

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

DIVISION 15 - MECHANICAL
PART 1 - GENERAL

1. WORK INCLUDED
 - A. Provide all labor, materials and equipment required to install the complete mechanical systems shown on the contract documents and including but not limited to the following:
 - Air furnaces (gas fired).
 - Distribution Ductwork
 - Air outlets.
 - Duct insulation.
 - New gas service.
 - Gas piping.
 - Testing and Air Balancing..
 - New temperature controls.
2. RELATED WORK
 - A. The following work is covered by other Divisions of the Specifications:
 - 1) All finished painting of exposed pipes, apparatus, etc., except as otherwise specified herein.
 - 2) The installation of all access doors in building construction.
 - 3) Cutting and Patching.
3. GENERAL REQUIREMENTS
 - A. Provide all furnaces control devices, Air outlets, ductwork, equipment and accessories required to obtain specified performance.
 - B. Contractors shall coordinate responsibility for all items to obtain complete operable systems. Contractor is responsible for all changes to work of all trades necessitated by providing equipment differing in any respect from that indicated.
 - C. All equipment shall be selected to fit available space.
4. CODES AND STANDARDS
 - A. Entire installation and all equipment shall conform to all applicable codes including the New Jersey State Building Code, the NFPA, the National Electric Code, the New Jersey State Energy Conservation Construction Code and other applicable requirements.
 - B. Entire installation shall be in accordance with the appropriate standards of ASHRAE, SMACNA, ANSI, NESCA, ASPE, ASSE, and the equipment manufacturer's recommendations. All work shall be performed by skilled mechanics under expert supervision and be first-class in every respect. Where applicable, all equipment shall have U.L. listing.
 - C. Seismic Restraint
 - 1) All work shall conform to the Code requirements for seismic restraint.
 - D. Contractor to file for and secure all permits required to perform work.
5. SUBMITTALS
 - A. Submit cuts and data sheets of the following to the Engineer for review:
 - Air furnaces.
 - Air Outlets.
 - Insulation.
 - Thermostats.
 - B. Sheet metal shop drawings and construction standards.
 - C. Upon substantial project completion, submit the following for review by the Engineer:
 - Air Balance Reports

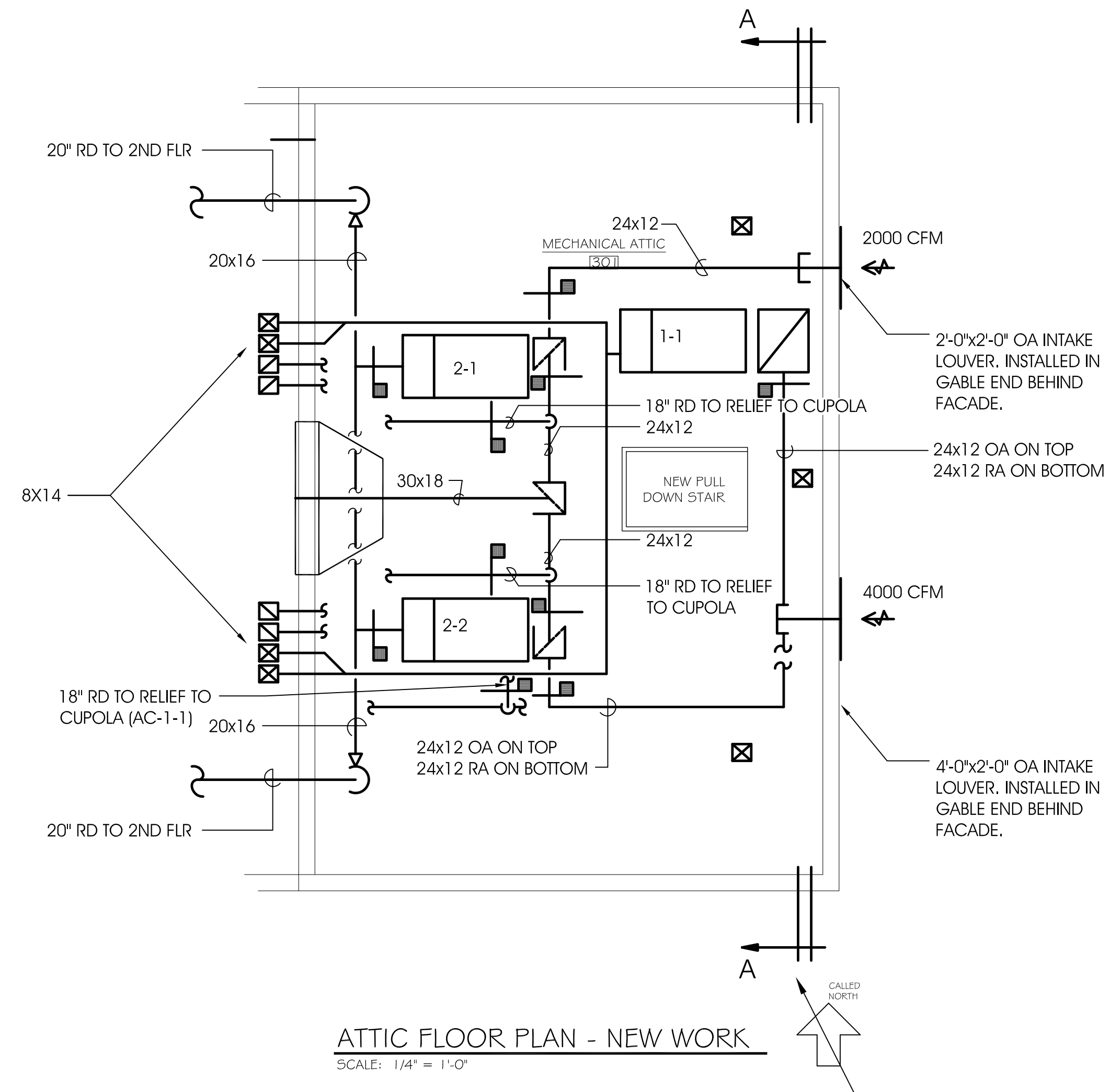
PART 2 - PRODUCTS AND SYSTEMS

1. DUCTWORK
 - A. Construction - Galvanized sheet metal constructed in accordance with the appropriate standards of ASHRAE, SMACNA and NFPA. Provide round sizes or equivalent rectangular size.
 - B. Provide access doors at all fire dampers.
 - C. Provide turning vanes in rectangular elbows and round elbows with centerline radius less than duct width.
 - D. Ductwork shall be a minimum of 26 gauge. Plenums shall be a minimum of 20 gauge. Conform to ASHRAE and SMACNA recommendations.
 - E. Support ductwork per SMACNA and local code requirements. See General Notes for seismic requirements.
2. INSULATION
 - A. Provide all labor, materials, equipment and services, and perform all operations required for complete installation of insulation and related work as indicated on the drawings or specified herein, all in strict accordance with the insulation manufacturer's recommendations and the best practice of the trade.
 - B. Apply insulation only after all tests have been completed. All insulations, coverings, vapor barriers and adhesive to have an NFPA flame spread rating no higher than 25, a fuel contributed rating no higher than 50 and a smoke developed rating no higher than 50.
 - C. Attach blanket insulation with cement and copper wire. Seal all breaks and joints in vapor barrier to maintain an unbroken surface. Maintain integrity of insulation and vapor barrier where ducts penetrate floors or walls.
 - D. Duct sizes shown on drawings are net internal dimensions. Maintain continuous vapor barrier for all supply ducts and cold piping.
3. AUTOMATIC TEMPERATURE CONTROLS
 - A. General -
 1. Provide all controllers, devices, relays, thermostats and switches to enable systems to operate in accordance with the "Sequence of Operation". Coordinate with Division 16 to obtain all required power. Provide all control and interlock wiring for mechanical equipment. Division 16 shall provide line voltage power supply to a junction box as required from electrical panel. This contractor to wire from JB to devices at line & low voltage wiring required. Coordinate with equipment manufacturers for all control interfaces.
 2. All components shall be U.L. approved
 3. Service and Guarantee -
 - a. After completion of the control system installation, the Contractor shall regulate and adjust all thermostats, control valves, motors, etc., and place them in complete operating condition subject to the review of the Engineer. Complete instructions shall be given to the Owner.
 - b. The control system shall be guaranteed to be free from defects in workmanship and material under normal use and service. If, within one year from date of acceptance by the Owner, any item is found to be defective in workmanship or material, it shall be adjusted, repaired, or replaced free of charge.
 - c. Prepare coordinated wiring diagrams of all control wiring and submit for review. Provide the Owner with two copies of the control shop drawings laminated in clear plastic.
 - B. Technical Requirements
 1. Room thermostats to be visible indication, accessible adjustment type mounted 5'-3" AFF. Color to be approved by Architect.
 2. Motorized dampers shall be opposed blade low leakage type, Johnson D-1300, Honeywell D-643 or equivalent.

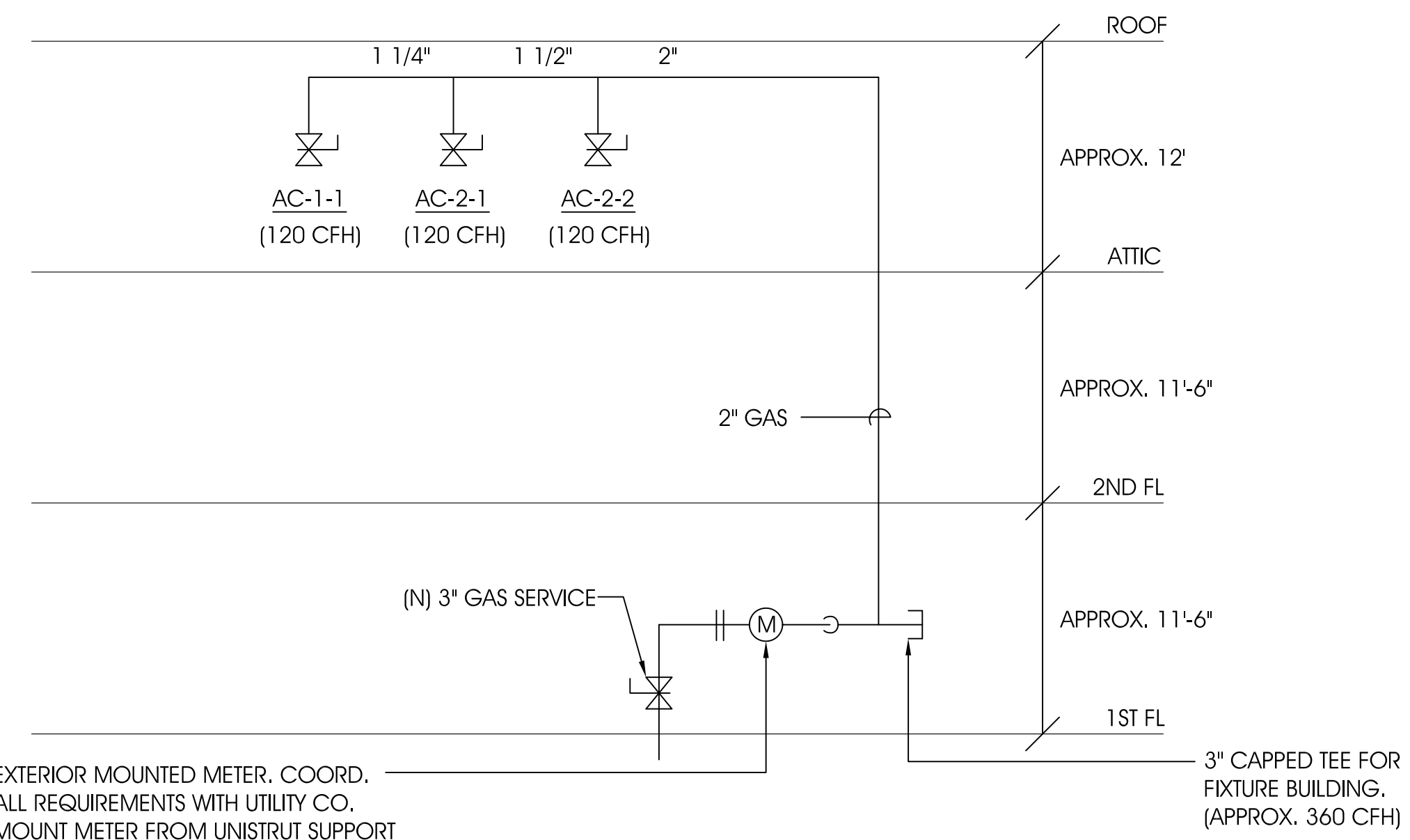
PART 3 - EXECUTION

1. INSTALLATION REQUIREMENTS
 - A. All equipment shall be installed so as to be accessible for maintenance and servicing. Provide access doors as required.
 - B. Provide isolation valves at all equipment to permit servicing.
 - C. Support all piping with hangers. Do not use wire or metal bands or tape. (Copper plated metal bands firmly supported from structure and bolted around pipe to form a clevis type loop, may be used in lieu of hangers.)
 - D. Coordinate and be responsible for all Structural, Architectural and Electrical requirements for equipment selected.
2. TESTING AND BALANCING
 - A. Provide a Preliminary Report noting present operating conditions of all fans noted on Fan Schedule. Submit a Preliminary Report to Engineer for review. Include a single-line diagram of systems indicating all supply, exhaust, and return outlets. Upon receipt of Engineer's comments, prepare to perform the Final Air Balance per comments and bid documents.
 - B. Upon completion of construction, balance air conditioning system, including all exhaust and return fans. Provide a Report. Contractor to return to site a third time after Engineer's comments are returned for final adjustments. Make all adjustments to the satisfaction of the Owner and the Engineer.

END OF DIVISION 15



ATTIC FLOOR PLAN - NEW WORK
SCALE: 1/4" = 1'-0"



EXTERIOR MOUNTED METER. COORD. ALL REQUIREMENTS WITH UTILITY CO. MOUNT METER FROM UNISTRUT SUPPORT TO CONC. SLAB PROVIDED BY SLAB.

GAS RISER DIAGRAM
N.T.S.

- NOTES:
1. GAS PIPING - INSIDE BUILDING TO SCHEDULE 40 BLACK STEEL WITH SCREWED MALLEABLE IRON 150# FITTINGS.

Phase 1

DARLINGTON SCHOOLHOUSE

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CHECKED BY	RHB
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