

MECHANICAL SPECIFICATIONS

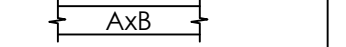


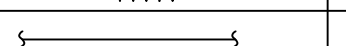


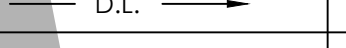
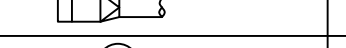
PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM. DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE. WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION. PROVIDE OPERATION MANUALS, MAINTENANCE MANUALS AND SCHEMATICS FOR ALL MECHANICAL EQUIPMENT INSTALLED. COORDINATION: COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOF WARRANTY. DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS. SHEET METAL DUCTWORK: PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS, SEAL CLASS "A". SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEET METAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS. TRAPEZE DUCT HANGERS: PROVIDE MINIMUM 1" X 2" X 1" X 18 GAUGE CHANNELS WITH MINIMUM 1" X 18 GAUGE STRAPS TO STRUCTURAL SUPPORT. ROUND SHEET METAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1. FIBER GLASS DUCT BOARD IS AN ACCEPTABLE ALTERNATIVE IF APPROVED BY OWNER AND THE LOCAL BUILDING CODE OFFICIAL. PRODUCT AND INSTALLATION MUST MEET NAIMA STANDARDS AND OTHER APPLICABLE CODES AND REGULATIONS. EXPOSED DUCTWORK: EXPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL, THEN WIPED DOWN WITH VINEGAR OR OTHER SURFACE PREPARING CHEMICAL TO PREPARE DUCT FOR PAINT. DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS. DUCT INSULATION: MATERIAL FOR SUPPLY AND RETURN AIR DUCT ABOVE CEILING INSIDE THE BUILDING SHALL HAVE THE EQUIVALENT THERMAL RESISTANCE OF MINIMUM R-6. THE REQUIRED R VALUES ARE FOR INSTALLED INSULATION WITH 25% COMPRESSION AT THE CORNERS. PROVIDE PINS AND WASHERS IN ACCORDANCE WITH SMACNA REQUIREMENTS AND AS REQUIRED TO PREVENT INSULATION FROM SAGGING. PROVIDE ADEQUATE INSULATION AT THE SUPPLY AIR DIFFUSERS TO PREVENT CONDENSATION. FLEXIBLE DUCT: UL #181 LISTED, CLASS 1, AND CONTAIN A 0.1 PERM RATED POLYETHYLENE INNER LINER, WITH R-8 FIBERGLASS INSULATION. FLEXIBLE DUCTS SHALL BE SECURED TO RIGID SHEET METAL COLLARS AND AIR DIFFUSERS WITH NYLON TIES OR STAINLESS STEEL WORM GEAR STRAPS. SEAL ALL CONNECTIONS AND JOINTS AIRTIGHT. SUPPORT FLEXIBLE DUCTS FROM THE BUILDINGS STRUCTURE WITH MINIMUM 1" WIDE, 18 GAUGE, GALVANIZED STEEL STRAP AT MAXIMUM 4'-0" CENTERS. PROVIDE 4" WIDE SHEET METAL SADDLES AT EACH SUPPORT EACH STRAP. SAG OF FLEXIBLE DUCT BETWEEN HANGERS SHALL NOT EXCEED 1/2" PER FOOT OF SUPPORT SPACING. RADIUS FOR TURNS OF FLEXIBLE DUCTS SHALL BE A MINIMUM OF ONE DUCT DIAMETER. FLEXIBLE DUCT RUNS SHALL NOT EXCEED 10'-0" IN LENGTH AND SHALL BE THE SAME SIZE AS THE DIFFUSER NECK CONNECTION. ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED. RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM ½" HEXAGONAL AXLE, BOLDDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE. FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS. DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEET METAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UN-INSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE, WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS. HVAC CONTROL SYSTEM: PROVIDE ALL THE NECESSARY CONTROLS AND CONTROL WIRING IN CONDUIT COMPATIBLE TO SYSTEMS SHOWN ON EQUIPMENT SCHEDULE M2.0. PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM SHALL ENABLE THE SUPPLY FAN AND CYCLE THE COOLING AND HEATING STAGES TO MAINTAIN SPACE SET-POINT. SUPPLY FAN RUNS CONTINUOUSLY DURING THE OCCUPIED MODE. EACH THERMOSTAT SHALL HAVE A DEAD BAND OF AT LEAST 5 DEGREES (ADJ) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF, EACH THERMOSTAT SHALL HAVE SETBACK AND SET-UP CAPABILITY DURING THE UNOCCUPIED MODE. FOR SETBACK, THE HEATING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE DOWN TO 55 DEGREES. FOR SET-UP, THE COOLING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE UP TO 85 DEGREES OR TO PREVENT HIGH SPACE HUMIDITY LEVELS. EACH SYSTEM SHALL BE PROVIDED WITH A MOTORIZED OUTSIDE AIR DAMPER THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY CLOSING DURING PREOCCUPANCY BUILDING WARM-UP, COOL DOWN, AND SETBACK, EXCEPT WHEN VENTILATION REDUCES ENERGY COSTS (e.g., NIGHT PURGE) OR WHEN VENTILATION MUST BE SUPPLIED TO MEET CODE REQUIREMENTS. COMMISSIONING/VERIFICATION: HVAC CONTROL SYSTEM SHALL BE TESTED TO ENSURE THAT CONTROL ELEMENTS ARE CALIBRATED, ADJUSTED, AND IN PROPER WORKING CONDITION, AND THAT THE SYSTEM MEETS THE DESIGN REQUIREMENTS. TEST AND BALANCE: CONTRACT DIRECTLY A THIRD PARTY TO PROVIDE TEST AND BALANCE OF THE HVAC SYSTEM. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING. TEST AND ADJUST ALL MECHANICAL SYSTEM AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB PROCEDURAL STANDARDS-1999 OR AABC 2002, AND ASHRAE STANDARD 111. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE INDEPENDENT AND CERTIFIED WITH NEBB OR AABC. BALANCE ALL SYSTEMS WITHIN 5% OF AIR FLOW INDICATED ON DRAWINGS, AND REPORT ALL DISCREPANCIES TO THE HVAC CONTRACTOR FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER. COMPLETION REQUIREMENTS: THE CONTRACTOR SHALL PROVIDE, WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS AND AN OPERATING AND MAINTENANCE MANUAL TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE OWNER. THE RECORD DRAWING SHALL BE OF THE ACTUAL INSTALLATION AND INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES. THE OPERATING AND MAINTENANCE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING: (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE; (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED; (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY; (D) HVAC CONTROLS SYSTEMS MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SYSTEM SEQUENCE DESCRIPTIONS. DESIRED OR FIELD-DETERMINED SET-POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS; (E) A COMPLETE NARRATIVE OF HOW EACH SYSTEM EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SET-POINTS.

HVAC GENERAL NOTES

- THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
- THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
- DRAWINGS FOR HVAC WORK ARE DIAGRAMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. PROVIDE ALL DUCTWORK, MATERIALS, CONNECTIONS, ACCESSORIES, FITTINGS, OFFSETS, TRANSITIONS, DAMPERS AS REQUIRED FOR A COMPLETE WORKABLE SYSTEM.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED LISTING. ALL EQUIPMENT, PIPING AND SUPPORTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "GUIDLINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). ALL EQUIPMENT SHALL BE ANCHORED TO RESIST THE LATERAL FORCE REQUIREMENTS OF CHAPTER 16 OF THE 2012 INTERNATIONAL BUILDING CODE.
- COORDINATE THE INSTALLATION OF THE HVAC SYSTEM WITH ALL OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. COORDINATE THE LOCATIONS OF PENETRATIONS AND FINAL LOCATION OF ALL EQUIPMENT WITH THE GENERAL CONTRACTOR. PROVIDE EQUIPMENT WEIGHTS, EQUIPMENT DIMENSIONS, PLATFORM SIZES & LOCATIONS, CURB SIZES & LOCATIONS, CONCRETE PAD SIZES AND LOCATIONS AST REQUIRED. COORDINATE LOCATIONS OF GAS & CONDENSATE LINES WITH PLUMBING CONTRACTOR. COORDINTAE LOCATIONS OF POWER, DISCONNECTS, AND CONTROL CONDUIT WITH THE ELECTRICAL CONTRACTOR. COORDINATE LOCATIONS OF ALL DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL PLANS, ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL ELEVATIONS.
- DETAILS FOR EQUIPMENT PADS, PLATFORMS, AND FLASHINGS SHALL BE AS INDICATED BY THE ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS, UNLESS NOTED OTHERWISE.
- ALL EQUIPMENT, DUCTS, PIPING, SUPPORTS, AND OTHER DEVICES OUTSIDE OF THE BUILDING OR EXPOSED TO WEATHER, SHALL BE COMPLETELY WEATHER-PROOFED.
- OUTSIDE AIR INTAKES SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. BELOW ANY VENT OR EXHAUST DISCHARGE.
- ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE CONSTRUCTED, ERECTED, INSULATED AND TESTED IN ACCORDANCE CHAPTER 6 OF THE 2012 INTERNATIONAL MECHANICAL CODE.
- ALL EXHAUST FANS SHALL BE EQUIPED WITH A BACK DRAFT DAMPER.
- DUCT AND AIR TRANSFER PENETRATIONS THRU BUILDING ASSEMBLIES REQUIRING PROTECTION SHALL BE PROTECTED WITH FIRE DAMPERS, SMOKE DAMPERS, COMBINATION SMOKE/FIRE DAMPERS AND CEILING RADIATION DAMPERS IN ACCORDANCE WITH SECTION 607 OF THE INTERNATIONAL MECHANICAL CODE. DUCTS NOT REQUIRING DAMPERS SHALL COMPLY WITH SECTION 714 & 717 OF THE 2019 PHILADELPHIA BUILDING CODE.
- INSTALL SMOKED DETECTORS AND PROVIDE FOR SMOKE DETECTION AND AUTOMATIC SHUT-OFF OF ALL AIR HANDLING EQUIPMENT IN ACCORDANCE WITH SECTION 606 OF THE 2019 PHILADELPHIA MECHANICAL CODE.
- UNLESS NOTED OTHERWISE, ALL LINE VOLTAGE WIRING, CONDUIT, FINAL CONNECTIONS, DISCONNECTS, STARTERS, AND OVER CURRENT PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THESE MECHANICAL DRAWINGS AND/OR ELECTRICAL DRAWINGS AND/OR ELECTRICAL SECTION OF THE SPECIFICATIONS.
- INSTALL ALL LOW VOLTAGE HVAC CONTROL WIRE AND DEVICES PER PLAN. ALL WIRE SHALL BE IN CONDUIT PROVIDED AND INSTALLED BY THE ELECITICAL CONTRACTOR UNLESS NOTEDD OTHERWISE.
- PROVIDE OWNER WITH THREE COPIES OF A CERTIFIED AIR BALANCE REPORT PREPARED IN BY A THIRD PARTY CERTIFIED BY THE AABC OR NEBB. TEST, ADJUST AND BALANCE THE HVAC SYSTEM IN ACCORDANCE WITH AABC OR NEBB PROCEDURES. PROVIDE START-UP/TEST REPORTS FOR ALL AIR HANDLING EQUIPMENT, FANS, AND REFRIGERATION EQUIPMENT. TEST AND VERIFY PROPER OPERATION OF ALL MAKE-UP AIR/EXHAUST AIR INTERLOCK SYSTEMS AND THIER SEQUENCES OF OPERATION. BALANCE ALL AIR FLOWS WITHIN 5% OF DESIGN VALUES. PERMANENTLY MARK BALANCE POSITION OF ALL REGULATING DEVICES.
- PROVIDE OWNER WITH THREE SETS OF AS-BUILT PLANS AND OPERATIONS AND MAINTENANCE MANUALS. CLEARLY IDENTIFY ALL EQUIPMENT WITH PERMANENT PLASTIC OR METAL LABELS/TAGS (PEN MARKING NOT ACCEPTABLE).
- PROVIDE ONE YEAR WARRANTY ON ALL LABOR, PARTS AND MATERIALS.
- ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK. 19.0
 - DUCTS FOR DEMAND CONTROLLED VENTILATION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE FAN MANUFACTURER'S INSTALLATION INSTRUCTIONS, THE PROVISIONS ASHRAE 62.2, TABLE 5.3, OR THE AIRFLOW SHALL BE MEASURED AS REQUIRED BY AND IN COMPLIANCE WITH ASHRAE 62.2, 5.4.
 - DUCTS FOR KITCHEN COOKTOPS OR RANGES SHALL BE SHOWN OF METAL WITH A SMOOTH INTERIOR.
 - DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE INSTALLED IN ACCORDANCE WITH IMC 504.0.
 - DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE RIGID METALLIC DUCTS WITH A MINIMUM MILL THICKNESS OF 16 (0.016-INCH), SHALL HAVE A MINIMUM 4-INCH DIAMETER AND A SMOOTH INTERIOR. THE COMBINED HORIZONTAL AND VERTICAL LENGTH OF THE DUCTS OF THE DUCTS SHALL BE 14-FEET, WHICH SHALL BE REDUCED BY 2-FEET FOR EVERY 90-DEGREE ELBOW IN EXCESS OF TWO ELBOWS.
 - LISTED CLOTHES DRYER TRANSITION DUCTS NOT MORE THAN 6-FEET IN LENGTH SHALL BE PERMITTED TO CONNECT THE DRYER TO THE EXHAUST DUCTS AS LONG AS THEY ARE NOT CONCEALED WITHIN CONSTRUCTION, AND THEY ARE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.






LEGEND

		DUCT WORK (WIDTHxDEPTH)
		LINED DUCT WORK (WIDTHxDEPTH DIMENSIONS ARE FOR I.D.)
		SUPPLY DUCT, SECTION
		RETURN DUCT, SECTION
		EXHAUST DUCT, SECTION
		RISE OR DROP IN DIRECTION OF AIR FLOW
	FLEX. CONN.	FLEXIBLE CONNECTION
		DUCT TRANSITION, ROUND AND RECTANGULAR
		SPLITTER DAMPER
		EXTRACTOR AT BRANCH DUCT
		TURNING VANES
		FLEXIBLE DUCT
		SINGLE LINE DUCT WORK
	AVD	AUTOMATIC VOLUME DAMPER
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
	MD	MODULATING DAMPER
	AFD	AUTOMATIC FIRE DAMPER
	AD	ACCESS DOOR
	SD	SUPPLY DIFFUSER
	RR	RETURN REGISTER
	ER	EXHAUST REGISTER
	SWR	SIDE WALL SUPPLY REGISTER
	SWE	SIDE WALL RETURN OR EXHAUST
	LD	LINEAR DIFFUSER
	D.L.	DOOR LOUVER
	U.C.	UNDER CUT DOOR
	VAV	VARIABLE AIR VOLUME
	①	THERMOSTAT
	②	DUCT SMOKE DETECTOR
	T/B	TO BELOW
	F/B	FROM BELOW
	T/A	TO ABOVE
	F/A	FROM ABOVE

SPECIAL NOTICE TO CONTRACTORS

- ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
- CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
- ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- NO WORK SHALL BE DONE ON ANY PART OF THE BUILDING BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING THE WRITTEN APPROVAL OF THE CODE OFFICIAL. NO CONSTRUCTION SHALL BE CONCEALED WITHOUT BEING INSPECTED AND APPROVED.

REVISIONS:

DATE:

DRAWN BY:
CHECKED BY:
DESIGNED BY:

MECH. LIST OF SYMBOLS AND GENERAL NOTES.

JOB No: _____
SHEET:

M0.0

SHEET NO.

SCALE : NTS

CALIFORNIA MECHANICAL CODE CHECKING:

DUCT SIZING, THICKNESS & INSULATION

PLEASE REFER TO TABLE 506.2(1) FOR MINIMUM SHEET METAL THICKNESS FOR ROUND DUCTS

604.0 Insulation of Ducts.

604.1 General. Air ducts conveying air at temperatures exceeding 140°F (60°C) shall be insulated to maintain an insulation surface temperature of not more than 140°F (60°C). Factory-made air ducts and insulations intended for installation on the exterior of ducts shall be legibly printed with the name of the manufacturer, the thermal resistance (R) value at installed thickness, flame-spread index, and smoke developed index of the composite material. Internal duct liners and insulation shall be installed in accordance with SMACNA HVAC Duct Construction standards – Metal and Flexible. **[OSHPD 1, 1R, 2, 3, 4 & 5]** Cold air ducts shall be insulated wherever necessary or to prevent condensation.

Exceptions:

- (1) Factory-installed plenums, casings, or ductwork furnished as part of HVAC equipment tested and rated in accordance with approved energy efficiency standards.
- (2) Ducts or plenums located in conditioned spaces where heat gain or heat loss will not increase energy use.
- (3) For runouts less than 10 feet (3048 mm) in length to air terminals or air outlets, the rated R-value of insulation need not exceed R-3.5.
- (4) Backs of air outlets and outlet plenums exposed to unconditioned or indirectly conditioned spaces with face areas exceeding 5 square feet (0.5m²) need not exceed R-2; those 5 square feet (0.5m²) or smaller need to be insulated.
- (5) Ducts and plenums used exclusively for evaporative cooling systems.

E 502.4 Ducts. Ducts shall be sized, installed, and tested in accordance with Section E 502.4.1 though Section E 502.4.4.

E 502.4.1 Insulation and Ducts. Portions of the air distribution system installed in or on buildings for heating and cooling shall be R-8. Where the mean outdoor dew-point temperature in a month exceeds 60°F (16°C), vapor retarders shall be installed on conditioned-air supply ducts. Vapor retarders shall have a water vapor permeance not exceeding 0.5 perm [2.87 E-11 kg/(Pa.s.m²)] where tested in accordance with Procedure A in ASTM E96.

Insulation shall not be required where the ducts are within the conditioned space. [ASHRAE 90.2:6.4]

E 502.4.4 Duct Sizing. Duct systems shall be sized in accordance with ACCA Manual D or other methods approved by the Authority Having Jurisdiction with the velocity in the main duct not exceed 1000 feet per minute (ft/min) (5.08m/s) and the velocity in the secondary branch duct not to exceed 600 ft/min (3.048 m/s).

Appliances installed in an attic shall be accessible [CMC 901.10.1, 304.4.1, 304.4.2, 304.4.3]:
a. Through an opening access not less than 22" x 30".
b. With a passageway no less than 24" wide and within 20' of the heater,
c. With a work platform not less than 30" x 30" located on the service side of the appliance.

CONDENSATE DRAIN:

310.0 Condensate Wastes and Control.

310.1 Condensate Disposal. Condensate from air washers, air-cooling coils, condensing appliances, and the overflow from evaporative coolers and similar water-supplied equipment or similar air-conditioning equipment shall be collected and discharged to an approved plumbing fixture or disposal area. Where discharged into the drain system, equipment shall drain by means of an indirect waste pipe. The Waste pipe shall have a slope of not less than 1/8 inch per foot (10.4 mm/m) or 1 percent slope and shall be of approved corrosion-resistant material not smaller than the outlet size in accordance with Section 310.3 or Section 310.4 for air-cooling coils or condensing appliances, respectively. Condensate or wastewater shall not drain over a public way.

310.3 Condensate Waste Pipe Material and Sizing.

Condensate waste pipes from air-cooling coils shall be sized in accordance with the equipment capacity as specified in Table 310.3. The material of the piping shall comply with the pressure and temperature rating of the appliance or equipment, and shall be approved for use with the liquid being discharged.

TABLE 310.3 MINIMUM CONDENSATE WASTE PIPE SIZE	
EQUIPMENT CAPACITY IN TONS OF REFRIGERATION	MINIMUM CONDENSATE PIPE DIAMETER (inches)
Up to 20	3/4
21 – 40	1
41 – 90	1 1/4
91 – 125	1 1/2
126 – 250	2

For SI units: 1 ton of refrigeration = 3.52 kW, 1 inch = 25 mm

310.3.1 Cleanouts. Condensate drain lines shall be configured or provided with a cleanout to permit the clearing of blockages and for maintenance without requiring the drain line to be cut.

310.5 Point of Discharge. Air conditioning condensate waste pipes shall connect indirectly, except where permitted in Section 310.6, to the drainage system through an air gap or air break to trapped and vented receptors, dry wells, leach pits, or the tailpiece of plumbing fixtures. A condensate drain shall be trapped in accordance with the appliance manufacturer's instructions or as approved.

310.6 Condensate Waste From Air-Conditioning Coils. Where the condensate waste from air-conditioning coils discharges by direct connection to a lavatory tailpiece or to an approved accessible inlet on a bathtub overflow, the connection shall be located in the area controlled by the same person controlling the air-conditioned space.

311.3 Prohibited Source. Outside or return air for a heating or cooling air system shall not be taken from the following locations:

- (1) Less than 10 feet (3048 mm) in distance from an appliance vent outlet, a vent opening of a plumbing drainage system, or the discharge outlet of an exhaust fan, unless the outlet is 3 feet (914 mm) above the outside-air inlet.
- (2) Less than 10 feet (3048 mm) above the surface of an abutting public way, sidewalk, street, alley, or driveway.

AIR INTAKE AND EXHAUST:

401.2 Filters.[BSC-CG], [DSA-SS & DSA-SS/CC] In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual in compliance with Chapter 5, Division 5.5. of the California Green Building Standards Code [CALGreen].

402.4 Outdoor Air Intake Protection. Required outdoor-air intakes shall be covered with a screen having not less than 1/4 of an inch (6.4 mm) openings, and shall have not more than 1/2 of an inch (12.7 mm) openings.

402.4.1 Weather Protections. Outdoor air intakes that are part of the mechanical ventilation system shall be designed to manage rain entrainment, to prevent rain intrusion, and manage water from snow in accordance with ASHRAE 62.1.

402.5 Bathroom Exhaust Fans. [HCD 1 & HCD 2] Each bathroom shall be mechanically ventilated in accordance with Division 4.5 of the California Green Building Standards Code [CALGreen].

407.2.2 Exhaust Outlets. Exhaust outlets shall be located a minimum of 10 feet (3048 mm) above adjoining grade and 10 feet (3048 mm) from doors, occupied areas, and operable windows.

Exception: Airborne infection isolation rooms shall comply with Section 414.1.

701.10.1 Minimum Screen Mesh Size. Screens shall be not less than 1/4 of an inch (6.4 mm) mesh. [NFPA 54:9.3.7.2]

608.1 Air-Moving Systems and Smoke Detectors

Air-moving systems supplying air in excess of 2000 cubic feet per minute (ft3/min) (0.9439 m3/s) to enclosed spaces within buildings shall be equipped with an automatic shutoff. Automatic shutoff shall be accomplished by interrupting the power source of the air-moving equipment upon detection of smoke in the main supply-air duct served by such equipment. Duct smoke detectors shall comply with UL 268A, shall be labeled by an approved agency, approved and listed by California State Fire Marshal, and shall be installed in accordance with the manufacturer's installation instructions. Such devices shall be compatible with the operating velocities, pressures, temperatures, and humidities of the system. Where fire-detection or alarm systems are provided for the building, the smoke detectors shall be supervised by such systems in an approved manner, and installed in accordance with NFPA 72 and the California Building and Fire Codes.

Exceptions:

- (1) Where the space supplied by the air-moving equipment is served by a total coverage smoke-detection system in accordance with the California Fire Code, interconnection to such system shall be permitted to be used to accomplish the required shutoff.
- (2) Automatic shutoff is not required where occupied rooms served by the air-handling equipment have direct exit to the exterior, and the travel distance does not exceed 100 feet (30 480 mm).
- (3) Automatic shutoff is not required for Group R, Division 3 and Group U Occupancies.
- (4) Automatic shutoff is not required for approved smoke-control systems or where analysis demonstrates shutoff would create a greater hazard, such as shall be permitted to be encountered in air-moving equipment supplying specialized portions of Group H Occupancies. Such equipment shall be required to have smoke detection with remote indication and manual shutoff capability at an approved location.
- (5) Smoke detectors that are factory installed in listed air-moving equipment shall be permitted to be used in lieu of smoke detectors installed in the main supply-air duct served by such equipment.

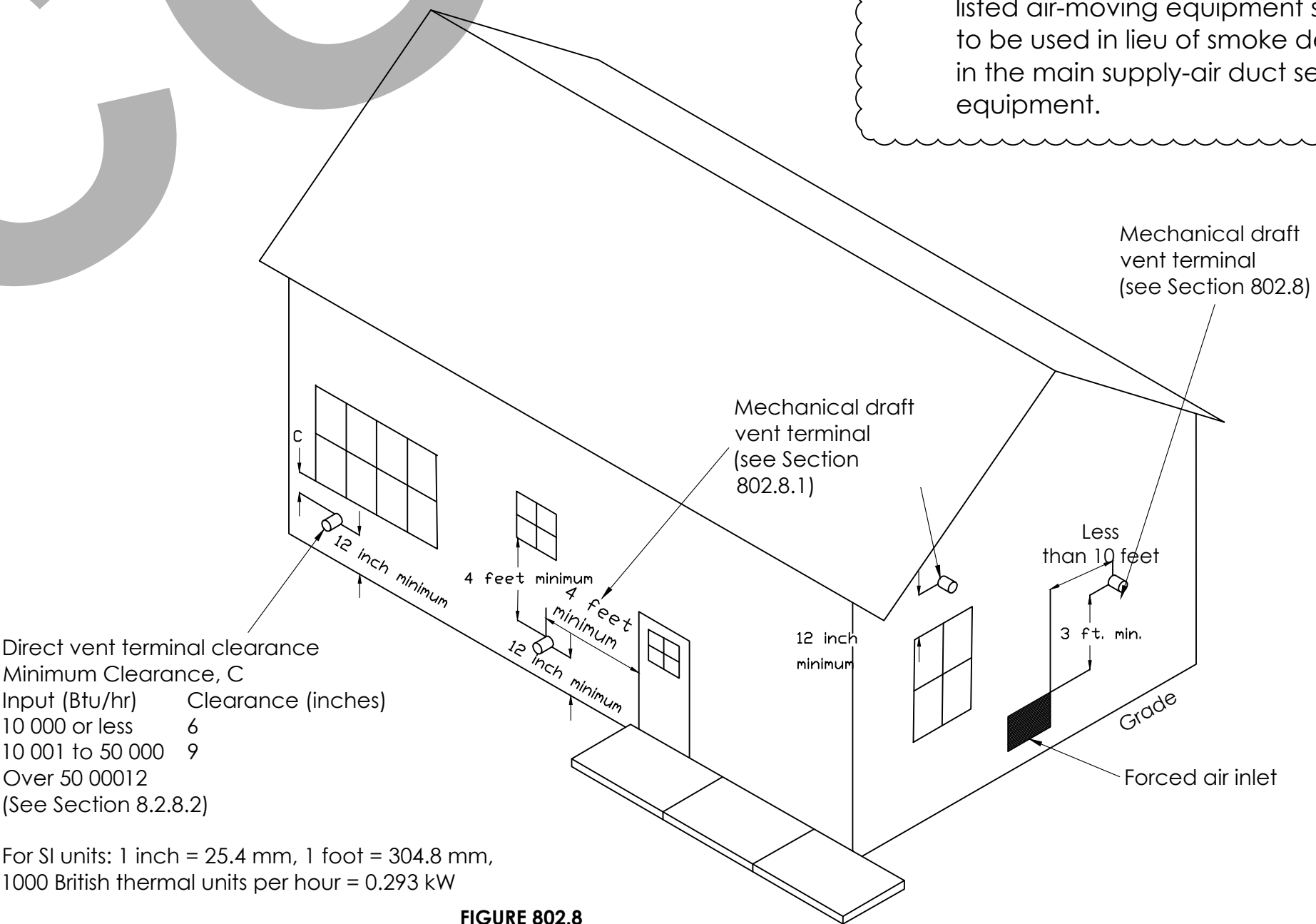


FIGURE 802.8
EXIT TERMINALS OF MECHANICAL DRAFT AND DIRECT-VENT VENTING SYSTEMS
[NFPA 54: FIGURE A.12.9]

GAS CLOTHES DRYER:

502.1 Exhaust Opening Protection. Exhaust openings terminating to the outdoors shall be covered with a corrosion-resistant screen having not less than 1/4 of an inch (6.4 mm) openings, and shall have not more than 1/2 of an inch (12.7 mm) openings.
Exception: Clothes dryers.

504.4 Clothes Dryers. A clothes dryer exhaust duct shall not be connected to a vent connector, gas vent, chimney, and shall not terminate into a crawl space, attic, or other concealed space. Exhaust ducts shall not be assembled with screws or other fastening means that extend into the duct and that are capable of catching lint, and that reduce the efficiency of the exhaust system.

504.4.1 Provisions for Makeup Air. Make up air shall be provided in accordance with the following:

- (1) Makeup air shall be provided for Type 1 clothes dryers in accordance with the manufacturer's instructions. [NFPA 54: 10.4.3.1] Where a closet is designed for the installation of a clothes dryer, an opening of not less than 100 square inches (0.065 m²) for makeup air shall be provided in the door or by other approved means.
- (2) Provision for makeup air shall be provided for Type 2 clothes dryers, with a free area of not less than 1 square inch (0.0006 m²) for each 1000 British thermal units per hour (Btu/g)(0.293 kW) total input rating of the dryer(s) installed [NFPA 54:10.4.3.2].

504.4.2.1 Length Limitation

Unless otherwise permitted or required by the dryer manufacturer's instructions and approved by the Authority Having Jurisdiction, domestic dryer moisture exhaust ducts shall not exceed a total combined horizontal and vertical length of 14 feet (4267 mm), including two 90 degree (1.57 rad) elbows. A length of 2 feet (610 mm) shall be deducted for each 90 degree (1.57 rad) elbow in excess of two

504.4.3.1 Exhaust Ducts for Type 2 Clothes Dryers.

Exhaust ducts for Type 2 clothes dryers shall comply with the following:
(1) Exhaust ducts for Type 2 clothes dryers shall comply with Section 504.4. [NFPA 54:10.4.5.1]
(2) Exhaust ducts for Type 2 clothes dryers shall be constructed of sheet metal or other noncombustible material. Such ducts shall be equivalent in strength and corrosion resistance to ducts 0.0195 of an inch (0.4953 mm) thick. [NFPA 54:10.4.5.2]
(3) Type 2 clothes dryers shall be equipped or installed with lint-controlling means. [NFPA 54:10.4.5.3]
(4) Exhaust ducts for Type 2 clothes dryers shall be installed with a clearance of not less than 6 inches (152 mm) from adjacent combustible material. Where exhaust ducts for Type 2 clothes dryers are installed with reduced clearances, the adjacent combustible material shall be protected in accordance with Table 303.10.1. [NFPA 54:10.4.5.4]
(5) Where ducts pass through walls, floors, or partitions, the space around the duct shall be sealed with noncombustible material. [NFPA 54:10.4.5.4]

FACTORY-MADE AIR DUCTS

FACTORY-MADE AIR DUCTS SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 181 AND INSTALLED IN ACCORDANCE WITH THE TERMS OF THEIR LISTING. THE MANUFACTURER'S INSTALLATION INSTRUCTIONS, AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE.

FACTORY-MADE AIR DUCTS SHALL NOT BE USED FOR VERTICAL RISERS IN AIR-DUCT SYSTEMS SERVING MORE THAN TWO STORIES AND SHALL NOT PENETRATE A FIRE-RESISTANCE-RATED ASSEMBLY OR CONSTRUCTION.

FACTORY-MADE AIR DUCTS SHALL BE INSTALLED WITH NOT LESS THAN 4 INCHES (102 MM) OF SEPARATION FROM EARTH, EXCEPT WHERE INSTALLED AS A LINER INSIDE OF CONCRETE, TILE, OR METAL PIPE AND SHALL BE PROTECTED FROM PHYSICAL DAMAGE.

THE TEMPERATURE OF THE AIR TO BE CONVEYED IN A DUCT SHALL NOT EXCEED 250°F (121° C). FLEXIBLE AIR CONNECTORS SHALL NOT BE PERMITTED.

RECTANGULAR DUCTS

SUPPORTS FOR RECTANGULAR DUCTS SHALL BE INSTALLED ON TWO OPPOSITE SIDES OF EACH DUCT AND SHALL BE RIVETED, BOLTED, OR METAL SCREWED TO EACH SIDE OF THE DUCT AT INTERVALS SPECIFIED.

METAL DUCTS

DUCTS SHALL BE SUPPORTED AT EACH CHANGE OF DIRECTION AND IN ACCORDANCE WITH SMACNA HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE. RISER DUCTS SHALL BE HELD IN PLACE BY MEANS OF METAL STRAPS OR ANGLES AND CHANNELS TO SECURE THE RISER TO THE STRUCTURE.

METAL DUCTS SHALL BE INSTALLED WITH NOT LESS THAN 4 INCHES (102 MM) SEPARATION FROM EARTH. DUCTS SHALL BE INSTALLED IN A BUILDING WITH CLEARANCES THAT WILL RETAIN THE FULL THICKNESS OF FIRE-PROOFING ON STRUCTURAL MEMBERS.

COMBUSTIBLES WITHIN DUCTS OR PLENUMS

MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 AND A SMOKE-DEVELOPED INDEX NOT TO EXCEED 50, WHERE TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ASTM E84 OR UL 723.

EXCEPTIONS:

- 1. RETURN-AIR AND OUTSIDE-AIR DUCTS, PLENUMS, OR CONCEALED SPACES THAT SERVE A DWELLING UNIT.
- 2. AIR FILTERS IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 311.2.
- 3. WATER EVAPORATION MEDIA IN AN EVAPORATIVE COOLER.
- 4. CHARCOAL FILTERS WHERE PROTECTED WITH AN APPROVED FIRE SUPPRESSION SYSTEM.
- 5. PRODUCTS LISTED AND LABELED FOR INSTALLATION WITHIN PLENUMS IN ACCORDANCE WITH SECTION 602.2.1 THROUGH SECTION 602.2.3.
- 6. SMOKE DETECTORS.
- 7. DUCT INSULATION, COVERINGS, AND LININGS AND OTHER SUPPLEMENTARY MATERIALS INSTALLED IN ACCORDANCE WITH SECTION 604.0.
- 8. MATERIALS IN A HAZARDOUS FABRICATION AREA INCLUDING THE AREAS ABOVE AND BELOW THE FABRICATION AREA SHARING A COMMON AIR RECIRCULATION PATH WITH THE FABRICATION AREA.

NOTES ON DUCTS MATERIAL & CONSTRUCTION:

FLEXIBLE AIR DUCTS

FLEXIBLE AIR DUCTS SHALL COMPLY WITH UL 181, AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SMACNA HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE.

FLEXIBLE AIR DUCT INSTALLATIONS SHALL COMPLY WITH THE FOLLOWING:

- 1. DUCTS SHALL BE INSTALLED USING THE MINIMUM REQUIRED LENGTH TO MAKE THE CONNECTION.
- 2. HORIZONTAL DUCT RUNS SHALL BE SUPPORTED AT NOT MORE THAN 4 FEET (1219 MM) INTERVALS.
- 3. VERTICAL RISERS SHALL BE SUPPORTED AT NOT MORE THAN 6 FEET (1829 MM) INTERVALS.
- 4. SAG BETWEEN SUPPORT HANGERS SHALL NOT EXCEED 1/2 INCH (12.7 MM) PER FOOT (305 MM) OF SUPPORT SPACING.
- 5. SUPPORTS SHALL BE RIGID AND SHALL BE NOT LESS THAN 1 1/2 INCHES (38 MM) WIDE AT POINT OF CONTACT WITH THE DUCT SURFACE.
- 6. DUCT BENDS SHALL BE NOT LESS THAN ONE DUCT DIAMETER BEND RADIUS.
- 7. SCREWS SHALL NOT PENETRATE THE INNER LINER OF NON-METALLIC FLEXIBLE DUCTS UNLESS PERMITTED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 8. FITTINGS FOR ATTACHING NON-METALLIC DUCTS SHALL BE BEADED AND HAVE A COLLAR LENGTH OF NOT LESS THAN 2 INCHES (51 MM) FOR ATTACHING THE DUCT. EXCEPTION: A BEAD SHALL NOT BE REQUIRED WHERE METAL WORM-GEAR CLAMPS ARE USED OR WHERE ATTACHING METALLIC DUCTS USING SCREWS IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 9. DUCT INNER LINER SHALL BE INSTALLED AT NOT LESS THAN 1 INCH (25.4 MM) ON THE COLLAR AND PAST THE BEAD PRIOR TO THE APPLICATION OF THE TAPE AND MECHANICAL FASTENER. WHERE MASTIC IS USED INSTEAD OF TAPE, THE MASTIC SHALL BE APPLIED IN ACCORDANCE WITH THE MASTIC MANUFACTURER'S INSTRUCTIONS.
- 10. DUCT OUTER VAPOR BARRIERS SHALL BE SECURED USING TWO WRAPS OF APPROVED TAPE. A MECHANICAL FASTENER SHALL BE PERMITTED TO BE USED IN PLACE OF, OR IN COMBINATION WITH, THE TAPE.
- 11. FLEXIBLE AIR DUCTS SHALL NOT PENETRATE A FIRE-RESISTANCE-RATED ASSEMBLY OR CONSTRUCTION.
- 12. THE TEMPERATURE OF THE AIR TO BE CONVEYED IN A FLEXIBLE AIR DUCT SHALL NOT EXCEED 250°F (121° C).
- 13. FLEXIBLE AIR DUCTS SHALL BE SEALED IN ACCORDANCE WITH SECTION 603.10.

REVISIONS:

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MECHANICAL
CODE CHECKING.

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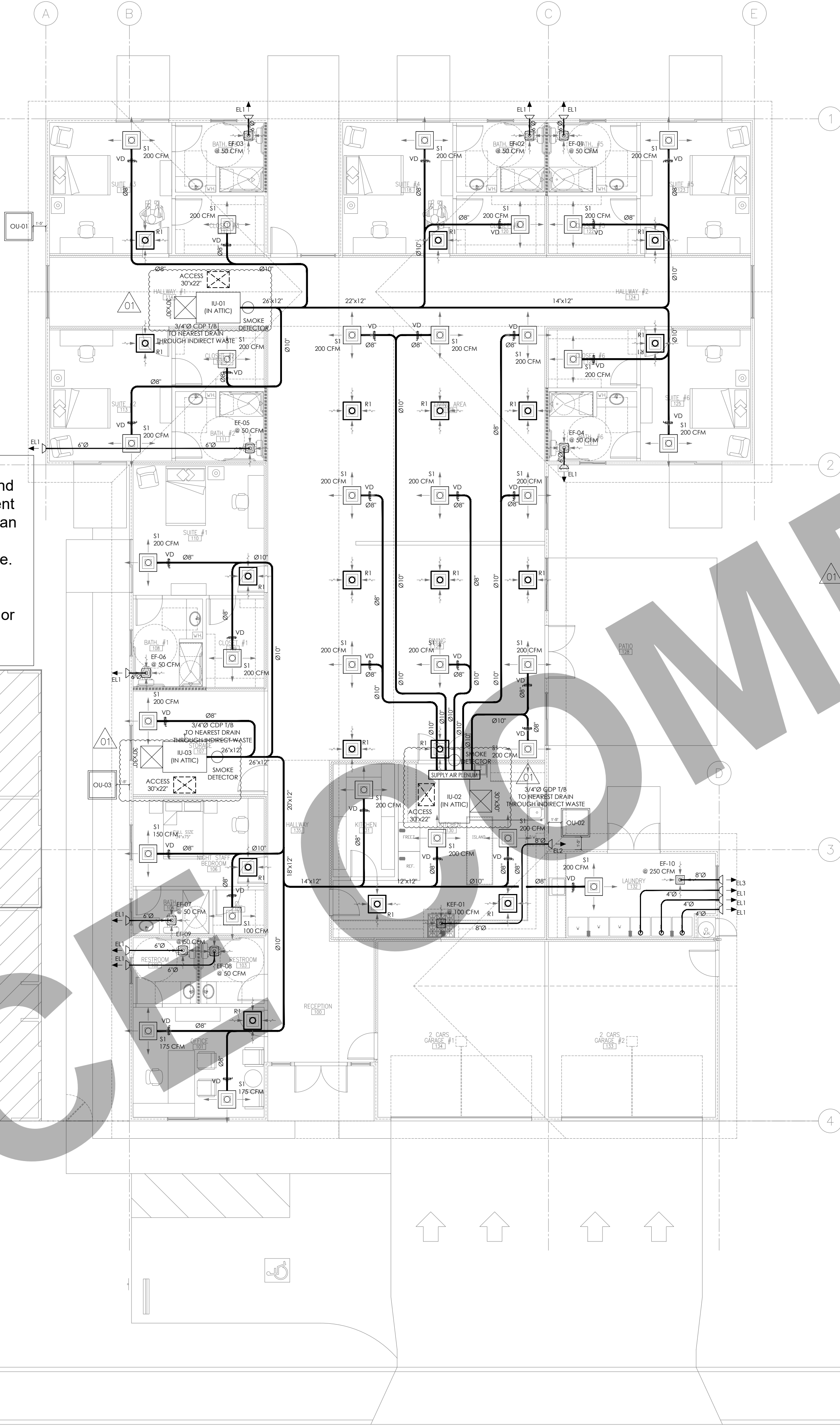
GENERAL NOTES:

- MECHANICAL CONTRACTOR TO COORDINATE ROUTING AND LOCATION OF MECHANICAL COMPONENTS AND EQUIPMENT WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS PRIOR TO PERFORMING WORK.
- CONTRACTOR TO CUT AND PATCH AS REQUIRED TO PERFORM THE WORK.
- ACCESS DOORS ARE REQUIRED FOR ANY COMPONENT REQUIRING ACCESS ABOVE HARD LID CEILINGS. COORDINATE SIZE, LOCATION AND FINISH WITH ARCHITECT PRIOR TO PERFORMING WORK.
- REFER TO THE DIAGRAMS THAT APPLY TO THIS SHEET WHICH PROVIDE GENERAL GUIDANCE FOR INSTALLATION THOUGH NOT ALL COMPONENTS AND ACCESSORIES MAY BE SHOWN.
- PRIOR TO INSTALLATION, CONFIRM SPECIFIC LOCATION FOR ALL THERMOSTATS / SENSORS WITH ARCHITECT. MOUNT AT 48" A.F.F. OR IN ACCORDANCE WITH ADA REQUIREMENTS. PROVIDE LOCKING COVERS.
- COORDINATE AND CONFIRM BORDER, FRAME, FINISH, AND LOCATION WITH ARCHITECT PRIOR TO ORDERING.
- ANY PENETRATIONS THROUGH WALL STUDS, FLOOR JOISTS, OR ROOF TO BE IN ACCORDANCE WITH THE LATEST ADOPTED BUILDING CODE.
- DUCT DIMENSIONS SHOWN ARE CLEAR INSIDE DIMENSIONS.
- CONTRACTOR TO CONFIRM ADEQUATE RETURN AIR PATH BACK TO MAIN AIR HANDLING UNIT.

310.1 Condensate Disposal:

Condensate from air washers, air-cooling coils, condensing appliances, and the overflow from evaporative coolers and similar water-supplied equipment or similar air-conditioning equipment shall be collected and discharged to an approved plumbing fixture or disposal area. Where discharged into the drainage system, equipment shall drain by means of an indirect waste pipe. The waste pipe shall have a slope of not less than 1/8 inch per foot (10.4 mm/m) or 1 percent slope and shall be of approved corrosion-resistant material not smaller than the outlet size in accordance with Section 310.3 or Section 310.4 for air-cooling coils or condensing appliances, respectively. Condensate or wastewater shall not drain over a public way.

EXISTING TO
BECOME A.D.U.



SCHEDULE No. 1
GAS/ELECTRIC - INDOOR & OUTDOOR UNIT

TAG	IU-01 & OU-01	IU-02 & OU-02	IU-03 & OU-03
SERVING	SUITES 2,3,4,5,6	DINING & LIVING, HALL	SUITE 1, OFFICE, KITCHEN, BEDROOM, LAUNDRY
MANUFACTURER	CARRIER	CARRIER	CARRIER
INDOOR MODEL	59TN6A-010020	59TN6A-010020	59TN6A-010020
POWER SUPPLY	115/1/60	115/1/60	115/1/60
MAXIMUM CURRENT (A)	14.8	14.8	14.8
UNIT AMPACITY (A)	19.2	19.2	19.2
AIR FLOW (CFM) - RANGE	2030	2030	2030
EXTERNAL STATIC PRESSURE (in.W.C)	0.50	0.50	0.50
COOLING CAPACITY (BTU/H)	60,000	60,000	60,000
HEATING CAPACITY (BTU/H)	65,000	65,000	65,000
INDOOR DIMENSIONS (H x W x D) (inch)	35 x24 x 30	35 x24 x 30	35 x24 x 30
OUTDOOR MODEL	24VNA9-60	24VNA9-60	24VNA9-60
POWER SUPPLY	208/230 / 1 / 60	208/230 / 1 / 60	208/230 / 1 / 60
MINIMUM CIRCUIT AMPACITY	40.0	40.0	40.0
COMPRESSOR RLA	30.9	30.9	30.9
MAX OVERCURRENT DEVICE	60.0	60.0	60.0
NOMINAL (RPM)	1500 RPM	1500 RPM	1500 RPM

NOTES:

- PROVIDE CONDENSATE PUMP, IF REQUIRED.
- PROVIDE DISCONNECT SWITCH.
- PROVIDE MERV 13 THROWAWAY FILTER.
- PROVIDE VIBRATION ISOLATION.
- PROVIDE FREEZE THERMOSTAT.

SCHEDULE No. 2
FAN SCHEDULE

TAG	EF-01,02,03 TO 09	EF-10	KEF-01
LOCATION	BATHS	LAUNDRY	KITCHEN
SELECTED FLOW (CFM)	50	250	100
SELECTED PRESSURE DROP (IN. H2O)	0.25"	0.25"	0.25"
ELECTRICAL (V / PH / HZ)	120 / 1 / 60	120 / 1 / 60	120 / 1 / 60
POWER / Amps	25 W	100 W	50 W
MOTOR SPEED (RPS)	MULTI SPEED	MULTI SPEED	MULTI SPEED
FAN TYPE	CEILING FANS	CEILING FANS	CEILING FANS
MANUFACTURER	PANASONIC	PANASONIC	PANASONIC
MODEL	WHISPER FV-0511VKS2	WHISPER FV-0511VKS2	WHISPER FV-0511VKS2

NOTES:

- PROVIDE UL LISTING.
- PROVIDE ENERGY STAR COMPLIANCE.
- INTERLOCK WITH WALL SWITCH.
- PROVIDE MOTOR WITH THERMAL OVERLOADS.

SCHEDULE No. 3
AIR OUTLETS

TAG	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING
S1	SUPPLY DIFFUSER	TITUS	24in. x 24in.	Duct Mounted
R1	RETURN DIFFUSER	TITUS	24in. x 24in.	Ceiling Mounted

NOTES:

- COORDINATE FINISH, COLOR, BORDER AND EXACT LOCATION WITH OWNER PRIOR TO ORDERING.
- PROVIDE OPPOSED BLADE DAMPER ACCESSIBLE THROUGH DIFFUSER FACE FOR GYP BD. CEILING INSTALLATIONS.
- PROVIDE DUCT TRANSITIONS AS REQUIRED.
- RETURNS R1 ARE PROVIDED WITH PROPER FILTERS.

CMC-Appendix E 502.3.1-Balancing Dampers shall be installed in branch ducts, and the axis of the damper shall be installed parallel to the direction of airflow in the main duct

CMC-Appendix E 502.4.4-Duct systems shall be sized in accordance with ACCA Manual D.
Velocity in main duct shall not exceed 1000 feet per minute.
Velocity in section branches shall not exceed 600 feet per minute.

CMC-Appendix E 503.4.6.1-Outdoor air intake and exhaust systems shall be equipment with motorized dampers that will automatically shut when the systems or spaces served are not in use.
Exceptions: Back-draft gravity dampers shall be permitted for exhaust and relief in buildings less than 3 stories in height.

SCHEDULE No. 4
LOUVERS

TAG	TYPE	CFM	PR. DROP W.G.	MANUFACTURER MODEL
EL-1	EXHAUST AIR	50	0.03	RUSKIN ELF637SDX
EL-2	EXHAUST AIR	250	0.03	RUSKIN ELF637SDX
EL-3	EXHAUST AIR	200	0.03	RUSKIN ELF637SDX

New Care Taking Facility
969 Cypress Ave.
Colton CA, 92324

REVISIONS:

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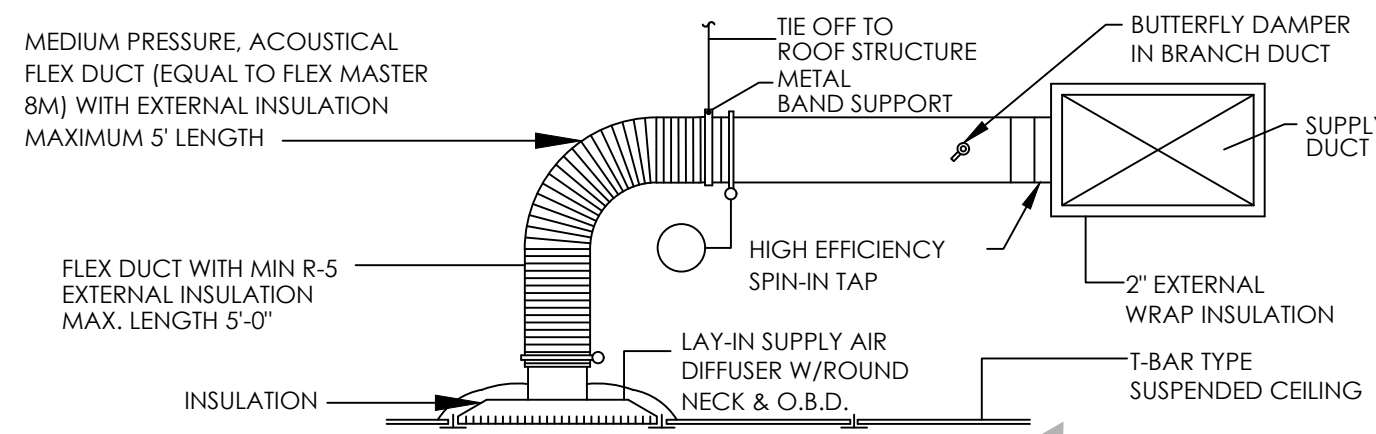
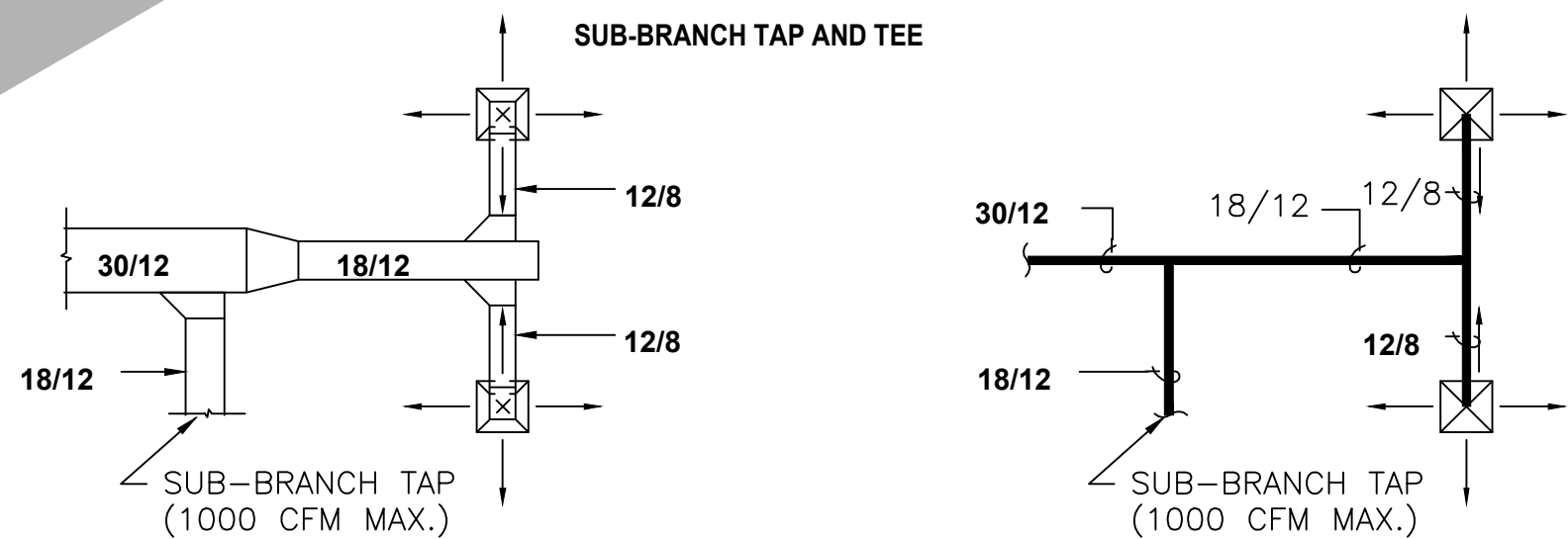
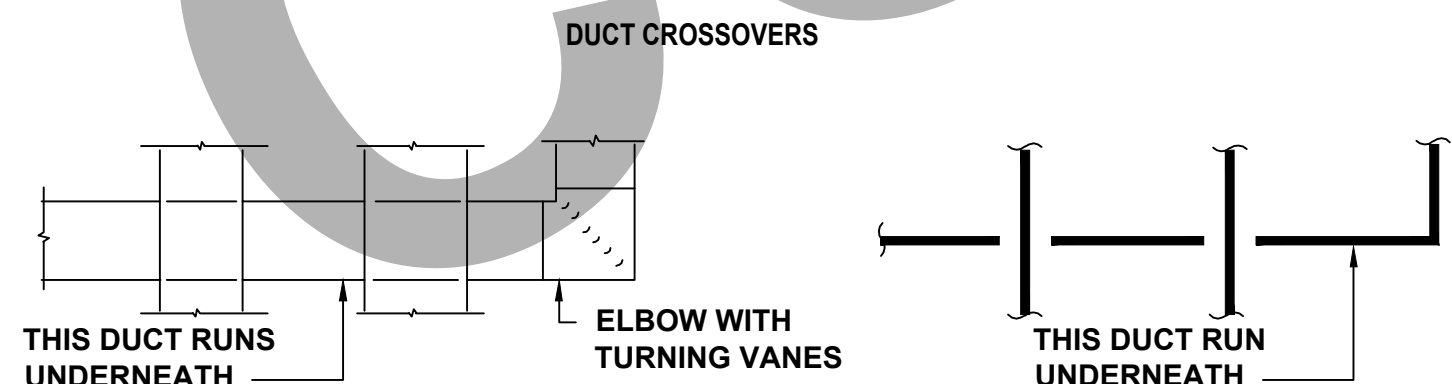
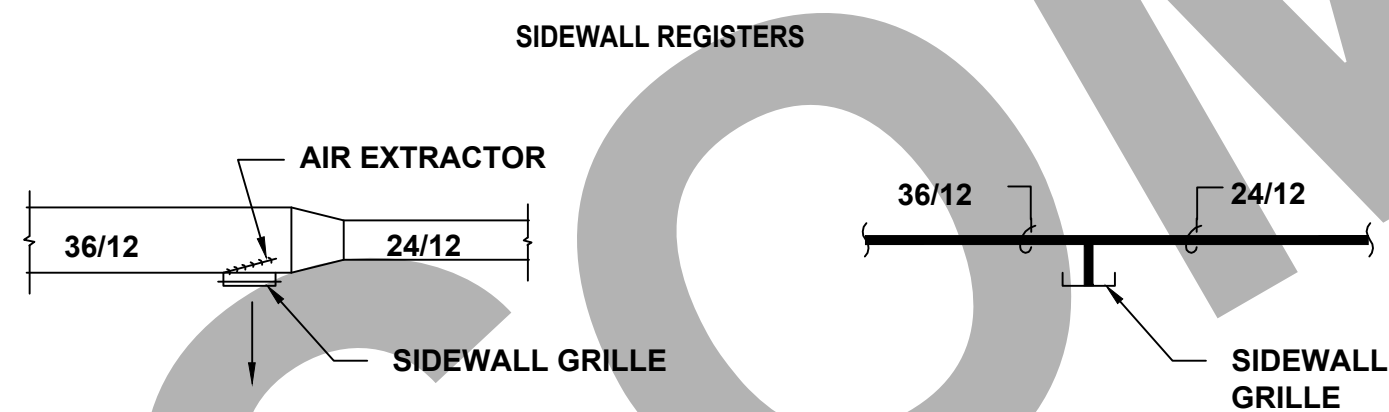
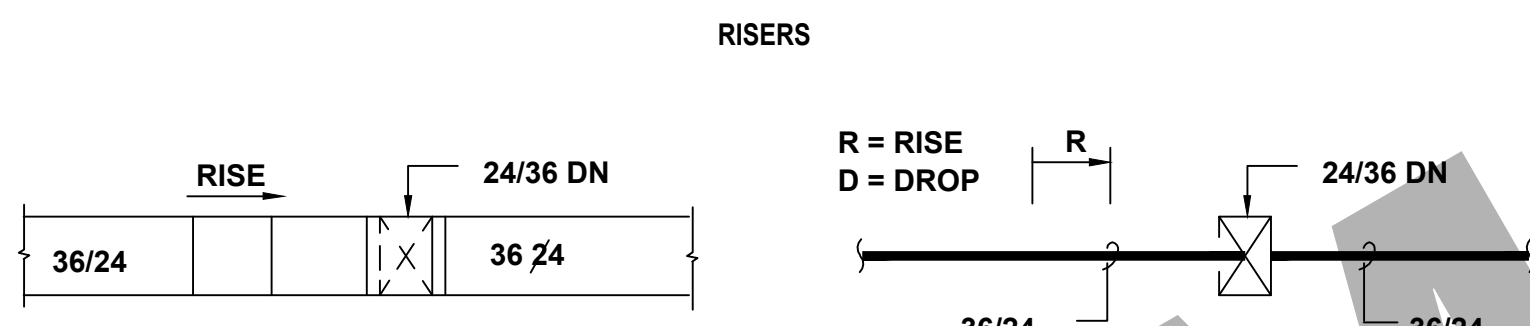
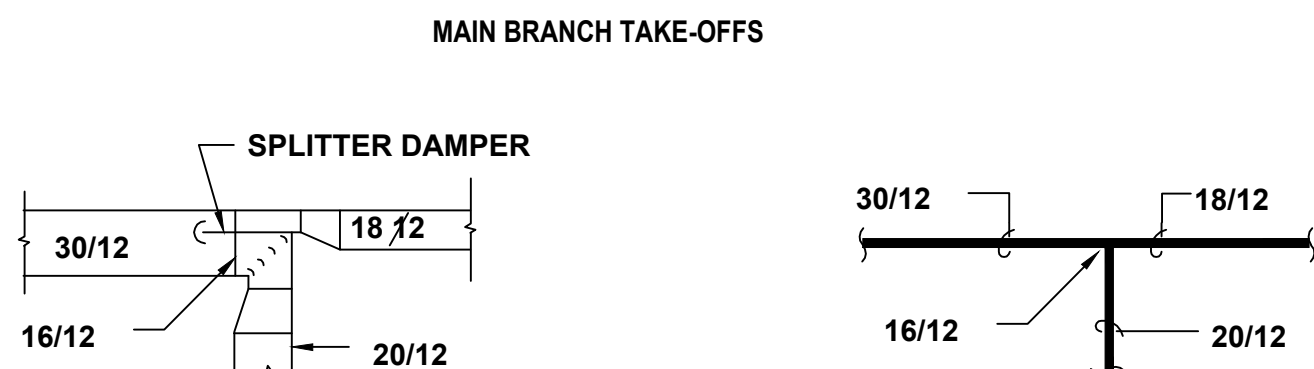
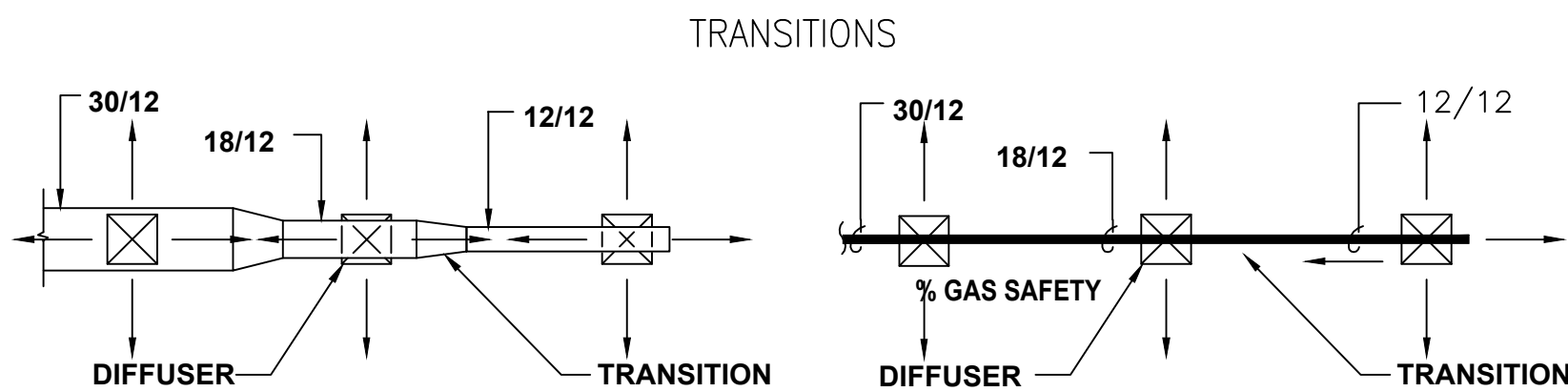
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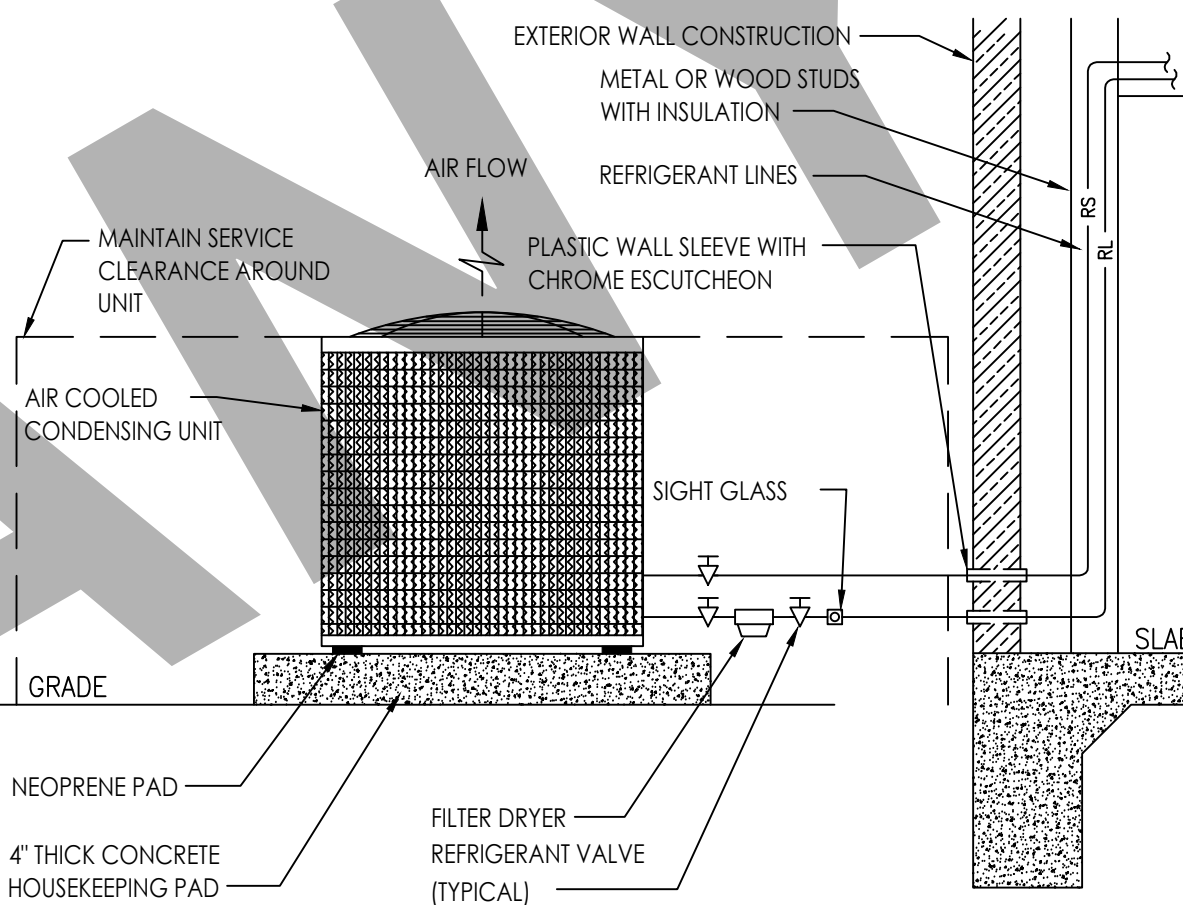
GENERAL NOTES

- MECHANICAL CONTRACTOR SHALL EXAMINE ALL OTHER SPECIFICATIONS, DRAWINGS AND ALL FEATURES OF BUILDING CONSTRUCTION WHICH MAY AFFECT HIS WORK AND SHALL B GOVERNED BY THESE AND OTHER SPECIFICATIONS, INCLUDIN THE GENERAL CONDITIONS AND PARTICULAR INSTRUCTIONS T ALL BIDDER AND SUPPLIERS .
- ALL WORK SHALL BE EXECUTED AND INSPECTED IN STRICT ACCORDANCE WITH ALL LOCAL CODES AND/OR STATE CODES, LAWS, ORDINANCES, RULES AND REGULATIONS APPLICABLE TO THIS PARTICULAR CLASS OF WORK, AND EACH CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL APPLICABLE SERVICE CHARGES, FEES, PERMITS, TAXES, AND OTHER SIMILAR COSTS IN CONNECTION THEREWITH .
- PRIOR TO FABRICATION OF DUCTWORK, THE MECHANICAL CONTRACTOR SHALL EXAMINE AND VERIFY ALL CONDITIONS ABOVE AND BELOW THE CEILING WHICH MAY INTERFERE WITH THE DUCT SYSTEM AND NOTIFY THE ARCHITECT OF ANY CONFLICT ENCOUNTERED. CONTRACTOR SHALL PROVIDE ALL OFFSETS, ETC. WHICH MAY BE REQUIRED, WITHOUT ADDITIONAL COST TO THE OWNER
- ALL SHEET METAL DUCT CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH "SMACNA" LOW PRESSURE DUCT CONSTRUCTION STANDARD
- TURNING VANES SHALL BE INSTALLED IN ALL BENDS IN RECTANGULAR DUCT EXCEEDING 30"
- ALL DUCTS SHALL BE SUPPORTED WITH 1"WIDE, 16 GAUGE, GALVANIZED STEEL BANDS .
- ALL RECTANGULAR DUCT SHALL BE INSULATED WITH A MIN. OF 1"INTERNAL LINER, 2 LBS. DENSITY R-60. ALL ROUND DUCTS AND DIFFUSER TOPS SHALL HAVE A MIN. 2" THICK OF FOIL BACKED BLANKET TYPE INSULATION R=4-4.2, WITH ALL JOINTS BUTTED AND TAPED .
- ALL DUCT DIMENSIONS SHOWN ON PLANS ARE INTERNAL
- THE MECHANICAL CONTRACTOR SHALL COORDINATE THE LOCATION OF SUPPLY AND RETURN AIR REGISTERS, DUCTS, GRILLES AND DIFFUSERS WITH LIGHTING AND CEILING PATTERNS
- PROVIDE LATERAL BRACING OF ALL DUCTS AND PIPES AS REQUIRED BY CODE .
- INSULATE AND SEAL ALL DUCTWORK PER CHAPTER 10 OF THE STATE MECHANICAL CODE (T-24, PART 4)
- MOUNT ALL THERMOSTATS AT 48" ABOVE FINISHED FLOOR
- ALL BRACING OF DUCTS AND PIPING SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES
- 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 AND THE MECHANICAL ENGINEER
- DUCT SMOKE DETECTOR SHALL BE INSTALLED BELOW THE ROOF
- ALL MECHANICAL EQUIPMENT AND SYSTEMS INSTALLED AS PART OF PROJECT SHALL COMPLY WITH ALL REQUIREMENTS OF THE 2013 CALIFORNIA MECHANICAL CODE AND THE 2013 CALIFORNIA BUILDINGCODE AND THE 2013 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS.
- OUTSIDE AIR FOR A HEATING OR COOLING SYSTEM SHALL NOT BE TAKEN FROM CLOSER THAN 10 FEET FROM AN APPLIANCE VENT OUTLET, VENT OPENING OF A PLUMBING SYSTEM, OR THE DISCHARGE OUTLET OF EXHAUST FAN, UNLESS THE OUTLET IS 3 FT. ABOVE THE OUTSIDE AIR INLET .(CMC 314.3)
- PROVIDE 120 VOLT ELECTRICAL OUTLETS WITHIN 25 FT. OF ALL MECH. EQUIPT. (CMC 309)
- HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS IN ACCORDANCE WITH CMC 317.1 REQUIREMENTS .
 - AABC NATIONAL STANDARDS FOR TOTAL SYSTEM BALANCE
 - ACCA MANUAL B
 - ASHRAE 111
 - NEBB PROCEDURAL STANDARDS FOR TESTING, ADJUSTING, ADJUSTING BALANCING OF ENVIRONMENTAL SYSTEMS
 - SMACNA HVAC TESTING, ADJUSTING, AND BALANCING
- MATERIALS EXPOSED WITHIN DUCTS OR PLENUMS SHALL BE NON COMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX NOT TO EXCEED 25 AND A SMOKE DEVELOPED INDEX NOT TO EXCEED 50 WHERE TESTED AS A COMPOSITE PRODUCT IN ACCORDANCE WITH ASTM E84 OR UL 723 .

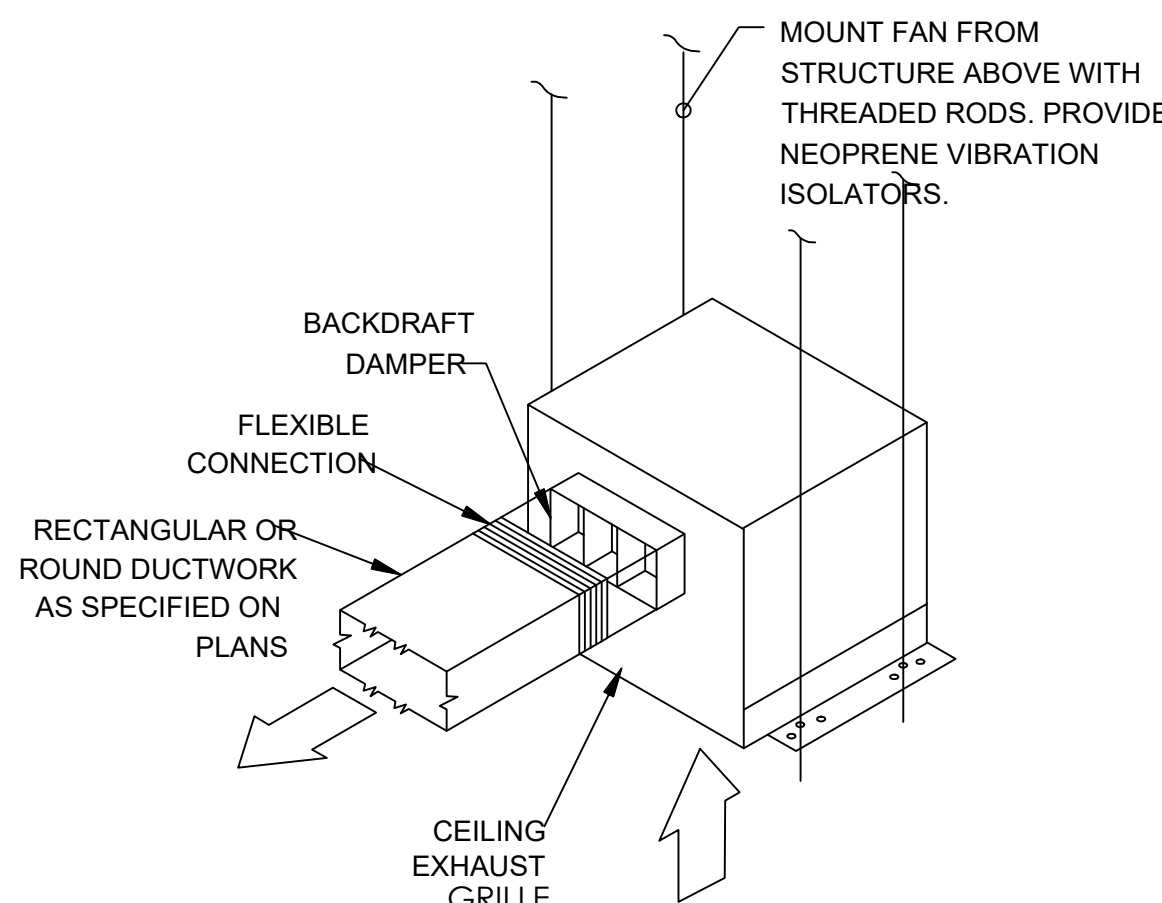
DUCTWORK SYMBOLS LEGEND



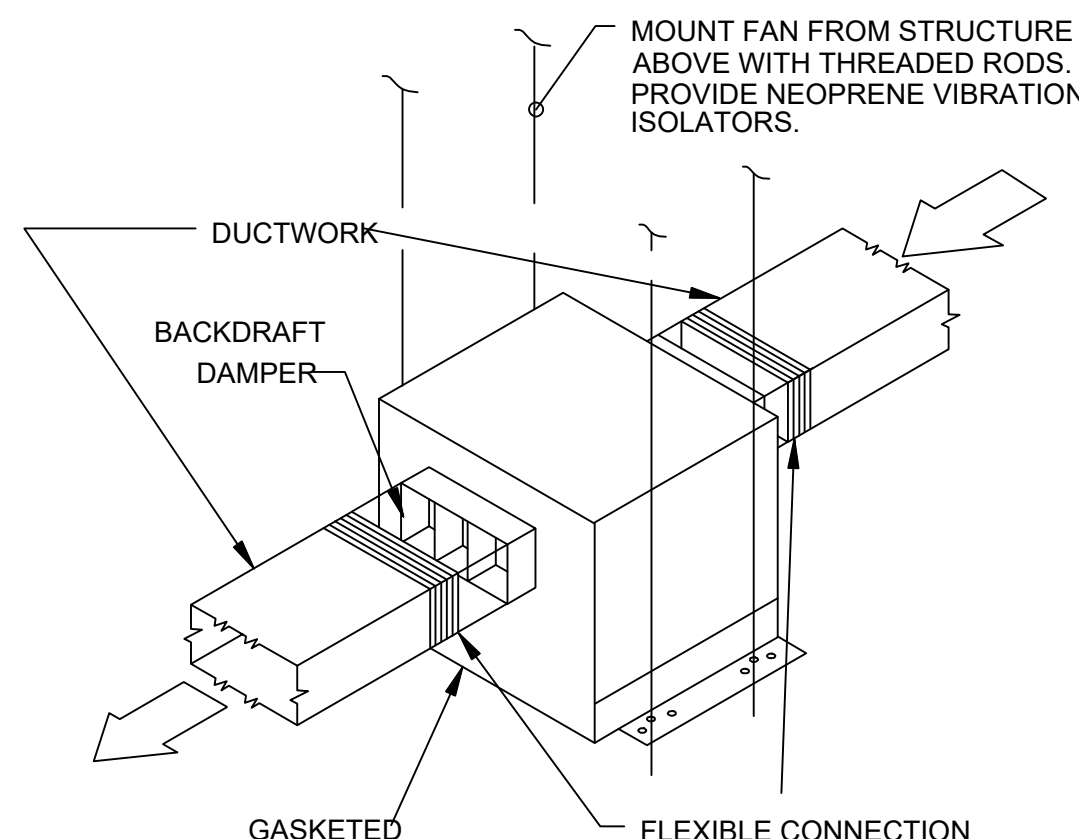
SUPPLY AIR DIFFUSER CONNECTION



OUTSIDE AIR CONDITIONER



CEILING EXHAUST FAN DETAIL



IN-LINE FAN DETAIL

SCALE : NTS

REVISIONS:

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DATE:

DRAWN BY:
CHECKED BY:
DESIGNED BY:

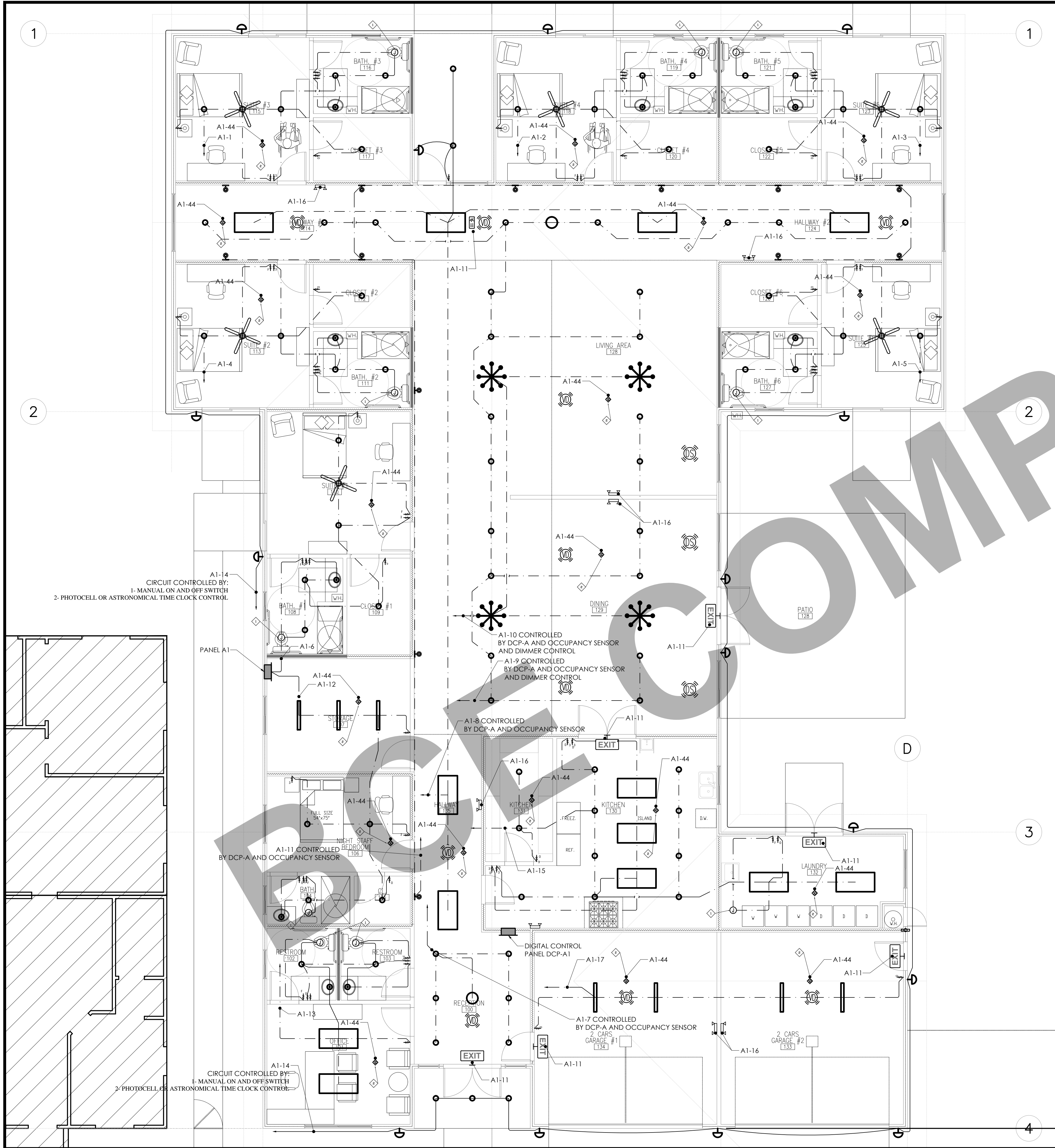
MECHANICAL GENERAL DETAILS.

JOB No:

SHEET:

M3.0

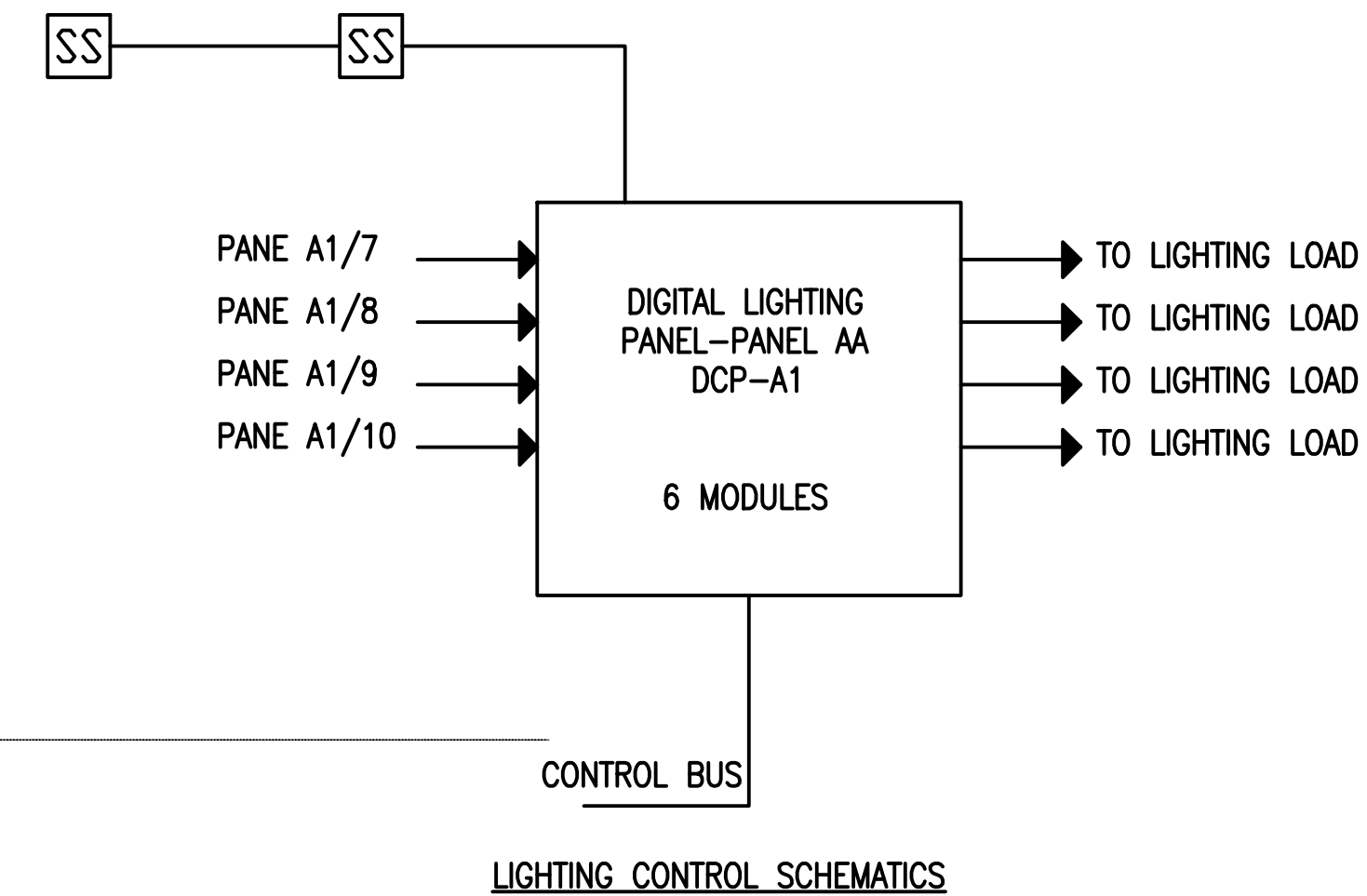
SHEET NO.



LIGHTING FIXTURE SCHEDULE	
	LITHONIA 4" DIA. "WATER" LED DOWN LIGHT RECESSED LIGHT FIXTURE OR SIMILAR / EQUIVALENT T.B.S. WITH POWER 15W
	LITHONIA LED "DÉCOR" ROUND 14" DIA. CEILING FLUSH MOUNTED OR SIMILAR / EQUIVALENT T.B.S. WITH POWER 50W
	LITHONIA "CLX" LED LINEAR CEILING FLUSH MOUNTED LIGHT OR SIMILAR / EQUIVALENT T.B.S. WITH POWER SUPPLY 35W
	LITHONIA "TL" T SERIES 2'x4' RECESSED LED TROFFER LIGHT FIXTURE OR SIMILAR / EQUIVALENT T.B.S. WITH POWER 45W
	CEILING MOUNTED DECORATIVE PENDANT LIGHT FIXTURE T.B.S. WITH POWER SUPPLY 100W
	HUNTER "AVIA" 48" 5 BLADE LED CEILING FAN WITH REMOTE CONTROL OR SIMILAR / EQUIVALENT T.B.S. WITH POWER SUPPLY 100W
	HIGH EFFICACY EXTERIOR WALL MOUNTED LIGHT FIXTURE W/ MOTION SENSOR T.B.S. WITH POWER SUPPLY 50W
	MOEN 4.87" WALL SCONCE MODEL: DN0761CH COMMERCIAL DECORATIVE LIGHT FIXTURE WITH DEDICATED LED DIMMABLE /OR SIMILAR T.B.S. WITH POWER 15W
	CEILING MOUNTED EXIT SIGN WITH EMERGENCY LIGHT SHALL BE ON ALL TIME WITH 90 BACK UP MINUTES BATTERY BUILT IN "Lithonia Lighting" LED 2.5W 120 VOLTS. CODE SECTION 1003.2.8.4 AND 1003.2.8.5
	EXHAUST FAN - ENERGY STAR COMPLIANT W/ AUTOMATIC HUMIDITY CONTROL

- SHEET NOTES:
- 1. JUNCTION BOX FOR TOILET EXHAUST FAN
 - 2. FURNISH AND INSTALL SMOKE OR COMBINATION SMOKE AND CARBON MONOXIDE DETECTOR AS REQUIRED. INTERLOCK WITH OTHER DETECTORS

- GENERAL NOTES
- REFER TO FIXTURE SCHEDULE/LEGEND FOR ADDITIONAL INFORMATION ON LIGHT FIXTURES
 - NON LOW VOLTAGE SWITCHES SHALL BE DECORA TYPE WITH SLIDE DIMMER. SWITCHES AND PLATE COLORS SHALL BE WHITE
 - OUTLET BOXES OR OUTLET BOX SYSTEM USED AS SOLE SUPPORT OF A CEILING SUSPENDED PADDLE FAN SHALL BE LISTED, SHALL BE MARKED BY THEIR MANUFACTURER AS SUITABLE FOR THIS PURPOSE, AND SHALL NOT SUPPORT CEILING-SUSPENDED (PADDLE) FANS THAT WEIGHT MORE THAN 70lb. FOR OUTLET BOXES OUR OUTLET BOX SYSTEM DESIGNED TO SUPPORT CEILING-SUSPENDED (PADDLE) FANS THAT WEIGHT MORE THAN 35 lb. THE REQUIRED MARKING SHALL INCLUDE THE MAXIMUM WEIGHT TO BE SUPPORTED. (CEC ARTICLE 314.27 (C))
 - LUMINAIRES IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH NEC ARTICLE 410.16
 - MINIMUM 90% OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH EFFICACY LAMPS. IECC
 - ALL 120 VOLTS, SINGLE PHASE 15 AND 20 AMPERE BRANCH CIRCUIT SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. (CEC ARTICLE 210.12(A)) CONTRACTOR TO PROVIDE AT LEAST ONE SWITCH LIGHT FIXTURE OR SWITCH LIGHTING OUTLET FOR ATTICS, UNDER FLOOR SPACES.
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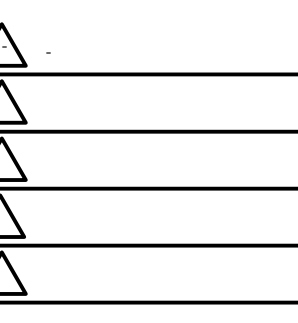


SCALE : 3/16"=1'-0"



New Care Taking Facility
969 Cypress Ave.
Colton CA, 92324

REVISIONS:



DATE:

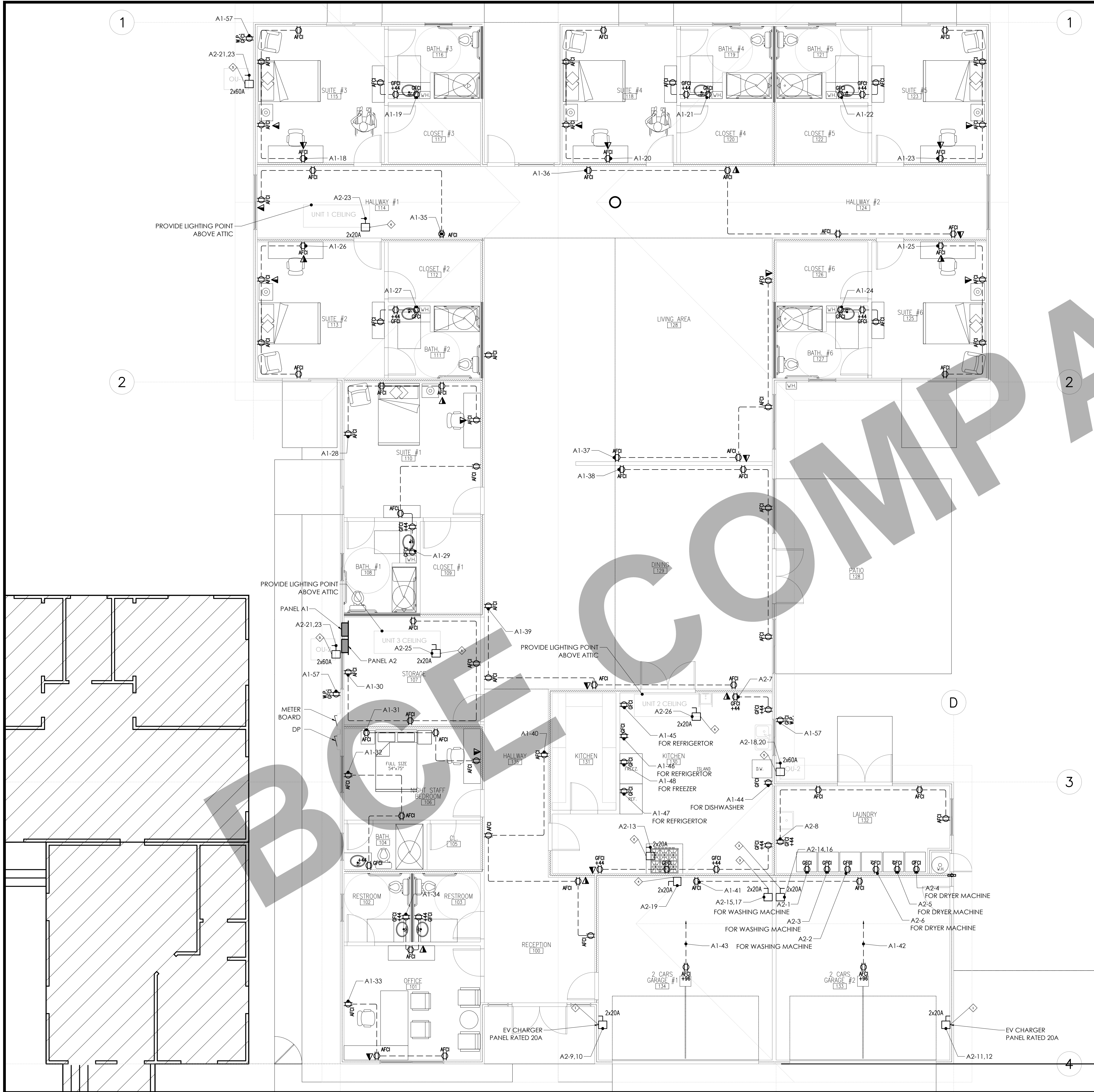
DRAWN BY:
CHECKED BY:
DESIGNED BY:

(EAST SIDE)
LIGHTING
PLAN

JOB No:
SHEET:

E1.0

SHEET NO.



SHEET NOTES:

- 1 DISCONNECT SWITCH FOR EV CHARGER PANEL
- 2 DISCONNECT SWITCH FOR EXHAUST FAN & KITCHEN EXHAUST FAN
- 3 DISCONNECT SWITCH FOR WATER HEATER
- 4 DISCONNECT SWITCH FOR PUMP
- 5 DISCONNECT SWITCH FOR OUTDOOR UNIT
- 6 DISCONNECT SWITCH FOR INDOOR UNIT

GENERAL NOTES:

1. ALL 120 VOLTS, SINGLE PHASE 15 AND 20 AMPERE BRANCH CIRCUIT SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT (FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, BEDS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. (CEC ARTICLE 210.12(A))
2. IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LIBRARY, DEN, SUNROOM, BEDROOM, RECREATION ROOM OR SIMILAR ROOM OR AREA OF DWELLING UNITS RECEPTACLE OUTLETS SHALL BE INSTALLED IN ACCORDANCE WITH THE GENERAL PROVISIONS SPECIFIED IN THE FOLLOWING ARTICLES:
 - a. CEC ARTICLE 210.52(A) (1) SPACING: RECEPTACLES SHALL BE INSTALLED SO THAT NO POINT ALONG THE FLOOR LINE OF THE WALL IS MORE THAN 6 FEET FROM A RECEPTACLE.
 - b. CEC ARTICLE 210.52(C) (2) AS AMENDED WALL SPACE: ANY WALL 24-INCHES OR MORE IN LENGTH SHALL BE PROVIDED WITH A RECEPTACLE OUTLET. WALL SPACE SHALL INCLUDE AROUND CORNERS, THE FIRST SLIDING PANEL OF A SLIDING DOOR, FIXED ROOM DIVIDERS SUCH AS A FREESTANDING BAR TYPE COUNTER, WALL SPACE NEED NOT INCLUDE THE SPACE BEHIND OPERABLE DOORS, AND NEED NOT INCLUDE ENTRIES, HALLWAYS ETC. LESS THAN 5-FEET WIDE LOCATED IN BEDROOMS.
 - c. CEC ARTICLE 210.52(A) (3) AS AMENDED FLOOR RECEPTACLES.
3. IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LIBRARY, DEN, SUNROOM, BEDROOM, RECREATION ROOM OR SIMILAR ROOM OR AREA OF DWELLING UNITS, ALL 125 VOLTS 15 AND 20 AMP RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES (CEC 406.12).
1. PROVIDE MINIMUM WORKING SPACE FOR ALL POWERED DISCONNECTS OPERATING AT 480 VOLTS, NOMINAL OR LESS. THE MINIMUM WIDTH SHALL BE THIRTY-INCHES (30") OR THE WIDTH OF THE EQUIPMENT GREATER THAN THIRTY-INCHES (30") AND A MINIMUM DEPTH OF THREE-FOOT (3') FOR ALL PROPOSED ELECTRICAL EQUIPMENT. (ARTICLE 110.26 AS AMENDED).
2. PLEASE PROVIDE GFCI PROTECTION FOR ALL RECEPTACLES WITHIN SIX FEET (6') OF THE OUTSIDE EDGE OF ANY SINK. (ARTICLE 210.8(A)(7)) PLEASE PROVIDE FOR GRAPHICALLY.
3. PROVIDE GFCI PROTECTION, AND A WEATHERPROOF ENCLOSURE, FOR ALL 125-VOLT, SINGLE-PHASE, 20-AMPERE RECEPTACLES INSTALLED OUTDOORS AND UP ON ROOFTOPS. (ARTICLE 210.8(B)(4)).
4. PLEASE PROVIDE RECEPTACLES ABOVE THE COMMERCIAL FRONT WINDOWS IN ACCORDANCE WITH ARTICLE 210.62.
5. PLEASE NOTE ALL ELECTRICAL BOXES ON OPPOSITE SIDES OF THE 1-HOUR TENANT DEMISING/SEPARATION WALL SHALL BE HORIZONTALLY SEPARATED BY NO LESS THAN TWENTY-FOUR-INCHES (24") OR SHALL BE PROTECTED WITH INTUMESCENT "PUTTY PADS". (ARTICLE 300.21).
6. ELECTRIC DRINKING FOUNTAINS SHALL BE PROTECTED WITH GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION. (ARTICLE 422.52).
7. THE RECEPTACLE IN THE ELEVATOR MACHINE ROOM SHALL BE GFCI PROTECTED. (ARTICLE 620.85).

SCALE : 3/16"=1'-0"



New Care Taking Facility
969 Cypress Ave.
Colton CA, 92324

REVISIONS:

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DATE:

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DESIGNED BY:

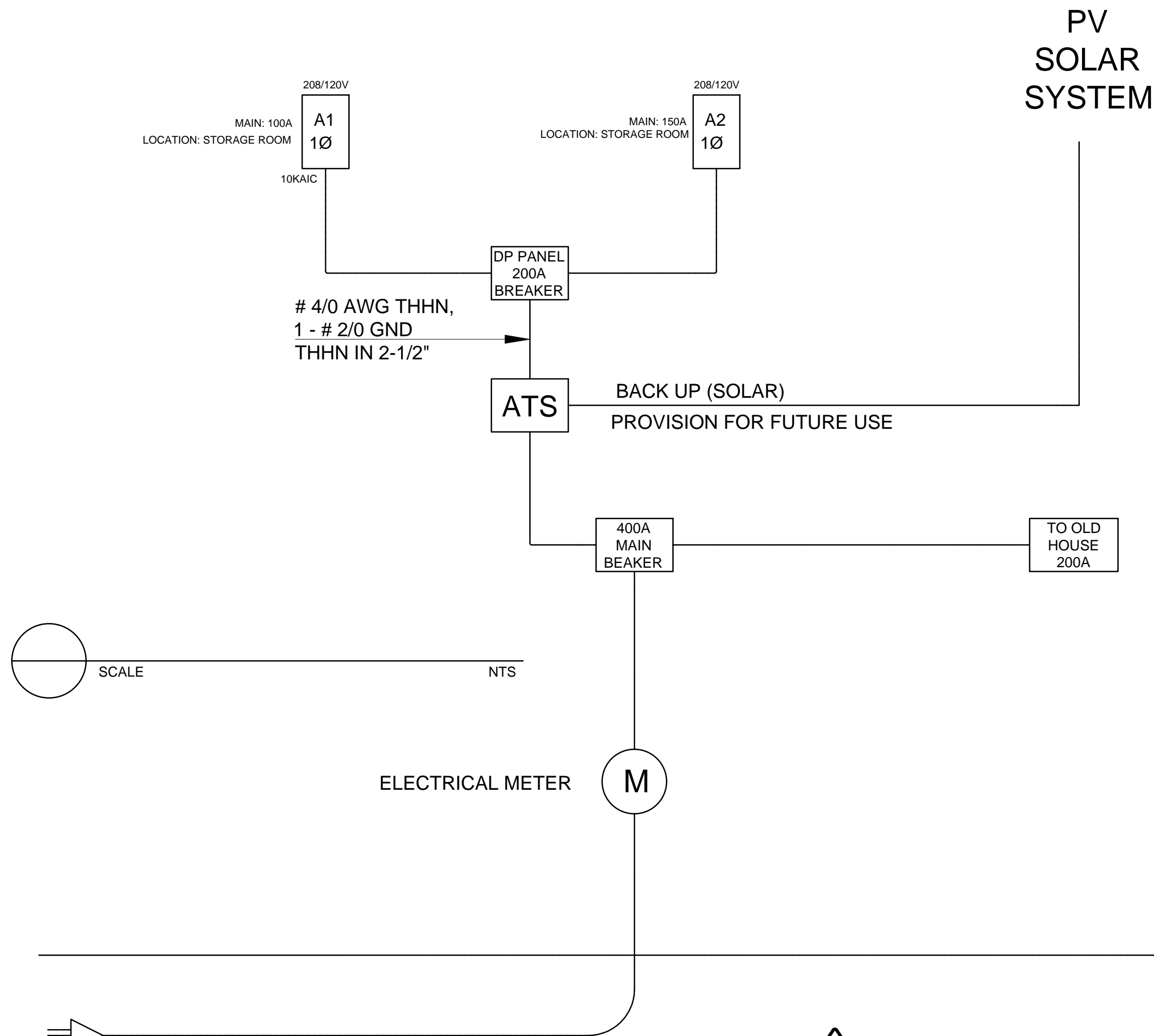
(EAST SIDE)
POWER
PLAN

JOB No:

SHEET:

E2.0

SHEET NO.



SERVICE ENTRANCE
FROM UTILITY
208/120 V, 1Ø, 60Hz

(Location):				CONNECTED LOAD		DEMAND TOTAL
* LOAD SUMMARY	CL	DF	A	B		
L Lighting		0.90				
R Convenience Recept		0.90				
H Heating (Space)		1.25				
C Cooling		1.00				
A HVAC		0.90				
P Process	44.72	0.70	23.23	21.49	31.31	
O Other Continuous		1.00				
K Kitchen		0.65				
N Noncontinuous		1.00				
		1.00				
Total	44.72		23.23	21.49	31.31	
Total Demand Load (KVA)	31.31	* GFCI Breaker ** Lock on Device as per NEC 700.12 (1)(2)(3)				
Total Demand Current (A)	150.51					
Min. Feeder Ampacity (A)	188.13					

PANEL DP	
PANELBOARD DESIGNATION	
SYSTEM VOLTAGE	208/120V , 1Ø, 3W
BUS SIZE	200A
SYSTEM TYPE	NORMAL
FEEDER PROT	200A-1P C/B Bus Plug
CONDUCTOR SIZE	4/0 AWG - #2/0G CU
CONDUCTOR/PHASE	1
MAINS	200A MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	82
FEEDER V. DROP (%)	0.961
FAULT CURRENT	
KAIC RATING	10
ENCLOSURE	TYPE 1

DESCRIPTION	*	CB	KVA	A	B	KVA	DESCRIPTION	*
PANEL A1	P	100A-2P	7.62	23.23		15.62	PANEL A2	P
	P		6.29		21.49	15.20		P
SPARE		125A-2P					SPARE	
SPARE		125A-2P					SPARE	
SPARE		125A-2P					SPARE	
			(KVA)				Updated	xx.xx.xxxx
Total Connected Load			23.23	21.49				

01

The EGC at the panels shall either be a minimum of 6 AWG or protected from physical damage. [CEC 250.120(C)]

(Location:)				CONNECTED LOAD		DEM AND TOTAL
* LOAD SUMMARY	CL	DF	A	B		
L Lighting	6.95	0.80	3.47	2.79	5.56	
R Convenience Recept	19.67	0.40	8.96	9.20	7.87	
H Heating (Space)		1.25				
C Cooling		1.00				
A HVAC		0.80				
P Process		1.00				
O Other Continuous		1.00				
K Kitchen	3.87	0.80	0.99	2.88	3.09	
N Noncontinuous		1.00				
		1.00				
Total	30.49		13.41	14.87	16.52	

Total Demand Load (KVA)16.52

Total Demand Current (A)79.42

Min. Feeder Ampacity (A)99.28

*: GFCI Breaker

** Lock on Device as per NEC 700.12 (1)(2)(3)

***: Controlled by photo cell

PANEL A1	
PANELBOARD DESIGNATION	
SYSTEM VOLTAGE	208/120V, 1Φ, 3W
BUS SIZE	100A
SYSTEM TYPE	NORMAL
FEEDER PROT	100A-1P C/B Bus Plug
CONDUCTOR SIZE	1 AWG - #4G CU
CONDUCTOR/PHASE	1
MAINS	100A MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	82
FEEDER V. DROP (%)	1.215
FAULT CURRENT	
KAIC RATING	10
ENCLOSURE	TYPE 1

DESCRIPTION	*	CB	KVA	A	B	KVA	CB	DESCRIPTION	*
1 Ltg. Suite Room	L	15A-1P	0.40	0.80		0.40	15A-1P	Ltg. Suite Room	L
3 Ltg. Suite Room	L	15A-1P	0.40		0.80	0.40	15A-1P	Ltg. Suite Room	L
5 Ltg. Suite Room	L	15A-1P	0.40	0.75		0.35	15A-1P	Ltg. Suite Room	L
7 Ltg. Reception	L	15A-1P	0.40		0.85	0.45	15A-1P	Ltg. Hall Way	L
9 Ltg. Dining & Living Rea	L	15A-1P	0.50	1.00		0.50	15A-1P	Ltg. Dining & Living Rea	L
11 Exit Light **	L	15A-1P	0.35		0.65	0.40	15A-1P	Ltg. Storage & Night Staff	L
13 Ltg. Office & Restroom	L	15A-1P	0.50	1.00		0.50	15A-1P	Ltg. External Light ***	L
15 Ltg. Kitchen	L	15A-1P	0.50		0.70	0.20	15A-1P	Emergency Light **	L
17 Ltg. Garage	L	15A-1P	0.30	1.11		0.81	20A-1P	Receptacle Suite Room	R
19 Receptacle Suite Room	R	20A-1P	0.81		1.62	0.81	20A-1P	Receptacle Suite Room	R
21 Receptacle Suite Room	R	20A-1P	0.81	1.62		0.81	20A-1P	Receptacle Suite Room	R
23 Receptacle Suite Room	R	20A-1P	0.81		1.62	0.81	20A-1P	Receptacle Suite Room	R
25 Receptacle Suite Room	R	15A-1P	0.81	1.62		0.81	15A-1P	Receptacle Suite Room	R
27 Receptacle Suite Room	R	20A-1P	0.81		1.62	0.81	20A-1P	Receptacle Suite Room	R
29 Receptacle Suite Room	R	20A-1P	0.81	1.62		0.81	20A-1P	Receptacle Storage	R
31 Receptacle Night Staff	R	20A-1P	0.81			0.81	20A-1P	Receptacle Night Staff	R
33 Receptacle Office	R	20A-1P	0.81			0.81	20A-1P	Receptacle Office	R
35 Receptacle Corridor	R	20A-1P	0.81			0.81	20A-1P	Receptacle Corridor	R
37 Receptacle Living Room	R	20A-1P	0.81			0.81	20A-1P	Receptacle Dining Room	R
39 Receptacle Dining Room & Corridor	R	20A-1P	0.81			0.81	20A-1P	Receptacle Corridor & Reception	R
41 Receptacles Garage	R	20A-1P	0.54			0.50	20A-1P	Garage Door	R
43 Garage Door	R	20A-1P	0.50			1.49	20A-1P	Dish Washer	K
45 Refrigerator	K	20A-1P	0.49			0.49	20A-1P	Refrigerator	K
47 Refrigerator	K	20A-1P	0.49			0.90	20A-1P	Freezer	K
49 SPARE		15A-1P					15A-1P	SPARE	50
51 SPARE		20A-1P					20A-1P	SPARE	52
53 SPARE		20A-1P					20A-1P	SPARE	54
(KVA)							Updated xx.xx.xxxx		
Total Connected Load			9.52	7.86					

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The EGC at the panels shall either be a minimum of 6 AWG or protected from physical damage. [CEC 250.120(C)]

(Location:)			CONNECTED LOAD		DEMAND TOTAL
* LOAD SUMMARY	CL	DF	A	B	TOTAL
L Lighting		0.90			
R Convenience Recept	2.16	0.40	1.94	0.86	
H Heating (Space)	11.00	0.70	5.50	5.50	7.70
C Cooling		1.00			
A HVAC	20.18	0.70	11.06	9.13	14.13
P Process		1.00			
O Other Continuous	3.00	0.70	1.50	1.50	2.10
K Kitchen	2.20	0.65	1.46	0.73	1.43
N Noncontinuous		1.00			
		1.00			
Total	38.54		19.52	18.80	26.22
Total Demand Load (KVA)	26.22				
Total Demand Current (A)	126.05				
Min. Feeder Ampacity (A)	157.56				

PANEL A2	
PANELBOARD DESIGNATION	
SYSTEM VOLTAGE	208/120V, 1Φ, 3W
BUS SIZE	150A
SYSTEM TYPE	NORMAL
FEEDER PROT	150A-1P C/B Bus Plug
CONDUCTOR SIZE	2/0 AWG - #2G CU
CONDUCTOR/PHASE	1
MAINS	150A MCB
SCCR	SERIES RATED
MCB RATING	80%
GROUND FAULT	NO
FEEDER LENGTH (FT)	82
FEEDER V. DROP (%)	1.146
FAULT CURRENT	
KAIC RATING	10
ENCLOSURE	TYPE 1

DESCRIPTION	*	CB	KVA	A	B	KVA	CB	DESCRIPTION	*
1 Washing Machine	K	20A-1P	0.44	0.88	0.44	20A-1P	Washing Machine	K 2	
3 Washing Machine	K	20A-1P	0.44	0.73	0.29	20A-1P	Dryer Machine	K 4	
5 Dryer Machine	K	20A-1P	0.29	0.59	0.29	20A-1P	Dryer Machine	K 6	
7 Receptacle Kitchen	R	20A-1P	1.08	2.16	1.08	20A-1P	Receptacle Laundry	R 8	
9 EV CHARGER	O	20A-2P	0.75	1.50	0.75	20A-2P	EV CHARGER	O 10	
11 EV CHARGER	O	20A-2P	0.75	1.50	0.75	20A-2P	EV CHARGER	O 12	
13 Kitchen Exhaust Fan KEF-01	A	20A-1P	0.15	2.90	2.75	20A-2P	Water Heater	H 14	
15 Water Heater	H	20A-2P	2.75	5.50	2.75	60A-2P	OU-02	H 16	
17 Water Heater	H	20A-2P	2.75	5.20	2.45	60A-2P	OU-01	A 18	
19 EV CHARGER	A	60A-2P	2.45	4.90	2.45	60A-2P	OU-01	A 20	
21 EV CHARGER	A	60A-2P	2.45	4.90	2.45	60A-2P	OU-01	A 22	
23 UNIT 1 INDOOR UNIT	A	20A-1P	1.78	4.23	2.45	20A-1P	UNIT 2 INDOOR UNIT	A 24	
25 UNIT 3 INDOOR UNIT	A	20A-1P	1.78	3.56	1.78	20A-1P	UNIT 2 INDOOR UNIT	A 26	
27 SPARE		20A-1P				15A-1P	SPARE	28	
29 SPARE		20A-1P				15A-1P	SPARE	30	
31 SPARE		20A-1P				20A-1P	SPARE	32	
33 SPARE		20A-1P				20A-1P	SPARE	34	
35 SPARE		20A-1P				20A-1P	SPARE	36	
			(KVA)			Updated xx.xx.xxxx			
Total Connected Load			19.52	19.02					

SCALE : NTS



New Care Taking Facility

969 Cypress Ave.
Colton CA, 92324

REVISIONS:

AS PER CITY COMMENTS

DATE: 05/07/2023

DRAWN BY:
CHECKED BY:
DESIGNED BY:

(EAST SIDE)
RISER DIAGRAM &
PANEL BOARDS

JOB No:
SHEET:

E3.0

SHEET NO.

PLUMBING SPECIFICATIONS

THE WORK INCLUDES MODIFICATION TO THE EXISTING PLUMBING SYSTEM AND PROVIDING NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BEVERAGE DISPENSING EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND/OR ORDINANCES AND IS SUBJECT TO INSPECTION. HOOK-UP CHARGES, PERMITS AND ALL OTHER EXPENSES RELATED TO A COMPLETE AND FUNCTIONING PLUMBING SYSTEM ARE INCLUDED AS A PART OF THIS SECTION. WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION. THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH ALL APPLICABLE ADA INSTALLATION REQUIREMENTS. COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PIPING SYSTEMS - GENERAL: ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. ALL PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES. INSTALL AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING, PROVIDE AN ISOLATING DIALECTIC UNION. ALL HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION. PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED. FIXTURES/EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS WATER, GAS, AIR, SUPPLIES, WASTE OUTLET, TRAPS, ETC. AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER, GENERAL CONTRACTOR, FOOD SERVICE CONTRACTOR, EQUIPMENT SUPPLIER, ETC. INCLUDED ARE STOP VALVES, ESCUTCHEONS, AND CHROME PLATED BRASS TUBING WITH COMPRESSION FITTINGS. SEWER AND WASTE PIPING: PROVIDE ALL DRAINS AND SEWERS WITHIN THE SPACE WITH CONNECTION TO THE EXISTING DRAINAGE SYSTEMS ON-SITE. SANITARY DRAINAGE PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. SANITARY DRAINAGE PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS MAY BE USED (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES). ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED, 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON THE DRAWINGS. VENTS: PROVIDE A COMPLETE SYSTEM OF STANDARD WEIGHT CAST IRON NO-HUB VENT RISERS WHERE THE CEILING SPACE IS USED AS A RETURN AIR PLENUM OR USE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES) WHERE THERE IS A DUCTED RETURN AIR SYSTEM. DO NOT USE PVC PIPE IN RETURN AIR PLENUM SPACES. THE VENT SYSTEM SHALL BE CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING. CONDENSATE AND INDIRECT DRAIN PIPING: PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS. CLEANOUTS: PROVIDE CLEANOUTS AT THE END OF EACH HORIZONTAL RUN, AND AT THE BASE OF ALL VERTICAL WASTE AND DRAIN PIPES. CLEANOUTS SHALL BE OF THE SAME SIZE AS THE PIPES THEY SERVE, CONFORMING TO CODE REQUIREMENTS. PROVIDE SUITABLE WALL OR FLOOR CLEANOUTS WITH ACCESSORIES TO OBSCURE FROM VIEW. WATER DISTRIBUTION PIPING: LAYOUT WATER PIPING SO THAT THE ENTIRE SYSTEM CAN BE DRAINED. HOT AND COLD WATER PIPING SHALL BE 1/2" MIN. CPVC PIPE WITH SOLVENT FITTING. PROVIDE WATER HAMMER ARRESTERS AT EACH FIXTURE OR GROUP OF FIXTURES AS REQUIRED. INSTALL CHROME PLATED BRASS ESCUTCHEON PLATES AT ALL PENETRATIONS THROUGH FINISHED SURFACES (INCLUDING CABINET INTERIORS). PIPE INSULATION: INSULATE (AS ALLOWED BY CODE) ALL LISTED SERVICE PIPING AS FOLLOWS. DOMESTIC COLD/HOT WATER, HOT WATER RETURN, STORM WATER PIPING. PROVIDE 1" PREFORMED FIBERGLASS, ASJSS-11, FLAME SPREAD 25, SMOKE DEVELOPED 50, ASTM C-547. FOR CONDENSATE PIPING PROVIDE 1/2" THICK INSULATION OF SAME CHARACTERISTICS AS LISTED FOR 1" ABOVE. WHERE PERMITTED BY LOCAL CODES, PROVIDE 1/2" SELF-ADHESIVE UNICELLULAR FOAM PIPE INSULATION WITH PRE-FORMED PVC FITTING COVERS - EQUAL TO SELF-ADHESIVE ARMSTRONG 2000 WITH K FACTOR OF 0.27 AT 75 DEGREES MEAN TEMPERATURE. INSULATE ANY EXPOSED CONDENSATE PIPING WITH WASTE TEMPERATURE BELOW 60 DEGREES F. SHUTOFF VALVES, WITH UNIONS SHALL BE PROVIDED FOR SERVICE TO EACH PLUMBING FIXTURE. FOOD SERVICE EQUIPMENT ITEM OR OTHER EQUIPMENT ITEM, TO FACILITATE ISOLATION FOR REPAIR OR REPLACEMENT. VALVES SHALL BE EQUAL TO JENKINS #902-T BALL VALVE, CHROME-FINISHED BRONZE, TEFLON SEATS AND PACKING, 400 LB. W.O.G., SOLDER END. ACCESS PANELS SHALL BE PROVIDED WHERE CONCEALED CONTROL DEVICES, VALVES, ETC. ARE CONCEALED WITHIN WALLS. WHERE ACCESS FOR ADJUSTMENT AND MAINTENANCE IS POSSIBLE THROUGH LAY-IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED. PIPING SYSTEM- PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPE WITH SOLVENT FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES. INSTALLATION: THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES ARE INSTALLED AND FINAL CONNECTIONS HAVE BEEN MADE. PROCEED AS RAPIDLY AS CONSTRUCTION WILL PERMIT. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL, FOR SANITARY JOINT, AND OMIT ESCUTCHEONS. REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS. TEST WATER SYSTEM UNDER 150 PSIG HYDROSTATIC PRESSURE, FOR FOUR (4) HOURS MINIMUM. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED. ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOFING WARRANTY.

GENERAL NOTES

1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE PLUMBING INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.
2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2006 UNIFORM PLUMBING CODE, 2006 INTERNATIONAL BUILDING CODE, 2006 INTERNATIONAL ENERGY CONSERVATION CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.
3. COORDINATE ENTIRE INSTALLATION OF THE PLUMBING SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
5. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS. PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR.
6. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCT, PIPE, CONDUIT, ETC.
7. ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.
8. ALL HOT WATER PIPING AND RECIRCULATION PIPING (EXCEPT RUNOUTS 12 FT. OR SHORTER TO INDIVIDUAL FIXTURES) SHALL BE INSULATED TO MEET THE REQUIREMENTS OF THE 2006 INTERNATIONAL ENERGY CONSERVATION CODE
9. CONDENSATE DRAINS SHALL BE PROVIDED FOR EACH AIR CONDITIONING UNIT. HORIZONTAL CONDENSATE DRAINS ABOVE ANY CEILING SHALL BE INSULATED WITH MIN. 3/8" THICK CLOSED CELL INSULATION.
10. PIPING:

A. WASTE, VENT, AND STORM DRAIN PIPING SHALL BE CO-EXTRUDED PVC SCHEDULE 40) PIPE

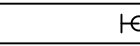

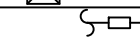
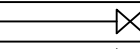
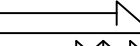

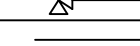
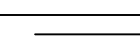
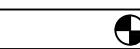
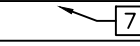
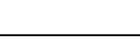
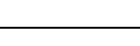
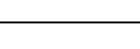
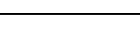
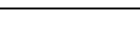
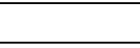
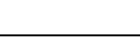
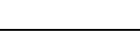
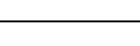
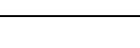
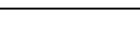
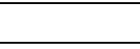
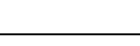
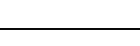
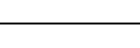
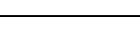




B. WATER PIPE SHALL BE CPVC PIPE

C. CONDENSATE PIPING SHALL BE CO-EXTRUDED PVC (SCHEDULE 40) PIPE

D. INSIDE GAS PIPING SHALL BE BLACK IRON SCHEDULE 40 WITH MALLEABLE IRON FITTINGS. OUTSIDE SHALL BE GALVANIZED IRON SCHEDULE 40 WITH GALVANIZED FITTINGS. GAS LINE TO BE PAINTED GRAY IN COLOR. A 24 HOUR METERED GAS TEST SHALL BE REQUIRED.

E. ALL PIPING NOT ENCLOSED IN CONDITION SPACE OR AT EXTERIOR WALLS SHALL BE INSULATED.

F. PIPING: PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPING WITH SOLVENT WELD FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES
11. ALL VENTS OR EXHAUSTS SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. ABOVE ANY WINDOW, DOOR, OPENING, OR AIR INTAKE.
12. CLEANOUTS SHALL BE INSTALLED PER THE UNIFORM PLUMBING CODE.
13. PROVIDE WATER TIGHT FLASHINGS WHEREVER PIPES PASS THROUGH EXTERIOR WALLS, ROOFS, OR FLOORS.
14. PROVIDE ISOLATION FOR ALL PIPES THAT COME IN CONTACT WITH THE STRUCTURE
15. LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.
16. VALVES SHALL BE NIBCO, JENKINS, HAMMOND, RED & WHITE OR APPROVED EQUAL. SERVICE PRESSURE SHALL BE SUITABLE FOR SERVICE INTENDED. THE MAIN WATER SHUT OF VALVE SHALL BE A FULL PORT BALL TYPE AND APPROVED FOR SERVICE INTENDED.
17. CONTRACTOR SHALL PROVIDE ALL SHUT OFF VALVES AS NECESSARY TO ISOLATE ANY EQUIPMENT, PLUMBING ITEMS, OR FIXTURES, THAT MAY NEED SERVICING OR ARE SUBJECT TO FAILURE WHETHER OR NOT SUCH VALVES ARE SHOWN ON THE DRAWINGS.
18. PROVIDE HANGERS AND SUPPORTS AS REQUIRED. PLUMBERS TAPE AND WIRE ARE NOT ACCEPTABLE.
19. CONTRACTOR IS RESPONSIBLE FOR HIS OWN TRENCHING, BACKFILL, AND COMPACTION OF TRENCHES NECESSARY TO COMPLETE HIS SCOPE OF WORK. BACKFILLED TRENCHES SHALL BE RETURNED TO THEIR ORIGINAL GRADE UNLESS NOTED OTHERWISE.
20. CONTRACTOR SHALL AFFIX A MAINTENANCE LABEL TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE AND SHALL PROVIDE MAINTENANCE AND OPERATIONAL MANUALS IN ACCORDANCE WITH THE SPECIFICATIONS.
21. ALL EQUIPMENT THAT REQUIRES KEYS OR SPECIAL TOOLS TO OPERATE SHALL SUPPLY THE OWNER WITH TWO OF ANY SUCH KEYS OR TOOLS FOR EACH PIECE OF EQUIPMENT THAT REQUIRE THE SAME.
25. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE APPROVAL, IN WRITING, OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.
26. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL LINES NOT CONCEALED SHALL BE SECURED 6" OFF THE FLOOR AND 3/4" FROM THE WALLS USING STANDOFF BRACKETS
27. AN APPROVED BACKFLOW PREVENTOR SHALL BE PROPERLY INSTALLED UPSTREAM OF ANY POTENTIAL HAZARD BETWEEN THE POTABLE WATER SUPPLY AND SOURCE OF COMTAMINATION.
28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN IN-DIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR GAP.

PLUMBING LEGEND		
SYMBOL	ABBRV	DESCRIPTION
	SS or W	NEW SEWER OR WASTE
	V	NEW VENT
	CW	NEW COLD WATER
	HW	NEW HOT WATER
	G	NEW GAS
	CD	NEW CONDENSATE DRAIN
	CA	COMPRESSED AIR
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	TP	TRAP PRIMER & TRAP PRIMER PIPING
	SOV	SHUT-OFF VALVE
	CV	CHECK VALVE
	PRV	BACKFLOW PREVENTER W SOV'S
	T & P	
	DN	PIPE DOWN
	UP	PIPE UP
	POC	POINT OF CONNECTION
	-	PLUMBING NOTE CALL-OUT
	ABV	ABOVE
	AFF	ABOVE FINISH FLOOR
	AP	ACCESS PANEL
	BEL	BELOW
	BLDG	BUILDING
	CLG	CEILING
	CONT	CONTINUATION
	EL	ELEVATION
	FIN	FINISH
	FL	FLOOR
	GR	GRADE
	NTS	NOT TO SCALE
	OC	ON CENTER
	S= %	SLOPE AT A PERCENTAGE
	SHT	SHEET
	TYP	TYPICAL
	VTR	VENT THRU ROOF

PLUMBING / GENERAL NOTES

BATHTUBS AND WHIRPOOL BATHTUBS. THE MAX. HOT WATER TEMPERATURE DISCHARGING SHALL BE LIMITED TO 120 DEGREES.

BATHTUBS WASTE OPENING IN FLOOR OVER CRAWL SPACES SHALL BE PROTECTED BY A METAL SCREEN NOT EXCEEDING 12" OR SOLID COVER.

SHOWERS AND TUB-SHOWERS COMBINATIONS IN ALL BUILDINGS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION OF BOTH THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION. VALVES SHALL BE ADJUSTED TO DELIVER A MAXIMUM MIXED WATER SETTING OF 120 DEGREES FAHRENHEIT. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION. VERIFY AND WHERE WATER PRESSURE EXCEEDS 80 PSI AN APPROVED PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED

1-INSTALL TEMPERATURE AND PRESSURE RELIEF VALVE WITH MINIMUM 3/4" DRAIN PIPE AND TERMINATE TO THE EXTERIOR OF THE BUILDING OVER WINDOW, DOOR OR VISIBLE LOCATION. DISCHARGE FROM A RELIEF VALVE INTO A WATER HEATER PAN SHALL BE PROHIBITED

2-PROVIDE (ON THE PLANS) A GAS PIPING DIAGRAM OF THE GAS PIPING SYSTEM THAT INCLUDES ALL PIPE SIZES, PIPE LENGTHS AND BTU RATINGS.

3-SUBMIT GAS LOAD CALCULATIONS IN ACCORDANCE WITH IPC TABLE 12-8 TO VERIFY THE PIPE SIZES ARE ADEQUATE FOR THE MAXIMUM DELIVERY CAPACITY OF CUBIC FEET OF GAS PER HOUR.

4- A WHOLE HOUSE HAS TEST IS REQUIRED UPON COMPLETION OF THE INSTALLATION. ALTERATION, OR REPAIR OF ANY GAS PIPING. THE CITY SHALL BE NOTIFIED WHEN GAS PIPING IS READY FOR INSPECTION.

5- 2 GPM SHOWER FIXTURE, MAX.1.5 GPM BATHROOM FAUCET, MAX. 2 GPM KITCHEN FAUCET, AND MAX 1.28 WATER CLOSET TO CONFORM TO CITY GREEN REQUIREMENTS.

BATHROOMS: PROVIDE AN EXHAUST FAN (AT LEAST 50 CFM) DUCTED TO THE OUTSIDE (MINIMUM 4" DIAMETER FLEX DUCT WITH A MAXIMUM LENGTH OF 70')WITH A MINIMUM VENTILATION RATE OF 100 CFM. IDENTIFY THE REQUIREMENT FOR A BACKDRAFT DAMPER ON THE DUCT, AN ENERGY STAR COMPLIANT EXHAUST FAN THAT IS CONTROLLED BY A HUMIDITY SENSOR THAT IS CAPABLE OF BEING ADJUSTED BETWEEN ≤ 50-PERCENT TO 80-PERCENT HUMIDITY; AND A SEPARATE SWITCH FROM THE LIGHT UNLESS THE FAN IS ALLOWED TO OPERATE WITH THE LIGHT SWITCHED OFF.

6-NOTE THAT ALL PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 6" ABOVE ROOF NOR LESS THAN 1' FROM ANY VERTICAL SURFACE. VENTS SHALL TERMINATE NOT LESS THAN 10" FROM OR 3' ABOVE ANY WINDOW, DOOR OPENING AIR INTAKE, OR VENT SHAFT NOR 3' FROM LOT LINE. IF WATER PRESSURE EXCEEDS 80 PSI, AND EXPANSION TANK AND AN APPROVED PRESSURE REGULATOR SHALL BE INSTALLED.

NON-REMOVABLE BACK FLOW PRE-VENTER OR BIBB-TYPE VACUUM BREAKER WILL BE INSTALLED ON ALL EXTERIOR HOSE BIBS. HOT WATER RE-CIRCULATING SYSTEM IS INSTALLED, THE ENTIRE LENGTH OF HOT WATER PIPES SHALL BE INSULATED.

NOTES:

1-Projects which disturb less than one acre of soil shall manage storm water drainage during construction by one of the following: A. Retention basins. B. Where storm water is conveyed to a public drainage system, water shall be filtered by use of a barrier system, wattle or other approved method.

2-Site grading or drainage system will manage all surface water flows to keep water from entering buildings (swales, water collection, French drains, etc.). CGC Section 4.106.3. Exception: Additions not altering the drainage path.

3-When a shower is provided with multiple shower heads, the sum of flow to all the heads shall not exceed 1.8 gpm @ 80 psi, or the shower shall be designed so that only one head is on at a time. CGC Section 4.303.1.3.2.

4-Landscape irrigation water use shall have weather or soil based controllers. CGC Section 4.304.1.

5-The plans that a minimum of 65% of construction waste is to be recycled. CGC Section 4.408.1.

6-The contractor shall submit a Construction Waste Management Plan, per CGC Section 4.408.2.

7-The builder is to provide an operation manual (containing information for maintaining appliances, etc.) for the owner at the time of final inspection. CGC Section 4.410.1.

8-The gas fireplace(s) shall be a direct-vent sealed- combustion type. Woodstove or pellet stoves must be US EPA Phase II rated appliances. CGC Section 4.503.1.

WATER SAVING STANDARDS.

THE WATER SAVING PERFORMANCE STANDARDS FOR A PLUMBING FIXTURE ARE THOSE ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), CURRENT REVISION, OR THE FOLLOWING STANDARDS, WHICHEVER ARE THE MORE RESTRICTIVE

1-THE MAXIMUM FLOW FROM A SINK OR LAVATORY FAUCET OR A FAUCET AERATOR SHALL NOT EXCEED 0.5 GALLONS OF WATER PER MINUTE AT A PRESSURE OF 60 POUNDS PER SQUARE INCH WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES. 2-THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A TOILET SHALL NOT EXCEED AN AVERAGE OF 1.28 GALLONS WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES

3- THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A URINAL AND THE ASSOCIATED FLUSH VALVE, IF ANY, SHALL NOT EXCEED AN AVERAGE OF ONE GALLON WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES

SPECIAL NOTICE TO CONTRACTORS

1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

REVISIONS:

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DATE:

DRAWN BY:
CHECKED BY:
DESIGNED BY:

PLUMBING LIST OF SYMBOLS AND GENERAL NOTES.

JOB No: _____
SHEET:

P0.0

SHEET NO.

SCALE : NTS

CALIFORNIA PLUMBING CODE CHECKING:

PIPE SUPPORTS:

TABLE 313.3
HANGERS AND SUPPORTS

MATERIALS	TYPES OF JOINTS	HORIZONTAL	VERTICAL
Cast	Lead and Oakum	5 feet, except 10 feet where 10 foot length are installed ^{2,3}	Base and each floor, not to exceed 15 feet
	Compression Gasket	Every other joint, unless over 4 feet then support each joint ^{1, 2, 3}	Base and each floor, not to exceed 15 feet
Cast-iron Hubless	Shielded Coupling	Every other joint, unless over 4 feet then support each joint ^{1, 2, 3, 4}	Base and each floor, not to exceed 15 feet
Copper & Copper Alloys	Soldered, Brazed, Threaded, or Mechanical	1 ½ inches and smaller, 6 feet; 2 inches and larger, 10 feet	Each floor, not to exceed 10 feet ⁵
Steel Pipe for Water or DWV	Threaded or Welded	¾ inch and smaller, 10 feet; 1 inch and smaller, 12 feet	Every floor, not to exceed 25 feet ⁵
Steel Pipe for Gas	Threaded or Welded	½ inch, 6 feet; ¾ inch and 1 inch, 8 feet; 1 ½ inches and larger, 10 feet	½ inch, 6 feet; ¾ inch and 1 inch, 8 feet; 1 ½ inches every floor level
Schedule 40 PVC and ABS DWV	Solvent Cemented	All sizes, 4 feet; allow for expansion every 30 feet ³	Base and each floor; provide mid-story guides; provide for expansion every 30 feet
CPVC	Solvent Cemented	1 inch and smaller, 3 feet; 1 ¼ inches and larger, 4 feet	Base and each floor; provide mid-story guides
CPVC-AL-CPVC	Solvent Cemented	½ inch, 5 feet; ¾ inch, 65 inches; 1 inch, 6 feet	Base and each floor; provide mid-story guides
Lead	Wiped or burned	Continuous Support	Not to exceed 4 feet
Steel	Mechanical	In accordance with standards acceptable to the Authority Having Jurisdiction	
PEX	Cold Expansion, Insert and Compression	1 inch and smaller, 32 inches; 1 ¼ inches and larger, 4 feet	Base and each floor; provide mid-story guides
PEX-AL-PEX	Metal Insert and Metal compression	½ inch } ¾ inch } 1 inch }	Base and each floor; provide mid-story guides
PE-AL-PE	Metal Insert and Metal compression	½ inch } ¾ inch } 1 inch }	Base and each floor; provide mid-story guides
PE-RT	Insert and Compression	1 inch and smaller, 32 inches; 1 ¼ inches and larger, 4 feet	Base and each floor; provide mid-story guides
Polypropylene (PP)	Fusion weld (socket, butt, saddle, electrofusion), threaded (metal threads only), or mechanical	1 inch and smaller, 32 inches; 1 ¼ inches and larger, 4 feet	Base and each floor; provide mid-story guides

For SI units: 1 inch = 25.4 mm, 1 foot = 304.8 mm

Notes:

¹ Support adjacent to joint, not to exceed 18 inches (457 mm)

² Splice not to exceed 40 foot (12 192 mm) intervals to prevent horizontal movement.

³ Support at each horizontal branch connection.

⁴ Hangers shall not be placed on the coupling.

⁵ Vertical water lines shall be permitted to be supported in accordance with recognized engineering principles with regard to expansion and contraction, where first approved by the Authority Having Jurisdiction.

DRAINAGE:

719.0 Cleanouts.

719.1 Locations. Cleanouts shall be placed inside the building near the connection between the building drain and the building sewer or installed outside the building at the lower end of the building drain and extended to grade.

Additional building sewer cleanouts shall be installed at intervals not to exceed 100 feet (30 480 mm) in straight runs and for each aggregate horizontal change in direction exceeding 135 degrees (2.36 rad)

719.2 No additional Cleanouts. Where a building sewer or a branch thereof does not exceed 10 feet (3048 mm) in length and is a straight-line projection from a building drain that is provided with a cleanout, no cleanout will be required at its point of connection to the building drain.

721.0 Location.

721.1 Building Sewer. Except as provided in Section 721.2, no building sewer shall be located in a lot other than the lot that is the site of the building or structure served by such sewer nor shall a building sewer be located at a point having less than the minimum distances referenced in Table 721.1.

706.0 Changes in Direction of Drainage Flow.

706.1 Approved Fittings. Changes in the direction of drainage piping shall be made by the approximate use of approved fittings and shall be of the angles presented by a one-sixteenth bend, one-eighth bend, or one-sixth bend, or other approved fittings of equivalent sweep.

706.2 Horizontal to Vertical. Horizontal drainage lines, connecting with a vertical stack, shall enter through 45 degree (0.79 rad) wye branch, 60 degree (1.05 rad) wye branches, combination wye and one-eighth bend branches, sanitary tee or sanitary topped tee branches, or other approved fittings of equivalent sweep.

706.4 Vertical to Horizontal. Vertical drainage lines connecting with horizontal drainage lines shall enter through 45 degree (0.79 rad) wye branches, combination wye and one-eighth bend branches, or other approved fittings of equivalent sweep. Branches, or other approved fittings of equivalent sweep, Branches or offsets of 60 degrees (1.05 rad) shall be permitted to be used where installed in a true vertical position.

707.4 Location. Each horizontal drainage pipe shall be provided with a cleanout at its upper terminal, and each run of piping, that is more than 100 feet (30 480 mm) in total developed length, shall be provided with a cleanout for each 100 feet (30 480 mm), or fraction thereof, in length of such piping. An additional cleanout shall be provided in a drainage line for each aggregate horizontal change in direction exceeding 135 degrees (2.36 rad). A cleanout shall be installed above the fixture connecting fitting, serving each urinal, regardless of the location of the urinal in the building.

Exceptions

(1) Cleanouts shall be permitted to be omitted on a horizontal drain line less than 5 feet (1 524 mm) in length unless such line is serving sinks or urinals

TABLE 703.2: MAXIMUM UNIT LOADING AND MAXIMUM LENGTH OF DRAINAGE AND VENT PIPING

SIZE OF PIPE (inches)	1 ¼	1 ½	2	3	4	5	6	8	10	12
Maximum Units										
Drainage Piping ¹										
Vertical	1	2 ²	16 ³	48 ⁴	256	600	1380	3600	5600	8400
Horizontal	1	1	6 ³	35 ⁴	216 ⁵	428 ⁵	720 ⁵	2640 ⁵	4680 ⁵	8200 ⁵
Maximum Length										
Drainage Piping										
Vertical	45	65	85	212	300	390	510	750	—	—
Horizontal										
Vent Piping										
Horizontal and Vertical ⁴										
Maximum Units	1	8 ³	24	84	256	600	1380	3600	—	—
Maximum Lengths, (feet)	45	60	120	212	300	390	510	750		

For SI units: 1 inch = 25 mm, 1 foot = 304.8 mm

Notes:

¹ Excluding trap arm.

² Except for sinks, urinals, and dishwashers – exceeding 1 fixture unit.

³ Except for six-unit traps or water closets.

⁴ Only four water closets or six-unit traps allowed on a vertical pipe or stack, and not to exceed three water closets or six-unit traps on a horizontal branch or drain.

⁵ Based on ¼ inch per foot (20.8 mm/m) slope. For ⅛ of an inch per foot (10.4 mm/m) slope, multiply horizontal fixture units by a factor of 0.8.

⁶ The diameter of an individual vent shall be not less than 1 ¼ inches (32 mm) nor less than one-half the diameter of the drain to which it is connected. Fixture unit load values for drainage and vent piping shall be computed from Table 702.1 and Table 702.2(2). Not to exceed one third of the total permitted length of a vent shall be permitted to be installed in a horizontal position. Where vents are increased one pipe size for their entire length, the maximum length limitations specified in this table do not apply. This table is in accordance with the requirements of Section 901.3.

707.5 Cleaning. Each cleanout shall be installed so that it opens to allow cleaning in the direction of flow of the soil or waste or at right angles thereto and, except in the case of wye branch and end-of-line cleanouts, shall be installed vertically above the flow line of the pipe.

708.0 Grade of Horizontal Drainage Piping.

708.1 General. Horizontal drainage piping shall be run in practical alignment and a uniform slope of not less than ¼ inch per foot (20.8 mm/m) or 2 percent toward the point of disposal provided that, where it is impractical due to the depth of the street sewer, to the structural features, or to the arrangement of a building or structure to obtain a slope of ¼ inch per foot (20.8 mm/m) or 2 percent, such pipe or piping 4 inches (100 mm) or larger in diameter shall be permitted to have a slope of not less than ⅛ inch per foot (10.4 mm/m) or 1 percent, where first approved by the Authority Having Jurisdiction.

TABLE 721.1
MINIMUM HORIZONTAL DISTANCE REQUIRED FROM BUILDING SEWER (feet)

Buildings or structures ¹	2
Property line adjoining private property	Clear ²
Water supply wells	50 ³
Streams	50
On-site domestic water service line	1 ⁴
Public water main	10 ^{5, 6}

WATER CONVERSION & WATER CONSUMPTION:

WATER CONSERVING PLUMBING FIXTURES AND FITTINGS	
Plumbing fixtures and fittings shall comply with the following: (2019 CGBSC, California Plumbing Code (CPC) and Table 1401.1 of the CPC)	
4303.1.1 All Water closets: <1.28 gallon flush Tank type water closet shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.	
4303.1.2 Urinals: <0.5 gallon flush	
4303.1.3.1 Single showerheads: ≤1.8 gpm @ 80 psi	
4303.1.3.2 Multiple showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm @ 80 psi or only one shower outlet is to be in operation at a time.	
4303.1.4.1 Residential Lavatory Faucets: 0.8 gpm @ 20 psi ≤ Flow Rate ≤1.2 gpm @ 60 psi	
4303.1.4.2 Lavatory Faucets in common and Public Use Areas (outside of dwellings or sleeping units) in residential buildings: ≤0.5 gpm @ 60 psi	
4303.1.4.3 Metering Faucets: ≤0.25 gallons per cycle	
4303.1.4.4 Kitchen Faucets: ≤1.8 gpm @ 60 psi; Maximum Flow Rate of 1.8 gpm	
PLUMBING FIXTURE CERTIFICATION REQUIRED: A plumbing fixture certification must be completed and signed by either a licensed general contractor, or a plumbing subcontractor, or the building owner certifying the flow rate of the fixtures installed. A copy of the certification can be obtained from the development services department.	

407.3 Limitation of Hot water Temperature for Public Lavatories.

Hot water delivered from public-use lavatories shall be limited to a maximum temperature of 120°F (49°C) by a device that complies with ASSE 1070/ASME A112.1070/CSA B125.70. The water heater thermostat shall not be considered a control for meeting this provision.

407.5 Waste Outlet. Lavatories shall have a waste outlet and fixtures tailpiece not less than 1 ¼ inches (32 mm) in diameter.

409.4 Limitation of Hot Water in Bathtubs and Whirlpool Bathtubs. The maximum hot water temperature discharging from the bathtub and whirlpool bathtub filler shall be limited to 120°F (49°C) by a device that complies with ASSE 1070/ASME A112.1070/CSA B125.70. The water heater thermostat shall not be considered a control for meeting this provision.

WATER HEATER:

501.1 Applicability.

The minimum capacity for storage water heaters shall be in accordance with the first-hour rating listed in Table 501.1(2).

Number of Bathrooms	1 to 1.5			2 to 2.5				3 to 3.5			
Number of Bedrooms	1	2	3	2	3	4	5	3	4	5	6
First hour rating, ² Gallons	38	49	49	49	62	62	74	62	74	74	74

For SI units: 1 gallon = 3.785 L.

Notes:

¹ The first-hour rating is found on the "Energy Guide" label.

² Solar water heaters shall be sized to meet the appropriate first-hour rating as shown in the table.

504.0 Water Heater Requirements.

504.1 Location. Water heater installations in bedrooms and bathrooms shall comply with one of the following [NFPA54:10.27.1]:

- (1) Fuel-burning water heaters shall be permitted to be installed in a closet located in the bedroom or bathroom provided the closet is equipped with a listed, gasketed door assembly and a listed self-closing device. The self-closing door assembly shall meet the requirements of Section 504.1.1. The door assembly shall meet the requirements of Section 504.1.2. Combustion air for such installations shall be obtained from the outdoors in accordance with Section 506.4. The closet shall be for the exclusive use of the water heater.
- (2) Water heater shall be of the direct vent type. [NFPA 54: 10.27.1(2)]

504.2 Vent. Water heaters of other than the direct-vent type shall be located as close as practical to the chimney or gas vent.

507.2 Seismic provisions. Water heaters shall be anchored or strapped to resist horizontal displacement due to earthquake motion. Strapping shall be at points within the upper one-third (⅓) and lower one-third (⅓) of its vertical dimensions. At the lower point, a minimum distance of four (4) inches (102 mm) shall be maintained above the controls with the strapping.

507.4 Ground Support. A water heater supported from the earth shall rest on level concrete or other approved base extending not less than 3 inches (76 mm) above the adjoining ground level.

507.5 Drainage Pan. Where a water heater is located in an attic, in or on an attic ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly where damage results from a leaking water heater, a watertight pan of corrosion-resistant materials shall be installed beneath the water heater with not less than ¾ of an inch (20 mm) diameter drain to an approved location. Such pan shall be not less than 1 ½ (38 mm) in depth.

507.13 Installation in Residential Garages. Appliances in residential garages and in adjacent spaces that open to the garage and are not part of the living space of a dwelling unit shall be installed so that all burners and burner-ignition devices are located not less than 18 inches (457 mm) above the floor unless listed as flammable vapor ignition resistant. [NFPA 54.9.1.10.1]

508.4.4 Lighting and Convenience Outlet. A permanent 120 V receptacle outlet and a lighting fixture shall be installed near the appliance. The switch controlling the lighting fixture shall be located at the entrance to the passageway. [NFPA 54.9.5.3]

508.2.1 Installation at roof: Clearance. Appliances shall be installed on a well-drained surface of the roof. At least 6 feet (1829 mm) of clearance shall be available between any part of the appliance, and the edge of a roof or similar hazard, or rigidly fixed rails, guards, parapets, or other building structures at least 42 inches (1067 mm) in height shall be provided on the exposed side. [NFPA 54.9.4.2.2]

VENT:

906.0 Vent Termination.

906.1 Roof Termination. Each vent pipe or stack shall extend through its flashing and shall terminate vertically not less than 6 inches (152 mm) above the roof nor less than 1 foot (305 mm) from a vertical surface. ABS and PVC piping exposed to sunlight shall be protected by water based synthetic latex paints.

906.2 Clearance. Each vent shall terminate not less than 10 feet (3048 mm) from, or not less than 3 feet (914 mm) above, an openable window, door, opening, air intake, or vent shaft, or not less than 3 feet (914 mm) in every direction from a hot line, alley and street excepted.

909.0 Special Venting for Island Fixtures.

909.1 General. Traps for island sinks and similar equipment shall be roughed in above the floor and shall be permitted to be vented by extending the vent as high as possible, but not less than the drainboard height and then returning it down- ward and connecting it to the horizontal sink drain immediately downstream from the vertical fixture drain. The return vent shall be connected to the horizontal drain through a wye-branch fitting and shall, in addition, be provided with a foot vent taken off the vertical fixture vent by means of a wye branch immediately below the floor and extending to the nearest partition and then through the roof to the open air, or shall be permitted to be connected to other vents at a point not less than 6 inches (152 mm) above the flood-level rim of the fixtures served. Drainage fittings shall be used on the vent below the floor level, and a slope of not less than ¼ inch per foot (20.8 mm/m) back to the drain shall be maintained. The return bend used under the drainboard shall be a one-piece fitting or an assembly of a 45 degree (0.79 rad), a 90 degree (1.57 rad), and a 45 degree (0.79 rad) elbow in the order named. Pipe sizing shall be as elsewhere required in this code.

The island sink drain, upstream of the returned vent, shall serve no other fixtures. An accessible cleanout shall be installed in the vertical portion of the foot vent.

WATER SUPPLY:

TABLE 611.4 SIZING OF RESIDENTIAL WATER SOFTENERS ⁴	
REQUIRED SIZE OF SOFTENER CONNECTION (inches)	NUMBER OF BATHROOM GROUPS SERVED ¹
¾	up to 2 ²
1	up to 4 ³

For SI units: 1 inch = 25 mm

Notes:

¹ Installation of a kitchen sink and dishwasher, laundry tray, and automatic clothes washer permitted without additional size increase.

² An additional water closet and lavatory permitted.

³ Over four bathroom groups, the softener size shall be engineered for the specific installation.

⁴ See also Appendix A, Recommended Rules for Sizing the Water Supply Systems, and Appendix C, Alternate Plumbing Systems, for alternate methods of sizing water supply systems.

A backflow preventer shall not be required to separate a stand-alone sprinkler syste from the water distribution system where the sprinkler system material is in accordance with the requirements of Section 604.0.

606.1 General. Valves up to and including 2 inches (50 mm) in size shall be copper alloy or other approved material. Sizes exceeding 2 inches (50 mm) shall be permitted to have cast iron or copper alloy bodies. Each gate or ball valve shall be a fullway or full-port type with working parts of the non-corrosive material. Valves carrying water used in potable water systems intended to supply drinking water shall comply with the requirements of NSF 61 and ASME A112.4.14, ASME B16.34, ASTM F1970, ASTM F2389 AWWA C500, AWWA C504, AWWA C507, IAPMO Z1157, MSS SP-67, MSS SP- 70, MSS SP-71, MSS SP-72, MSS SP-78, MSS SP-80, MSS SP-110, MSS SP-122, or NSF 359.

608.4 Pressure Relief Valves. Each pressure relief valve shall be an approved automatic type with drain, and each such relief valve shall be set at a pressure of not more than 150 psi (1034 kPa). No shutoff valve shall be installed between the relief valve and the system.

FIRESTOP PROTECTION

1404.0 Combustible Piping Installations.

1404.2 Fire-Resistance Rating. Where penetrating a fire-resistance-rated wall, partition, floor, floor-ceiling assembly, roof-ceiling assembly, or shaft enclosure, the fire-resistance rating of the assembly shall be restored to its original rating.

1404.3 Firestop Systems. Penetrations shall be protected by an approved penetration firestop system installed as tested in accordance with ASTM E119, ASTM E814, UL 263, or UL 1479 with a positive pressure differential of not less than 0.01 of an inch of water (0.002 kPa). Systems shall have and F rating of not less than 1 hour but not less than the required fire-resistance rating of the assembly being penetrated. Systems protecting floor penetrations shall have a T rating of not less than 1 hour but not less than the required fire-resistance rating of the floor penetrations shall have a T rating of not less than 1 hour but not less than the required fire-resistance rating of the floor being penetrated. Floor penetrations contained within the cavity of a wall at the location of the floor penetration do not require a T rating. No T rating shall be required for floor penetrations by piping that is not in direct contact with combustible material.

1404.6 Sleeves. Where sleeves are used, the sleeves shall be securely fastened to the fire-resistance-rated assembly. The (inside) annular space between the sleeve and the fire-resistance-rated assembly shall be firestopped in accordance with this chapter.

1405.0 Noncombustible Piping Installations.

1405.3 Firestop Systems. Penetrations shall be protected by an approved penetration firestop system installed as tested in accordance with ASTM E119, ASTM E814, UL 263, or UL 1479 with a positive pressure differential of not less than 0.01 of an inch of water (0.002 kPa). Systems shall have an F rating of not less than 1 hour but not less than the required fire-resistance rating of the assembly being penetrated. Systems protecting floor penetrations shall have a T rating of not less than 1 hour but not less than the required fire-resistance rating of the floor being penetrated. Floor penetrations contained within the cavity of a wall at a location of the floor penetration do not require a T rating. No T rating shall be required for floor penetrations by piping that is not in direct contact with combustible material.

1405.6 Sleeves. Where sleeves are used, the sleeves shall be securely fastened to the fire-resistance-rated assembly. The (inside) annular space between the sleeve and the penetrating item and the (outside) annular space between the sleeve and the fire-resistance-rated assembly shall be firestopped in accordance with this chapter.

REVISIONS:

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DATE: _____

DRAWN BY: _____
CHECKED BY: _____
DESIGNED BY: _____

PLUMBING CODE CHECKING

JOB No: _____
SHEET: _____

P1.0

SHEET NO.

SCALE : NTS

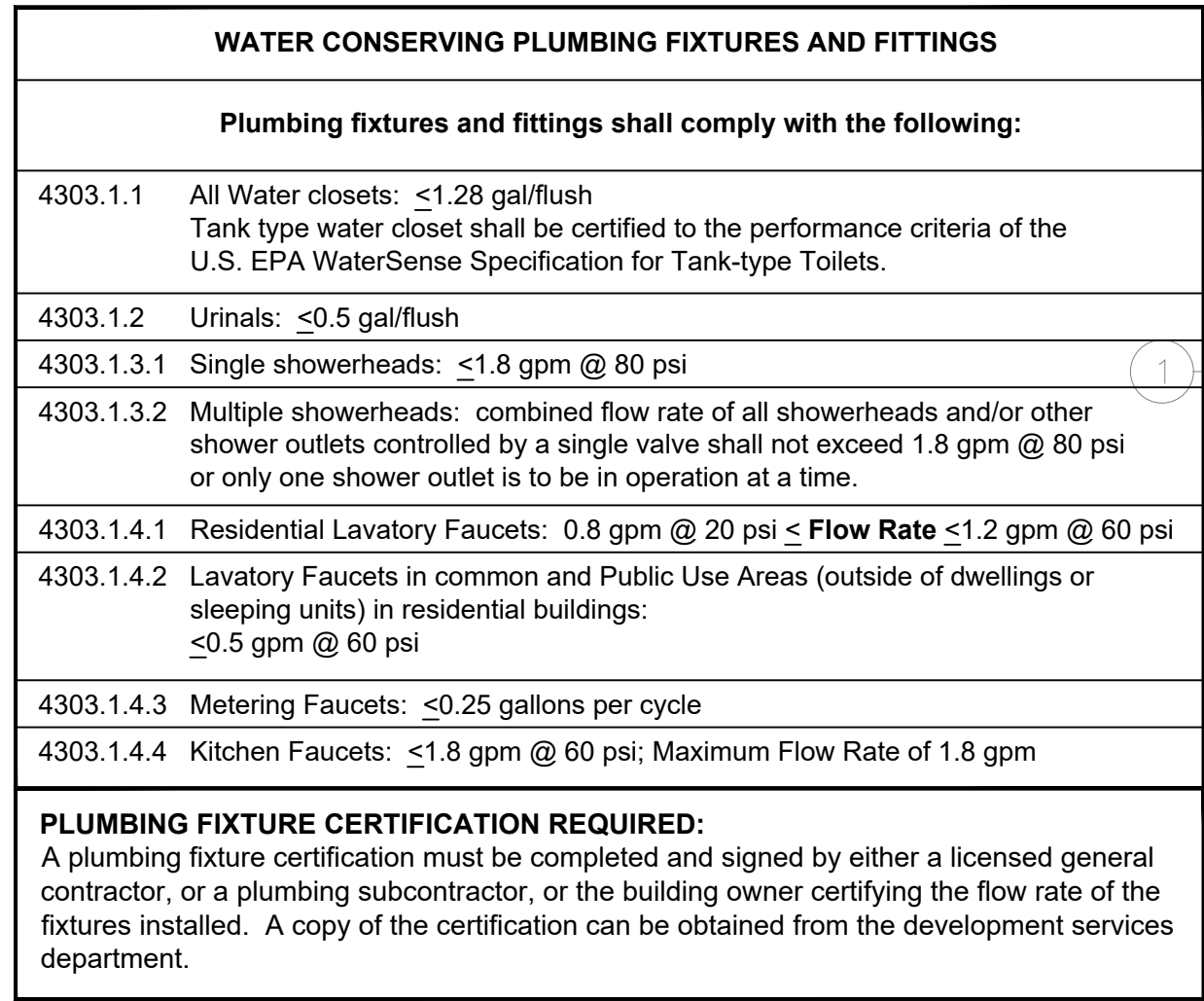
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Plumbing fixtures and fittings shall comply with the following:	
4303.1.1	All Water closets: ≤ 1.28 gal/flush Tank type water closet shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.
4303.1.2	Urinals: ≤ 0.5 gal/flush
4303.1.3.1	Single showerheads: ≤ 1.8 gpm @ 80 psi
4303.1.3.2	Multiple showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm @ 80 psi or only one shower outlet is to be in operation at a time.
4303.1.4.1	Residential Lavatory Faucets: 0.8 gpm @ 20 psi \leq Flow Rate ≤ 1.2 gpm @ 60 psi
4303.1.4.2	Lavatory Faucets in common and Public Use Areas (outside of dwellings or sleeping units) in residential buildings: ≤ 0.5 gpm @ 60 psi
4303.1.4.3	Metering Faucets: ≤ 0.25 gallons per cycle
4303.1.4.4	Kitchen Faucets: ≤ 1.8 gpm @ 60 psi; Maximum Flow Rate of 1.8 gpm
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4303.1.4.4	Kitchen Faucets: ≤ 1.8 gpm @ 60 psi; Maximum Flow Rate of 1.8 gpm
PLUMBING FIXTURE CERTIFICATION REQUIRED: A plumbing fixture certification must be completed and signed by either a licensed general contractor, or a plumbing subcontractor, or the building owner certifying the flow rate of the fixtures installed. A copy of the certification can be obtained from the development services department.	

1. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE EXACT PIPE SIZES, INVERT ELEVATIONS, PRESSURES FOR LOCATIONS OF ANY SEWER, WATER PIPING AND WATER METER WITH CIVIL UTILITIES DRAWINGS, AND ANY OTHER ENGINEER AS APPLICABLE.
2. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE PIPE ROUTING WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS.
3. REFER TO MECHANICAL PLANS FOR PLUMBING SPECIFICATION OF MATERIAL, INSULATION AND INSTALLATION REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR ROUGH-IN COORDINATION AND LOCATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS AND FIXTURES.
5. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED CUTTING AND PATCHING.
6. ALL NOTCHING, BORING, AND CUTTING OF HOLES IN WALL STUDS AND FLOOR JOISTS SHALL BE PERFORMED BASED ON THE LATEST ADOPTED AND APPROVED EDITION OF THE BUILDING CODE.
7. ALL PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
8. ALL WATER PIPING SHALL BE INSTALLED ON INTERIOR SIDE OF THE BUILDING WALL INSULATION.
9. CONTRACTOR SHALL PROVIDE VALVES LOCATED ABOVE LAY-IN CEILING OR 24"x24" CEILING ACCESS PANEL COORDINATE FINAL LOCATION AND SIZE WITH ARCHITECT. PROVIDE BALANCING VALVES FOR HOT WATER RETURN SYSTEM AS REQUIRED.
10. ALL SANITARY DRAINAGE PIPING 3" AND SMALLER SHALL BE SLOPED AT $\frac{1}{4}$ " PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT.
11. ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT AND PROVIDE ACCESSIBLE CLEANOUTS AT ALL CHANGES OF DIRECTION.
12. VENTS THAT TERMINATE AT THE ROOF SHALL BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.
13. REFER TO THE PLUMBING DIAGRAMS FOR GUIDANCE OF INSTALLATION INTENT. CONTRACTOR IS TO PROVIDE ALL COMPONENTS NECESSARY TO MEET THE DESIGN INTENT, WHETHER SHOWN IN DIAGRAM OR NOT.

FIXTURE UNIT	CWP (INCH)	HWP (INCH)
SHOWER	1/2	1/2
URINAL	3/4	-
WATER CLOSET	1	-
LAVATORY	1/2	1/2
KITCHEN SINK	3/4	3/4
DISHWASHER	-	3/4
BATHTUB	1/2	1/2
LAUNDRY MACHINE	1/2	1/2

FIXTURE UNIT	CWP (INCH)	HWP (INCH)
SHOWER	1/2	1/2
URINAL	3/4	-
WATER CLOSET	1	-
LAVATORY	1/2	1/2
KITCHEN SINK	3/4	3/4
DISHWASHER	-	3/4
BATHTUB	1/2	1/2
LAUNDRY MACHINE	1/2	1/2

PLUMBING SHEET NOTES

SHEET NOTES:

- 1—DCW/DHW/DHWR TO ABOVE FLOOR.
- 2—DCW & DHW DROP IN WALL.
- 3—DCW/DHW/DHWR FROM BELOW FLOOR.

PIPING SYSTEM	LOCATION	ACCEPTABLE PIPING MATERIAL
DOMESTIC WATER	BELOW GRADE	ASTM B 88 TYPE K SOLDERED COPPER
	ABOVE GRADE	PEX A COMPRESSION JOINT

PIPING SYSTEM	LOCATION	ACCEPTABLE PIPING MATERIAL
DOMESTIC WATER	BELOW GRADE	ASTM B 88 TYPE K SOLDERED COPPER
	ABOVE GRADE	PEX A COMPRESSION JOINT

FIXTURE	W.S.F.U	QTY.	TOTAL W.S.F.U
KITCHEN SINK	1.5	2	3.0
BATHTUB	2.0	7	14.0
WATER CLOSET	2.5	9	22.5
LAVATORY	1.0	11	11.0
WASHING MACHINE	1.5	3	4.5
DISHWASHING MACHINE	1.5	1	1.5
TOTAL =			56.5

FIXTURE	W.S.F.U	QTY.	TOTAL W.S.F.U
KITCHEN SINK	1.5	2	3.0
BATHTUB	2.0	7	14.0
WATER CLOSET	2.5	9	22.5
LAVATORY	1.0	11	11.0
WASHING MACHINE	1.5	3	4.5
DISHWASHING MACHINE	1.5	1	1.5
TOTAL =			56.5

AS PER 2019 CPC - TABE 610.4:
THE LONGEST RUN IS APPROX. 250 FT. AT 56.5 W.S.F.U
AND FOR W/M PRESSURE RANGE 46-60 PSI,
THE W/M SIZE NOT LESS THAN 2"
AND MAIN CWP TO NOT LESS THAN 2"

TOTAL BUILDING WATER LOAD PER UNIT		
DESCRIPTION	LOAD WSFU	PIPE SIZE PEX
DCW	41.25	2"
DHW	24.5	1-1/2"
TOT. COMBINED	56.5	2"

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

New Care Taking Facility
969 Cypress Ave.
Colton CA, 92324

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CHECKED BY:
DESIGNED BY:

WATER SUPPLY LAYOUT

JOB No: _____
SHEET: _____

P1.0

SHEET NO.

MINIMUM PIPE SIZE PER FIXTURE

FIXTURE UNIT	DR (INCH)	VENT (INCH)
SHOWER	3	2
WATER CLOSET	4	2
LAVATORY	1-1/2	2
KITCHEN SINK	2	2
HAND SINK	2	2
MOP SINK	2	2
DISHWASHER	1-1/2	2
BATHTUB	3	2
LAUNDRY MACHINE	1-1/2	2

FIXTURE TYPE	MAXIMUM FLOW RATE
Water closets	1.28 gallons/flush
Urinals (wall mounted)	0.125 gallons/flush
Showers	1.8 gpm @ 80 psi
Lavatory faucets-nonresidential	0.5 gpm @60 psi
Kitchen faucets	1.8 gpm @ 60 psi
Metering faucets	gallons/cycle

ALL PIPE BELOW 4"Ø PIPE SIZE TO BE SLOPED 2%.
ALL PIPES GREATER THAN 4"Ø PIPE SIZE SHALL BE SLOPED 1%.

EXISTING TO
BECOME A.D.U.

GENERAL NOTES:

- PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE EXISTING PIPE SIZES, INVERT ELEVATIONS, PRESSURES FOR LOCATIONS OF ANY SEWER, WATER PIPING AND WATER METER WITH UTILITIES DRAWINGS, AND ANY OTHER ENGINEER AS APPLICABLE.
- PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE PIPE ROUTING WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS.
- REFER TO MECHANICAL PLANS FOR PLUMBING SPECIFICATION OF MATERIAL, INSULATION AND INSTALLATION REQUIREMENTS.
- CONTRACTOR IS RESPONSIBLE FOR ROUGH-IN COORDINATION AND LOCATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS AND FIXTURES.
- CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED CUTTING AND PATCHING.
- ALL NOTCHING, BORING, AND CUTTING OF HOLES IN WALL STUDS AND FLOOR JOISTS SHALL BE PERFORMED BASED ON THE LATEST ADOPTED AND APPROVED EDITION OF THE BUILDING CODE.
- ALL PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
- ALL WATER PIPING SHALL BE INSTALLED ON INTERIOR SIDE OF THE BUILDING WALL INSULATION.
- CONTRACTOR SHALL PROVIDE VALVES LOCATED ABOVE LAY IN CEILING OR 24"x24" CEILING ACCESS PANEL COORDINATE FINAL LOCATION AND SIZE WITH ARCHITECT. PROVIDE BALANCING VALVES FOR HOT WATER RETURN SYSTEM AS REQUIRED.
- ALL SANITARY DRAINAGE PIPING 3" AND SMALLER SHALL BE SLOPED AT 1" PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT 1/8" PER FOOT.
- ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT 1" PER FOOT AND PROVIDE ACCESSIBLE CLEANOUTS AT ALL CHANGES OF DIRECTION.
- VENTS THAT TERMINATE AT THE ROOF SHALL BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.
- REFER TO THE PLUMBING DIAGRAMS FOR GUIDANCE OF INSTALLATION INTENT. CONTRACTOR IS TO PROVIDE ALL COMPONENTS NECESSARY TO MEET THE DESIGN INTENT, WHETHER SHOWN IN DIAGRAM OR NOT.

PLUMBING PIPING MATERIAL SCHEDULE

PIPING SYSTEM	LOCATION	ACCEPTABLE PIPING MATERIAL
DOMESTIC WATER	BELOW GRADE	ASTM B 88 TYPE K SOLDERED COPPER
	ABOVE GRADE	PEX A COMPRESSION JOINT

SANITARY SHEET NOTES:

- WASTE DROP AND 2" VENT RISE.
- 4" FLOOR CLEAN-OUT.
- 3" VENT STACK TO ABOVE.
- 3" FLOOR DRAIN.
- 4" SOIL DROP FROM ABOVE.
- WASTE DROP
- GRADE CLEAN-OUT.
- 3" SOIL DROP FROM ABOVE.
- 3" SOIL DROP TO BELOW.
- 4" SOIL DROP TO BELOW.
- 2" FROM FLOOR SINK
- 2" WASTE DROP

AS PER CPC 2019 TABLE 702.1 DRAINAGE FIXTURE UNIT VALUES (DFU):

FIXTURES	MINIMUM SIZE TRAP AND TRAP ARM (inches)	DFU	NUMBER OF FIXTURES	TOTAL DFU
LAVATORY	1 1/4	1.00	10.00	10.00
WATER CLOSET, 1.6 GPF FLUSHOMETER TANK	3	6.00	9.00	54.00
BATHTUB / SHOWER	1 1/2	2.00	7.00	14.00
FLOOR DRAIN 3 INCH TRAP SIZE	1 1/2	3.00	2.00	6.00
KITCHEN SINK, DISHWASHER	1 1/2	2.00	1.00	2.00
SINK	1 1/2	2.00	1.00	2.00
CLOTHES WASHER	2	3.00	3.00	9.00
TOTAL				100.00

Notes:

- Indirect waste receptors shall be sized based on the total drainage capacity of the fixtures that drain there into, in accordance with Table 702.2(2).
- Provide a 2 inch (50 mm) minimum drain.
- For refrigerators, coffee urns, water stations, and similar low demands.
- For commercial sinks, dishwashers, and similar moderate or heavy demands.
- Buildings having a clothes-washing area with clothes washers in a battery of three or more clothes washers shall be rated at 6 fixture units each for purposes of sizing common horizontal and vertical drainage piping.
- Water closets shall be computed as 6 fixture units where determining septic tank sizes based on Appendix H of this code.
- Trap sizes shall not be increased to the point where the fixture discharge is capable of being inadequate to maintain their self-scouring properties.
- Assembly [Public Use (see Table 422.1)].

AS PER CPC 2019, TABLE H201.1(1): CAPACITY OF SEPTIC TANKS:

FOR TOTAL DFU = 104, SEPTIC TANK CAPACITY MUST NOT BE LESS THAN 3,500 GAL.

Dia of Pipe (Inches)	MAXIMUM NUMBER OF DRAINAGE FIXTURE UNITS (dfu)			
	Total for Horizontal Branch	Total Discharge into one branch interval	Total for stack of three branch Intervals or less	Total for stack greater than three branch intervals
1 1/2	3	2	4	8
2	6	6	10	24
2 1/2	12	9	20	42
3	20	20	48	72
4	160	90	240	500
5	360	200	540	1,100
6	620	350	960	1,900

Cleanouts are required at the upper most terminals of all horizontal waste lines. Please provide cleanouts location within the floor plan.

ABS/PVC vent terminations up through the roof exposed to sunlight are required to be protected by water based synthetic latex paints." 906.1

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

New Care Taking Facility
969 Cypress Ave.
Colton CA, 92324

REVISIONS:

DATE:

DRAWN BY:

CHECKED BY:

DESIGNED BY:

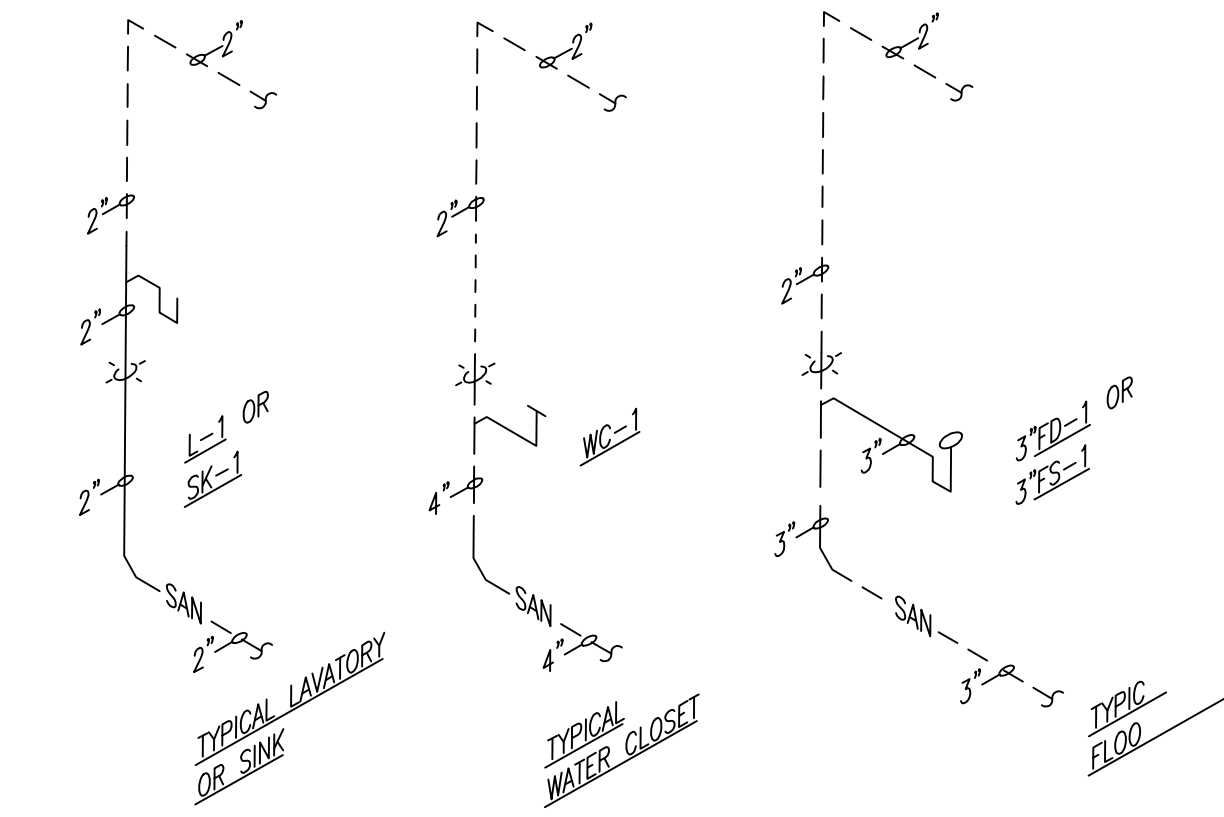
SEWER
LAYOUT

JOB No:

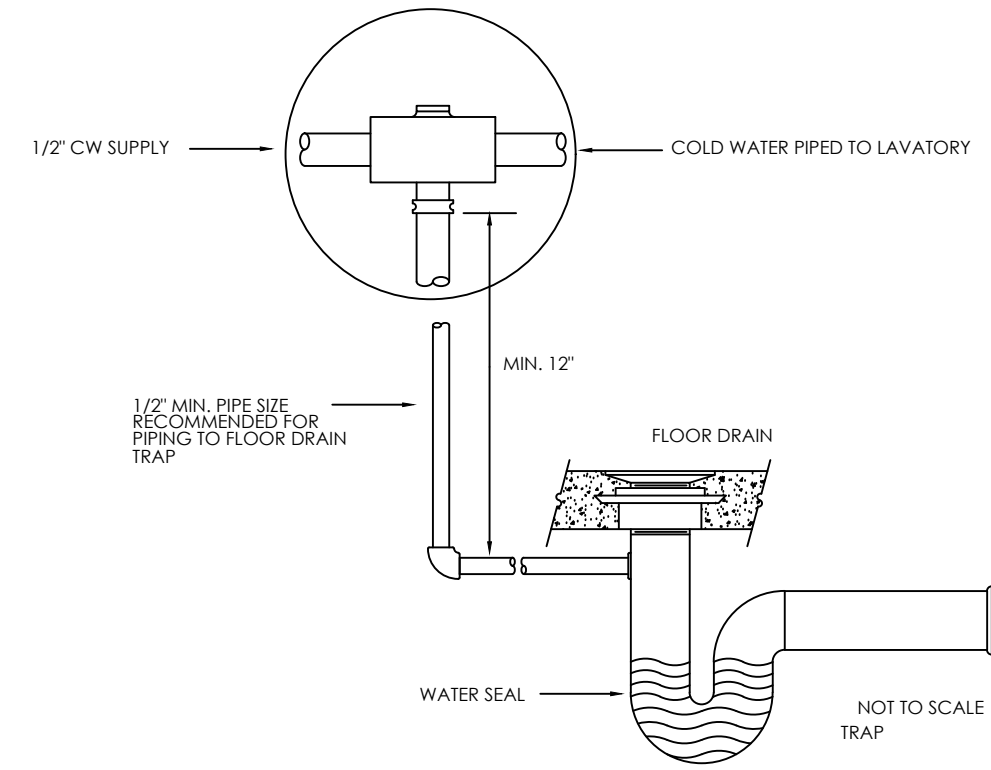
SHEET:

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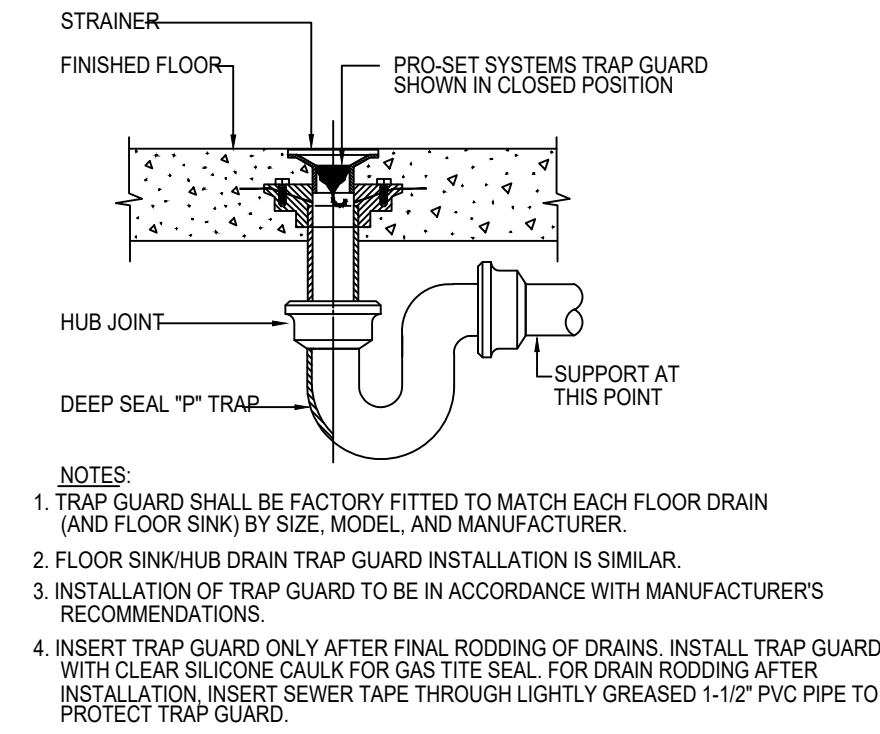
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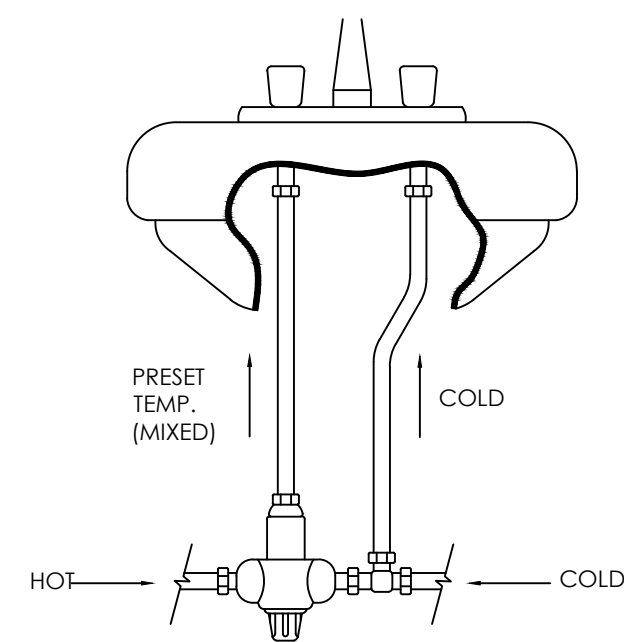
1 **TYPICAL WASTE AND VENT RISERS**
SCALE: NONE



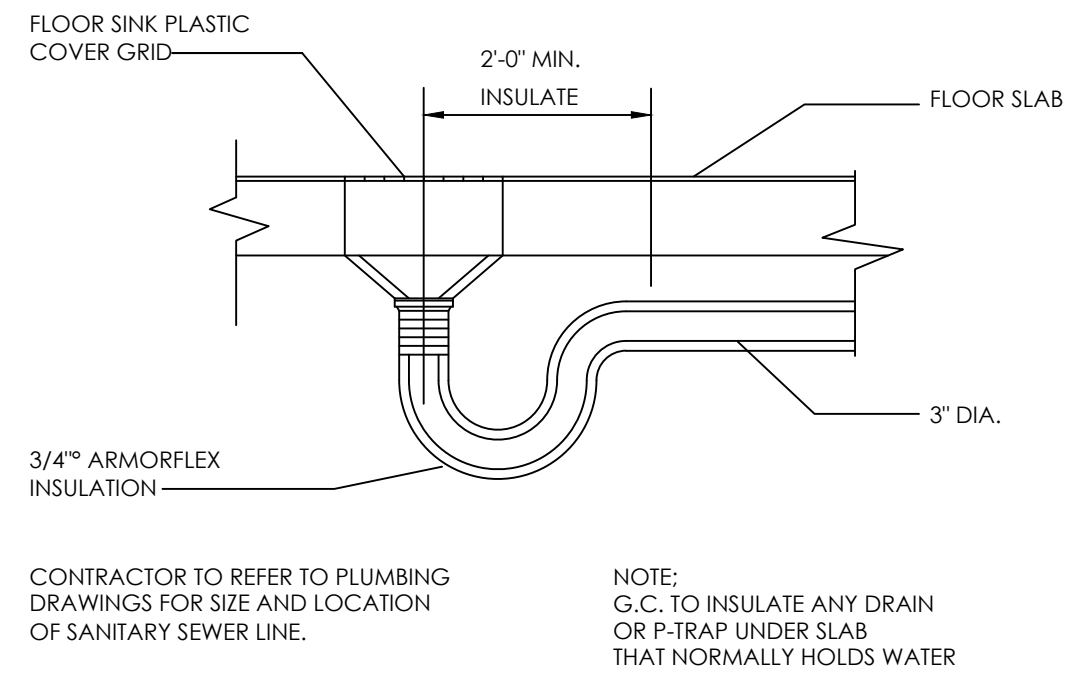
2 **TRAP PRIMER**
SCALE: NONE



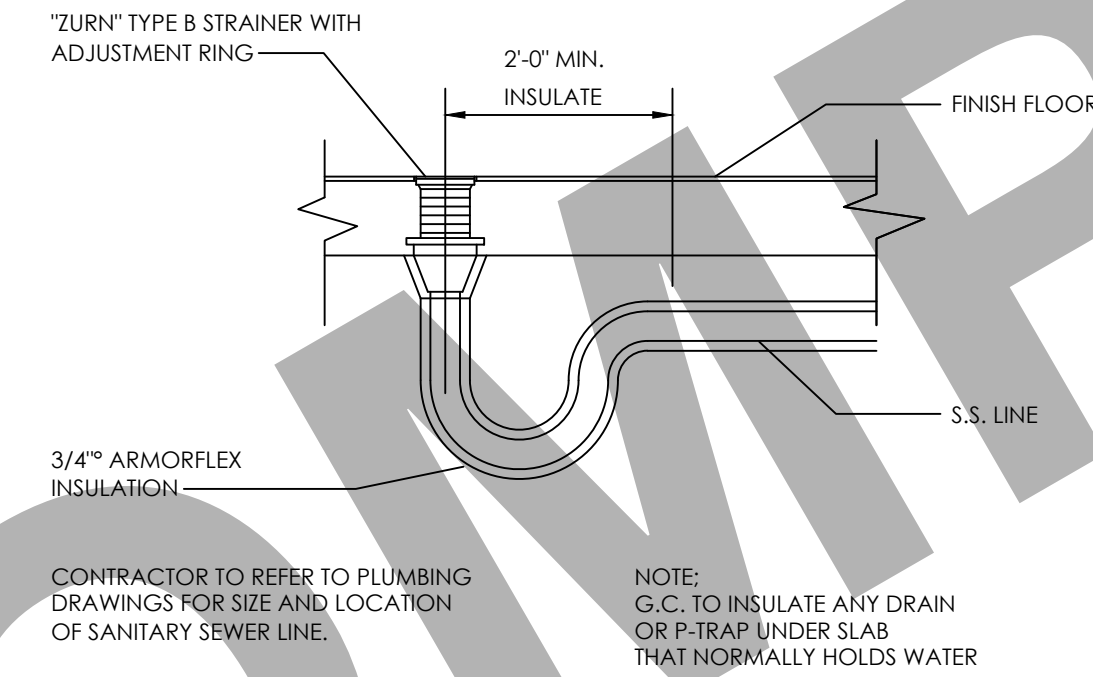
3 **FLOOR DRAIN WITH TRAP SEAL PROTECTION**
SCALE: NONE



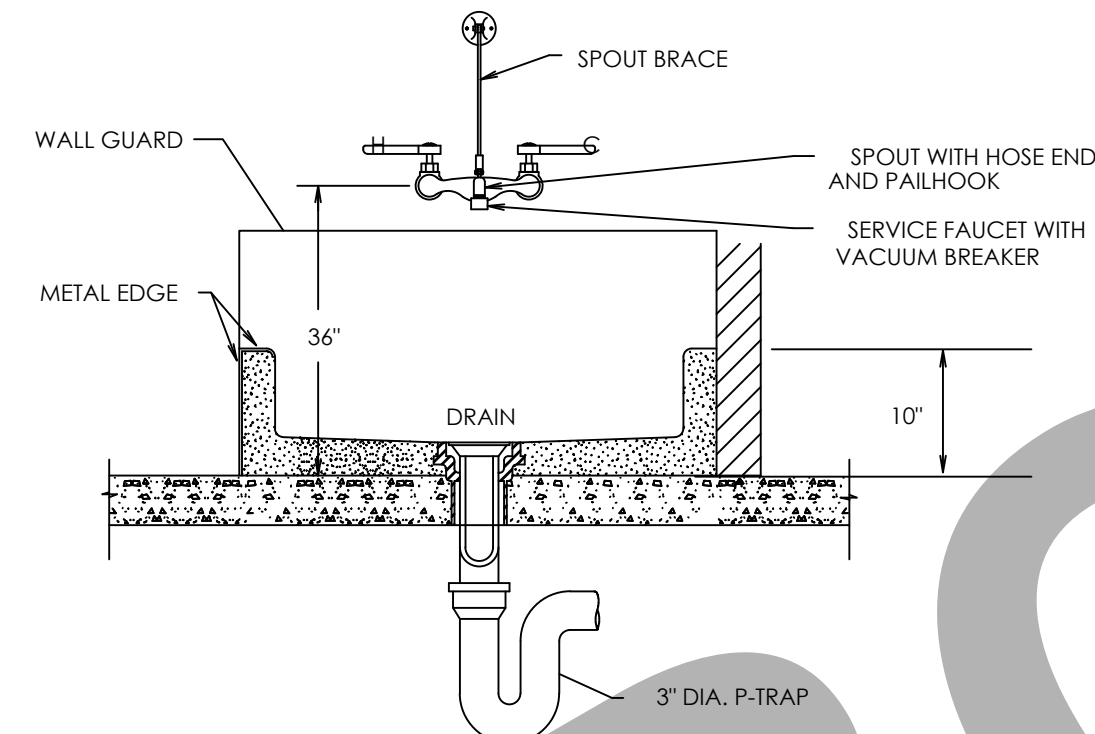
ANTI-SCALD MIXING VALVE
NO SCALE



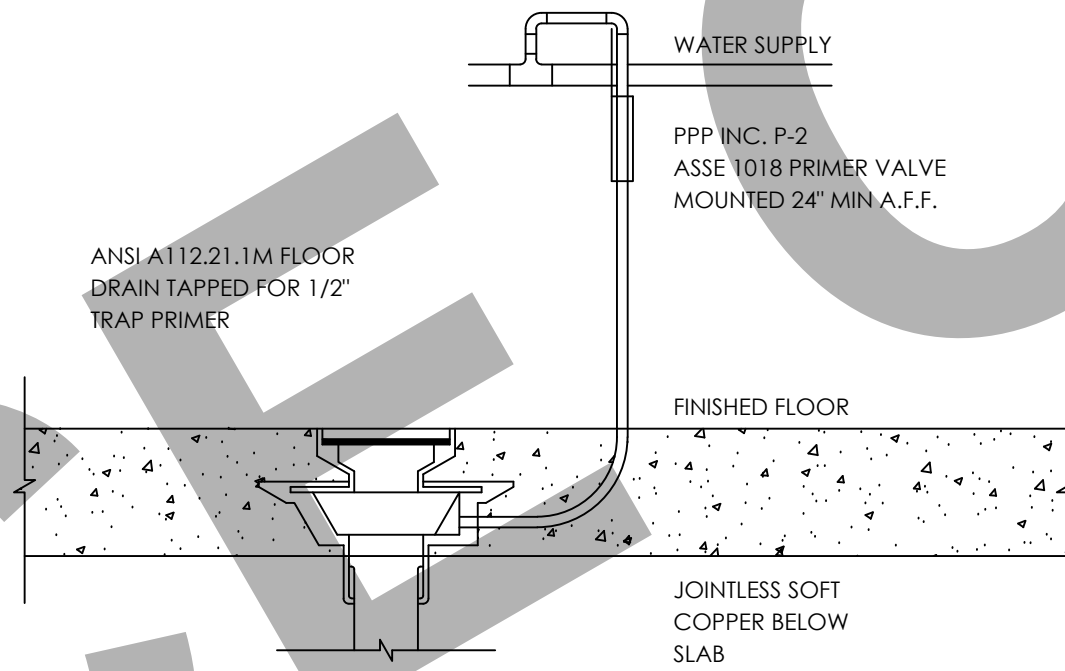
FLOOR SINK DETAIL
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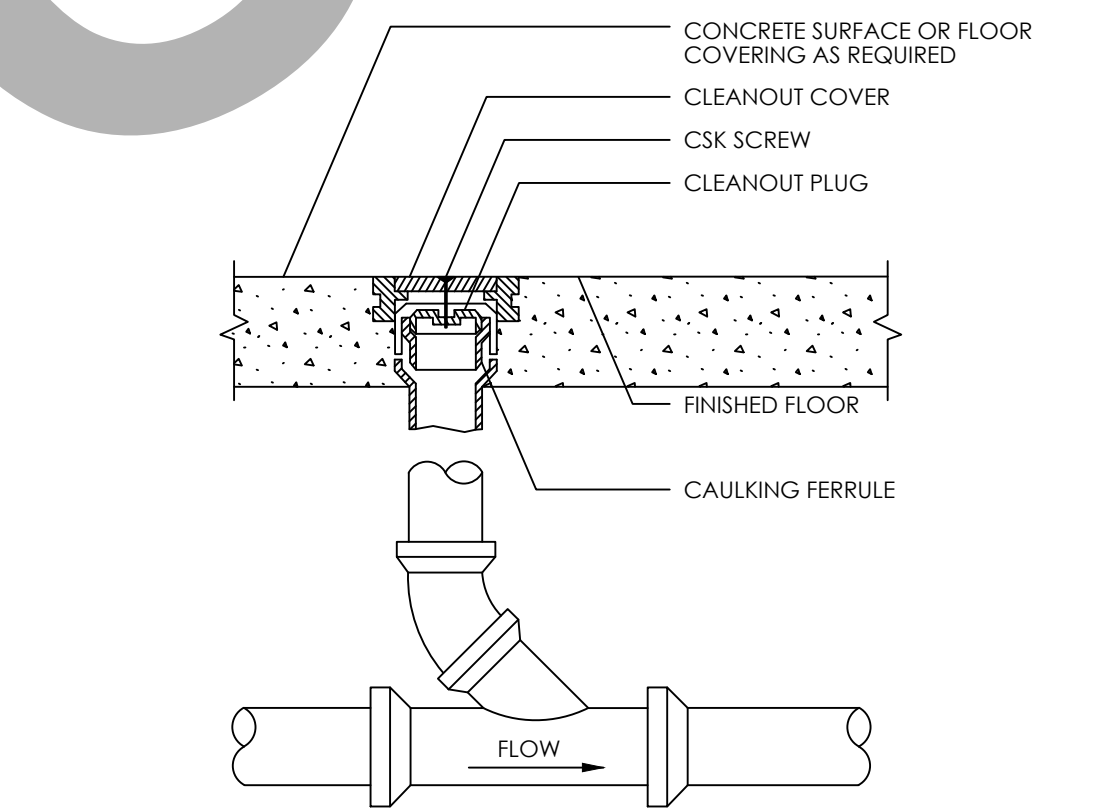
FLOOR DRAIN DETAIL
NO SCALE



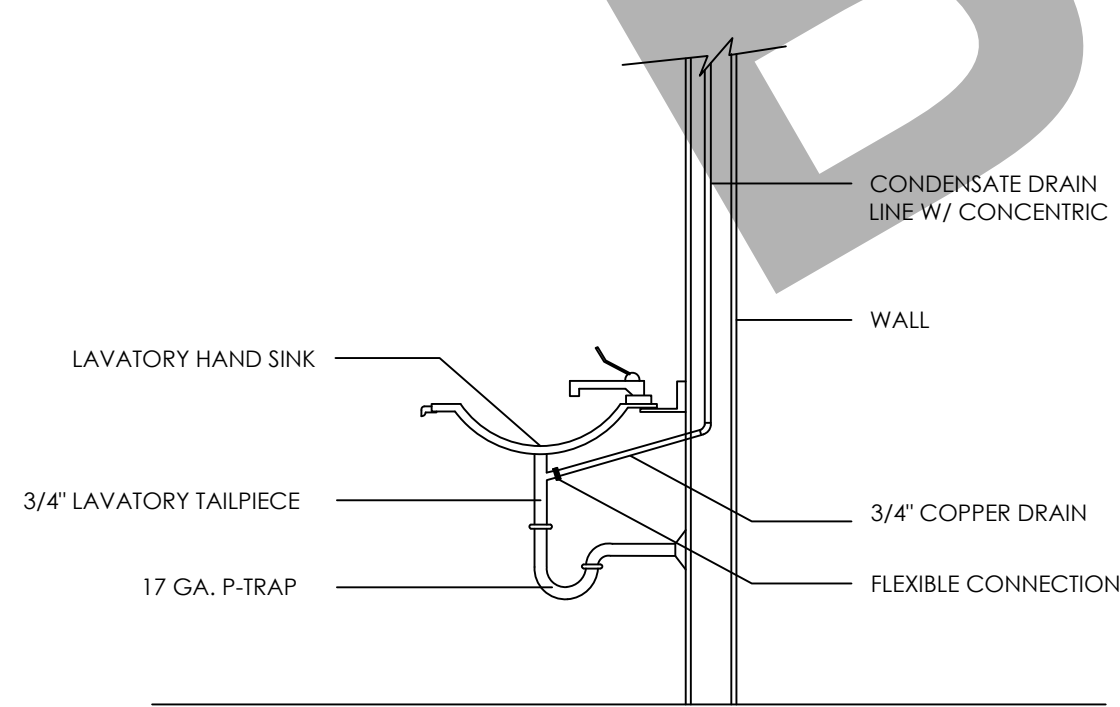
MOP SINK DETAIL
NO SCALE



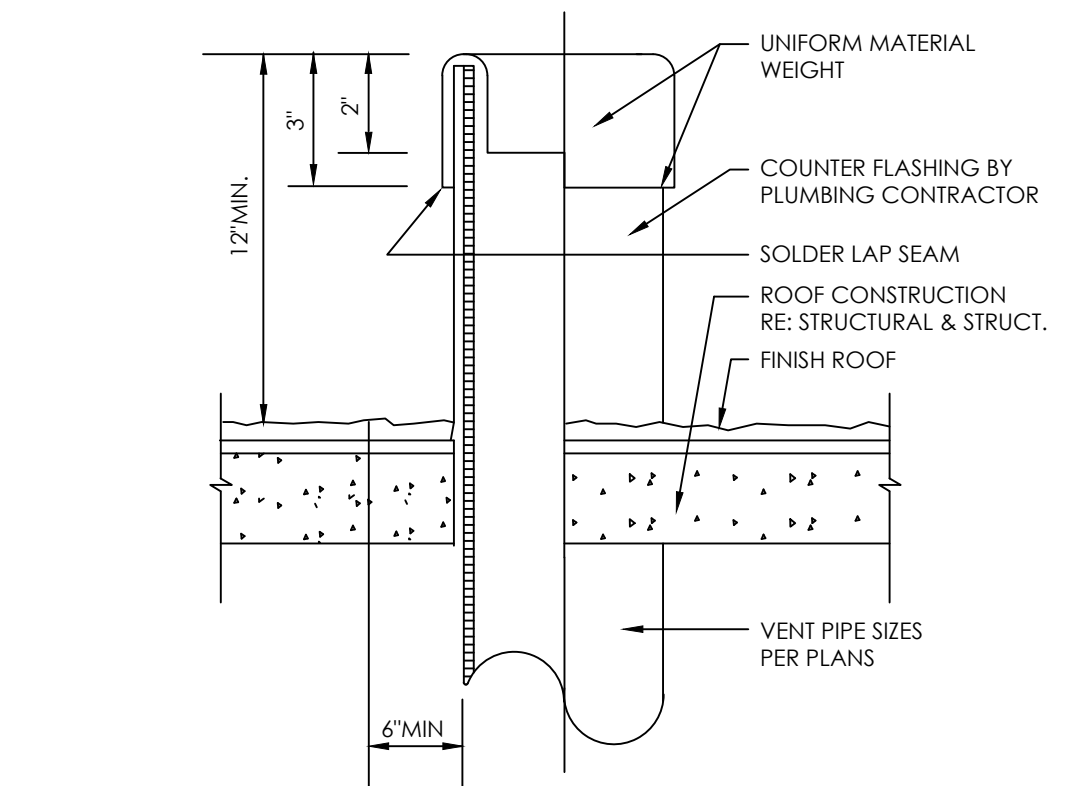
TRAP PRIMER DETAIL
NO SCALE



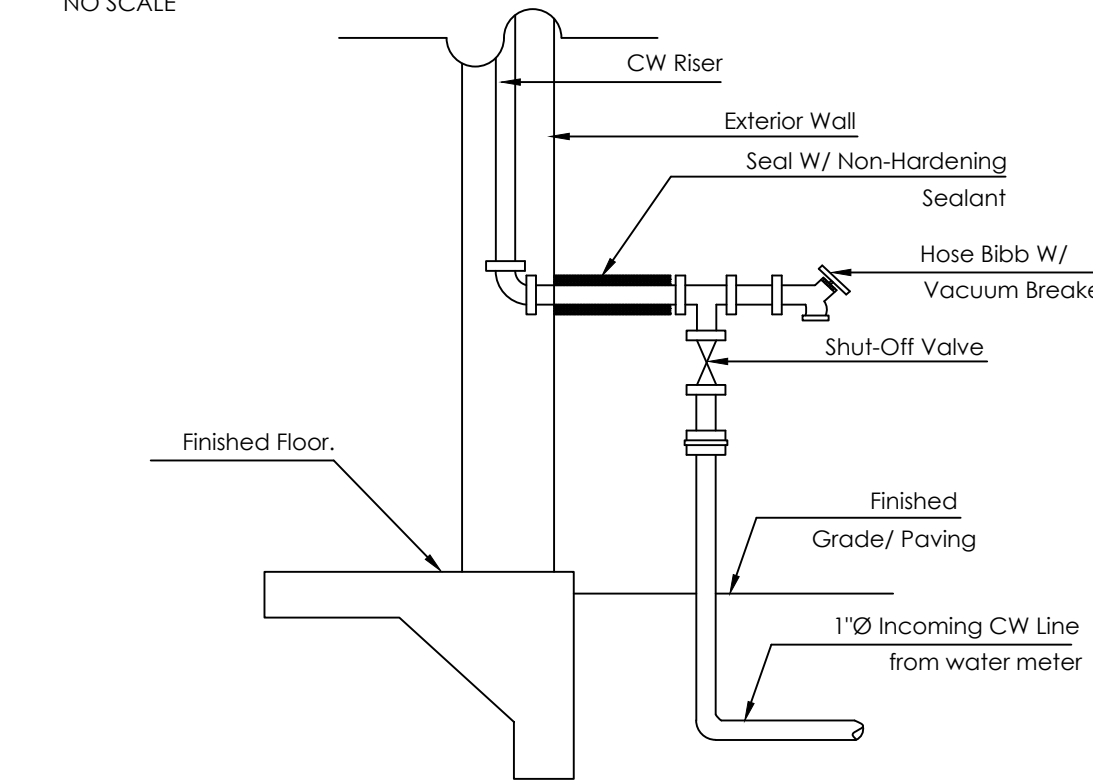
FLOOR CLEANOUT DETAIL
NO SCALE



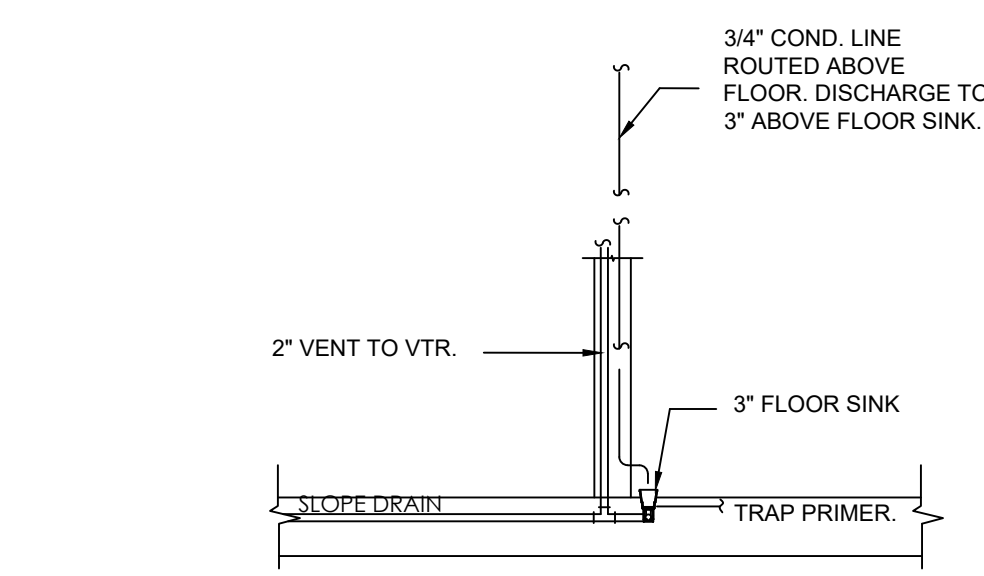
CONDENSATE DETAIL
NO SCALE



VENT THRU ROOF DETAIL
NO SCALE



WATER ENTRY DETAIL
NO SCALE



COND. ON FLOOR SINK DETAIL
NO SCALE

SCALE : NTS

REVISIONS:

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DATE:

DRAWN BY:
CHECKED BY:
DESIGNED BY:

PLUMBING
GENERAL DETAILS.

JOB No:
SHEET: NTS

P4.0

SHEET NO.

CALIFORNIA GAS CODE CHECKING:

GAS:

1208.7 Gas Meters. Gas meters shall be selected for the maximum expected pressure and permissible pressure drop. [NFPA 54:5.7.1]

1208.7.1 Location. Gas meters shall be located in ventilated spaces readily accessible for examination, reading, replacement, or necessary maintenance. [NFPA54:5.7.2.1]

1208.7.1.1 Subject to Damage. Gas meters shall not be placed where they will be subjected to damage, such as adjacent to a driveway; under a fire escape; n public passages, halls, or where they will be subject to excessive corrosion or vibration. [NFPA 54:5.7.2.2]

1208.7.1.2 Extreme Temperatures. Gas meters shall not be located where they will be subjected to extreme temperatures or sudden extreme changes in temperature or in areas where they are subjected to temperatures beyond those recommended by the manufacturer. [NFPA 54:5.7.2.3]

1208.7.2 Supports. Gas meters shall be supported or connected to rigid piping so as not to exert a strain n the meters. Where flexible connectors are used to connect a gas meter to downstream piping at mobile homes in mobile home parks, the meter shall be supported by a post or bracket placed in a firm footing or by other means providing equivalent support. [NFPA 54:5.7.3]

1208.7.3 Meter Protection. Meters shall be protected against overpressure, backpressure, and vacuum. [NFPA54:5.7.4]

1208.7.4 Identification. Gas piping at multiple meter installations shall be marked by a metal tag or other permanent means designating the building or the part of the building being supplied and attached by the installing agency. [NFPA 54:5.7.5]

1208.8 Gas Pressure Regulators. A line pressure regulator or gas appliance pressure regulator, as applicable, shall be installed where the gas supply pressure exceeds that at which the branch supply line or appliances are designed to operate or vary beyond design pressure limits. [NFPA 54:5.8.1]

1210.0 Gas Piping Installation.

1210.1 Piping Underground. Underground gas piping shall be installed with sufficient clearance from any other underground structure to avoid contact therewith, to allow maintenance, and to protect against damage from proximity to other structures. In addition, underground plastic piping shall be installed with sufficient clearance or shall be insulated from sources of heat to prevent the heat from impairing the serviceability of the pipe. [NFPA 54:7.1.1]

1212.6 Appliance Shutoff Valves and Connections.

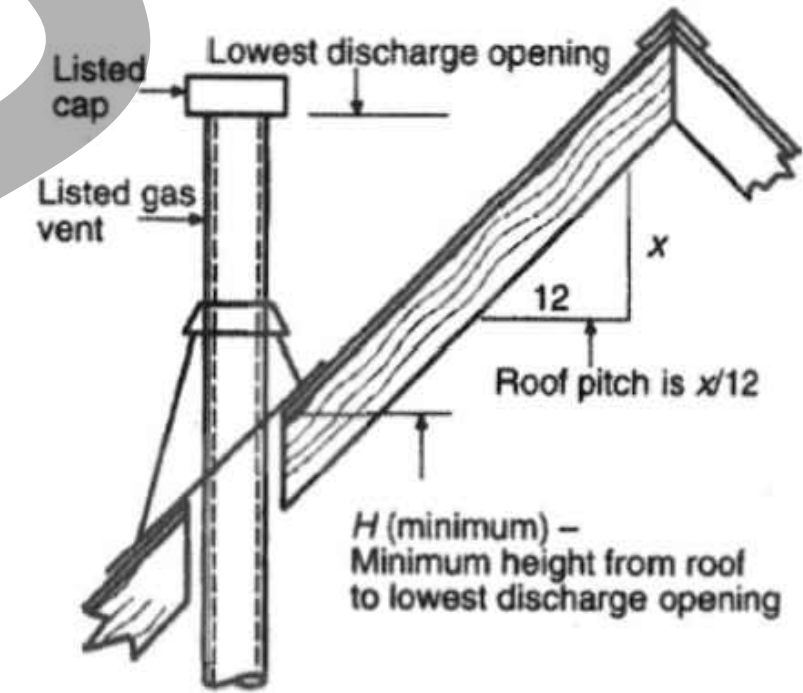
Each appliance connected to a piping system shall have an accessible, approved manual shutoff valve with a non-displaceable valve member or a listed gas convenience outlet. Appliance shutoff valves and convenience outlets shall serve a single appliance only. The shutoff valve shall be located within 6 feet (1829 mm) of the appliance it serves. Where a connector is used, the valve shall be installed upstream of the connector. A union or flanged connection shall be provided downstream from the valve to permit removal of appliance controls. Shutoff valves serving decorative appliances shall be permitted to be installed in fireplaces if listed for such use. [NFPA 54:9.6.5, 9.6.5.1 (A) (B)]

Exceptions:

- (1) Shutoff valves shall be permitted to be accessible located inside or under an appliance where such appliance is removed without removal of the shutoff valve.
- (2) Shutoff valves shall be permitted to be accessibly located inside wall heaters and wall furnaces listed for recessed installation where necessary maintenance is performed without removal of the shutoff valve.

TABLE 1208.4.1
APPROXIMATE GAS INPUT FOR TYPICAL APPLIANCES [NFPA 54: TABLE A.5.4.2.1]

APPLIANCE	INPUT (Btu/h approx.)
Space Heating Units	
Warm air furnace	
Single family	100 000
Multifamily, per unit	60 000
Hydronic boiler	
Single family	100 000
Multifamily, per unit	60 000
Space and Water Heating Units	
Hydronic boiler	
Single family	120 000
Multifamily, per unit	75 000
Water Heating Appliances	
Water heater, automatic storage	
30 to 40 gallon tank	35 000
Water heater, automatic storage	
50 gallon tank	50 000
Water heater, automatic instantaneous	
Capacity at 2 gallons per minute	142 800
Capacity at 4 gallons per minute	285 000
Capacity at 6 gallons per minute	428 400
Water heater, domestic, circulating or side-arm	35 000
Cooking Appliances	
Range, freestanding, domestic	65 000
Built-in oven or broiler unit, domestic	25 000
Built-in top unit, domestic	40 000
Other Appliances	
Refrigerator	3000
Clothes dryer, type 1 (domestic)	35 000
Gas fireplace direct vent	40 000
Gas log	80 000
Barbecue	40 000
Gaslight	2500



TERMINATION LOCATIONS FOR GAS VENTS
WITH LISTED CAPS 12 INCHES OR LESS IN SIZE
AT LEAST 8 FEET FROM A VERTICAL WALL

ALL GAS PIPES ARE METALLIC SHCD. 40
THE TOTAL GAS PIPE LENGTH FROM UNIT GAS METER TO THE FARTHEST EQUIPMENT IS APPRX. 120 FEET.

ROOF PITCH	H (minimum) (feet)
Flat to $\frac{6}{12}$	1.0
Over $\frac{6}{12}$ to $\frac{7}{12}$	1.25
Over $\frac{7}{12}$ to $\frac{8}{12}$	1.5
Over $\frac{8}{12}$ to $\frac{9}{12}$	2.0
Over $\frac{9}{12}$ to $\frac{10}{12}$	2.5
Over $\frac{10}{12}$ to $\frac{11}{12}$	3.25
Over $\frac{11}{12}$ to $\frac{12}{12}$	4.0
Over $\frac{12}{12}$ to $\frac{14}{12}$	5.0
Over $\frac{14}{12}$ to $\frac{16}{12}$	6.0
Over $\frac{16}{12}$ to $\frac{18}{12}$	7.0
Over $\frac{18}{12}$ to $\frac{20}{12}$	7.5
Over $\frac{20}{12}$ to $\frac{21}{12}$	8.0

ROOF SLOPE HEIGHTS

SCALE : NTS

REVISIONS:

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DATE:

DRAWN BY:
CHECKED BY:
DESIGNED BY:

GAS LIST OF
SYMBOLS AND
GENERAL NOTES.

JOB No:
SHEET:

P5.0

SHEET NO.

1. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE EXIST PIPES, INVERT ELEVATIONS, PRESSURES FOR LOCATIONS OF ANY SEWER, WATER PIPING AND WATER METER WITH CIVIL UTILITIES AND RECORD THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES.
2. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE PIPE ROUTING WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS.
3. REFER TO MECHANICAL PLANS FOR PLUMBING SPECIFICATION OF MATERIAL, INSULATION AND INSTALLATION REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR ROUGH-IN COORDINATION AND LOCATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS AND FINISHES.
5. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED CUTTING AND PATCHING.
6. ALL NOTCHING, BORING, AND CUTTING OF HOLES IN WALL, STUDS AND FLOOR JOISTS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST ADOPTED AND APPROVED EDITION OF THE BUILDING CODE.
7. ALL PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
8. ALL WATER PIPING SHALL BE INSTALLED ON INTERIOR SIDE OF THE BUILDING WALL INSULATION.
9. CONTRACTOR SHALL PROVIDE VALVES LOCATED ABOVE IN-CEILING OR 24" x 24" ACCESS PANEL, COORDINATE FINAL PIPING TYPE AND ARCHITECT. PROVIDE BALANCING VALVES FOR HOT WATER RADIANT SYSTEMS.
10. ALL SANITARY DRAINAGE PIPING, 1/2" AND SMALLER SHALL BE SLOPED AT 1/8" PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT 1/4" PER FOOT.
11. ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT 1/8" PER FOOT AND PROVIDE ACCESSIBLE CLEANOUTS AT ALL CHANGES OF DIRECTION.
12. VENTS THAT TERMINATE AT THE ROOF SHALL BE A MINIMUM OF 30" FROM ANY FRESH AIR INTAKE.
13. REFER TO THE PLUMBING DRAWINGS FOR GUIDANCE OF INSTALLATION INTENT. CONTRACTOR IS TO PROVIDE ALL COMPONENTS NECESSARY TO MEET THE DESIGN INTENT, WHETHER SHOWN IN DIAGRAM OR NOT.
14. EACH VENT PIPE OR STACK SHALL EXTEND THROUGH ITS FLASHING AND SHAL TERMINATE VERTICALLY NOT LESS THAN 6 INCHES (152 MM) ABOVE THE ROOF NOOK OR LESS THAN 1 FOOT (305 MM) FROM A VERTICAL SURFACE.
15. EACH VENT SHALL TERMINATE NOT LESS THAN 10 FEET (3048 MM) FROM, OR NOT LESS THAN 3 FEET (914 MM) FROM AN OPEN WINDOW, DOOR, OPENING, AIR INTAKE, OR VENT SHAFT, OR NOT LESS THAN 3 FEET (914 MM) FROM ANY VERTICAL CORNER OF A LOT, ALLEY AND STREET EXCEPTED.

GAS UNITS AND MBH :

ITEM	MBH
DRYER	22
DRYER	22
DRYER	22
IU-01	100
IU-02	100
IU-03	100
RANGE	65
TOTAL =	431

EXISTING TO
BECOME A.D.U.



CMC-1310.1-Underground gas piping shall be installed with sufficient clearance from any other underground structure to avoid contact therewith, to allow maintenance, and to protect against damage from proximity to other structures. In addition, underground plastic piping shall be installed with sufficient clearance or shall be insulated from any source of heat so as to prevent the heat from impairing the serviceability of the pipe.

1310.1.1 Cover Requirements

Underground piping systems shall be installed with a minimum of 12 inches (305 mm) of cover. The minimum cover shall be increased to 18 inches (457 mm) if external damage to the pipe or tubing from external forces is likely to result. Where a minimum of 12 inches (305 mm) of cover cannot be provided, the pipe shall be installed in conduit or bridged (shielded).

1310.1.2 Trenches

The trench shall be graded so that the pipe has a firm, substantially continuous bearing on the bottom of the trench.

[NFA 54:7.1.2.2]

CMC-1310.3-Piping installed aboveground shall be securely supported and located where it will be protected from physical damage. Where passing through an exterior wall, the piping shall also be protected from corrosion by coating or wrapping with an inert material approved for such applications. The piping shall be sealed around its circumference at the point of the exterior penetration to prevent the entry of water, insects, and rodents. Where piping is encased in a protective pipe sleeve, the annular spaces between the gas piping and the sleeve and between the sleeve and the wall opening shall be sealed. [NFPA 54:7.2.1]

1310.3.1 Protective Coating

Where piping is in contact with a material or an atmosphere corrosive to the piping system, the piping and fittings shall be coated with a corrosion-resistant material. Any such coating used on piping or components shall not be considered as adding strength to the system. [NFPA 54:7.2.2]

1310.3.2 Building Structure

The installation of gas piping shall not cause structural stresses within building components to exceed allowable design limits. Approval shall be obtained before any beams or joists are cut or notched. [NFPA 54:7.2.3.1 - 7.2.3.2]

1310.3.3 Gas Piping to Be Sloped

Piping for other than dry gas conditions shall be sloped not less than 1/4 inch in 15 feet (1.4 mm/m) to prevent traps. [NFPA 54:7.2.4]

CMC-1312.6-Each appliance connected to a piping system shall have an accessible, approved manual shutoff valve with a nondisplaceable valve member, or a listed gas convenience outlet. Appliance shutoff valves and convenience outlets shall serve a single appliance only. [NFPA 54:9.6.5] The shutoff valve shall be located within 6 feet (1829 mm) of the appliance it serves. [NFPA 54:9.6.5.1] Where a connector is used, the valve shall be installed upstream of the connector. A union or flanged connection shall be provided downstream from the valve to permit removal of appliance controls. [NFPA 54:9.6.5.1(A)]

Exceptions:
Shutoff valves serving decorative appliances in a fireplace shall not be located within the fireplace firebox except where the valve is listed for such use. [NFPA 54:9.6.5.1(B)]
Shutoff valves shall be permitted to be accessibly located inside wall heaters and wall furnaces listed for recessed installation where necessary maintenance is performed without removal of the shutoff valve

18/02/22, 4:08 PM

1212-2 Tables for Sizing Gas Piping Systems

1212-2 Tables for Sizing Gas Piping Systems

Table 1212.2 Tables for Sizing Gas Piping Systems. Use to size gas piping in conjunction with one of the methods described in Section 1215.1, 1 through Section 1215.3, 1 [NFPA 54, 6.2.2]

TABLE 1212.2
CAPACITY IN METRIC TONNES PER HOUR (TPH) IN TABLE 6.2.2^a

NORMAL: 15% ACTUAL: 0.8	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉	T ₁₀	T ₁₁	T ₁₂	T ₁₃	T ₁₄	T ₁₅	T ₁₆	T ₁₇	T ₁₈	T ₁₉	T ₂₀	T ₂₁	T ₂₂	T ₂₃	T ₂₄	T ₂₅	T ₂₆	T ₂₇	T ₂₈	T ₂₉	T ₃₀	T ₃₁	T ₃₂	T ₃₃	T ₃₄	T ₃₅	T ₃₆	T ₃₇	T ₃₈	T ₃₉	T ₄₀	T ₄₁	T ₄₂	T ₄₃	T ₄₄	T ₄₅	T ₄₆	T ₄₇	T ₄₈	T ₄₉	T ₅₀	T ₅₁	T ₅₂	T ₅₃	T ₅₄	T ₅₅	T ₅₆	T ₅₇	T ₅₈	T ₅₉	T ₆₀	T ₆₁	T ₆₂	T ₆₃	T ₆₄	T ₆₅	T ₆₆	T ₆₇	T ₆₈	T ₆₉	T ₇₀	T ₇₁	T ₇₂	T ₇₃	T ₇₄	T ₇₅	T ₇₆	T ₇₇	T ₇₈	T ₇₉	T ₈₀	T ₈₁	T ₈₂	T ₈₃	T ₈₄	T ₈₅	T ₈₆	T ₈₇	T ₈₈	T ₈₉	T ₉₀	T ₉₁	T ₉₂	T ₉₃	T ₉₄	T ₉₅	T ₉₆	T ₉₇	T ₉₈	T ₉₉	T ₁₀₀	T ₁₀₁	T ₁₀₂	T ₁₀₃	T ₁₀₄	T ₁₀₅	T ₁₀₆	T ₁₀₇	T ₁₀₈	T ₁₀₉	T ₁₁₀	T ₁₁₁	T ₁₁₂	T ₁₁₃	T ₁₁₄	T ₁₁₅	T ₁₁₆	T ₁₁₇	T ₁₁₈	T ₁₁₉	T ₁₂₀	T ₁₂₁	T ₁₂₂	T ₁₂₃	T ₁₂₄	T ₁₂₅	T ₁₂₆	T ₁₂₇	T ₁₂₈	T ₁₂₉	T ₁₃₀	T ₁₃₁	T ₁₃₂	T ₁₃₃	T ₁₃₄	T ₁₃₅	T ₁₃₆	T ₁₃₇	T ₁₃₈	T ₁₃₉	T ₁₄₀	T ₁₄₁	T ₁₄₂	T ₁₄₃	T ₁₄₄	T ₁₄₅	T ₁₄₆	T ₁₄₇	T ₁₄₈	T ₁₄₉	T ₁₅₀	T ₁₅₁	T ₁₅₂	T ₁₅₃	T ₁₅₄	T ₁₅₅	T ₁₅₆	T ₁₅₇	T ₁₅₈	T ₁₅₉	T _{160</}
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New Care Taking Facility
969 Cypress Ave.
Colton CA, 92324

DRAWN BY:
CHECKED BY:
DESIGNED BY:

GAS LAYOUT

P4.0

SHEET NO.

STATE OF CALIFORNIA

Envelope Component Approach

NICC-ENVE

CERTIFICATE OF COMPLIANCE

Project Name:

New Care Tasting Facility

Report Page:

Project Address:

569 Cypress Ave

Date Prepared:

5/19/2023

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Schema Version: rev.10200001

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

Report Generated: 2023-05-19 12:41:33

F, ROOF ASSEMBLY SCHEDULE

07	08	10	11	12	13	14	15	16	
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design	Net Area ft²
Roof	J44 Tables	Wood	38	0	U-factor	0.028	per J44 per Software/ Other	0.028	376
Roof	J44 Tables	Wood	38	0	U-factor	0.028	per J44 per Software/ Other	0.025	344
Roof	J44 Tables	Wood	38	0	U-factor	0.028	per J44 per Software/ Other	0.025	344
Roof	J44 Tables	Wood	38	0	U-factor	0.028	per J44 per Software/ Other	0.025	344
Roof	J44 Tables	Wood	38	0	U-factor	0.034	per J44 per Software/ Other	0.025	229
Roof	J44 Tables	Wood	38	0	U-factor	0.034	per J44 per Software/ Other	0.025	187
Roof	J44 Tables	Wood	38	0	U-factor	0.034	per J44 per Software/ Other	0.025	112
Roof	J44 Tables	Wood	38	0	U-factor	0.028	per J44 per Software/ Other	0.025	230

PART OF CALIFORNIA Envelope Component Approach NCC-Env E CERTIFICATE OF COMPLIANCE Project Name: New Care Taking Facility Report Page: Project Address: 969 Cypress Ave Date Prepared:		CALIFORNIA ENERGY COMMISSION NCC-Env C (Page 5 of 19) 5/15/2023	
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F. ROOF ASSEMBLY SCHEDULE										
07	08	10	11	12	13	14	15	16		
Tag/Plan Detail ID	How Design U-factor was determined	Roof Type & Frame Material	Frame Spacing Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design		Net Area ^a ft²
Roof	JMA Tiles	Wood		38	0	U-factor	0.034	per JMA per Software/ Other	0.025	476
Roof	JMA Tiles	Wood		38	0	U-factor	0.034	per JMA per Software/ Other	0.025	183
Roof	JMA Tiles	Wood		38	0	U-factor	0.034	per JMA per Software/ Other	0.025	2507

^a FOOTNOTES: If any individual assembly is non-compliant, assemblies may show compliance using an area-weighted calculation. Metal building roofs may not have other roof types. The area-weighted compliance option is not available for alterations demonstrating compliance with R-values in Table L41.D-C.
^b If "R-value" is shown in cell I13 as the Thermal Performance Unit, the R-value shown here is for continuous insulation per Table L41.D-C.
^c Roof area minus any fenestrations/ skylight area

Structural Insulated Panels (SIPs) /Roofing Assemblies					
Span Deck And Concrete Roof Assemblies					
Metal Panel Assemblies					
Metal Building Roof Assemblies					
Area-Weighted Average U-factor Compliance Calculation for Framed/ SIPs/ Span Deck & Concrete/ Metal Panel Roofs					
01	02	03	04	05	
Roof Type	Total Area of Roof Type (ft²)	Area-weighted U-factor for Roof Type		Compliance Results Using Area-Weighted Calculation Option	
Framed	6058	Required	Designated		
		0.032	0.025		
Total for all Roof Types:		6058	0.028	0.025	COMPLIES

Registration Number:
Registration Date/Time:
Registration Provider: EnergoSoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance
Report Version: 2019.10.03
Report Generated: 2023-05-19 12:42:31

Schema Version: rev 20200601

STATE OF CALIFORNIA Envelope Component Approach NCC-ENVE		CALIFORNIA ENERGY COMMISSION NCC-ENVE	
CERTIFICATE OF COMPLIANCE		(Page 6 of 19)	
Project Name: _____		New Cars Taking Facility	
Project Address: _____		909 Cypress Ave.	
		Date Prepared: _____	
		5/15/2023	

F. ROOF ASSEMBLY SCHEDULE									
Area-Weighted Average U-factor Compliance Calculation for Metal Roofing Roof									

G. RAISED ROOFING MATERIAL (COOL ROOF)									
This table demonstrates compliance with prescriptive roof material requirements in §140.3(a)(1A) for new construction or additions, or §141.00b(2B) for alterations.									
01	02	03	04	05	06	07	08	09	10
Tag/Plan Detail ID	Description	Status	Occupancy Type	Roof Slope	Roof Material	Compliance Method	Required Minimum Material Performance	Designed Material Performance	U-factor of Assembly
R-38 Roof	Roof	New	High-Rise Res/Hotel/ Motel	>= 1:12 (Steep)	To Be Determined	Solar Reflectance	Reflectance 0.2 Emittance 0.75	Reflectance 0.2 Emittance 0.75	
							SRI	SRI	

H. WALL ASSEMBLY SCHEDULE									
This table demonstrates compliance with prescriptive wall assembly requirements in §140.3(a)(2) and §140.3(a)(3) for new constructions or additions, or mandatory wall assembly requirements in §141.00b(18) for alterations.									
<div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Framed <input type="checkbox"/> Mass (new only) <input type="checkbox"/> Concrete Sandwich Panel (new only) <input type="checkbox"/> GUPS <input type="checkbox"/> CF (new only) </div> <div> <input type="checkbox"/> Metal Panels <input type="checkbox"/> Metal Building <input type="checkbox"/> Spandrel/ Curtain Wall <input type="checkbox"/> Straw Bale <input type="checkbox"/> Log Home (new only) </div> </div>									
01 Indicate wall types included in the project: _____									
1 FOOTNOTES: Wall types indicated above as "New only" do not have Title 24, Part 6 requirements for alterations. New construction and additions do have requirements and should be checked above and compliance demonstrated within this table.									

Framed Walls									
01	<input type="checkbox"/>	Calculate Area-Weighted Average U-factor for Metal Framed Walls ¹							
02	<input checked="" type="checkbox"/>	Include Wood Framed Walls in Area-Weighted Average U factor Calculation ¹							

STATE OF CALIFORNIA										CALIFORNIA ENERGY COMMISSION	
ENVELOPE COMPONENT APPROACH										NRC-ENVE	
NRC-ENVE										NRC-ENVE	
CERTIFICATE OF COMPLIANCE											
Project Name: New Care Tasting Facility					Report Page: (Page 7 of 19)						
Project Address: 569 Cypress Ave					Date Prepared: 5/19/2023						
H. WALL ASSEMBLY SCHEDULE											
03	04	05	06	07	08	09	10	11	12	13	
Tap/Plan Detail ID	Occupancy & Status	How Design U-factor was determined	Location	Frame Material, Spacing & Depth	Cavity Insulation per Design	Continuous Insulation per Design	Thermal Performance Unit	Required Thermal Performance	U-factor per Design	Net Area ft ²	
North Walls	High-rise Res/Hotel/ Motel/ New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC 2x4	15	10	U-factor	0.059	per JA4 per Software/ Other	0.045	150
West Walls	High-rise Res/Hotel/ Motel/ New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC 2x4	15	10	U-factor	0.059	per JA4 per Software/ Other	0.045	200.2
South Walls	High-rise Res/Hotel/ Motel/ New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC 2x4	15	10	U-factor	0.059	per JA4 per Software/ Other	0.045	150
East Walls	High-rise Res/Hotel/ Motel/ New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC 2x4	15	10	U-factor	0.059	per JA4 per Software/ Other	0.045	75
South Walls	High-rise Res/Hotel/ Motel/ New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC 2x4	15	10	U-factor	0.059	per JA4 per Software/ Other	0.045	150
South Walls	High-rise Res/Hotel/ Motel/ New	JA4 Tables	Exterior wall	Wood 1/2" gyp 16" OC 2x4	15	10	U-factor	0.059	per JA4 per Software/ Other	0.045	197.2

T24

SHEET NO.

STATE OF CALIFORNIA
Envelope Component Approach

CERTIFICATE OF COMPLIANCE

Project Name: _____
 Project Address: _____

NEW RESIDENTIAL ENERGY COMMISSION
NRCC-ENV-4
 (Page 16 of 19)
 5/19/2023

New Care Taking Facility **Report Page:** _____
 959 Cypress Ave. **Date Prepared:** _____

16. FENESTRATION AND GLAZED DOOR SCHEDULE

Vertical Penetration and Glazed Doors - U-factor, Solar Heat Gain Coefficient (RSHGC / SHGC), Visible Transmittance (VT)

04	05	06	07	08	09	10	11	12	13
Tag/Plan Detail ID	Fenestration Type	Occupancy & Status	(RSHGC / SHGC) Compliance Method	VT Compliance Method	Calculation Method for Performance Values per Design?	Product Performance U-factor (max)	Required Product Performance U-factor	Product Performance per Design	Area ft²
W5	Fixed window	Nonresidential/ Releasable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.3	33
				<input type="checkbox"/> Overhang used for RSHGC	(RSHGC (max))	0.25	0.23		
W6	Fixed window	Nonresidential/ Releasable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.3	44
				<input type="checkbox"/> Overhang used for RSHGC	(RSHGC (max))	0.25	0.23		
W3	Fixed window	Nonresidential/ Releasable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.3	22
				<input type="checkbox"/> Overhang used for RSHGC	(RSHGC (max))	0.25	0.23		
W4	Fixed window	Nonresidential/ Releasable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.3	23
				<input type="checkbox"/> Overhang used for RSHGC	(RSHGC (max))	0.25	0.23		
W5	Fixed window	Nonresidential/ Releasable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.3	33
				<input type="checkbox"/> Overhang used for RSHGC	(RSHGC (max))	0.25	0.23		
W12	Fixed window	Nonresidential/ Releasable 1 CZ : New			NFRC Certified	U-factor (max)	0.36	0.3	84
				<input type="checkbox"/> Overhang used for RSHGC	(RSHGC (max))	0.25	0.23		

FOOTNOTES: If any individual fenestration product is non-compliant, products may show compliance using an area-weighted calculation. Chromogenic glazing is not included in area-weighted calculations. Area-weighted calculation shown in separate area-weighted table below.

Registration Number: _____

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time: _____

Report Version: 2019.1.003
 Schema Version: rev.20200601

Registration Provider: EnergoSoft

Report Generated: 2020-05-19 12:42:31

Enepro Component Approach		CALIFORNIA ENERGY COMMISSION NRC-ENV-4 (Page 17 of 19) 5/19/2023	
CERTIFICATE OF COMPLIANCE			
Project Name:	New Care Taking Facility	Report Page:	(Page 17 of 19)
Project Address:	969 Cypress Ave	Date Prepared:	5/19/2023

K. FENESTRATION AND GLAZED DOOR SCHEDULE

* The M46 Default Calculation can only be used for buildings with less than 200ft² of site built glazing. If the project has greater than 200ft², the only options for determining fenestration values are NRC Certification or the Default Tables in 110.6.

* Overhangs must extend past the left and right window the same distance as the depth of the overhang or greater to show an effect on the RSHGC. If an overhang does not meet this requirement, the effect of the overhang will be ignored.

* Projecting includes casement and awning windows.

Area-Weighted Area U-Factor, SHGC, VT Compliance Calculation for Vertical Fenestration And Glazed Doors			
	O1	O3	
Product Performance Unit	Total Area of Fenestration (ft ²)	Area-weighted Calculation for Fenestration Required	Compliance Results Using Area-Weighted Calculation Option
		(Designed)	
U-Factor	702.2	0.36	COMPLIES
R(SH)GC	702.2	0.25	COMPLIES
VT	702.2	0.42	COMPLIES

L. DAYLIGHT IN LARGE ENCLOSED SPACES

This section does not apply to this project.

M. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection below has 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 can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV

Form/Title	Field Inspector	
	Pass	Fail
NRC- ENV 01 - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003	Report Generated: 2023-05-19 12:42:31
	Schema Method: rev 20200601	

STATE OF CALIFORNIA Energy Component Approach <small>NRCC-EN-016</small>		CALIFORNIA ENERGY COMMISSION NRCC-EN-016	
CERTIFICATE OF COMPLIANCE <small>NRCC-EN-016</small>		NRCC-EN-016 <small>(Page 18 of 19)</small>	
Project Name: New Care Taking Facility		Report Pages: 969 Cypress Ave	
Project Address: 969 Cypress Ave		Date Prepared: 5/19/2023	


N. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE													
<p> Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, form user must provide an explanation in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/, individuals who perform the field testing and verification work, and provide the information required for completion of the fenestration Certificate of Acceptance documentation are not required to be licensed professionals. However, the person who signs the Certificate of Acceptance document to certify compliance with the acceptance requirements shall be licensed as specified in Standards Section 10-103(a)(4 and NA7.3.1. </p>													
Form/Title	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Systems/Spaces To Be Field-Inspected</th> <th style="width: 50%;">Field Inspector</th> </tr> <tr> <td style="text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Verified</td> <td style="width: 50%; text-align: center;">Pass</td> </tr> <tr> <td style="text-align: center;"> <input type="checkbox"/> </td> <td style="text-align: center;"> <input type="checkbox"/> </td> </tr> </table> </td> <td style="text-align: center;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Pass</td> <td style="width: 50%; text-align: center;">Fail</td> </tr> <tr> <td style="text-align: center;"> <input type="checkbox"/> </td> <td style="text-align: center;"> <input type="checkbox"/> </td> </tr> </table> </td> </tr> </table>	Systems/Spaces To Be Field-Inspected	Field Inspector	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Verified</td> <td style="width: 50%; text-align: center;">Pass</td> </tr> <tr> <td style="text-align: center;"> <input type="checkbox"/> </td> <td style="text-align: center;"> <input type="checkbox"/> </td> </tr> </table>	Verified	Pass	<input type="checkbox"/>	<input type="checkbox"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Pass</td> <td style="width: 50%; text-align: center;">Fail</td> </tr> <tr> <td style="text-align: center;"> <input type="checkbox"/> </td> <td style="text-align: center;"> <input type="checkbox"/> </td> </tr> </table>	Pass	Fail	<input type="checkbox"/>	<input type="checkbox"/>
Systems/Spaces To Be Field-Inspected	Field Inspector												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Verified</td> <td style="width: 50%; text-align: center;">Pass</td> </tr> <tr> <td style="text-align: center;"> <input type="checkbox"/> </td> <td style="text-align: center;"> <input type="checkbox"/> </td> </tr> </table>	Verified	Pass	<input type="checkbox"/>	<input type="checkbox"/>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Pass</td> <td style="width: 50%; text-align: center;">Fail</td> </tr> <tr> <td style="text-align: center;"> <input type="checkbox"/> </td> <td style="text-align: center;"> <input type="checkbox"/> </td> </tr> </table>	Pass	Fail	<input type="checkbox"/>	<input type="checkbox"/>				
Verified	Pass												
<input type="checkbox"/>	<input type="checkbox"/>												
Pass	Fail												
<input type="checkbox"/>	<input type="checkbox"/>												

NRCA-EN-02-F must be submitted for all new, added or altered fenestration.

STATE OF CALIFORNIA Envelope Component Approach <small>NRC-ENVELOPE</small>		CALIFORNIA ENERGY COMMISSION <small>NRC-ENVELOPE</small>	
CERTIFICATE OF COMPLIANCE		NRC-ENVELOPE	
Project Name:	New Care Taking Facility	Report Page:	(Page 19 of 19)
Project Address:	959 Cypress Ave.	Date Prepared:	5/19/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT


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


Documentation Author Name: Syed P. Alim Company: InnoDez, Inc. Address: 2726 Footcough pl City/State/Zip: Pleasanton CA 94566	Documentation Author Signature:  Syed Alim Signature Date: 2023-05-19 CEA / HERS Certification Identification (if applicable): Phone: 9168321752
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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 registered 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 this Act 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, drawings, and specifications submitted to the enforcement agency for approval with this building permit.
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 jurisdictions. 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: Syed P. Alim License Number: InnoDez Address: 2726 Footcough Pl City/State/Zip: Pleasanton CA 94566	Responsible Designer Signature:  Syed Alim Date Signed: 2023-05-19 License: 27087 Phone: 916-813-1752
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STATE OF CALIFORNIA

Indoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 1 of 7)

Date Prepared: 5/19/2023

A. GENERAL INFORMATION

01 Project Location (city): Colton

02 Climate Zone: 10

03 Occupancy Types Within Project (select all that apply):

04 Total Conditioned Floor Area (ft²): 3,694

05 Total Unconditioned Floor Area (ft²): 0

06 # of Stories (Habitable Above Grade): 1

• Hotel/Motel • Office • Support Areas • Warehouse • See Table I

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, or §141.0(b)(2) for alterations.

Scope of Work

Conditioned Spaces

Unconditioned Spaces

01 My Project Consists of (check all that apply):

02 Calculation Method

03 Area (ft²)

04 Calculation Method

05 Area (ft²)

06 New Lighting System

07 New Lighting System - Parking Garage

08 Total Area of Work (ft²)

09 Compliance Results

01 Allowed Lighting Power per §140.6(b) (Watts)

02 Complete Building

03 Area Category

04 Tailored Additional

05 Total Allowed (Watts)

06 Adjustments

07 PAF Lighting Control Credits

08 Total Adjusted (Watts)

09 Compliance Results

01 Conditioned

02 Unconditioned

03 2,094.8

04 0

05 =

06 2,095

07 =

08 1,980

09 COMPLIES

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003

Report Generated: 2023-05-19 12:42:28

Schema Version: rev 20200601

STATE OF CALIFORNIA

Indoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 2 of 7)

Date Prepared: 5/19/2023

C. COMPLIANCE RESULTS

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.

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all permanent designed lighting and all portable lighting in offices.

Designated Wattage: Conditioned Spaces

01 Name or Item Tag

02 Complete Luminaire Description

03 Modular (Track) Fixture

04 Small Aperture & Color Change

05 Watts per luminaire¹

06 How is Wattage determined

07 Total number of luminaires²

08 Excluded per §140.6(a)(3)

09 Design Watts

10 Field Inspector

11 Pass

12 Fail

13 L1 - 4" Can Light

14 No

15 No

16 15

17 Mfr. Spec

18 43

19 No

20 645

21

22

23 L2 - 12" x 14" Round Ceiling

24 No

25 No

26 50

27 Mfr. Spec

28 1

29 No

30 50

31

32

33 L3 - Ceiling Flush Mount

34 No

35 No

36 35

37 Mfr. Spec

38 3

39 No

40 105

41

42

43 L4 - 2 x 4 Recessed

44 No

45 No

46 45

47 Mfr. Spec

48 13

49 No

50 585

51

52

53 L5 - Ceiling Mounted Decorative

54 No

55 No

56 100

57 Mfr. Spec

58 4

59 No

60 400

61

62

63 L7 - 17" Wall Sconce

64 No

65 No

66 15

67 Mfr. Spec

68 13

69 No

70 195

71

72

73 Total Design Watts: CONDITIONED SPACES

74 1,980

FOOTNOTES: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)(4) is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.

*Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(a). Wattage used must be the maximum rated for the luminaire, not the lamp.

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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Schema Version: rev 20200601

STATE OF CALIFORNIA

Indoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 3 of 7)

Date Prepared: 5/19/2023

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. When a control having a * is shown, the notes section of this table provides more detail on how compliance is achieved. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.

Building Level Controls

01 Mandatory Demand Response §110.12(c)

02 Shut-off controls §130.1(c)

03 Field Inspector

04 Not Required <= 10,000 SF

05 Whole Building Auto Time Switch

06 Pass

07 Fail

Area Level Controls

01 Area Description

02 Complete Building or Area Category Primary Function Area

03 Area Controls §130.1(a)

04 Multi-Level Controls §130.1(b)

05 Shut-Off Controls §130.1(c)

06 Primary/Sky is Daylighting §130.1(d)

07 Secondary Daylighting §140.6(a)

08 Interlocked Systems §140.6(a)

09 Field Inspector

10 Pass

11 Fail

12 Restrooms

13 Restrooms

14 Manual ON/OFF

15 Exempt*

16 Occupancy Sensor

17 Exempt*

18 Exempt*

19 No

20

21

22 Storage

23 Warehouse

24 Manual ON/OFF

25 Exempt*

26 Occupancy Sensor

27 Exempt*

28 Exempt*

29 No

30

31

32 Kitchen

33 Kitchen/ Food Preparation Area

34 Manual ON/OFF

35 Dimmer

36 Occupancy Sensor

37 Exempt*

38 Exempt*

39 No

40

41

42 Laundry

43 Laundry Area

44 Manual ON/OFF

45 Exempt*

46 Occupancy Sensor

47 Exempt*

48 Exempt*

49 No

50

51

52 Dining & Hallway

53 Bar/Lounge and Fine Dining Area

54 Manual ON/OFF

55 Dimmer

56 Occupancy Sensor

57 Included

58 Included

59 No

60

61

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003

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STATE OF CALIFORNIA

Indoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 4 of 7)

Date Prepared: 5/19/2023

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

This table includes areas using allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lose it" Allowances are per Table 140.7-B. Indicate which allowances are being used to support 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.

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (L2 & 1, 8 & 4)

Calculated General Hardscape Lighting Power Allowance per Table 140.7-B (L2 & 1, 8 & 4)

Initial Wattage Allowance for Entire Site (Watts): 350

Total General Hardscape Allowance (Watts): 542

J. LIGHTING ALLOWANCE: PER APPLICATION

This section does not apply to this project.

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.

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This section does not apply to this project.

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003

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STATE OF CALIFORNIA

Indoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 5 of 7)

Date Prepared: 5/19/2023

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

01 Laundry

02 Dining & Hallway

03 Family Dining Area

04 0.5

05 183

06 82.4

07 No

08 No

09 TOTALS:

10 3,694

11 2,094.8

12 See Tables I, or P for detail

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY

This section does not apply to this project.

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING

This section does not apply to this project.

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS

This section does not apply to this project.

P. ADDITIONAL LIGHTING ALLOWANCE: TAILORED MORE VALUABLE MERCHANDISE

This section does not apply to this project.

Q. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

R. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS

This section does not apply to this project.

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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STATE OF CALIFORNIA

Indoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 6 of 7)

Date Prepared: 5/19/2023

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection 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 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/sites/default/files/2015-08/documents/Nonresidential_Documents/NRCC-LTI-E

Form/Title

Field Inspector

01 Pass

02 Fail

03

04

NRCC-LTI-01-E - Must be submitted for all buildings

U. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection 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/sites/default/files/2015-08/documents/Nonresidential_Documents/NRCC-LTI-E

Form/Title

Systems/Spaces To Be Field Verified

Field Inspector

01 Pass

02 Fail

03

04

NRCC-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.

NRCC-LTI-03-A - Must be submitted for automatic daylight controls.

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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STATE OF CALIFORNIA

Indoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 7 of 7)

Date Prepared: 5/19/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Syed P. Alam

Company: Involved, Inc.

Address: 1725 Foxborough Pl

City/State/Zip: Pleasanton CA 94566

Phone: 9168321752

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following declaration of responsibility, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.

2. I am a duly licensed professional engineer or architect under the laws of the State of California and I am responsible 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 complete 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: Syed P. Alam

Date Signed: 2023-05-19

Signature: [Signature]

Address: 1725 Foxborough Pl

City/State/Zip: Pleasanton CA 94566

Phone: 916-813-1752

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003

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STATE OF CALIFORNIA

Outdoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 1 of 7)

Date Prepared: 5/19/2023

A. GENERAL INFORMATION

01 Project Location (city): Colton

02 Climate Zone: 10

03 Outdoor Lighting Zone per Title 24 Part 1 §10.1.1.4 or as designated by Authority Having Jurisdiction (AHJ):

04 Total Illuminated Hardscape Area (ft²): 3830

05 0.2-0.4 Very Low - Undeveloped Parkland

06 0.2-0.4 Moderate - Rural Areas

07 0.2-0.4 High - Must be reviewed by CA Energy Commission for Approval

08 0.2-0.4 Low - Developed Parkland

09 0.2-0.4 Moderately High - Urban Areas

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, or §141.0(b)(2) for alterations.

My Project Consists of:

01 New Lighting System

02 Altered Lighting System

03 Must Comply with Allowances from §140.7

04 Is your alteration increasing the connected lighting load (Watts)?

05 Yes

06 No

07 % of Existing Luminaires Being Altered¹

08 Sum Total of Luminaires Being Added or Altered

09 Calculation Method

10 <= 10%

11 >= 10% and <= 50%

12 >= 50%

Please proceed to Table F, Outdoor Lighting Fixture Schedule to define the project's luminaires.

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.

Registration Number:

Registration Date/Time:

Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003

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Schema Version: rev 20200601

STATE OF CALIFORNIA

Outdoor Lighting

CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY COMMISSION

NRCC-LTI-E

CERTIFICATE OF COMPLIANCE

This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §140.6, and §141.0(b)(2) for indoor lighting scopes using the prescriptive path.

Project Name: New Care Taking Facility

Project Address: 969 Cypress Ave.

Report Page: (Page 2 of 7)

Date Prepared: 5/19/2023

C. COMPLIANCE RESULTS

Results in this table are automatically calculated from data input and calculations in Tables F through I. 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 or §141.0(b)(2)

01 General Hardscape Allowance §140.7(a)(1) (See Table I)

02 Per Application §140.7(a)(2) (See Table I)

03 Sales Frontage §140.7(a)(3) (See Table I)

04 Ornamental §140.7(a)(4) (See Table I)

05 Per Specific Area §140.7(a)(5) (See Table I)

06 Existing Power Allowance §140.7(a)(6) (See Table I)

07 Total Allowed (Watts)

08 Total Actual (Watts)

09 Compliance Results

10 541.5

11

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STATE OF CALIFORNIA Outdoor Lighting NRCC-LTO-4		CALIFORNIA ENERGY COMMISSION NRCC-LTO-4	
CERTIFICATE OF COMPLIANCE		NRCC-LTO-4	
Project Name:	New Care Taking Facility	Report Page:	(Page 6 of 7)
Project Address:	908 Cypress Ave	Date Prepared:	5/19/2023

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 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 at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NR/C/

Form/Title	Field Inspector	
	Pass	Fail
NRCLTO-01-E - Must be submitted for all buildings	<input type="checkbox"/>	<input type="checkbox"/>
NRCLTO-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	<input type="checkbox"/>	<input type="checkbox"/>


P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selection 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 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		Field Inspector	
	Pass	Fail	Pass	Fail
NRCLA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	<input type="checkbox"/>	<input type="checkbox"/>		

Registration Number:	Registration Date/Time:	Registration Provider: Energygoot
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2023-05-19 12:42:27

STATE OF CALIFORNIA Outdoor Lighting NEEC-ID-4		CALIFORNIA ENERGY EFFICIENCY NEEC-ID-4	
CERTIFICATE OF COMPLIANCE Project Name: New Care Taking Facility Project Address: 563 Cypress Ave		Report Page: Page 7 of 7 Date Prepared: 5/10/2023	
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT I certify that this Certificate of Compliance documentation is accurate and complete.			
Documentation Author Name: Syed P. Alam Company: Innobex, Inc. Address: 725 Foxbrough pl City/State/Zip: Pleasanton CA 94566		Documentation Author Signature: Syed Alam Signature Date: 2023-05-19 CSAE HERS Certification Identification (if applicable): Phone: 9168321752	
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 measures 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 am aware that a completed signed copy of this Certificate of Compliance that he 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 building provided to the building owner or occupant.			
Responsible Designer Name: Syed P. Alam Company: Innobex Address: 725 Foxbrough Pl City/State/Zip: Pleasanton CA 94566		Responsible Designer Signature: Syed Alam Date Signed: 2023-05-19 License: 27087 Phone: 916-813-1752	
			

STATE OF CALIFORNIA
Mechanical Systems
 REC-MCHS
CERTIFICATE OF COMPLIANCE

CALIFORNIA ENERGY EFFICIENCY
 REC-MCHS

This document is used to demonstrate compliance for mechanical systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in [§140.6](#) or [§141.0\(b\)\(2\)](#) for alterations.

Project Name: New Care Taking Facility
Project Address: 969 Cypress Ave

Report Page:
Date Prepared:

(Page 1 of 3)
5/19/2024

A. GENERAL INFORMATION

01 Project Location (city)	Colton	04 Total Conditioned Floor Area	6058
02 Climate Zone	10	05 Total Unconditioned Floor Area	0
03 Occupancy Types Within Project:		06 # of Stories (Habitable Above Grade)	1
<input checked="" type="checkbox"/> Office (B)	<input type="checkbox"/> Retail (M)	<input checked="" type="checkbox"/> Non-refrigerated Warehouse (S)	
<input checked="" type="checkbox"/> Hotel/ Motel Guest Rooms (R-1)	<input type="checkbox"/> School (E)	<input checked="" type="checkbox"/> Healthcare Facility (I)	
<input type="checkbox"/> High-Rise Residential (R-2/R-3)	<input type="checkbox"/> Reconvertible Class Bldg (E)	<input checked="" type="checkbox"/> Other (write in)	See Table J

B. PROJECT SCOPE

This table includes mechanical systems or components that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in [§140.6](#) or [§141.0\(b\)\(2\)](#) for alterations.

01		02		03	
Air System(s)		Wet System Components		Dry System Components	
<input checked="" type="checkbox"/>	Heating Air System	<input type="checkbox"/>	Water Economizer	<input checked="" type="checkbox"/>	Air Economizer
<input checked="" type="checkbox"/>	Cooling Air System	<input type="checkbox"/>	Pumps	<input type="checkbox"/>	Electric Resistance Heat
Mechanical Controls		<input type="checkbox"/>	System Piping	<input type="checkbox"/>	Fan Systems
<input checked="" type="checkbox"/>	Mechanical Controls (existing to remain, altered or new)	<input type="checkbox"/>	Cooling Towers	<input checked="" type="checkbox"/>	Ductwork (existing to remain, altered or new)
		<input type="checkbox"/>	Chillers	<input type="checkbox"/>	Ventilation
		<input type="checkbox"/>	Boilers	<input type="checkbox"/>	Zonal Systems/ Terminal Boxes

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.001
 Schema Version: rev.20200601

Registration Provider: Energyflow

Report Generated: 2023.06.19 12:42:28

STATE OF CALIFORNIA
Mechanical Systems
 NRECC-HC-4
CERTIFICATE OF COMPLIANCE
 Project Name: New Care Tasting Facility
 Project Address: 960 Cypress Ave
 Report Pages: 5
 Date Prepared: 5/10/2023

CALIFORNIA ENERGY COMMISSION
 NRECC-HC-4
 (Page 2 of 10)
 5/10/2023

C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with mechanical requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

01		02		03		04		05		06		07		08		09	
System Summary \$110.1 \$110.2 \$105.4	AND	Pumps \$140.45a	AND	Fans/ Economizers \$140.46a \$140.46b	AND	System Controls \$110.2 \$120.7 \$140.40f	AND	Ventilation \$120.1	AND	Terminal Box Controls \$140.41d	AND	Distribution \$120.3 \$140.41i	AND	Cooling Towers \$110.20a	Compliance Results		
(See Table F)		(See Table G)		(See Table H)		(See Table I)		(See Table J)		(See Table K)		(See Table L)		(See Table M)			
Yes	AND		AND	Yes	AND	Yes	AND		AND		AND	Yes	AND				
Mandatory Measures Compliance (See Table Q for Details)															COMPLIES		

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unfiled complaints 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.

Registration Number:

Registration Date/Time:

Registration Provider: Energystop

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.1.003
Schema Version: rev 20200601

Report Generated: 2023-05-10 12:42:28

Mechanical Systems		CALIFORNIA ENERGY EFFICIENCY	
NROC-MDS-4			
CERTIFICATE OF COMPLIANCE			
Project Name:	New Care Taking Facility	Report Page:	NRC-MDS-4 (Page 3 of 10)
Project Address:	909 Cypress Ave.	Date Prepared:	5/19/2023

[HVAC SYSTEM SUMMARY (DRY & WET SYSTEMS)]

This table is used to demonstrate compliance for mechanical equipment with mandatory requirements found in §110.1(a) and §110.2(a) and prescriptive requirements found in §140.4(a), §140.4(b) and §140.4(c), or §141.0(a)(2) for alterations.

Dry System Equipment sizing includes air conditioners, condensers, heat pumps, VRF, furnaces and unit heaters)

01	02	03	04	05	06	07	08	09	10	11
Name or Item Tag	Equipment Category per Tables 110.2	Equipment Type per Tables 110.2 / Title 20	Smallest Size Available ¹ §140.4(a)	Equipment Sizing per Mechanical Schedule (kBtu/h) §140.4 (a&b)						
				Heating Output ^{2,3}			Cooling Output ^{2,3}		Load Calculations ⁴	
				Per Design (kBtu/h)	Rated (kBtu/h)	Supp. Heating (kBtu/h)	Sensible Per Design (kBtu/h)	Rated (kBtu/h)	Total Heating Load (kBtu/h)	Total Sensible Cooling Load (kBtu/h)
IU-1,2,3	Unitary AC/ Condensers	AC, air cooled, split (3 phase)	NA: Load Controls	291	97	0	156.13	50	84.86	163.5

¹NOTES: 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 per §140.4(a). Healthcare facilities are excepted.

²It is common practice to show rated output capacity on the equipment schedule. Sensible cooling output comes from specification sheet tables.

³ If equipment is heating only, leave cooling output and load blank. If equipment is cooling only, leave heating output and load blank.

⁴ Authority Having Jurisdiction may ask for load calculations used for compliance per §140.4(b).

Dry System Equipment Efficiency (other than Package Terminal Air Conditioners (PTAC) and Package Terminal Heat Pumps (PTHPP))

01	02	03	04	05	06	07	08	09
Name or Item Tag	Size Category (Btu/h)	Rating Condition ('F)	Heating Mode		Cooling Mode		Design Efficiency	Design Efficiency
			Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20	Efficiency Unit	Minimum Efficiency Required per Tables 110.2 / Title 20		
IU-1,2,3	<65,000		AFUE	0.80	0.96	SEER	13.0	15

Registration Number:

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

Report Version: 2019.1.003
Schema Version: rev: 20200601

Registration Provider: EnergoSoft

Report Generated: 2023-05-19 12:42:28Z

PART OF CALIFORNIA

Mechanical Systems

NRCC-MCH-4

CERTIFICATE OF COMPLIANCE				CALIFORNIA ENERGY COMMISSION NRCC-Arch			
Project Name:				Page # of _____ 5/19/2021			
New Core Taking Facility				Report Page:			
Project Address:				Date Prepared:			
969 Cypress Ave.							

G. PUMPS

This section does not apply to this project.

H. FAN SYSTEMS & AIR ECONOMIZERS

This table is used to demonstrate compliance with prescriptive requirements found in §140.4(a), §140.4(c), and §140.4(m) for fan systems. Fan systems serving only process loads are exempt from these requirements and do not need to be included in this table H.

System Name	IU-1,2,3	Economizer: ¹	Fixed Temperature	Economizer Controls:	Designed per §140.4(c) and (m)	System Fan Type:	Constant Volume
D1	D2	D3	D4	D5	D6	D7	D8
Fan Name or Item Tag	Fan Function	Qty	Maximum Design Supply Airflow (CFM)	HP Unit ²	Design HP	Fan Power Pressure Drop Adjustment - Table 14.0-B	
SF	Supply	3	6000	BHP	1	Device	Design Airflow through Device (CFM)
Total System Design Supply Airflow (CFM):			6000	Total System Design (BHP)	3	Maximum System Fan Power (BHP):	

¹ FOOTNOTES: Computer room economizers must meet requirements of §140.9(a) and will be documented on the NRCC-PRC-E document.
² Unit used for HP must be consistent for all fans within a system.

I. SYSTEM CONTROLS

This table is used to demonstrate compliance with mandatory controls in §110.2 and §120.2 and prescriptive controls in §140.4(f) and (n) or requirements in §141.0(b)(2), for altered space conditioning systems.

O1	O2	O3	O4	O5	O6	O7	O8	O9
System Name	System Zoning	Conditioned Floor Area Being Served (ft²)	Thermostats §110.2(b) & (c) ¹ , §120.2(a)(or) §141.0(b)(2)	Shut Off Controls §120.2(c)	Isolation Zone Controls §120.2(a)	Demand Response §110.12 and §120.2(a)	Supply Air Temp. Reset §140.4(f)	Window Interlocks per §140.4(e)
IU-1,2,3	Single zone,	<= 25,000 ft²	Setback	Auto Timer Switch	4 Hour Timer	EMCS	Included	Provided

¹ FOOTNOTES: Gravity gas wall heaters, gravity floor heaters, gravity room heaters, non-central electric heaters, fireplaces or decorative gas appliances, wood stoves are not required to have setback thermostats.

Registration Number: Registration Date/Time: Registration Provider: Energysoft

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance Report Generated: 2023-05-19 12:42:29Z

Schema Version: rev 20200601

STATE OF CALIFORNIA

MECHANICAL SYSTEMS

NRCC-MDS-14

CERTIFICATE OF COMPLIANCE

Project Name: New Care Tackling Facility

Report Pages: 1

Project Address: 969 Cypress Ave.

Date Prepared: 5/19/2020

1. SYSTEM CONTROLS

*Notes: Controls with a * require a note in the space below explaining how compliance is achieved. EK: system 1: SA Temp Reset: Exempt because zones compliant with §140.4(d); EXCEPTION 3 to §140.4(f)

2. VENTILATION AND INDOOR AIR QUALITY

This table is used to demonstrate compliance with mandatory ventilation requirements in §120.1 and §120.2(e)(38) for all nonresidential, high-rise residential and hotel/motel occupancies. For alterations, only ventilation systems being altered within the scope of the permit application need to be documented in this table. In lieu of this table, the required outdoor ventilation rates and/or flows may be shown on the plans or the calculations can be presented in a spreadsheet.

01	02	03	04	05	06	07
<input type="checkbox"/> Check the box if the project is showing ventilation calculations on the plans, or attaching the calculations instead of completing this table.	<input type="checkbox"/> Check this box if the project included Nonresidential or Hotel/Motel spaces	<input type="checkbox"/> Check this box if the project included new or altered high-rise residential dwelling units.	<input type="checkbox"/> Check the box if the project is using natural ventilation in any nonresidential or hotel/motel spaces to meet required ventilation rates per §120.1(c)(2)			

Nonresidential and Hotel/Motel Ventilation Systems

01	02	03	04	05	06	07
System Name	IU-1,2,3	System Design OA CFM	Airflow*	917	System Design Transfer Air CFM	0
						Air Filtration per §120.1(c) and §141.0(b)(2)
						Provided per §120.1(c) (NR and Hotel/Motel)

08	09	10	11	12	13	14	15	16
Space Name or Item Tag	Occupancy Type*	Conditioned Floor Area (ft ²)	of heave/ heads/ toilets	if people*	Required Min CFM	Required Min CFM	Provided per Design CFM	DCV or Sensor Controls per §120.1(d)(3), §120.1(d)(5), and §120.1(e) ⁵
Suite 3	Bedroom/living room (hotel/motel/dorm)	363			54.4	0	0	DCV NA: Not required per §120.1(d)(9) Occ Sensor NA: Not required space type
Suite 2	Bedroom/living room (hotel/motel/dorm)	363			54.4	0	0	DCV NA: Not required per §120.1(d)(9) Occ Sensor NA: Not required space type

Registration Number:

Registration Date/Time:

Registration Provider: EnergoPro

CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Report Version: 2019.10.03

Schema Version: rev 20200601

Report Generated: 2023-05-19 12:42:28

STATE OF CALIFORNIA Mechanical Systems NRC-CA-MCH-4				CALIFORNIA ENERGY COMMISSION NRC-CA-MCH-4			
CERTIFICATE OF COMPLIANCE				Page 1 of 10			
Project Name:		New Care Taking Facility		Report Pages:		5/19/2023	
Project Address:		969 Cypress Ave		Date Prepared:			
J. VENTILATION AND INDOOR AIR QUALITY							
Suite 1	Bedroom/living room (hotel/motel/dorm)	376		56.4	0	0	DCV NA: Not required per §120.1(i)(3) Occ Sensor NA: Not required space type
Suite 4	Bedroom/living room (hotel/motel/dorm)	344		51.6	0	0	DCV NA: Not required per §120.1(i)(3) Occ Sensor NA: Not required space type
Suite 5	Bedroom/living room (hotel/motel/dorm)	344		51.6	0	0	DCV NA: Not required per §120.1(i)(3) Occ Sensor NA: Not required space type
Suite 6	Bedroom/living room (hotel/motel/dorm)	344		51.6	0	0	DCV NA: Not required per §120.1(i)(3) Occ Sensor NA: Not required space type
Storage	All others	229		34.4	0	0	DCV NA: Not required per §120.1(i)(3) Occ Sensor NA: Not required space type
Office	Office space	187		28	0	0	DCV NA: Not required per §120.1(i)(3) Occ Sensor NA: Not required space type
Restrooms	Toilet, private	112		0	0	0	DCV NA: Not required per §120.1(i)(3) Occ Sensor NA: Not required space type

Registration Number:

 CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

Registration Date/Time:

 Schema Version: 2019.1.003
 Report Number: rev 20200601

Registration Provider: EnergySight

 Report Generated: 2023-05-10 12:42:28

Mechanical Systems <small>NRCC-MCHD-2 CERTIFICATE OF COMPLIANCE</small>		CALIFORNIA ENERGY COMMISSION <small>NRCC-MCHD-2 (Page 7 of 10) 5/13/2023</small>	
Project Name:		New Care Taking Facility	
Project Address:		905 Cypress Ave.	
		Report Pages:	Date Prepared:

J. VENTILATION AND INDOOR AIR QUALITY

Room	Description	Area (sq ft)	Volume (cu ft)	Air Changes per Hour	Filtration	Ductwork	Notes
Night Shift Bedroom	Bedroom/living room (hotel/motel/dorm)	230	34.5	0		DCV Occ Sensor	NA: Not required per §120.1(i)(3)
Kitchen	Kitchennettes	476	0	142.8	0	DCV Occ Sensor	NA: Not required per §120.1(i)(3) NA: Not required space type
Laundry	Coin-operated Laundry	183	27.4	0	0	DCV Occ Sensor	NA: Not required per §120.1(i)(3) NA: Not required space type
Dining & Hallway	Bar/ cocktail lounge	2507	1253.5	0	0	DCV Occ Sensor	Provided per §120.1(i)(4) NA: Not required space type
17	Total System Required Min OA CFM	1698	18	Ventilation for this System Completes?			Yes

*** FOOTNOTES: System CM shall include both mechanical and natural ventilation for the zone/system**

*** §120.1(f): Air filtration requirements apply to the following three system types per §120.1(g)(1) : space conditioning systems utilizing ducts to supply air to occupiable space; supply-only ventilation systems providing outside air to occupiable space; supply side of balanced ventilation systems including heat recovery and energy recovery ventilation systems providing outside air to occupiable space.**

*** Uniform Mechanical Code may have more stringent ventilation requirements; the most stringent code requirement takes precedence.**

*** See Standards Tables 120.1-A and 120.1-B.**

*** For lecture halls with fixed seating, the expected number of occupants shall be determined in accordance with the California Building Code.**

*** §120.2(e)(3) requires systems serving rooms that are required by §130.1(c) to have lighting occupancy sensing controls to also have occupancy sensing zone controls for ventilation. Examples of spaces which require lighting occupancy sensors include offices 250qf or smaller; multipurpose rooms less than 1,000 ft²; classrooms, conference rooms, restrooms, aisles and open areas in warehouses, library book stock aisles, corridors, stairwells, parking garages, and loading and unloading zones, unless excepted by §130.1(c).**

K. TERMINAL BOX CONTROLS

This section does not apply to this project.

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.003 Schema Version: rev 20200601	Report Generated: 2023-05-19 12:42:28

STATE OF CALIFORNIA Mechanical Systems NREC-MCH-E		CALIFORNIA ENERGY COMMISSION NREC-MCH-A	
CERTIFICATE OF COMPLIANCE			
Project Name:		New Core Taking Facility Report Page: 8 of 10	
Project Address:		565 Cypress Ave Date Prepared: 5/19/2022	


L DISTRIBUTION (DUCTWORK AND PIPING)			
<i>The table is used to show compliance with mandatory pipe insulation requirements found in §120.3, and prescriptive requirements found in §140.4(f). For duct leakage testing.</i>			
The answers to the questions below apply to the following duct systems:		IU-1,2,3	Duct leakage testing triggered for these systems? Yes No
11	No	The scope of the project includes only duct systems serving healthcare facilities	
12	Yes	Duct system provides conditioned air to an occupiable space for a constant volume, single zone, space-conditioning system.	
13	No	The space conditioning surface area serves less than 5,000 R ² of conditioned floor area.	
14	No	The combined surface area of the ducts in the following locations is more than 25% of the total surface area of the entire duct system: <input type="checkbox"/> Outdoors <input type="checkbox"/> In a space directly under a roof that has a U-factor greater than the U-factor of the ceiling, or if the roof does not meet the requirements of §140.3(a)(1) or If the roof has fixed vents or openings to the outside/unconditioned spaces <input type="checkbox"/> In an unconditioned crawl space <input type="checkbox"/> In other unconditioned spaces	
15	No	The scope of the project includes extending an existing duct system, which is constructed, insulated or sealed with asbestos.	
16	No	The scope of the project includes an existing duct system that is documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Reference Nonresidential Appendix NA2.	
17	Yes	Duct system shall be sealed in accordance with the California Mechanical Code	

M COOLING TOWERS	
This section does not apply to this project.	

N DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION	
Sections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/	
Form/Title	Field Inspector
	Pass Fail
NRCI-MCH-01-E - Must be submitted for all buildings	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

Registration Number:	Registration Date/Time:	Registration Provider: Energysoft
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance	Report Version: 2019.1.0.0 Schema Version: rev 20200601	Report Generated: 2023-05-15 12:42:29

STATE OF CALIFORNIA Mechanical Systems NRC-MCH- CERTIFICATE OF COMPLIANCE		CALIFORNIA ENERGY COMMISSION NRC-MCH- Report Name: New Core Taking Facility Report Address: (Page 9 of 10) 950 Cypress Ave Date Prepared: 5/19/2020	
G. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE <p>Sections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E Additional Remarks.</p> <p>These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/</p>			
Form/Title	Systems/Spaces To Be Field Verified	Field Inspector	
		Pass	Fail
NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply fan VFD Acceptance (if applicable) since testing activities overlap.	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-03-A - Constant Volume Single Zone HVAC NOTE: This document does not automatically mean "Yes." If Constant Volume Single Zone HVAC Systems are included in the scope, permit applicant should move this item to "Yes."	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-05-A - Air Economizer Controls	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-06-A Demand Control Ventilation Systems must be submitted for all systems required to employ demand controlled ventilation (refer to §1201.11(3)) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO ₂) concentration setpoints.	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-11-A Automatic Demand Shed Controls	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-16-A Supply Air Temperature Reset Controls	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
NRCA-MCH-18-A Energy Management Control Systems	Carrier S9TNB6A10DV21--22;	<input type="checkbox"/>	<input type="checkbox"/>
P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION <i>There are no NRVC forms required for this project.</i>			
G. MANDATORY MEASURES DOCUMENTATION LOCATION <p>This table is used to indicate where mandatory measures are documented in the plan set or construction documentation.</p>			
01	02		
Compliance with Mandatory Measures documented through MCH Mandatory Measures Note Block	Yes	M-Sheets	
Registration Number:		Registration Date/Time:	
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance		Registration Provider: Energyspro	
Report Version: 2019.10.03		Report Generated: 2023-05-19 12:42Z	
Form version: Rev 20200601			

STATE OF CALIFORNIA Seismicity Metrics NBCC-MCH-LE		CALIFORNIA ENERGY COMMISSION NBCC-MCH-LE	
CERTIFICATE OF COMPLIANCE			
Project Name: New Core Taking Facility		Report Page: (Page 10 of 10)	
Project Address: 900 Cypress Ave.		Date Prepared: 5/19/2023	
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT I certify that this Certificate of Compliance documentation is accurate and complete.			
Documentation Author Name: Syed P. Alam Company: ImmoDez, Inc. Address: 726 Foxborough Pl City/State/Zip: Pleasanton CA 94566		Documentation Author Signature: Syed Alam Signature Date: 2023-05-19 CIA/HERS Certification Identification (if applicable): 9168321752 Phone:	
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 5 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 are in compliance with 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 is required to be included with the documentation the building provider provides to the building owner at occupancy.			
Responsible Designer Name: Syed P. Alam Company: ImmoDez Address: 726 Foxborough Pl City/State/Zip: Pleasanton CA 94566		Responsible Designer Signature: Syed Alam Date Signed: 2023-05-19 License: 27087 Phone: 916-813-1752	
			
Registration Number: Registration Date/Time: Registration Provider: Energystop			
CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance			
Report Version: 2019.1.003 Schema Version: rev.20200601			
Report Generated: 2023-05-19 12:42:43			

New Care Taking Facility
969 Cypress Ave.
Colton CA: 92324

REVISIONS:

DATE:

DRAWN BY:
CHECKED BY:
DESIGNED BY:

T24

JOB No:
SHEET:

T24.4

SHEET NO.

STATE OF CALIFORNIA

Domestic Water Heating System

NRCC-PLB-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-PLB-E-4

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, §120.4, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating systems using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in §110.1, §110.3, §120.3, §150.0, and §150.1(c)(8) and with requirements §150.2 for additions.

Project Name: New Care Taking Facility

Report Page: (Page 1 of 8)

Project Address: 969 Cypress Ave

Date Prepared: 5/19/2023

A. GENERAL INFORMATION

01 Project Location (city) Colton

02 Climate Zone 10

03 Occupancy Types Within Project (select all that apply):
☒ Nonresidential
☐ High-Rise Residential
☐ Hotel/Motel
☐ State Building
☐ Healthcare Facility
☐ Other (Write in)

B. PROJECT SCOPE

This table is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, §150.0, and §150.1(c)(8) or §141.0(b)(2) for additions or alterations. Solar water heating systems are documented on the NRCC-SRA compliance document. Combined hydronic water heating systems are documented on the NRCC-MCH compliance document.

01 My project consists of (check all that apply):
☒ New system (DHW system being installed for the first time in newly constructed building)
☒ New system (DHW system being installed for the first time in newly constructed building)
☐ System Alteration (equipment, distribution or controls)

02 System Type(s)^{1,2}
Individual System (serving nonresidential spaces)

03 System Components
☒ Equipment
☒ Distribution
☒ Controls

FOOTNOTES: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.
¹ Dwelling units refers to hotel/motel guest rooms and units in a high-rise residential occupancy.

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STATE OF CALIFORNIA

Domestic Water Heating System

NRCC-PLB-E

CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE

NRCC-PLB-E-4

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, §120.4, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating systems using the prescriptive path. For high-rise residential and hotel/motel occupancies compliance is demonstrated with requirements in §110.1, §110.3, §120.3, §150.0, and §150.1(c)(8) and with requirements §150.2 for additions.

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C. COMPLIANCE RESULTS

Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, or the table indicated as not compliant for guidance.

01 Domestic Hot Water Equipment Table F

02 Distribution Systems Table G

03 Controls Table H

04 Compliance Results COMPLIES

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unreadable 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.

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F. DOMESTIC HOT WATER EQUIPMENT

This table is used to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. For high-rise residential and hotel/motel occupancies, compliance with prescriptive requirements in §150.1(c)(8) must also be demonstrated and with §150.2 for addition and alteration scopes.

Equipment Schedule: Individual Systems

01 Name or Item Tag

02 Equipment Type

03 Volume (gal)

04 Max GPM / First Hour Rating (FHR)

05 Rated Uniform Energy Factor (UEF)

06 Minimum Required Uniform Energy Factor (UEF)¹

16 Gas/propane instantaneous water heater with input rating <= 200,000 BTU/h and no storage tank. Note: Can not comply using the prescriptive path with a storage tank per §150.1(c)(8) (New Construction Only)
Gas/propane storage type water heater with input rating <= 75,000 BTU/h (New Construction only)
Rated volume <= 55 gal
Rated volume > 55 gal
A single heat pump water heater with storage tank located in the garage or conditioned space. (New Construction Only)
Water heater meets the requirements of NEA Advanced Water Heater Specification Tier 3 or higher.
A single heat pump water heater with storage tank located in the garage or conditioned space and be placed on an incompressible, rigid insulated surface with minimum R-10. (Alterations in climate zones 1-15 Only)
Water heater meets the requirements of NEA Advanced Water Heater Specification Tier 3 or higher.
No gas connection to existing water heater location for replacement water heater. Consumer electric water heater must meet Title 20 Appliance Efficiency requirements (see Equipment Schedule Above) per §150.2(b)(1). (Alterations only)

17 Yes No Not Applicable Requirement

FOOTNOTE: Dwelling Units refers to hotel/motel guest rooms and units in a high-rise residential occupancy.

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F. DOMESTIC HOT WATER EQUIPMENT

Water Heating Equipment All Occupancies

18 Yes No Not Applicable Requirement

19

20

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

This table is used to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements §110.3(c), §120.3, §150.0, §150.1

Distribution in Individual Dwelling Units

08 Yes No Not Applicable Requirement

The dwelling unit is designed to have fenestration products with a weighted average U-factor <=0.24 plus one of the following options per §150.1(c)(8)(i) (New Construction Only)
• Compact hot water distribution system field verified by a HERS Rater per Reference Appendix RA4.4.16
• A drain water heat recovery system
• Compact hot water distribution system and a drain water heat recovery system
One of the following options is included in the design per §150.1(c)(8)(ii) (New Construction Only)
• Compact hot water distribution system field verified by HERS rater per Reference Appendix RA4.4.6 and a drain water heat recovery system that is field verified by a HERS rater per Reference Appendix RA3.6.9
• A photovoltaic system capacity of 0.3kWdc (for climate zones 2-15) or 1.1kWdc (for climate zones 1 & 16) larger than the requirement specified in §150.1(c)(14)
• Compact hot water distribution system and a drain water heat recovery system

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H. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

09 One of the following options is included in the design per §150.1(c)(8)(ii) (New Construction Only)
• Compact hot water distribution system per Reference Appendix RA4.4.6 for projects in climate zones 1 and 16.
• A photovoltaic system capacity of 0.3kWdc (for climate zones 1 and 16) larger than the requirement specified in §150.1(c)(14)
• Compact hot water distribution system
• A photovoltaic system

10

Mandatory Pipe Insulation All Occupancies

11 For systems serving dwelling units, pipe insulation for the following applications is specified to have a minimum wall thickness of 1 in or a minimum R-value of 7.7 per §150.0(c)(2):
• The first 5ft of cold water pipes form storage tank
• All hot water piping with nominal diameter of 3/4 in - 1 in
• All hot water piping with nominal diameter < 3/4 in associated with DHW recirculation systems
• Piping with nominal diameter < 3/4 in from heating source to storage tank or between tanks
• Piping with nominal diameter < 3/4 in buried below grade
• All hot water pipes with nominal diameter < 3/8 in from heating source to kitchen fixtures
• Pipes that are externally heated

12 For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per §120.3:
• Recirculating system piping including supply and return piping of the water heater
• The first 6 ft of hot and cold outlet piping, including between storage tank and heat trap, for a nonrecirculating storage system
• Pipes that are externally heated

13 Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per §120.3(b) and §150.0(c)(13)

TABLE 120.3-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F) Conductivity Range (Btu-in per hour per ft² per °F) Insulation Mean Rating Temp (°F) Nominal Pipe Diameter (in)

100-140 0.22 - 0.28 100 < 1 1 to < 1.5 1.5 to < 4

1.0 in or R-7.7 1.5 in or R-12.5 1.5 in or R-11

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H. DOMESTIC HOT WATER CONTROLS

This table is used to demonstrate compliance with control requirements in §110.3 for all occupancies. For high-rise residential and hotel/motel occupancies, compliance is also demonstrated with requirements in §150.1(c)(8)

01 Yes No Not Applicable Requirement

02 Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a)

03 Systems with capacity > 167,000 BTU/h equipped with outlet temperature controls per §110.3(c)(1) unless covered by California Plumbing Code §110.0

04 Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)(2) unless systems serves healthcare facility.

05 For recirculation systems serving multiple dwelling units, design includes automatic pump controls per §150.1(c)(8)(i) or §150.2 for additions or alterations.

06 For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA4.4.9 per §150.1(c)(8)
For replacement single heat pump water heaters serving individual dwelling units in climate zone 1-15, design includes communication interface that meets demand responsive control requirements of §150.12(a) per §150.2(b)(1)(ii)

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selection 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 at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCC/

Form/Title Field Inspector

NRCC-PLB-01-E - Must be submitted for all buildings

NRCC-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water distribution systems to be recognized for compliance.

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to service water heating requirements.

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Date Prepared: 5/19/2023

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

There are no NRCC forms required for this project.

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Project Address: 969 Cypress Ave

Date Prepared: 5/19/2023

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Syed P. Alam

Documentation Author Signature: Syed P. Alam

Signature Date: 2023-05-19

Address: 726 Foxborough Pl
Chattanooga, TN 37406

Phone: 9168321752

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: Syed P. Alam

Responsible Designer Signature: Syed P. Alam

Signature Date: 2023-05-19

Address: 726 Foxborough Pl

Phone: 916-813-1752

Registration Number: CA Building Energy Efficiency Standards - 2019 Nonresidential Compliance

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HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name: New Care Taking Facility

Date: 5/19/2023

System Name: H-1, 2, 3

Floor Area: 6,058

ENGINEERING CHECKS

Number of Systems: 3

Heating System

Output per System: 97,000

Total Output (Btu/h): 291,000

Output (Btu/h) (w/ht): 48.0

Cooling System

Output per System: 60,000

Total Output (Btu/h): 180,000

Total Output (Tons): 16.0

Total Output (Btu/h) (w/ht): 29.7

Total Output (w/ht) (w/ht): 403.9

Air System

CFM per System: 2,000

Airflow (cfm): 6,000

Airflow (cfm) (w/ht): 400.0

Outside Air (cfm): 15.3%

Outside Air (cfm) (w/ht): 0.15

COIL COOLING PEAK

CFM Sensible Latent CFM Sensible

5,187 90,874 38,361 888 25,914

Return Verified Lighting

Return Air Ducts

4,544 1,296

Return Fan

0 0

Ventilation

917 28,064 -12,151 917 36,039

Supply Fan

9,104 -9,104

Supply Air Ducts

4,544 1,296

TOTAL SYSTEM LOAD

136,128 26,210 59,941

HVAC EQUIPMENT SELECTION

Carrier 99TNA100V21-22

156,131 11,709 291,000

Total Adjusted System Output

156,131 11,709 291,000

Note: values above given at ARI conditions

TIME OF SYSTEM PEAK

Jul 3 PM Jan 1 AM

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)

28 °F 63 °F 105 °F 105 °F

Outside Air 917 cfm

Heating Coil

Supply Fan 6,000 cfm

ROOM 70 °F

COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)

102 / 68 °F 79 / 65 °F 55 / 54 °F 56 / 55 °F

Outside Air 917 cfm

Cooling Coil

Supply Fan 6,000 cfm

ROOM 74 / 63 °F

New Care Taking Facility
969 Cypress Ave.
Colton CA, 92324

REVISIONS:

DATE:

DRAWN BY:

CHECKED BY:

DESIGNED BY:

T24

JOB No:

SHEET:

T24.5

SHEET NO.