IS NOT SPECIFICALLY SHOWN ON THE PLANS SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION PRIOR TO CUTTING AND DRILLING. CONTRACTOR SHALL SUBMIT PROPOSED LOCATION AND SIZES OF SUCH CUTTING AND DRILLING FOR THE ARCHITECTS AND STRUCTURAL ENGINEERS APPROVAL.
4. COORDINATE INSTALLATION OF ALL EQUIPMENT AND PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. ENSURE THAT ALL CONTROL DEVICES, SHUT-OFF VALVES, ETC. ARE ACCESSIBLE FOR MAINTENANCE. WHERE ACCESS PANELS IN FINISHED SPACES, OTHER THAN THAT SHOWN, CONTRACTOR SHALL PROVIDE AND COORDINATE EXACT LOCATION OF PANELS WITH ARCHITECT PRIOR TO INSTALLATION.
5. EXISTING COLD WATER PIPING ABOVE THE CEILING TO BE REMOVED AND REPLACED WITH NEW PIPING IN THE SAME LOCATION. PROVIDE NEW SUPPORTS.
6. NO DEMOLITION SHALL OCCUR WHICH LEAVES THE BUILDING INTERIOR WITHOUT WEATHER PROTECTION. ALL DEMOLITION OF EXTERIOR OF EXTERIOR SURFACES SHALL BE FOLLOWED IMMEDIATELY BY PROTECTIVE CONSTRUCTION.
7. CONTRACTORS SHALL PROVIDE AND INSTALL TEMPORARY PROTECTION IN ALL OPENINGS WHERE WINDOWS AND EXTERIOR DOORS HAVE BEEN REMOVED.
8. FOR DEMOLITION WORK REFER TO SHEET **PD-101**.
9. FOR HOT AND COLD WATER REFER TO SHEET **P-102**.
10. NOT ALL FIXTURES ARE CALLED OUT ON THIS PLAN TO AVOID DUPLICATION OF CALLOUTS. FOR FULL FIXTURE TYPE CALLOUTS REFER TO BOTH WASTE & VENT PLANS AS WELL AS THE WATER PLANS.

KEYED NOTES

1. PLUMBING LOCATED BELOW FINISH FLOOR/GRADE.
2. PLUMBING LOCATED ABOVE CEILING.
3. LAVATORY AND FAUCET TO BE REPLACED AND RECONNECTED IN PLACE. PLUMBING CONTRACTOR TO SUPPLY & INSTALL NEW ANGLE STOP, LAVATORY SUPPLY, COMPLETE WITH LOOSE KEY, CHROME ESCUTCHEON PLATE, COMPRESSION INLET, HEAVY DUTY OUTLET RISER. PROVIDE 1/2" CW / HW, ACCORDING TO THE REQUIREMENT OF THE ROOM. CONTRACTOR TO EXTEND AND CONNECT LINE AS REQUIRED.
4. WATER CLOSET TO BE REPLACED AND RECONNECTED IN PLACE. PROVIDE 1-1/2" CW. TO BE INSTALLED ADA COMPLIANT. ACCORDING TO THE REQUIREMENT OF THE ROOM. CONTRACTOR TO EXTEND AND CONNECT LINE AS REQUIRED.
5. URINAL TO BE REPLACED AND RECONNECTED IN PLACE. PROVIDE 1" CW. TO BE INSTALLED ADA COMPLIANT. ACCORDING TO THE REQUIREMENT OF THE ROOM. CONTRACTOR TO EXTEND AND CONNECT LINE AS REQUIRED.
6. PROVIDE, SOV ABOVE CEILING, BEHIND CEILING PROVIDE ACCESS PANEL.
7. HOSE BIBB TO BE REPLACED AND RECONNECTED IN PLACE. PROVIDE 3/4" CW. A HOSE CONNECTION TYPE ANTI-SIPHONS VACUUM BREAKER.
8. FLOOR DRAIN CONNECTED TO EXISTING, 2" SANITARY SEWER, 2" VENT TO FLOOR DRAIN. CONTRACTOR TO EXTEND AND CONNECT LINE AS REQUIRED.
9. PROVIDE 1/2" CW DOWN TO TRAP PRIMER. EXTEND BELOW FLOOR DRAIN / SINK.
10. CONTRACTORS SHALL PROVIDE AND INSTALL TEMPORARY PROTECTION IN (E) WATER HEATER.
11. (E) FLOOR CLEAN OUTS ARE BE ADJUSTED AS NEED TO MACH THE NEW FLOOR FINISH ELEV.
12. LAVATORY PROTECT IN PLACE. NOT IN SCOPE.
13. SHOWER HEAD PROTECT IN PLACE. NOT IN SCOPE.

CONSTRUCTION NOTES

1. CUTTING AND PATCHING
   - A. DO NOT DISTURB ANY EXISTING STRUCTURE, PIPING, APPARATUS, OR OTHER WORK. WHERE CUTTING, DRILLING, OR REMOVALS ARE REQUIRED IN EXISTING WALL, FLOOR OR ROOF CONSTRUCTION. PERFORM THE WORK IN A MANNER THAT WILL SAFEGUARD AND NOT ENDANGER THE STRUCTURE. PRIOR TO ANY CUTTING, DRILLING OR REMOVALS, INVESTIGATE BOTH SIDES OF THE SURFACE INVOLVED AND DETERMINE THE EXACT LOCATION OF ADJACENT STRUCTURAL MEMBERS BY VISUAL EXAMINATION. ALL CUTTING AND PATCHING MUST BE COORDINATED BY THE GENERAL CONTRACTOR. REFER TO GENERAL CONSTRUCTION SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
   - B. EMPLOY MAXIMUM USE OF CORE DRILLING FOR PENETRATIONS THROUGH THE EXISTING STRUCTURE. DO NOT JACK HAMMER OR USE ANY OTHER CHOPPING METHODS EXCEPT WHERE AND WHEN SPECIFICALLY REVIEWED BY THE ARCHITECT.
2. CONNECTIONS TO EXISTING WORK
   - A. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATIONS OF EXISTING FACILITIES. SUBMIT TO THE OWNER FOR APPROVAL DATE SCHEDULE OF NECESSARY TEMPORARY SHUT-DOWN OF EXISTING SERVICES. ALL SHUT-DOWNS MUST BE MADE AT SUCH TIME AS WILL NOT INTERFERE WITH REGULAR OPERATION OF EXISTING FACILITIES AND ONLY AFTER WRITTEN APPROVAL OF THE BUILDING'S MANAGEMENT.
   - B. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND APPROVED MANNER; RESTORE EXISTING WORK DISTURBED TO ORIGINAL CONDITION.
   - C. CHECK AND REPAIR OR REPLACE IF REQUIRED, EXISTING VALVES REQUIRED TO BE CLOSED FOR CONNECTION OF NEW WORK.
   - D. PROVIDE CAPPED AND PLUGGED OUTLETS ON ALL NEW CONNECTIONS TO EXISTING WORK. ARRANGE FOR EASY EXTENSION TO FUTURE TENANTS.
3. DEMOLITION, REMOVALS AND ALTERATIONS
   - A. PROVIDE ALL MATERIALS, LABOR AND SUPERVISION REQUIRED TO REMOVE, RELOCATE AND ALTER THE EXISTING PLUMBING SYSTEMS AS INDICATED ON THE PLUMBING PLANS.
   - B. PERFORM THE WORK AS SCHEDULED BY THE CONSTRUCTION MANAGER. PLAN INSTALLATION OF NEW AND INTERIM WORK TO INSURE MINIMUM INTERFERENCE WITH THE REGULAR OPERATING OF THE FACILITY. SUBMIT SHUTDOWN SCHEDULE TO OWNER FOR APPROVAL PRIOR TO PERFORMING THE WORK.
   - C. THIS WORK INCLUDES DISCONNECTION AND REMOVAL OF PLUMBING FIXTURES FROM WALLS OR FLOORS, DISCONNECTING PIPING AT STACKS OR RISERS AND CAPPING TO AVOID DEAD ENDS, RECONNECTING ALL SYSTEMS AS REQUIRED TO ASSURE CONTINUITY IN CIRCULATING AND SUPPLY LINES AND RAISING ALL PLUMBING LINES WHERE REQUIRED TO CLEAR NEW HUNG CEILING HEIGHTS.
   - D. ALL BULK DEMOLITION CONCEALED IN CONSTRUCTION AND OTHERWISE BETWEEN REMOVAL POINTS DESCRIBED ABOVE WILL BE PROVIDED UNDER OTHER WORK.
   - E. TURN OVER REMOVED FIXTURES, PIPING AND EQUIPMENT TO THE OWNER TO DISPOSE OF, OR AS OTHERWISE DIRECTED.
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DSA APPL NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT HIGH SCHOOL 1916

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT

LICENSED ARCHITECT
BRIGANTO AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER
DAVID WANG
No.M36155
Exp.09-30-2026
STATE OF CALIFORNIA

CLIENT	
CLAREMONT UNIFIED SCHOOL DISTRICT	
DATE 10/10/25	PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM

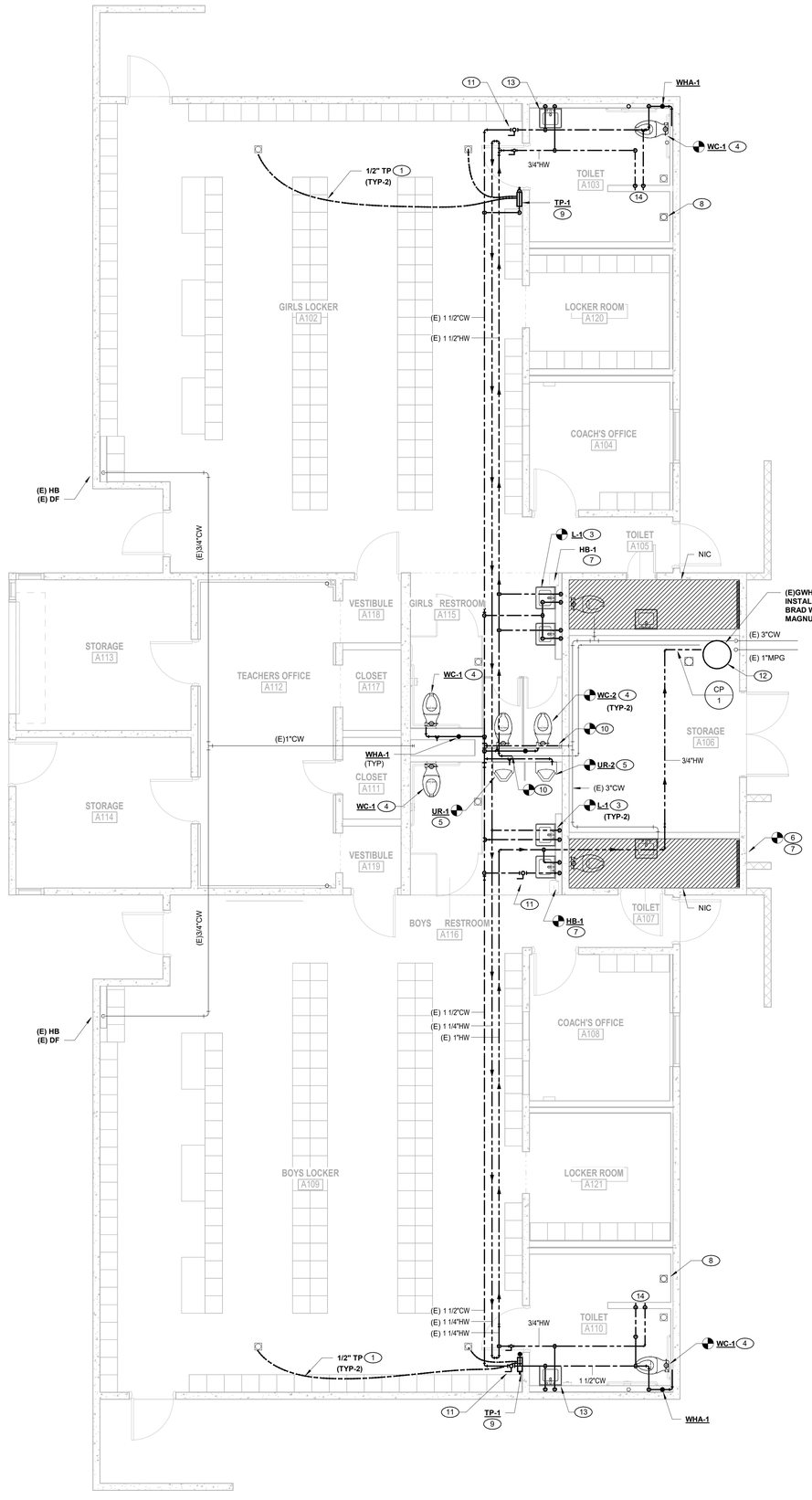
DRAWN BY: AA

PLUMBING FIRST FLOOR CONDENSATE, WASTE & VENT

P-101

Plot Stamp:
1/29/2026 10:30:47 PM

PLUMBING FIRST FLOOR COLD & HOT WATER
P-102
FOR BLUEBEAM LABELINGOOR:



1 PLUMBING FIRST FLOOR HOT & COLD WATER
1/4" = 1'-0"

GENERAL NOTES

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KEYED NOTES

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4. WATER CLOSET TO BE REPLACED AND RECONNECTED IN PLACE. PROVIDE 1-1/2" CW. TO BE INSTALLED ADA COMPLIANT. ACCORDING TO THE REQUIREMENT OF THE ROOM.
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8. SHOWER HEAD PROTECT IN PLACE. NOT IN SCOPE.
9. PROVIDE 1/2" CW DOWN TO TRAP PRIMER. EXTEND BELOW FLOOR DRAIN / SINK.
10. 3" CW POC TO (E) 3" CW.
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12. CONTRACTORS SHALL PROVIDE AND INSTALL TEMPORARY PROTECTION IN (E) WATER HEATER.
13. LAVATORY PROTECT IN PLACE. NOT IN SCOPE.
14. PROVIDE 3/4" CW & HW TO SHOWER.

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CLAREMONT HIGH SCHOOL DISTRICT

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT SUSAN O. RASMUSSEN C-31009 08-31-27 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER REX DAVID IWANG No.M36155 Exp.09-30-2026 STATE OF CALIFORNIA

CLIENT	
CLAREMONT UNIFIED SCHOOL DISTRICT	
DATE 10/10/25	PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM
DRAWN BY: AA

PLUMBING FIRST FLOOR COLD & HOT WATER

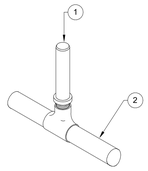
P-102

Plot Stamp:
1/29/2026 10:31:47 PM

PLUMBING DETAILS
P-601

FOR BLUEBEAM LABELING/OCR:

0"
1"



NOTES:
GROUP VALVES AND SIMILAR EQUIPMENT IN COMMON ACCESS PANELS WHEN APPLICABLE. ALL ITEMS SHALL BE FULLY OPERATIONAL AND SERVICEABLE.

FINAL SIZING AND MODEL SELECTION SHALL BE PER MANUFACTURERS RECOMMENDATIONS.

WATER HAMMER ARRESTOR SHALL BE INSTALLED IN AN UPRIGHT POSITION.

WATER HAMMER ARRESTOR SHALL BE INSTALLED AT EACH QUICK CLOSING FAUCET OR FLUSH VALVE UNLESS USED IN A BANK OF FIXTURE.

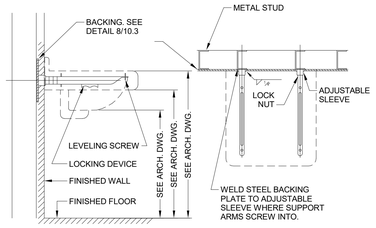
WHEN INSTALLING ON A BANK OF FIXTURES THE WATER HAMMER ARRESTOR SHALL BE INSTALLED BEFORE THE LAST FIXTURE ON THE BANK.

PIPE SIZING AND SELECTION TABLE

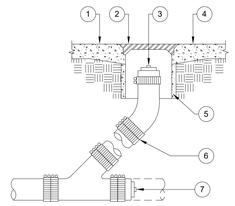
PPP SIZE	FIXTURE UNITS	CROSS REF. PDI
1/2"	1-11	A
3/4"	12-32	B
1"	33-60	C
1-1/4"	61-113	D
1-1.2"	114-154	E
2"	155-330	F

1. WATER HAMMER ARRESTOR CONCEALED IN CEILING.
2. REFER TO PLANS FOR SIZE AND LOCATION OF PIPE.

WATER HAMMER ARRESTOR N.T.S 09



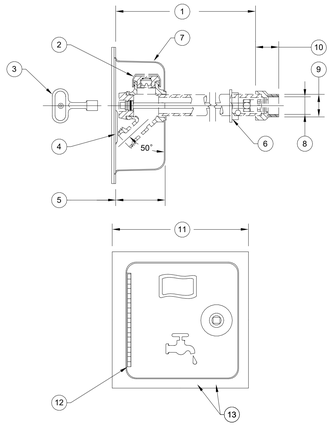
LAVATORY SUPPORT N.T.S 05



1. 24" X 24" X 6" DEEP CAST CONCRETE IN UNPAVED AREA.
2. LABEL COVER "SEWER".
3. CLEANOUT PLUG. CAST IRON FERRULE & BRASS PLUG.
4. 1/2" SLOPE.
5. PRE-CAST CONCRETE BOX WITH CAST IRON COVER.
6. NO-HUB COUPLING WITH STAINLESS STEEL SHIELD (TYP).
7. PLUGGED WYE AT END OF RUNS.

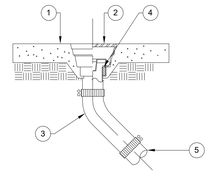
SURFACE CLEANOUT (COTG) N.T.S 01

1. WALL THICKNEED.
2. INTEGRAL VACUUM BREAKER ASSEMBLY.
3. KEY.
4. 3/4" HOSE CONNECTION.
5. OPTIONAL BOX FOR MATERIAL SPECIFIED.
6. ADJUSTABLE WALL CLAMP. (SPECIFU-WC).
7. 20 GA. STAINLESS STEEL BOX.
8. 1/2" FEMALE NPT INLET.
9. 3/4" MALE NPL INLET.
10. 1 1/2".
11. 7" SQUARE.
12. CONTINUOUS STAINLESS STEEL FACE HINGE.
13. HINGED LOCKING COVER.



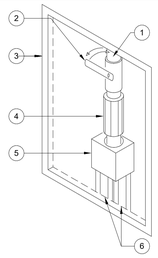
BOX TYPE WITH CONCEALED HOSE CONNECTION N.T.S 10

NOT USED N.T.S 06



1. TOP OF CONCRETE FLOOR
2. ROUND ADJUSTABLE CAST IRON TOP. TRACTOR COVER. SET TOP FLUSH WITH FINISHED FLOOR.
3. C.I. 1/8 BEND
4. CAULK JOINT WITH LEAD NO WATER TO STAND ON LIP
5. C.I. DRAIN LINE

FLOOR CLEANOUT (FCO) N.T.S 02



1. 1/2" SUPPLY CONNECTION. REFER TO THE FLOOR PLANS FOR CONTINUATION.
2. LINE SIZE SHUT OFF BALL VALVE. VALVE SHALL BE INSTALLED TO OPEN AND CLOSE IN ACCESS BOX. REMOVE HANDLE IN OPEN POSITION AFTER TESTING AND DISINFECTION ARE COMPLETED.
3. WALL MOUNTED STAINLESS STEEL ACCESS COVER PANEL WITH LOCK. SIZE OF ACCESS PANEL SHALL BE SUFFICIENT FOR THE REMOVAL & REPLACEMENT OF THE TRAP PRIMER AND ACCESSORIES BUT IN NO CASE SHALL BE SMALLER THAN 8"x8".
4. TRAP PRIMING VALVE BY PPP OR EQUAL.
5. DISTRIBUTION UNIT MODEL (DU-4) (WHEN REQUIRED).
6. 1/2" TRAP PRIMER LINES DOWN TO BELOW FLOOR SERVING FLOOR DRAIN/SINK.

DISTRIBUTION CHART (MFG. BY PRECISION PLUMBING PRODUCTS)

NO. OF DRAINS	PRIMER MODEL	DISTRIBUTION UNIT IS
1	P-2	NOT REQUIRED
2	P-2	DU-4
3	P-1	DU-4
4	P-1	DU-4

NOTE:
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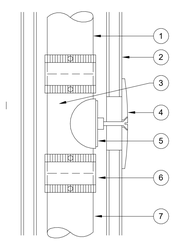
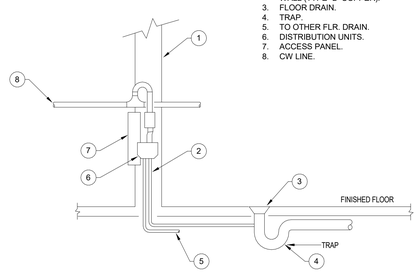
TRAP PRIMER DETAIL N.T.S 07



1. VENT STACK.
2. FACE OF WALL.
3. SANITARY TEE.
4. CHROME PLATED COVER & VANDAL PROOF SCREW.
5. THREADED PLUG.
6. NO-HUB COUPLING WITH STAINLESS STEEL CLAMP.
7. DRAIN LINE.

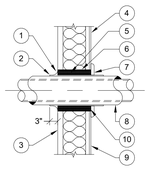
WALL CLEANOUT (WCO) N.T.S 03



1. WALL.
2. (2) 1/2" CW TRAP PRIMER LINES IN WALL (TYPE "L" COPPER).
3. FLOOR DRAIN.
4. TRAP.
5. TO OTHER FLR. DRAIN.
6. DISTRIBUTION UNITS.
7. ACCESS PANEL.
8. CW LINE.

DRAIN TRAP PRIMER DETAIL N.T.S 11

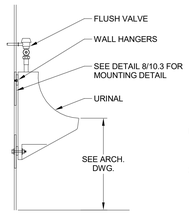
NOTE:
PENETRATIONS IN WALL, FLOOR OR CEILING REQUIRING PROTECTION. OPENING SHALL BE FIRE STOPPED. FIRE STOPPING SHALL BE OF AN APPROVED MATERIAL, SECURITY INSTALLED AND CAPABLE OF MAINTAINING ITS INTEGRITY WHEN SUBJECTED TO THE TIME-TEMPERATURE CURVE OF STATE FIRE MARSHAL STANDARDS AND STANDARD MANUFACTURER'S INSTALLATIONS INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTION AUTHORITY AND KEPT AT THE JOB SITE.



1. SEALANT-JOINT, 1/4" MIN. WIDTH BY 3/8" DEEP.
2. METAL JACKET ON INSULATED PIPE.
3. EXTERIOR FACE OF WALL.
4. FRAMED WALL.
5. BACKUP MATERIAL.
6. SLEEVE.
7. ESCUTCHEON.
8. INSULATION WHERE INDICATED.
9. INTERIOR FACE OF WALL.
10. THE HOLE SIZE SHALL BE 2" LARGER FOR PIPE SIZE 3.5" AND SMALLER AND 4" LARGER FOR PIPE SIZE 4" AND ABOVE. PIPE SHALL BE SUPPORTED WITHIN 12" OF EACH SIDE OF WALL.

FIRE PROOFING MATERIALS:
U.L. 1479 (4 TH EDITION) 2023 TO ACHIEVE FIRE RATING NOTED ON DRAWINGS IN ACCORDANCE WITH THE UNDERWRITERS LABORATORIES INC. FIRE RESISTANCE DIRECTORY, THROUGH PENETRATION FIRE STOP SYSTEM NUMBER W-L-1167.

TYP. PIPE THRU FIRE RATED WALL N.T.S 08



NOTE:
1. USE MOUNTING BOLTS THRU BACKING PLATE PROVIDED WITH URINAL.
2. INSTALL PER MANUFACTURERS INSTALLATION INSTRUCTION

URINAL MOUNTING N.T.S 04

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125612 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/02/2026

PBK
www.pbk.com
909.987-0909
RANCHO CUCAMONGA, CA

PE BUILDING MODERNIZATION AT EL ROBLE IS

666 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPL NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT
CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT
ROBERTO AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
REX DAVID WANG
No.M30155
Exp.06-30-2026
MECHANICAL
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: RM
DRAWN BY: AA

PLUMBING DETAILS

P-601

Plot Stamp:
1/30/2026 9:18:23 AM

FIRE ALARM SHEET INDEX, LEGEND & NOTES
FA-001
FOR BLUEBEAM LABELING/OCR:

DEVICE SCHEDULE

SYMBOL	DESCRIPTION	MODEL	MANUFACTURER	BACKBOX	MOUNTING HEIGHT	C.S.F.M. NUMBER
FACP	EXISTING FIRE ALARM CONTROL PANEL	E3	HONEYWELL	PROVIDED	66" A.F.F. TO TOP	7165-1703:0125
RPS	AUDIO/VISUAL POWER SUPPLY	HPFF8	HONEYWELL	PROVIDED 16.65"Wx19"Hx5.2"D	66" A.F.F. TO TOP	7315-1637:0102
	BATTERIES 12V 7.0 A.H.	NP7-12	YUASA	INSIDE FACP	VERIFY IN FIELD	N/A
M	FIRE ALARM MONITOR MODULE	AMM-2F	HONEYWELL	4S DEEP BOX W/ 2 GANG RING	VERIFY IN FIELD	7300-1703:0102
RM	FIRE ALARM RELAY MODULE	A0M-2RF	HONEYWELL	4S DEEP BOX W/ 2 GANG RING	VERIFY IN FIELD	7300-1703:0102
I F	AREA HEAT DETECTOR (ADDRESSABLE) 135°	ATD-L3 B300-6	HONEYWELL	4S DEEP BOX W/ 3-0 RING	CEILING MOUNTED	7270-1703:0502 7300-1653:0109
I HT	AREA HEAT DETECTOR (ADDRESSABLE) 190° HIGH	ATD-L3H B300-6	HONEYWELL	4S DEEP BOX W/ 3-0 RING	CEILING MOUNTED	7270-1703:0502 7300-1653:0109
S P	AREA SMOKE DETECTOR (ADDRESSABLE - PHOTO)	ASD-PL3 B300-6	HONEYWELL	4S DEEP BOX W/ 3-0 RING	CEILING MOUNTED	7272-1703:0501 7300-1653:0109
H WP	FIRE ALARM WALL HORN	HRK (RED)	SYSTEM SENSOR	SA-WBB PROVIDED	90" A.F.F. TO BOTTOM	7135-1653:0189
XX-cd	FIRE ALARM CEILING HORN/STROBE	PC2WL (WHITE)	SYSTEM SENSOR	4S DEEP BOX W/ 2 GANG RING	CEILING MOUNTED	7135-1653:0503
XX-cd	FIRE ALARM CEILING STROBE	SCWL (WHITE)	SYSTEM SENSOR	4S DEEP BOX W/ 2 GANG RING	CEILING MOUNTED	7125-1653:0504
WP XX-cd	FIRE ALARM CEILING STROBE	SCRK (RED)	SYSTEM SENSOR	SA-WBBC PROVIDED	CEILING MOUNTED	7300-1653:0187
J	FIRE ALARM JUNCTION BOX	N/A	BY ELECTRICIAN	4S BOX U.O.N.	VERIFY IN FIELD	N/A
FATC	FIRE ALARM TERMINAL CABINET	N/A	BY ELECTRICIAN	24 x 24 x 6 U.O.N.	VERIFY IN FIELD	N/A
—WW—	END OF LINE RESISTOR	N/A	N/A	N/A	N/A	N/A

LEGENDS

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A OR AMP	AMPERES	NIC	NOT IN CONTRACT
AFF	ABOVE FINISHED FLOOR	NO	NUMBER
AIC	AMPERES INTERRUPTING CAPACITY	PH. ORO	PHASE
ARCH	ARCHITECT; ARCHITECTURAL	PNL	PANEL
AWG	AMERICAN WIRE GAUGE	PWR	POWER
C	CONDUIT	REC/RECEPT	RECEPTACLE
CKT	CIRCUIT	REQD	REQUIRED
CL.	CEILING MOUNTED DEVICE	RM	ROOM
C.O.	CONDUIT ONLY WITH PULL WIRE	SF	SQUARE FEET
CU	COPPER	SHT	SHEET
DWG	DRAWING	SP	SINGLE POLE
ER	EXISTING DEVICE TO BE REMOVED	SPECS	SPECIFICATIONS
EMT	ELECTRICAL METALLIC TUBING	SW	SWITCH
EQUIP EXIST / (EX)	EXISTING	TYP	TYPICAL
FIN.	FINISH	UG	UNDERGROUND
FLR	FLOOR	U.O.N.	UNLESS OTHERWISE NOTED
FT	FEET	V	VOLTS
GFI	GROUND FAULT INTERRUPTER	V-A	VOLT-AMPERES
GND	GROUND	W	WATTS
LTG.	LIGHTING	W/	WITH
MTG	MOUNTING	W/O	WITHOUT
N	NEW	WP	WEATHERPROOF

*NOT ALL ABBREVIATIONS WILL APPLY

*NOT ALL ABBREVIATIONS WILL APPLY

FIRE WATCH NOTE

A FIRE WATCH SHALL BE ESTABLISHED AND THE FIRE DEPARTMENT & FIRE CODE OFFICIAL SHALL BE NOTIFIED IMMEDIATELY WHENEVER THE FIRE PROTECTION / ALARM SYSTEM IS RENDERED OUT OF SERVICE. A FIRE WATCH SHALL BE STAGED WHENEVER THE BUILDING IS OCCUPIED (PARTIAL OR WHOLE) PER DSA IR F-2 AND CFC 901.7.

MONITORING INFORMATION

ALARM SERVICE COMPANY
AND SERVICE CENTER : (257057-001)

ADVANCED PROTECTION INDUSTRIES INC.
DBA NATIONAL MONITORING CENTER
25341 COMMERCENTRE DRIVE
LAKE FOREST, CA. 92630
(800) 679-4778

FILE-VOL NO. CCN
BP21121-1 MVDO
S36356-1 UUFO
S8126-1 UUFX

LISTING CATEGORY
MANAGED VIDEO SERVICES
HOSTED CENTRAL STATION
[SIGNAL AND FIRE ALARM EQUIPMENT AND SERVICES]
(PROTECTIVE SIGNALING SERVICES) CENTRAL STATION

SCOPE OF WORK

FIRE ALARM CONTRACTOR, INC., SERVICES WILL PROVIDE:

-REMOTE POWER SUPPLIES
-AREA SMOKE/HEAT DETECTION
-SMOKE DETECTOR ABOVE FACP
-RELAY MODULES FOR HVAC SHUTDOWN
-AUDIBLE & VISUAL NOTIFICATION

*THIS IS A NEW FIRE ALARM SYSTEM SUBMITTAL
SURVIVABILITY: (0) CIRCUIT CLASS: (B)

FIRE ALARM CONTRACTOR, INC. WILL PROVIDE CONNECTION(S) TO:

-EXISTING FIRE ALARM CONTROL PANEL

*THIS IS AN ADDITION TO THE EXISTING FIRE ALARM SYSTEM ON SITE. ALL EXISTING DEVICES SHALL REMAIN UNLESS OTHERWISE SPECIFIED IN THIS SUBMITTAL.

ALL NEW ADDRESSABLE DEVICES WILL BE CONNECTED TO THE FIRE ALARM CONTROL PANEL INTELLIGENT LOOP. ALL VISUAL & AUDIBLE/VISUAL DEVICES WILL BE CONNECTED TO NOTIFICATION APPLIANCE CIRCUITS FROM THE FIRE ALARM CONTROL PANEL OR REMOTE POWER SUPPLIES, AND WILL BE SYNCHRONIZED IN ACCORDANCE WITH NFPA STANDARDS. ALL DEVICES ARE TO BE COMPATIBLE WITH THE HEAD-END EQUIPMENT AND OTHER DEVICES. ALL DEVICES WILL HAVE A TEXTUAL DISPLAY ON THE FIRE CONTROL PANEL DESCRIBING TYPE OF DEVICE AND LOCATION.

ALL EXISTING FIRE ALARM DEVICES ARE TO BE SALVAGED AND TURNED OVER TO THE DISTRICT. ALL EXISTING WIRING WILL BE REMOVED AND REPLACE.

APPLICABLE CODES

LIST OF APPLICABLE CODES:
2025 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
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 (CEC), 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
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (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

PARTIAL LIST OF APPLICABLE CODES:
NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED); 2022 EDITION
NFPA 720 STANDARD FOR THE INSTALLATION OF CARBON MONOXIDE DETECTION AND WARNING EQUIPMENT; 2015 EDITION
NFPA 80 STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES; 2019 EDITION UL 464 AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES; 2003 EDITION
UL 521 STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS; 1999 EDITION
UL 1971 STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED; 2018 EDITION (R2010)
FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2022 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.
SEE CALIFORNIA BUILDING CODE, CHAPTER 35, FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS
CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80.

MEP COMPONENT ANCHORAGE NOTES

1. 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 CHAPTER 13, 26 AND 30:

A. ALL PERMANENT EQUIPMENT AND COMPONENTS.

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

C. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN400 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.

2. 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 PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. 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 POUND PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL

3. 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 ABOVE REQUIREMENTS.

PIPPING, DUCTWORK AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTES

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC SECTIONS 1617A.1.24, 1617A.125, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☐ E☒ OPTION 1: PROJECT-SPECIFIC DESIGN.

MP☐ MD☐ PP☐ E☐ OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.

MP☐ MD☐ PP☐ E☐ OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

WIRE SCHEDULE

WIRE DESIGNATION	WIRE IN CONDUIT	WIRE IN CONDUIT UNDERGROUND/WET LOC.	UNDERGROUND/WET WIRE DESIGNATION
INIT. LOOP Z	2 CONDUCTOR #16 FPL TWISTED/ SHIELDED WEST PENN #D991	2 CONDUCTOR #16 FPLP SHIELDED WEST PENN #AQ-294	INIT. LOOP Z
SBUS B	4 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	4 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	SBUS B
VBUS C	2 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	2 CONDUCTOR #18 TWISTED SHIELDED PAIR CABLE	VBUS C
SPEAKER CKT. S	2 CONDUCTOR #14 THHN/THWN STRANDED	2 CONDUCTOR #14 THHN/THWN STRANDED	SPEAKER CKT. S
VISUAL CKT. V	2 CONDUCTOR #12 THHN/THWN STRANDED	2 CONDUCTOR #12 THHN/THWN STRANDED	VISUAL CKT. V
POWER CKT. P	2 CONDUCTOR #12 THHN/THWN STRANDED	2 CONDUCTOR #12 THHN/THWN STRANDED	POWER CKT. P

NOTE: ALL WIRE MODEL NUMBERS ARE WEST PEEN. EQUIVALENT BY OTHER MANUFACTURER IS ACCEPTABLE.

FIRE ALARM REQUIREMENTS

THE CONTRACTOR SHALL PROVIDE AND SUBMIT THE FIRE ALARM SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION OF THE FIRE ALARM SYSTEM. THE SUBMITTAL SHALL CONTAIN THE FOLLOWING:

A. SHOP DRAWINGS: COMPLETE 1/8" SCALE FLOOR PLANS SHOWING ALL DEVICES, COMPONENTS, CONDUIT AND WIRING INDICATING A COMPLETE AND OPERABLE SYSTEM AS DESIGNED AND SPECIFIED. REPRODUCED COPIES OF BID SET FIRE ALARM PLANS ARE NOT ACCEPTABLE AS SHOP DRAWINGS. SHOP DRAWINGS MUST ALSO INDICATE DEVICE MOUNTING HEIGHTS, ROOM NAMES AND NUMBERS AND THE LOCATION OF ALL FIRE RATED WALLS.
B. ELECTRICAL CONTRACTOR'S AND FIRE ALARM SYSTEM INSTALLER'S NAME, ADDRESS, PHONE NUMBER AND C-10 LICENSE NUMBER.
C. LIST OF SYSTEM COMPONENTS, EQUIPMENT AND DEVICES, INCLUDING MANUFACTURERS' MODEL NUMBER(S) AND CALIFORNIA STATE FIRE MARSHALL LISTING NUMBERS.
D. ORIGINAL COPIERS OF MANUFACTURERS' SPECIFICATION SHEETS FOR ALL EQUIPMENT AND DEVICES INDICATED
E. VOLTAGE DROP CALCULATIONS -- INCLUDE THE FOLLOWING INFORMATION FOR THE WORST CASE:
1. POINT-TO-POINT OR OHMS LAW CALCULATIONS.
2. IDENTIFICATION OF ZONE USED IN CALCULATIONS
3. VOLTAGE DROP PERCENT (NOT TO EXCEED MANUFACTURERS' REQUIREMENTS).
NOTE: IF VOLTAGE DROP EXCEEDS 10%, INDICATE MANUFACTURERS LISTED OPERATING RANGE(S) OR EQUIPMENT AND DEVICES.

F. NOTE CIRCUIT NUMBER FOR WORST CASE CALCULATIONS.
A. BATTERY TYPE(S), AMPS HOURS AND LOAD CALCULATIONS -- INCLUDE THE FOLLOWING INFORMATION:

1. NORMAL OPERATION: 100% OF APPLICABLE DEVICES FOR 24 HOURS = CONTROL PANEL AMPS PLUS LIST OF AMPS PER DEVICE WHICH DRAW POWER FROM THE PANEL DURING STANDBY POWER – I.E.:
A. ZONE MODULES
B. DETECTORS
C. OTHER DEVICES (IDENTIFY)

2. ALARM CONDITION: 100% OF APPLICABLE DEVICES FOR 15 MINUTES = CONTROL PANEL AMPS PLUS LIST OF AMPS PER DEVICE WHICH DRAW POWER FROM THE PANEL DURING STANDBY POWER - I.E.:
A. ZONE MODULES
B. SIGNAL MODULES
C. DETECTORS
D. SIGNAL DEVICES
E. ANNUNCIATOR
F. OTHER DEVICES (IDENTIFY)

3. NORMAL OPERATION + ALARM OPERATION
A. TOTAL AMP HOURS REQUIRED.
B. TOTAL AMP HOURS PROVIDED.
10% OF EXISTING FIRE ALARM DEVICES AND APPLIANCES SHALL BE ADDED TO THE NEW FIRE ALARM DEVICES AND APPLIANCES FOR TESTING.

DRAWING INDEX

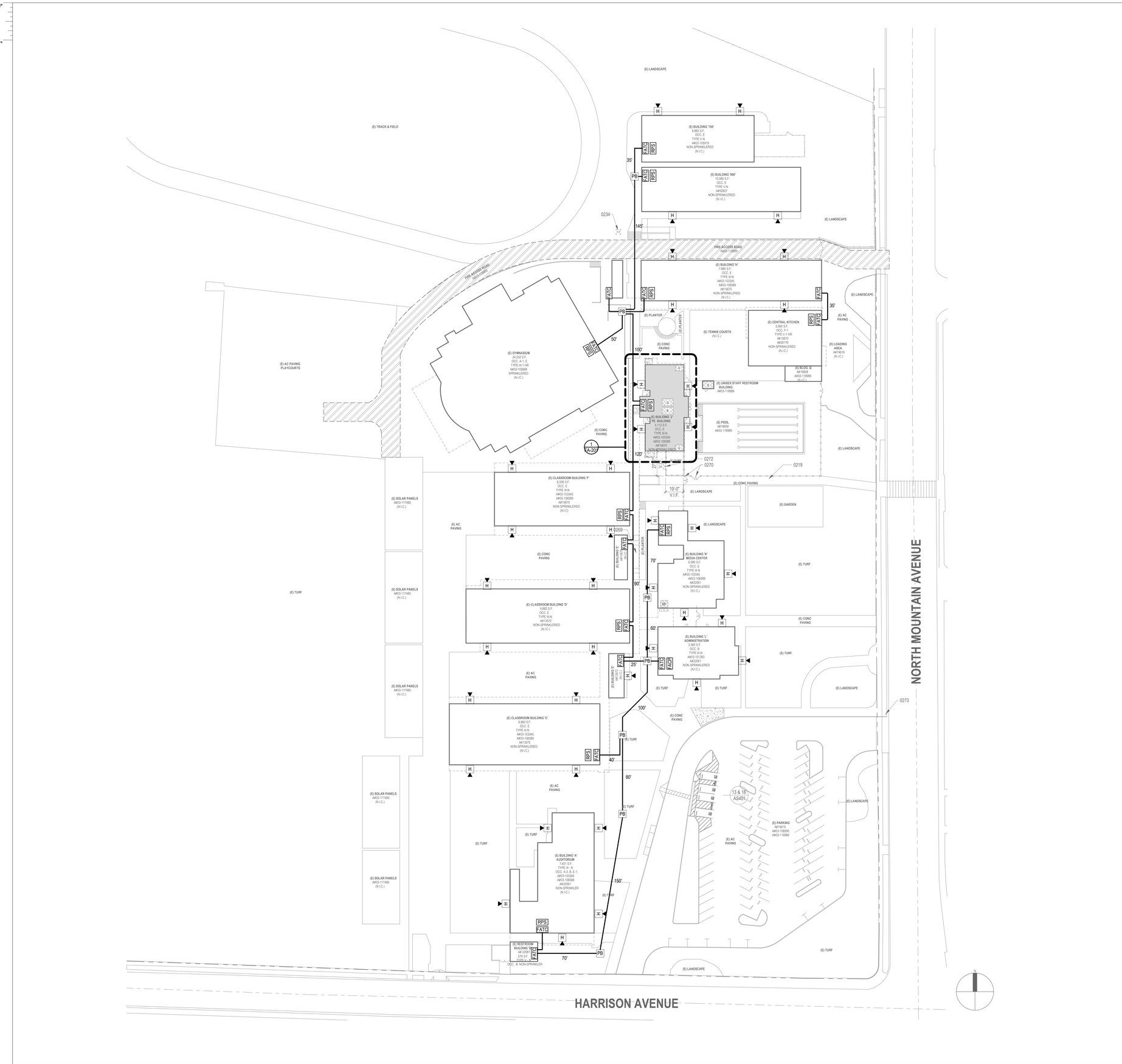
SHEET	DESCRIPTION
FA-001	FIRE ALARM SHEET INDEX, LEGEND & NOTES
FA-101	FIRE ALARM SITE PLAN
FA-201	FIRE ALARM FLOOR PLAN
FA-501	FIRE ALARM RISER DIAGRAM
FA-601	FIRE ALARM DETAILS

GENERAL NOTES

1. APPLICABLE STANDARD NFPA 72, AS ADOPTED AND AMENDED IN CBC CHAPTER 35.
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 SYSTEM INSTALLATION, 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 TESTING.
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 APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
8. WALL MOUNTED VISIBLE NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM THE FINISHED FLOOR.
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 SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF AT LEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.
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.VISIBLE DEVICES SHOULD NOT EXCEED TWO FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN ONE FLASH EVERY SECOND. THE DEVICE SHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELLA. VISIBLE DEVICES WITHIN THE SAME VIEW OF EACH OTHER SHALL BE SYNCHRONIZED.
14.UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATER TIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.
15.ALL FIRE ALARM WIRING SHALL BE FPLR OR FPLP (FIRE POWER LIMITED OR FIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE TYPE 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. 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 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 COMPLETED "SYSTEM RECORD OF COMPLETION" PER NFPA 72, FIGURE 7.8.2(a).
22.FIRE ALARM CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.
23.MICROPHONES ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE. INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.
24.THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 907.6.6.
25.SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED AS SENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
26.OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.
27.THE AUDIBLE CARBON MONOXIDE ALARM SIGNAL SHALL BE A FOUR-PULSE TEMPORAL PATTER AND COMPLY WITH THE FOLLOWING:
(1) SIGNALS SHALL BE A PATTER CONSISTING OF FOUR CYCLES OF 100 MILLISECONDS +/- 10 PERCENT "ON" AND 100 MILLISECONDS +/- 10 PERCENT "OFF".
(2) AFTER THE INITIAL 4 MINUTES OF ALARM, THE 5-SECOND "OFF" TIME SHALL BE PERMITTED TO BE CHANGED TO 60 SECONDS +/- 10 PERCENT.
(3) THE ALARM SIGNAL SHALL BE REPEATED IN COMPLIANCE WITH NFPA 72 18.4.3.2(1)(2)(3)(4) UNTIL THE ALARM RESETS OR THE ALARM SIGNAL IS MANUALLY SILENCED.
28. A CARBON MONOXIDE ALARM SIGNAL SHALL TAKE PRECEDENCE OVER SUPERVISORY OR TROUBLE SIGNALS. (NFPA 72, 26.2.4.1) THE ACTUATION OF A CARBON MONOXIDE DETECTOR OR SYSTEM SHALL BE DISTINCTIVELY INDICATED AS A CARBON MONOXIDE ALARM SIGNAL. (NFPA 72, 26.2.4.1.2)
29.ALL EQUIPMENT SHALL BE NEW, UNDERWRITERS LABORATORY AND CALIFORNIA STATE FIRE MARSHAL LISTED.
30.ELECTRICAL CONTRACTOR SHALL FURNISH ACCESS PANELS TO AREAS THAT REQUIRE SERVICING, TROUBLESHOOTING, ETC.
31.DO NOT DEVIATE FROM CONDUIT RUNS AS SHOWN ON FLOOR PLANS WITHOUT PRIOR APPROVAL FROM SYSTEM SUPPLIER. FACTORS SUCH AS EXCESSIVE VOLTAGE DROP, ADDITIONAL PARTS, ENGINEERING, ETC., THAT ARE A RESULT OF CONDUIT RUN DEVIATIONS SHALL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
32.ALL FAN SHUTDOWN FUNCTIONS, DAMPER CLOSURES, AND ASSOCIATED MECHANICAL SYSTEM FIRE ALARM INTERFACE SHALL BE BY MECHANICAL CONTRACTOR IN ACCORDANCE WITH CMC §608.
33.ALL DUCT SMOKE DETECTORS SHALL BE MOUNTED BY THE MECHANICAL CONTRACTOR. DUCT SMOKE DETECTORS EXPOSED TO THE WEATHER SHALL BE WEATHER PROTECTED BY THE MECHANICAL CONTRACTOR. ALL AIR VELOCITY TESTING SHALL BE PERFORMED BY THE MECHANICAL CONTRACTOR.
34.ALL 120VAC POWER REQUIREMENTS FOR THE FIRE ALARM SYSTEM SHALL BE FURNISHED BY THE ELECTRICAL CONTRACTOR AND SHALL MEET ALL REQUIREMENTS OF THE AUTHORITIES HAVING JURISDICTION.
35.ALL FIRE ALARM DEVICE BACKBOXES, FIRE ALARM TERMINAL CABINETS, GUTTERS, JUNCTION BOXES, AND ASSOCIATED CONDUITS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. REFER TO FIRE ALARM SYMBOL LIST AND/OR MOUNTING DETAILS FOR ADDITIONAL INFORMATION. SYSTEM SUPPLIER PROVIDED BACKBOXES SHALL BE INSTALLED BY ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED.
36.SMOKE DETECTOR TESTING SHALL BE ACCOMPLISHED PER THE MANUFACTURER'S INSTRUCTIONS.
37.ALL WIRING, INITIATING DEVICES AND ANNUNCIATOR PANEL SHALL BE SUPERVISED TO THE PRINCIPAL POINT OF ANNUNCIATION. THE FIRE ALARM CONTROL PANEL TO SUPERVISE THE ANNUNCIATOR PANEL, ALL INITIATING AND INDICATING DEVICE CIRCUITS.
38.ALL WIRING SHALL BE CUT FOR IN AND OUT. WIRING SHALL NOT BE LOOPED THROUGH DEVICES.
39.POINT, COMMON ANNUNCIATION, AND T-TAPPING ARE PROHIBITED.
40.PROVIDE 3/4" CONDUIT FROM FIRE ALARM CONTROL PANEL TO TELEPHONE BACKBOARD FOR OWNER PROVIDED CENTRAL STATION MONITORING.
41.MINIMUM CONDUIT SIZE BE 3/4", UNLESS OTHERWISE NOTED.
42.ALL FIRE SPRINKLER WATER FLOW SWITCHES SHALL BE 2 WIRE WITH NON-ELECTRONIC RETARD TYPE.
43.ALL DEVICES IN THE ALARM SYSTEM SHALL BE COMPATIBLE AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
44.FIRE ALARM SYSTEM SHALL BE UL LISTED (UUJS).
45.CBC 907.6.6.4 GROUP E SCHOOLS: AUTOMATIC FIRE ALARM SYSTEMS SHALL BE MONITORED AND 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 STANDARD, FM 3011. TERMINATION OF MONITORING SERVICES SHALL BE IN ACCORDANCE WITH SECTION 907.6.6.2.
46.SUBSTITUTION OF SYSTEM COMPONENTS OR MANUFACTURER WILL REQUIRE THE CONTRACTOR TO SEPARATELY OBTAIN APPROVAL WITH THE CSFM AT CONTRACTOR'S EXPENSE AND SHALL MEET ALL REQUIREMENTS OF THE SYSTEM AS DESIGNED AND PRE-APPROVED. ALL PROPOSED SUBSTITUTIONS SHALL BE LISTED WITH THE CALIFORNIA STATE FIRE MARSHAL.
47.FINAL ACCEPTANCE TEST TO INCLUDE TESTING THE CONNECTION BETWEEN THE FIRE ALARM PANEL AND THE SUPERVISING STATION.
48.COORDINATE WITH THE ENGINEER FOR USE OF EXISTING CONDUIT ON A CASE BY CASE BASIS.
49.PRIOR TO DEMOLITION, CONTRACTOR SHALL TEST THE INTERCOM SYSTEM TO ENSURE FULL FUNCTIONALITY. GENERATE A LIST OF FAULTY EQUIPMENT AND PROVIDE TO THE OWNER AND THE ARCHITECT. PROVIDE PRICING FOR ANY REQUIRED EQUIPMENT REPAIRS OR REPLACEMENT.
50.CONTRACTOR SHALL DISCONNECT EXISTING FIRE ALARM SYSTEM FROM THE EXISTING INTERCOM SYSTEM. ENSURE THE INTERCOM SYSTEM IS COMPLETELY FUNCTIONAL AFTER DISCONNECTION.
51.CONTRACTOR SHALL CLEARLY MARK THE ABANDON SECTION OF PUBLIC ADDRESS SYSTEM.
52.PROVIDE A FIRE ALARM DOCUMENTATION CABINET PER NFPA72.7.7.
53.FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION SHALL COMPLY WITH CBC CHAPTER 33 AND CFC CHAPTER 33.
54.SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE DSA APPROVED DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATION CHANGE DOCUMENT, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS,DETAILING AND SPECIFYING THE REQUIRED REPAIR WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK (CAC 4-317(C)).
55.CHANGES TO THE DIVISION OF THE STATE ARCHITECT APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENTS FOR CHANGES TO THE STRUCTURAL, ACCESSIBILITY OR FIRE - SAFETY PORTIONS OF THE PROJECT. CHANGES SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF THE WORK SHOWN THEREON CAC 4-338(C)).
56.PROJECT INSPECTOR TO APPROVE SYSTEM VOICE-EVACUATION INTELLIGIBILITY DURING TESTING PHASE.
57. CONTRACTOR SHAL

FIRE ALARM SITE PLAN
FA-101

FOR BLUEBEAM LABELING/OCR:



1 FIRE ALARM SITE PLAN
1" = 40'-0"

GENERAL NOTES

A. ALL EXISTING FIRE ALARM DEVICES ARE TO BE SALVAGED AND TURNED OVER TO THE DISTRICT. ALL EXISTING WIRING WILL BE REMOVED AND REPLACE.

B. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS

C. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO EXISTING UTILITIES AND SYSTEMS THAT OCCURS DURING DEMOLITION AND CONSTRUCTION. TAKE ALL PRECAUTIONS REQUIRED TO PROTECT EXISTING TO REMAIN HEAD ENDS PRIOR TO FIELD DEVICE REMOVAL.

D. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT FOR DEMOLITION AND CONSTRUCTION SCOPE PHASING.

E. OWNER RETAINS FIRST RIGHT OF SALVAGE FOR ALL REMOVED DEVICES AND CABLING. CONTRACTOR SHALL PROPERLY DISPOSE OF ALL ITEMS REJECTED BY THE OWNER.

F. ALL EXISTING DIVISION 27 AND 28 SYSTEM HEAD-ENDS TO REMAIN FUNCTIONAL THROUGHOUT CONSTRUCTION UNLESS OTHERWISE NOTED.

G. FOR ALL REMOVED DEVICES, ALL EXISTING CABLING SHALL BE REMOVED BACK TO SOURCE UNLESS NOTED OTHERWISE.

H. ALL CEILING TILES DAMAGED DURING THE COURSE OF CONSTRUCTION DUE TO DEVICE REMOVAL SHALL BE REPLACED WITH NEW. NEW CEILING TILES SHALL MATCH EXISTING. WHERE NEW CEILING TILES DO NOT MATCH EXISTING, CONTRACTOR SHALL REPLACE CEILING TILES IN THE ENTIRE AREA WITH NEW.

I. FOR ALL REMOVED WALL MOUNT DEVICES THAT ARE NOT BEING REPLACED WITH A NEW DEVICE IN THE SAME LOCATION, PROVIDE AN ADEQUATELY SIZED STAINLESS STEEL BLANK COVER THAT COVERS THE ENTIRE BACK BOX WALL OPENING. PATCH AND PAINT TO MATCH SURFACE AS REQUIRED, INCLUDING REMOVED SCREW HOLES.

J. PRIOR TO DEMOLITION, CONTRACTOR SHALL VERIFY THE FUNCTIONALITY OF ALL DIVISION 27 AND 28 SYSTEM COMPONENTS TO REMAIN IN AREAS OF CONSTRUCTION SCOPE. PROVIDE A WRITTEN REPORT OF FAULTY OR DAMAGED EXISTING EQUIPMENT TO THE ARCHITECT AND ENGINEER THAT REQUIRES REPAIR OR REPLACEMENT.

K. UPON AHJ CERTIFICATION OF A NEW OR UPGRADED FIRE ALARM SYSTEM, ALL EXISTING TO BE REMOVED FIRE ALARM COMPONENTS AND CABLING SHALL REMOVED BACK TO SOURCE.

L. A FIRE WATCH SHALL BE ESTABLISHED AND THE FIRE DEPARTMENT & FIRE CODE OFFICIAL SHALL BE NOTIFIED IMMEDIATELY WHENEVER THE FIRE PROTECTION / ALARM SYSTEM IS RENDERED OUT OF SERVICE A FIRE WATCH SHALL BE STAGED WHENEVER THE BUILDING IS OCCUPIED (PARTIAL OR WHOLE).

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PE BUILDING MODERNIZATION AT EL ROBLE IS

665 N MOUNTAIN AVE
CLAREMONT, CA 91711
DSA APPL NO.: 03-125612 DSA FILE NO.: 19-21

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UNIFIED SCHOOL DISTRICT

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT
SUSANTO NOUSTADJI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MILLER
E-10817
Exp.03/31/26
ELECTRICAL
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: NO

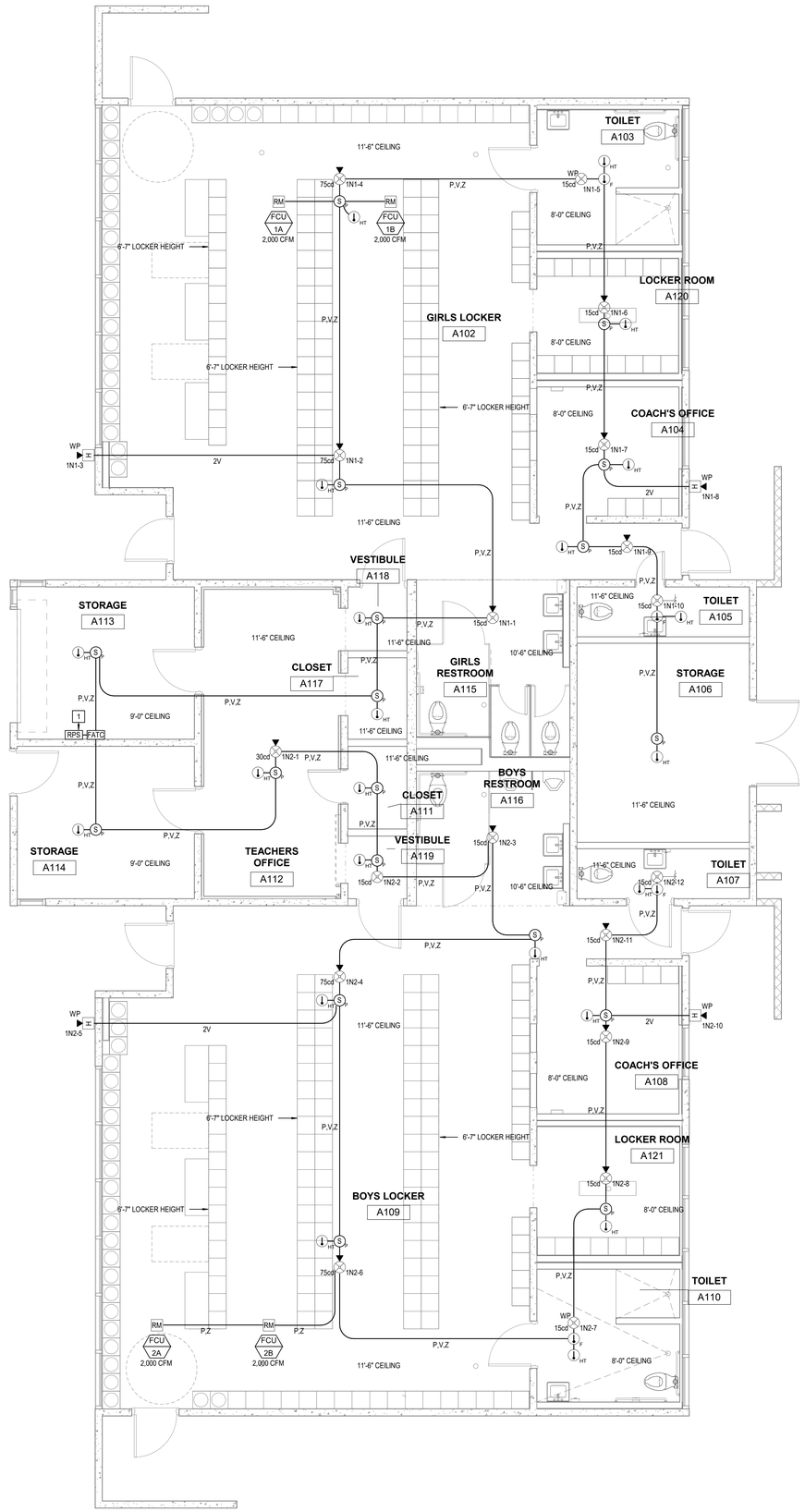
FIRE ALARM SITE PLAN

FA-101

Plot Stamp:
12/1/2025 11:59:48 AM

FIRE ALARM FLOOR PLAN
FA-201

FOR BLUEBEAM LABELING/OCR:



1 FIRE ALARM FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES

A. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS

B. DEVICE LOCATIONS AND QUANTITIES SHOWN ON DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL PROVIDE A COMPLETE AND CODE COMPLIANT FIRE ALARM SYSTEM PER IBC, IFC, NFPA 72 AND AHJ REQUIREMENTS.

C. VERIFY PROPER LOCATION OF DEVICES PRIOR TO INSTALLATION.

D. PROVIDE WEATHERPROOF DEVICES IN ALL EXTERIOR, HIGH HUMIDITY AND WET AREAS (FREEZER / COOLER, SHOWERS, ETC.).

E. PROVIDE WIREGUARDS ON ALL DEVICES INSTALLED IN GYMNASIUMS.

F. PROVIDE A RELAY AT EVERY LOCAL SOUND RACK IN THE PROJECT TO PROVIDE FOR MUTING OR SHUT DOWN OF LOCAL SOUND SYSTEM IN AN ALARM EVENT. ROUTE FIRE ALARM CABLING INTO THE LOCAL SOUND RACK. COORDINATE WITH LOCAL SOUND CONTRACTOR.

G. ALL EXPOSE CONDUIT TO BE PAINTED TO MATCH THE CEILING. REQUEST OWNERS APPROVAL.

H. ALL INDOOR SPEAKERS TO BE TAPPED AT 1/2 WATT.

I. ALL OUTDOOR SPEAKERS TO BE TAPPED AT 2 WATT.

KEY NOTES

1 INDICATES APPROXIMATE LOCATION OF FIRE ALARM POWER SUPPLY. PROVIDE CIRCUIT. PROVIDE SURGE SURPRESSORS (PER NFPA 72).

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CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT
GIUSANTO AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MUSSER
E-19817
09-30-26
ELECTRICAL
STATE OF CALIFORNIA

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CLAREMONT UNIFIED SCHOOL DISTRICT
DATE 10/10/25
PROJECT NUMBER 250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: CR

FIRE ALARM FLOOR PLAN

FA-201

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3/2/2026 4:49:20 PM

FIRE ALARM RISER DIAGRAM
FA-501

FOR BLUEBEAM LABELING/OCR:

CALCULATIONS

BATTERY SIZING CALCULATION 11/17/25

EL ROBLE PE BUILDING
NEW REMOTE POWER SUPPLY #1A - 1ST FLOOR

Quantity	Device Type	Model Number	Standby Current	Total Standby Current	Alarm Current	Total Alarm Current
1	HPFF8	HPFF8	0.07500	0.07500	0.20600	0.20600
4	Horn (WP)	HRK	0.00000	0.00000	0.06900	0.27600
8	Horn/Strobe	PC2WL (15cd)	0.00000	0.00000	0.07100	0.56800
4	Horn/Strobe	PC2WL (75cd)	0.00000	0.00000	0.14300	0.57200
3	Strobe	SCWL (15cd)	0.00000	0.00000	0.04100	0.12300
2	Strobe (WP)	SCWK (15cd)	0.00000	0.00000	0.06600	0.13200
				Standby Load 0.075		Alarm Load 1.877

Standby Load: 0.075 Amps
Standby Time: 24 Hours
Total Standby Load: 1.80 Amp*Hours

Alarm Load: 1.877 Amps
Alarm Time: 5 Minutes
Total Alarm Load: 0.16 Amp*Hours

Batteries Provided: (2) BAT-1270
Battery Size: 7.00 A.H.
De-Rated Size(75%): 5.25 A.H.

Available Battery: 5.25 A.H.
Load (ALM + STBY) 1.96 A.H.
Spare Capacity 3.29 A.H.

VOLTAGE DROP CALCULATION 09/08/25

EL ROBLE PE BUILDING
NEW REMOTE POWER SUPPLY #1A - 1ST FLOOR

SYSTEM SENSOR

	DEVICE CURR. (AMPS.)	SIGNAL CIRCUIT QTY	SIGNAL CIRCUIT CURR.	SIGNAL CIRCUIT QTY	SIGNAL CIRCUIT CURR.	SIGNAL CIRCUIT QTY	SIGNAL CIRCUIT CURR.	SIGNAL CIRCUIT QTY	SIGNAL CIRCUIT CURR.	QTY TOTAL
Horn (WP)										
HRK	0.069	2	0.138	2	0.138		0.000		0.000	4
Horn/Strobe										
PC2WL (15cd)	0.071	4	0.284	4	0.284		0.000		0.000	8
PC2WL (75cd)	0.143	2	0.286	2	0.286		0.000		0.000	4
Strobe										
SCWL (15cd)	0.041	1	0.041	2	0.082		0.000		0.000	3
Strobe (WP)										
SCWK (15cd)	0.066	1	0.066	1	0.066		0.000		0.000	2
TOTAL CURRENT ON CIRCUIT		0.815 AMPS		0.856 AMPS		0.000 AMPS		0.000 AMPS		
TOTAL WIRE LENGTH		300 FT.		300 FT.		0 FT.		0 FT.		
WIRE SIZE		12 AWG		12 AWG		12 AWG		12 AWG		
CIRCULAR MILS		6530 CIRC MILS		6530 CIRC MILS		6530 CIRC MILS		6530 CIRC MILS		
VOLTAGE DROP		0.81 VOLTS		1.13 VOLTS		0.00 VOLTS		0.00 VOLTS		
VOLTAGE @ END OF CIRCUIT		**19.59** VOLTS		**19.27** VOLTS		VOLTS		VOLTS		
CIRCUIT LOCATION										

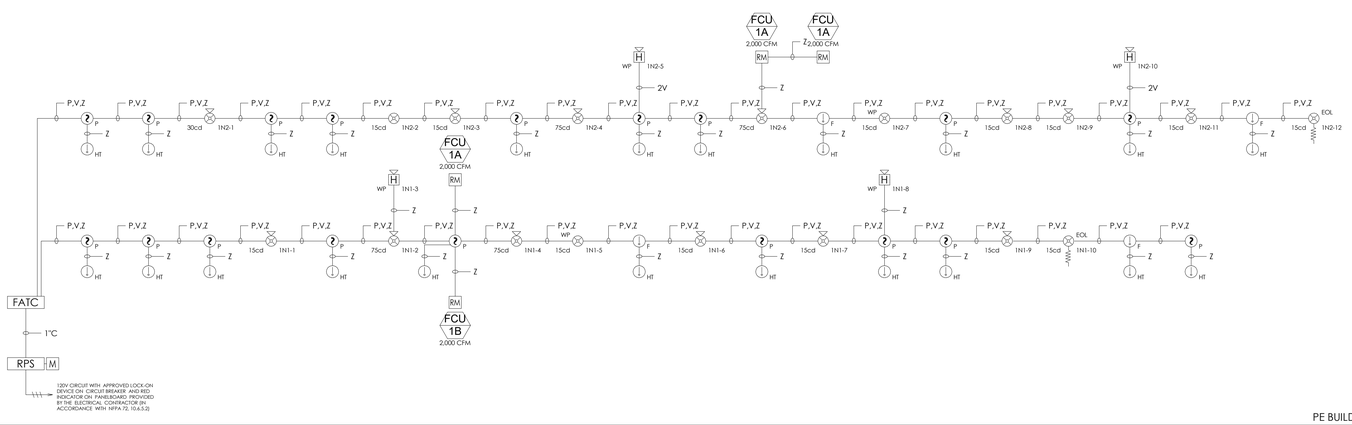
VOLTAGE DROP = $\frac{\text{TOTAL CURRENT x DISTANCE x 21.6}}{\text{CIRCULAR MILS}}$

CIRC. MILS
18 AWG = 1620
16 AWG = 2580
14 AWG = 4110
12 AWG = 6530

VOLTAGE @ END OF CIRCUIT = STARTING CIRCUIT VOLTAGE - VOLTAGE DROP

LISTED CIRCUIT VOLTAGE = 24V
STARTING CIRCUIT VOLTAGE = 20.4V (85% LISTED VOLTAGE)
OPERATING VOLTAGE RANGE FOR 24V NOTIFICATION APPLIANCES TO BE 16V-33V

RISER DIAGRAM



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CONSULTANT LEAF Engineers
leafengineers.com
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Rancho Cucamonga, CA 91730
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DATE 10/10/25
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DRAWING HISTORY

No.	Description	Date

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FIRE ALARM RISER DIAGRAM

FA-501

Plot Stamp:
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FIRE ALARM DETAILS
FA-601
FOR BLUEBEAM LABELING/OCR:

0"
1"

NOTES:

A. WALL-MOUNTED VISUAL SIGNALING APPLIANCES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT TOP GREATER THAN 96" ABOVE THE FINISHED (A.F.F.) FLOOR OR AT THE MOUNTING HEIGHT SPECIFIED USING THE PERFORMANCE-BASED ALTERNATIVE PER NFPA 72 2022 SECTION 18.5.5.1.

B. ALL WALL MOUNTED AUDIBLE DEVICES SHALL BE A MINIMUM OF 90" A.F.F. TO TOP OF DEVICE PER NFPA 72 2022 SECTION 18.4.8.1. AREAS HAVING MORE THAN 2 STROBES IN THE FIELD OF VIEW SHALL BE SYNCHRONIZED PER NFPA 72 2022 SECTION 18.5.5.4.1.

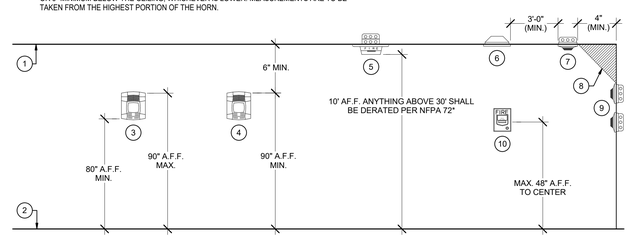
C. THE OPERABLE PART OF A MANUALLY ACTUATED ALARM-INITIATING DEVICE SHALL BE NOT LESS THAN 42" AND NOT MORE THAN 48" FROM THE FINISHED FLOOR PER 2022 NFPA 72 17.15.6.

D. WEATHERPROOF HORN/STROBE SHALL BE WALL MOUNTED A MINIMUM OF 90" ABOVE FLOOR OR 6" MINIMUM BELOW THE CEILING, WHICHEVER IS LOWER. MEASUREMENTS ARE TO BE TAKEN FROM THE HIGHEST PORTION OF THE HORN.

E. PER NFPA 72 2022 EDITION, SECTION 17.7.4.2.1 SPOT-TYPE SMOKE DETECTORS SHALL BE LOCATED ON THE CEILING OR, IF ON A SIDEWALL, BETWEEN THE CEILING AND 12" (300mm) DOWN FROM THE CEILING TO THE TOP OF THE DETECTOR.

F. PER NFPA 72 2022 EDITION, SECTION 17.6.3.1.3.1 SPOT-TYPE HEAT-SENSING FIRE DETECTORS SHALL BE LOCATED ON THE CEILING NOT LESS THAN 4" (100 mm) FROM THE SIDEWALL OR ON THE SIDEWALLS BETWEEN THE 4" AND 12" (100 mm AND 300mm) FROM THE CEILING.

G. PER NFPA 72 2022 EDITION, SECTION 18.5.5.7.2 TWO GROUPS OF V1SUAL NOTIFICATION APPLIANCES, WHERE VISUAL NOTIFICATION APPLIANCES OF EACH GROUP ARE SYNCHRONIZED, IN THE SAME ROOM OR ADJACENT SPACE WITHIN THE FIELD OF VIEW THIS SHALL INCLUDE SYNCHRONIZATION OF STROBES OPERATED BY SEPARATE SYSTEMS.

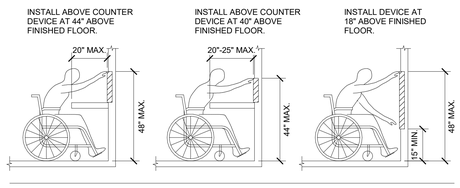


1. CEILING.
2. FINISHED FLOOR.
3. VISUAL OR AUDIBLE/VISUAL APPLIANCE.
4. AUDIBLE APPLIANCE.
5. CEILING VISUAL, AUDIBLE/VISUAL.
6. HVAC/VENT SUPPLY DIFFUSER.
7. CEILING DETECTOR.
8. NEVER HERE (DEAD SPACE).
9. WALL MOUNT DETECTOR.
10. MANUAL STATION.

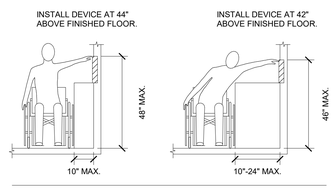
* DE-RATED STROBES SHALL MEET THE REQUIREMENTS OF 2022 NFPA 72 SECTION 18.5.5.7.6. "PERFORMANCE - BASED ALTERNATIVE".

7 DEVICE MOUNTING ELEVATION DETAIL
NOT TO SCALE

ADA STANDARDS FOR ACCESSIBLE DESIGN



ADA GUIDELINES -FRONT ACCESS

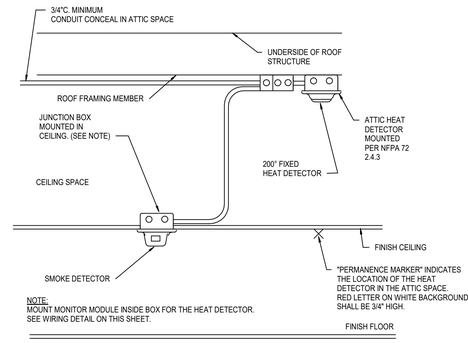


ADA GUIDELINES -SIDE ACCESS

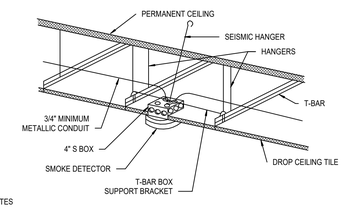
GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE J-BOXES AT ADA REQUIRED HEIGHTS TO ALLOW FOR THE DEVICE CONTROLS TO FALL WITHIN THE ACCESSIBLE REACH RANGE SHOWN ABOVE.
2. PROVIDE INSTALLATION PER SECTION 11B-308.1.1 ELECTRICAL SWITCHES.
3. WALL PHONES, CONTROLS AND SWITCHES INTENDED TO BE USED BY THE OCCUPANT OF A ROOM OR AREA TO CONTROL LIGHTING AND RECEPTACLE OUTLETS, APPLIANCES OR COOLING, HEATING VENTILATING EQUIPMENT, SHALL COMPLY WITH SECTION 11B-308 EXCEPT THE LOW REACH SHALL BE MEASURED TO THE BOTTOM OF THE OUTLET BOX AND THE HIGH REACH SHALL BE MEASURED TO THE TOP OF THE OUTLET BOX.

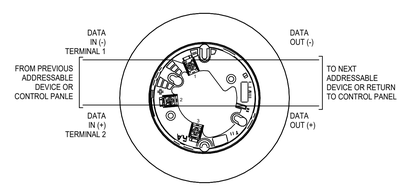
8 ADA STANDARDS FOR ACCESSIBLE DESIGN
6" = 1'-0"



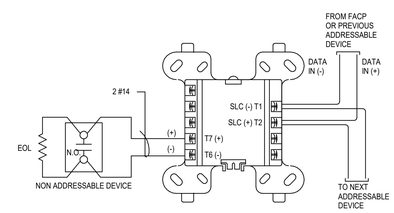
NOTE:
MOUNT MONITOR MODULE INSIDE BOX FOR THE HEAT DETECTOR.
SEE WIRING DETAIL ON THIS SHEET.



5 DROP CEILING DEVICE INSTALLATION DETAIL
12" = 1'-0"

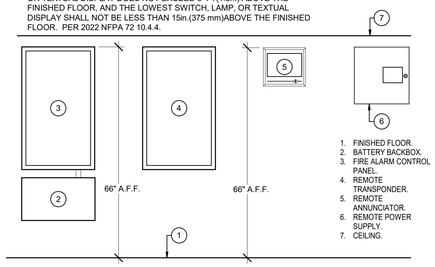


3 SMOKE/HEAT DETECTOR DETAIL
12" = 1'-0"



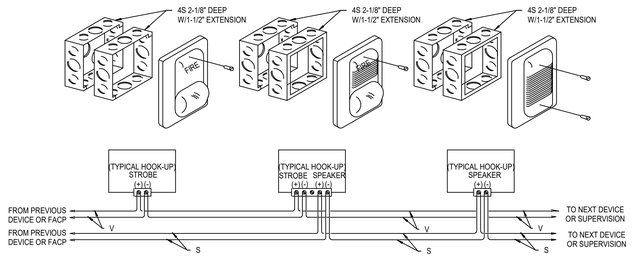
2 MONITOR MODULE DETAIL
12" = 1'-0"

NOTE:
UNLESS OTHERWISE PERMITTED BY THE AUTHORITY HAVING, CONTROL UNIT DISPLAYS, VISIBLE INDICATORS, OR CONTROLS SHALL BE MOUNTED SUCH THAT THE DISTANCE TO THE HIGHEST SWITCH, LAMP OR TEXTUAL DISPLAY DOES NOT EXCEED 6 FT(1.8m) ABOVE THE FINISHED FLOOR, AND THE LOWEST SWITCH, LAMP, OR TEXTUAL DISPLAY SHALL NOT BE LESS THAN 15in.(375 mm)ABOVE THE FINISHED FLOOR. PER 2022 NFPA 72 10.4.4.

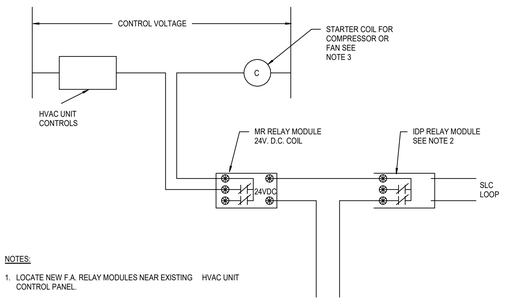


1. FINISHED FLOOR.
2. BATTERY BACKBOX.
3. FIRE ALARM CONTROL PANEL.
4. REMOTE TRANSPONDER.
5. REMOTE ANNUNCIATOR.
6. REMOTE POWER SUPPLY.
7. CEILING.

6 BACKBOX MOUNTING ELEVATION DETAIL
NOT TO SCALE



4 SPEAKER/STROBE DETAIL
12" = 1'-0"



NOTES:

1. LOCATE NEW F.A. RELAY MODULES NEAR EXISTING HVAC UNIT CONTROL PANEL.
2. IDP RELAY IS ACTIVATED BY THE AREA SMOKE/HEAT DETECTORS VIA SLC LOOP.
3. VERIFY NUMBER OF STARTER COILS AT EACH HVAC UNIT. SOME UNITS REQUIRE 2 OR MORE RELAYS FOR SHUTDOWN OF COMPRESSORS AND FANS.
4. PROVIDE 24V. D.C. SOURCE (LOW VOLTAGE TRANSFORMER) FROM POWER SUPPLY UNIT.
5. A LISTED RELAY TO THE FIRE ALARM SYSTEM SHALL BE LOCATED WITHIN 3 FEET OF THE CONTROLLED CIRCUIT PER 2010 NFPA 6.16.2.2.

1 HVAC UNIT SHUT-DOWN DETAIL
12" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-125612 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 04/02/2026

PBK
www.pbk.com
909-987-0909
RANCHO CUCAMONGA, CA

PE BUILDING MODERNIZATION AT EL ROBLE IS

666 N MOUNTAIN AVE.
CLAREMONT, CA 91711
DSA APPL NO.: 03-125612 DSA FILE NO.: 19-21

CLAREMONT
WHERE SCHOOL MATTERS

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT SIGSANTO AGUSTIADI C-31009 08-31-27 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER STEVEN C. MOSER E-19817 Exp. 03/31/26 ELECTRICAL STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: CM
DRAWN BY: CR

FIRE ALARM DETAILS

FA-601

Plot Stamp:
12/1/2025 11:59:47 AM

TECHNOLOGY SHEET INDEX, LEGEND & NOTES
T-000
FOR BLUEBEAM LABELING/OCR:

0"
1"

APPLICABLE CODES

PARTIAL LIST OF APPLICABLE CODES AS OF JANUARY 1, 2023

2025 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
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 (CEC), 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
2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (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

PARTIAL LIST OF APPLICABLE STANDARDS

NFPA 72 NATIONAL FIRE ALARM AND SIGNALING CODE (CA AMENDED): 2016 EDITION

NFPA 720 STANDARD FOR THE INSTALLATION OF CARBON MONOXIDE DETECTION AND WARNING EQUIPMENT; 2016 EDITION

NFPA 80 STANDARD FOR FIRE DOORS AND OTHER OPENING PROTECTIVES; 2016 EDITION
UL 464 AUDIBLE SIGNALING DEVICES FOR FIRE ALARM AND SIGNALING SYSTEMS, INCLUDING ACCESSORIES; 2003 EDITION

UL 521 STANDARD FOR HEAT DETECTORS FOR FIRE PROTECTIVE SIGNALING SYSTEMS; 1999 EDITION

UL 1971 STANDARD FOR SIGNALING DEVICES FOR THE HEARING IMPAIRED; 2002 EDITION (R2010)

ICC 300 STANDARD FOR BLEACHERS, FOLDING AND TELESCOPING SEATING AND GRANDSTANDS; 2017 EDITION

FOR A COMPLETE LIST OF APPLICABLE NFPA STANDARDS REFER TO 2022 CBC (SFM) CHAPTER 35 AND CALIFORNIA FIRE CODE CHAPTER 80.

SEE CALIFORNIA BUILDING CODE, CHAPTER 35, FOR STATE OF CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS.

TECHNOLOGY SCOPE OF WORK

1. PROVIDE COMPLETE TECHNOLOGY SYSTEMS EQUIPMENT WITH INSTALLATION AS REQUIRED FOR A COMPLETE WORKING SYSTEM PER DESIGN DRAWINGS AND SPECIFICATIONS.
2. PROVIDE NEW CONDUITS, J-HOOKS ABOVE ACCESSIBLE CEILING SPACES TO SUPPORT NEW TECHNOLOGY WIRING AS REQUIRED BETWEEN END DEVICES AND TECHNOLOGY HEADEND EQUIPMENT. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL WIRING WITH TERMINATION AND TESTING AS REQUIRED FOR A COMPLETE WORKING SYSTEM.
3. PROVIDE COMPLETE INFRASTRUCTURE INCLUDING WIRING TO ALL SECURITY DEVICES PER PLANS.
4. THE CONTRACTOR SHALL PROVIDE CONDUITS, UNDERGROUND PULL BOXES, AND WIRING AS REQUIRED FOR CONNECTIONS TO ALL SITE DEVICES.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TECHNOLOGY EQUIPMENT/DEVICES MOUNTING AS NOTED PER THE DESIGN DRAWINGS.
6. PROVIDE VIDEO SURVEILLANCE SYSTEM AND SECURITY CAMERAS WITH REQUIRED LICENSING FOR A COMPLETE WORKING SYSTEM INCLUDING INTEGRATION WITH ACCESS CONTROL SYSTEM.

BDS/DAS GENERAL NOTES

1. THE BDA / DAS SYSTEM INSTALLED IN THE BUILDING SHALL MEET THE REQUIRED IN-BUILDING SIGNAL LEVEL (-95 dBM) FOR OPTIMIZED ENHANCED IN BUILDING COVERAGE DURING EMERGENCY.
2. CONTRACTOR SHALL CONNECT THE BDA SYSTEM TO THE FIRE ALARM SYSTEM FOR MONITORING PURPOSES.
3. CRITICAL AREA COVERAGE -99% (NFPA 1221 9.6.7.4) COVERAGE REQUIRED IN CRITICAL AREAS:
   - EMERGENCY COMM AND CENTER(S)
   - FIRE PUMP ROOM(S)
   - EXIT STARIS
   - ELEVATOR LOBBIES
   - STANDPIPE CABINETS
   - SPRINKLER SECTIONAL
   - VALVE LOCATION
4. GENERAL AREA COVERAGE – GENERAL BUILDING AREAS SHOULD HAVE (90% NFPA 1221 9.6.7.5) AND (95% " ALL FLOORS OF THE BUILDING, " IFC 510.5.3, DRAFT 2018 EDITION) COVERAGE.
5. SIGNAL BOOSTER COMPONENTS SHOULD HAVE FCC CERTIFICATION PRIOR TO INSTALLATIONS.
6. ALL SIGNAL BOOSTERS SHALL BE COMPATIBLE WITH BOTH ANALOG AND DIGITAL COMMUNICATIONS SIMULTANEOUSLY AT THE TIME OF INSTALLATION.
7. ALL SIGNAL BOOSTER AND COMPONENTS SHALL BE CONTAINED IN NEMA-4 OR 4X TYPE ENCLOSURE(S).
8. ISOLATION SHALL BE MAINTAINED BETWEEN THE DONOR ANTENNA AND ALL INSIDE ANTENNAS. A SIGNAL GENERATOR IS RECOMMENDED TO TEST FOR ISOLATION.
9. CONTRACTOR SHALL PROVIDE BATTERY BACKUP CHARGER AND BATTERY DIAGNOSTICS WITH EACH BOOSTER UNIT.
10. A DEDICATED MONITORING PANEL SHALL BE PROVIDED WITHIN THE EMERGENCY COMMAND CENTER TO ANNUNCIATE THE STATUS OF ANY SIGNAL BOOSTER(S). THE MONITORING PANEL SHALL PROVIDE VISUAL AND LABELED INDICATION OF THE FOLLOWING FOR EACH SIGNAL BOOSTER:
    - NORMAL AC POWER
    - SIGNAL BOOSTER TROUBLE
    - LOSS OF NORMAL AC POWER
    - FAILURE OF BATTERY CHARGER
    - LOW-BATTERY CAPACITY
    - ANTENNA FAILURE
    - BDA/DAS GENERAL NOTES

AUDIO & VIDEO GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF EACH SYSTEM SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. THE INSTALLING CONTRACTOR OF EACH SYSTEM SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN 120V POWER REQUIREMENTS FOR ALL REMOTE POWER SUPPLIES. THE INSTALLING CONTRACTORS LICENSED ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ELECTRICAL PANEL LOCATIONS AND AVAILABLE SPACE DEDICATED FOR THE CONTRACTOR'S SYSTEM REQUIREMENTS. (TYPICAL). PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TO MAIN CONTROL PANELS AND ALL HEAD END EQUIPMENT. SYSTEM INSTALLERS SHALL COORDINATE LOCATION AND CONNECTION OF CONTROL PANEL AND HEAD END POWER WITH THE PROJECTS ELECTRICAL CONTRACTOR.
2. THE PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IN WALL CONDUITS, BELOW GRADE CONDUITS, BELOW SLAB CONDUITS, CONDUITS ACROSS OPEN AREAS BACK BOXES, SLEEVES, AND OTHER RACEWAY REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR EACH SYSTEM SHALL BE THE RESPONSIBILITY OF EACH SYSTEM INSTALLER.
3. ALL EXPOSED SYSTEM'S WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4".
4. A/V CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL EXTERIOR WALL PENETRATIONS ARE SEALED TO PREVENT ANY MOISTURE FROM ENTERING BUILDING.
5. NO CONDUITS SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING. IF EXTERIOR CONDUITS ARE REQUIRED FOR A COMPLETE INSTALLATION, EACH SYSTEM CONTRACTOR SHALL COORDINATE WITH THE PROJECTS CONSULTANT PRIOR TO ANY ROUGH-IN.
6. EACH SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL PROTECTIVE BUSHINGS ON ALL CONDUIT STUB OUTS AND SLEEVES TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR O CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE EXCEPTED.
7. ALL CABLE SHALL BE ROUTED DOWN CORRIDORS, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS AND STRUCTURE. CABLE TO EACH DEVICE SHALL BRANCH OFF OF A MAIN CORRIDOR TRUNK. ROUTING CABLES THROUGH CLASSROOMS, OFFICES, STORAGE ROOMS, RESTROOMS OR ANY TYPE OF ROOM OTHER THAN A CORRIDOR WILL NOT BE ACCEPTED. ENTER ALL ROOMS ABOVE THE ASSOCIATED ROOM DOORWAY.
8. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM AN APPROVED CABLE SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. THE CABLE SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.
9. ALL EXTERIOR AND WALL MOUNTED SPEAKERS SHALL BE MOUNTED AT 10'-0" UNLESS OTHERWISE NOTED.
10. EXTERIOR SPEAKERS SHALL BE ON A SEPARATE LOW VOLTAGE CIRCUIT FROM INTERIOR SPEAKERS.
11. A/V CONTRACTOR SHALL COORDINATE ALL MOUNTING LOCATIONS OF ALL A/V DEVICES TO PROVIDE EVEN AND BALANCED AUDIO COVERAGE OF INTENDED LISTENING AREAS AND UNOBSTRUCTED, SQUARE AND PLUMB VIDEO IMAGE DISPLAYS.
12. ALL LAY-IN CEILING MOUNTED SPEAKERS SHALL BE INSTALLED UTILIZING A TILE BRIDGE SUPPORT SYSTEM. AT NO POINT SHOULD THE WEIGHT OF A CEILING MOUNTED SPEAKER BE SUPPORTED BY A CEILING TILE ONLY.
13. A/V CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL CONDUIT AND BACK BOX REQUIREMENTS.
14. A/V CONTRACTOR TO COORDINATE WITH ALL OTHER TRADES WITH REGARD TO BLOCKING AND PROPER SUPPORT OF ALL A/V DEVICES.
15. PROVIDE MOUNTING SUPPORT FROM GRID OR BUILDING STRUCTURE FOR ALL DEVICES INSTALLED IN LAY-IN CEILING TILE.

SECURITY GENERAL NOTES

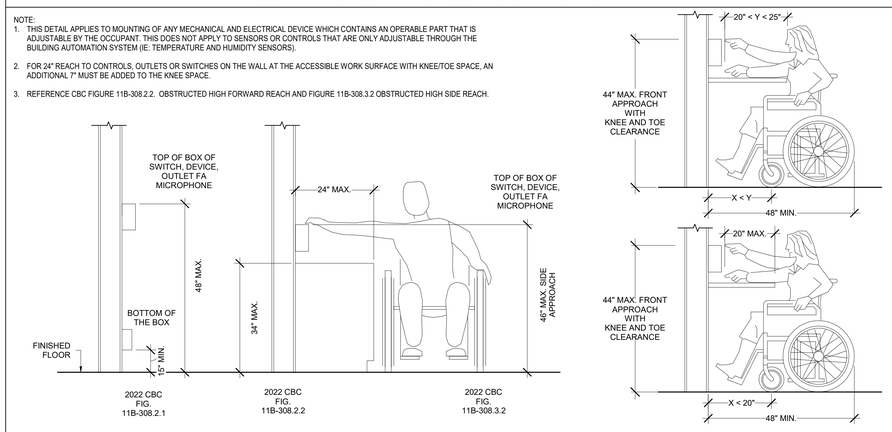
1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF THE ACCESS CONTROL, BURGLAR ALARM, AND SECURITY CAMERA SYSTEMS SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. SECURITY CONTRACTOR SHALL COORDINATE ALL 120V POWER REQUIREMENTS AND LOCATIONS WITH ELECTRICAL CONTRACTOR FOR ALL EQUIPMENT AND REMOTE POWER SUPPLIES (TYPICAL)
2. A DOOR CONTACT POSITION SENSOR IS REQUIRED AT ALL ROOF HATCHES (TYPICAL).
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY CONDUIT, SLEEVES, AND PROTECTIVE BUSHINGS REQUIRED TO INSTALL COMPLETE SECURITY SYSTEM. PROVIDE ALL CONDUITS REQUIRED AT EXTERIOR DOORS ANNOTATED WITH DOOR CONTACTS OR CARD READERS TO ALLOW FOR INSTALLATION OF DOOR CONTACT POSITION SENSORS AND CARD READERS.
4. SECURITY CONTRACTOR IS RESPONSIBLE FOR CONNECTING SYSTEM TO DISTRICT'S REMOTE MONITORING SERVICE.
5. ALL EXPOSED SECURITY SYSTEMS WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4"
6. PROVIDE PROTECTIVE COVER FOR ALL DEVICES IN GYMNASIUM AREAS.
7. ENSURE ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ELEMENTS FROM ENTERING BUILDING.
8. NO CONDUITS OR SEAL-TITE SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING.
9. ALL LOW VOLTAGE CABLING SHALL BE INDIVIDUALLY ROUTED TO HEAD END POINT AND SUPPORTED IN PROPER CABLE SUPPORT SYSTEM FOR ENTIRE LENGTH OF RUN.
10. ALL EXTERIOR CAMERAS SHALL BE MOUNTED 12' ABOVE FINISHED GRADE UNLESS OTHERWISE INDICATED.
11. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR TO CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE ACCEPTED.
12. CONTRACTOR SHALL CONNECT FREEZER/COOLER SENSORS TO INTRUSION DETECTION HEAD-END FOR EVENT DETECTION. PROVIDE ALL REQUIRED MODULES TO INTERFACE SENSORS.
13. CONTRACTOR SHALL PROVIDE ALL VIDEO SURVEILLANCE CAMERA MOUNTS AND MOUNTING HARDWARE. COORDINATE WITH OWNER FOR FINAL INSTALLATION LOCATION PRIOR TO ROUGH-IN. PROVIDE CAMERA FIELD OF VIEW ADJUSTMENTS. COORDINATE WITH OWNER.
14. CONTRACTOR SHALL INTEGRATE THE INSTRUSION DETECTION SYSTEM WITH THE ACCESS CONTROL SYSTEM TO PROVIDE THE FUNCTIONALITY OF THE BURGLAR ALARM BEING DISARMED ON AN AUTHORIZED CARD SWIPE AT ANY CARD READER.
15. CONTRACTOR SHALL INTEGRATE THE ACCESS CONTROL, INTRUSION DETECTION AND VIDEO SURVEILLANCE SYSTEMS. PROVIDE ALL REQUIRED MODULES, CABLING AND LICENSES.
16. PROVIDE MOUNTING SUPPORT FROM GRID OR BUILDING STRUCTURE FOR ALL DEVICES INSTALLED IN LAY-IN CEILING TILE.
17. ALL 120V POWER FOR THE SYSTEMS SHALL BE INSTALLED WITHIN THE ENCLOSURE OR INSTALLED IN CONDUIT CONNECTED TO THE ENCLOSURE SO THAT NO CABLING IS EXPOSED. MC CABLE, ROMEX, SO CABLES OR OTHER METHODS ARE NOT ACCEPTABLE.

INTERCOM SYSTEM GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF EACH SYSTEM SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHEN AVAILABLE. THE INSTALLING CONTRACTOR OF EACH SYSTEM SHALL BE RESPONSIBLE FOR PROVIDING THEIR OWN 120V POWER REQUIREMENTS FOR ALL REMOTE POWER SUPPLIES. THE INSTALLING CONTRACTORS LICENSED ELECTRICAL SUBCONTRACTOR SHALL COORDINATE ELECTRICAL PANEL LOCATIONS AND AVAILABLE SPACE DEDICATED FOR THE CONTRACTOR'S SYSTEM REQUIREMENTS. (TYPICAL). PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER TO MAIN CONTROL PANELS AND ALL HEAD END EQUIPMENT. SYSTEM INSTALLERS SHALL COORDINATE LOCATION AND CONNECTION OF CONTROL PANEL AND HEAD END POWER WITH THE PROJECTS ELECTRICAL CONTRACTOR.
2. THE PROJECTS ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL IN WALL CONDUITS, BELOW GRADE CONDUITS, BELOW SLAB CONDUITS, CONDUITS ACROSS OPEN AREAS BACK BOXES, SLEEVES, AND OTHER RACEWAY REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR EACH SYSTEM SHALL BE THE RESPONSIBILITY OF EACH SYSTEM INSTALLER.
3. ALL EXPOSED SYSTEM'S WIRING OR WIRING ROUTING ACROSS NON ACCESSIBLE CEILINGS SHALL BE ROUTED IN CONDUIT. SIZE CONDUIT AS REQUIRED TO ROUTE SYSTEMS WITH 40% CABLE FILL RATIO. MINIMUM CONDUIT SIZE SHALL BE 3/4".
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL EXTERIOR WALL PENETRATIONS ARE PROPERLY SEALED TO PREVENT ANY MOISTURE FROM ENTERING BUILDING.
5. NO CONDUITS SHALL BE INSTALLED ON THE EXTERIOR OF THE BUILDING. IF EXTERIOR CONDUITS ARE REQUIRED FOR A COMPLETE INSTALLATION, EACH SYSTEM CONTRACTOR SHALL COORDINATE WITH THE PROJECTS CONSULTANT PRIOR TO ANY ROUGH-IN.
6. EACH SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL PROTECTIVE BUSHINGS ON ALL CONDUIT STUB OUTS AND SLEEVES TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED PRIOR O CABLE INSTALLATION. CUTTING BUSHING AND INSTALLING AFTER CABLE IS INSTALLED WILL NOT BE EXCEPTED.
7. ALL CABLE SHALL BE ROUTED DOWN CORRIDORS, PARALLEL AND PERPENDICULAR TO THE BUILDING WALLS AND STRUCTURE. CABLE TO EACH DEVICE SHALL BRANCH OFF OF A MAIN CORRIDOR TRUNK. ROUTING CABLES THROUGH CLASSROOMS, OFFICES, STORAGE ROOMS, RESTROOMS OR ANY TYPE OF ROOM OTHER THAN A CORRIDOR WILL NOT BE ACCEPTED. ENTER ALL ROOMS ABOVE THE ASSOCIATED ROOM DOORWAY.
8. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM AN APPROVED CABLE SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. THE CABLE SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. AT LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING AT ANY LOCATIONS.
9. ALL INTERCOM CABLING FOR CLASSROOMS, OFFICES, CONFERENCE ROOMS, WORK ROOMS, AND LOUNGES SHALL BE HOME RUNS TO HEAD END EQUIPMENT TO ALLOW ZONING TO BE ACCOMPLISHED.
10. ALL EXTERIOR AND WALL MOUNTED SPEAKERS SHALL BE MOUNTED AT 10'-0" UNLESS OTHERWISE NOTED.
11. EXTERIOR SPEAKERS SHALL NOT BE GROUPED WITH INTERIOR SPEAKERS.
12. ALL SPEAKERS SHALL BE CONNECTED TO A STANDARD PUNCH DOWN BLOCK LOCATED NEAR HEAD END EQUIPMENT AND THEN CONNECTED TO HEAD END EQUIPMENT.
13. ALL CEILING MOUNTED SPEAKERS SHALL BE INSTALLED UTILIZING A TILE BRIDGE SUPPORT SYSTEM. AT NO POINT SHOULD THE WEIGHT OF A CEILING MOUNTED SPEAKER BE SUPPORTED BY A CEILING TILE ONLY.
14. ALL WALL MOUNTED CALL INITIATING DEVICES SHALL BE INSTALLED AT +42" ABOVE THE FINISHED FLOOR.

MOUNTING OVER OBSTRUCTION DETAIL

NOTE:
1. THIS DETAIL APPLIES TO MOUNTING OF ANY MECHANICAL AND ELECTRICAL DEVICE WHICH CONTAINS AN OPERABLE PART THAT IS ADJUSTABLE BY THE OCCUPANT. THIS DOES NOT APPLY TO SENSORS OR CONTROLS THAT ARE ONLY ADJUSTABLE THROUGH THE BUILDING AUTOMATION SYSTEM (IE: TEMPERATURE AND HUMIDITY SENSORS).
2. FOR 24" REACH TO CONTROLS, OUTLETS OR SWITCHES ON THE WALL AT THE ACCESSIBLE WORK SURFACE WITH KNEE/TOE SPACE, AN ADDITIONAL 7" MUST BE ADDED TO THE KNEE SPACE.
3. REFERENCE CBC FIGURE 11B-308.2.2. OBSTRUCTED HIGH FORWARD REACH AND FIGURE 11B-308.3.2 OBSTRUCTED HIGH SIDE REACH.



TECHNOLOGY LEGEND

SURVEILANCE

	EXTERIOR WALL MOUNTED CAMERA VIDEO SURVEILLANCE CAMERA INSTALLED AT 12' A.F.F UNLESS OTHERWISE NOTED. PROVIDE ALL REQUISITE MOUNTING HARDWARE. PROVIDE SINGLE GANG BACK BOX WITH (1) 3/4" CONDUIT STUBBED OUT ABOVE NEAREST ACCESSIBLE CEILING WITH PULL STRING. SUBEXT 'E' INDICATES EXISTING THAT SHALL REMAIN.

INTERCOM AND CLOCK

C	SINGLE FACE CLOCK AND COMBINATION INTERCOM SPEAKER. 2 GANG EXTRA DEEP BACK BOX WITH SINGLE GANG REDUCER RING AT PROJECT CLOCK HEIGHT WITH (1) 3/4" CONDUIT ROUTED TO NEAREST IDF RACK.

NOTES:
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.
4. PROVIDE CLEAR POLYCARBONATE COVER OR WIREGUARD ON ALL DEVICES INSTALLED IN GYMNASIUMS.

STRUCTURED CABLING

D#	INDICATES THE LOCATION OF A NEW TECHNOLOGY OUTLET. CONTRACTOR TO PROVIDE FACEPLATE WITH A MINIMUM OF 4-PORTS AT EACH LOCATION UNLESS OTHERWISE NOTED. PROVIDE BLANK COVERS ON UNUSED PORTS. ELECTRICAL CONTRACTOR TO PROVIDE A DOUBLE GANG BACK BOX WITH A SINGLE GANG REDUCER RING AND A 1" CONDUIT FROM THE BOX TO THE NEAREST IDF RACK. D# INDICATES NUMBER OF DATA CABLES INSTALLED AT THIS LOCATION.
D#	INDICATES THE LOCATION OF A CEILING MOUNTED OUTLET. CONTRACTOR SHALL MOUNT THIS OUTLET AT +12" ABOVE THE CEILING AND COORDINATE ALL FINAL LOCATIONS WITH OTHER TRADES ON THE PROJECT TO VERIFY THAT THE LOCATION OF THE OUTLET MAINTAINS 12" OF CLEARANCE FROM THE FRONT OF THE FACEPLATE FOR OWNER ACCESS. ROUTE (1) 1" CONDUIT FROM THE BUILDING STRUCTURE TO A SINGLE GANG BACK BOX MOUNTED AT 5' OR LESS ABOVE THE FINISHED CEILING. SECURE CONDUIT AND BACK BOX TO INSURE MINIMAL SWAY MOVEMENT. D# INDICATES NUMBER OF DATA CABLES INSTALLED AT THIS LOCATION.
D#	INDICATES THE LOCATION OF A FLOOR MOUNTED OUTLET. CONTRACTOR TO PROVIDE AND INSTALL (2) 1-1/2" CONDUITS FROM BOX TO NEAREST ACCESSIBLE CEILING. D# INDICATES NUMBER OF DATA CABLES INSTALLED AT THIS LOCATION.

TECHNOLOGY

"AP"	INDICATES WIRELESS ACCESS POINT CONNECTION. CONTRACTOR SHALL PROVIDE AND INSTALL (1) DATA CABLES ROUTED TO NEAREST IDF. PROVIDE BOX AND CONDUIT AS NOTED FOR CEILING MOUNTED OUTLETS. PROVIDE (1) 15' PLENUM PATCH CABLE FOR EACH LOCATION INSTALLED. PROVIDE 10' SERVICE LOOP UPSTREAM OF TERMINATION POINT. WALL MOUNTED DEVICES SHALL BE INSTALLED AT 10' A.F.F.

NOTE:
1. EVERY SYMBOL SHOWN ON LEGEND MAY NOT APPEAR ON DRAWINGS. REFER TO GENERAL ELECTRICAL NOTES FOR WALL-MOUNTED DEVICE MOUNTING HEIGHTS.
2. REFERENCE SPECIFICATIONS FOR MATERIALS AND METHODS.
3. COMPLETE INSTALLATION OF ALL PRODUCTS SHALL BE IN COMPLIANCE WITH ALL CODES, INDUSTRY STANDARDS, COMMON PRACTICES AND MANUFACTURER'S INSTRUCTIONS.
4. ALL CONDUIT STUB-OUTS SHALL BE EQUIPPED WITH A PLASTIC PROTECTIVE BUSHING TO PREVENT CABLE DAMAGE.

SHEET INDEX

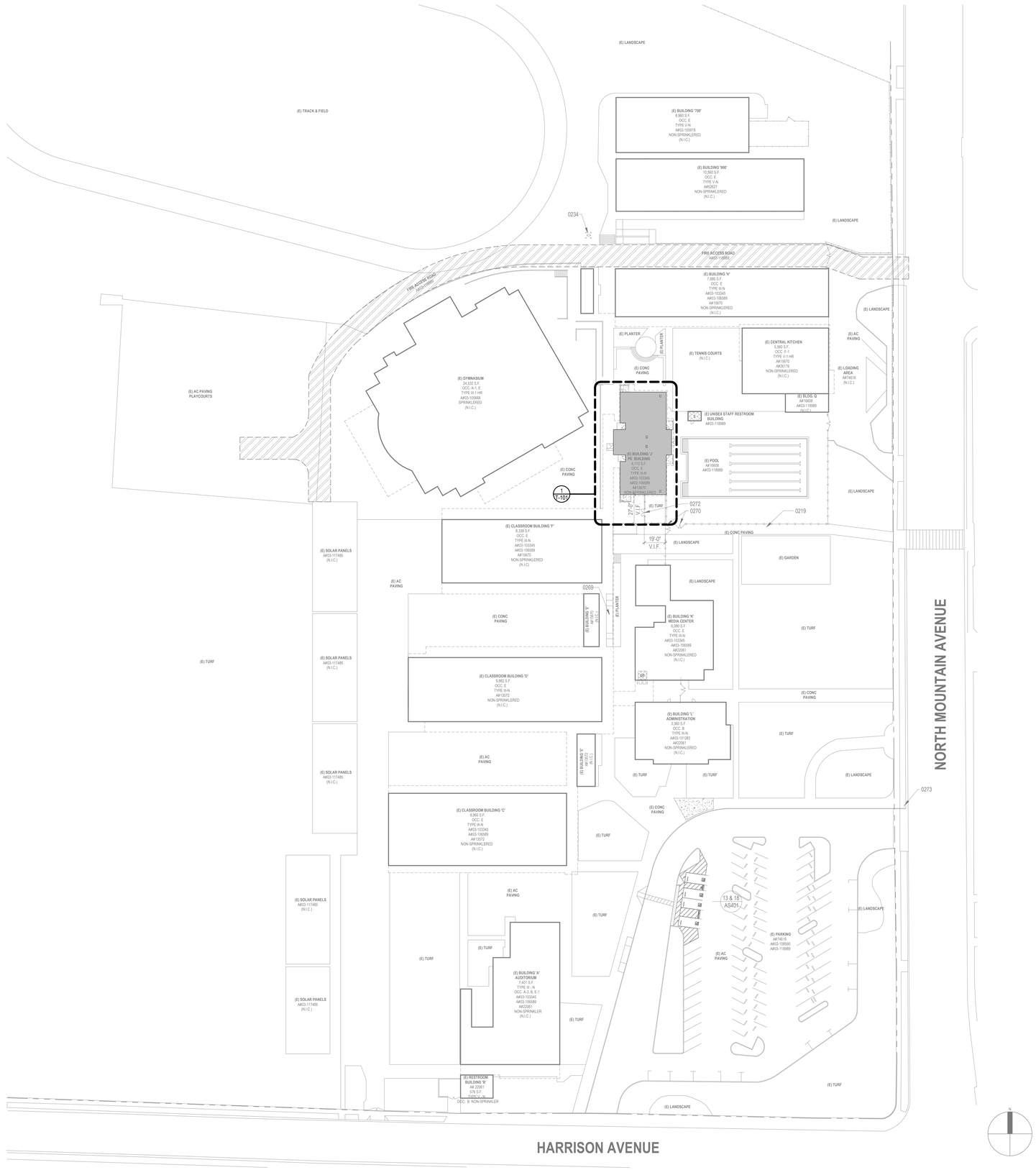
T-000	TECHNOLOGY SHEET INDEX, LEGEND & NOTES
T-100	TECHNOLOGY SITE PLAN
T-101	TECHNOLOGY FLOOR PLAN
T-601	TECHNOLOGY DETAILS

TECHNOLOGY PLAN GENERAL NOTES

1. ALL 120V POWER REQUIRED FOR THE FUNCTIONALITY OF THE TELECOMMUNICATION, NETWORK, AUDIO/VIDEO, SECURITY AND FIRE ALARM EQUIPMENT SHALL BE A DEDICATED CIRCUIT AND ON EMERGENCY POWER WHERE POSSIBLE. CONTRACTOR SHALL COORDINATE AND INSTALL ALL 120V POWER REQUIREMENTS AND LOCATIONS AS REQUIRED FOR ALL EQUIPMENT (TYPICAL).
2. CONTRACTOR SHALL COORDINATE WITH THE TECHNOLOGY CONSULTANT PRIOR TO THE INSTALLATION OF RACKS AND RACK EQUIPMENT. NO RACKS SHALL BE PERMANENTLY INSTALLED WITHOUT WRITTEN APPROVAL OF THE TECHNOLOGY CONSULTANT.
3. THE PROJECT'S ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONDUITS, PULL STRINGS, BACK BOXES AND SLEEVES REQUIRED FOR DEVICES AND PATHWAYS SHOWN ON THE FLOOR PLANS AND DETAIL SHEETS. ANY ADDITIONAL CONDUITS, SLEEVES, AND RACEWAY REQUIREMENTS FOR EACH SYSTEM SHALL BE THE RESPONSIBILITY OF EACH SYSTEM INSTALLER.
4. THE SELECTED, INSTALLING CONTRACTOR MUST BE A CERTIFIED INTEGRATOR/INSTALLER AUTHORIZED BY THE SPECIFIED SYSTEM MANUFACTURER TO INSTALL THE CABLE PLANT AND CONNECTIVITY PRODUCTS. REFER TO SPECIFICATIONS FOR PRODUCT TYPE AND DESCRIPTION.
5. SYSTEM WIRING AND EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH ENGINEERING BEST PRACTICES AS ESTABLISHED BY ANSI/EIA/TIA, BICSI, AND THE NEC.
6. ALL WIRING SHALL MEET ALL STATE AND LOCAL ELECTRICAL CODES.
7. ALL TELECOMMUNICATIONS SYSTEMS EQUIPMENT AND MOUNTING LOCATIONS SHALL BE IN COMPLIANCE WITH ADA ACCESSIBILITY STANDARDS.
8. ALL DATA CABLES ARE TO BE INSTALLED WITH A MINIMUM OF 12 INCHES OF SEPARATION FROM AC POWER CABLES AND ALL OTHER LOW VOLTAGE CABLING IN ANY PARALLEL OPEN WIRE RUN.
9. ALWAYS CROSS OTHER SYSTEM CABLES AT A 90 DEGREE ANGLE.
10. ALL CABLES AND TERMINATION COMPONENTS SHALL BE MACHINE LABELED AT BOTH ENDS. LABEL ALL CABLES PER THE TECHNOLOGY DRAWINGS AND/OR SPECIFICATIONS. FINAL CABLE/OUTLET IDENTIFICATION LABELS SHALL BE COORDINATED WITH THE OWNER AND CONSULTANT.
11. CONTRACTOR TO PROVIDE LIGHTNING PROTECTION ON ALL COMMUNICATION CABLE BETWEEN BUILDINGS AND EXTERIOR MOUNTED DEVICES.
12. 1ALL EXPOSED CABLING ROUTED IN PLENUM SHALL BE PLENUM-RATED. ALL NON PLENUM-RATED CABLING INSTALLED IN PLENUM SPACES SHALL BE INSTALLED IN CONDUIT.
13. NO TERMINATION OR SPLICES SHALL BE INSTALLED IN OR ABOVE CEILINGS UNLESS NOTED OTHERWISE.
14. CONTRACTOR SHALL MAINTAIN WALL RATING WITH PROPER FIRE BLOCKING METHODS.
15. CONTRACTOR SHALL ROUTE ALL LOW VOLTAGE CABLING DOWN CORRIDORS AND PERPENDICULAR OR PARALLEL TO BUILDING WALLS. ENTER INTO ALL ROOMS FROM THE CORRIDOR ABOVE THE MAIN DOORWAY.
16. ALL COMMUNICATION CABLE INSTALLED SHALL ROUTE TO THE CENTER OF THE ROOM IN WHICH IT SERVES AND THEN TO THE OUTLET LOCATION IT IS INTENDED FOR. EACH CABLE SHALL HAVE A 10' SERVICE LOOP AT THE CENTER OF EACH ROOM AND A 3' SERVICE LOOP ABOVE EACH OUTLET LOCATION.
17. THE SYSTEM INSTALLER SHALL PROPERLY SUPPORT ALL INSTALLED SYSTEM CABLING FROM A PANDUIT J-MOD CABLE SUPPORT SYSTEM OR OTHER SUPPORT SYSTEM AS DETAILED IN SPECIFICATIONS. NO CABLING SHALL BE ROUTED AND TIED DIRECTLY TO BUILDING STEEL, CEILING GRID SUPPORT, CONDUIT, PIPING, OR DUCTWORK. CABLING SUPPORT SYSTEM SHALL BE DIRECTLY CONNECTED TO THE BUILDING'S STEEL JOIST. IN LOCATIONS WHERE THE BOTTOM OF THE JOIST IS MORE THAN 5' ABOVE THE CEILING, THE SYSTEM INSTALLER SHALL PROVIDE AND INSTALL THREADED ROD AND ALL REQUIRED MATERIALS TO CONNECT THE THREADED ROD TO THE BUILDING STEEL AND THE CABLE SUPPORT SYSTEM TO THE THREADED ROD. CABLE PATHWAY SHALL NOT BE HIGHER THAN 5' ABOVE THE CEILING IN ANY LOCATION.
18. CONTRACTOR SHALL PROVIDE TWO (2) DATA CABLES ROUTED TO THE FIRE ALARM CONTROL PANEL. CONTRACTOR TO COORDINATE WITH THE SYSTEM INSTALLER FOR EXACT LOCATIONS AND TERMINATION INSTRUCTIONS PRIOR TO INSTALLATION.
19. ALL EXPOSED CABLING OR CABLING ROUTING ACROSS NON-ACCESSIBLE CEILINGS SHALL BE INSTALLED IN CONDUIT. CONDUIT SHALL BE PROPERLY SIZED TO MAINTAIN THE 40% FILL RATIO.
20. ALL CONDUIT STUB OUTS AND SLEEVES SHALL HAVE PROTECTIVE BUSHINGS TO PREVENT CABLE DAMAGE. BUSHING TO BE INSTALLED P

TECHNOLOGY SITE PLAN
T-100
FOR BLUEBEAM LABELING/OCR:

0"
1"



1 TECHNOLOGY SITE PLAN
1" = 40'-0"

GENERAL NOTES

A. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS

B. ALL CONDUITS AND PULL BOXES SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

C. CONTRACTOR SHALL UTILIZE ALL EXISTING CONDUIT PATHWAYS WHERE APPLICABLE. CONTRACTOR SHALL NOT REMOVE FUNCTIONING FIBER PATHWAYS INTO BUILDING. REMOVAL OF EXISTING DATA CABLING SHALL BE LIMITED TO CONNECTIONS BETWEEN THE DATA RACK AND THE DATA ENDPOINT, AND ONLY WHERE APPLICABLE.

D. ALL CONDUIT PATHWAYS AND PULL BOX LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY PROPER PATHWAY PRIOR TO INSTALLATION.

E. CONTRACTOR IS LIABLE FOR DAMAGE TO ALL EXISTING CABLING, SYSTEMS AND UTILITIES THAT ARE TO REMAIN.

F. TECHNOLOGY CABLING CONTRACTOR SHALL SEAL ALL OPEN CONDUIT ENDS WITH A PERMAGUM SEALING COMPOUND / GUM AFTER CABLING IS INSTALLED.

G. ALL CABLING INSTALLED IN PLENUM SPACES SHALL BE PLENUM RATED OR INSTALLED IN EMT CONDUIT AFTER 50 FEET UPON ENTRANCE INTO THE PLENUM SPACE, OR, THE NON-PLENUM RATED CABLING SHALL BE SPLICED IN AN ENCLOSURE WITH PLENUM RATED CABLING AND EXTENDED TO THE NEAREST IDF / MDF.

H. PROVIDE LIGHTNING PROTECTION / POWER SURGE PROTECTION / BUILDING ENTRANCE TERMINALS AND PROPER GROUNDING AND BONDING ON ALL METALLIC CABLING ENTERING THE BUILDING FROM AN EXTERIOR, SEPARATE STRUCTURE OR LOCATION.

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CLAREMONT
UNIFIED SCHOOL DISTRICT

CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT
DIEGO A. AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MUSSER
E-19817
Exp.03/31/26
ELECTRICAL
STATE OF CALIFORNIA

CLIENT
CLAREMONT UNIFIED SCHOOL DISTRICT

DATE	PROJECT NUMBER
10/10/25	250176

DRAWING HISTORY

No.	Description	Date

CHECKED BY: DJC
DRAWN BY: REN

TECHNOLOGY SITE PLAN

T-100

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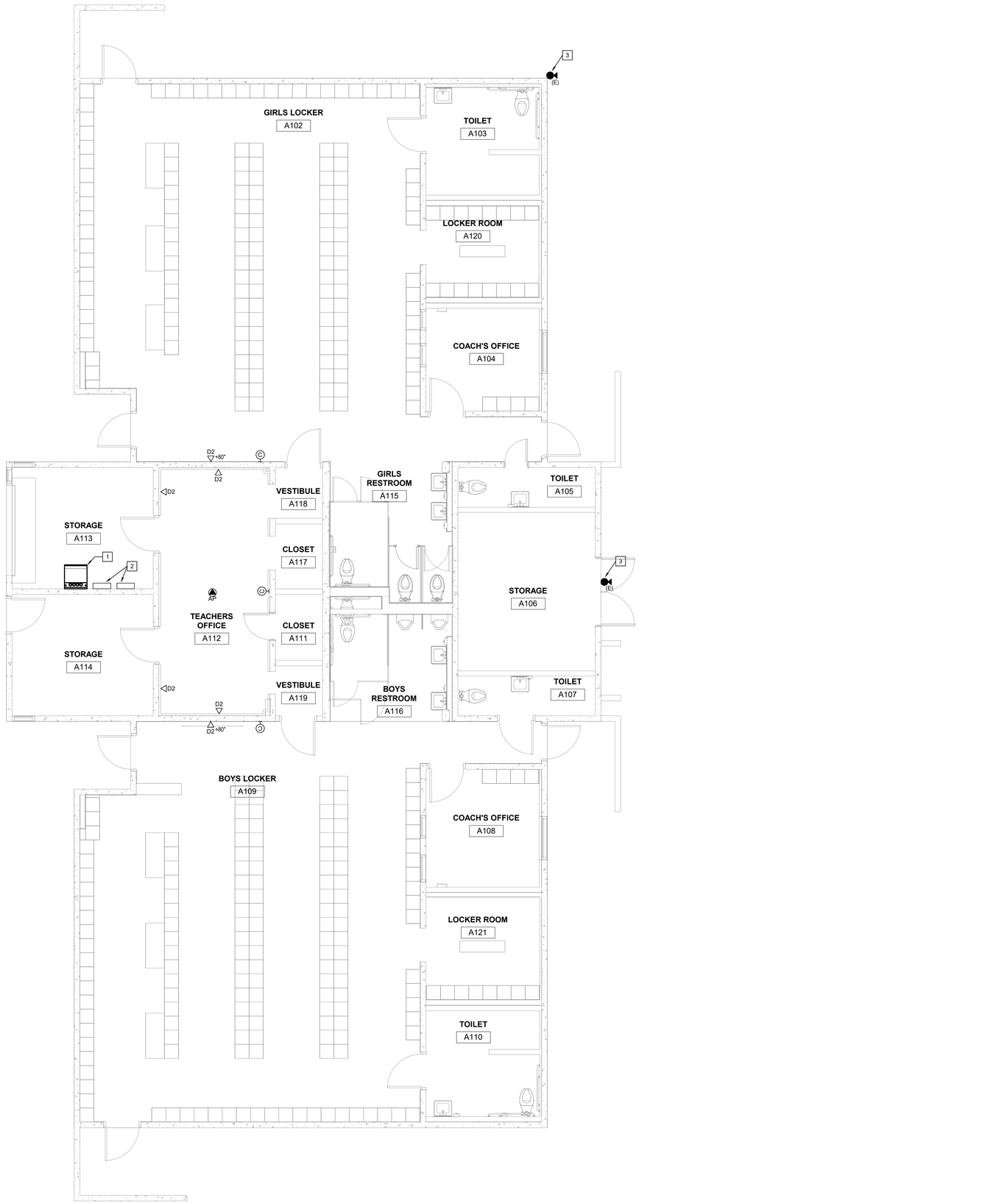
12/1/2025 12:03:33 PM

TECHNOLOGY FLOOR PLAN
T-101
FOR BLUEBEAM LABELING/OCR:

0"
1"



1 TECHNOLOGY FLOOR PLAN
1/4" = 1'-0"

GENERAL NOTES

A. REFER TO SPECIFICATIONS FOR MATERIALS AND METHODS

B. ALL EXTERIOR CAMERAS AND WIRELESS ACCESS POINTS SHALL BE INSTALLED AT 12 FT. A.F.F. UNLESS OTHERWISE NOTED.

C. ALL EXTERIOR CAMERAS AT CANOPIES, SINGLE DOORS WITH A SMALL CANOPY AND RECESSED EXTERIOR DOORS SHALL BE INSTALLED AT 8 INCHES BELOW CANOPY LEVEL OR AT 9'-6", WHICHEVER IS HIGHER. COORDINATE WITH ARCHITECT FOR CANOPY AND RECESSED EXTERIOR DOOR LOCATIONS.

D. EXTERIOR PUBLIC ADDRESS SPEAKERS SHALL BE ZONED SEPARATELY FROM INTERIOR PUBLIC ADDRESS SPEAKERS.

E. SECURITY CONTRACTOR SHALL INSTALL ALL POP-ITS IN ACCESSIBLE LOW CEIING SPACE FOR ALL HIGH-VOLUME CEILINGS, CAFETORIUMS, COMMONS AND GYMNASIUMS.

F. FOR ALL EXTERIOR MOUNTED IP DEVICES, PROVIDE A BISCUIT TERMINATED ON THE INTERIOR OF THE BUILDING AND A PRETERMINATED CABLE CONNECTED FROM THE BISCUIT TO THE DEVICE.

G. CAMERA ORIENTATION SHOWN DOES NOT INDICATE ACTUAL FIELD OF VIEW. COORDINATE WITH OWNER AND ADJUST CAMERAS FOR PROPER FIELD OF VIEW.

H. CONTRACTOR SHALL TEST EACH EXISTING DIVISION 27 AND 28 SYSTEM PRIOR TO THE START OF CONSTRUCTION FOR THE FUNCTIONALITY OF ALL DEVICES AND CONNECTED CABLING. CONTRACTOR SHALL GENERATE A LIST OF FAULTY EQUIPMENT AND PROVIDE TO THE ARCHITECT. ANY EXISTING TO REMAIN DEVICE OR CABLING FOUND TO BE FAULTY UPON PROJECT COMPLETION SHALL BE REPLACED AND/OR REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT OR THE OWNER.

I. CONTRACTOR SHALL DOCUMENT THE LOCATION AND ANY ID TAG, MAC ADDRESS, IP ADDRESS OR BAR CODE OF ANY EXISTING DEVICE THAT IS TO BE REMOVED FROM ITS CURRENT LOCATION. DEVICES THAT ARE TO REMAIN SHALL BE REINSTALLED IN THE EXACT LOCATION THAT THEY RESIDE PRIOR TO CONSTRUCTION, UNLESS NOTED OTHERWISE.

J. ANY INDIVIDUAL/FIRM THAT WILL BE REMOVING, RELOCATING OR REINSTALLING DIVISION 27 AND 28 DEVICES SHALL BE CERTIFIED BY THE MANUFACTURER OF THE SYSTEM.

K. NOT ALL EXISTING DEVICES ARE SHOWN ON DRAWINGS. DEVICE LOCATIONS ARE APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION.

KEY NOTES

1 INDICATES APPROXIMATE LOCATION OF EXISTING WALL-MOUNTED IDF-LOCKER RM RACK CABINET. EXISTING CABINET SHALL REMAIN AS IS.

2 INDICATES LOCATION OF COMMUNICATIONS CABINET AND OTHER WALL-MOUNTED PANELS THAT SHALL REMAIN. CONTRACTOR SHALL VERIFY FUNCTIONALITY OF SYSTEMS PRIOR TO CONSTRUCTION AND PROVIDE ARCHITECT AND OWNER WITH A LIST OF ALL FUNCTIONING EQUIPMENT.

3 ALL EXISTING SECURITY CAMERAS SHALL REMAIN. TYPICAL OF ALL EXISTING SHOWN.

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leafengineers.com
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TECHNOLOGY FLOOR PLAN

T-101

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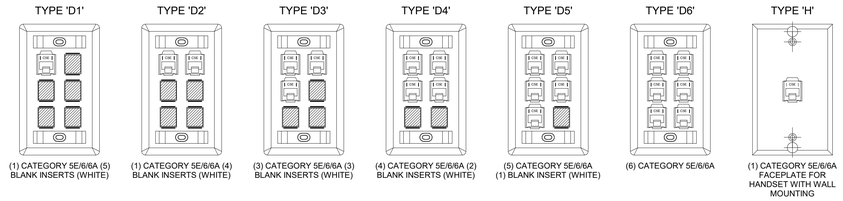
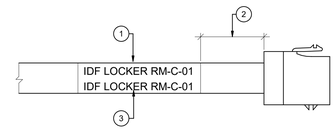
TECHNOLOGY DETAILS
T-601
FOR BLUEBEAM LABELING/OCR:

0"
1"



T - TECHNOLOGY OUTLET CONFIGURATION DETAIL **01**
SCALE: NOT TO SCALE

1. WRAP AROUND CABLE LABEL.
2. 1" BETWEEN LABEL AND JACK.
3. IDF IDENTIFICATION, PANEL IDENTIFICATION, PORT IDENTIFICATION.



NOTES:

A. WRAP AROUND CABLE LABEL TO BE INSTALLED AT BOTH THE WORK AREA OUTLET AND CLOSET ENDS OF ALL CABLES. INSTALL LABEL 1" FROM THE END OF THE CABLE JACKET AT BOTH ENDS.

B. CABLE LABELING SHALL BE MACHINE GENERATED AND SHALL NOT BE LESS THEN 1/8" IN HEIGHT.

T - CABLE LABEL DETAIL **02**
SCALE: 12" = 1'-0"

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CONSULTANT LEAF Engineers
leafengineers.com
LEAF ENGINEERS
8163 Rochester Avenue, Suite 100
Rancho Cucamonga, CA 91730
909.987-0909
leafengineers.com

ARCHITECT
LICENSED ARCHITECT
DAVID A. AGUSTIADI
C-31009
08-31-27
STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER
STEVEN C. MUSSER
E-19817
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TECHNOLOGY DETAILS

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