

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.

EXPPOSED DUCTWORK: EXPPOSED 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 1/2" HEXAGONAL AXLE, BOLDED 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".

HVAC 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 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.

2. 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.

3. 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.

4. 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 "GUIDELINES 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.

5. 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 AS REQUIRED. COORDINATE LOCATIONS OF GAS & CONDENSATE LINES WITH PLUMBING CONTRACTOR. COORDINATE 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.

6. DETAILS FOR EQUIPMENT PADS, PLATFORMS, AND FLASHINGS SHALL BE AS INDICATED BY THE ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS, UNLESS NOTED OTHERWISE.

7. ALL EQUIPMENT, DUCTS, PIPING, SUPPORTS, AND OTHER DEVICES OUTSIDE OF THE BUILDING OR EXPOSED TO WEATHER, SHALL BE COMPLETELY WEATHER-PROOFED.

8. OUTSIDE AIR INTAKES SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. BELOW ANY VENT OR EXHAUST DISCHARGE.

9. 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.

10. ALL EXHAUST FANS SHALL BE EQUIPED WITH A BACK DRAFT DAMPER.

11. 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 407 OF THE INTERNATIONAL MECHANICAL CODE. DUCTS NOT REQUIRING DAMPERS SHALL COMPLY WITH SECTION 714 & 717 OF THE 2019 CALIFORNIA BUILDING CODE.

12. INSTALL SMOKE DETECTORS AND PROVIDE FOR SMOKE DETECTION AND AUTOMATIC SHUT-OFF OF ALL AIR HANDLING EQUIPMENT IN ACCORDANCE WITH SECTION 606 OF THE 2019 CALIFORNIA MECHANICAL CODE.

13. 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.

14. INSTALL ALL LOW VOLTAGE HVAC CONTROL WIRE AND DEVICES PER PLAN. ALL WIRE SHALL BE IN CONDUIT PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.

15. 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 THEIR SEQUENCES OF OPERATION. BALANCE ALL AIR FLOWS WITHIN 5% OF DESIGN VALUES. PERMANENTLY MARK BALANCE POSITION OF ALL REGULATING DEVICES.

16. 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).

17. PROVIDE ONE YEAR WARRANTY ON ALL LABOR, PARTS AND MATERIALS.

18. 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

a) 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.

b) DUCTS FOR KITCHEN COOKTOPS OR RANGES SHALL BE SHOWN OF METAL WITH A SMOOTH INTERIOR. [CMC 504.3].

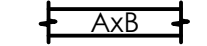












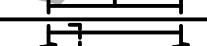
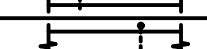















1) IDENTIFY THE DETAILED REQUIREMENTS OF CMC DRYER DUCTS. SPECIFY--

a) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE INSTALLED IN ACCORDANCE WITH CMC 504.0.

b) 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.

c) 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
	Ⓢ	THERMOSTAT
	Ⓢ	DUCT SMOKE DETECTOR

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.

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PROJECT:

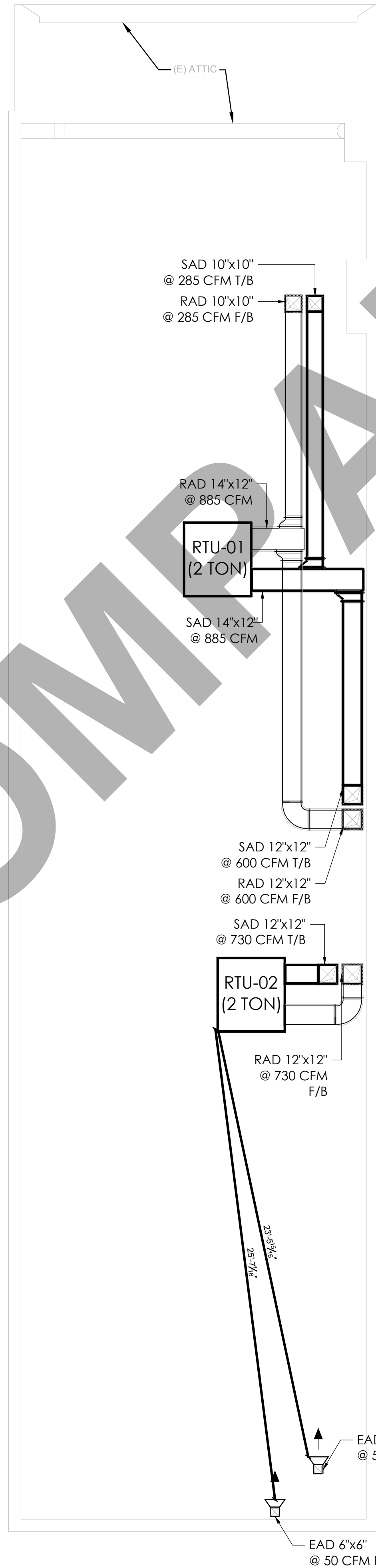
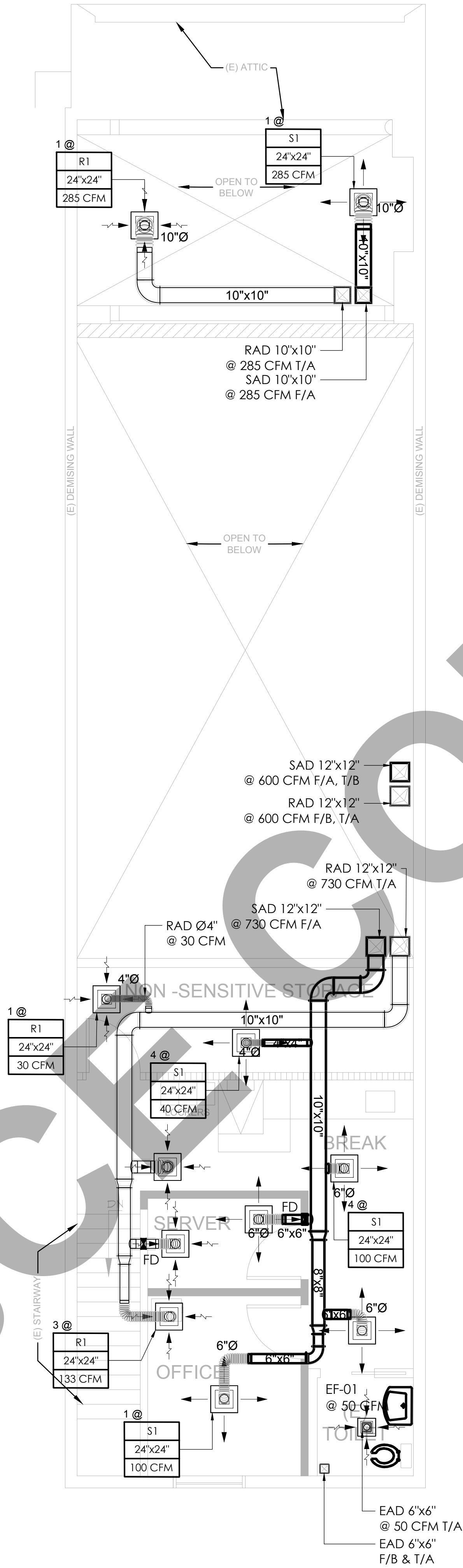
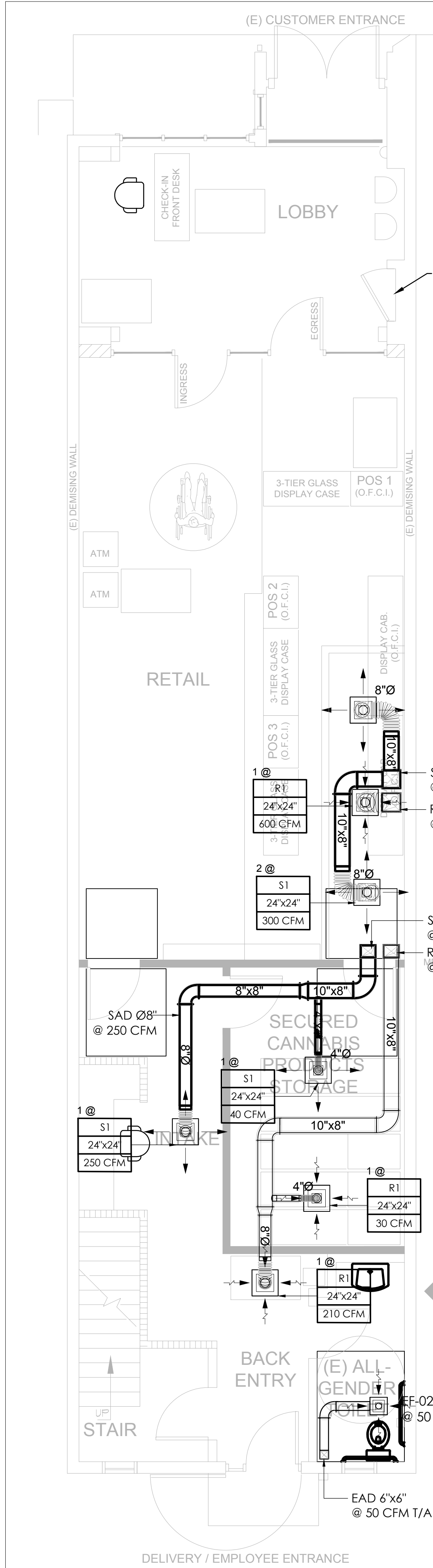
LAUREL VILLAGE

TITLE:
MECHANICAL LIST OF SYMBOLS
AND GENERAL NOTES.

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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.

TOILETS EXHAUST FANS SCHEDULE							
TAG	MANUF. AND MODEL	AIR FLOW (CFM)	ESP (IN. W.C.)	V/P/Hz	RPM	POWER (W)	SERVES
EF-01	WhisperGreen-FV-0511VK2	50	0.25	120/1/60	1266	9.6	TOILET
EF-02	WhisperGreen-FV-0511VK2	50	0.25	120/1/60	1266	9.6	ALL GENDER TOILET

ROOF TOP UNIT SCHEDULE								
TAG	MANUFACTURER	MODEL	TOTAL COOLING (TONS)	HEATING UNIT INP./OUTP.(MBH)	AIRFLOW @0.5"W.G. (CFM)	EER	MCA	VOLT/PH/Hz
(E) RTU-01	CARRIER	48XP-024060	2.0	60.0 / 40.0	885	11.0	18.0	208/230-1-60
(N) RTU-02	CARRIER	48XP-024060	2.0	60.0 / 40.0	730	11.0	18.0	208/230-1-60

VENTILATION LOAD CALCULATION AS PER CMC 2019 - TABLE 402.1

RTU-01:

S.N.	Space	Area (ft2)	Occ./1000 ft2	CFM/R2	CFM-A	No. of Occupancies	CFM/Pers.	CFM-B	TOTAL CFM
1	Lobby	211	10	0.06	12.7	2	5.0	10.0	22.7
2	Retail	644	15	0.12	77.3	10	7.5	75.0	152.3
3	TOTAL =	855	-	-	89.9	12	-	85.0	174.9

RTU-02:

S.N.	Space	Area (ft2)	Occ./1000 ft2	CFM/R2	CFM-A	No. of Occupancies	CFM/Pers.	CFM-B	TOTAL CFM
1	SCP Storage	160	2	0.06	9.6	1	5.0	5.0	14.6
2	Intake	115	5	0.06	6.9	1	5.0	5.0	11.9
3	Back Entry	96	10	0.06	5.8	1	5.0	5.0	10.8
4	Break	173	25	0.06	10.4	4	5.0	20.0	30.4
5	Server	43	60	0.06	2.6	3	5.0	15.0	17.6
6	Office	85	5	0.06	5.1	0	5.0	0.0	5.1
7	NS Storage	109	2	0.06	6.5	1	5.0	5.0	11.5
8	TOTAL =	781	-	-	46.9	10	-	55.0	101.9

RTU-01 / CARRIER - 48XP-024060 CAN OPERATE UP TO 25% OA FROM THE SUPPLY FLOW.
THE NOMINAL RTU-01 FLOW RATE IS 885 CFM
MAX. OA THE RTU CAN DELIVER IS = $885 \times 0.25 = 221.3$ CFM
RTU-02 / CARRIER - 48XP-024060 CAN OPERATE UP TO 25% OA FROM THE SUPPLY FLOW.
THE NOMINAL RTU-02 FLOW RATE IS 730 CFM
MAX. OA THE RTU CAN DELIVER IS = $730 \times 0.25 = 182.5$ CFM
BOTH RTUs CAN OPERATE TO OVERCOME THE MIN. REQUIRED VENTILATION RATES.

CLIENT:

ADDRESS:

3415 CALIFORNIA ST. SAN FRANCISCO, CA 94118

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT CONSENT OF THE DESIGNER.

NOTES:

- ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

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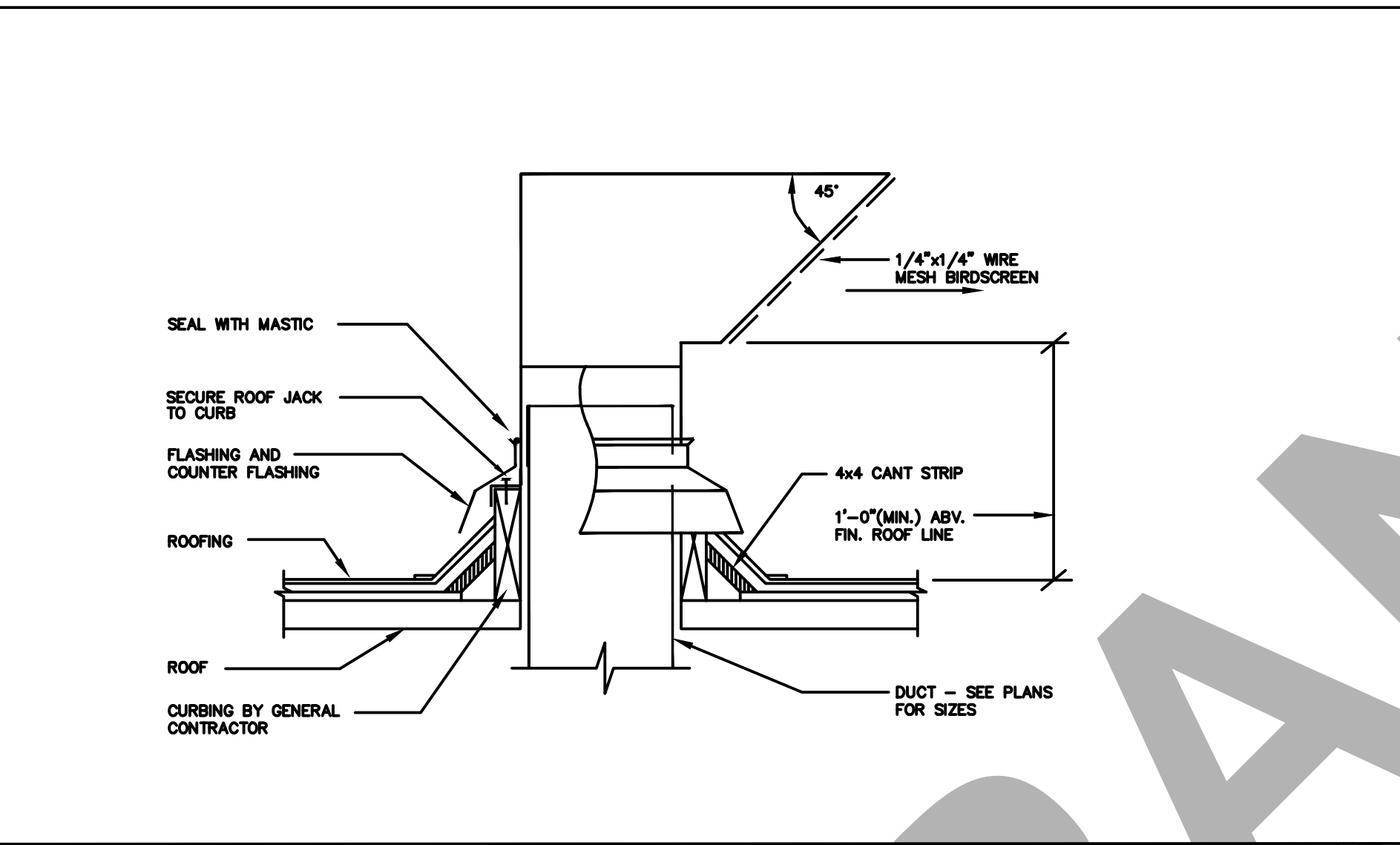
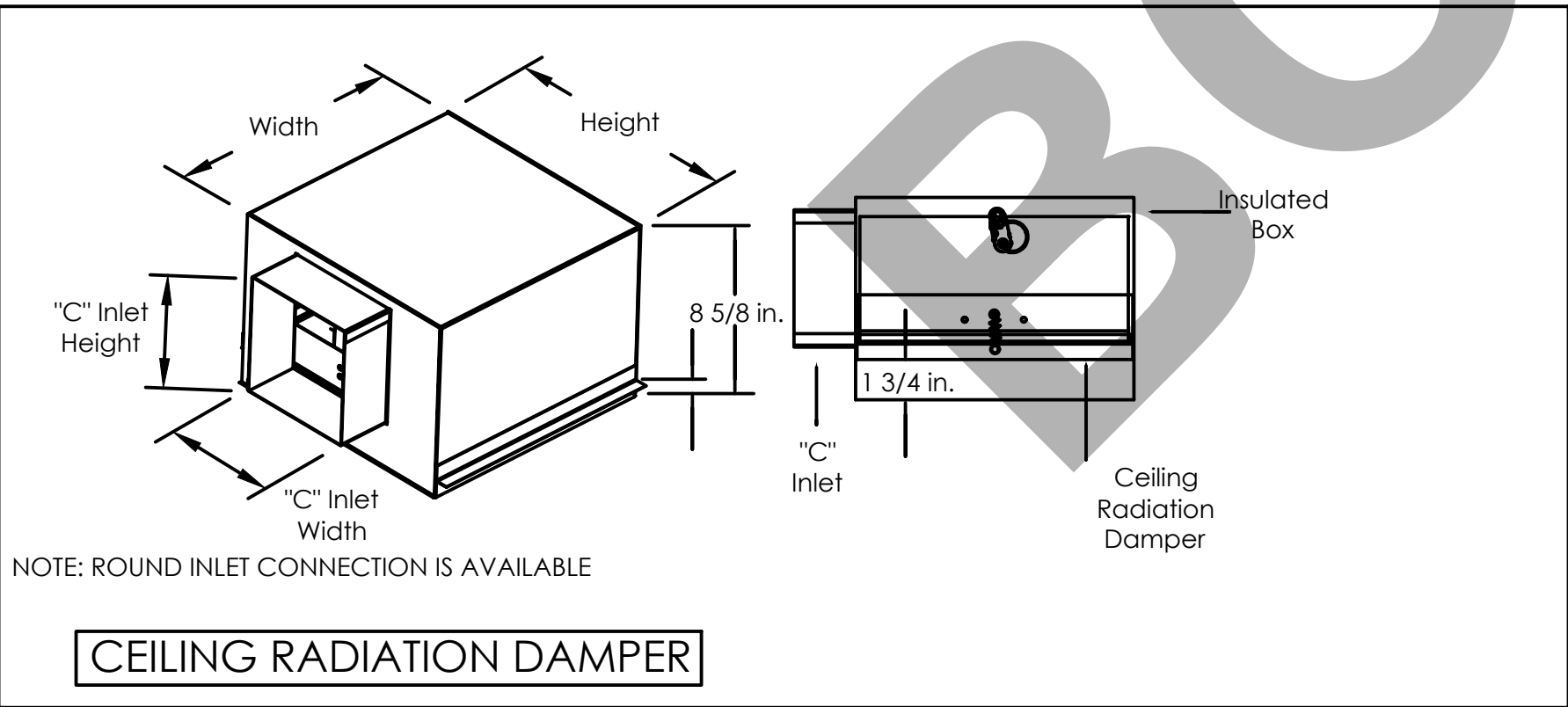
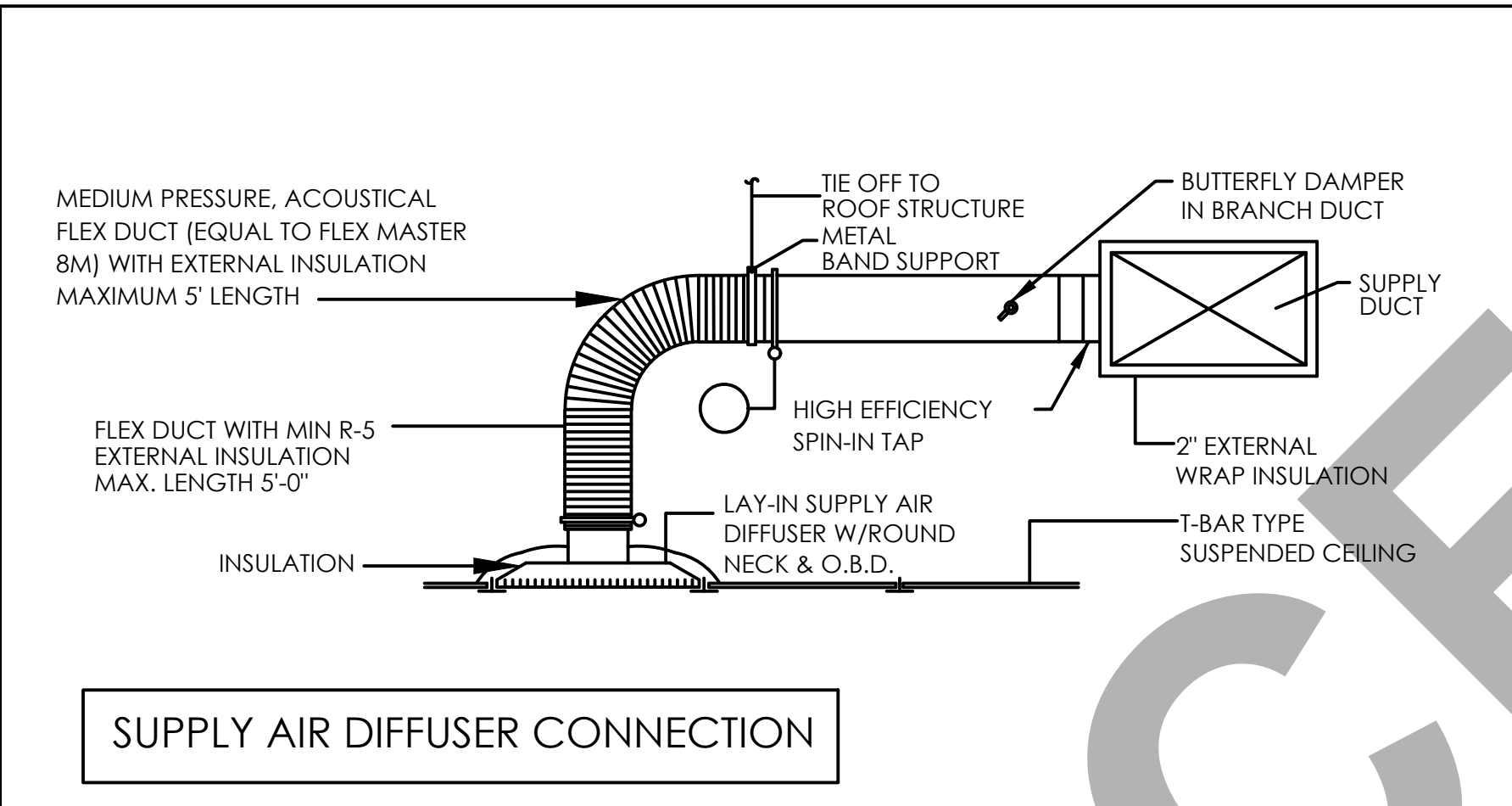
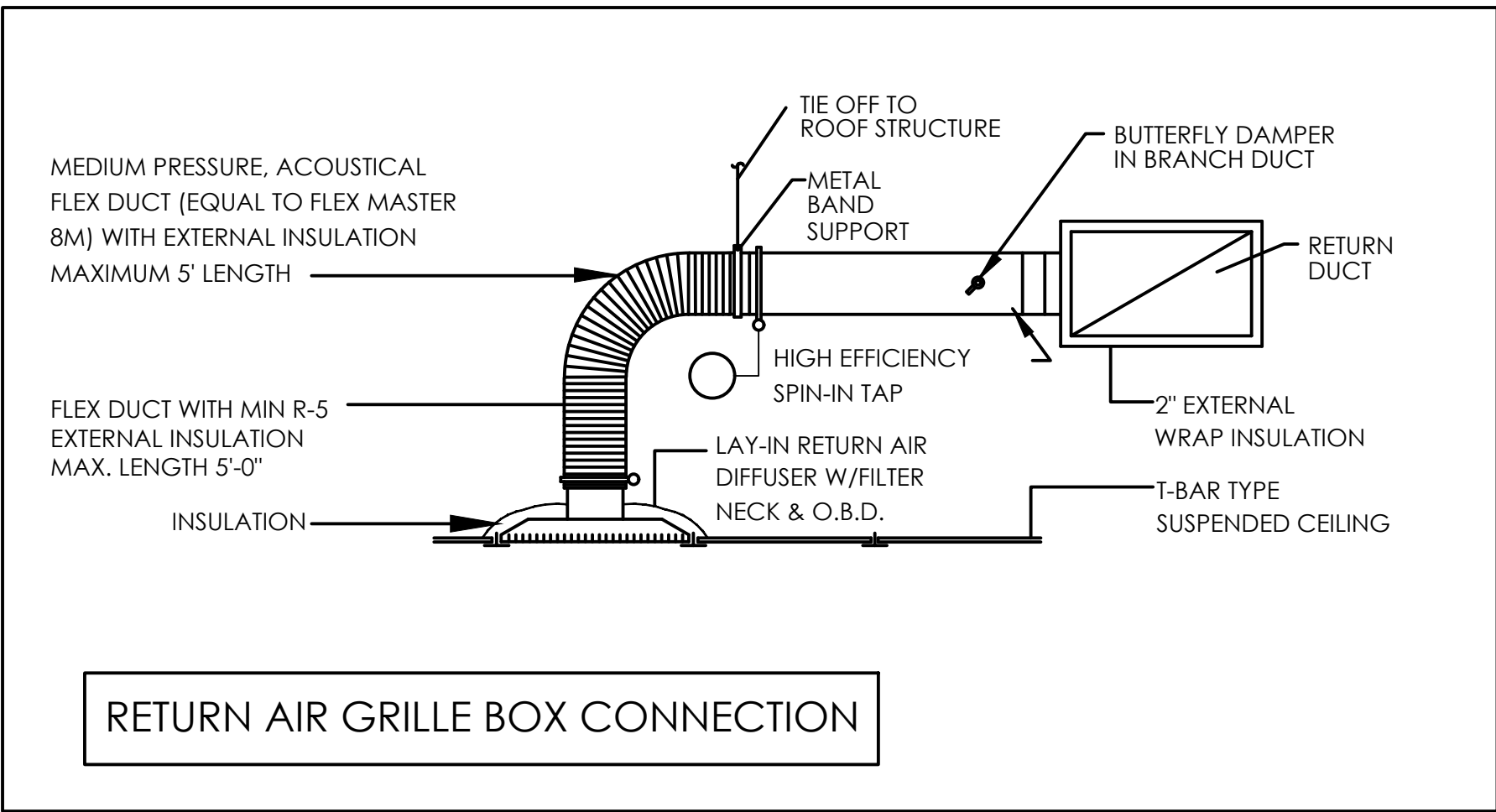
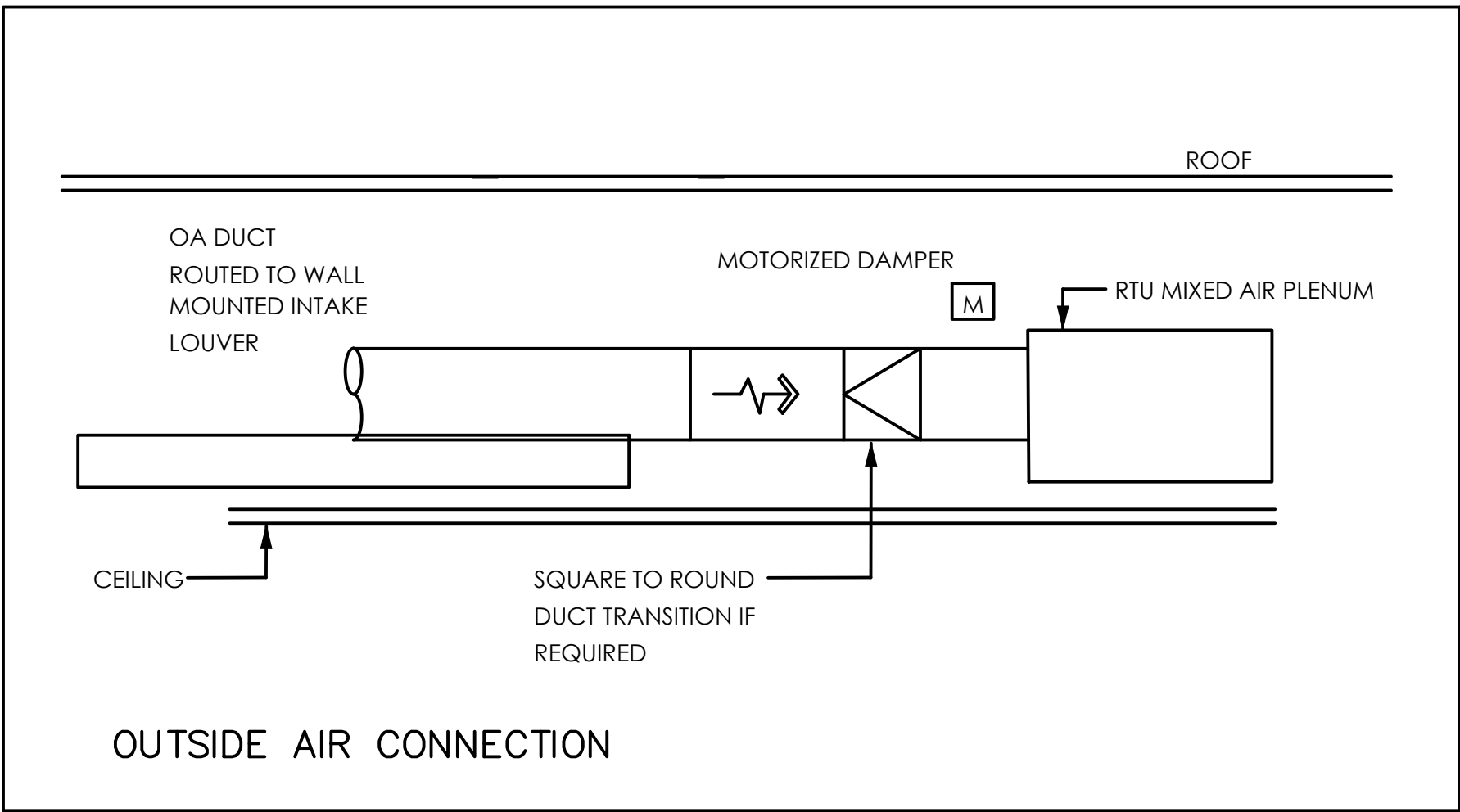
LAUREL VILLAGE

TITLE:
MECHANICAL LAYOUTS, ES,
CALCULATIONS.

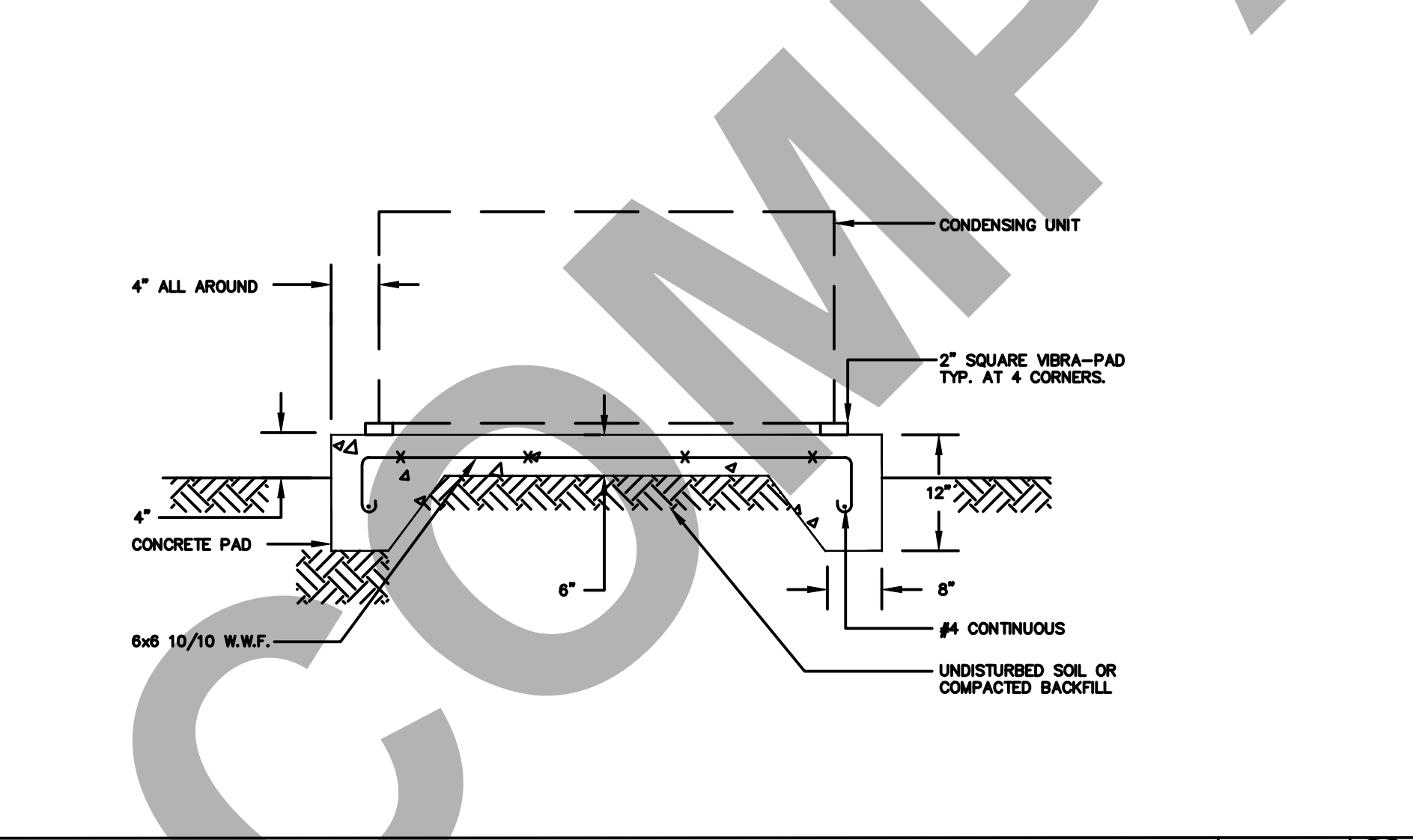
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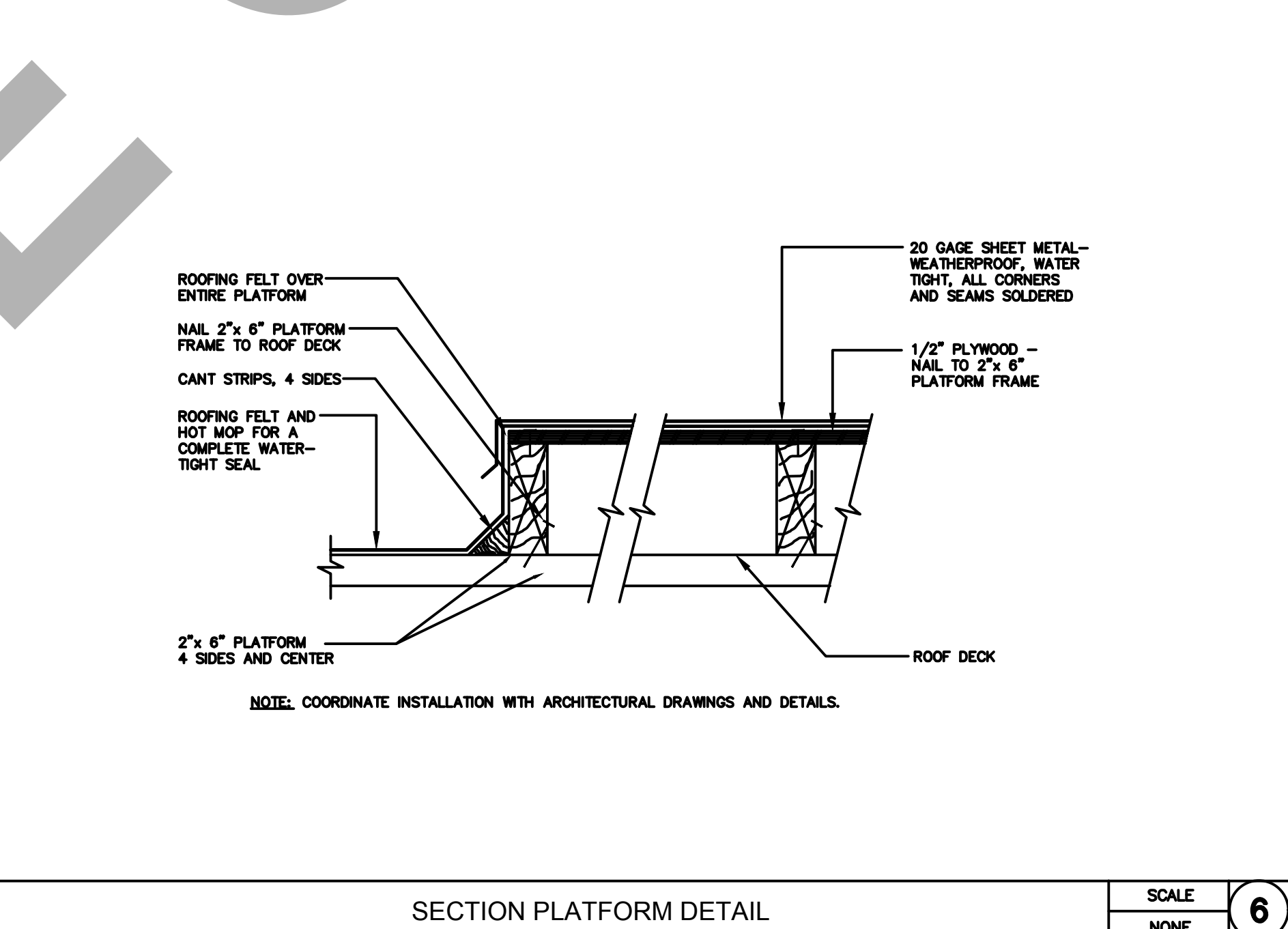
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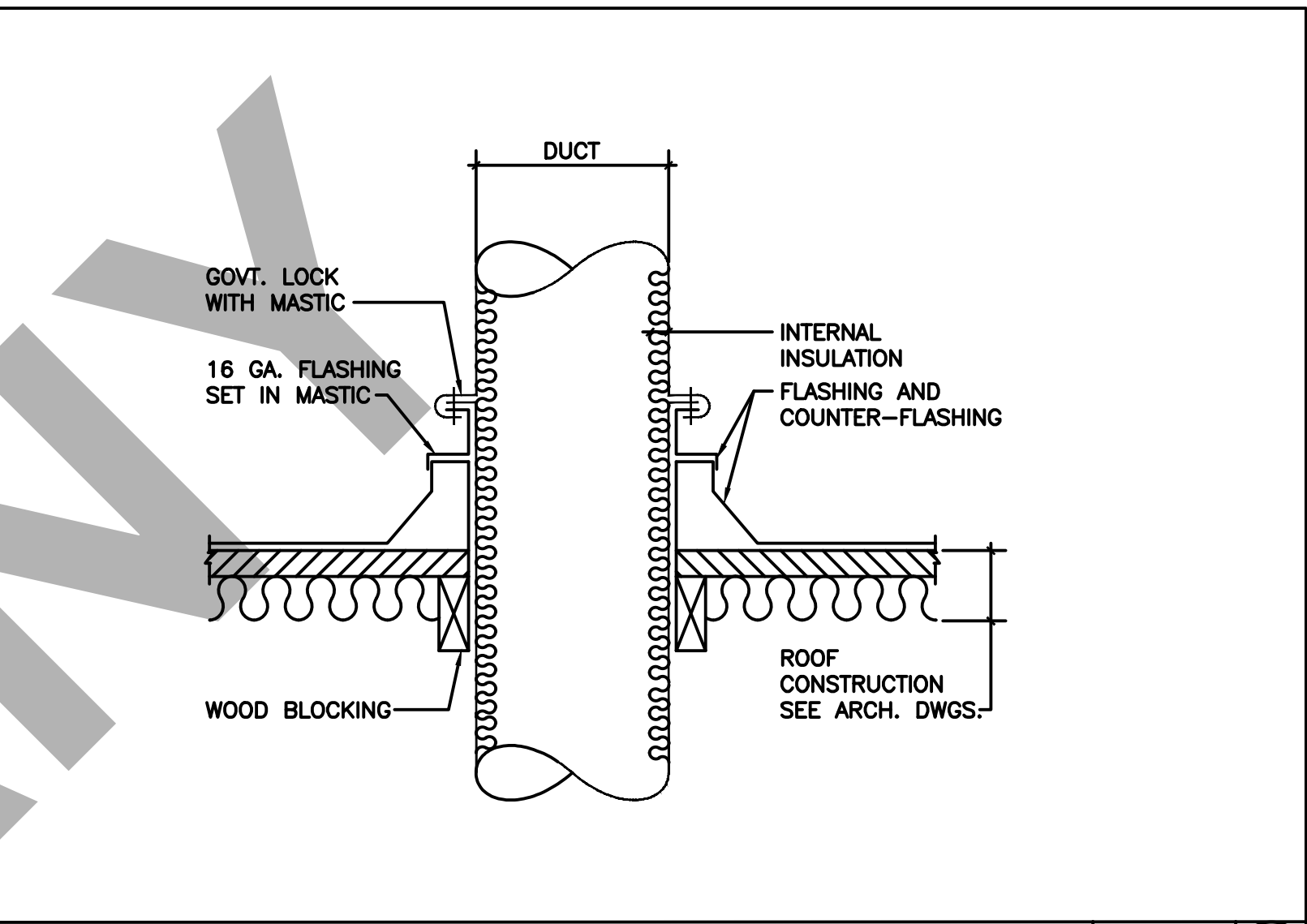
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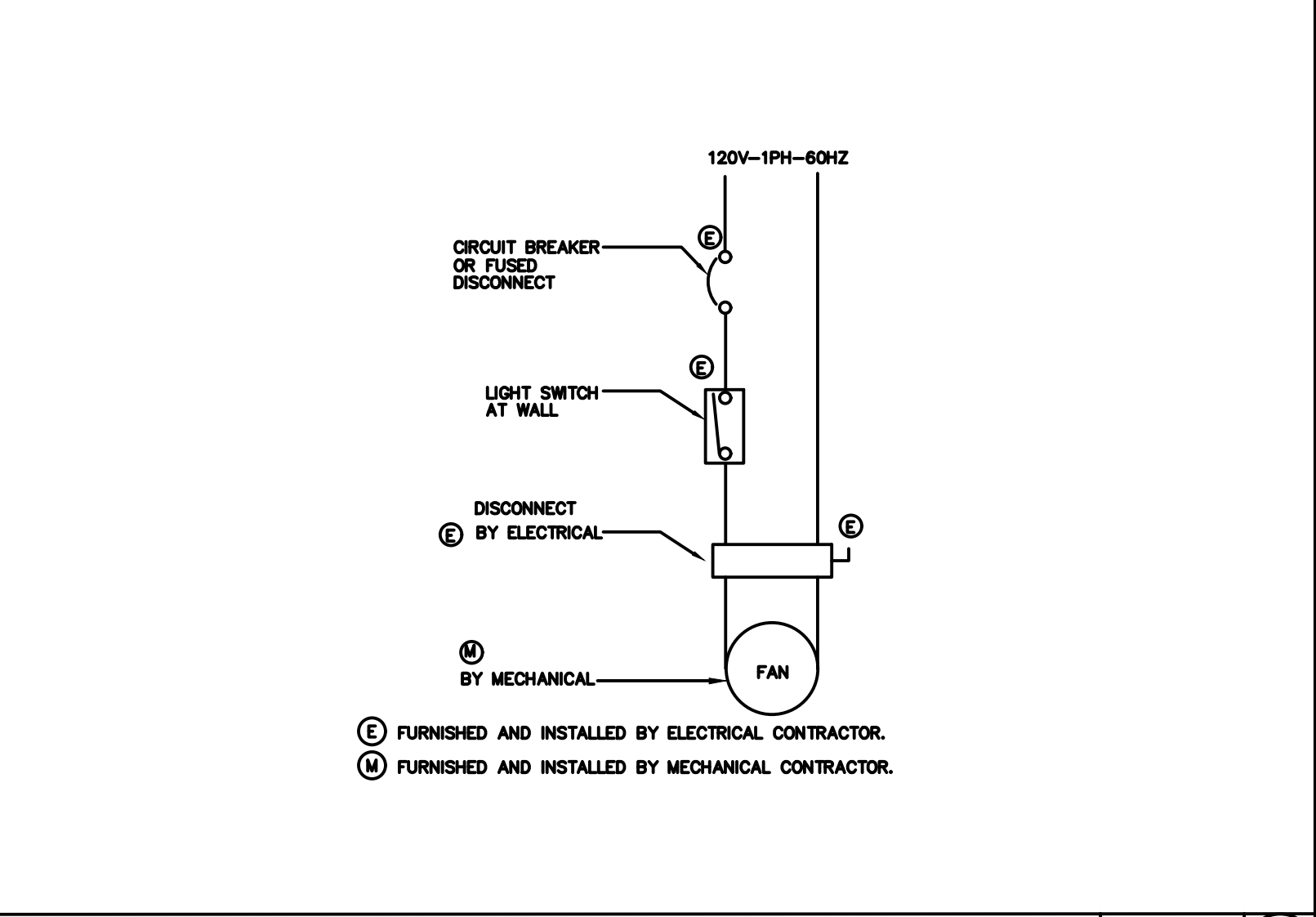
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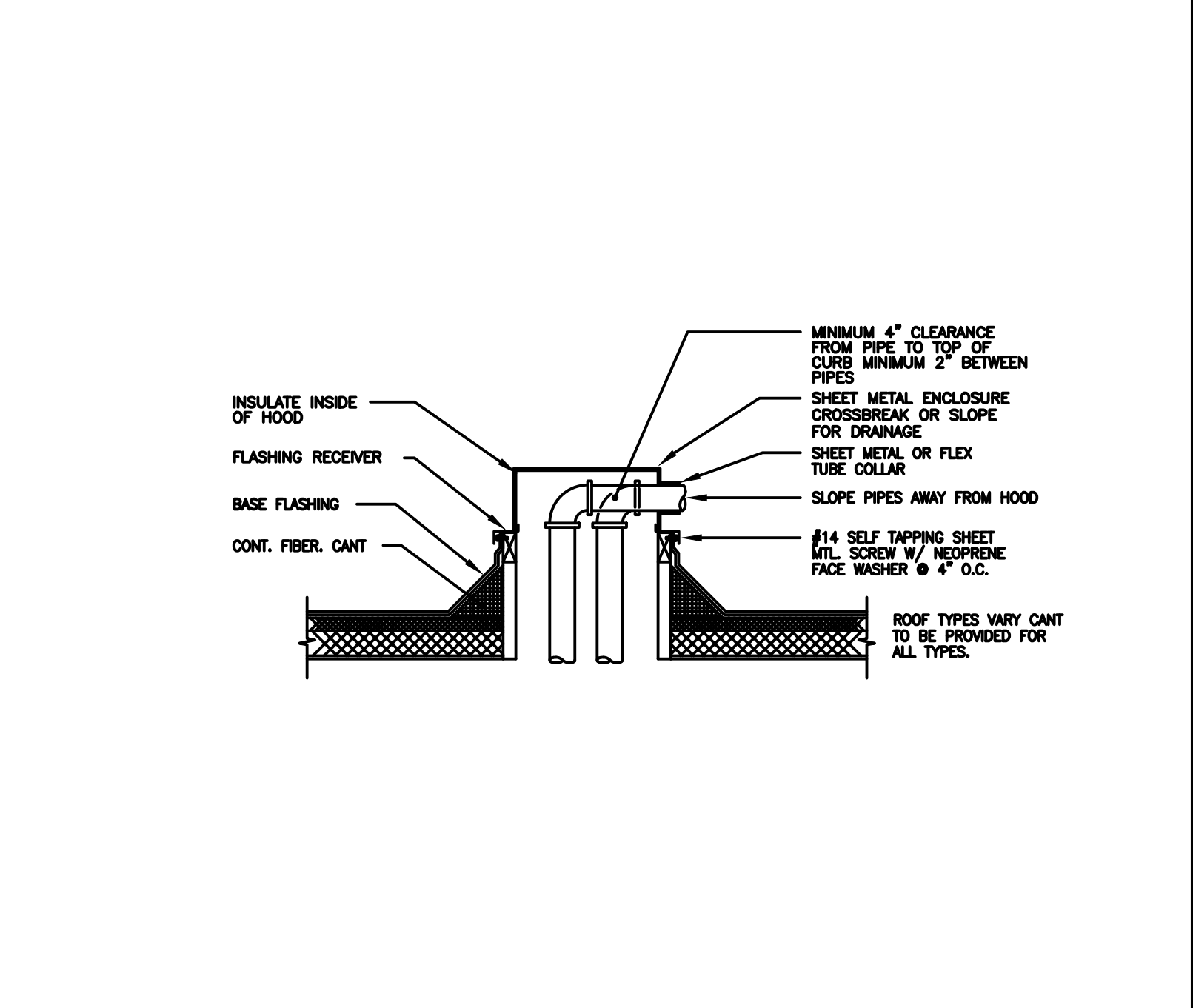
SCALE NONE 6



SCALE NONE 1



SCALE NONE 2



SCALE NONE 6

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3415 CALIFORNIA ST. SAN FRANCISCO, CA 94118

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ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY
00	FOR APPROVAL	04/22	A.B

PROJECT:

LAUREL VILLAGE

TITLE:

MECHANICAL GENERAL DETAILS

PROJ. NO. PROJ. ENGR. SCALE 24x36

MIS

DRAWING NO. REV.

M 3 . 0

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 OWNERS 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, ASJ/SS-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 #9021 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.

4. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS.

5. 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 OFF 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 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 CONTAMINATION.

28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN INDIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR GAP.

PLUMBING LEGEND		
SYMBOL	ABBREV	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 WHIRLPOOL BATHTUBS: THE MAX. HOT WATER TEMPERATURE DISCHARGING SHALL BE LIMITED TO 120 DEGREES. CPC 414/2019

BATHTUBS WASTE OPENING IN FLOOR OVER CRAWL SPACES SHALL BE PROTECTED BY A METAL SCREEN NOT EXCEEDING 12" OR SOLID COVER. CPC 313.12.4 2019

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. 418.0 CPC/2019

VERIFY AND WHERE WATER PRESSURE EXCEEDS 80 PSI AN APPROVED PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED 608.2 C / 2019

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 CPC 608.5, 510.8.

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 CPC 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. (2019 CPC 906) IF WATER PRESSURE EXCEEDS 80 PSI, AND EXPANSION TANK AND AN APPROVED PRESSURE REGULATOR SHALL BE INSTALLED. (2019 CPC 608.2) NON-REMOVABLE BACK FLOW PRE-VENTER OR BBW-TYPE VACUUM BREAKER WILL BE INSTALLED ON ALL EXTERIOR HOSE BIBS. (2019 CPC 603.4.7) HOT WATER RE-CIRCULATING SYSTEM IS INSTALLED. THE ENTIRE LENGTH OF HOT WATER PIPES SHALL BE INSULATED. (2008 CALIFORNIA ENERGY REGULATIONS 150 (J)) HOT WATER PIPE FROM THE WATER HEATER TO THE KITCHEN WILL BE INSULATED. (2008 CALIFORNIA ENERGY REGULATIONS 151 (F)8 D)

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.

CLIENT:

ADDRESS:

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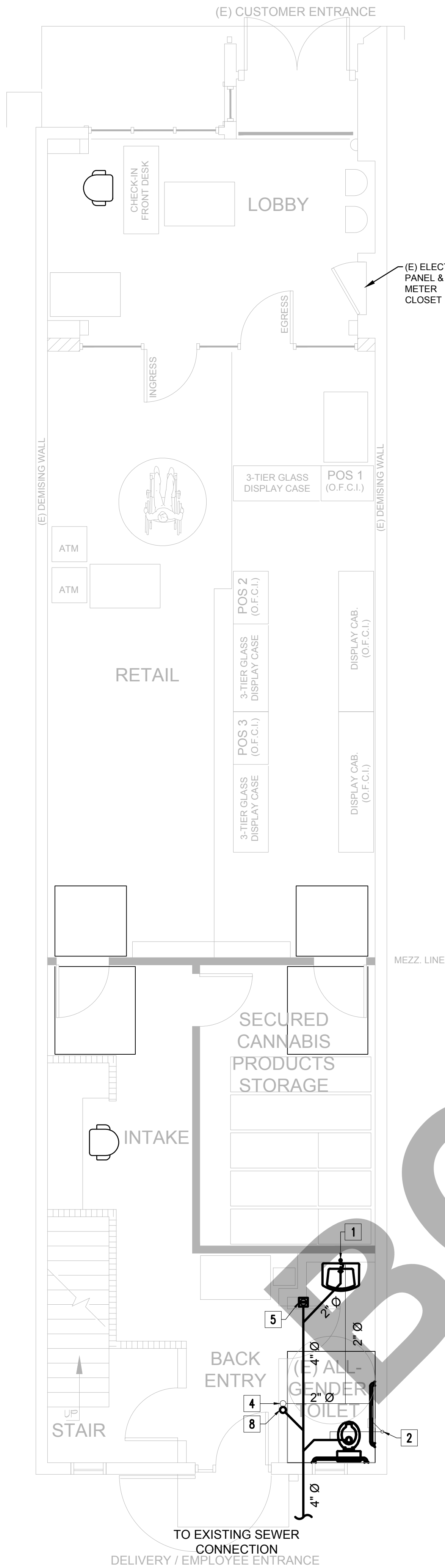
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PROJECT:

LAUREL VILLAGE

TITLE:
PLUMBING LIST OF SYMBOLS
AND GENERAL NOTES.

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DRAWING NO.		REV.	
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GENERAL NOTES:

- 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.
- 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 1/8" PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT 1/4" PER FOOT.
- ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT 1/8" 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 SHEET NOTES

- | | | | |
|---|-----------------------------------|---|------------------------------|
| 1 | → WASTE DROP AND 2" VENT RISE. | 5 | → 4" FLOOR CLEAN-OUT. |
| 2 | → 2" VENT RISE TO HIGH LEVEL. | 6 | → OUTDOOR CLEAN-OUT. |
| 3 | → 1-1/2" VENT RISE TO HIGH LEVEL. | 7 | → 4" WASTE STACK TO BELOW. |
| 4 | → 3" VENT STACK TO ABOVE. | 8 | → 4" WASTE STACK FROM ABOVE. |

PLUMBING PIPING MATERIAL SCHEDULE

PIPING SYSTEM	LOCATION	ACCEPTABLE PIPING MATERIAL
WASTE & VENT	BELOW AND ABOVE GRADE	ASTM D 2665 PVC SCHEDULE 40, SOCKET FITTINGS DWV
	FROM SECOND TO FIRST FLOOR	ASTM A 888 CAST IRON, NO HUB SYSTEM

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
DISHWASHER	1-1/2	2
BATHTUB	3	2
LAUNDRY MACHINE	1-1/2	2

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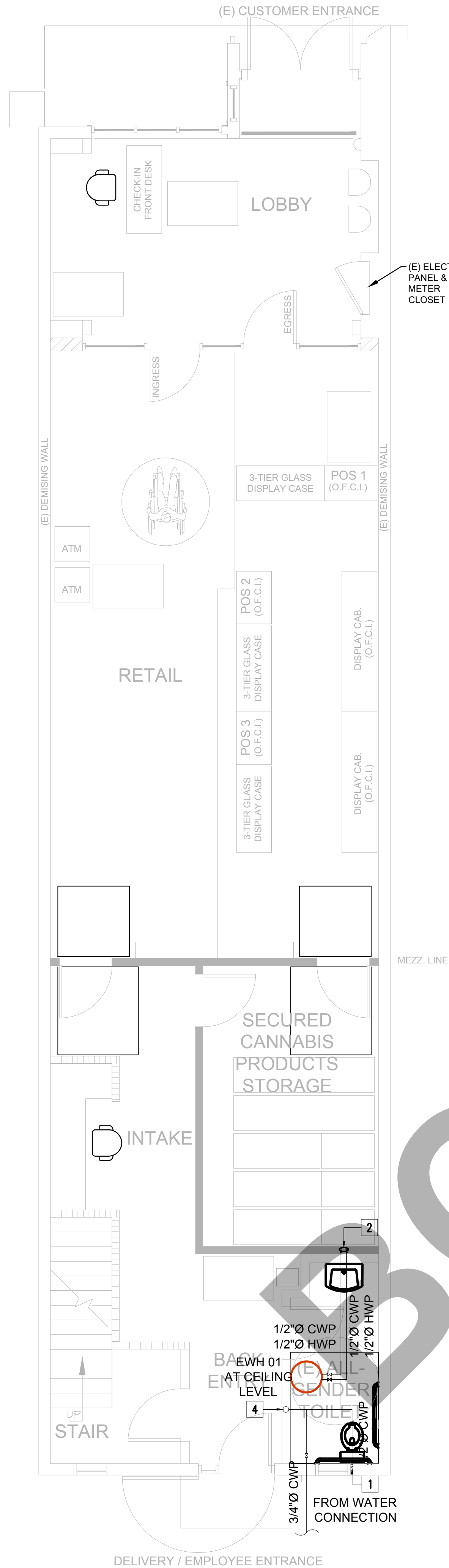
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REV. NO.	DESCRIPTION	DATE	BY
00	FOR APPROVAL	04/22	A.B

PROJECT: LAUREL VILLAGE		
TITLE: SANITARY LAYOUTS		
PROJ. NO.	PROJ. ENGR.	SCALE • 24X36 • 1/4"=1'-0"
DRAWING NO. P 1 . 0		REV.



GENERAL NOTES:

- 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.
- 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 1/8" PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT 1/4" PER FOOT.
- ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT 1/8" 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 SHEET NOTES

- DCW DROP IN WALL.
- DCW & DHW DROP IN WALL.
- DCW/DHW/DHWR FROM BELOW FLOOR.
- DCW/DHW/DHWR TO ABOVE FLOOR.

SCHEDULE No. 1 ELECTRIC WATER HEATER SCHEDULE

TAG	EWB-01	EWB-02
LOCATION	TOILET	ALL- GENDER TOILET
MANUFACTURER	AO SMITH	AO SMITH
MODEL	ENS8-30*	ENS8-30*
TYPE	ELECTRIC	ELECTRIC
RATED STORAGE (gal.)	30	30
RECOVERY (GPH @90°F)	21	21
STANDARD ELEMENT WATTAGE (W)	4500	4500
WATER CONNECTION (IN)	3/4	3/4
APPROX. WEIGHT (lbs)	95	95

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

BUILDING WATER LOAD			
DESCRIPTION	LOAD		PIPE SIZE PEX
	FU	GPM	
DCW	9.5	7.9	3/4"
DHW	3.5	3.6	1/2"
TOT. COMBINED	9.5	7.9	3/4"

DOMESTIC WATER PIPE SIZING TABLE													
BC PLUMBING CODE (2018) SECTION 2.6.3.1 DOMESTIC WATER PIPE SIZING IN ACCORDANCE WITH ASPE PLUMBING ENGINEERING DESIGN HANDBOOK VOL. 2. BC PLUMBING CODE (2018) SECTION 2.6.3.2 THIS TABLE IS TO BE USED IN CONJUNCTION WITH THE HYDRAULIC LOAD REQUIREMENTS FOR EACH FIXTURE. BC PLUMBING CODE (2018) SECTION 2.6.3.3 DOMESTIC WATER PIPE SIZING IN ACCORDANCE WITH THE MAXIMUM PERMITTED WATER VELOCITIES AS RECOMMENDED BY THE PIPE AND FITTING MANUFACTURER. * PEX VALUES ARE BASED UPON UPONOR AQUAPEX.													
PIPE MATERIAL	PEX*	PEX*	DUCTILE IRON & STAINLESS STEEL		COPPER (TYPE L)		COPPER (TYPE K)		COPPER (TYPE K)				
POTABLE WATER SYSTEM	DCW / DHW	DHWR	DCW / DHW		DCW		DHW		DHWR				
MAXIMUM ALLOWABLE VELOCITY	2.4 fms (B R10)	0.6 fms (B R10)	2.4 fms (B R10)		1.5 fms (S R10)		1.2 fms (4 R10)		0.4 fms (B R10)				
8" IN	DN58	L/8	67% FV	L/8	67% FV	L/8	67% FV	L/8	67% FV	L/8	67% FV		
28" IN	1/2"	0.28	4.4	4.8	0.27	1.1	0.28	8.8	8.8	0.28	2.4		
30" IN	8/4"	0.28	8.8	11.9	0.24	2.2	0.71	12.2	11	0.48	7.8		
28" IN	1"	0.42	14.9	20.9	0.28	8.8	1.28	20.0	80	0.48	12.8		
82" IN	1/4"	1.88	21.8	84	0.84	8.4	1.80	28.8	84	1.24	14.7		
40" IN	1/2"	1.41	30.8	99	0.48	12	2.80	44.4	122	1.78	21.7		
80" IN	2"	8.27	81.4	186	0.80	12.4	4.42	78.0	248	8.04	48.2		

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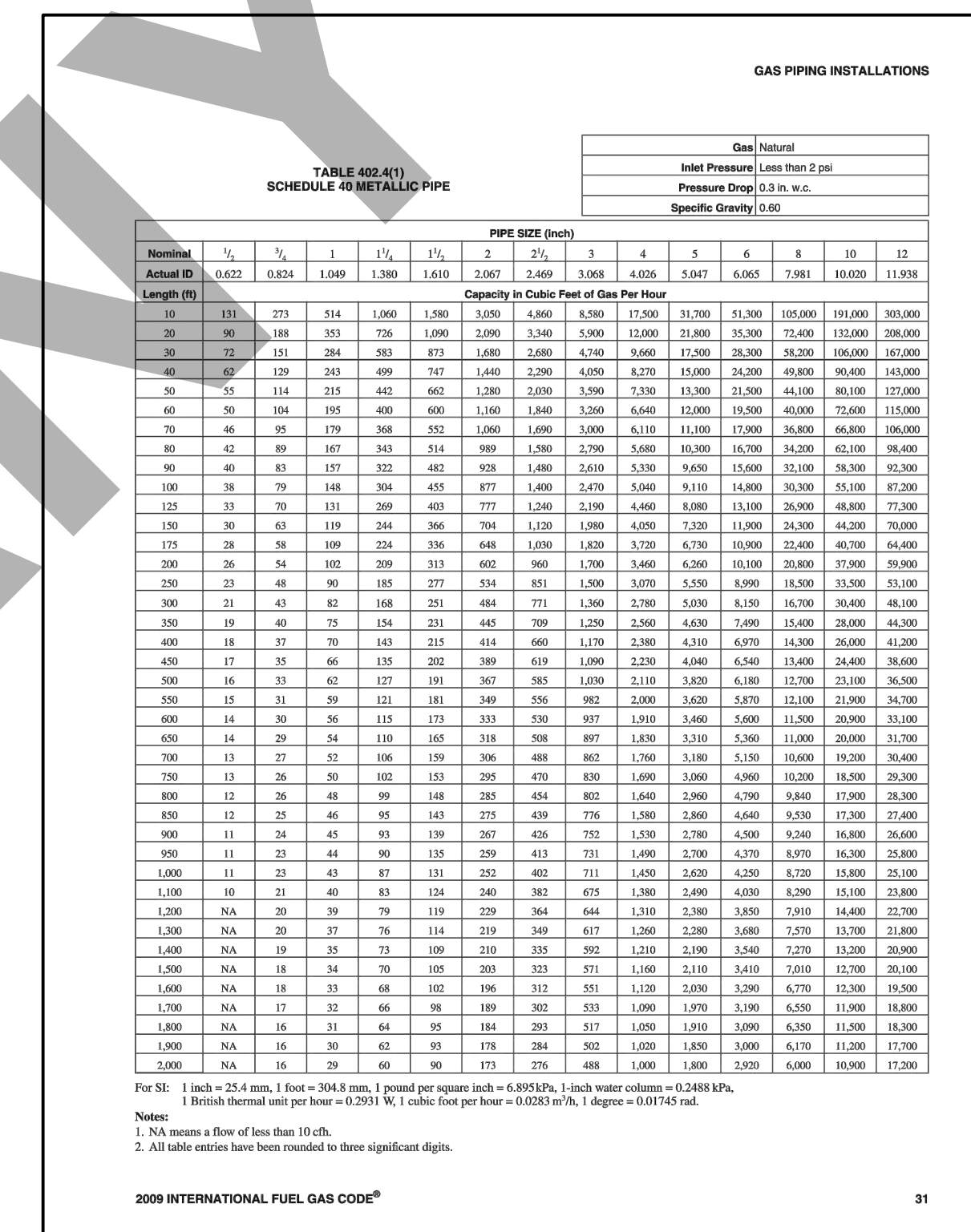
PROJECT:

LAUREL VILLAGE

TITLE:
WATER SUPPLY LAYOUTS.

PROJ. NO.	PROJ. ENGR.	SCALE
		24X36 1/4"=1'-0"

DRAWING NO.	REV.
P 2 . 0	

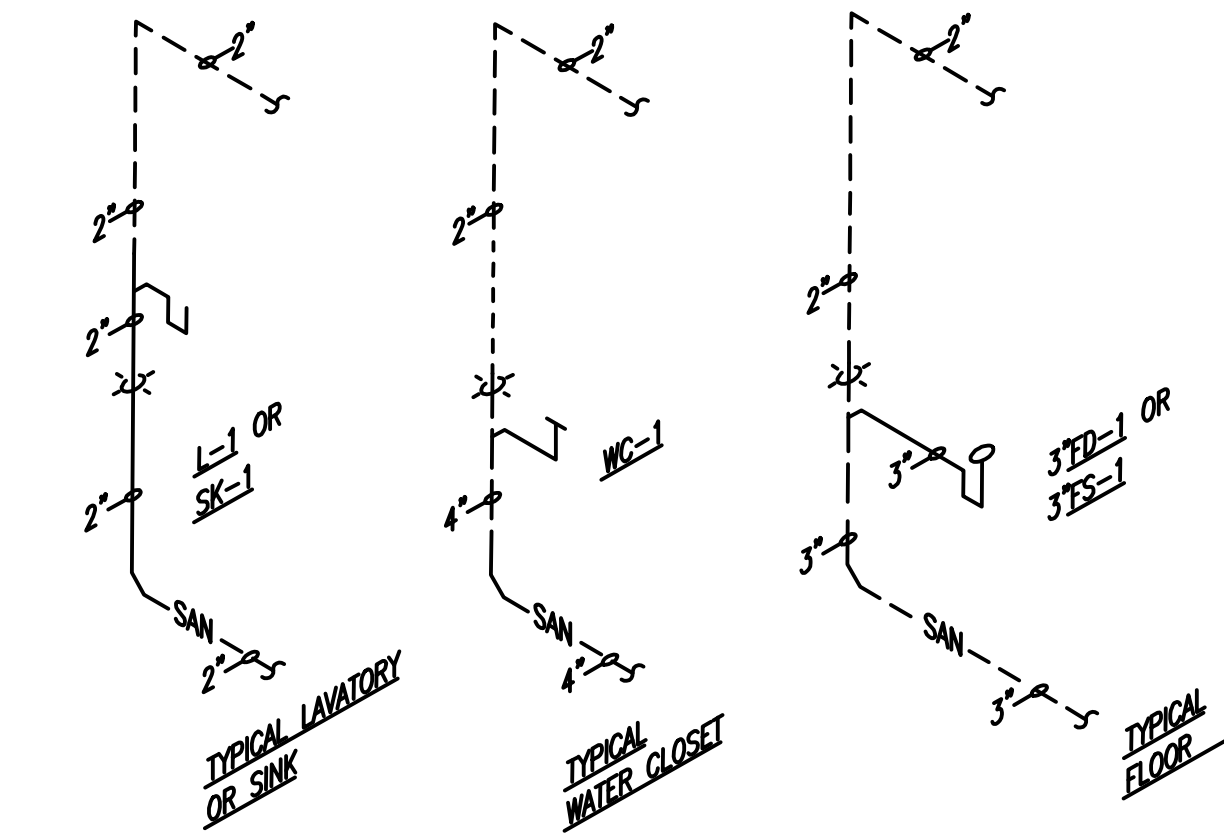


ALL GAS PIPES ARE METALLIC SCHD. 40

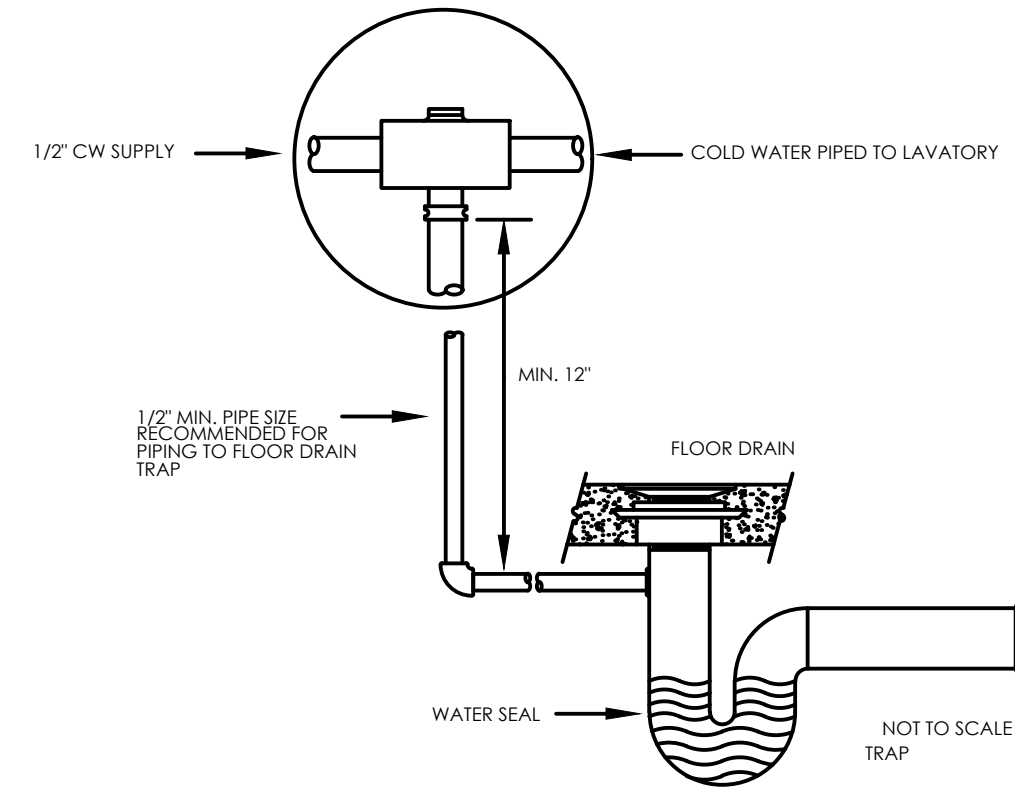
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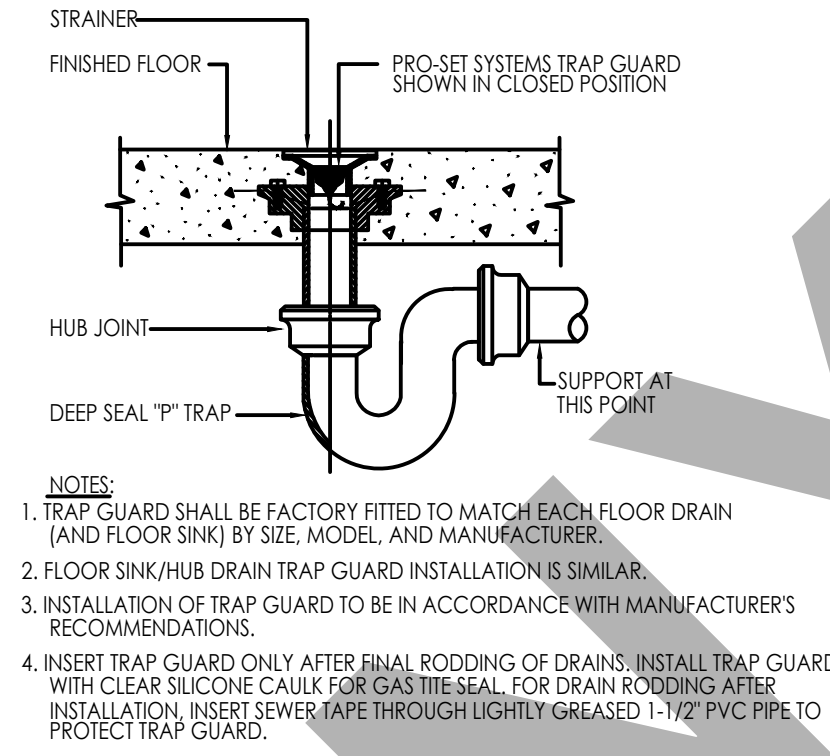
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TITLE: GAS LAYOUTS.		
PROJ. NO.	PROJ. ENGR.	SCALE • 24"x36" <div style="text-align: center; font-weight: normal; font-size: 1.2em; margin-top: 5px;">3/16"=1'-0"</div>
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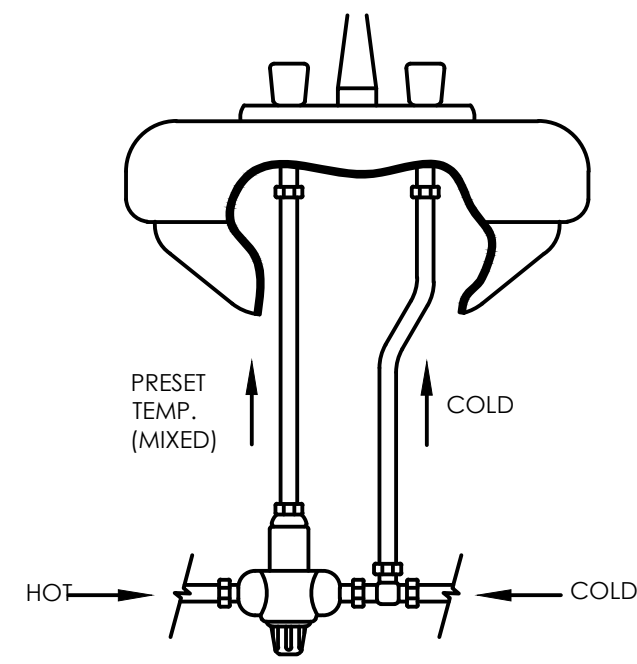
1 TYPICAL WASTE AND VENT RISERS
SCALE: NONE



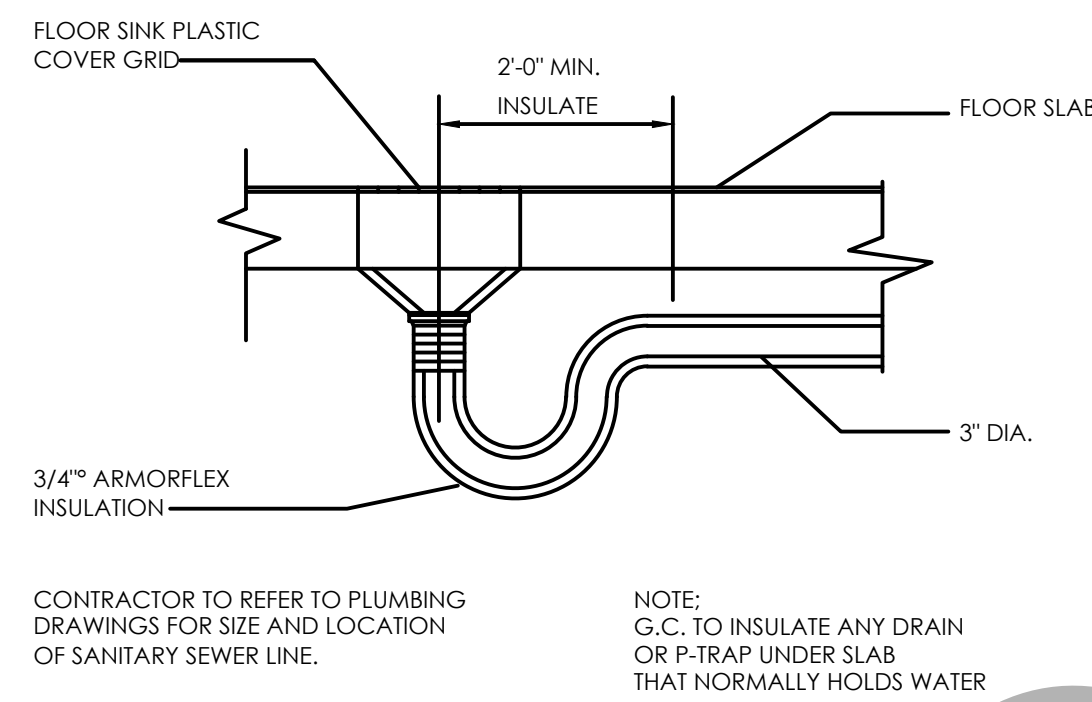
2 TRAP PRIMER
SCALE: NONE



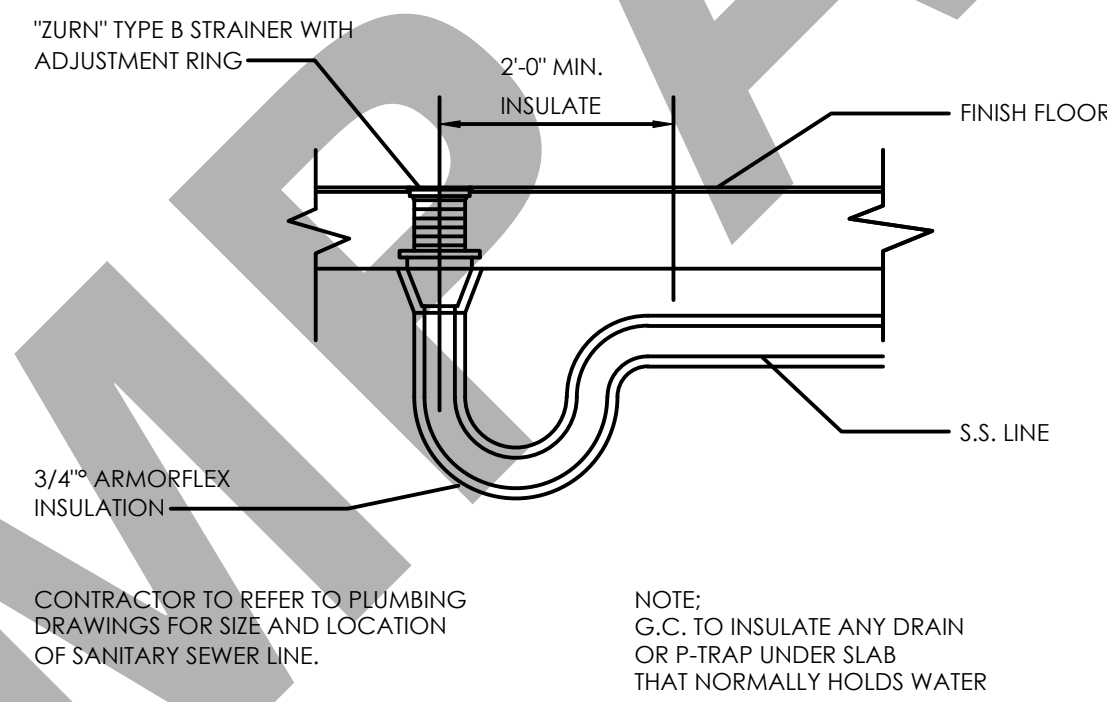
3 FLOOR DRAIN WITH TRAP SEAL PROTECTION
SCALE: NONE



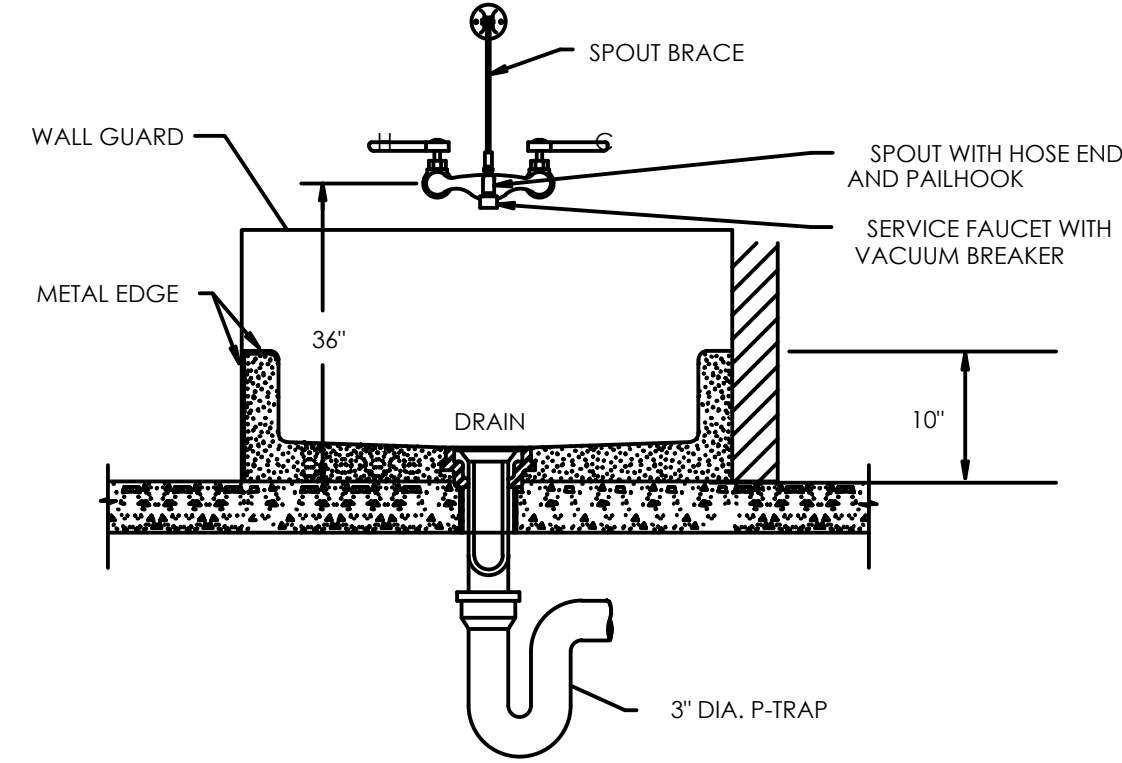
ANTI-SCALD MIXING VALVE
NO SCALE



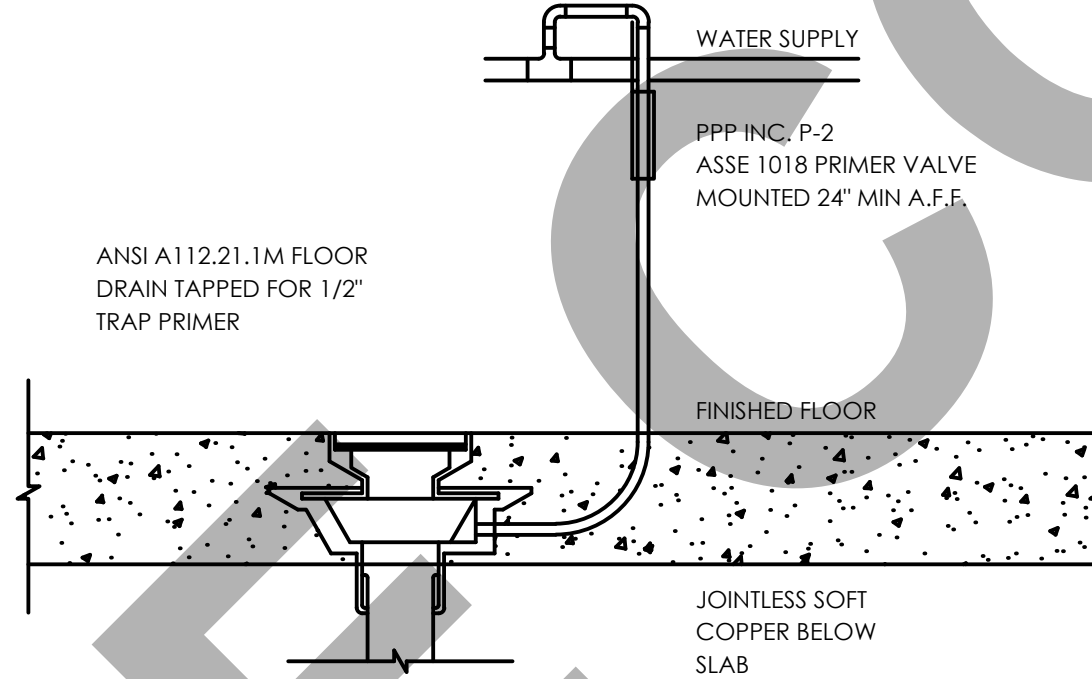
FLOOR SINK DETAIL
NO SCALE



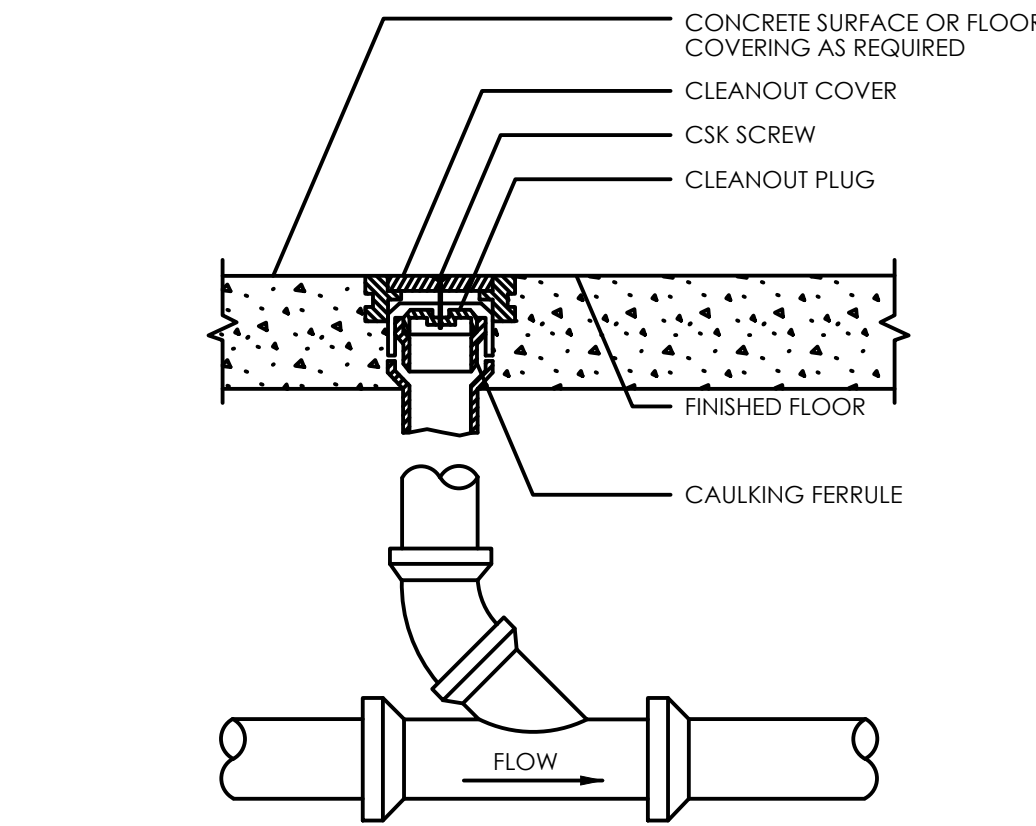
FLOOR DRAIN DETAIL
NO SCALE



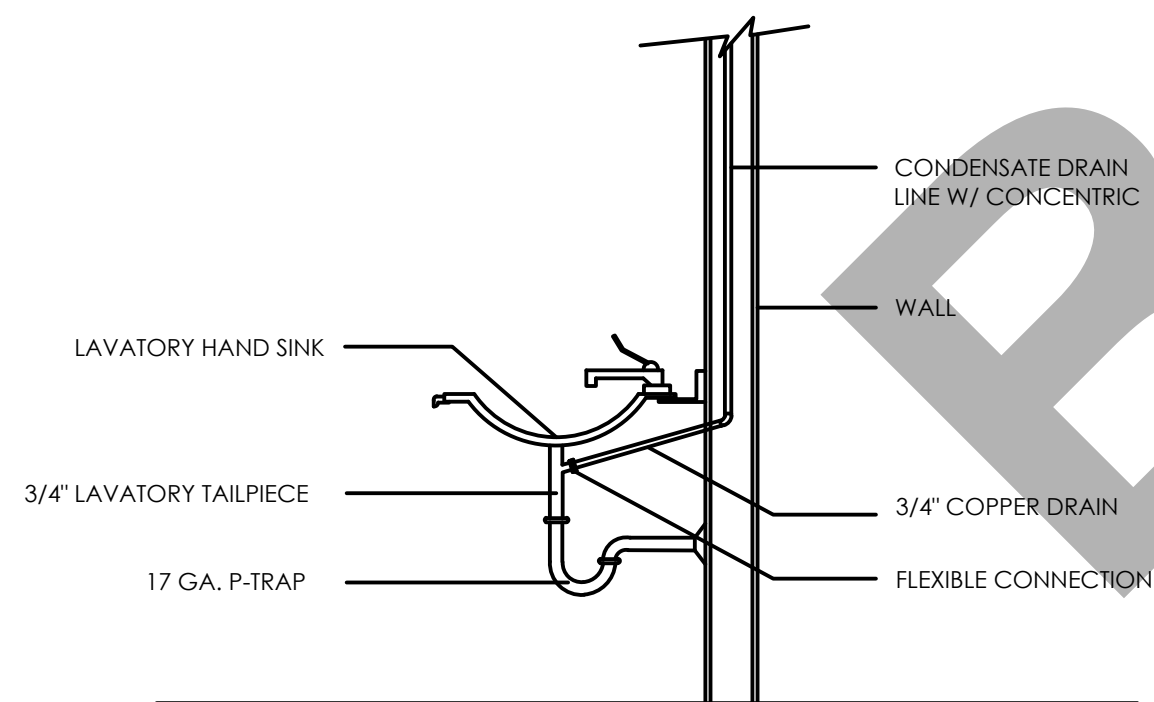
MOP SINK DETAIL
NO SCALE



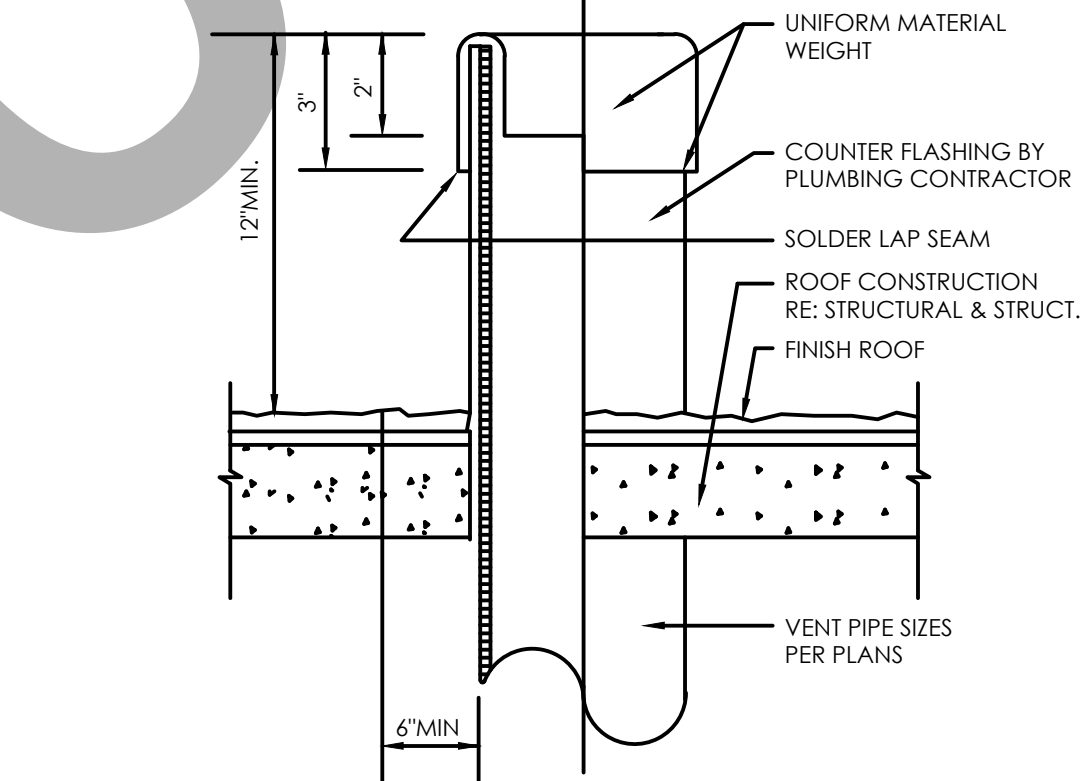
TRAP PRIMER DETAIL
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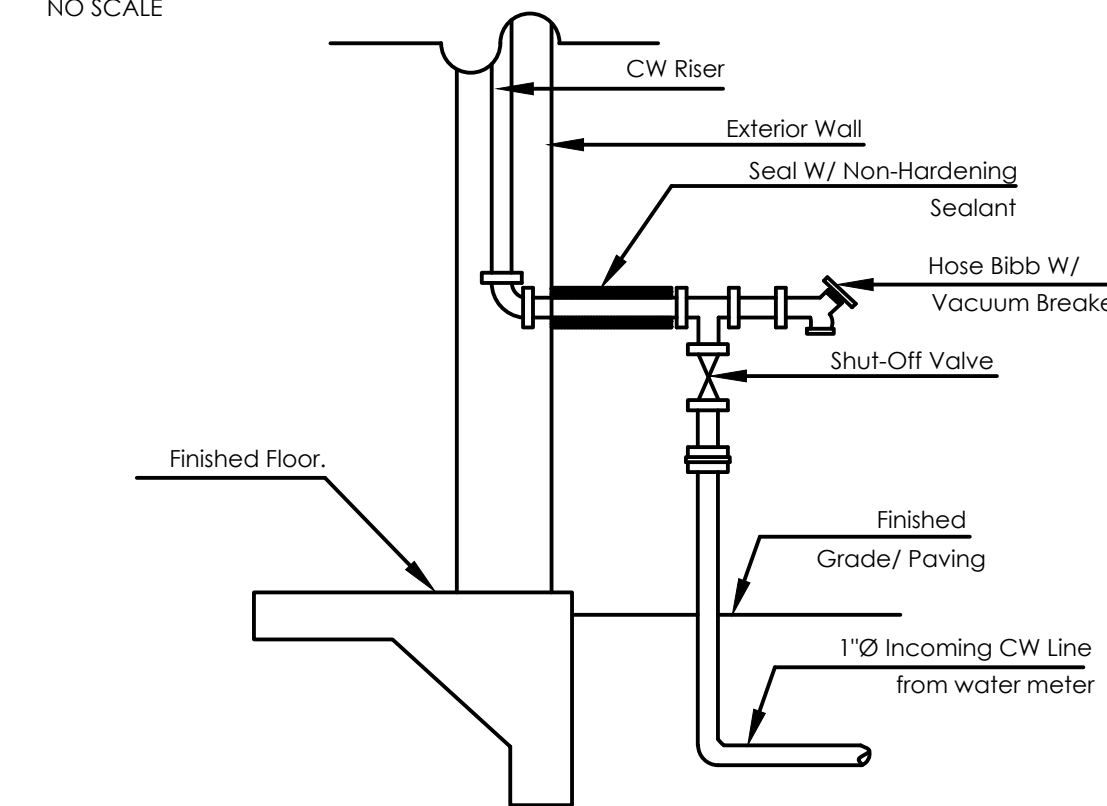
FLOOR CLEANOUT DETAIL
NO SCALE



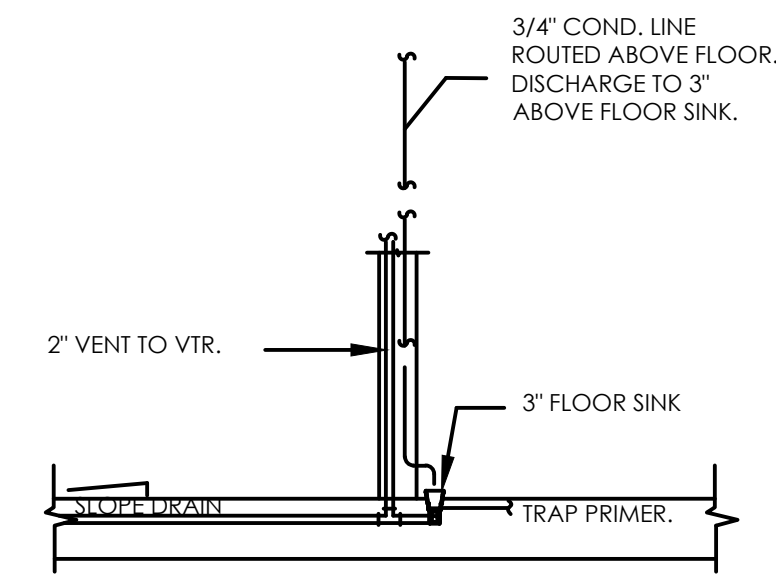
CONDENSATE DETAIL
NO SCALE



VENT THRU ROOF DETAIL
NO SCALE



WATER ENTRY DETAIL
NO SCALE



COND. ON FLOOR SINK DETAIL
NO SCALE

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PROJECT: LAUREL VILLAGE		
TITLE: PLUMBING GENERAL DETAILS.		
PROJ. NO.	PROJ. ENGR.	SCALE • 24X36" • MIS
DRAWING NO. P 4 . 0		REV.

ELECTRICAL SPECIFICATIONS

ELECTRICAL LEGEND

1.ELECTRICAL GENERAL NOTES

- A.

GC SHALL VERIFY ANY THIRD PARTY INSPECTIONS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO BIDDING THIS PROJECT.
- B.

ALL LOW VOLTAGE WIRING TO BE IN CONDUIT UNLESS APPROVED OTHERWISE BY AUTHORITY HAVING JURISDICTION.
- C.

ALL EMERGENCY LIGHTS & EXIT SIGNS ARE TO BE CONNECTED TO THE UNSWITCHED PORTION OF THE ADJACENT LIGHTING CIRCUIT. ALL EMERGENCY FIXTURES TO REMAIN ACTIVE FOR 90 MINUTE MINIMUM.
- D.

ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABELED AND LISTED BY A CERTIFIED TESTING LABORATORY OR AGENCY.
- E.

ALL LIGHTING, DUCTWORK, SOFFITS, AND CEILING COMPONENT HEIGHTS ARE TO BE COORDINATED WITH THE ARCHITECT.
- F.

ATTENTION LIGHTING SUPPLIER AND CONTRACTOR: ENSURE ALL LIGHTING EXPOSED TO PLENUM IS PLENUM RATED.
- G.

COORDINATE THE MOUNTING OF ALL HIGH-BAY FIXTURES AND CEILING FANS WITH ARCHITECT PRIOR TO INSTALLATION.
- H.

. VERIFY MOUNTING HEIGHTS OF ALL FIXTURES WITH ARCHITECTURAL ELEVATIONS PRIOR TO ROUGH-IN.
- I.

FIRE ALARM CONTRACTOR SHALL VERIFY ALL BUILDING AND FIRE DEPARTMENT REQUIREMENTS REGARDING SHUT OFF OF ANY NECESSARY COMPONENTS UPON ACTIVATION OF THE FIRE ALARM. THIS INCLUDES, BUT IS NOT LIMITED TO:
- a.

AUDIO/MUSIC SYSTEM(S)
- b.

ROOFTOP UNITS
- c.

TANNING EQUIPMENT
- d.

EXERCISE FANS
- J.

PROVIDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR (SIZE PER NEC) IN PVC TYPE CONDUIT, POWER CIRCUITS, ISOLATED GROUND CIRCUITS, OR AS SHOWN ON PLANS. CONDUIT SHALL BE SIZED PER NEC BASED ON THIN 600 VOLT COPPER SINGLE CONDUCTORS, PLUS THE EQUIPMENT GROUNDING CONDUCTOR. WIRING SHALL INCLUDE FINAL CONNECTION TO ALL EQUIPMENT IN CONFORMANCE WITH EQUIPMENT SUPPLIER WIRING DIAGRAMS.
- L.

CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPLETE PANELBOARD IDENTIFICATION SCHEDULES.
- M.

BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG UNLESS NOTED OTHERWISE IN SCHEDULES. WHERE 20A BRANCH CIRCUITS HAVE #8 AND LARGER WIRE SPECIFIED, #10 AWG WIRE SHALL BE USED FOR THE FINAL CONNECTION (15 FOOT MAXIMUM).
- N.

WHERE BRANCH CIRCUITS ARE GROUPEd, SIZE CONDUIT AND DERATE CURRENT CARRYING CONDUCTORS PER NEC.
- O.

PROVIDE HANDLE TIES ON ALL MULTIWIRE BRANCH CIRCUITS TO MEET NEC REQUIREMENTS.
- P.

SUPPORT FROM STRUCTURE: NO ATTACHMENT OF ANY TYPE SHALL BE MADE TO BRIDGING OR JOIST WEB MEMBERS. UTILIZE ONLY THE TOP AND BOTTOM CHORDS FOR SUPPORTING THE ELECTRICAL SYSTEM INSTALLATIONS. REFER TO STRUCTURAL PLANS.
- Q.

WHERE GROUPEd CONDUITS ARE INSTALLED WITHIN THE JOIST SPACE, COORDINATE WITH SPRINKLER CONTRACTOR PRIOR TO INSTALLATION IN ORDER TO MAINTAIN REQUIRED CLEARANCES FROM SPRINKLERS.
- R.

SEAL PENETRATIONS IN FIRE RATED WALLS PER NEC 300.21.
- S.

ELECTRICAL EQUIPMENT, FIXTURES, DEVICES, AND OTHER ITEMS SHOWN IN THESE PLANS IN GREY HALFTONE ARE EITHER EXISTING TO REMAIN OR PART OF LANDLORD SHELL PACKAGE.
- T.

PROVIDE ARC-FLASH COORDINATION STUDY PER NEC.
- U.

PROVIDE (1) 1/2" CONDUIT AND (1) 4" SQUARE BOX WITH SINGLE GANG DEVICE RING FOR ALL THERMOSTAT LOCATIONS INDICATED ON MECHANICAL DRAWINGS. ROUTE CONDUIT FROM BOX TO ACCESSIBLE CEILING CAVITY. PROVIDE PLASTIC BUSHING ON EXPOSED CONDUIT ENDS. PROVIDE PULL STRING IN ALL EMPTY CONDUIT SYSTEMS. COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHTS WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.
- V.

ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE LOW VOLTAGE CONTRACTOR TO CLARIFY SCOPE OF WORK BEFORE BID OR INSTALLATION
- W.

WIRING DEVICES: DEVICE MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTER OF OUTLET BOX UNLESS NOTED OTHERWISE ON PLANS. COORDINATE THE STANDARD MOUNTING HEIGHTS WITH MASONRY:
- a.

SWITCHES 42 " AFF
- b.

RECEPTACLES 18" AFF
- c.

VOICE/DATA 18" AFF

2. ELECTRICAL POWER NOTES

- A.

ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM PER IFC 901.6.2.1.
- B.

THE FIRE ALARM CONTROL PANEL DISCONNECTING MEANS SHALL HAVE A RED MARKING, SHALL ONLY BE ACCESSIBLE TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT". THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE IDENTIFIED AT THE FIRE ALARM CONTROL UNIT PER NFPA 72 4.4.1.4.2.2 AND 4.4.1.4.2.3.
- C.

ROUTE ALL CONDUIT TIGHT TO DECK IN ACCORDANCE TO NEC 300.4(E)
- D.

FIRE ALARM SYSTEM SHALL BE INSTALLED PER CURRENT NFPA STANDARDS.
- E.

ALL ELECTRICAL THAT MAY NEED TO BE MAINTAINED WHILE ENERGIZED SHALL BE FIELD MARKED WITH ARC FLASH LABELING AND BE FULLY VISIBLE TO QUALIFIED PERSONNEL PRIOR TO EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF EQUIPMENT.
- F.

SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH THE MAXIMUM AVAILABLE FAULT CURRENT. THE FIELD MARKINGS SHALL INCLUDE THE DATE THE FAULT CURRENT CALCULATIONS WERE PERFORMED AND BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- G.

FIRE ALARM DEVICE LOCATIONS ARE SHOWN FOR REFERENCE ONLY. THE ELECTRICAL CONTRACTOR SHALL INCLUDE A PRICE IN THE ELECTRICAL BID FOR A LANDLORD APPROVED FIRE ALARM SYSTEM, INCLUDING PLANS AND ALL ASSOCIATED DOCUMENTATION REQUIRED. THESE PLANS SHALL BE SUBMITTED TO THE LOCAL AUTHORITIES HAVING JURISDICTION BY A QUALIFIED AND LICENSED DESIGN-BUILD FIRE ALARM CONTRACTOR FOR A COMPLETE AND APPROVED FIRE ALARM SYSTEM. THE PLANS SHALL BE SIGNED AND SEALED BY THEIR LOCAL DESIGN ENGINEER AND SUBMITTED FOR PLAN REVIEW PRIOR TO RECEIVING SPECIFIC PERMITS FOR THIS WORK. THE FIRE ALARM CONTRACTOR SHALL ALSO SUBMIT ALL SHOP DRAWINGS, BATTERY CALCULATIONS, SPECIFICATION SHEETS, ETC. AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION TO THEIR LOCAL DESIGN ENGINEER FOR REVIEW AND APPROVAL.
- H.

COORDINATE WITH MECHANICAL INSTALLER TO PROVIDE AND INSTALL CONDUIT AND JUNCTION BOXES FOR MECHANICAL THERMOSTATS.

3. NETWORK CABLING REQUIREMENTS

- A.

EACH CAT 5 CABLE RUN MUST BE KEPT TO A MAXIMUM OF 295 FEET (90 METERS), INCLUDING PATCH CORDS, ENTIRE CHANNEL MAXIMUM LENGTH NOT TO EXCEED 328 FEET (100 METERS).
- B.

MAINTAIN PAIR TWISTING AS CLOSE AS POSSIBLE TO FINAL TERMINATION POINTS WITH MAXIMUM UNTWISTED SEGMENT OF 1/2".
- C.

WHERE NECESSARY, GRADUALLY BEND CABLE TO MAINTAIN THE MINIMUM BEND RADIUS OF 4 TIMES THE CABLE DIAMETER (APPROX. 1").
- D.

USE LOW TO MODERATE PRESSURE TO DRESS CABLES NEATLY WITH CABLE TIES.
- E.

USE LOW TO MODERATE FORCE WHEN PULLING CABLE. DO NOT EXCEED MAXIMUM OF 25 POUNDS OF FORCE.
- F.

USE CABLE PULLING LUBRICANT FOR CABLE RUNS THAT MAY EXCEED 25 POUNDS OF FORCE WHEN PULLING.
- G.

MAINTAIN 12" OF SEPARATION FROM POWER CABLES THAT MAY BE SOURCES OF EMI (ELECTRICAL CABLES, TRANSFORMERS, LIGHT FIXTURES, ETC.)
- H.

INSTALL PROPER CABLE SUPPORTS WITH MAXIMUM OF 5 FEET OF SEPARATION.
- I.

LEAVE EXCESS WIRE COILED IN THE CEILING OR NEAREST CONCEALED SPACE. MAINTAIN 5 FEET OF SLACK AT WORK OUTLET AND 10 FEET OF SLACK AT PATCH PANEL END.
- J.

FURNISH AND INSTALL GROMMETS WHEN PASSING THROUGH METAL STUDS AND OTHER POTENTIAL HAZARDS.
- K.

CONTRACTOR IS RESPONSIBLE FOR MEETING BOTH NATIONAL FIRE AND BUILDING CODES AND ANY LOCAL AMENDMENTS BY THE AUTHORITIES HAVING JURISDICTION AND MAINTAIN FIRESTOPS AT ALL CABLES THAT PENETRATE FIREWALLS. PLENUM RATED CABLES SHALL BE INSTALLED WHERE REQUIRED.
- L.

DO NOT SPLICE OR BRIDGE CABLE AT ANY POINT.
- M.

DO NOT INSTALL CABLE SUPPORTED FROM CEILING TILES.
- N.

DO NOT OVER TIGHTEN (25 POUNDS PER SQUARE INCH MAXIMUM) WITH USING CABLE OR PLASTIC TIES.
- O.

DO NOT USE OIL OR OTHER LUBRICANT NOT SPECIFICALLY DESIGNED FOR NETWORK CABLE PULLING.
- P.

DO NOT SUPPORT CABLES DIRECTLY FROM ELECTRICAL CONDUITS OR FIXTURES

4. GENERAL FIRE ALARM NOTES

- A.

THE INTENT OF THE FIRE ALARM SYSTEM DEVICES INDICATED ON THIS DRAWING ARE FOR PERFORMANCE SPECIFICATIONS AND LOCATIONS ONLY. THE SUCCESSFUL FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE COMPLETE PERMIT DRAWINGS, INCLUDING WIRING MEANS AND METHODS, BATTERY CALCULATIONS, DEVICE CUT SHEETS, ETC. FOR THE EQUIPMENT THEY SHALL PROVIDE. PROVIDE 15% SPARE CAPACITY FOR NEW SYSTEMS. COORDINATE FINAL REQUIREMENTS WITH ALL AUTHORITIES HAVING JURISDICTION.
- B.

THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A UL LISTED CENTRAL STATION.
- C.

FIRE ALARM CONTRACTOR SHALL SUBMIT FIRE ALARM SUBMITTALS TO THE OWNER'S REPRESENTATIVE WITHIN 30 DAYS AFTER CONTRACT IS AWARDED.
- D.

WALL MOUNTED DEVICES SHALL BE 80" AFF TO BOTTOM OF DEVICE UNLESS NOTED OTHERWISE.
- E.

SURFACE MOUNTING OF FIRE ALARM CONDUIT IS NOT PERMITTED IN FINISHED AREAS.
- F.

BUILDING IS EQUIPPED WITH A FULLY AUTOMATIC SPRINKLER SYSTEM.
- G.

REMOVE ALL EXISTING FIRE ALARM SYSTEMS FROM PREVIOUS TENANTS PRIOR TO INSTALLING NEW EQUIPMENT.
- H.

ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM PER IFC 901.6.2.1.
- I.

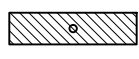
THE FIRE ALARM CONTROL PANEL DISCONNECTING MEANS SHALL HAVE A RED MARKING, SHALL ONLY BE ACCESSIBLE TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT". THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE IDENTIFIED AT THE FIRE ALARM CONTROL UNIT PER NFPA 72 4.4.1.4.2.2 AND 4.4.1.4.2.3.
- J.

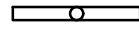
ROUTE ALL CONDUIT TIGHT TO DECK IN ACCORDANCE WITH NEC 300.4(E).
- K.


FIRE ALARM SYSTEMS SHALL BE INSTALLED PER CURRENT NFPA STANDARDS.FIRE ALARM DEVICE LOCATIONS ARE SHOWN FOR REFERENCE ONLY. THE ELECTRICAL CONTRACTOR SHALL INCLUDE A PRICE IN THE ELECTRICAL BID FOR A LANDLORD APPROVED FIRE ALARM SYSTEM, INCLUDING PLANS AND ALL ASSOCIATED DOCUMENTATION REQUIRED. THESE PLANS SHALL BE SUBMITTED TO THE LOCAL AUTHORITIES HAVING JURISDICTION BY A QUALIFIED AND LICENSED DESIGN-BUILD FIRE ALARM CONTRACTOR FOR A COMPLETE AND APPROVED FIRE ALARM SYSTEM. THE PLANS SHALL BE SIGNED AND SEALED BY THEIR LOCAL DESIGN ENGINEER AND SUBMITTED FOR PLAN REVIEW PRIOR TO RECEIVING SPECIFIC PERMITS FOR THIS WORK. THE FIRE ALARM CONTRACTOR SHALL ALSO SUBMIT ALL SHOP DRAWINGS, BATTERY CALCULATIONS, SPECIFICATION SHEETS, ETC. AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION TO THEIR LOCAL DESIGN ENGINEER FOR REVIEW AND APPROVAL.


5.ELECTRICAL ABBREVIATIONS:


ABC ABOVE COUNTER
AFF ABOVE FINISHED FLOOR
CF CEILING FAN
CP CIRCULATING PUMP
EC ELECTRICAL CONTRACTOR
ECB ENCLOSED CIRCUIT BREAKER
EDF ELECTRIC DRINKING FOUNTAIN
EF EXHAUST FAN
GC GENERAL CONTRACTOR
GFCI GROUND FAULT CIRCUIT INTERRUPT
GR GROUND
HC HVAC CONTRACTOR
JB JUNCTION BOX
PC PLUMBING CONTRACTOR
TTB TELEPHONE TERMINATION BOARD
UC UNDERCOUNTER
UH UNIT HEATER
UNO UNLESS NOTED OTHERWISE
VIF VERIFY IN FIELD
WH WATER HEATER
WP WEATHER PROOF DEVICE
WR WEATHER RESISTANT DEVICE
GFCI GROUND FAULT CIRCUIT INTERRUPTER


- 

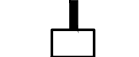
NEW SURFACE MOUNTED 3' DEEP LOW PROFILE WRAPAROUND 10'X48' LED LIGHT FIXTURE MODEL: LITHONIA FML4W
- 


NEW 4'-0" L SURFACE MOUNTED LINKABLE LED STRIP LIGHT FIXTURE LITHONIA MODEL: RLNK
- 


EXISTING LED TRACK LIGHTING
- 


NEW MEDIUM SPOT LED TRACK HEAD LIGHTING FIXTURE 120V AC, 14W, ELV DIMMABLE, 40 DEGREE BEAM SPREAD MODEL: LUMENTURE T50-30H-1100-22-W-J CONTECH TRACKS LT-P
- 


EXISTING RECESSED LED DOWNLIGHT FIXTURE
- 


NEW 6" RECESSED LED DIMMABLE DOWNLIGHT FIXTURE 120V LITHONIA LDN6 35/15 (3500 KI/1500 LUMENS) GZ10 STANDARD DRIVER DIMS TO 10% APERTURE - L06 DOWNLIGHT / TRIM - AR CLEAR FINISH - LSS SEMI-SPECULAR
- 


NEW LED WALL LIGHT FIXTURE W/ EMERGENCY BATTERY BACKUP ELED-EM-BZ-MB
- 

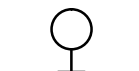
EXISTING CEILING / WALL MOUNTED ILLUMINATED EXIT SIGN ON 90 MIN BATTERY
- 


EXISTING CEILING / WALL MOUNTED ILLUMINATED EXIT SIGN W/EMERGENCY BUGEYE LIGHT FIXTURE ON 90 MIN BATTERY
- 


NEW CEILING / WALL MOUNTED ILLUMINATED EXIT SIGN W/EMERGENCY BUGEYE LIGHT FIXTURE ON 90 MIN BATTERY
- 


NEW EMERGENCY BUGEYE LIGHT FIXTURE W/ 90 MIN BATTERY
- 


EXISTING EMERGENCY BUGEYE LIGHT FIXTURE W/ 90 MIN BATTERY
- 


NEW CEILING/WALL MOUNTED ILLUMINATED EXIT SIGN - CBC/FC SEC-1011 ON 90 MIN BATTERY
- 


EXISTING WALL SCONCE FIXTURE
- 

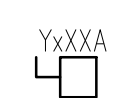
HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR EXHAUST FANS
- 

ONE WAY LIGHTING SWITCH
- 

TWO WAYS LIGHTING SWITCH
- 

CHANDLIER OUTLET
- 

SELF-CONTAINED SMOKE/CARBON MONOXIDE (120 W/BATTERY BACKUP) - CEILING MOUNTED
- 

DUPLEX RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED GFCI DENOTES: GROUND FAULT PROTECTION
- 

NON-FUSED DISCONNECT SWITCH - SIZE AS INDICATED

CLIENT:

ADDRESS:

3415 CALIFORNIA ST. SAN FRANCISCO, CA 94118

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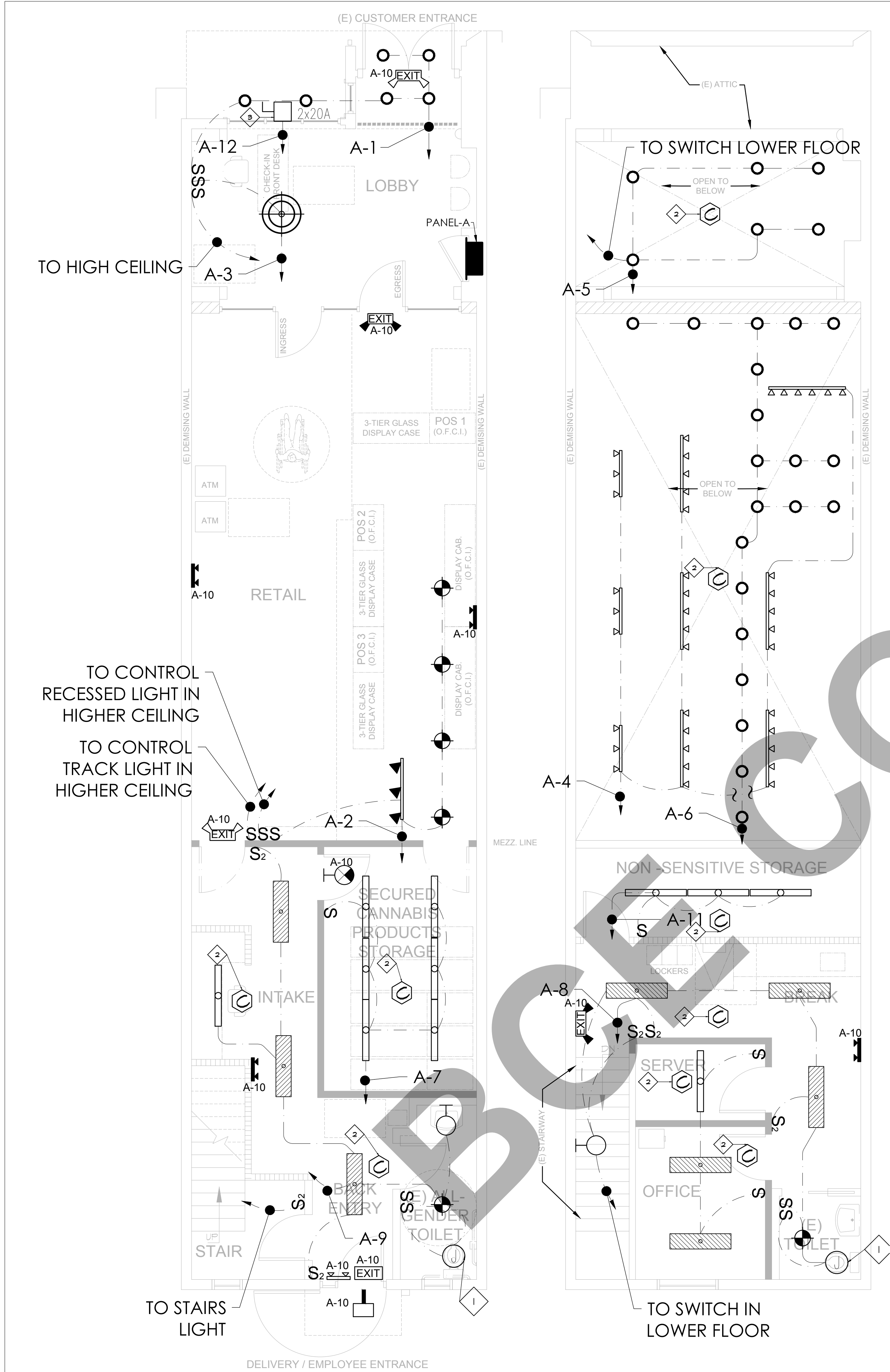
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3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY
00	FOR APPROVAL	04/22	A.B

PROJECT: LAUREL VILLAGE

TITLE: ELECTRICAL SYMBOLS AND GENERAL NOTES

PROJ. NO.	PROJ. ENGR.	SCALE	DATE
		24X36 N/A	
DRAWING NO.		REV.	
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SHEET NOTES:

- 1. PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR EXHAUST FANS
- 2. FURNISH AND INSTALL SMOKE OR COMBINATION SMOKE AND CARBON MONOXIDE DETECTOR AS REQUIRED. INTERLOCK WITH OTHER DETECTORS
- 3. PROVIDE DISCONNECT SWITCH AS SIZE INDICATED FOR SIGNAGE LIGHTING

GENERAL FIRE ALARM NOTES

- A. THE INTENT OF THE FIRE ALARM SYSTEM DEVICES INDICATED ON THIS DRAWING ARE FOR PERFORMANCE SPECIFICATIONS AND LOCATIONS ONLY. THE SUCCESSFUL FIRE ALARM SYSTEM CONTRACTOR SHALL PROVIDE COMPLETE PERMIT DRAWINGS, INCLUDING WIRING MEANS AND METHODS, BATTERY CALCULATIONS, DEVICE CUT SHEETS, ETC. FOR THE EQUIPMENT THEY SHALL PROVIDE. PROVIDE 15% SPARE CAPACITY FOR NEW SYSTEMS. COORDINATE FINAL REQUIREMENTS WITH ALL AUTHORITIES HAVING JURISDICTION.
- B. THE FIRE ALARM SYSTEM SHALL BE MONITORED BY A UL LISTED CENTRAL STATION.
- C. FIRE ALARM CONTRACTOR SHALL SUBMIT FIRE ALARM SUBMITTALS TO THE OWNER'S REPRESENTATIVE WITHIN 30 DAYS AFTER CONTRACT IS AWARDED.
- D. WALL MOUNTED DEVICES SHALL BE 80" AFF TO BOTTOM OF DEVICE UNLESS NOTED OTHERWISE.
- E. SURFACE MOUNTING OF FIRE ALARM CONDUIT IS NOT PERMITTED IN FINISHED AREAS.
- F. BUILDING IS EQUIPPED WITH A FULLY AUTOMATIC SPRINKLER SYSTEM.
- G. REMOVE ALL EXISTING FIRE ALARM SYSTEMS FROM PREVIOUS TENANTS PRIOR TO INSTALLING NEW EQUIPMENT.
- H. ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM PER IFC 901.6.2.1.
- I. THE FIRE ALARM CONTROL PANEL DISCONNECTING MEANS SHALL HAVE A RED MARKING, SHALL ONLY BE ACCESSIBLE TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT". THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE IDENTIFIED AT THE FIRE ALARM CONTROL UNIT PER NFPA 72 4.4.1.4.2.2 AND 4.4.1.4.2.3.
- J. ROUTE ALL CONDUIT TIGHT TO DECK IN ACCORDANCE WITH NEC 300.4(E).
- K. FIRE ALARM SYSTEMS SHALL BE INSTALLED PER CURRENT NFPA STANDARDS. FIRE ALARM DEVICE LOCATIONS ARE SHOWN FOR REFERENCE ONLY. THE ELECTRICAL CONTRACTOR SHALL INCLUDE A PRICE IN THE ELECTRICAL BID FOR A LANDLORD APPROVED FIRE ALARM SYSTEM, INCLUDING PLANS AND ALL ASSOCIATED DOCUMENTATION REQUIRED. THESE PLANS SHALL BE SUBMITTED TO THE LOCAL AUTHORITIES HAVING JURISDICTION BY A QUALIFIED AND LICENSED DESIGN-BUILD FIRE ALARM CONTRACTOR FOR A COMPLETE AND APPROVED FIRE ALARM SYSTEM. THE PLANS SHALL BE SIGNED AND SEALED BY THEIR LOCAL DESIGN ENGINEER AND SUBMITTED FOR PLAN REVIEW PRIOR TO RECEIVING SPECIFIC PERMITS FOR THIS WORK. THE FIRE ALARM CONTRACTOR SHALL ALSO SUBMIT ALL SHOP DRAWINGS, BATTERY CALCULATIONS, SPECIFICATION SHEETS, ETC. AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION TO THEIR LOCAL DESIGN ENGINEER FOR REVIEW AND APPROVAL.

LIGHTING GENERAL NOTES

- 1. ALL JUNCTION BOXES, CONDUITS, AND AIRS SHALL BE SIZED PER NEC.
- 2. CONNECT ALL EXIT LIGHTS AHEAD OF ANY LOCAL OR AUTOMATIC SWITCHING DEVICE.
- 3. PROVIDE A CONSTANT HOT FROM PANEL BOARD DIRECTLY TO ALL EMERGENCY BATTERY PACKS/BALLASTS IN EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS. EMERGENCY LIGHTING FIXTURES SHALL TURN ON TO FULL BRIGHTNESS IN CASE OF POWER LOSS.
- 4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION & MOONING HEIGHTS OF ALL LIGHTING FIXTURES SHOWN ON THIS DRAWING.
- 5. REFER TO DETAIL SHEET FOR SYMBOLS, SPECIFICATIONS, ABBREVIATIONS, AND LIGHTING FIXTURE SCHEDULE.
- 6. ALL DEVICES AND EQUIPMENT OUTSIDE THE SCOPE OF WORK ARE EXISTING TO REMAIN U.O.N.
- 7. CONTRACTOR SHALL PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
- 8. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
- 9. ALL EXTERIOR LUMINARIES AND ELECTRICAL DEVICES SHALL BE USED AS WEATHERPROOF TYPE.
- 10. ALL NEW CEILING OCCUPANCY SENSORS SHALL BE DUAL-TECHNOLOGY WITH 1000 SQFT COVERAGE AT 360 DEGREES U.O.N. ON THE DRAWING. COORDINATE EXACT LOCATION AND REQUIREMENTS OF ALL OCCUPANCY SENSORS SHOWN ON THIS DRAWING WITH MANUFACTURER REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO PROVIDE POWER PACKS AS REQUIRED.
- 11. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL LIGHTING CONTROL DEVICES/SWITCHES/DIMMERS WITH LIGHTING FIXTURES AND BALLASTS/DRIVERS PRIOR TO SUBMITTAL.
- 12. FIXTURE MARKED WITH SUBSCRIPT "(E)" IS EXISTING TO REMAIN, CONTRACTOR TO MAINTAIN CONTINUITY OF BRANCH CIRCUITS.
- 13. ALL CONDUIT RUNS IN OPEN PLENUM SPACE SHALL BE INSTALLED IN A NEAT MANNER PERPENDICULAR OR PARALLEL TO WALLS AND PAINTED AS DIRECTED BY OWNER.

LIGHTING KEY NOTES

- 1. PROVIDE WEATHERPROOF JUNCTION BOX WITH 20A 120V BRANCH CIRCUIT TO POWER EXTERIOR SIGNAGE. CONTRACTOR TO PROVIDE 1P-20A RATED TOGGLE SWITCH WITHIN SIGHT IN AN ACCESSIBLE AREA AS A DISCONNECT MEAN AND TO COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OWNER/SIGN VENDOR PRIOR TO ROUGH-IN. EXTERIOR SIGNAGE SHALL BE CONTROLLED VIA WIRELESS SWITCH PACK OR AS DIRECTED BY OWNER.
- 2. LIGHTING FIXTURES SERVING RESTROOMS SHALL BE 120V RATED, CONNECTED TO THE SAME BRANCH CIRCUIT SERVING EXHAUST FAN, AND CONTROLLED AS SHOWN ON DETAIL SHEET.
- 3. INTERIOR AND EXTERIOR LIGHTING BRANCH CIRCUITS SERVING THE SPACE SHALL BE CONTROLLED VIA WIRELESS RELAY SWITCH PACKS, COORDINATE WITH OWNER/LIGHTING SYSTEM VENDOR FOR EXACT LOCATIONS/NUMBER OF HUBS/DEVICES, SCHEDULE, WIRELESS DIMMER SWITCHES FOR TRACK LIGHT LOCATIONS AND ALL OTHER SYSTEM REQUIREMENTS PRIOR TO BID AND COMMENCEMENT OF WORK. EXTERIOR LIGHTING FIXTURES SWITCH PACKS AND CONTROL SWITCHES SHALL BE MOUNTED NEXT TO THE PANEL WHERE BRANCH CIRCUIT IS ORIGINATED OR AS DIRECTED BY OWNER/ARCHITECT.
- 4. NEW EMERGENCY AND EXIT LIGHTING SHALL BE CONNECTED AHEAD OF LOCAL SWITCHING.
- 5. PROVIDE IN-LINE CURRENT LIMITER AS SHOWN FOR TRACK LIGHTING.

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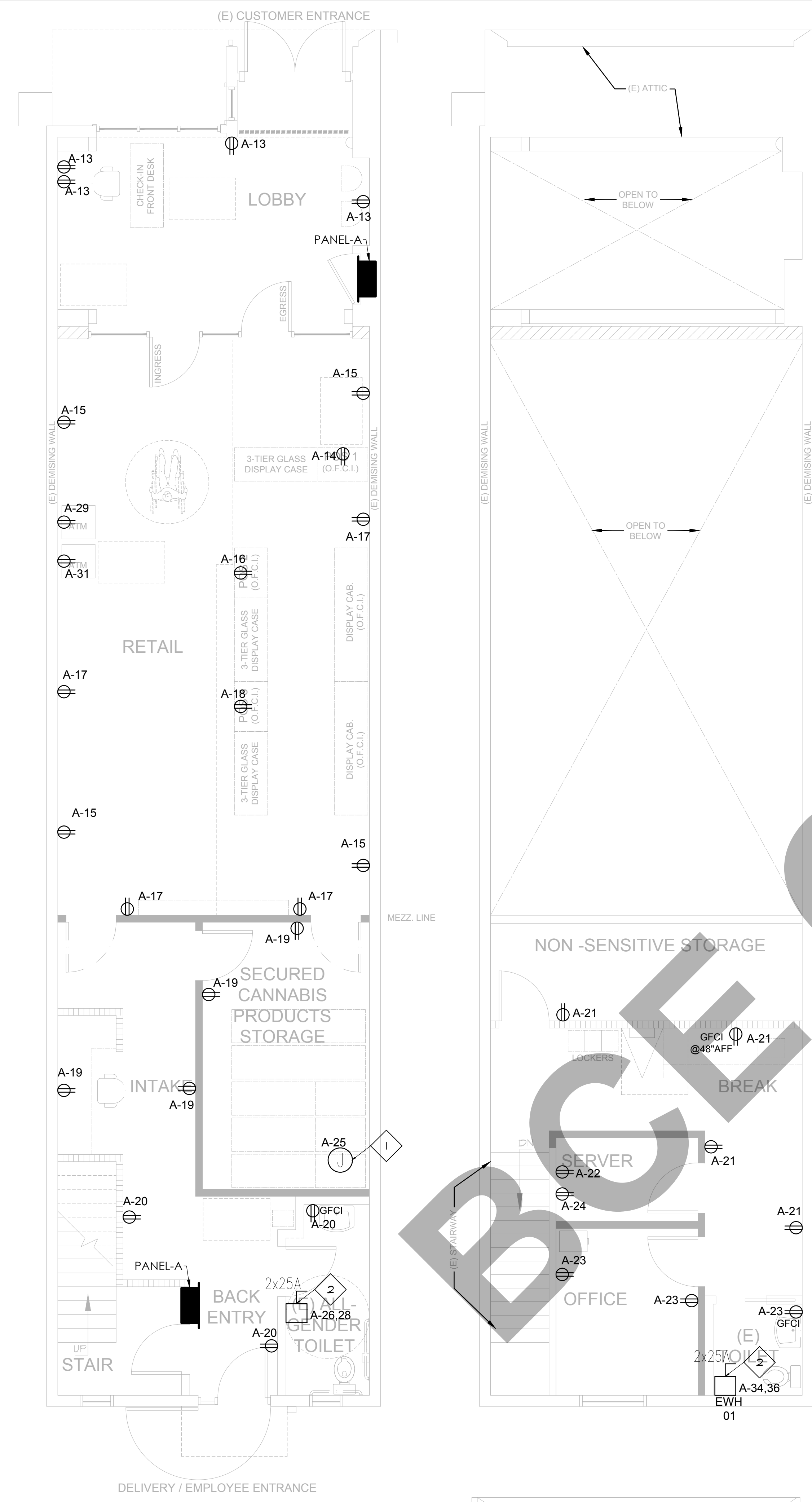
REV. NO.	DESCRIPTION	DATE	BY
00	FOR APPROVAL	04/22	A.B

PROJECT: LAUREL VILLAGE

TITLE: LIGHTING PLAN

PROJ. NO. PROJ. ENGR. SCALE: 24X36 1/4"=1'

DRAWING NO. E . 0 2 REV.



SHEET NOTES:

- 1. PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR EXHAUST FANS
- 2. PROVIDE FUSED DISCONNECT SWITCH FOR RTU
- 3. PROVIDE FUSED DISCONNECT SWITCH FOR ELECTRIC WATER HEATER

POWER KEY NOTES

- PROVIDE (2) 2" EMPTY CONDUITS WITH PULL STRINGS FROM EXISTING TELEPHONE UTILITY SERVICE CABINET/BOARD TO NEW TELEPHONE BOARD LOCATION AS SHOWN, COORDINATE EXACT LOCATION WITH TENANT/ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
- ABOVE FRONT WINDOW RECEPTACLE. CONTRACTOR TO COORDINATE EXACT LOCATION AND OTHER REQUIREMENTS WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
- CONTRACTOR TO PROVIDE WIREMOLD CONCRETE WEATHERPROOF FLUSH FLOOR BOX RFB4 SERIES OR APPROVED EQUAL WITH (1) DUPLEX RECEPTACLES AND TELE/DATA CONNECTIVITY. COORDINATE WITH ARCHITECT/ OWNER/IT CONSULTANT FOR EXACT TYPE OF DEVICE AND OTHER REQUIREMENTS PRIOR TO PURCHASE AND INSTALLATION.
- PROVIDE (1) 3/4" CONDUIT FOR POWER WIRING AND (2) 1-1/4" FOR LOW VOLTAGE CABLING WITH RING AND STRING FROM FLOOR BOX TO CLOSEST WALL AS SHOWN. COORDINATE EXACT LOCATION AND TERMINATION OF CONDUIT WITH ARCHITECT/IT CONSULTANT PRIOR TO COMMENCEMENT OF WORK.
- JUNCTION BOX WITH 120V. BRANCH CIRCUIT FOR SECURITY PANEL/DOOR STRIKE AND ACCESS CONTROL, PROVIDE A JUNCTION BOX ABOVE CEILING IN AN ACCESSIBLE AREA, COORDINATE EXACT LOCATION, TERMINATION POINTS AND ALL REQUIREMENTS WITH OWNER/ARCHITECT/SECURITY ALARM VENDOR PRIOR TO INSTALLATION. CONNECT TO CIRCUIT B-27. MAKE FINAL CONNECTIONS AS REQUIRED. (TYPICAL)
- CONTRACTOR TO PROVIDE 120V. 20A BRANCH CIRCUIT AND 2 PHONE LINES TO POWER FIRE ALARM CONTROL PANEL FROM NEW PANEL "B", COORDINATE EXACT LOCATION AND OTHER REQUIREMENTS WITH OWNER/FIRE ALARM CONTRACTOR PRIOR TO INSTALLATION.
- CONTRACTOR TO PROVIDE A DUPLEX RECEPTACLE AND L5-20R RECEPTACLE FOR IT EQUIPMENT POWER, COORDINATE EXACT LOCATION, ELECTRICAL CHARACTERISTICS OF EQUIPMENT, BREAKER/WIRING AND RECEPTACLE NEMA CONFIGURATION WITH OWNER PRIOR TO INSTALLATION.
- CONTRACTOR TO PROVIDE 120V. 20A BRANCH CIRCUIT AND TELE/DATA OUTLET FOR ATM MACHINE, COORDINATE EXACT LOCATION, ELECTRICAL CHARACTERISTICS OF EQUIPMENT, BREAKER/WIRING AND RECEPTACLE NEMA CONFIGURATION WITH OWNER/VENDOR PRIOR TO INSTALLATION.
- PROVIDE POWER AND TV/DATA OUTLET FOR TV/MENU SCREEN, COORDINATE EXACT LOCATION AND ALL REQUIREMENTS WITH ARCHITECT/TECHNOLOGY DRAWINGS PRIOR TO INSTALLATION. TV OUTLET AND RECEPTACLE TO BE MOUNTED AT 60" A.F.F.
- CONTRACTOR TO PROVIDE 120V. 20A RECEPTACLE IN AN ACCESSIBLE LOCATION FOR DISHWASHER POWER, PROVIDE 1P-20A TOGGLE SWITCH ABOVE COUNTER FOR CONTROL, COORDINATE SWITCH EXACT LOCATION AND OTHER REQUIREMENTS WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
- CONTRACTOR TO PROVIDE JUNCTION BOX WITH 120V. BRANCH CIRCUIT FOR THREAT DETECTION SYSTEM, COORDINATE EXACT LOCATION AND ALL REQUIREMENTS WITH OWNER/VENDOR PRIOR TO INSTALLATION, PROVIDE TRANSFORMER AS NEEDED.
- CONTRACTOR TO PROVIDE DISCONNECT SWITCH FOR RECEIVING AREA OVERHEAD DOOR, COORDINATE EXACT LOCATION, CONTROL, ELECTRICAL CHARACTERISTICS AND OTHER REQUIREMENTS WITH OWNER/VENDOR PRIOR TO INSTALLATION.
- PROVIDE DEDICATED BRANCH CIRCUIT FOR PRINTER. EXACT LOCATION, NEMA CONFIGURATION OF RECEPTACLE, WIRING AND BREAKER CHARACTERISTICS FOR EQUIPMENT TO BE VERIFIED WITH OWNER/ MANUFACTURER PRIOR TO ROUGH IN.
- CONTRACTOR TO PROVIDE (2) 3" EMPTY CONDUITS WITH PULL STRING FROM IT ROOM HALLWAY, (1) 3/4" EMPTY CONDUIT WITH PULL STRING FROM IT ROOM TO SECURITY ROOM, AND (1) 3/4" EMPTY CONDUIT WITH PULL STRING FROM VAULT TO HALLWAY. COORDINATE TERMINATION POINTS AND OTHER REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION.
- CONTRACTOR TO COORDINATE EXACT LOCATION. MOUNTING HEIGHT AND OTHER REQUIREMENTS OF ELECTRICAL OUTLETS/DEVICES IN VAULT WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
- JUNCTION BOX FOR CONNECTION TO ELECTRIC HAND DRYER. COORDINATE CONNECTION REQUIREMENTS PRIOR TO INSTALLATION.

POWER GENERAL NOTES

- PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
- ALL JUNCTION BOXES, CONDUITS, AND WIRES SHALL BE SIZED PER NEC.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES SHOWN ON THE DRAWING. COORDINATE WITH OWNER FOR EXACT LOCATION AND OTHER REQUIREMENTS PRIOR TO ROUGH-IN.
- ALL HOME RUNS SHALL BE 2#12+1#12 GND IN 3 4" CONDUIT U.O.N.
- CIRCUIT NUMBERS INDICATED ARE FOR DESIGN PURPOSES ONLY. CONTRACTOR SHALL COORDINATE ACTUAL CIRCUIT NUMBERS AT THE TIME OF INSTALLATION AND TO PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
- ALL DEVICES AND EQUIPMENT OUTSIDE THE SCOPE OF WORK ARE EXISTING TO REMAIN U.O.N.
- CONTRACTOR SHALL PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
- ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
- CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATION OF EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS. BRANCH CIRCUITRY, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
- CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES WITH MECHANICAL/PLUMBING CONTRACTORS PRIOR TO INSTALLATION.
- ALL CONDUIT RUNS IN OPEN PLENUM SPACE SHALL BE INSTALLED IN A NEAT MANNER PERPENDICULAR OR PARALLEL TO WALLS AND PAINTED AS DIRECTED BY OWNER.

CONFIDENTIALITY STATEMENT:

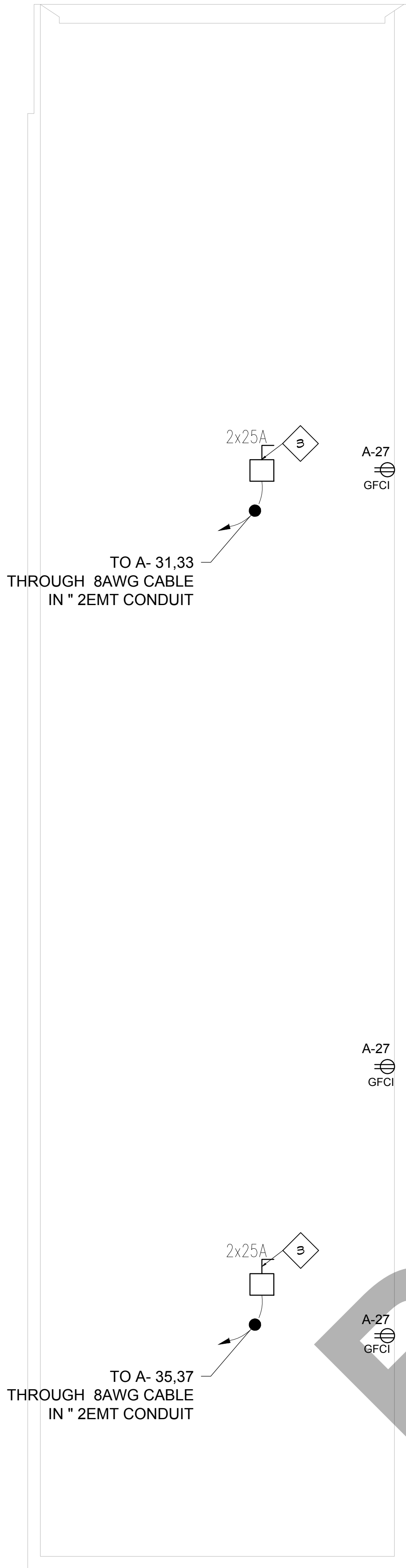
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- THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY
00	FOR APPROVAL	04/22	A.B

PROJECT: LAUREL VILLAGE		
TITLE: POWER PLAN		
PROJ. NO.	PROJ. ENGR.	SCALE: 24X36: 1/4"=1'
DRAWING NO. E . 0 3		REV.



SHEET NOTES:

- 1. PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING FOR EXHAUST FANS
- 2. PROVIDE FUSED DISCONNECT SWITCH FOR RTU
- 3. PROVIDE FUSED DISCONNECT SWITCH FOR ELECTRIC WATER HEATER

POWER KEY NOTES

1. PROVIDE (2) 2" EMPTY CONDUITS WITH PULL STRINGS FROM EXISTING TELEPHONE UTILITY SERVICE CABINET/BOARD TO NEW TELEPHONE BOARD LOCATION AS SHOWN, COORDINATE EXACT LOCATION WITH TENANT/ARCHITECT PRIOR TO COMMENCEMENT OF WORK.
2. ABOVE FRONT WINDOW RECEPTACLE. CONTRACTOR TO COORDINATE EXACT LOCATION AND OTHER REQUIREMENTS WITH ARCHITECT/OWNER PRIOR TO INSTALLATION.
3. CONTRACTOR TO PROVIDE WIREMOLD CONCRETE WEATHERPROOF FLUSH FLOOR BOX RFB4 SERIES OR APPROVED EQUAL WITH (1) DUPLEX RECEPTACLES AND TELE/DATA CONNECTIVITY. COORDINATE WITH ARCHITECT/ OWNER/IT CONSULTANT FOR EXACT TYPE OF DEVICE AND OTHER REQUIREMENTS PRIOR TO PURCHASE AND INSTALLATION.
4. PROVIDE (1) 3/4" CONDUIT FOR POWER WIRING AND (2) 1-1/4" FOR LOW VOLTAGE CABLING WITH RING AND STRING FROM FLOOR BOX TO CLOSEST WALL AS SHOWN. COORDINATE EXACT LOCATION AND TERMINATION OF CONDUIT WITH ARCHITECT/IT CONSULTANT PRIOR TO COMMENCEMENT OF WORK.
5. JUNCTION BOX WITH 120V. BRANCH CIRCUIT FOR SECURITY PANEL/DOOR STRIKE AND ACCESS CONTROL, PROVIDE A JUNCTION BOX ABOVE CEILING IN AN ACCESSIBLE AREA, COORDINATE EXACT LOCATION, TERMINATION POINTS AND ALL REQUIREMENTS WITH OWNER/ARCHITECT/SECURITY ALARM VENDOR PRIOR TO INSTALLATION. CONNECT TO CIRCUIT B-27. MAKE FINAL CONNECTIONS AS REQUIRED. (TYPICAL)
6. CONTRACTOR TO PROVIDE 120V. 20A BRANCH CIRCUIT AND 2 PHONE LINES TO POWER FIRE ALARM CONTROL PANEL FROM NEW PANEL "B", COORDINATE EXACT LOCATION AND OTHER REQUIREMENTS WITH OWNER/FIRE ALARM CONTRACTOR PRIOR TO INSTALLATION.
7. CONTRACTOR TO PROVIDE A DUPLEX RECEPTACLE AND L5-20R RECEPTACLE FOR IT EQUIPMENT POWER, COORDINATE EXACT LOCATION, ELECTRICAL CHARACTERISTICS OF EQUIPMENT, BREAKER/WIRING AND RECEPTACLE NEMA CONFIGURATION WITH OWNER PRIOR TO INSTALLATION.
8. CONTRACTOR TO PROVIDE 120V. 20A BRANCH CIRCUIT AND TELE/DATA OUTLET FOR ATM MACHINE, COORDINATE EXACT LOCATION, ELECTRICAL CHARACTERISTICS OF EQUIPMENT, BREAKER/WIRING AND RECEPTACLE NEMA CONFIGURATION WITH OWNER/VENDOR PRIOR TO INSTALLATION.
9. PROVIDE POWER AND TV/DATA OUTLET FOR TV/MENU SCREEN, COORDINATE EXACT LOCATION AND ALL REQUIREMENTS WITH ARCHITECT/TECHNOLOGY DRAWINGS PRIOR TO INSTALLATION. TV OUTLET AND RECEPTACLE TO BE MOUNTED AT 60" A.F.F.
10. CONTRACTOR TO PROVIDE 120V. 20A RECEPTACLE IN AN ACCESSIBLE LOCATION FOR DISHWASHER POWER, PROVIDE 1P-20A TOGGLE SWITCH ABOVE COUNTER FOR CONTROL, COORDINATE SWITCH EXACT LOCATION AND OTHER REQUIREMENTS WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
11. CONTRACTOR TO PROVIDE JUNCTION BOX WITH 120V. BRANCH CIRCUIT FOR THREAT DETECTION SYSTEM, COORDINATE EXACT LOCATION AND ALL REQUIREMENTS WITH OWNER/VENDOR PRIOR TO INSTALLATION, PROVIDE TRANSFORMER AS NEEDED.
12. CONTRACTOR TO PROVIDE DISCONNECT SWITCH FOR RECEIVING AREA OVERHEAD DOOR, COORDINATE EXACT LOCATION, CONTROL, ELECTRICAL CHARACTERISTICS AND OTHER REQUIREMENTS WITH OWNER/VENDOR PRIOR TO INSTALLATION.
13. PROVIDE DEDICATED BRANCH CIRCUIT FOR PRINTER. EXACT LOCATION, NEMA CONFIGURATION OF RECEPTACLE, WIRING AND BREAKER CHARACTERISTICS FOR EQUIPMENT TO BE VERIFIED WITH OWNER/ MANUFACTURER PRIOR TO ROUGH IN.
14. CONTRACTOR TO PROVIDE (2) 3" EMPTY CONDUITS WITH PULL STRING FROM IT ROOM HALLWAY, (1) 3/4" EMPTY CONDUIT WITH PULL STRING FROM IT ROOM TO SECURITY ROOM, AND (1) 3/4" EMPTY CONDUIT WITH PULL STRING FROM VAULT TO HALLWAY. COORDINATE TERMINATION POINTS AND OTHER REQUIREMENTS WITH OWNER PRIOR TO INSTALLATION.
15. CONTRACTOR TO COORDINATE EXACT LOCATION. MOUNTING HEIGHT AND OTHER REQUIREMENTS OF ELECTRICAL OUTLETS/DEVICES IN VAULT WITH OWNER/ARCHITECT PRIOR TO INSTALLATION.
16. JUNCTION BOX FOR CONNECTION TO ELECTRIC HAND DRYER. COORDINATE CONNECTION REQUIREMENTS PRIOR TO INSTALLATION.

POWER GENERAL NOTES

1. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
2. ALL JUNCTION BOXES, CONDUITS, AND WIRES SHALL BE SIZED PER NEC.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES SHOWN ON THE DRAWING. COORDINATE WITH OWNER FOR EXACT LOCATION AND OTHER REQUIREMENTS PRIOR TO ROUGH-IN.
4. ALL HOME RUNS SHALL BE 2#12+1#12 GND IN 3 4" CONDUIT U.O.N.
5. CIRCUIT NUMBERS INDICATED ARE FOR DESIGN PURPOSES ONLY. CONTRACTOR SHALL COORDINATE ACTUAL CIRCUIT NUMBERS AT THE TIME OF INSTALLATION AND TO PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
6. ALL DEVICES AND EQUIPMENT OUTSIDE THE SCOPE OF WORK ARE EXISTING TO REMAIN U.O.N.
7. CONTRACTOR SHALL PROVIDE AN ACCURATELY TYPED PANEL BOARD SCHEDULE FOR EACH PANEL BOARD.
8. ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY PROBLEMS PERTAINING TO CIRCUIT AVAILABILITY OR LOAD CAPACITY PRIOR TO INSTALLATION.
9. CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING DRAWINGS FOR EXACT LOCATION OF EQUIPMENT AND SCHEDULES. CONTRACTOR SHALL PROVIDE ALL ELECTRICAL DISCONNECTS. BRANCH CIRCUITRY, CIRCUIT BREAKERS AND CONNECTIONS REQUIRED TO POWER EQUIPMENT.
10. CONTRACTOR TO COORDINATE EXACT LOCATION OF DISCONNECT SWITCHES, JUNCTION BOXES AND SINGLE POLE TOGGLE SWITCHES WITH MECHANICAL/PLUMBING CONTRACTORS PRIOR TO INSTALLATION.
11. ALL CONDUIT RUNS IN OPEN PLENUM SPACE SHALL BE INSTALLED IN A NEAT MANNER PERPENDICULAR OR PARALLEL TO WALLS AND PAINTED AS DIRECTED BY OWNER.

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY
00	FOR APPROVAL	04/22	A.B

PROJECT: LAUREL VILLAGE

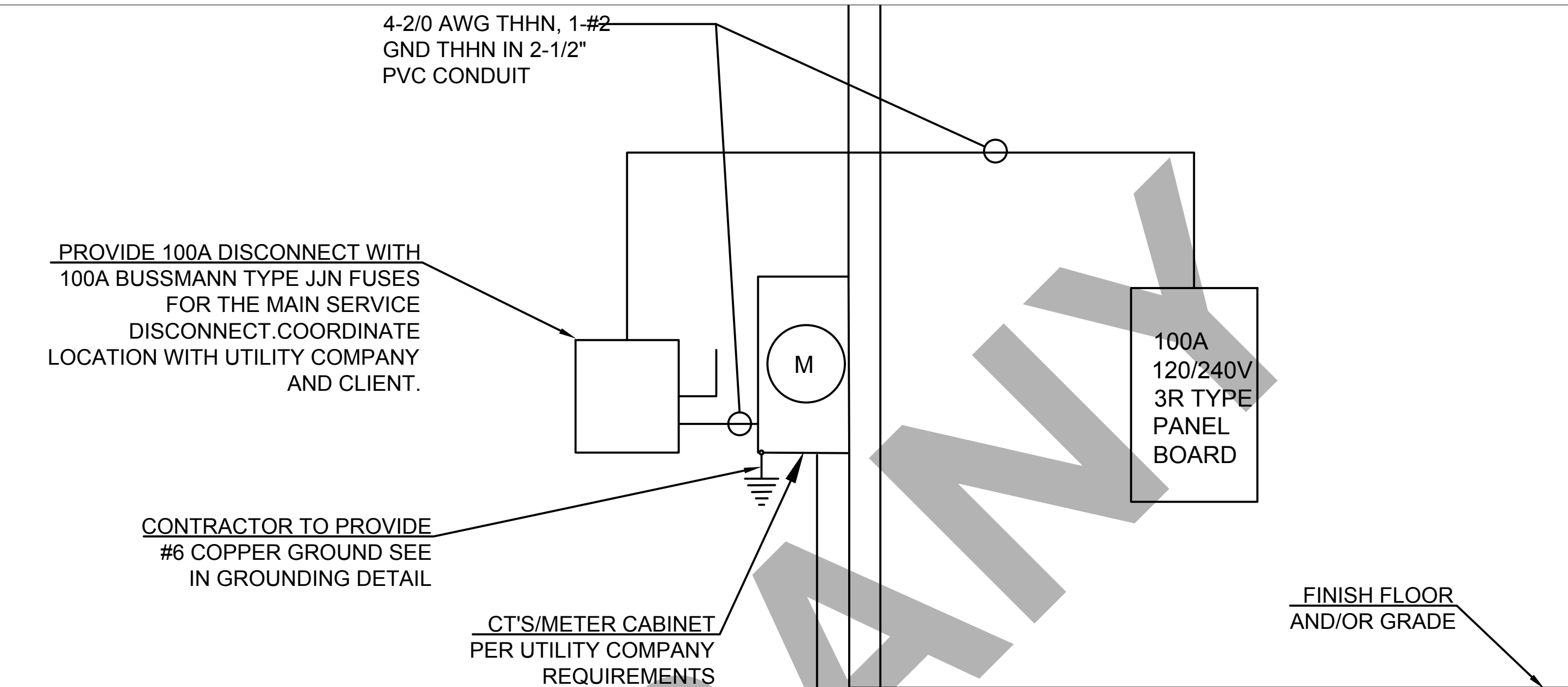
TITLE: POWER PLAN
ROOF FLOOR

PROJ. NO. PROJ. ENGR. SCALE: 24X36
1/4"=1'

DRAWING NO. REV.
E . 0 4

GENERAL NOTES

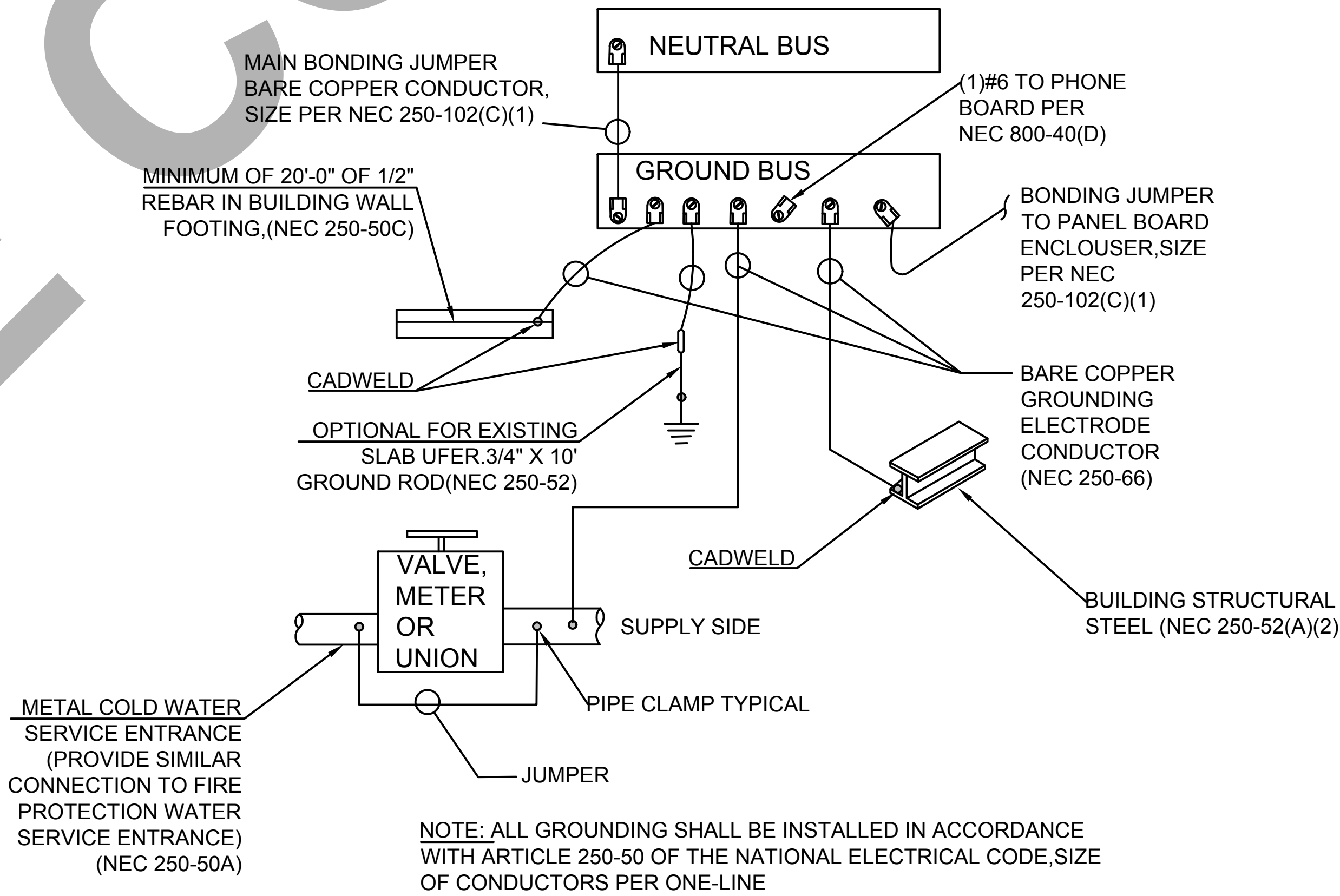
- A. ALL EXISTING COMPONENTS OF THIS ELECTRICAL DIAGRAM ARE TO REMAIN AS INSTALLED AND ARE SHOWN FOR REFERENCE ONLY.
- B. ALL WORK SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL FIRE PROTECTION
- C. ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE. ALL ITEMS ARE ON AN OR EQUAL BASIS.
- D. ALL SINGLE PHASE BRANCH CIRCUITS (RECEPTACLES, LIGHTING, ETC.; ARE 1/2" CONDUIT OR EMT WITH THIN, 90C WIRING, UNLESS NOTED OTHERWISE. ALL OTHER CONDUIT AND WIRING SHALL BE AS INDICATED ON THE PLANS. ACTUAL ROUTING AND HOME RUN GROUPINGS ARE TO BE DETERMINED IN THE FIELD.
- E. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC EXCEPT FOR DETAILS AND ELEVATIONS. DO NOT SCALE FROM DIAGRAMMATIC DRAWINGS. EXACT LOCATIONS OF DEVICES AND PANELS ARE TO BE DETERMINED AND ROUGHED-IN DURING CONSTRUCTION TO AVOID INTERFERENCE, TO MEET USER REQUIREMENTS, TO PROVIDE ADEQUATE MOUNTING, AND TO MEET NEC LINEAR ACCESS AND CLEARANCE REQUIREMENTS.
- F. BACK TO BACK MOUNTING OF RECEPTACLES IS NOT PERMITTED.
- G. IN ADDITION TO THE NEC REQUIREMENTS FOR GFCI PROTECTION FOR RECEPTACLES, THE FOLLOWING RECEPTACLES SHALL ALSO HAVE GFCI PROTECTION: (1)-ALL RECEPTACLES LOCATED WITHIN 8 FEET OF A SINK, (2)-ALL RECEPTACLES WHICH ARE PROVIDED FOR CONVENIENCE IN SERVICING HVAC EQUIPMENT REGARDLESS OF LOCATION.AS REQUIRED TO ACCOMMODATE CONDUCTOR PULLING EASE, FIELD LIFE SAFETY.
- H. PROVIDE A LAMICOID NAMEPLATE (WHITE LETTERS ON BLACK BACKGROUND; ON EACH PANELBOARD, MOTOR STARTER,CONTACTOR, TRANSFORMER, ETC. LETTERS SHALL BE 0.75 INCH MAINIMUM.
- I. CONTRACTOR SHALL CUT AS REQUIRED TO INSTALL ELECTRICAL EQUIPMENT REPAIR OF FLOOR OR WALLS SHALL BE COORDINATED WITH GENERAL CONTRACTOR CONTRACTOR SHALL ALSO REPAIR ALL OPENINGS LEFT DUE TO EQUIPMENT REMOVAL.
- J. CONDUCTORS ARE COPPER UNLESS OTHERWISE SHOWN. ALL CONDUCTORS LARGER THAN #10 SHALL BE STRANDED.
- K. PANELBOARDS SHALL CONTAIN A TYPEWRITTEN DIRECTORY WITH A PLASTIC COVER AFFIXED TO THE INSIDE DOOR.
- L. ALL FIXTURES, DEVICES, CONDUIT, AND EQUIPMENT SHALL BE SECURED WITH APPROVED HANGERS AND ANCHORS AND IN ACCORDANCE WITH APPROVED STANDARDS OF INSTALLATION.
- M. ALL BREAKERS SHOWN IN THE PANELBOARD SCHEDULE SHALL BE RATED AS SHOWN FOR BOTH CIRCUIT CAPACITY AND FAULT CURRENT INTERRUPTING CAPACITY.
- N. ALL PANELBOARDS, DISCONNECT SWITCHES, MOTOR STARTERS, AND CONTACTORS SHALL BE NEMA 1, UNLESS OTHERWISE NOTED.
- O. ELECTRICAL CONTRACTOR MUST BE AVAILABLE AT TIME OF DBS INSPECTION. COORDINATE WITH GENERAL CONTRACTON.
- P. FIELD VERIFY THE AVAILABLE FAULT CURRENT AT THE LANDLORD'S EXISTING PANEL AND PROVIDE A NEW, FULLY RATED, PANEL TO MATCH EXISTING.
- Q. CONTRACTOR TO MAKE FINAL CONNECTIONS IN EMS PANEL FOR LANDLORD PROVIDED LIGHTING CIRCUITS. 50% OF THE GENERAL LIGHTING CIRCUITS SHOULD BE ROUTED THROUGH THE CUSTOMER CONTROL ZONE .



NOTES

1. CONTRACTOR TO INCLUDE IN THE CONTRACT ALL ONE TAP CHARGERS AT FEES FROM THE POWER COMPANY,AND COORDINATE WITH THE POWER COMPANY.
2. PROVIDE PLAQUE STATING LOCATION OF DISCONNECTING MEANS.
3. PANEL BOARD TO HAVE FULLY RATED BREAKERS UNLESS NOTED OTHERWISE.

ONE LINE DIAGRAM



GROUNDING DETAIL

CLIENT:

CLIENT:

ADDRESS:

3415 CALIFORNIA ST. SAN
FRANCISCO, CA 94118

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE
ORIGINAL AND UNPUBLISHED WORK OF THE
DESIGNER AND THE SAME MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT
CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
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3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.

REV. NO.	DESCRIPTION	DATE	BY
00	FOR APPROVAL	04/22	A.B

PROJECT: LAUREL VILLAGE			
TITLE: ONE LINE DIAGRAM AND GROUNDING			
PROJ. NO.	PROJ. ENGR.	SCALE: 24X36"	
		NTS	
DRAWING NO.		REV.	
E . 0 5			

A.I.C Rating: 10kA
Mains Type: MCCB
Mains Rating: 100A

4-2/0 AWG THHN, 1-#2 GND THHN IN 2-1/2" EMT CONDUIT

Notes

<div style="display: flex; justify-content: space-between;"><div>PROJECT:</div><div>LAUREL VILLAGE</div></div>		
<div style="display: flex; justify-content: space-between;"><div>TITLE:</div><div>LOAD SCHEDULE</div></div>		
PROJ. NO.	PROJ. ENGR.	<div style="display: flex; justify-content: space-between;"><div>SCALE • 24'X36'</div><div>NTS</div></div>
DRAWING NO.		REV.
<div style="display: flex; justify-content: space-between;"><div>E . 0 6</div><div></div></div>		

Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 3 of 20		
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022		
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x				
A. GENERAL INFORMATION					
1	Project Location (City)	San Francisco	8	Standards Version	Compliance2019
2	CA Zip Code	94118	9	Compliance Software (version)	EnergyPro 8.2
3	Climate Zone	3	10	Weather File	OAKLAND_724930_CZ2010.epw
4	Total Unconditioned Floor Area in Scope	1,770 ft²	11	Building Orientation (deg)	(N) 0 deg
5	Total Unconditioned Floor Area	0 ft²	12	Permitted Scope of Work	Existing/Alteration
6	Total # of Stories (Habitable Above Grade)	2	13	Building Type(s)	Nonresidential
7	Total # of dwelling units	0	14	Gas Type	NaturalGas
B. PROJECT SUMMARY					
Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.					
Building Components Complying via Performance			Building Components Complying Prescriptively		
Envelope (see Table G)	<input checked="" type="checkbox"/> Performance <input type="checkbox"/> Not Included	Covered Process: Commercial Kitchens	<input type="checkbox"/> Performance <input type="checkbox"/> Not Included	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PHF-01).	
Mechanical (see Table H)	<input type="checkbox"/> Performance <input type="checkbox"/> Not Included	Covered Process: Computer Rooms	<input type="checkbox"/> Performance <input type="checkbox"/> Not Included	Indoor Lighting (Unconditioned)§140.6	NRCC-174-F
Domestic Hot Water (see Table I)	<input type="checkbox"/> Performance <input type="checkbox"/> Not Included	Covered Process: Laboratory Exhaust	<input type="checkbox"/> Performance <input type="checkbox"/> Not Included	Outdoor Lighting §140.7	NRCC-174-F
				Sign Lighting §54.0.4	NRCC-175-E
				Mandatory Measures	
Lighting (Indoor Conditioned, see Table G)	<input checked="" type="checkbox"/> Performance <input type="checkbox"/> Not Included			Electrical power system, commissioning, solar ready, elevator and escalator requirements are mandatory and should be shown on the NRCC form if applicable (i.e. compliance will not be shown on the NRCC-PHF-01).	
Solar Thermal Water Heating (see Table I)	<input type="checkbox"/> Performance <input checked="" type="checkbox"/> Not Included			Electrical Power Distribution §110.11	NRCC-175-E
				Commissioning §120.8	NRCC-C08-F
				Solar Ready §10.10	NRCC-S04-E

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PHF-01-E-12202021-6384 Report Generated at: 2022-04-18 03:04:23

Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 5 of 20						
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022						
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x								
G3. OPAQUE SURFACE ASSEMBLY SUMMARY									
1	2	3	4	5	6	7	8	9	10
Surface Name	Surface Type	Area (ft²)	Framing Type	Cavity R-Value	Continuous R-Value	Units	Value	Description of Assembly Layers	
Default Roof 2013-Present1	Roof	1330	Wood	30	NA	U-Factor	0.038	Asphalt shingles - 1/4 in. Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. R-30 Wood framed roof, 26in. OC, 3.5in., R-30 Gypsum Board - 1/2 in. Air - Cavity - Wall roof Ceiling - 4 in. or more Plywood - 1/2 in. Carpet - 3/4 in.	E
R-O Floor No Crawlspace_95	InteriorFloor	440	NA	0	NA	U-Factor	0.183		E
Status: N - New, A - Altered, E - Existing									
G4. OPAQUE DOOR SUMMARY									
1	2	3	4	5	6	7	8	9	10
Assembly Name	Overall U-Factor	Status³							
Metal Door76	0.700	A							
G5. FENESTRATION ASSEMBLY SUMMARY									
1	2	3	4	5	6	7	8	9	10
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method⁴	Assembly Method	Area ft²	Overall U-Factor	Overall SHGC	Overall VT		
New Single Metal Clear_	Vertical Fenestration Fixed/Window Metal/Frame	Default Performance	Sitebuilt	49	1.19	0.83	0.77	N	
Door Single Metal Clear_	Vertical Fenestration Glazed/Door Metal/Frame	Default Performance	Sitebuilt	49	1.25	0.80	0.53	E	

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PHF-01-E-12202021-6384 Report Generated at: 2022-04-18 03:04:23

Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 9 of 20											
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022											
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x													
I1. WATER HEATER EQUIPMENT SUMMARY														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input	Rated Input Unit	Efficiency	Efficiency Unit	Tank Insulation R-Value (in./ft²)	Standby Loss Fraction	Heat Pump Type	1st Hour Rating or Flow Rate (gph)	Tank Location or Ambient Condition	
A.O. SMITH EN5-302	Electricity	Instantaneous	1	30.00	879.0	kW	0.90	ThrmL Eff.	NA	NA	NA	NA	NA	NA
A.O. SMITH EN5-302 2	Electricity	Instantaneous	1	30.00	879.0	kW	0.90	ThrmL Eff.	NA	NA	NA	NA	NA	NA

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO					
1	2	3	4	5	6
Occupancy Type¹	Conditioned Floor Area² (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance Area Category Footcandles (Watts)	Tailored Method (Watts)
Retail Sales Area (Retail Merchandise Sales)	644	1,002	0	0	0
Commercial/Industrial Storage (Warehouse)	269	171	0	0	0
Healthcare Facility and Hospitals (Exam/Treatment Rooms)	115	38	0	0	0
Concourse and Atrium Area	70	15	0	0	0
Restrooms	55	46	0	0	0
Lounge, Breakroom, or Waiting Area	173	31	0	0	0
Electrical, Mechanical, Telephone Rooms	43	18	0	0	0
Office Area (>250 square feet)	85	16	0	0	0

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Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 2 of 20
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x		
C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDD Energy Use, kWh/ft² · yr)			
COMPLIES			
Energy Component	Standard Design (TDD)	Proposed Design (TDD)	Compliance Margin (TDD)³
Space Heating	27.04	27.63	-0.59
Space Cooling	62.04	62.36	-0.32
Indoor Fans	246.46	235.68	10.78
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	20.96	18.66	2.30
Indoor Lighting	77.47	87.30	-9.73
ENERGY STANDARDS COMPLIANCE TOTAL	433.97	431.53	2.44 (0.6%)

¹ Notes: The number in parentheses following the Compliance Margin in column 4, represents the Percent Better than Standard.

C2. RESULTS FOR "ABOVE CODE" QUALIFICATIONS¹			
This project is pursuing California Tier 1		This project is pursuing California Tier 2	
Miscellaneous Energy Component	Standard Design (TDD)	Proposed Design (TDD)	Compliance Margin (TDD)²
Receptacle	79.89	79.89	--
Process	--	--	--
Other Lig	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	513.86	511.42	2.4 (0.5%)

¹ Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PHF-01-E-12202021-6384 Report Generated at: 2022-04-18 03:04:23

Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 6 of 20					
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022					
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x							
G5. FENESTRATION ASSEMBLY SUMMARY								
1	2	3	4	5	6	7	8	9
Fenestration Assembly Name / Tag or I.D.	Fenestration Type / Product Type / Frame Type	Certification Method ⁴	Assembly Method	Area ft²	Overall U-Factor	Overall SHGC	Overall VT	
Single Metal Clear	Vertical Fenestration Fixed/Window Metal/Frame	Default Performance	Sitebuilt	43	1.19	0.83	0.77	E
Single Metal Clear_	Vertical Fenestration Fixed/Window Metal/Frame	Default Performance	Sitebuilt	7	1.19	0.83	0.77	A
Status: N - New, A - Altered, E - Existing								

¹ Notes: Installed fenestration shall have a certified NFRC label Certificate or use the GRC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per manufacturer's approved label and are used in the envelope.

² Status: N - New, A - Altered, E - Existing

H1. DRY SYSTEM EQUIPMENT (furnaces, air handling units, heat pumps, VRF, economizers, etc.)											
1	2	3	4	5	6	7	8	9	10	11	12
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supply Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status
(E) HVAC System 1	SZAC (Packaged)3Phase	1	30	0	AFUE	80.0	29	SEER	14.00	NoEconomizer	E
(N) HVAC System	SZAC (Packaged)2Phase	1	30	0	AFUE	80.0	29	SEER	14.00	NoEconomizer	N
Status: N - New, A - Altered, E - Existing											
H2. FAN SYSTEMS SUMMARY¹											
1	2	3	4	5	6	7	8	9	10	11	12
Name or Item Tag	System Type	Design OA	CFM	BHP	Watts	Control	CFM	BHP	Watts	Economizer Type (if present)	Status
(E) HVAC System 1	SZAC	193	885	2.000	1666.1	ConstantVolume	NA	NA	NA	NoEconomizer	E

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Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 10 of 20		
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022		
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x				
K1. INDOOR CONDITIONED LIGHTING GENERAL INFO					
1	2	3	4	5	6
Occupancy Type¹	Conditioned Floor Area² (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Additional (Custom) Allowance	
				Area Category Footcandles (Watts)	Tailored Method (Watts)
Restrooms	30	37	0	0	0
Building Totals:	1,484	1,374	0	0	0
¹ See Table 140.6-C ² See NFRC-1004 if for unconditioned spaces ³ Lighting information for existing spaces modeled is not included in this table					

K2. INDOOR CONDITIONED LIGHTING SCHEDULE					
Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)					
1	2	3	4	5	6
Name or Item Tag	Complete Luminaire Description (i.e., 3-bump fluorescent troffer, F3278, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined	Total Number Luminaires	Installed Watts
A	Recessed Downlight 12 W	12	According to §130.0(c)	30	360
B	Track Light 14 W	60	According to §130.0(c)	9	540
C	Track Light 14 W	60	According to §130.0(c)	1	60
D	4" Surface Mounted LED Strip Light 18W	18	According to §130.0(c)	11	198
E	3" Deep Wipac Round Surface MT. Light 8W	8	According to §130.0(c)	8	64
F	6" Recessed Downlight 12 W	37	According to §130.0(c)	1	37
F.2	6" Recessed Downlight 12 W	37	According to §130.0(c)	5	185
G	Exit Sign 3W	3	According to §130.0(c)	2	6

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PHF-01-E-12202021-6384 Report Generated at: 2022-04-18 03:04:23

Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 3 of 20			
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022			
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x					
C3. ENERGY USE SUMMARY						
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MMBtu)	Proposed Design Site (MMBtu)	Margin (MMBtu)
Space Heating	--	0.0	--	24.2	24.6	-0.4
Space Cooling	3.1	3.2	-0.1	--	--	--
Indoor Fans	15.0	14.3	0.7	--	--	--
Heat Rejection	--	--	--	--	--	--
Pumps & Misc.	--	--	--	--	--	--
Domestic Hot Water	0.9	1.2	-0.3	7.0	--	--
Indoor Lighting	4.7	5.3	-0.6	--	--	--
Compliance Total	23.7	24.0	-0.3	31.2	24.6	6.6
Receptacle	4.9	4.9	0.0	0.5	0.5	0.0
Process	--	--	--	--	--	--
Other Ltg	--	--	--	--	--	--
Process Motors	--	--	--	--	--	--
TOTAL	28.6	28.9	-0.3	31.7	25.1	6.6

D. EXCEPTIONAL CONDITIONS	
This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-L1-02-6) for the requirements of section 140.6(f) Automatic Daylighting Controls in Secondary Daylit Zones is required.	
The user model includes supply (s) that are designed to be served by mechanical cooling systems, but the cooling systems were not included in the simulation model. A cooling system has been modeled for both the proposed and standard cases.	
The user model includes supply (s) without sufficient cooling equipment. Cooling equipment has been added to the model to meet cooling loads.	

E. HERS VERIFICATION	
This Section Does Not Apply	

CA Building Energy Efficiency Standards- 2019 Nonresidential Compliance Report Version: NRCC-PHF-01-E-12202021-6384 Report Generated at: 2022-04-18 03:04:23

Project Name:	3415 California St TI	NRCC-PHF-01-E	Page 7 of 20									
Project Address:	3415 California St San Francisco 94118	Calculation Date/Time:	03/03, Mon, Apr 18, 2022									
Input File Name:	2849_3415 California St, San Francisco, CA 94118_Energy Analysis_V8_cibd19x											
H2. FAN SYSTEMS SUMMARY¹												
1	2	3	4	5	6	7	8	9	10	11	12	13
Name or Item Tag	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	
	package, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
(N) HVAC System	SZAC	185	750	1.900	862.0	ConstantVolume	NA	NA	NA	NA	NoEconomizer	N
Status: N - New, A - Altered, E - Existing												

H3. EXHAUST FAN SUMMARY											
This Section Does Not Apply											

H4. Wet System Equipment (boilers, chillers, cooling towers, etc.)											
1	2	3	4	5	6	7	8	9	10	11	12
Name or Item Tag	Equipment Type	Qty	Vol (gal)	Rated Capacity (kBtu/h)	Efficiency	Standby Loss	Pumps				Status*
							Qty	GPM	HP	VSD (Y/N)	
Status: N=New, A=Altered, E=Existing											

STATE OF CALIFORNIA
Outdoor Lighting
NRCCLTO-4
CERTIFICATE OF COMPLIANCE
Project Name: 3415 California St T1
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K. LIGHTING ALLOWANCE- SALES PROMOTION
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 table includes areas using the wattage allowance per specific area from Table 160.7.8. More than one specific area allowance may be taken in a single project, if applicable. However, multiple specific area allowances may not be taken for the exact same area on the site.

DT1	DT2	DT3	DT4	DT5	DT6	DT7	DT8	DT9	DT10
Area Description	Specific Area Table per Table 160.7.8	Calculation Allowance (Watts)	Area (sq ft)	Area (sq ft)	Area (sq ft)	Area (sq ft)	Area (sq ft)	Area (sq ft)	Area (sq ft)
Exterior Facade	Building Facade	160	0.17	27.2	0	12	1	12	12
Total Design Watts for this Area:									12
Total Allowance (Watts) All Areas:									12

1 FOOTNOTES: See Table 160.7.8 for rules for calculating the specific area (ft²) for these additional lighting allowances.
2 For luminaires indicated in Table F as these, wattage in column DT is WYS instead of Watts/Luminaire. Total linear feet should be indicated in column DT instead of number of luminaires.

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

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

Registration Date/Time: Report Version: 2019.1.003
Schema Version: rev 20200601

Registration Provider: Energysoft
Report Generated: 2022-04-18 03:09:10

STATE OF CALIFORNIA
Outdoor Lighting
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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/NRC/

Yes	No	Explain Title	Handwritten Note
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-LTO-01-E - Must be submitted for all buildings	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-LTO-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"/>

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/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRC/

Yes	No	Explain Title	Handwritten Note
<input checked="" type="checkbox"/>	<input type="checkbox"/>	NRC-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls are added to <= 20 luminaires.	<input type="checkbox"/>

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

Registration Date/Time: Report Version: 2019.1.003
Schema Version: rev 20200601

Registration Provider: Energysoft
Report Generated: 2022-04-18 03:09:10

STATE OF CALIFORNIA
Outdoor Lighting
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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Viranchi Shah
Signature Date: 4/18/2022
Address: 14730 Beach Blvd.
City/State/Zip: La Mirada CA 90638
Phone: 7148864736

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 design).
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 application 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 and submitted to the building owner at occupancy.

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

Registration Date/Time: Report Version: 2019.1.003
Schema Version: rev 20200601

Registration Provider: Energysoft
Report Generated: 2022-04-18 03:09:10

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY
Project Name: 3415 California St T1
System Name: (N) HVAC System 1
Date: 4/18/2022
Floor Area: 855

ENGINEERING CHECKS	SYSTEM LOAD	COIL COOLING PEAK			COIL HTG. PEAK	
		CFM	Sensible	Latent	CFM	Sensible
Number of Systems: 1		1,008	20,962	2,844	437	17,019
Heating System	Total Room Loads					
Output per System: 30,000	Return Vented Lighting					
Total Output (Btu/h): 30,000	Return Air Ducts					
Output (Btu/h/ft²): 35.1	Return Fan					
Cooling System	Ventilation	138	371	-223	138	4,318
Output per System: 30,000	Supply Fan					
Total Output (Btu/h): 30,000	Supply Air Ducts					
Total Output (Tons): 2.5						
Total Output (Btu/h/ft²): 35.1						
Total Output (eqt/Ton): 342.0	TOTAL SYSTEM LOAD	28,855	2,821			17,172

Air System

CFM per System: 885
Airflow (cfm): 885
Airflow (cfm/ft²): 1.04
Airflow (cfm/ft²): 354.0
Outside Air (ft³): 15.9%
Outside Air (cfm/ft²): 0.18

HVAC EQUIPMENT SELECTION
(N) Carrier 48XP-024060
Total Adjusted System Output (Adjusted for Peak Design conditions)
30,390 735 30,000

Note: values above given at ARI conditions

TIME OF SYSTEM PEAK
Jul 4 PM Jan 1 AM

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

38 °F 63 °F 69 °F 105 °F 104 °F 68 °F

Outside Air 138 cfm Supply Fan 885 cfm Heating Coil ROOM

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

78 / 63 °F 78 / 62 °F 83 / 64 °F 55 / 53 °F 56 / 54 °F 75 / 63 °F

Outside Air 138 cfm Supply Fan 885 cfm Cooling Coil ROOM

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY
Project Name: 3415 California St T1
System Name: (N) HVAC System 1
Date: 4/18/2022
Floor Area: 915

ENGINEERING CHECKS	SYSTEM LOAD	COIL COOLING PEAK			COIL HTG. PEAK	
		CFM	Sensible	Latent	CFM	Sensible
Number of Systems: 1		1,048	21,133	4,016	451	17,469
Heating System	Total Room Loads					
Output per System: 30,000	Return Vented Lighting					
Total Output (Btu/h): 30,000	Return Air Ducts					
Output (Btu/h/ft²): 32.9	Return Fan					
Cooling System	Ventilation	132	99	-972	132	4,121
Output per System: 30,000	Supply Fan					
Total Output (Btu/h): 30,000	Supply Air Ducts					
Total Output (Tons): 2.5						
Total Output (Btu/h/ft²): 32.9						
Total Output (eqt/Ton): 366.1	TOTAL SYSTEM LOAD	26,380	3,043			20,302

Air System

CFM per System: 780
Airflow (cfm): 780
Airflow (cfm/ft²): 0.92
Airflow (cfm/ft²): 300.0
Outside Air (ft³): 17.6%
Outside Air (cfm/ft²): 0.14

HVAC EQUIPMENT SELECTION
(N) Carrier 48XP-024060
Total Adjusted System Output (Adjusted for Peak Design conditions)
30,721 2,500 30,000

Note: values above given at ARI conditions

TIME OF SYSTEM PEAK
Sep 3 PM Jan 1 AM

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

38 °F 62 °F 66 °F 105 °F 104 °F 68 °F

Outside Air 132 cfm Supply Fan 780 cfm Heating Coil ROOM

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

77 / 61 °F 76 / 63 °F 80 / 64 °F 55 / 54 °F 56 / 54 °F 75 / 63 °F

Outside Air 132 cfm Supply Fan 780 cfm Cooling Coil ROOM

T24
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VIRANCHI
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LE 24 ENERGY COMPLIANCE REPORT
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3415 California St T1
ADDRESS: 3415 California St
San Francisco, CA 94118

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