OR531777--51697 P1 S2 - R C CONSTRUCTION SERVICES - PG 146 OF 235 (P1 S2) 1 SET.TIF - 2/3/2010 - 15:34

ABBREVIATIONS

ETR	EXISTING TO REMAIN
R.A.	RETURN AIR
S.A.	SUPPLY AIR
NTS	NOT TO SCALE
ABV.	ABOVE
AC, A/C	AIR CONDITIONING
A.F.F.	ABOVE FINISHED FLOOR
BEL	BELOW
DN	DOWN
EF	EXHAUST FAN
EA	EXHAUST AIR
FLR	FLOOR
W/, W/O	WITH, WITHOUT
N.I.C.	NOT IN CONTRACT
OBD	OPPOSED BLADE DAMPER
U/C	UNDER CUT
U.T.R.	UP THROUGH ROOF
V.T.R.	VENT THROUGH ROOF
O.S.A.	OUTSIDE AIR
W.G.	WATER GAUGE
B.D.D.	BACKDRAFT DAMPER
SIM.	SIMILAR

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS MAY BE USED ON THIS PROJECT.

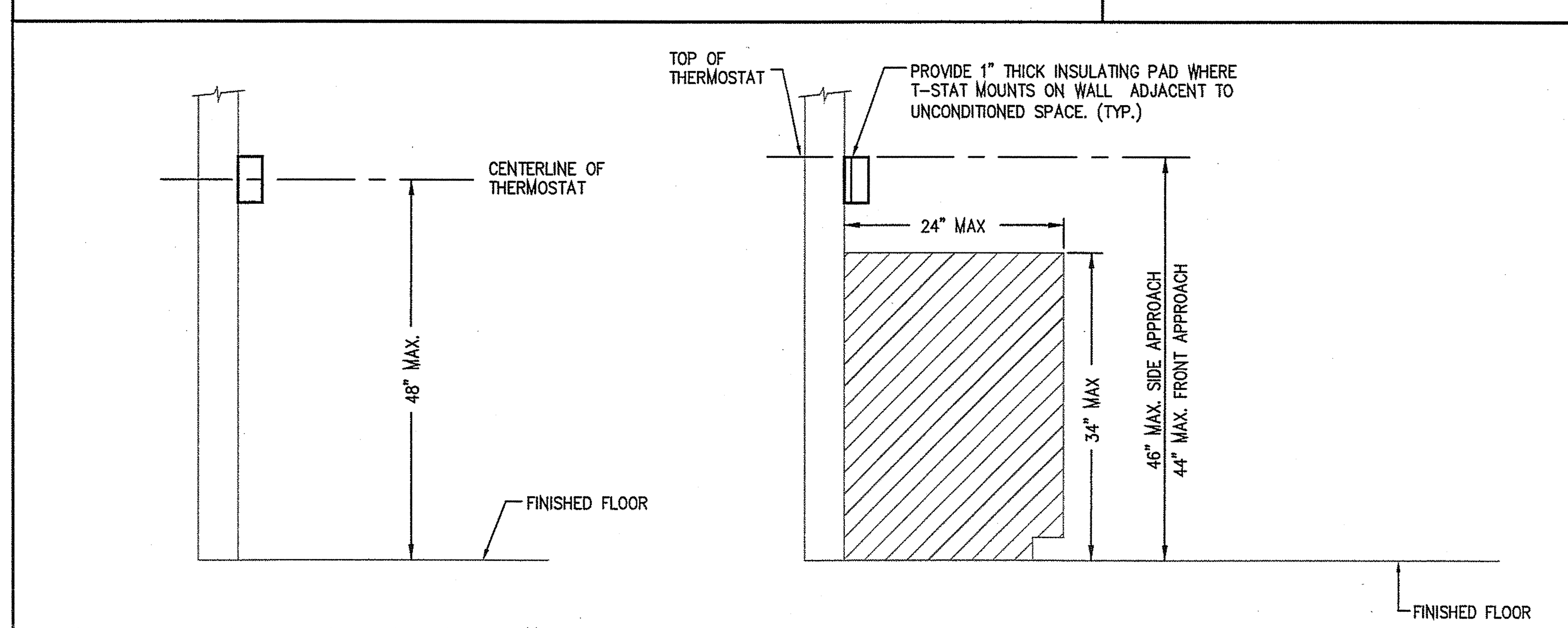
SYMBOLS LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
		SUPPLY AIR REGISTER/ GRILLE
		RETURN AIR REGISTER/ GRILLE
		EXHAUST AIR REGISTER/ GRILLE
		DUCT RISE
		DUCT DROP
		TRANSITION FROM SQUARE TO ROUND
		ACCESS DOOR/HATCH
SD	SD	SMOKE DETECTOR, DUCT TYPE SYSTEM
T		THERMOSTAT, REFER TO DET. 1 THIS SHEET
	P.O.C. / P.O.R.	POINT OF CONNECTION / POINT OF REMOVAL
	SOV	ISOLATION VALVE, SHUT OFF VALVE
XX / XX		EQUIPMENT IDENTIFICATION / EQUIPMENT NUMBER
M		FURNISHED & INSTALLED BY MECHANICAL
ME		FURNISHED BY MECHANICAL INSTALLED BY ELECTRICAL
EM		FURNISHED BY ELECTRICAL INSTALLED BY MECHANICAL
E		FURNISHED & INSTALLED BY ELECTRICAL
	FD	FIRE DAMPER
	SFD	COMBINATION SMOKE / FIRE DAMPER
WxD		DUCT (1ST FIGURE, SIDE SHOWN 2ND FIGURE, SIDE NOT SHOWN.)(WIDTHxDEPTH)
		ACOUSTICAL LINING DUCT DIMENSIONS SHOWN NET FREE AREA. (EX. 10"x10"" DUCT WITH 1-1/2" INTERNAL LINING = 13"x13" OUTSIDE DIMENSION)
		DIRECTION OF FLOW
R		INCLINED RISE (R) OR DROP (D). ARROW IN DIRECTION OF AIR FLOW.
		DUCT TRANSITIONS
S R		STANDARD BRANCH FOR SUPPLY & RETURN. (NO SPLITTER)
		VOLUME DAMPER. (MANUAL OPERATION, LOCKING QUADRANT)
		TURNING VANES
		FLEX DUCT
	B.D.D.	BACKDRAFT DAMPER

NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT.

FIRE SPRINKLER/ SERVICE NOTES:

1. PLANS SHALL BE DESIGNED BY THE "INSTALLING" LICENSED CONTRACTOR (C-16, C-34, C-36, OR GENERAL ENGINEERING CONTRACTOR) OR BY A REGISTERED PROFESSIONAL ENGINEER (CIVIL, MECHANICAL, OR FIRE PROTECTION), LICENSED BY THE STATE OF CALIFORNIA (BOARD OF PROFESSIONAL ENGINEERS). (BUSINESS & PROFESSIONS CODE).
2. INSTALLATION SHALL BE IN ACCORDANCE WITH PLANS AND SPECIFICATIONS "APPROVED" BY THE AUTHORITY HAVE JURISDICTION. (AHJ'S) (NFPA-13, 1-4).
3. INSTALLATON WORK SHALL BE PERFORMED BY FULLY EXPERIENCED AND RESPONSIBLE PERSON. (NFPA-24, 2-6).
4. FIRE DEPARTMENT CONNECTION HOSE CONNECTIONS SHALL BE OF AN APPROVED TYPE, PROPERLY SUPPORTED, AND LOCATED WITHOUT INTERFERENCE FROM NEARBY OBSTRUCTIONS AND ON THE STREET SIDE OF THE BUILDING(S) WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ'S). (NFPA-24, 2-6.10).
5. FIRE DEPARTMENT CONNECTIONS SHALL BE IDENTIFIED BY A SIGN HAVING RAISED LETTERS AT LEAST 1" IN SIZE, CAST ON A PLATE OR FITTING ("AUTO SPKR", "OPEN SPKR", "STANDPIPE"), ETC. (NFPA-24, 2-6.10).
6. PIPING SHALL BE "LISTED" FOR FIRE PROTECTION SERVICE AND COMPLY WITH AWWA STANDARDS, WHERE APPLICABLE. (NFPA-24, 7-1.1)
7. FITTINGS SHALL BE OF AN "APPROVED" TYPE. (NFPA-13, 7-4), REFER TO CIVIL PLANS FOR FIRE SUPPLY PIPING.
8. CONTROL VALVES SHALL BE "LISTED" INDICATING TYPE UNLESS A NON-INDICATING VALVE, SUCH AS AN UNDERGROUND GATE VALVE WITH APPROVED ROADWAY BOX COMPLETE WITH T-WRENCH, IS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION (AHJ'S) (NFPA-24, 8-9.4.2).
9. POST INDICATING VALVES (P.I.V.) SHALL BE TESTED TO ENSURE THAT THE "TARGETS" (OPEN, CLOSED) ARE CLEARLY IDENTIFIED WHEN VALVE IS OPENED AND CLOSED. (NFPA-24, 8-9.4.2).
10. UNDERGROUND PIPING SHALL BE FLUSHED AT THE MINIMUM WATER DEMAND RATE OF THE SYSTEM, OR WHEN SUCH RATE IS NOT VERIFIED OR MET, PIPING SHALL BE FLUSHED AT THE MAXIMUM FLOW RATE AVAILABLE TO THE SYSTEM UNDER FIRE CONDITIONS. (NFPA-24, 8-8.2).
11. PRIVATE FIRE SERVICE MAINS SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI PRESSURE FOR TWO HOURS, OR AT 50 PSI IN EXCESS OF THE MAXIMUM STATIC PRESSURE WHEN THE MAXIMUM STATIC PRESSURE IS IN EXCESS OF 150 PSI. (NFPA-24, 8-9.3.1) IN ACCORDANCE WITH NFPA 25 - CERTIFICATE OF COMPLETION FOR UNDERGROUND PIPING.
12. TESTS SHALL BE MADE BY THE INSTALLING CONTRACTOR IN THE PRESENCE OF THE AUTHORITY HAVE JURISDICTION (AHJ'S) OR THE REPRESENTATIVE OF THE OWNER. NOTE: AHJ'S SHOULD MAKE KNOWN IF THEY DESIRE TO BE PRESENT. (NFPA-24, 8-9.3.4).
13. PROVIDE A MINIMUM ORDINARY I HAZARD SYSTEM FOR COVERAGE OF MECHANICAL EQUIPMENT ROOM AREAS.
14. PROJECTIONS SHALL BE SPRINKLER PROTECTION. (CANOPY, AND PASSAGEWAYS).



NOTES: REFER TO ARCHITECTURAL FOR ADDITIONAL INFORMATION.

TYPICAL ACCESSIBLE THERMOSTAT MOUNTING DETAIL

SCALE: NONE — 1

DSA NOTES

1. AIR FILTERS SHALL BE A STATE FIRE MARSHALL APPROVED AND LISTED TYPE. PRE-FORMED FILTERS HAVING COMBUSTIBLE FANNING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS IN ALL OCCUPANCIES SHALL BE CLASS 2 OR BETTER (AS SHOWN IN STATE FIRE MARSHALL LISTING). ALL FILTERS SHALL BE ACCESSIBLE TO CLEANING OR REPLACEMENT, AND BE OF A STANDARD SIZE.
2. ALL DUCTWORK SHALL BE SUPPORTED IN ACCORDANCE WITH THE STANDARDS SET FORTH IN 2001 CALIFORNIA MECHANICAL CODE TABLE 6-5 (CMC).
3. ALL DUCTWORK AND PIPING SHALL BE SEISMICALLY BRACED PER SMACNA SEISMIC RESTRAINT GUIDELINES, 2000 SUPPLEMENT, CONNECTION LEVEL "AA". (TYP.)
4. A COPY OF THE SEISMIC GUIDELINES PUBLISHED BY SMACNA AND APPROVED BY DSA SHALL BE PROVIDED BY THE CONTRACTOR AND KEPT ON THE JOB SITE AT ALL TIMES.
5. WHERE BRACING DETAILS ARE NOT SHOWN ON THE DRAWINGS OR IN THE GUIDELINES, THE FIELD INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT, STRUCTURAL ENGINEER AND DSA FIELD ENGINEER.
6. ALL EXPANSION ANCHORS REQUIRE SPECIAL INSPECTION. SEE STRUCTURAL DRAWINGS.
7. SYSTEMS PROVIDING HEATING OR COOLING AIR IN EXCESS OF 2000 CFM TO ENCLOSED SPACES WITHIN BUILDINGS SHALL BE EQUIPPED WITH AN AUTOMATIC SHUTOFF. AUTOMATIC SHUTOFF SHALL BE ACCOMPLISHED BY INTERRUPTING THE POWER SOURCE OF THE AIR-MOVING EQUIPMENT UPON DETECTION OF SMOKE IN THE MAIN SUPPLY AIR DUCT SERVED BY SUCH EQUIPMENT. SMOKE DETECTORS SHALL DETECT PRODUCTS OF COMBUSTION OTHER THAN HEAT AND SHALL COMPLY WITH THE CALIFORNIA BUILDING CODE AND SHALL BE LABELED BY AN APPROVED AGENCY FOR AIR DUCT INSTALLATION. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. SUCH DEVICES SHALL BE COMPATIBLE WITH THE OPERATING VELOCITIES, PRESSURES, TEMPERATURES, AND HUMIDITIES OF THE SYSTEM. THE SMOKE DETECTORS REQUIRED SHALL BE SUPERVISED BY THE FIRE ALARM SYSTEM AND SHALL ACTIVATE THE FIRE ALARM SYSTEM (SECTION 609, CMC). ALL DUCT DETECTORS SHALL COMPLY WITH NFPA 72. ALL DUCT DETECTORS SHALL BE INSTALLED WITHIN THE BUILDING ENVELOPE. DUCT DETECTORS ARE NOT RATED FOR EXTERIOR INSTALLATIONS. (TYP.)
8. FIRE STOPPING SEALANT COMPLYING WITH THE CBC SHALL BE USED ON ALL COMPONENTS PENETRATING RATED ASSEMBLIES.
9. INSULATION APPLIED TO THE EXTERIOR SURFACE OF DUCTS SHALL HAVE A FLAME-SPREAD RATING OF NOT MORE THAN 25 AND A SMOKE-DENSITY RATING OF NOT MORE THAN 50 WHEN TESTED AS A COMPOSITE ASSEMBLY INCLUDING INSULATION, FACING MATERIALS, TAPES AND ADHESIVES AS NORMALLY APPLIED (SEC. 605.0, CMC).
10. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CHANGE ORDER, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
11. ALL SMOKE/FIRE DAMPERS SHALL BE A STATE FIRE MARSHAL APPROVED AND LISTED TYPE. INSTALLED STRICTLY IN ACCORDANCE WITH MANUFACTURE'S INSTRUCTIONS. MANUFACTURE'S INSTRUCTIONS SHALL BE MADE AVAILABLE TO THE INSPECTING AUTHORITY. DETAILS SHOWN ARE FOR REFERENCE ONLY.
12. CORRIDORS SHALL NOT BE USED TO CONVEY AIR TO OR FROM ROOMS IF THE CORRIDOR IS REQUIRED TO BE OF FIRE RESISTIVE CONSTRUCTION. (SEC 602.1 CMC)
13. INSTALL ALL THERMOSTATS AT 4'-0" ABOVE FINISHED FLOOR WHERE INDICATED ON THE DRAWINGS OR AS DIRECTED BY THE ARCHITECT. SEE DETAIL 1, THIS SHEET.
14. ANY AND ALL DEVIATIONS IN CONSTRUCTION METHODS FROM THESE DSA APPROVED CONSTRUCTION DOCUMENTS SHALL BE SUBMITTED TO DSA FOR APPROVAL IN ACCORDANCE WITH SECTION 4-338, PART 1, TITLE 24, CCR. ALL COSTS ASSOCIATED WITH THESE SUBMITTALS SHALL BE BORNE BY THE CONTRACTOR. (TYP.)
15. PROVIDE THROUGH-PENETRATION FIRE STOPS IN ACCORDANCE WITH 2001 CBC CHAPTER 7.
16. CONTRACTOR SHALL TEST ALL EXISTING FIRE ASSEMBLIES FOR FUNCTIONALITY. REPLACE ALL FUSIBLE LINKS ON ALL FUNCTIONAL ASSEMBLIES WITH NEW. ALL ASSEMBLIES FOUND NONFUNCTIONAL SHALL BE REPLACED WITH A COMBINATION FIRE/SMOKE DAMPER AND ASSOCIATED DUCT DETECTORS.

DDC CONTROLS NOTES

1. ALL CONTROLS AND CONTROLS INSTALLATION SHALL INTERFACE AND FULLY INTEGRATE WITH EXISTING STANDARD SYSTEM: TELETROL DISTRICT STANDARD RECONNECT ALL EXISTING BUILDINGS AND CONTROLS COMPONENTS TO NEW SYSTEM. FIELD VERIFY EXACT REQUIREMENTS PRIOR TO SUBMISSION OF BID.
2. THERMOSTATS AND TEMPERATURE SENSORS LOCATED ON EXTERIOR WALLS OR ADJACENT TO UNCONDITIONED SPACES SHALL BE MOUNTED ON 1" THICK FIBERGLASS OR CORK PAD.
3. LOW VOLTAGE CONTROL WIRING AND CONDUIT FOR MECHANICAL EQUIPMENT SHALL BE PROVIDED AND INSTALLED BY THE CONTROLS CONTRACTOR. LINE VOLTAGE WIRE AND CONDUIT SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. MECHANICAL CONTROL CONDUCTORS SERVING DEVICES, INCLUDING BUT NOT LIMITED TO TEMPERATURE SENSORS, CONTROL ACTUATORS AND DDC PANELS CONCEALED IN WALLS SHALL BE RUN IN CONDUIT, BY CONTROLS CONTRACTOR. SEE SPECIFICATIONS FOR FURTHER INFORMATION. (TYP.)
4. PROVIDE AND INSTALL DUCT STATIC PRESSURE TRANSMITTERS AND DIFFERENTIAL PRESSURE TRANSMITTERS, AT END OF DUCTWORK OR PIPE LOOP, PRIOR TO LAST VAV BOX AT THE FURTHEST POINT FROM THE AIR SOURCE. DO NOT INSTALL ANY TRANSMITTERS AT 2/3 OF THE WAY DOWN THE SYSTEM. (TYP.)
5. ALL CONTROLS SHALL BE WEB BASED ON THIS PROJECT. PROVIDE A FULL ACCESS USER ACCOUNT AND PASSWORD TO THE ENGINEER AS REQUIRED FOR CONTROLS TESTING AND COMMISSIONING DURING PROJECT STARTUP.

EQUIPMENT NOTES

1. PROVIDE AND INSTALL VARIABLE PITCH DRIVES/PULLEYS, FOR FAN MOTORS. RE-SHEAVE FANS AS REQUIRED TO DELIVER AIR QUANTITIES SHOWN ON EQUIPMENT SCHEDULES.
2. CONTRACTOR SHALL PROVIDE AND INSTALL VARIABLE SPEED DRIVES AND ASSOCIATED ELECTRONIC AND CONTROL COMPONENTS FOR THE SPECIFIED MECHANICAL EQUIPMENT. ALL DRIVES SHALL BE INSTALLED IN NEMA 3R ENCLOSURES REGARDLESS OF LOCATION.
3. ALL FAN SYSTEMS EXHAUSTING AIR FROM THE BUILDING SHALL BE PROVIDED WITH BACKDRAFT DAMPERS.
4. PROVIDE AND INSTALL FLEXIBLE DUCT CONNECTIONS ON ALL FAN OUTLETS AND INLETS. MAINTAIN A MINIMUM OF 1" OF MOVEMENT IN FLEXIBLE CONNECTIONS TO ISOLATE CONNECTED DUCTWORK FROM THE EQUIPMENT. (TYP.)

FIRE PROTECTION DEFERRED APPROVAL SUBMITTAL REQUIREMENTS

1. SUBMIT DSA APPROVED FIRE WATER SUPPLY PLAN(S).
2. SUBMIT UNDERGROUND PIPING MATERIALS AND TEST CERTIFICATE.
3. SUBMIT CURRENT WATER AVAILABILITY REPORT FROM WATER PURVEYOR (9 MONTHS OF / FROM DEFER SUBMITTAL).
4. SUBMIT MATERIAL LISTS OF ALL COMPONENTS TO BE STAMPED AND SIGNED BY C-16 CONTRACTOR.
5. SUBMIT MANUFACTURE WATER FLOW DATA FOR BACKFLOW DOUBLE DETECTOR CHECK AND / OR WATER METER FOR FIRE SERVICE.
6. ARCHITECT OF RECORDS, MECHANICAL ENGINEER AND FIRE PROTECTION CONTRACTOR (C-16) SHALL SEAL STAMP AND SIGN ALL DRAWINGS.

PIPING NOTES

1. CONDENSATE LINES WITHIN THE BUILDING ENVELOPE SHALL BE INSULATED WITH RUBATEX, ARMAFLEX, OR EQUAL INSULATION. JOINTS & SEAMS SHALL BE SEALED PER INSULATION MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. PROVIDE UNION FITTING, P-TRAP, AND FLEXIBLE CONNECTION WHERE CONDENSATE LINES CONNECT TO EQUIPMENT. CONDENSATE PIPING SHALL BE TYPE K COPPER.
3. PROVIDE AND INSTALL ESCUTCHEONS WHERE PIPING PENETRATES BUILDING ENVELOPE.
4. PROVIDE DIELECTRIC UNIONS, COUPLINGS, AND OR FITTINGS AT ALL PIPE CONNECTIONS WHERE DISSIMILAR METALS OCCUR.
5. CONTRACTOR SHALL COORDINATE REFRIGERANT LINE SIZES WITH CONDENSING UNIT MANUFACTURER BASED ON PROPOSED FIELD ROUTING AND ALLOWING FOR PRESSURE LOSSES AT ELBOWS, FITTINGS AND SPECIALTIES (TYP).
6. PIPING MATERIALS SHALL BE PROVIDED AS FOLLOWS (REFER TO DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS):
   - A. HOT AND CHILLED WATER PIPING 2-1/2 INCH AND SMALLER LOCATED ABOVE GRADE, SHALL BE TYPE L DRAWN-TEMPER COPPER TUBING WITH SOLDER JOINTS.
   - B. HOT AND CHILLED WATER PIPING 3 INCHES AND GREATER LOCATED ABOVE GRADE, SHALL BE SCHEDULE 40 STEEL PIPE WITH WELDED OR FLANGED JOINTS.
   - C. CONDENSATE DRAIN LINES: REFER TO PLUMBING DRAWINGS.
   - D. REFRIGERANT PIPING SHALL BE TYPE L DRAWN COPPER TUBING.

DEMOLITION NOTES

1. ALL ITEMS AFFECTED BY DEMOLITION SHALL BE REMOVED UNDAMAGED, AND MADE AVAILABLE TO THE OWNER FOR FIRST RIGHT OF SALVAGE. ANY SUCH ITEMS REFUSED BY OWNER SHALL BE PROPERLY DISPOSED OF BY CONTRACTOR OFF SITE.
2. CUTTING OR NOTCHING OF STRUCTURAL MEMBERS INCLUDING BEARING/ SHEAR WALLS NOT SPECIFICALLY DETAILED ON STRUCTURAL DRAWINGS, MUST BE APPROVED BY STRUCTURAL ENGINEER OF RECORD AND AUTHORITIES HAVING JURISDICTION.
3. PERFORM CUTTING, PATCHING, AND REFINISHING OF THE EXISTING BUILDING SURFACES AND MATERIALS REQUIRED TO PERFORM THE WORK INDICATED IN THE DRAWINGS AND SPECIFICATIONS. SUCH AREAS AFFECTED BY THIS WORK SHALL BE REFURBISHED TO AS-NEW CONDITION AND MATCH SURROUNDING SURFACE FINISH IN COLOR, TEXTURE, AND APPEARANCE. (TYP.)

DUCT AND DIFFUSER/REGISTER NOTES

1. PROVIDE TURNING VANES IN RECTANGULAR DUCTS WHERE CHANGE IN DIRECTION RESULTS IN ANGLES EQUAL TO OR GREATER THAN 90 DEGREES.
2. DUCT TRANSITIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MOST RECENT SMACNA STANDARDS AND SHALL BE CLASSIFIED AS "LOW-LOSS FITTINGS".
3. ROUND DUCT ELBOWS SHALL BE EITHER SMOOTH DIE STAMPED OR 5-PIECE. THREE-PIECE ELBOWS WILL NOT BE ACCEPTABLE.
4. NO FLEXIBLE DUCTWORK SHALL BE INSTALLED IN AREAS WITH HARD-LID OR PLASTER TYPE CEILINGS.
5. CONTRACTOR SHALL TRANSITION DUCTWORK WHERE REQUIRED TO AVOID EXISTING OBSTACLES. ALL NEW DUCTWORK SHALL BE SIZED USING THE STATIC REGAIN METHOD AND SIZED AT 0.08" PRESSURE DROP PER 100 FEET OF DUCTWORK. ALL NEW TRANSITIONS SHALL BE SHOWN ON CONTRACTOR SHOP DRAWINGS. (TYP.)
6. INSTALL ALL DUCTWORK & PIPING AS HIGH AS POSSIBLE. WHERE DUCTWORK & PIPING ARE TO BE LOCATED IN SAME AREA, PIPING SHALL BE INSTALLED BELOW DUCTWORK. (U.N.O.)
7. THE AIR DISTRIBUTION DUCTS SHALL BE CONSTRUCTED, INSTALLED, SEALED, AND INSULATED AS PROVIDED IN SMACNA DESIGN GUIDE FOR DUCTWORK CONSTRUCTION, LATEST EDITION.
8. ALL DUCTWORK EXPOSED TO VIEW SHALL BE INTERNALLY LINED. DUCT LINER SHALL BE 1" MINIMUM THICKNESS AND SHALL BE COATED WITH ANTI-MICROBIAL MEDIUM AND RATED FOR 4000 FPM VELOCITY. (TYP.)
9. PROVIDE AND INSTALL LOCKING QUADRANT MANUAL VOLUME DAMPERS AT EACH DUCT BRANCH SERVING A DIFFUSER, REGISTER, GRILLE, OR OTHER OUTLET, AS REQUIRED FOR BALANCING AIRFLOW. PROVIDE AND INSTALL OPPOSED BLADE BALANCING DAMPERS ON ALL DIFFUSERS, GRILLES, AND REGISTERS IN ADDITION TO LOCKING QUADRANT MANUAL VOLUME DAMPERS AT ALL BRANCHES.
10. ALL DUCT DIMENSIONS SHOWN ARE NET CLEAR INSIDE DIMENSIONS. MAKE ALLOWANCES FOR DUCT LINER THICKNESSES WHEN CONSTRUCTING DUCTWORK.
11. MAXIMUM FLEXIBLE DUCTWORK LENGTH SHALL BE 5'-0". NO FLEXIBLE DUCTWORK SHALL BE INSTALLED IN AREAS WITH HARD-LID OR PLASTER TYPE CEILINGS. (TYP.)
12. ALL DUCTWORK SHALL BE CONSTRUCTED OF A MINIMUM 24 GAUGE SHEET METAL.
13. PROVIDE ALL DUCT TRANSITIONS AS REQUIRED TO CONNECT ROUND DUCTWORK TO SQUARE NECK OF DIFFUSERS. PROVIDE AND INSTALL ALL DIFFUSER PLENUMS AS REQUIRED WHERE TYPICAL RADIUS ELBOWS CANNOT BE INSTALLED (TYP.).

APPLICABLE CODES

2001 California Building Standards Admin. Code Title 24, Part 1, C.C.R.

2001 California Building Code Title 24, Part 2, C.C.R.

2004 California Electrical Code Title 24, Part 3, C.C.R.

2001 California Mechanical Code Title 24, Part 4, C.C.R.

2001 California Plumbing Code Title 24, Part 5 ,C.C.R.

2005 California Energy Code Title 24, Part 6, C.C.R.

2001 California Elevator Safety Construction Code Title 24, Part 7, C.C.R.

2001 California Fire Code Title 24, Part 9, C.C.R.

2001 California Code for Building Conservation Title 24, Part 10, C.C.R.

2001 California Reference Standard Code Title 24, Part 12, C.C.R.

Americans with Disabilities Act (ADA)

2002 NFPA 13 – Automatic Fire Sprinkler System

NFPA 24 – Private Fire Main System

2002 NFPA 72 – National Fire Alarm Codes

THE SEISMIC ANCHORAGE OF MECHANICAL AND ELECTRICAL EQUIPMENT SHALL CONFORM TO C.C.R. TITLE 24, 2001 CBC SECTION 1632A AND TABLE 16A-O. ANCHORAGE DETAILS FOR ROOF/FLOOR MOUNTED EQUIPMENT SHALL BE SHOWN ON PLANS.

CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY AN ADDENDA OR CHANGE ORDER APPROVED BY THE OFFICE OF STATE ARCHITECT, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.

A PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE OFFICE OF THE STATE ARCHITECT SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.

UNLESS SPECIFICALLY SHOWN ON THESE PLANS, NO STRUCTURAL MEMBER SHALL BE CUT, NEITHER DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DIVISION OF THE STATE ARCHITECT.

GENERAL NOTES

1. THESE DRAWINGS AND SPECIFICATIONS ARE DIAGRAMMATIC TO THE EXTENT THAT SOME ITEMS SHOWN ON PLANS ARE IN A MANNER TO TO PROVIDE CLARITY ONLY. ACTUAL FIELD ROUTING AND INSTALLATION SHALL BE PROVIDED IN COORDINATION WITH OTHER TRADES AND ACTUAL FIELD CONDITIONS. CONTRACTOR SHALL PROPERLY INTERFACE WITH STRUCTURE AND ALL OTHER SYSTEMS TO ACCOMPLISH THE INTENT OF THIS DESIGN. LOCATIONS OF HVAC EQUIPMENT AND DUCTING MAY VARY DUE TO ACTUAL FIELD CONDITIONS. CONTRACTOR SHALL NOT SCALE OFF OF THESE DRAWINGS TO PLACE OR OTHERWISE LOCATE EQUIPMENT HANGERS, ANCHORS OR ANY OTHER SUPPORT SYSTEM. FIELD VERIFY ALL DIMENSIONS, EQUIPMENT WEIGHTS, LOCATIONS AND CONDITIONS PRIOR TO COMMENCEMENT OF WORK AND ORDERING MATERIALS. MAKE ALL NECESSARY ACCOMMODATIONS TO PROVIDE FOR A COMPLETE AND OPERATING SYSTEM AS INTENDED BY THESE DRAWINGS AND SPECIFICATIONS.
2. SHOULD CONFLICT OCCUR BETWEEN DRAWINGS AND SPECIFICATIONS THE MOST STRINGENT OCCURRENCE SHALL APPLY. PLANS SHALL BE REVIEWED THOROUGHLY PRIOR TO BID. ALL DISCREPANCIES/CONFLICTS FOUND SHALL BE INDICATED AND REQUESTS FOR CLARIFICATION SHALL BE MADE BY THE CONTRACTOR TO THE ARCHITECT PRIOR TO SUBMISSION OF BID. ALL DISCREPANCIES/CONFLICTS BETWEEN DRAWINGS AND OR SPECIFICATIONS NOT BROUGHT TO THE ATTENTION OF THE ENGINEER OR ARCHITECT SHALL CONFIRM THAT THE MOST STRINGENT REQUIREMENT HAS BEEN INCLUDED IN THE CONTRACTOR'S BID PRICE AND WILL NOT BE ALLOWED AS A CHANGE ORDER TO THE PROJECT. (TYP.)
3. THESE DRAWINGS DEPICT INFORMATION OBTAINED FROM AVAILABLE AS-BUILT DRAWINGS AND FROM CASUAL FIELD OBSERVATIONS. EVERY ATTEMPT HAS BEEN MADE TO ENSURE THAT THE INFORMATION SHOWN IS TRUE AND REPRESENTATIVE OF ACTUAL FIELD CONDITIONS AND OBSTACLES. CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO OFFSET DUCTWORK, PIPING, OR ANY OTHER ITEMS REQUIRED TO ALLOW FOR INSTALLATION OF NEW SYSTEMS. (TYP.)
4. CONTRACTOR SHALL COORDINATE WORK WITH ALL TRADES PRIOR TO START OF WORK.
5. CONTRACTOR SHALL COMPLY AND ADHERE FULLY TO RESTRICTIONS AND LIMITATIONS OF WORK SCHEDULING AND ACCESS TO RESTRICTED AREAS. CONTRACTOR SHALL COORDINATE ALL SCHEDULING AND ACCESS ISSUES WITH OWNER.
6. CONTRACTOR SHALL PREPARE AND SUBMIT SCALED, PROFESSIONAL SHOP DRAWINGS TO THE ARCHITECT PRIOR TO COMMENCEMENT OF ANY AND ALL WORK. SHOP DRAWINGS SHALL BE COORDINATED WITH ALL OTHER AFFECTED TRADES PRIOR TO SUBMISSION FOR APPROVAL.
7. CONDUCT A THOROUGH VERIFICATION OF ALL EXISTING CONDITIONS PRIOR TO BID OF PROJECT. NO WORK SHALL PROCEED WITHOUT PERFORMING EXTENSIVE FIELD VERIFICATION.
8. ALL PRODUCT SUBSTITUTIONS SHALL BE PRE-APPROVED BY THE ARCHITECT OR ENGINEER PRIOR TO GENERATION OF SUBMITTAL PACKAGES. A LIST OF PROPOSED SUBSTITUTIONS SHALL BE SUBMITTED WITH BID PRICING. (TYP.)
9. COORDINATE ALL INTERRUPTION OF BUILDING UTILITY SERVICES WITH OWNER PRIOR TO ANY AND ALL SHUTDOWN.
10. MANUFACTURER'S SERVICE AND OPERATING CLEARANCES SHALL BE MAINTAINED ON ALL MECHANICAL AND ELECTRICAL EQUIPMENT.
11. ALL ROOF CURBS ON WHICH MECHANICAL EQUIPMENT IS INSTALLED SHALL BE ORDERED TO MATCH ROOF SLOPE.
12. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY HARDWARE, SOFTWARE, WIRING, CONDUIT, AND INCIDENTAL CONSUMABLES AS REQUIRED TO PROVIDE FOR COMPLETE SYSTEMS AS INTENDED BY THESE DRAWINGS AND SPECIFICATIONS.
13. LOCATIONS OF DIFFUSERS AND GRILLES SHALL BE LOCATED PER ARCHITECTURAL DRAWINGS. ALL DISCREPANCIES FOUND BETWEEN THE ARCHITECTURAL REFLECTED CEILING PLANS AND THE MECHANICAL FLOOR PLANS, SHALL BE SUPERSEDED BY THE LOCATIONS SHOWN ON THE ARCHITECTURAL DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL ADDITIONAL FITTINGS, DUCTWORK, SPECIALTIES, ETC. AS REQUIRED TO INSTALL GRILLES IN LOCATIONS SHOWN ON THE ARCHITECTURAL DRAWINGS. (TYP.)
14. ALL CONCRETE EQUIPMENT PADS ASSOCIATED WITH MECHANICAL EQUIPMENT SHALL BE A MINIMUM 4" HIGH ABOVE FINISHED FLOOR LEVEL (U.N.O.). THIS INCLUDES ALL EQUIPMENT PADS THAT ARE ISOLATED FROM THE SURROUNDING SLAB. SEE STRUCTURAL FOR EQUIPMENT PADS THAT ARE ISOLATED. SEE STRUCTURAL DRAWINGS FOR EQUIPMENT PAD CONSTRUCTION DETAILS. (TYP.)
15. VIBRATION ISOLATION AND SEISMIC CONTROL ASSEMBLY SUBMITTAL SHALL INCLUDE CALCULATIONS AND DRAWINGS SIGNED AND STAMPED BY A LICENSED STRUCTURAL ENGINEER.
16. PROVIDE AND INSTALL ACCESS DOORS FOR ALL SMOKE FIRE DAMPERS AND DUCT MOUNTED SMOKE DETECTORS MINIMUM SIZE AS REQUIRED FOR SERVICE AND MAINTENANCE. COORDINATE SELECTION AND COLORS WITH ARCHITECT. COORDINATE MASKING AND PAINTING WITH PAINTING CONTRACTOR.
17. ALL AIR MOVING EQUIPMENT SHALL BE CHECKED AND BALANCED BY A CERTIFIED INDEPENDENT BALANCING COMPANY THAT SPECIALIZES IN THIS TYPE OF WORK. BALANCING CONTRACTOR SHALL NOT BE AFFILIATED WITH OR A MEMBER OF ANY OTHER CONTRACTOR ON THIS PROJECT.
18. PRESSURE TEST ALL DUCTWORK IN ACCORDANCE WITH SMACNA "HVAC AIR DUCT LEAKAGE TEST MANUAL", LATEST EDITION. TAKE ALL CORRECTIVE ACTION TO ENSURE THAT DUCT LEAKAGE DOES NOT EXCEED 6%.

MECHANICAL SHEET TITLE INDEX

SHEET NO.	DESCRIPTION
M0.01	MECHANICAL GENERAL NOTES, LEGENDS, AND ABBREVIATIONS
M0.02	MECHANICAL EQUIPMENT SCHEDULES
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MD2.012	MECHANICAL FIRST FLOOR EAST (BASEMENT) DEMOLITION PLAN
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MD2.021	MECHANICAL SECOND FLOOR WEST DEMOLITION PLAN
MD2.022	MECHANICAL SECOND FLOOR EAST DEMOLITION PLAN
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Agency Approval

No.	Date	Revision/Issue
1		ADDENDUM #4

Project Name

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Sheet Title

MECHANICAL GENERAL NOTES, LEGENDS, AND ABBREVIATIONS

Sheet Number

M0.01

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