

M-001	MECHANICAL LEGEND AND ABBREVIATIONS
M-002	MECHANICAL SCHEDULES
M-003	MECHANICAL SCHEDULES
MD-201-A	MECHANICAL LEVEL 1 DEMOLITION PLAN - AREA A
MD-201-B	MECHANICAL LEVEL 1 DEMOLITION PLAN - AREA B
MD-201-C	MECHANICAL LEVEL 1 DEMOLITION PLAN - AREA C
MD-202-A	MECHANICAL LEVEL 2 DEMOLITION PLAN - AREA A
MD-202-B	MECHANICAL LEVEL 2 DEMOLITION PLAN - AREA B
MD-202-C	MECHANICAL LEVEL 2 DEMOLITION PLAN - AREA C
MD-203-A	MECHANICAL ROOF DEMOLITION PLAN - AREA A
MD-203-B	MECHANICAL ROOF DEMOLITION PLAN - AREA B
MD-203-C	MECHANICAL ROOF DEMOLITION PLAN - AREA C
MZ-201	MECHANICAL OVERALL LEVEL 1 ZONING PLAN
MZ-202	MECHANICAL OVERALL LEVEL 2 ZONING PLAN
M-201-A	MECHANICAL LEVEL 1 HVAC PLAN - AREA A
M-201-B	MECHANICAL LEVEL 1 HVAC PLAN - AREA B
M-201-C	MECHANICAL LEVEL 1 HVAC PLAN - AREA C
M-201-D	MECHANICAL LEVEL 1 HVAC PLAN - AREA D
M-201-E	MECHANICAL LEVEL 1 HVAC PLAN - AREA E
M-201-F	MECHANICAL LEVEL 1 HVAC PLAN - AREA F
M-201-G	MECHANICAL LEVEL 1 HVAC PLAN - AREA G
M-201-H	MECHANICAL LEVEL 1 HVAC PLAN - AREA H
M-201-I	MECHANICAL LEVEL 1 HVAC PLAN - AREA I
M-201-J	MECHANICAL LEVEL 1 HVAC PLAN - AREA J
M-201-K	MECHANICAL LEVEL 1 HVAC PLAN - AREA K
M-201-L	MECHANICAL LEVEL 1 HVAC PLAN - AREA L
M-202-A	MECHANICAL LEVEL 2 HVAC PLAN - AREA A
M-202-B	MECHANICAL LEVEL 2 HVAC PLAN - AREA B
M-202-C	MECHANICAL LEVEL 2 HVAC PLAN - AREA C
M-202-D	MECHANICAL LEVEL 2 HVAC PLAN - AREA D
M-202-E	MECHANICAL LEVEL 2 HVAC PLAN - AREA E
M-202-F	MECHANICAL LEVEL 2 HVAC PLAN - AREA F
M-202-G	MECHANICAL LEVEL 2 HVAC PLAN - AREA G
M-202-H	MECHANICAL LEVEL 2 HVAC PLAN - AREA H
M-202-I	MECHANICAL LEVEL 2 HVAC PLAN - AREA I
M-202-J	MECHANICAL LEVEL 2 HVAC PLAN - AREA J
M-202-K	MECHANICAL LEVEL 2 HVAC PLAN - AREA K
M-202-L	MECHANICAL LEVEL 2 HVAC PLAN - AREA L
M-203-A	MECHANICAL ROOF PLAN - AREA A
M-203-B	MECHANICAL ROOF PLAN - AREA B
M-203-C	MECHANICAL ROOF PLAN - AREA C
M-501	MECHANICAL DETAILS
M-502	MECHANICAL DETAILS

1. ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS PRIOR TO ANY CONSTRUCTION.
2. IF ANY STRUCTURAL CONFLICTS ARE DETECTED PRIOR TO ANY ELECTRICAL WORK, DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY ACHORD AGREEMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND AT NO EXPENSE TO THE OWNER.
3. ALL SYMBOLS AND ABBREVIATIONS USED ON THE DRAWINGS ARE CONSIDERED TO BE CONSTRUCTION STANDARDS. IF CLARIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
4. DO NOT SCALE DRAWINGS. ALL DIMENSIONS AND JOB SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR AT THE JOB SITE PRIOR TO SUBMITTAL. START OF CONSTRUCTION AND/OR FABRICATION OF MATERIALS. IF DISCREPANCIES ARE DETECTED PRIOR TO ANY ELECTRICAL WORK, DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE START OF CONSTRUCTION.
5. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, EQUIPMENT, TRANSPORTATION AND SERVICES NECESSARY FOR A FULLY OPERATIONAL SYSTEM. ALL MATERIALS AND WORK SHALL COMPLY WITH APPLICABLE CODES AND GOVERNMENT REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND REPAIR OF ADJACENT EXISTING SURFACES AND AREAS WHICH MAY BE DAMAGED AS A RESULT OF DEMOLITION AND/OR NEW WORK.
6. ALL EQUIPMENT THAT IS REMOVED AND NOT REUSED SHALL BE RETURNED TO THE BUILDING OWNER.
7. ALL EXISTING DUCT TAPS THAT ARE REMOVED AND NOT REUSED SHALL BE CAPPED AIRTIGHT AND SEALED WITH MINERAL WOOL INSULATION.
8. VERIFY FINAL LOCATION OF THERMOSTATS WITH ARCHITECT AND/OR TENANT CONSTRUCTION COORDINATOR PRIOR TO ANY INSTALLATION WORK. UNLESS OTHERWISE NOTED, THERMOSTATS SHALL BE LOCATED, 48" A.F.F. FROM THE CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR TENDRONS TO TENANT CONSTRUCTION COORDINATOR OR ARCHITECT AT COMPLETION OF TENANT CONSTRUCTION.
9. MAINTAIN FREE AREA EQUAL TO DUCT SIZE WHERE FIRE DAMPERS OCCUR.
10. ROOM THERMOSTATS SHALL BE CAPABLE OF BEING SET TO MAINTAIN SPACE SET POINTS FOR 55° AND 65° F. ROOMS SHALL BE SHOWN WITH THERMOSTAT LOCATIONS IN SEQUENCE. THERMOSTATS SHALL BE ADJUSTABLE TO PROVIDE A TEMPERATURE RANGE OF UP TO 7° F BETWEEN FULL HEATING AND FULL COOLING BEING SUPPLIED. TEMPERATURE CONTROL SYSTEM SHALL OPERATE IN ACCORDANCE WITH THE BASE BUILDING SEQUENCE OF OPERATION.
11. PROVIDE MINIMUM DUCT RADIUS ON ELBOWS AT 1-1/2 TIMES DUCT SIZE.
12. ALL CEILING DIFFUSERS ARE 4-WAY THRU UNLESS NOTED OTHERWISE.
13. CONTRACTOR SHALL STRICTLY COORDINATE ALL CEILING DIFFUSERS AND GRILLES WITH ARCHITECTURAL REFLECTED CEILING PLAN. IF ANY DISCREPANCIES ARE ENCOUNTERED THE ENGINEER SHALL BE NOTIFIED FOR CLARIFICATION.
14. RETURN AIR PLENUM SHALL NOT CONTAIN ANY COMBUSTIBLES.
15. MATERIALS EXPOSED WITHIN DUCT OR PLENUM SHALL COMPLY WITH SECTION 602.2 AND 605.0 OF THE 2016 CMCA. ALL MATERIALS EXPOSED WITHIN DUCT SHALL HAVE A FLAME-SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING OF NOT MORE THAN 50.
16. PROVIDE SMOKE DETECTORS IN MAIN SUPPLY AIR DUCTS OF AIR MOVING SYSTEMS EXCEEDING 2,000 CFM PER SECTION 606.0 OF THE CMCA.
17. MECHANICAL SYSTEMS SHALL COMPLY WITH REQUIREMENTS OF 2016 CFC SECTION 606.
18. VENTS SHALL NOT TERMINATE LESS THAN 3-FT. ABOVE ANY OUTSIDE-OR MAKEUP-AIR INLET LOCATED WITHIN 10-FT. AT THE ROOF LEVEL. PER CMCA 806.6.
19. ALL CEILING SPRINKLER SYSTEMS SHALL BE LOCATED IN PLENUM AREAS, STAIRWELL, RECEPTION LOBBY, EXISTING CORRIDORS AND ELEVATOR MACHINE ROOM.
20. COORDINATE CEILING ACCESS PANEL LOCATION WITH ARCHITECT.
21. PRIOR TO ROUGH-IN OF ELEC. PROVIDE COORDINATION SHOP DRAWINGS OF T-STAY LOCATIONS TO ARCH/ENG. FOR REVIEW.
22. CONTRACTOR SHALL SUBMIT SAMPLE THERMOSTATS TO ARCH/ENG. FOR REVIEW.
23. ALL CONTROL WIRING ROUTED IN CEILING PLenum SHALL BE CLEARLY IDENTIFIED & SECURED TO DUCTWORK OR TIGHT TO STRUCTURE TO PREVENT DAMAGE DURING FUTURE TENANT IMPROVEMENT PROJECTS.
24. ALL DUCT AND SUPPORTING SYSTEMS SHALL COMPLY WITH CURRENT SMACNA STANDARDS FOR FABRICATION AND INSTALLATION.

SHEET INDEX	SCALE	5
	NONE	

GENERAL NOTES	SCALE	2
	NONE	

[illegible]

1. HVAC; REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CFCS OR HALONS. (CALGREEN 5.508.1)
2. PROVIDE MERV 8 (OR BETTER) FILTRATION FOR MECHANICALLY VENTILATED SPACES, OUTSIDE AIR, AND RETURN AIR. (CALGREEN 5.504.3)
3. DURING COMMISSIONING IS ONLY REQUIRED FOR NEW BUILDINGS 10,000SF AND GREATER. (CALGREEN 5.410.2)
4. ALL ENVELOPE AND MECHANICAL CERTIFICATE OF ACCEPTANCE FORMS AND ALL RELATED ACCEPTANCE DOCUMENTS SHALL BE SUBMITTED TO THE FIELD INSPECTOR DURING CONSTRUCTION. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THESE FORMS ARE REVIEWED AND APPROVED. PER CALGREEN 5.714.4
5. PERMANENT HVAC SYSTEMS SHALL ONLY BE USED DURING CONSTRUCTION IF NECESSARY TO CONDITION THE BUILDING WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. THE HVAC SYSTEMS SHALL BE USED DURING CONSTRUCTION. USE RETURN AIR FILTERS WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8, BASED ON ASHRAE 52.2 (MERV) OR AVERAGE EFFICIENCY OF 30% BASED ON ASHRAE 52.1 1992. REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY.
6. DURING CONSTRUCTION (AT TIME OF INSTALLATION AND WHILE BEING STORED ON SITE) AND UNTIL FINAL STARTUP OF HEATING AND COOLING EQUIPMENT, ENDS OF DUCT OPENINGS ARE TO BE SEALED, AND MECHANICAL EQUIPMENT IS TO BE COVERED PER CALGREEN SECTION 5.714.4.3.
7. ALL ADHESIVES, SEALANTS, CAULKS, PAINTS AND COATINGS, AEROSOL PAINTS AND COATINGS SHALL BE IDENTIFIED WITH VOC CONTENTS PER CALGREEN 5.714.4.3
8. A COMPLETE REPORT OF COMMISSIONING PROCESS ACTIVITIES UNDERTAKEN DURING THE DESIGN, CONSTRUCTION, AND REPORTING RECOMMENDATIONS FOR POST-CONSTRUCTION PHASES OF THE BUILDING PROJECT SHALL BE COMPLETED AND PROVIDED TO THE OWNER OR REPRESENTATIVE.

CALGREEN NOTES	SCALE	3
	NONE	

1. ANY APPLIANCE FOR WHICH THERE IS A CALIFORNIA STANDARD ESTABLISHED IN THE APPLIANCE EFFICIENCY STANDARDS MAY BE INSTALLED ONLY IF THE MANUFACTURER HAS CERTIFIED TO THE COMMISSION AS SPECIFIED IN THOSE REGULATIONS, THAT THE APPLIANCE COMPLIES WITH THE APPLICABLE STANDARD FOR THAT APPLIANCE.
2. PIPING AND DUCTING SYSTEMS SHALL BE INSULATED IN ACCORDANCE WITH THE SECTIONS 120.3, 120.4, 120.7 OF TITLE 24, PART 6, CHAPTER 6 OF THE 2019 CMCS, AND ALL CODES HAVING JURISDICTION.
3. ALL HVAC SYSTEMS SHALL MEET THE CONTROL REQUIREMENTS PER SECTION 110.2 AND 120.2.E.5.
4. ALL HVAC EQUIPMENT AND APPLIANCES SHALL MEET THE REQUIREMENTS PER SECTION 110.1-110.3, 110.5, 120.1-120.7, TITLE 24, PART 6, CHAPTER 6.
5. EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH AN AUTOMATIC TIME SWITCH WITH AN ACCESSIBLE MANUAL OVERRIDE THAT ALLOWS OPERATION OF THE SYSTEM DURING OFF-HOURS FOR UP TO 4 HOURS. THE TIME SWITCH SHALL BE CAPABLE OF PROGRAMMING DIFFERENT SCHEDULES FOR WEEKDAYS AND WEEKENDS, INCLUDING PERIODS OF SUPPLEMENTARY HEATING OR COOLING. THE TIME SWITCH SHALL LOCK OUT FOR AT LEAST 24 HOURS, THEN RESUMES THE NORMALLY SCHEDULED OPERATION, AND HAS PROGRAM BACKUP CAPABILITIES THAT PREVENT THE LOSS OF THE DEVICE'S PROGRAM AND TIME SETTING FOR AT LEAST 12 HOURS IF POWER IS LOST.
6. EACH SPACE CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS THAT TEMPORARILY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN A SETBACK HEATING AND COOLING THERMOSTAT SETPOINT.
7. EACH SPACE CONDITIONING ZONE SHALL BE CONTROLLED BY AN INDIVIDUAL THERMOSTATIC CONTROL THAT RESPONDS TO TEMPERATURE WITHIN THE ZONE. WHERE USED TO CONTROL HEATING, THE CONTROL SHALL BE ADJUSTABLE DOWN TO 55° F OR LOWER. FOR COOLING, THE CONTROL SHALL BE ADJUSTABLE UP TO 65° F OR HIGHER. THE CONTROL SHALL BE CAPABLE OF PROVIDING A DEAD BAND AT LEAST 5° F WITHIN WHICH THE SUPPLY OR HEATING AND COOLING SHUT OFF TO PREVENT THE SYSTEM FROM CYCLING TO A MINIMUM.
8. THERMOSTATS SHALL HAVE NUMERIC SETPOINTS IN °F.
9. THERMOSTATS SHALL HAVE ADJUSTABLE SETPOINT STOPS ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL.
10. HEAT PUMPS SHALL BE INSTALLED WITH CONTROLS TO PREVENT ELECTRIC RESISTANCE SUPPLEMENTARY HEATER OPERATION WHEN THE HEATING LOAD CAN BE MET BY THE HEAT PUMP ALONE. ELECTRIC RESISTANCE SUPPLEMENTARY HEATER OPERATION SHALL BE LIMITED TO SHORT PERIODS OF TIME SUCH AS START-UPS AND FOLLOWING ROOM THERMOSTAT SETPOINT AVOIDANCE, WHEN CONTROLS ARE PROVIDED WHICH USE PREFERENTIAL RATE CONTROL. INTELLIGENT RECOVERY, STAGING, RAMPING, OR SIMILAR CONTROL MECHANISMS ARE PERMITTED TO PRELUDE THE USE OF SUPPLEMENTARY HEATING. SUPPLEMENTARY HEATING DURING THE RECOVERY PERIOD. SUPPLEMENTARY HEATER OPERATION IS ALSO PERMITTED DURING THE RESTART.
11. GRAVITY OR AUTOMATIC DAMPERS INTERLOCKED AND CLOSED ON FAN SHUTDOWN SHALL BE PROVIDED ON THE OUTSIDE AIR INTAKES AND DISCHARGES OF ALL SPACE CONDITIONING AND EXHAUST SYSTEMS.
12. ALL GRAVITY VENTILATING SYSTEMS SHALL BE PROVIDED WITH AUTOMATIC OR READILY ACCESSIBLE MANUALLY OPERATED DAMPERS IN ALL OPENINGS TO THE OUTSIDE, EXCEPT FOR COMBUSTION AIR OPENINGS.
13. ALL BALANCING - ALL SPACE CONDITIONING AND VENTILATION SYSTEMS SHALL BE BALANCED TO THE QUANTITIES SPECIFIED IN THESE PLANS. IN ACCORDANCE WITH AND PERFORMED BY A COMPANY CERTIFIED BY THE NATIONAL FAN BALANCING BUREAU (NFB) PROGRAM, CURRENT STANDARDS (LATEST APPLICABLE VERSION), ASSOCIATED AIR BALANCE COMPANY (AABC) NATIONAL STANDARDS (LATEST APPLICABLE VERSION), TESTING, ADJUSTING AND BALANCE BUREAU (TABB) NATIONAL STANDARDS (LATEST APPLICABLE VERSION).
14. OUTSIDE AIR CERTIFICATION - THE SYSTEM SHALL PROVIDE THE MINIMUM OUTSIDE AIR AS SHOWN ON THE MECHANICAL DRAWINGS, AND SHALL BE MEASURED AND CERTIFIED BY THE INSTALLING LICENSED C-20 MECHANICAL CONTRACTOR.
15. THE AIR CONDITIONING SYSTEM SHALL BE ENERGIZED 1 HOUR IMMEDIATELY PRIOR TO OCCUPANCY TO PROVIDE THE MINIMUM REQUIRED VENTILATION RATE.
16. ALL MECHANICAL CERTIFICATE OF ACCEPTANCE FORMS AND ALL RELATED ACCEPTANCE DOCUMENTS SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW. THE CITY ENGINEER'S CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL THESE FORMS ARE REVIEWED AND APPROVED.

[illegible]

TITLE 24 MANDATORY MEASURES	SCALE NONE	4
-----------------------------	---------------	---

SYMBOL	ABBR.	DESCRIPTION
	P.O.C.	POINT OF CONNECTION
		REMOVE EXIST. EQUIP. OR PIPES SHOWN HATCHED
		DUCT RISE / DUCT DROP
		STAINLESS STEEL DUCTWORK
		DUCT WITH SOUND INSULATION
		DUCT SECTION - SUPPLY
		DUCT SECTION - RETURN
		DUCT SECTION - EXHAUST
	D.L./U.C.	DOOR LOUVER OR UNDERCUT
		ROOM THERMOSTAT & ZONE NUMBER
		SWITCH NUMBER
	D.	AUTOMATIC DAMPER
	V.D.	MANUAL VOLUME DAMPER
	F.D.	FUSIBLE LINK FIRE DAMPER
	S.F.D.	COMBINATION SMOKE & FIRE DAMPER
		PIPE ANCHOR
	S.D.	SMOKE DETECTOR
	A.D.	ACCESS DOOR
	A.F.F.	ABOVE FINISHED FLOOR
	A.P.	ACCESS PANEL
	C.D.	CEILING DIFFUSER
	C.A.	COMBUSTION AIR
	C.D.W.	CONDENSER WATER
	D.T.R.	DOWN THRU ROOF
	E.A.	EXHAUST AIR
	E.A.G.	EXHAUST AIR GRILLE
	E.A.R.	EXHAUST AIR REGISTER
	H.O.A.	HAND - OFF - AUTOMATIC
	N.C.	NORMALLY CLOSED
	N.O.	NORMALLY OPEN
	N.I.C.	NOT IN CONTRACT
	M.A.	MAKE-UP AIR
	O.A.	OUTSIDE AIR
	RE. A.	RELIEF AIR
	RE. A. G.	RELIEF AIR GRILLE
	R.A.	RETURN AIR
	R.A.G.	RETURN AIR GRILLE
	R.A.R.	RETURN AIR REGISTER
	S.A.	SUPPLY AIR
	S.A.G.	SUPPLY AIR GRILLE
	S.A.R.	SUPPLY AIR REGISTER
	S.I.	SOUND INSULATION
	T.	THROAT
	U.C.	UNDERCUT
	U.N.O.	UNLESS NOTED OTHERWISE
	U.T.R.	UP THRU ROOF
	V.T.R.	VENT THRU ROOF
	W.M.S.	WIRE MESH SCREEN
	W.S.H.P.	WATER SOURCE HEAT PUMP
		NEW CEILING DIFFUSER OR RETURN AIR GRILLE
		RELOCATED EXIST. DIFFUSER OR RETURN AIR GRILLE
		EXIST. DIFFUSER OR RETURN AIR GRILLE TO REMAIN OR TO BE RELOCATED
		EXIST. DIFFUSER OR RETURN AIR GRILLE TO BE REMOVED
		NEW THERMOSTAT
		EXIST. THERMOSTAT TO BE RELOCATED
	REL	RELOCATED
	REB	REBALANCED
	E	EXISTING
		EXIST. MECHANICAL EQUIPMENT
		EXIST. DUCTWORK TO BE REMOVED & CAPPED
		REMOVE EXISTING DUCT AND REPLACE WITH SIZE AS INDICATED.
	M	FURNISHED & INSTALLED BY MECHANICAL
	ME	FURNISHED BY MECHANICAL INSTALLED BY ELECTRICAL
	EM	FURNISHED BY ELECTRICAL INSTALLED BY MECHANICAL
	E	FURNISHED & INSTALLED BY ELECTRICAL
		CEILING DIFFUSER / RETURN / EXHAUST
		TYPE AIR QUANTITY (C.F.M.)

KEY PLAN

REVISIONS[illegible]

CLIENT LOGO

PROJECT NO. 17342

SCALE AS SHOWN

TITLE _____

MECHANICAL LEGEND AND ABBRIVIATIONS

M-001