HVAC SPECIFICATIONS

I. PART 1 – GENERAL

A. CONDITIONS

1. General Conditions, Supplementary Conditions, Special Conditions, and other related portions of Division 1, apply to this Section.

B. SUMMARY OF WORK

1. The work included consists of furnishing labor, materials and equipment for the installation and placing into operation a complete and operable heating, ventilating and air conditioning system as specified and shown, including, but not limited to: HVAC units, fans, ductwork, air devices, piping, controls and accessories, except as otherwise noted.

C. REGULATIONS, CODES, PERMITS AND INSPECTIONS

1. Comply with national, state, county, and city codes, ordinances, etc., having jurisdiction, including rules and requirements of utility serving agencies.

2. Incorporate codes, ordinances, etc., into the base bid and installation of work. No additional funds will be allocated for work required to conform to regulations and requirements and/or to obtain approval of work.

3. Obtain and pay for required permits and licenses. When required by code, work must be inspected and approved by local authorities. Prior to final approval, furnish Architect with certificates of inspection and approvals by local authorities.

4. In addition, the latest edition of the following published standards shall be adhered to:

   a. 2022 California Building Code.

   b. 2022 California Mechanical Code (CMC).

   c. 2022 California Energy Code.

   d. NFPA Standards.

   e. ASHRAE Guides.

   f. SMACNA Duct Construction Standards.

   g. 2022 California Plumbing Code.

   h. 2022 California Electric Code.

   i. 2022 California Green Building Standards.

   j. Current local codes and ordinances.

D. DESIGN DRAWINGS

1. Design drawings are diagrammatic and are intended only to define the basic functions required. Provide labor, material, etc., necessary to accomplish these requirements. Minor deviations from the design layout are anticipated and shall be considered a part of the work included; however, no changes that alter the character of the work will be permitted. Do not scale the design drawings. See architectural drawings for dimensions.

2. If a conflict occurs between the design drawings and specifications, promptly notify the Architect and/or Engineer. At that point, an interpretation will be made by the Architect and/or Engineer and said decision shall be considered part of the Contract Documents.

E. QUALIFICATIONS OF WORKMEN

1. Use sufficient journeymen, craftsmen and supervisors to ensure prompt, proper, and safe execution of the work.

F. BASE BID

1. Base bid shall include materials and equipment specified or scheduled on the drawings. Requests for substitution of materials and equipment shall be by additive or deductive alternate bid only, with the following data clearly written at the beginning of the alternate proposal:

   a. Additive or deductive amount clearly written in words and numerals.

   b. Increased or reduced construction time in days.

   c. Other demonstrable benefit, for which the substitution of such item will be in the Owner's interest.

2. Only those materials and equipment which are submitted as an alternate bid and which are accompanied by the supporting data indicated below will be reviewed and considered.

G. SUBSTITUTIONS

1. Substitute materials and equipment from the manufacturers listed will be considered. Prior to proposing any substitute item, Contractor shall satisfy himself that the item proposed is, in fact, equal to that specified, that such item will fit into the space allocated, that such item affords comparable ease of operation, maintenance and service, that the appearance, longevity, capacity and suitability are comparable, and that by reason of cost savings, reduced construction time, or similar demonstrable benefit, the substitution of such item will be in the Owner's interest.

2. The burden of proof of equality of a proposed substitution for a specified item shall be upon the Contractor. Contractor shall support its request with sufficient test data and other means to permit the Engineer to make a fair and equitable decision on the merits of the proposed substitution. Insufficient submittal data will result in rejection of the proposed substitution. Any item by a manufacturer other than those specified, or of brand name or model number, or of generic species other than those specified, will be considered a substitution. Engineer will be the sole judge of whether or not the substitution is equal in quality, utility and economy to that specified.

3. Approval of a substitution shall not relieve Contractor from responsibility for compliance with all requirements of the Contract. Contractor shall bear the expense for any changes in other parts of this work or other work caused by the proposed substitution.

H. SUBMITTALS

1. Shop Drawings:

   a. Prior to fabrication or delivery of any material and/or equipment to the jobsite, submit six (6) hard bound and indexed copies of a brochure completely describing each major system, material and equipment proposed to be used. Any piece of equipment placed on the job without prior approval will be subject to removal.

   b. Submittal is for information and coordination only. Review of material and/or equipment submittals shall in no way relieve the Contractor of the responsibility to comply with plans and specification requirements. Points of non-compliance which are not noted shall not be construed to be an approval of the non-compliance. Submittals shall clearly state where equipment does not agree with the contract documents.

   c. Include detailed drawings where required for proper coordination with other trades. Indicate equipment layouts, electrical characteristics, wiring and control diagrams, sizes and locations of piping, ducts, conduits, and other items which effect the space available.

   d. Submit items within 15 days of award of contract. Submittals shall include manufacturer's specifications, physical dimensions, weights and ratings of equipment submitted. Submittals shall be indexed and securely bound in a suitable manner.

   e. Submit the following items for approval: 1) air conditioning units with associated fan curves; 2) fans with associated fan curves; 3) controls; 4) air devices, louvers, dampers and access doors; 5) insulation; 6) piping, valves, fittings, etc.

   f. Substitution of a factory made (flexible duct) distribution system will not be accepted.

2. Record Drawings:

   a. Maintain accurate records of any changes from the contract documents and shop drawings. Upon completion of the project, deliver to the Owner one (1) set of legible and reproducible copies of these record drawings.

3. Guarantee:

   a. Upon completion of the project, deliver to the Owner a three (3) year guarantee of the systems, materials and work performed. Guarantee the entire cost, including materials and/or labor, of corrective work required and necessitated by defects in materials and/or workmanship.

4. Manual and Operating Instructions:

   a. Upon the completion of the project, deliver to the Owner a hard bound "Owner's Manual". Include in the manual instructions prepared specifically for the systems provided, along with papers, descriptions, parts lists, instructions, warranties, etc., which were delivered with the materials and equipment utilized in the project. Identify each item by the designation appearing on the drawings.

   b. At a time designated, provide a suitable operator, mechanic or engineer to review the systems with Owner's Representative to thoroughly familiarize him with the operations and maintenance of the systems.

HVAC

II. PART 2 – PRODUCTS

A. GENERAL PRODUCTS

1. Seismic Restraints:

   a. Attachments for ductwork, piping, and equipment supported by the building structure shall be designed to resist seismic forces prescribed in the CBC.

   b. Where required by the Building Official, provide structural calculations sealed and signed by a licensed structural engineer.

2. Furnish and install new products of established and reputable manufacturers; see list of acceptable manufacturers elsewhere in this Specification. Items of equipment used for similar purpose shall be of the same manufacturer. Make no equipment substitutions that would leave inadequate operating and/or servicing space.

3. Accessories required for proper operation of the systems, even though not specifically indicated, shall be included and installed. Such accessories may include, but are not limited to, filters, condensate drains, relief valves, service valves, thermostats, vibration isolators, etc. Motor starters for prewired equipment and other protection and control devices are included in this specification. Starters for non-prewired equipment, i.e., fans, pumps, etc., are specified in Division 16.

4. Specific reference to a manufacturer's product is only to establish type, quality, and performance required. These qualifications are in addition to the requirements shown on the plans and elsewhere in these Specifications. Listing of alternate equipment manufacturers shall not be construed as an unconditional approval of the products of those manufacturers.

B. PACKAGED GAS/ELECTRIC UNITS

1. Furnish and install combination package gas packaged units with capacities as scheduled. Unit shall be complete with hermetically sealed compressor with high and low pressure cut–offs, coils, heating section, blowers ,necessary refrigerant piping, insulated compressor compartment, air cooled condenser, condenser blower or fan, automatic controls, control panel with starters, relays, etc. for single point power connection, within a weatherproof, insulated decorative casing. Units shall be furnished with filters as scheduled.

2. Units shall be completely factory wired for terminal connections of programmable thermostat with set–back and a fan–auto/manual switch and a system heat/off/cool/auto switch. Units shall be installed in strict accordance with manufacturer's recommendations, complete with manual outside air damper roof curb and necessary accessories for efficient and proper operation.

C. ROOF SUPPORTS

1. Equipment furnished without a compatible roof curb, and which is to be mounted on roof, shall be supported on equipment rails equal to RPS Mounting Pedestal, ThyCurb or Pate Custom Support. Submit manufacturer's method of attachment to the building structure to the Structural Engineer for approval. Submit manufacturer's data with the Structural Engineer's approval to the Architect before installation.

D. DUCTWORK

1. Provide a complete system of ductwork fabricated and installed in strict accordance with the ASHRAE guides and with the SMACNA Duct Construction Standards. Duct system shall be constructed as shown on the drawings. Changes in duct arrangement or in duct sizes shall be made only after written approval is obtained from the Engineer.

2. Trunk ducts shall be rectangular or round and shall be constructed of galvanized sheet metal. Duct sizes shown on the drawings are net openings and shall be increased to accommodate duct lining where applicable.

3. Flexible duct connectors shall be a factory fabricated assembly consisting of an inner sleeve, 1–inch thick fiberglass insulation, and an outer vapor barrier covering equal to Thermaflex M–KE. Flexible duct work shall be a maximum of five feet.

4. Provide manual volume dampers in each runout to each diffuser, and also as required for proper system balancing.

5. Volume dampers shall be constructed of 16 gauge galvanized steel, be of the opposed blade type and be furnished with locking and indicating quadrants. Dampers for round ducts shall be single–blade type.

6. Round taps for factory–made air ducts in sections of round sheet metal ducts shall be made with any of the fittings listed below.

   a. Conical Tee.

   b. Conical Saddle Tap.

   c. Elbow (if last fitting).

7. Round taps for factory–made air ducts in sections of rectangular sheet metal ducts shall be made with any of the fittings listed below.

   a. Collar (spin–in, flared).

   b. Collar (spin–in, straight).

8. Dovetailed cutoffs are not acceptable as tap fittings unless secured with sheet metal screws and sealed with fibrous glass mesh, gauze, or canvas and sealing compounds. Duct tape or other pressure sensitive tapes are not acceptable.

9. Taps in sections of round factory–made air ducts shall be made by inserting, in the flexible duct section, any of the sheet metal fittings listed below.

   a. 90 degree straight tee.

   b. 45 degree straight lateral.

   c. 45 degree straight lateral with 45 degree elbow.

   d. 45 degree straight lateral cross.

   e. Y branch with 45 degree elbow.

E. DUCT INSULATION

1. Thermal Insulation:

   a. Concealed supply ducts and return ducts above ceiling or in furred spaces shall be thermally insulated.

   b. Thermal insulation shall be flexible blanket glass fiber insulation with factory applied, flame retardant, foil–scrim–kraft vapor barrier (FSK), maximum K of 0.30 at 75 degrees F mean temperature, minimum .75 pound density. Insulation shall be 2" thick. Thermal insulation shall be weather–proof type where required. R–5 Minimum.

   c. Thermal insulation shall comply with all requirements of 2010 Building Energy Code Section 124. All air distribution system ducts and plenums, including, but not limited to, building cavities, mechanical closets, air–handler boxes and support platforms used as ducts or plenums, shall be installed, sealed and insulated to meet the requirements of the 2013 CMC Sections 601, 602, 603, 604 605 and standard 6–5. Connections of metal ducts and the inner core of flexible ducts shall be mechanically fastened. Openings shall be sealed with mastic, tape, aerosol sealant, or other duct– closure system that meets the applicable requirements of UL 181, UL 181A or UL 181B. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh or tape shall be used.

      1) Conceal supply ducts and return ducts above ceiling or in furred spaces shall be thermally insulated with a minimum of R–4.2.
      2) Back side of outlets and outlet plenums more than 5 square feet shall be insulated with R–2. Those less than 5 square feet need not be insulated.

   d. Insulation shall be applied over surfaces which have been wiped clean and dry and shall have 2–inch minimum tape overlap on both longitudinal and transverse seams. Edges of insulation shall be firmly butted together.

F. LIST OF ACCEPTABLE MANUFACTURERS

1. Following is a list of manufacturers whose equipment is acceptable as to manufacture, subject to conformance with the drawings and specifications. Careful checking must be made to verify that equipment will meet capacities, requirements, space and weight allocations.

   a. HVAC Packaged Equipment: Trane, Lenox, York, Carrier or specified.

   b. Fans: Cook, Penn, ACME, Carnes, Broan, Nutone, Greenheck.

   c. Temperature Controls: Honeywell, Carrier, Automated Logic, ABS Controls.

   d. Air Devices: Metalaire, Hart & Cooley, Krueger, Carnes, Titus.

   e. Insulation: Certainteed, Owens–Corning, Manville, Knauf.

   f. Vibration Isolation: Mason Industries, Vibrex, Korfund, Vibration Mountings, Inc., Amber–Booth.

   g. Starters, Relays, Etc.: Square D, General Electric, Westinghouse, Cutler–Hammer.

   h. Duct Turns: Tuttle & Bailey, Duro Dyne, Barber–Colman.

III. PART 3 – EXECUTION

A. GENERAL

1. Install materials and equipment in an arrangement that will give the greatest practical ease of operation and service to the Owner.

2. Install equipment in accordance with manufacturer's recommended installation procedures.

3. Perform work in accordance with the best trade practices. Install materials and equipment squarely with the building lines. Provide rigid permanent bases and supports for work. Construct and brace equipment, piping, etc., so that there will be no vibration and/or rattling when the system is in operation.

4. Cover and protect equipment and materials from weather, theft, etc., until date of completion. Plug and/or cap open ends of installed piping and/or ductwork pending extension or final connection.

B. DUCTWORK

1. Construct ductwork with material, gauges, joints, bracing and supports in accordance with applicable recommendations of ASHRAE and SMACNA, with additional bracing as required.

2. Ductwork shall be rigidly constructed and substantially air–tight. Substantially air–tight shall be construed to mean that no air leakage is noticeable through the senses of feeling or hearing at duct joints. Joints shall be tightly fitted with no voids. Minor gaps shall be closed with canvas tape set into and sealed with brush applied adhesive, or with silicone caulking compound. Do not utilize pressure sensitive tape.

3. Ship–lap cut joints in fiberglass ductwork. Use metal reinforcing at connections. Close with heat sensitive tape, canvas tape and Arabol, or "Hard–Cast".

4. Make connections between flexible ducts and rigid trunk ducts with factory fabricated fittings with damper and scoop. Where "tap–ins" serve single outlets, and where tap–in damper is accessible, outlet damper may be omitted. Secure flex duct to fitting with clamps, installed to factory recommended tension. Install clamps on liner and second clamp over jacket. Job inspection may require removal and replacement of a random sampling of jacket clamps to expose liner clamps.

5. Elbows shall have a throat radius equal to duct width. Square elbows shall have turning vanes. Transitions shall not exceed 4 to 1 ratio.

C. AUTOMATIC TEMPERATURE CONTROLS

1. The Mechanical Contractor shall provide a complete system of automatic temperature control, which shall include, but not be limited to: 24 volt heat/off/cool/auto, fan–auto/manual, thermostat having stages as required by controlled equipment, transformers and required relays. Thermostats shall have automatic changeover from heating to cooling and vice versa.

2. The Electrical Contractor is responsible for the work shown on the Electrical Drawings and in the Electrical Specifications. Mechanical Contractor shall coordinate his work with the Electrical Contractor. Mechanical Contractor shall provide electrical wiring and conduit in connection with automatic temperature controls and CO2 controls. Wiring shall be done in accordance with the requirements of the California Electric Code, and the Electrical Sections of the Specification. Mixing of AC and DC conductors in the same conduit is not acceptable and shall be removed at the Contractor's expense. The Mechanical Contractor shall install conduit, junction boxes, and thermostat back boxes and shall pull control circuit conductors in accordance with the CEC and the Electrical Sections of the Specification.

3. Electrical work shall be done by licensed electricians either employed by or sub–contracted to the Mechanical Contractor.

4. Submit shop drawings of temperature control wiring, location, and installation data for approval.

5. General Division of Responsibility.

   a. Any device which carries the full load current of the electrically driven machinery, as opposed to the control or instrumentation current in the holding coil, is a power circuit and is the responsibility of the electrical contractor. Control or instrumentation circuits connecting holding coils to the automatic temperature control system are the responsibility of the Mechanical Contractor.

   b. The power circuit is defined as all devices necessary to operate, and as required by code to protect and service the unit, including branch circuit protective devices, disconnects, either fused or nonfused, magnetic motor starters with running overload and single phasing protection, magnetic contactors, etc.

   c. The control or instrumentation circuit is defined as all devices necessary to interface the electrical power circuit with the automatic temperature control system including conduit, boxes, conduit fittings, conductors, electric–pneumatic switches, pneumatic–electric switches, electrical and pneumatic relays, pneumatic tubing, etc.

6. Each system, consisting of one or more air conditioning units, providing heating and cooling air shall be equipped with one ionization type shut–off smoke detector, unless indicated otherwise on the floor above.

7. The smoke detector shall be located in the main supply–air duct ahead of any branch take–offs.

8. Activation of any smoke detector shall cause the air–moving equipment to automatically shut down. Where a system consists of more than one air conditioner, activation of any of the smoke detectors in any of the air conditioners serving the common area shall cause all air–moving equipment serving that common area to shut down.

9. Wiring of the smoke detectors shall be the responsibility of the Mechanical Contractor and shall be done in accordance with the requirements of the CEC and Electrical Sections of the specification. Electrical work shall be done by licensed electricians either employed by or sub–contracted to the mechanical contractor.

10. Submit shop drawings of smoke detector wiring, location and installation data for approval.

11. Connect all fire/smoke dampers to fire control system, as required by local authority.

12. The installation of duct smoke detectors for automatic shut down of air moving systems as required by CMC Section 609 or as required for the operation of fire smoke dampers shall comply with the requirements of the local Fire Department's standard 'Fire Protection Design Guidelines for Smoke Control Within Buildings'. Where air duct smoke detectors serving air–moving systems are installed within concealed spaces, and/or drop ceiling areas, the detector shall be provided with a remote alarm LED device mounted on the ceiling tile directly below the unit served. Said remote alarm LED device shall be labeled to clearly identify the unit served (AC–1, FC–2, HVAC–3, etc.). Where air duct smoke detectors serving air–moving systems are installed in concealed spaces, and/or drop ceiling areas more than 10 feet above the finished floor, the detector shall be provided with a remote test and reset switch. Said remote test and reset switch shall be attached to an adjacent wall or structural column at a maximum height of 6 feet above finished floor.

D. TESTING AND BALANCING

1. The tests shall include those components normally included as a part of the air distribution and transmission system.

2. A complete balancing report shall be submitted to the Engineer upon completion. The balancing report shall include design quantities and actual quantities following balancing. Balancing shall be completed to the satisfaction of the Engineer.

3. Include in bid, as part of the work in this contract any adjustments in or replacement of pulleys, belts, motors, dampers, etc., or the addition of dampers and orifice plates required for correct balancing of systems.

4. The following data shall be included in the testing and balancing report for each system and shall be submitted on the SMACNA forms indicated:

   a. List test and air balance instruments, the application, the date of use and the instrument calibration test date, and submit report on SMACNA Form TAB 18–82.

   b. Test and record CFM quantities and submit report on SMACNA Form TAB 9–82 for air outlets/inlets, on SMACNA Form TAB 12–82 for HVAC units, and on SMACNA Form TAB 2–82 for fans.

   c. Test and record entering air temperatures (D.B. Heating and Cooling) and submit report on SMACNA Form TAB 12–82.

   d. Test and record entering air temperatures (W.B. Cooling) and submit report on SMACNA Form TAB 12–82.

   e. Test and record leaving air temperatures (D.B. Heating and Cooling) and submit report on SMACNA Form TAB 12–82.

   f. Test and record leaving air temperatures (W.B. Cooling) and submit report on SMACNA Form TAB 12–82.

   g. Test and record system suction pressure, head pressure, compressor amps, and ambient temperature during cooling operation, and submit report on SMACNA Form TAB 12–82.

5. Test and adjust air devices to within plus or minus 5 percent of design requirements.

6. Certified Test and Balancer shall be hired by General Contractor, and be a third party that is not business related to Mechanical Contractor.

APEX Engineers
34145 PACIFIC COAST HIGHWAY, #141
DANA POINT, CA 92629
TEL: 702–968–9221 FAX: 702–951–7589

REGISTERED PROFESSIONAL ENGINEER
RICARDO RESNICK
No. 030907
Exp. 03–31–25
MECHANICAL
STATE OF CALIFORNIA

11/08/2024

OSL Construction
9240 OLD REDWOOD HWY
SUITE 200, WINDSOR, CA 95492

MECHANICAL SPECIFICATIONS
POPPY BANK at THE VILLAGE
1500 NEWELL AVENUE, SUITE F
WALNUT CREEK, CALIFORNIA 94596

JOB NO: 2023–266
SCALE: NONE
DRAWN BY: KF
DATE: NOVEMBER 08, 2024
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REVISIONS:

5	10/31/2024 OWNER CHANGES

SHEET NO:

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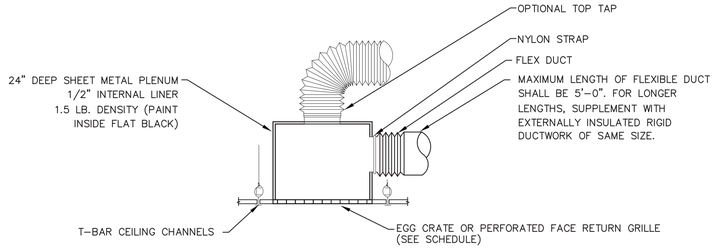
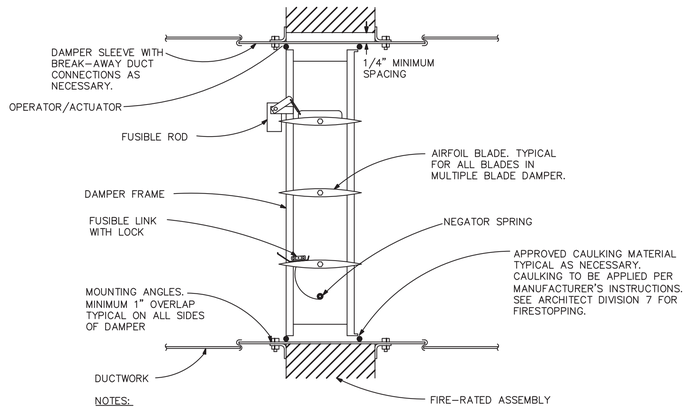


NOTE: SUPPLY GRILLE INSTALLATION SIMILAR

NO SCALE

RETURN GRILLE INSTALLATION DIAGRAM | 1



NOTES:

1. ALL DAMPERS SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. DAMPER ASSEMBLY MUST BE A U.L. LISTED ASSEMBLY AND COMPLY WITH U.L. SAFETY STANDARDS 555 AND 555S.
2. USE GREENHECK MODEL #FSD-212, U.L. LEAKAGE CLASS II, FOR WALL AND FLOOR PENETRATIONS.
3. USE GREENHECK MODEL #CFSD-212, U.L. LEAKAGE CLASS II, FOR RATED CEILING PENETRATIONS.
4. DAMPERS SHALL BE EQUIPPED WITH SMOKE DETECTOR TRIGGERING DEVISES.
5. COMBINATION FIRE/SMOKE DAMPER MAY BE INSTALLED IN VERTICAL OR HORIZONTAL POSITION.

NO SCALE

FIRE/SMOKE DAMPER DIAGRAM | 2

AIR DISTRIBUTION DEVICE SCHEDULES

SYMBOLS	DESCRIPTION	NECK SIZE	OVERALL SIZE	CFM	REMARKS
D1 CFM	TITUS #PAS SQUARE FACE SUPPLY DIFFUSER	6"X6"	24"X24"	0-160	FOR LAY-IN MOUNTING SEE NOTE #4
D2 CFM	TITUS #PAS SQUARE FACE SUPPLY DIFFUSER	8"X8"	24"X24"	165-300	FOR LAY-IN MOUNTING SEE NOTE #4
D3 CFM	TITUS #PAS SQUARE FACE SUPPLY DIFFUSER	10"X10"	24"X24"	310-450	FOR LAY-IN MOUNTING SEE NOTE #4
D4 CFM	TITUS #PAS SQUARE FACE SUPPLY DIFFUSER	12"x12"	24"X24"	460-575	FOR LAY-IN MOUNTING SEE NOTE #4
D5 CFM	TITUS #PAS SQUARE FACE SUPPLY DIFFUSER	16"ø	24"X24"	580-750	FOR LAY-IN MOUNTING SEE NOTE #4
5 D6 CFM	PRICE PPD2 VAV CEILING DIFFUSER WITH T-STAT	8"ø	24"X24"	0-220	FOR LAY-IN MOUNTING SEE NOTE #4
R1 CFM	TITUS #PAR PERFORATED FACE RETURN GRILLE	6"X6"	24"X24"	0-160	FOR LAY-IN MOUNTING
R2 CFM	TITUS #PAR PERFORATED FACE RETURN GRILLE	10"X10"	24"x24"	165-450	FOR LAY-IN MOUNTING
R3 CFM	TITUS #PAR PERFORATED FACE RETURN GRILLE	15"X15"	24"X24"	450-900	FOR LAY-IN MOUNTING
R4 CFM	TITUS #PAR PERFORATED FACE RETURN GRILLE	22"x22"	24"x24"	900-1800	FOR LAY-IN MOUNTING
R5 CFM	TITUS #PAR PERFORATED FACE RETURN GRILLE	22"X46"	24"X48"	1800-3800	FOR LAY-IN MOUNTING
R6 CFM	TITUS #8R PERFORATED FACE RETURN GRILLE	6"X6"	8"X8"	0-120	FOR SURFACE MOUNTING

NOTES:
1) COLOR: WHITE, PAINT IF NECESSARY TO MATCH PER ARCHITECT.
(2) PROVIDE SQUARE TO ROUND TRANSITION, WHERE APPLICABLE.
(3) PAINT INSIDE OF RETURN PLENUM, SUPPLY BOOT FLAT BLACK.
(4) PROVIDE O.B.D. AS NOTED IN SCHEDULE ABOVE.

HVAC LEGEND

SYMBOL	ABBREVIATIONS	DESCRIPTION
		SQ., RECT. OR ROUND DUCT AS NOTED
		DUCT WITH ACOUSTICAL LINER
		SUPPLY DUCT ROOF PENETRATION
		RETURN DUCT ROOF PENETRATION
	CD	CEILING DIFFUSER, SUPPLY
	CR	CEILING REGISTER, RETURN & EXHAUST
		SECTION THROUGH DUCT
		DUCT DOWN
		SQUARE TO ROUND TRANSITION
		DUCT ACCESS DOOR
		EQUIP. DESIGNATION AND NO.
	FSD	COMBINATION CEILING FIRE/SMOKE DAMPER W/SLEEVE
	FSD	COMBINATION WALL FIRE/SMOKE DAMPER
	MVD	MANUAL VOLUME DAMPER
T	T'STAT	THERMOSTAT
XX / XX		MECHANICAL EQUIPMENT
	CFM	CUBIC FEET OF AIR PER MINUTE
	CFMS	CFM SUPPLY
	CFMR	CFM RETURN
	CFME	CFM EXHAUST
	30X10	INDICATES SQUARE DUCT (INCHES)
	10ø	INDICATES ROUND DUCT (INCHES)
S	SD	DUCT MOUNTED SMOKE DETECTOR
	OA	OUTSIDE AIR
	EA	EXHAUST AIR
CO	CO	CARBON MONOXIDE SENSOR

NOTE: NOT ALL ITEMS MAY APPEAR ON PLANS. DISREGARD ITEMS NOT SHOWN ON PLAN.

FAN SCHEDULES

TAG	EF-1
LOCATION	TOILET
TYPE	CEILING MTD. EXHAUST
MANUFACTURER/MODEL	GREENHECK SP-B90
CFM	70
E.S.P. W.G.	0.4
RPM	700
H.P. OR WATTS	50 WATTS
ELECTRICAL V-PH-HZ	120/1/60
BACKDRAFT DAMPER	PROVIDE
WEIGHT	20 LBS.
ACCESSORIES	MODEL #RFC-7 ROOF CAP, ENERGY STAR RATED, MAX 1 SONE, INSECT SCREEN PROVIDE BACKDRAFT DAMPER PER CMC 504.1.1
CONTROL	SWITCH ON W/LIGHTS

DUCTWORK SCHEDULE

TYPE	MATERIAL	APPLICABLE CODE	FLEX ALLOWED?
SUPPLY AND RETURN DUCTWORK	SHEET METAL	SMACNA LATEST EDITION	YES ONLY LAST 8 FEET

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REGISTERED PROFESSIONAL ENGINEER RICARDO RIBALDON No. 030907 Exp. 03-31-25 MECHANICAL STATE OF CALIFORNIA

11/08/2024

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LEGEND & SCHEDULES
POPPY BANK at THE VILLAGE
1500 NEWELL AVENUE, SUITE F
WALNUT CREEK, CALIFORNIA 94596

JOB NO: 2023-266
SCALE: NONE
DRAWN BY: KF
DATE: NOVEMBER 08, 2024
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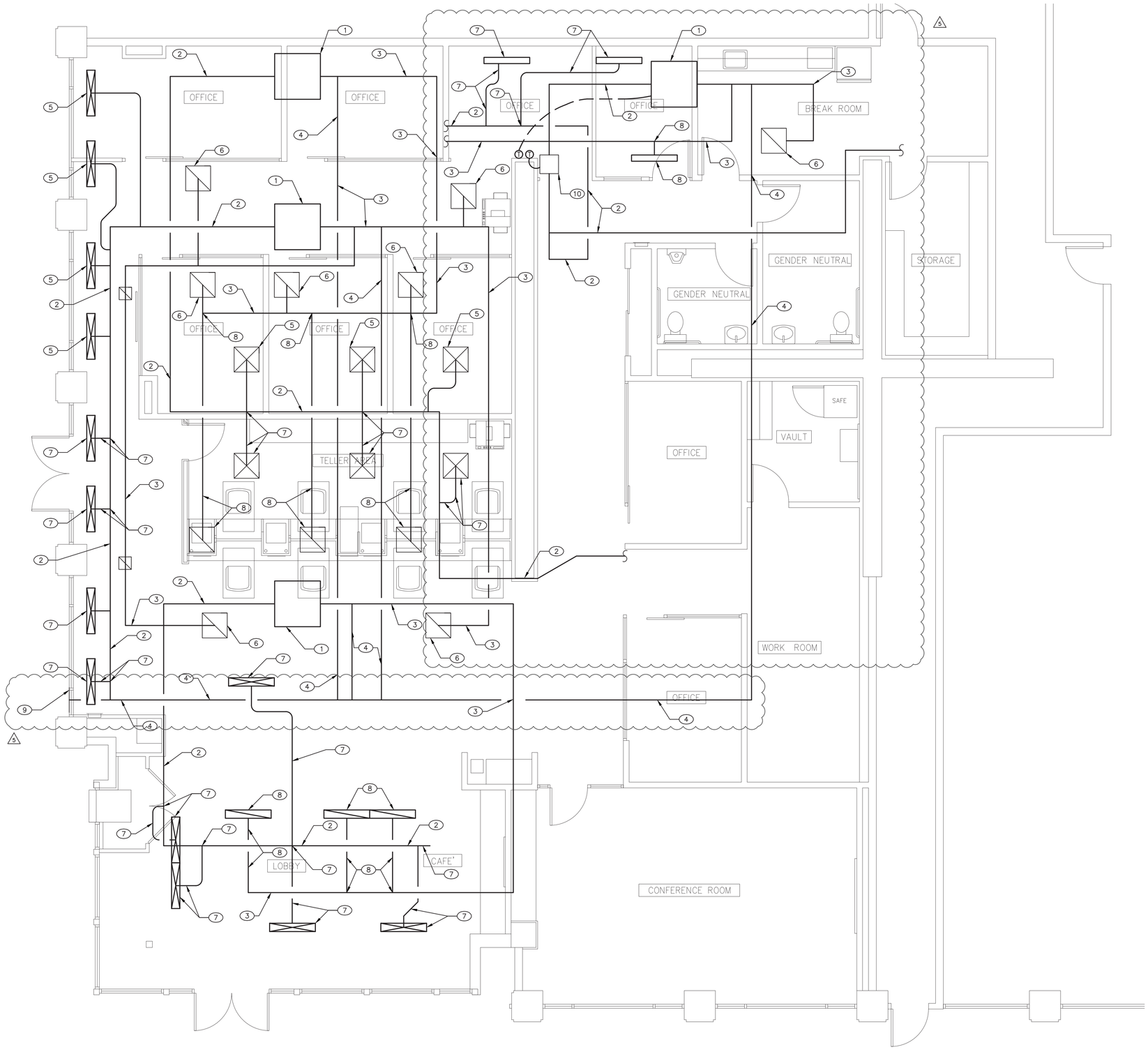
REVISIONS:
5 10/31/2024 OWNER CHANGES

SHEET NO: M0.2



MECHANICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

SHEET GENERAL NOTES

1- THE CONTRACTOR SHALL VERIFY LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO BEGINNING WORK. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL BY THE STRUCTURAL ENGINEER SHOWING METHOD OF MOUNTING AND ATTACHMENT.

2- PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT WITH ALL OTHER TRADES.

3- THE CONTRACTOR SHALL VERIFY LOCATION OF ALL ROOF AND WALL PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO BEGINNING WORK.

4- CONTRACTOR SHALL VERIFY SITE CONDITIONS AND STRUCTURAL CONDITIONS PRIOR TO BEGINNING WORK.

5- PROVIDE FULL RADIUS ELBOWS WHERE SPACE ALLOWS BY STRUCTURE OR PROVIDE TURNING VANES IN ALL 90° TRANSITIONS PER SMACNA STANDARDS.

6- ALL DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.

7- SEE AIR DISTRIBUTION DEVICE SCHEDULE ON THIS SHEET FOR DEVICES FOR LIVING AREAS.

8- REMOVE ALL EXISTING DUCTWORK UNLESS OTHERWISE NOTED. ALL DUCTWORK DEVICES AND EQUIPMENT SHOWN ARE NEW UNLESS OTHERWISE NOTED.

KEY NOTES

1- EXISTING FAN COIL UNIT ABOVE CEILING TO REMAIN.

2- EXISTING SUPPLY DUCTWORK ABOVE CEILING TO REMAIN.

3- EXISTING RETURN DUCTWORK ABOVE CEILING TO REMAIN.

4- EXISTING OUTSIDE AIR DUCTWORK ABOVE CEILING TO REMAIN.

5- EXISTING SUPPLY DIFFUSER TO REMAIN.

6- EXISTING RETURN GRILLE TO REMAIN.

7- EXISTING SUPPLY DIFFUSER AND BRANCH DUCTWORK TO BE REMOVED. CAP TRUNK DUCT AIRTIGHT.

8- EXISTING RETURN GRILLE AND BRANCH DUCTWORK TO BE REMOVED. CAP TRUNK DUCT AIRTIGHT.

9- EXISTING O/A LOUVER TO REMAIN.

△5 10- EXISTING VAV BOX TO REMAIN.

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REGISTERED PROFESSIONAL ENGINEER
RICARDO RUBALCAVA
No. 030907
Exp. 03-31-25
MECHANICAL
STATE OF CALIFORNIA

11/08/2024

OSL Construction
9240 OLD REDWOOD HWY
SUITE 200, WINDSOR, CA 95492

MECHANICAL DEMOLITION PLAN
POPPY BANK at THE VILLAGE
1500 NEWELL AVENUE, SUITE F
WALNUT CREEK, CALIFORNIA 94596

JOB NO:
2023-266
SCALE:
1/4" = 1'-0"
DRAWN BY:
KF
DATE:
NOVEMBER 08, 2024
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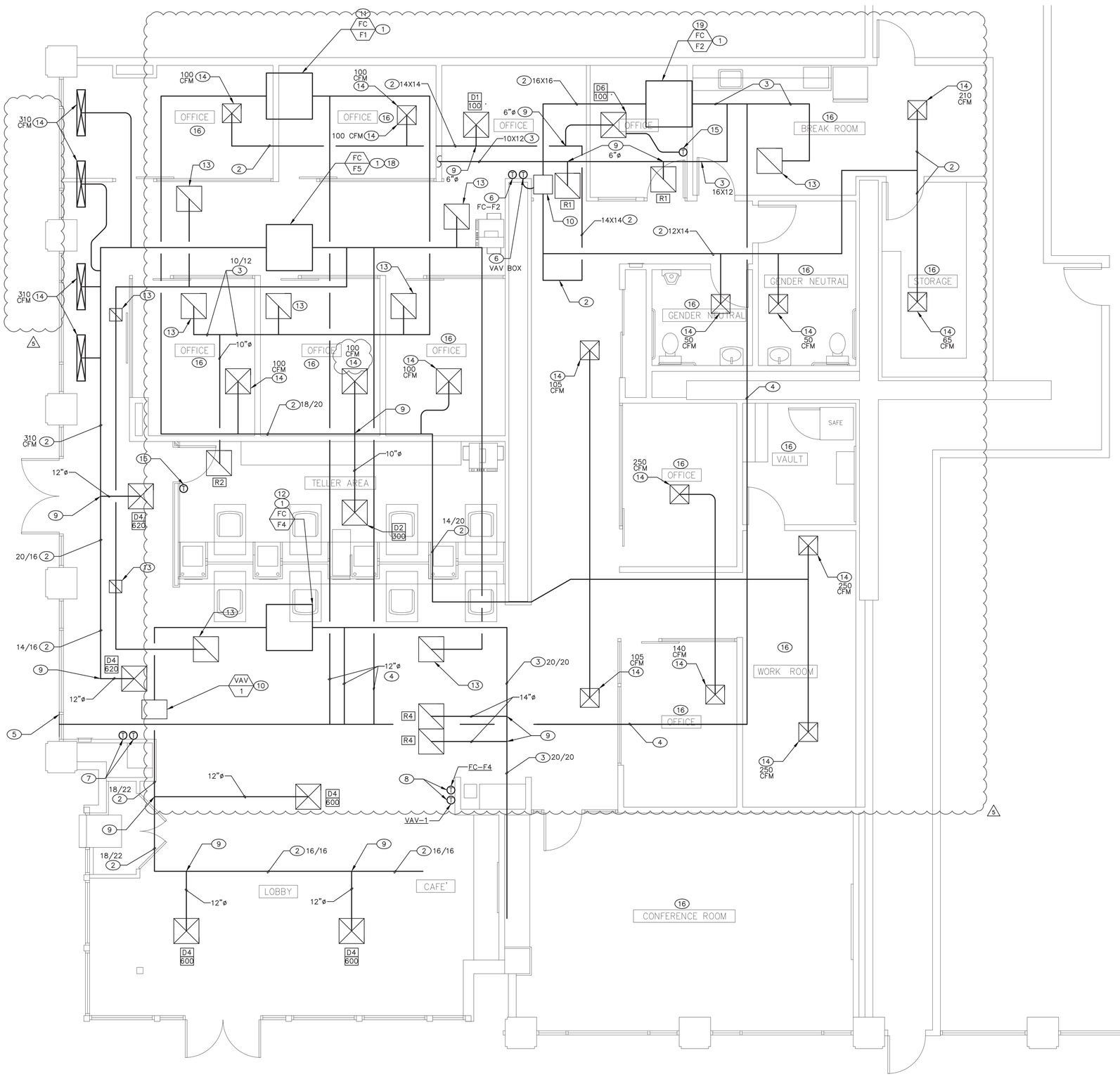
△5 10/31/2024 OWNER CHANGES

SHEET NO:
M1.1



MECHANICAL PLAN

SCALE: 1/4" = 1'-0"

SHEET GENERAL NOTES

1– THE CONTRACTOR SHALL VERIFY LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO BEGINNING WORK. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR APPROVAL BY THE STRUCTURAL ENGINEER SHOWING METHOD OF MOUNTING AND ATTACHMENT.

2– PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT WITH ALL OTHER TRADES.

3– THE CONTRACTOR SHALL VERIFY LOCATION OF ALL ROOF AND WALL PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO BEGINNING WORK.

4– CONTRACTOR SHALL VERIFY SITE CONDITIONS AND STRUCTURAL CONDITIONS PRIOR TO BEGINNING WORK.

5– PROVIDE FULL RADIUS ELBOWS WHERE SPACE ALLOWS BY STRUCTURE OR PROVIDE TURNING VANES IN ALL 90° TRANSITIONS PER SMACNA STANDARDS.

6– ALL DUCTWORK SIZES SHOWN ARE INSIDE CLEAR DIMENSIONS.

7– SEE AIR DISTRIBUTION DEVICE SCHEDULE ON THIS SHEET FOR DEVICES FOR LIVING AREAS.

8– REMOVE ALL EXISTING DUCTWORK UNLESS OTHERWISE NOTED. ALL DUCTWORK DEVICES AND EQUIPMENT SHOWN ARE NEW UNLESS OTHERWISE NOTED.

KEY NOTES

1– EXISTING FAN COIL UNIT LOCATED ABOVE CEILING TO REMAIN, WITH EXISTING CONDENSATE DRAIN, REFRIGERANT PIPING, OUTSIDE CONDENSING UNIT, OUTSIDE AIR, SUPPLY/RETURN DUCTWORK AND CONTROLS TO REMAIN.

2– EXISTING SUPPLY DUCTWORK ABOVE CEILING TO REMAIN.

3– EXISTING RETURN DUCTWORK ABOVE CEILING TO REMAIN.

4– EXISTING OUTSIDE AIR DUCTWORK ABOVE CEILING TO REMAIN.

5– EXISTING OUTSIDE AIR LOUVER TO REMAIN.

6– EXISTING THERMOSTAT TO REMAIN.

7– EXISTING THERMOSTAT TO BE RELOCATED.

8– RELOCATED THERMOSTAT IN NEW LOCATION.

9– CONNECT NEW DUCTWORK OF SIZE SHOWN TO EXISTING DUCTWORK OF SIZE SHOWN.

10– EXISTING VAV BOX ABOVE CEILING TO REMAIN.

11– REBALANCE EXISTING FAN COIL UNIT TO 1550 CFM S/A & 310 CFM O/A.

12– REBALANCE EXISTING FAN COIL UNIT TO 1800 CFM S/A & 270 CFM O/A.

13– EXISTING RETURN GRILLE TO REMAIN.

14– EXISTING SUPPLY DIFFUSER TO REMAIN.

15– PROVIDE NEW THERMOSTAT FOR NEW VAV DIFFUSER.

16– EXISTING HVAC TO REMAIN THIS ROOM.

17– REBALANCE EXISTING FAN COIL UNIT TO 2480 CFM S/A & 500 CFM O/A.

18– REBALANCE EXISTING FAN COIL UNIT TO 775 CFM S/A & 120 CFM O/A.

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