ADDENDUM NO. 2

FOR:
Mechanical Equipment Replacement & Ductwork Modifications for:
Monroe County Opportunity Program

JAMES S. JACOBS ARCHITECTS, PLLC
25 WASHINGTON STREET
MONROE, MICHIGAN 48161
Phone 734-241-7933 jimj@jsjacobsarch.com

DATE: November 12, 2025
PROJECT NO.: 202537

THIS ADDENDUM IS ISSUED TO MODIFY, CLARIFY, AND ADD TO THE PREVIOUSLY ISSUED CONTRACT DOCUMENTS.

PLEASE ATTACH THIS ADDENDUM THERETO AND INCLUDE COST CHANGES IN THE FINAL BID. ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE APPROPRIATE SPACE ON THE PROPOSAL FORM.

DRAWINGS OR SKETCHES ISSUED:

- ***None Issued***

SPECIFICATIONS ISSUED:

- ***None Issued***

DRAWING CORRECTIONS, REVISIONS, MODIFICATIONS, OR CLARIFICATIONS:

1. **Drawing M-1 – Partial Mechanical Floor Plans (Drawing Reissued):**

    1. Revised and added drawing notes for clarification.
    2. Added Alternate No. 1 description.

2. **Drawing M-2 - Partial Mechanical Floor Plan (Drawing Reissued):**

    3. Revised sheet title.
    4. Revised General Notes.
    5. Added Allowance No. 1 description.
    6. Revised duct layouts.

3. **Drawing M-3 – Mechanical Schedules and Details (Drawing Reissued):**

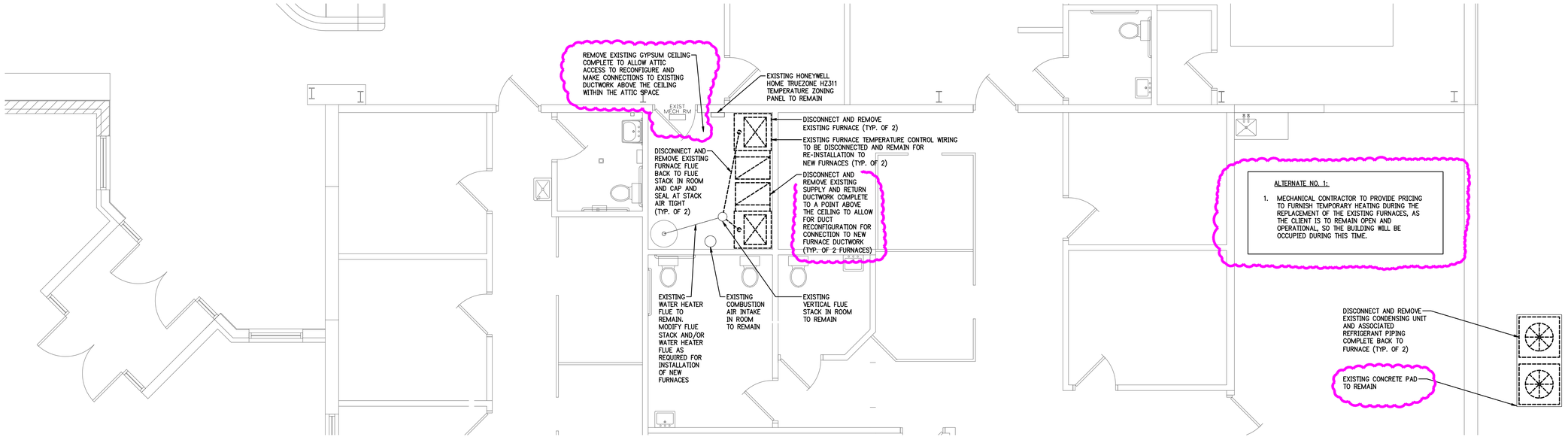
    7. Removed Grilles Registers and Diffusers schedule.
    8. Removed Duct to Diffuser Connection detail.
    9. Added notes to Legend.

4. **Drawing MP-1 – Mechanical Specifications (Drawing Reissued):**

    10. Removed requirements for air balancing of new furnaces.

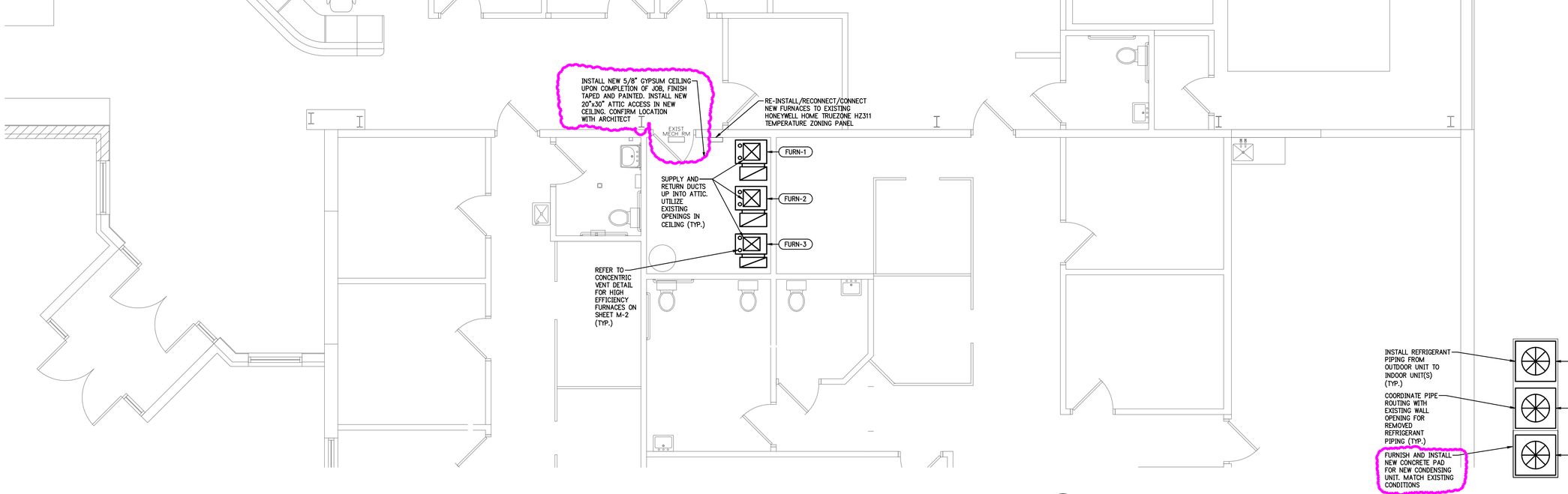
SPECIFICATION CORRECTIONS, REVISIONS, MODIFICATIONS, OR CLARIFICATIONS:

- ***Bid Form (with attachments) Reissued - NOTE CHANGES IN RED***



PARTIAL MECHANICAL FLOOR PLAN - DEMOLITION

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



PARTIAL MECHANICAL FLOOR PLAN - NEW WORK

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

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JAMES S. JACOBS ARCHITECTS, PLLC
25 WASHINGTON STREET
MONROE, MICHIGAN 48161
TEL: (734) 241-7933
FAX: (734) 241-1181
EMAIL: jmj@jsjacobsarch.com

JDRM Engineering
Mechanical | Electrical | Plumbing | Technology | Safety
5604 N. Main St. Suite 200
Sylvania, Ohio 43560
PH. (419) 824-2400
FAX (419) 824-2409
www.jdrm.com

MECHANICAL FURNACE REPLACEMENTS FOR:

MONROE COUNTY OPPORTUNITY PROGRAM

MCOP EXECUTIVE DIRECTOR:
MRS. STEPHANIE ZORN-KASPRZAK
1140 SOUTH TELEGRAPH ROAD
MONROE, MICHIGAN 48161
TELEPHONE: (734) 241-2775

PARTIAL MECHANICAL FLOOR PLANS

NOT FOR CONSTRUCTION

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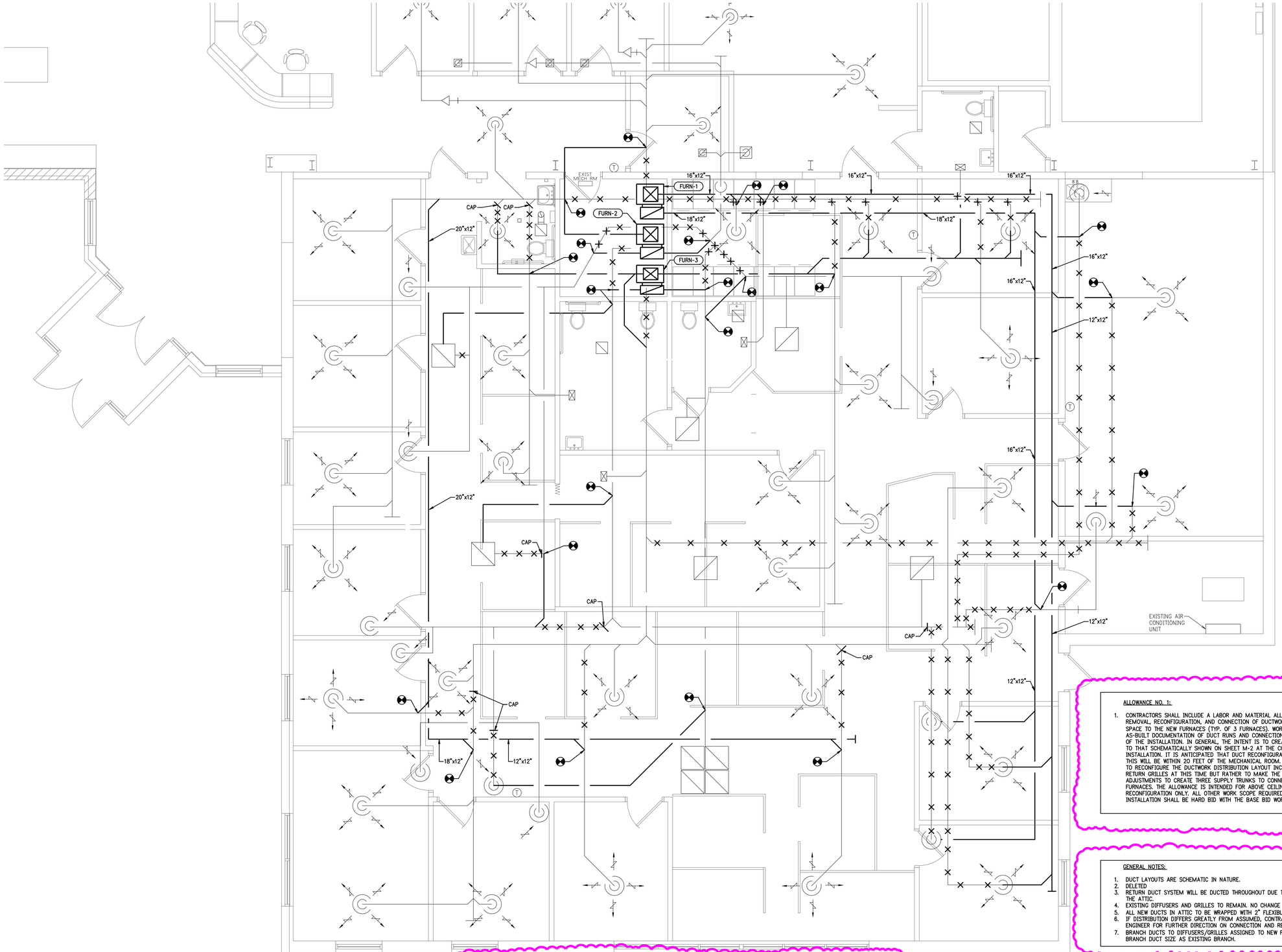

PARTIAL SCHEMATIC MECHANICAL FLOOR PLAN - DISTRIBUTION INTENT

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

ALLOWANCE NO. 1:

1. CONTRACTORS SHALL INCLUDE A LABOR AND MATERIAL ALLOWANCE FOR THE REMOVAL, RECONFIGURATION, AND CONNECTION OF DUCTWORK WITHIN THE ATTIC SPACE TO THE NEW FURNACES (TYP. OF 3 FURNACES). WORK SHALL INCLUDE AS-BUILT DOCUMENTATION OF DUCT RUNS AND CONNECTIONS AT THE COMPLETION OF THE INSTALLATION. IN GENERAL, THE INTENT IS TO CREATE 3 ZONES SIMILAR TO THAT SCHEMATICALLY SHOWN ON SHEET M-2 AT THE COMPLETION OF THE INSTALLATION. IT IS ANTICIPATED THAT DUCT RECONFIGURATION TO ACCOMPLISH THIS WILL BE WITHIN 20 FEET OF THE MECHANICAL ROOM. THE INTENT IS NOT TO RECONFIGURE THE DUCTWORK DISTRIBUTION LAYOUT INCLUDING SUPPLY AND RETURN GRILLES AT THIS TIME BUT RATHER TO MAKE THE NECESSARY ADJUSTMENTS TO CREATE THREE SUPPLY TRUNKS TO CONNECT TO THE NEW FURNACES. THE ALLOWANCE IS INTENDED FOR ABOVE CEILING DUCTWORK RECONFIGURATION ONLY. ALL OTHER WORK SCOPE REQUIRED FOR THE INSTALLATION SHALL BE HARD BID WITH THE BASE BID WORK SCOPE.

GENERAL NOTES:

1. DUCT LAYOUTS ARE SCHEMATIC IN NATURE.
2. DELETED
3. RETURN DUCT SYSTEM WILL BE DUCTED THROUGHOUT DUE TO WOOD CONSTRUCTION IN THE ATTIC.
4. EXISTING DIFFUSERS AND GRILLES TO REMAIN. NO CHANGE PROPOSED.
5. ALL NEW DUCTS IN ATTIC TO BE WRAPPED WITH 2" FLEXIBLE DUCT WRAP INSULATION.
6. IF DISTRIBUTION DIFFERS GREATLY FROM ASSUMED, CONTRACTOR SHALL REPORT TO ENGINEER FOR FURTHER DIRECTION ON CONNECTION AND RECONFIGURATION.
7. BRANCH DUCTS TO DIFFUSERS/GRILLES ASSIGNED TO NEW FURNACES TO HAVE SAME BRANCH DUCT SIZE AS EXISTING BRANCH.

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JAMES S. JACOBS ARCHITECTS, PLLC
25 WASHINGTON STREET
MONROE, MICHIGAN 48161
TEL: (734) 241-7933
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PARTIAL MECHANICAL FLOOR PLAN

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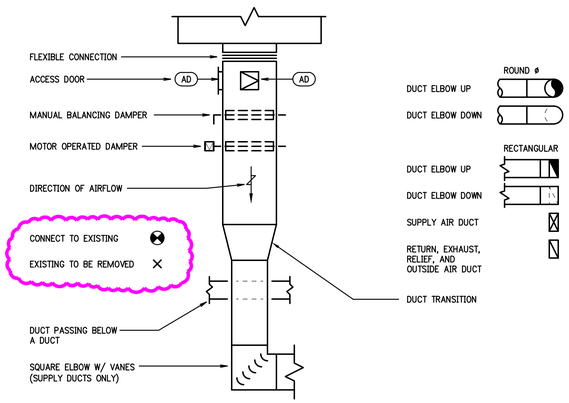
LEGEND



DUCTWORK NOTES:

1. ALL DUCTWORK SHALL BE FABRICATED AND INSTALLED PER THE LATEST SMACNA STANDARDS.
2. ALL TRANSVERSE AND LONGITUDINAL SEAMS ARE TO BE SEALED WITH A DUCT SEALER MATERIAL. SEE SPECIFICATION FOR TYPE.
3. ALL DUCTWORK SHALL BE FABRICATED, AT A MINIMUM, PER THE FOLLOWING PRESSURE REQUIREMENTS AS LISTED IN THE LATEST SMACNA HVAC DUCT CONSTRUCTION STANDARDS:

PRESSURE RATING	DUCTWORK
2" POSITIVE OR NEGATIVE	1. SUPPLY AIR DUCTWORK IN CONSTANT AIR VOLUME SYSTEMS WITHOUT TERMINAL UNITS.
	2. RETURN AIR DUCTS.

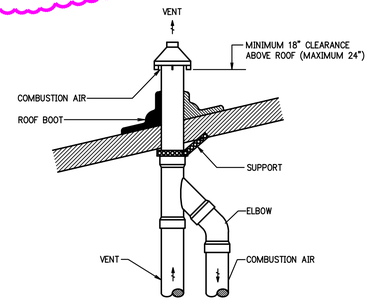
4. DIMENSIONS OF DUCTWORK AT 2" POSITIVE OR NEGATIVE PRESSURE, SPECIFIED TO BE INTERNALLY LINED, ARE AIR FLOW DIMENSIONS AND DO NOT INCLUDE AN ALLOWANCE FOR INSULATION THICKNESS.

FURNACES, COILS AND CONDENSING UNITS

SCHEDULE BASED ON TRANE

MARK	FURNACE							COOLING COIL				CONDENSING UNIT			REMARKS
	MODEL	CFM	SP IN WC	MBH INPUT	MBH OUTPUT	HP	POWER	MODEL	EAT °F DB°F/WB°F	MBH SENS.	MBH TOTAL	MODEL	AMBIENT	POWER	
FURN-1	S9X2B040U3	1,000	0.60	40/26	39/25	1/2	120/1/60	5TXCB003	80/67	22	28	5TTA4030	95°F	208/230/1/60	
FURN-2	S9X2B060U4	1,600	0.60	60/39	58/37	3/4	120/1/60	5TXCB006	80/67	40	46	5TTR4048	95°F	208/3/60	
FURN-3	S9X2B060U4	1,600	0.60	60/39	58/37	3/4	120/1/60	5TXCB006	80/67	40	46	5TTR4048	95°F	208/3/60	

NOTES:
1. FURNISH AND INSTALL AUXILIARY DRAIN PAN.
2. TWO STAGE HEATING.
3. FURNISH AND INSTALL VERTICAL CONCENTRIC VENT KIT.
4. CONDENSING UNIT SHALL HAVE A MINIMUM SEER OF 14.
5. FURNISH AND INSTALL REFRIGERANT PIPING FROM CONDENSING UNIT TO FURNACE PER MANUFACTURER'S INSTALLATION REQUIREMENTS. CONSULT MANUFACTURER PIPE DESIGNER SOFTWARE FOR LONG DISTANCE REFRIGERANT PIPE LENGTHS FOR ALL FURNACES.
6. DISCONNECTS BY ELECTRICAL CONTRACTOR.
7. BASIS OF DESIGN REFRIGERANT IS R-454B.



CONCENTRIC VENT DETAIL FOR HIGH EFFICIENCY FURNACES

NO SCALE

NOTES: 1) INSULATE THE VENT PIPE IN UNCONDITIONED SPACES
2) INSULATE THE COMBUSTION AIR PIPE IN CONDITIONED SPACES

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MECHANICAL SCHEDULES AND DETAILS

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OUTLINE MECHANICAL SPECIFICATIONS

DIVISION 22 & 23 - BASIC MECHANICAL REQUIREMENTS

A. General:

These are Outline Specifications and not intended to cover all necessary items, but are to serve only as a guide. It is intended that complete Mechanical Systems as described herein will be furnished and installed.

Contractor shall visit the job site and examine all existing conditions.

All work shall be installed in accordance with local and state codes and regulations and shall receive the approval of the inspection department having jurisdiction.

All work specified herein shall carry the Contractor's Warranty for workmanship and materials for a period of one year minimum (or as specified) from the date of final acceptance or beneficial use by the Owner, whichever occurs first. The Contractor shall remedy the defects and reimburse the Owner for all damage to other work, whether caused by the defects or the work of correcting same. Provide an extended four (4) year replacement warranty for the refrigeration compressors after the first year full replacement warranty (parts and labor). The four (4) year warranty shall be for compressor replacement only; all labor charges will be the responsibility of the Owner.

All work shall be done by mechanics skilled in the particular trade involved, under responsible supervision and with the best modern practices.

All materials shall be new and of the grade and quality specified. Only the best material of each class specified shall be used.

In existing construction, this Contractor shall do all cutting, core drilling, and patching as required for complete installation unless openings are indicated on the architectural drawings. This Contractor shall hire the General Contractor to do all patching to match existing conditions.

This Contractor shall provide all miscellaneous steel and hardware as required to support, hang and secure all equipment as furnished, relocated or revised by him, unless such materials are specifically called out to be provided by other Contractors.

Manufacturer's directions shall be followed in all cases where the manufacturers of articles used in this Contract furnish directions covering specific points not shown on the drawings or mentioned in the specifications.

All work installed under this contract shall be tested in the presence of and to the satisfaction of the inspecting authority having jurisdiction and the Owner's Representative.

Mechanical shop drawings, fixture cuts, and schedules shall be submitted for review, in general, before starting the work involved, and so as to cause no delay in this work or that of any other Contractor or Subcontractor. Shop drawings may be submitted in electronic format utilizing PDF files. The submittal shall be organized by specification section and contain all required information within a PDF document for each specification section. If hard copies of shop drawings are submitted, a minimum of six copies shall be submitted. All shop drawings whether electronic or hard copies shall bear the stamp of approval of the Contractor as evidence that the submittals have been approved by him.

This Contractor shall cooperate fully with the Owner in scheduling and making connections into existing service lines so as to cause the least possible inconvenience and shortest interruption of service. Contractor shall include any time and materials necessary for draining, venting, purging and refilling the existing system to permit connection of the new or removal of existing equipment, piping, etc.

This Contractor to remove all unused ductwork, piping, etc. from the area and remove it from the premises. The Owner shall be given the option of retaining any removed items. The Contractor shall, in general, keep the site clean and free of all debris generated by his work.

Before running any ducts, piping, etc. within the building, this Contractor shall assure himself that they can be installed as contemplated without trapping or interfering with columns, beams, piping, fixtures, etc. Contractor to verify all measurements and conditions at job site before proceeding with the work.

Of necessity, openings, supporting steel, field-built curbs, electrical data, space requirements, etc. were designed around specific parameters. It shall become the Contractor's responsibility to change as necessary, through the Architect and interested Contractors on the job, all required parameters, so that openings, supporting steel, curbs, electrical data, etc. will fit the equipment supplied. Any additional cost will be the sole responsibility of this Contractor.

Removed material may contain asbestos or lead. Contractor to advise Owner's Representative of any material which he suspects may contain either asbestos or lead. Any costs involved with necessary testing of installed materials will be the Owner's responsibility. Removal of any materials which prove to contain asbestos or lead will be the Owner's responsibility.

B. Scope of Work:

Plumbing
Mechanical

C. Electrical:

The Electrical Contractor will provide all power wiring, starters and disconnects unless equipment is provided with starters or disconnect switches as part of the assembly. The Mechanical Contractor shall furnish all special control items, control and interlock wiring, and motors required for the operation of all equipment provided under his sections of work.

In general, all motors under 1/2 horsepower will be 120/1/60. For electrical power characteristics of other motors, see the mechanical drawings and schedules.

Motors 1/2 HP and over will be provided with across-the-line starters with overload protection unless otherwise specified. All motors under 1/2 HP shall have integral overload protection. On factory-supplied pre-wired equipment, accessory motors such as condensing unit fan motors may be single phase instead of three phase if standard with the manufacturer. All motors must conform to current NEMA Standards.

Where electrical requirements and/or motor horsepowers for the equipment supplied varies from that shown on the mechanical drawings or as specifically called out in the Mechanical Specifications, the Electrical Drawings and Specifications shall govern and be adhered to as to electrical power characteristics for the supplied equipment.

All open drive motors shall be of the high efficiency type with a minimum power factor of 82%.

D. Contract Closeout:

Testing and Adjustment:

Contractor shall operate all parts of the entire system, make any and all adjustments and repairs, and shall leave the entire work tested and ready for operation by the Owner and/or operation and final testing and balancing by the Testing and Balancing Contractor.

Operating Instructions:

Contractor shall provide four complete manuals in hardbacked binders, each containing all operating, servicing, lubrication, etc. information and parts lists for all equipment installed under his Contract. In addition, each manual shall contain a copy of each approved equipment submittal along with contact information for the supplier. Where diagrams are too large for the binder, arrange manila pockets with reinforced holes to hold folded drawings. Manuals to be submitted for approval at least 30 days before completion of the work.

Contractor shall arrange for technical instruction of the Owner's Maintenance Personnel for such time as is reasonably required to acquaint them with their duties. Instruction period shall be after all systems are in operation, and have been tested, balanced and adjusted.

Record Drawings:

Contractor shall keep an accurate record of all deviations from contract drawings. He shall neatly and correctly enter, in colored pencil, any deviations on drawings affected during the progress of the project and shall keep drawings available for inspection. At completion of job and before final acceptance, make any final corrections to drawings and deliver same to the Owner's Representative.

E. Hangers and Supports for Piping and Equipment:

All piping materials furnished and all procedures followed in fabrication and erection shall comply with the applicable sections of the Local Building code, applicable Pressure Piping Code, and requirement of applicable sections of "Building Services Piping", ASME B31.9, latest revision and addenda.

Contractor shall furnish and install all adjustable hangers, special pipe supports spring hangers, anchors, guides, clamps, rods, miscellaneous iron supports and appurtenances as required to securely and properly hang or support the piping systems. On insulated piping, hangers to be oversized to fit on the outside of insulation with a heavy gauge protection pipe saddle or shield. Vertical lines shall be supported by pipe clamp type supports designed for this purpose at each floor level. Hangers to be equivalent to Anvil International No. 260 clevis type, or for bare copper pipe, Anvil International Fig. CT-99C.

Steel Pipe Maximum Spacing:

- Thru 1-1/4": 7' Max
- 1-1/2": 9' Max
- 2": 10' Max
- 2-1/2": 11' Max

Copper Tubing Maximum Spacing:

- Thru 3/4": 5' Max
- 1": 6' Max
- 1-1/4": 7' Max
- 1-1/2": 8' Max
- 2": 8' Max

Rigid Pvc Pipe (Up to 140°F) Maximum Spacing:

- Thru 1-1/4": 2-1/2' Max
- 1-1/2" & 2": 3' Max
- 2-1/2": 3-1/2' Max
- 3": 3-1/2' Max

Pipe: Hanger and Rod Size Shall be as Follows:

- 3/4" to 2" inclusive: 3/8" rod
- 2-1/2" to 3-1/2" inclusive: 1/2" rod
- 4" and 5": 5/8" rod
- 6": 3/4" rod
- 8" to 12" inclusive: 7/8" rod

Contractor shall do all excavating and backfilling in connection with his work. No piping shall be laid in water. Backfill within building or under paving exterior to building shall be clean fine sand, as approved by the Owner's Representative, to proper finished grade. Backfill outside of building lines shall be tamped sand to 24 inches above pipe with remaining backfill being clean earth to proper finished grade.

Sleeves shall be installed by Contractor wherever pipes pass through wood, concrete or masonry slabs, walls, floors or ceilings. Openings around exposed and concealed pipes or in sleeves for pipes passing through floor slabs, fire-rated walls, smoke partitions, or fire rated ceilings must be sealed with a noncombustible fire stop material. Seal at both sides of wall. Insulation shall not extend through sleeve. Pack sleeve opening with STI SpecSeal or equivalent. Depth of fill material shall provide same fire rating as floor or wall penetrated. Fiberglass is not acceptable except as a backing for the above materials.

Where a copper pipe connects to a steel pipe, the connection shall be made with a dielectric union or flanges with dielectric bolt sets. Dielectric couplings shall not be used. When connections are made at coils or similar situations which include such items as steel or cast iron balancing cocks, valves, pumps, flow indicators, etc. it is suggested that all piping in these areas to be steel with dielectric unions or flanges when connecting to copper mains, and/or a copper header coil. Where copper pipes cross iron pipes and in all similar conditions where isolation is necessary to eliminate electrolysis, the pipe shall be isolated with a PVC sheathing.

F. Roof Curbs and Supports:

Provide a roof curb for each roof mounted flue, air intake hood, relief vent, exhaust vent or ductwork passing through the roof. Verify curb size with equipment furnished. Curb shall be constructed to conform to the roof pitch and form a level top surface. Curb shall be of box section design, 18 gauge galvanized steel with continuous welded corner seams and factory installed 1-1/2 x 1-1/2 wood nailer. Curb shall be insulated with 1-1/2 inches, three pound density rigid fiberglass board with internal metal liner. Equipment installed on curb shall be secured to curb.

In general, the top of the installed curb shall be approximately 12 inches above finished roof. Coordinate roof insulation thickness with General Contractor.

Curb for built-up roofing system to be equivalent to a Pate Model PC-5, with raised cant.

For single ply membrane type roofing system, curb to be equivalent to a Pate Model PC-2 without cant.

Acceptable manufacturers are Pate Manufacturing Company, Custom Curb, Inc., Roof Products and Systems Corporation, Thybar, Vent Products or Shipman. When applicable, an equivalent roof curb for a particular fan by the fan manufacturer will be acceptable.

DIVISION 22 - PLUMBING

SECTION 22 0523 - GENERAL DUTY VALVES FOR PLUMBING PIPING

A. Manufacturers:

Balance and Check: Caleffi, Crane, Walworth, Nibco, Stockham or Milwaukee

Ball: Smith, Crane, Apollo, Watts, Nibco or Milwaukee

Butterfly: Centerline, Crane, Keystone, Stockham, Milwaukee, Nibco, Watts or Anvil International

B. Natural Gas Shutoff:

125 psi, screwed - semi-steel body - Nordstrom 142 or Ball Valve -screwed - bronze body - Teflon trim - Nibco T-585-70-UL and T-280-70-UL - 2" and smaller. 125 psi. flanged - semi steel body - Nordstrom 143 - 2-1/2" and larger.

SECTION 22 0553 - Identification for Plumbing Piping and Equipment

A. Nameplates:

Provide Laminated three-layer plastic nameplate with engraved letters to identify plumbing equipment.

B. Valve Tags:

Provide a numbered brass tag, approximately 2 inch in diameter, chained to hand wheel of each valve, except local stop or shutoff valves to an item of equipment. Attach tag to valve with non-rusting "S" hook of adequate size. Each tag shall be stamped with a serial number and service designation of valve. Also indicate on tag whether the valve is normally-closed or normally-open in service (N.C. or N.O.).

Provide typed valve directions identifying each valve as to size, manufacturer, type, service and location. Copies shall be included in the Operating Instruction and Service Manual hereinafter specified.

C. Pipe Markers:

Provide Pipe Markers that are factory fabricated semi-rigid plastic, preformed to fit around pipe or pipe covering; minimum information indicating flow direction arrow and identification of fluid being conveyed. Alternative material to be plastic tape pipe markers of flexible, vinyl film tape with pressure sensitive adhesive backing and printed markings. Color shall conform to ASME A13.1

SECTION 22 0700 - PLUMBING INSULATION

A. General:

All work shall be done by experienced insulation applicators in strict accordance with manufacturer's latest recommendations and shall be finished in a neat and workmanlike manner. Thermal conductivity shall not exceed 0.24 BTUH per square foot F° /inch. Insulation shall be equivalent to Owens-Corning Fiberglass 25 ASJ/SSL.

All insulation shall have a composite rating including insulation adhesives, jacket, etc. as follows. The composite assembly shall have a flame spread rating not over 25 and a smoke developed rating not higher than 50.

Pipe fittings shall be covered with preformed insulating fittings such as Zeston 25/50 rated PVC insulated fitting cover (pearl gray finish).

At hangers and supports of insulated pipe, provide high density insulation (maximum deflection 1/8 inches) and 12 inches long, 22 gauge galvanized sheet metal shields covering 50% of the circumference.

B. Piping:

Cold Service:

Condensate Drain Lines: 1/2 inch

SECTION 22 1316 - SANITARY WASTE & VENT PIPING

A. Condensate Drain and Relief Valve Discharge:

Copper type "L" hard tempered with soldered or press-fit joints and wrought copper fittings.

SECTION 22 1600 - NATURAL GAS PIPING

A. Natural Gas Aboveground Less Than 5 PSI:

Black steel, Schedule 40, ASTM A-53, screwed 1/2 inch through 2 inches with 150# malleable iron joints. Black steel, Schedule 40 ASTM A-53, butt welded, standard weight welded fittings - 2-1/2" and larger with 150# welded neck flange.

DIVISION 23 - HVAC

SECTION 23 0700 - HVAC INSULATION

A. General:

All work shall be done by experienced insulation applicators in strict accordance with manufacturer's latest recommendations and shall be finished in a neat and workmanlike manner. Thermal conductivity shall not exceed 0.24 BTUH per square foot F° /inch. Insulation shall be equivalent to Owens-Corning Fiberglass 25 ASJ/SSL.

All insulation shall have a composite rating including insulation adhesives, jacket, etc. as follows. The composite assembly shall have a flame spread rating not over 25 and a smoke developed rating not higher than 50.

Pipe fittings shall be covered with preformed insulating fittings such as Zeston 25/50 rated PVC insulated fitting cover (pearl gray finish).

At hangers and supports of insulated pipe, provide high density insulation (maximum deflection 1/8 inches) and 12 inches long, 22 gauge galvanized sheet metal shields covering 50% of the circumference.

Refrigeration piping insulation material shall be a highly flexible, closed cell EPDM rubber based elastomeric product. Insulation shall be Aeracell SSPT or AC, Armaflex UT/Solaflex or K Flex Solar HT. Thermal conductivity of the insulation shall not exceed 0.245 BTUH square foot F degree/inch at 75° mean temperature. Insulation shall have a maximum 25/50 fire/smoke rating and be applied according to manufacturer's instructions. All joints must be sealed and the piping supported with inserts and galvanized exterior shields. Sizing per schedule.

B. Piping:

Cold Service:

Refrigerant Piping: 1 inch

Piping insulation exposed to weather shall have insulation thickness increased by 1 inch and be wrapped with a 0.016 inch thick aluminum cover.

SECTION 23 0923 - TEMPERATURE CONTROLS

A. This system shall be installed complete in all respects by competent mechanics, regularly employed by the manufacturer of the temperature control equipment.

B. All electrical wiring to be in accordance with the National Electrical Code. The HVAC Contractor is responsible for all control and interlock wiring required for the complete installation that is not shown on the Electrical Drawings.

C. The HVAC Contractor is responsible for all power wiring for the complete control system. This shall include dedicated 120 volt, 20 amp circuit(s) for direct digital controls. All 120 volt circuits shall be from the nearest receptacle panel with the maximum load on any single circuit being 1400 watts.

D. All exposed temperature control and interlock wiring and all power wiring regardless of voltage, shall at a minimum be run in EMT. Conduit system in Mechanical and Electrical Rooms below eight feet above floor shall be IMC. See Electrical Division for additional conduit requirements. Concealed low voltage wiring, such as communication wire, thermostat wire, etc. shall be plenum grade, fastened securely to building structure. See Electrical Specification for additional low voltage wiring requirements. Low voltage wiring shall not be laid directly on the ceiling or be attached to any other electrical conduits.

E. On completion of the job, the HVAC Contractor shall completely adjust, ready for use, all thermostats, valves, dampers, damper motors and relays provided under his Contract. The Control Contractor shall provide a complete instruction manual covering the function and operation of all control components on the job. This manual shall be furnished to the Owner's operating personnel and a competent technician shall be provided for instruction purposes after the system is substantially complete and ready for operation.

SECTION 23 2000 - HVAC PIPING

A. Refrigerant Piping:

Type ACR hard copper with streamline fittings and Alco or Sporlan specialties. Bone-dry nitrogen shall be bled into lines while soldering. Extra care shall be taken to insure cleanliness. System shall be pressure and vacuum tested. A good refrigeration solder such as Sil-Fos shall be used in making joints. Install purge, charging and service valves as per manufacturer's recommendations and standards. Refrigeration piping shall in all cases conform to the air conditioning equipment manufacturer's recommendations and standards. Pre-charge refrigerant piping may be used if systems are 5 tons or less and length of piping is 50 feet or less. After start-up, replace liquid line filter driers, if necessary.

SECTION 23 3000 - AIR DISTRIBUTION SYSTEM

A. Sheet Metal Ductwork:

Shall be fabricated and installed in accordance with the latest ASHRAE and SMACNA recommendations and in the best practices of good workmanship. All ductwork shall be constructed of prime hot dip galvanized sheet steel. All joints, longitudinal and transverse seams and connections shall be securely fastened and sealed with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric systems or tapes.

While the drawings are to be adhered to as closely as possible, the right is reserved to vary the run and sizes of ducts during the progress of the work as may be found necessary or desirable to avoid local interferences.

Openings around exposed or concealed ductwork passing through walls, or partitions, when not protected by fire dampers or doors properly installed, shall be sealed with a sheet metal collar on both sides of the wall.

On all air handling units, fans, air conditioning units, etc. duct connections shall be flexible connections using Ventglas 30 ounce, or Durolon 24 ounce material. Canvas will not be acceptable.

Paint inside of ductwork exposed behind all registers and grilles flat black.

B. Manual Balancing Damper:

In square or rectangular ductwork at pressures below 2" W.G., dampers less than 1 sq. ft. in area or less than 12 inches high shall be Titus Model AG-35B or equivalent by Grille, Register and Diffuser Manufacturer. Damper in square or rectangular ductwork larger than the above shall be Ruskin Type CD-35 or equivalent by Vent Products, Air Balance, Pottorff, Louver and Damper, Inc., Greenheck, Cesco or Air Control.

SECTION 23 5400 - FORCED AIR FURNACES

PART 1 - GENERAL

A. SECTION INCLUDES

- Forced Air Furnaces
- Controls
- Evaporator Coil
- Condensing Unit

B. REFERENCES

NFPA 54 - National Fuel Gas Code; National Fire Protection Association.

NFPA 90A - Standard for the Installation of Air Conditioning and Ventilating Systems; National Fire Protection Association.

NFPA 90A - Standard for the Installation of Warm Air Heating and Air Conditioning Systems; National Fire Protection Association.

C. WARRANTY

See General Requirements for additional warranty requirements.

Unit shall have a full one (1) year warranty. Provide an extended four (4) year replacement warranty for the refrigeration compressors after the first year full replacement warranty (parts and labor). The four (4) year warranty shall be for compressor replacement only; all labor charges will be the responsibility of the Owner.

PART 2 - PRODUCTS

A. Manufacturers:

- The Carrier Corporation
- Lennox
- The Trane Company
- York International Corporation
- American Standard
- Goodman
- Substitutions: See General Requirements

B. Units: Self-contained, packaged, factory assembled, pre-wired high efficiency unit consisting of cabinet, supply fan, heating element, controls, air filter, intake and exhaust air connections, and accessories; wired for single power connection with control transformer.

Air Flow Configuration: upflow.

Heating: Natural gas fired.

Accessories:

- Concentric Roof Termination Kit
- Evaporator Coil
- Condensing Unit

C. Cabinet: 22 gauge steel with baked enamel finish, easily removed and secured access doors with safety interlock switches, glass fiber insulation with reflective liner. For counterflow units, provide additive steel base.

D. Supply Fan: Direct drive multi-speed blower and motor.

E. Heat Exchanger: Aluminized and stainless steel tubular type.

F. Gas Burner:

Low energy power venter, vent proving differential.

Gas valve, two-stage provides 100 percent safety gas shut-off; 24 volt combining pressure regulation, safety pilot, manual set (On-Off), pilot filtration, automatic electric valve.

Electronic pilot ignition, with electric spark or hot surface igniter.

Non-corrosive combustion air blower with permanently lubricated motor.

G. Gas Burner Safety Controls:

Thermocouple Sensor: Prevents opening of gas valve until pilot flame is proven and stops gas flow on ignition failure.

Flame Rollout Switch: Installed on burner box and prevents operation.

Limit Control: Fixed stop at maximum permissible setting, de-energizes burner on excessive bonnet temperature, automatic resets.

H. Operating Controls:

Unit shall be provided with a programmable heating/cooling thermostat with "Off-Heat-Cool" system switch and "On-Off" fan switch.

Room Thermostat: Cycles burner to maintain room temperature setting.

Supply Fan Control: Energize from bonnet temperature independent of burner controls, with adjustable timed off delay and fixed timed on delay, with manual switch for continuous fan operation.

I. Air Filters: 1 inch thick urethane, washable or glass fiber disposable type arranged for easy replacement. Provide all necessary sub-bases and filter frames for installation as indicated with throwaway filters

J. CONDENSING UNIT

Provide air cooled condensing unit designed for outdoor installation. Unit shall have finished galvanized steel casing that shall house the following equipment:

- Hermetically Sealed Compressor
- Copper Tube and Aluminum Finned Condenser Coil
- Condenser Fan and Fan Motor
- Unit shall have a Minimum SEER of 14
- Low Ambient Control to 55 degrees F.

Also included shall be all electric safety and operating controls required for operation. Precharged refrigerant tubing will be acceptable.

K. EVAPORATOR COIL

Furnace shall be provided with an evaporator coil that shall deliver the indicated capacity on Schedule. Coil shall be factory leak tested, dehydrated, sealed and shipped with a holding charge.

PART 3 - EXECUTION

A. EXAMINATION

Verify that substrates are ready for installation of units and openings are as indicated on shop drawings.

Verify that proper power supply is available and located correctly.

Verify that proper fuel supply is available for connection.

B. INSTALLATION

Install in accordance with manufacturer's instructions and requirements of authorities having jurisdiction.

Pipe drain from furnace and cooling coil to nearest floor drain. If auxiliary drain is not piped to a conspicuous point of disposal an UL 508 rated water level detecting device shall be provided to shut off the equipment in the event the primary drain is blocked.

END OF OUTLINE SPECIFICATION

JAMES S. JACOBS ARCHITECTS, PLLC
25 WASHINGTON STREET
MONROE, MICHIGAN 48161
TEL: (734) 241-7933
FAX: (734) 241-1181
EMAIL: jmj@jsjacobsarch.com

JDRM Engineering
Mechanical | Electrical | Plumbing | Technology | Safety
5604 N. Main St. Suite 200
Sylvania, Ohio 43560
PH: (419) 824-2400
FAX (419) 824-2409
www.jdrm.com

MECHANICAL FURNACE REPLACEMENTS FOR:

MONROE COUNTY OPPORTUNITY PROGRAM

MCOP EXECUTIVE DIRECTOR:
MRS. STEPHANIE ZORN-KASPRZAK
1140 SOUTH TELEGRAPH ROAD
MONROE, MICHIGAN 48161
TELEPHONE: (734) 241-2775

MECHANICAL SPECIFICATIONS

NOT FOR CONSTRUCTION

DATE:	ISSUED FOR:
11-10-25	ADDENDUM NO. 2
10-17-25	BIDS
DRAWN	BRR
REVIEW'D	JDS

202537

MP-1

– OF –

Plotted by: Ben Ruff Plot Date: 11/10/2025 3:25 PM Save Date: 11/10/2025 8:50 AM File Name: JD25067-MP1.DWG

Section BF Bid Form **ADDENDUM #2**

202537 – Mechanical Equipment Replacement & Ductwork Modifications For Monroe County Opportunity Program (MCOP) Administrative Offices at 1140 S. Telegraph Road, Monroe, MI 48161

For Receipt prior to 10:00 AM Local Time FRIDAY, November 21, 2025 And Will Be Opened At A Later Time

Bid Proposals will be Received at the Office of the Architect.

James S. Jacobs Architects, PLLC
25 Washington Street
Monroe, Michigan 48161

Identified as:

Mechanical Equipment Replacement & Ductwork Modifications for:
Monroe County Opportunity Program (MCOP) Administrative Offices at
1140 S. Telegraph Road
Monroe, MI 48161

Having read the Specifications and Examined the Documents entitled:

Mechanical Equipment Replacement & Ductwork Modifications for:
Monroe County Opportunity Program (MCOP) Administrative Offices at
1140 S. Telegraph Road
Monroe, MI 48161

Addenda Numbers _____

Prepared By: James S. Jacobs Architects, PLLC
25 Washington Street
Monroe, Michigan 48161

Having inspected the site and the conditions affecting and governing the construction of said project, the undersigned:

Bidder's Company Name: _____

Address: _____

Date: _____ Telephone No: ( )_____

Email Address:_____ Fax No:_____

Hereby proposes to furnish all permits, labor, materials, tools, equipment, supervision, and service required for the completion of the Work described in the documents for the following sums.

Bidders shall fill in all blanks hereinafter applicable to contract for which Bid is being submitted. Write in the sum and figures. In the event of discrepancy, written words shall prevail.

PROPOSAL

GENERAL CONSTRUCTION FOR MECHANICAL EQUIPMENT REPLACEMENT & DUCTWORK MODIFICATIONS FOR MONROE COUNTY OPPORTUNITY PROGRAM (MCOP) ADMINISTRATIVE OFFICES: Provide and install as described in the Contract Documents.

For The Sum Of_____

_____ Dollars. $_____

The Cost of the Performance and Payment Bond included in the Sum above is_____

_____ Dollars. $_____

ALLOWANCE #1 – AS DEFINED BY CONTRACTOR: LUMP-SUM, UNIT-COST, OR QUANTITY CONTINGENCY FOR: Contractors to include a labor and material allowance for the removal, reconfiguration, and connection of ductwork within the attic space to the new furnaces (typ. of 3 furnaces). Work shall include as-built documentation of duct runs and connections at the completion of the installation. In general, the intent is to create 3 zones similar to that schematically shown on Sheet M-2 at the completion of the installation. It is anticipated that duct reconfiguration to accomplish this will be within 20 feet of the mechanical room. The intent is not to reconfigure the ductwork distribution layout including supply and return grilles at this time, but rather to make the necessary adjustments to create three supply trunks to connect to the new furnaces. The allowance is intended for above ceiling ductwork reconfiguration only. All other Work Scope required for the installation shall be hard Bid with the Base Bid Work Scope.

Add to the Proposal the Lump Sum of:_____

_____ Dollars. $_____

OR

Add to the Proposal the Unit Cost of: _____

_____ Dollars. $_____

OR

Add to the Proposal the Quantity Contingency of: _____

_____ Dollars. $_____

ALTERNATE #1 - ADD TO THE PROPOSAL THE COST TO: Mechanical Contractor to provide pricing to furnish temporary heating during the replacement of the existing furnaces, as the client is to remain open and operational, so the building will be occupied during this time.

Add to the Proposal the Sum of:_____

_____ Dollars. $_____

SUBSTITUTIONS

Bidder is to Bid on the "standards" specified, and to enter on the following, all material which the Bidder wishes to have considered for possible substitution.

The following substitutions from the "standards" specified are listed herein for consideration, and if accepted, the contract sum may be adjusted in accordance with the following:

Item	Add	Deduct	No Change
A.			
B.			
C.			
D.			
E.			

CONTRACT

The undersigned agrees that above prices shall hold for 60 days after receipt of proposals and to comply with all requirements of the Contract Documents.

TIME OF STARTING WORK

The Contractor shall commence Work after approval of MCOP with fully executed Contract with General Contractor for Award of Contract. Contractor shall also carry on his operations in such a manner as to cause the least delay in the execution of the Work.

TIME OF COMPLETION

The undersigned warrantees that "Substantial Completion of the Work" as defined by the Construction Documents, shall be achieved no later than _____ calendar days from the date of award of contract. A range of days is acceptable.

RFI'S & BID CONTRACT QUESTIONS

All questions, in written form, shall be directed to the office of the Architect, James S. Jacobs Architects, 25 Washington Street, Monroe, Michigan 48161. Phone: (734) 241-7933.

Email: Kris Benson, Project Manager krisb@jsjacobsarch.com and

Cc: Tyler Gedelian tylerg@jsjacobsarch.com

BID BOND

Not Required

PERFORMANCE BOND

None Required if Bid is under Fifty Thousand Dollars. Bids over this amount shall include a 100% performance and payment bond.

WITHDRAWAL OF PROPOSAL

It is understood that this Proposal may be withdrawn prior to scheduled opening date or postponement thereof.

BIDDER IS TO INCLUDE THE FOLLOWING DOCUMENTS WITH THE BID FORM

Bidder Statement of Qualifications

Statement Regarding Familial Relationship Affidavit

SUBMITTED BY

Company Name: _____

Address: _____

_____

Signed: _____

_____

Typed Signature Title

Proposal Form shall be filled out in true duplicate. If Bidder is Corporation, indicate State of Incorporation, if Partnership, give full names of partners.

End Section BF – Bid Form

BIDDER STATEMENT OF QUALIFICATIONS

Company Name:_____

Company Address:_____

Telephone Number: _____
Fax Number: _____

Contact Name:_____
Contact Title:_____

Number of Years in business:_____
Contact Email:_____

Client Data (Reference #1) **Description of Service**

Client Data #1:_____ _____

Address: _____
_____
_____

Contact Name:_____
Contact Phone:_____

Contact Email:_____

Client Data (Reference #2) **Description of Service**

Client Data #2:_____ _____

Address: _____
_____
_____

Contact Name:_____
Contact Phone:_____

Contact Email:_____

Client Data (Reference #3) **Description of Service**

Client Data #3:_____ _____

Address: _____
_____
_____

Contact Name:_____
Contact Phone:_____

Contact Email:_____

STATEMENT REGARDING FAMILIAL RELATIONSHIP

AFFIDAVIT OF _____
(Insert Name of Affiant)

STATE OF MICHIGAN)
)ss
COUNTY OF_____)

_____makes this Affidavit under oath and states as follows:
(Insert Name of Affiant)

1. I am a/the:
- ☐ President
- ☐ Vice-President
- ☐ Chief Executive Officer
- ☐ Member
- ☐ Partner Owner
- ☐ Other (please specify) _____
- ☐

of_____, a Bidder on a Construction Project for
(Insert name of Contractor)

MCOP that involves, at least in part**, Mechanical Equipment Replacement & Ductwork Modifications** for **MCOP**.

2. I have personal knowledge and/or I have personally verified that the following are all of the familial relationships existing between the Owner(s) and the Employee(s) of the aforementioned Contractor and MCOP: (leave blank if none)

_____

_____

_____

3. I have authority to bind the aforementioned Contractor with the representations contained herein, and I am fully aware that MCOP will rely on my representations in evaluating Bids for the Construction Project.

4. I declare the above information to be true to the best of my knowledge, information and belief. I could completely and accurately testify regarding the information contained in this Affidavit if requested to do so.

_____
(Signature of Affiant)

Dated: _____

Subscribed and sworn before me in_____County,

Michigan, on the_____day of_____, 2025.

_____(signature)

_____(printed)

Notary public, State of Michigan, County of _____

My Commission expires on _____

Acting in the County of _____