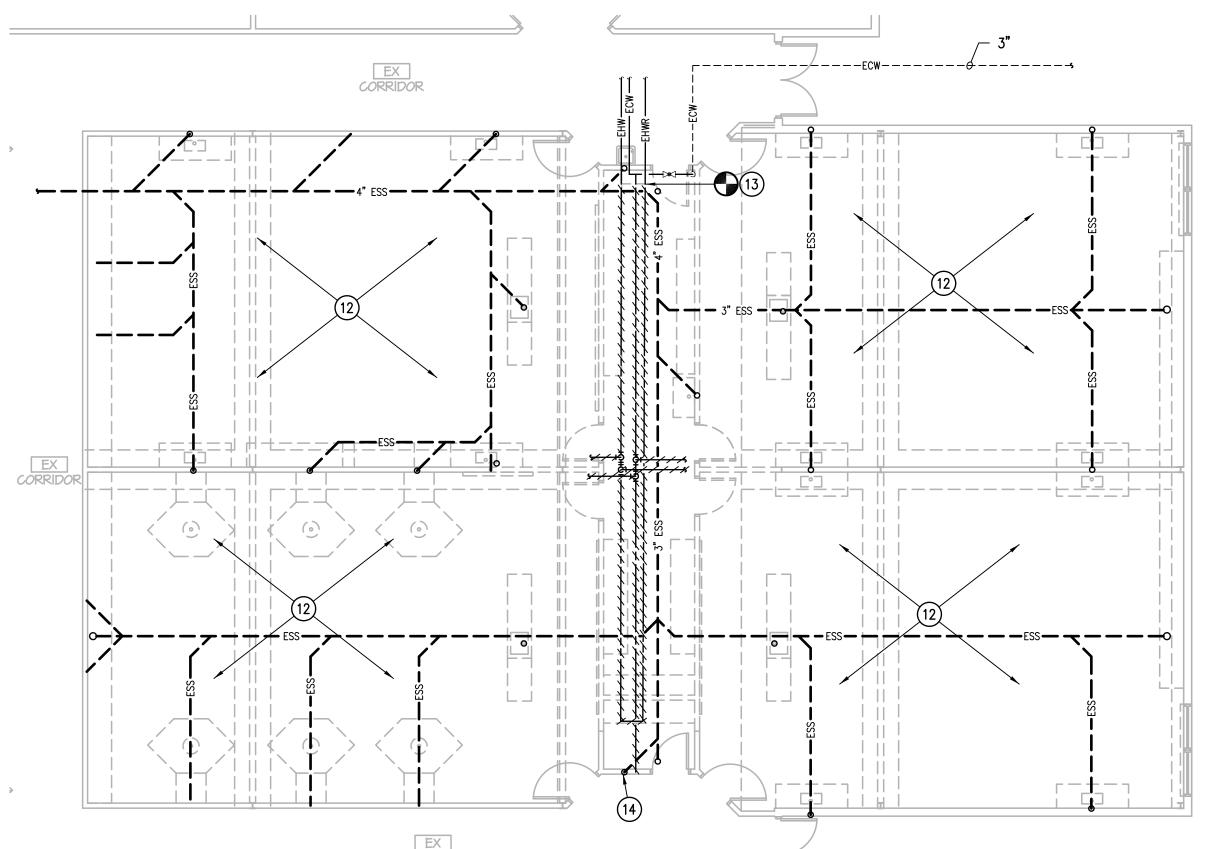


GENERAL MECHANICAL DEMOLITION NOTES:

- A. REMOVE EXISTING MECHANICAL AND PLUMBING SYSTEMS SERVING THE GYMNASIUM BUILDING, INCLUDING ALL SURROUNDING OFFICES AND ANCILLARY SPACES, IN ITS ENTIRETY. REMOVE AND CAP UTILITY SERVICES, SUCH AS NATURAL GAS, WATER AND SEWER, OUTSIDE OF BUILDING FOOTPRINT.
- B. THE SURROUNDING JUNIOR HIGH SCHOOL BUILDING IS OCCUPIED AND DEMOLITION OF HVAC SYSTEMS, EQUIPMENT AND PIPING MUST BE COORDINATED AND SCHEDULED WITH THE OWNER.
- C. OWNER HAS FIRST RIGHT OF REFUSAL FOR ALL EQUIPMENT REMOVED. VERIFY WITH OWNER PRIOR TO DISPOSAL.
- D. LOCATION OF EXISTING EQUIPMENT, PIPING AND DUCTWORK IS BASED ON EXISTING DRAWINGS/SURVEY. EXTREME ACCURACY IS NOT GUARANTEED AND FIELD VERIFICATION OF HVAC AND PLUMBING SYSTEMS IS REQUIRED FOR DEMO AND MODIFICATIONS.
- E. ALL EXISTING EQUIPMENT IDENTIFIED TO REMAIN, EVEN TEMPORARILY, SHALL BE PROTECTED FROM DAMAGE AS REQUIRED DURING CONSTRUCTION OF WORK IN OTHER AREAS.
- F. EXISTING FIRE SUPPRESSION SYSTEM, INCLUDING SPRINKLERS AND PIPING TO BE PROTECTED IN PLACE DURING INSTALLATION OF NEW RTUS AND DUCTWORK WITHIN THE EXISTING JUNIOR HIGH SCHOOL. PREMISES TO BE PROTECTED AT ALL TIMES.

SPECIFIC MECHANICAL DEMOLITION NOTES (()):

- 1. EXISTING SUPPLY DUCT SHOWN THIS AREA IS ROUTED WITHIN ONE OF TWO SOFFITS. CONTRACTOR TO CONFIRM IT IS ROUTED AS SHOWN. IF LOCATED WITHIN THE OTHER SOFFIT, CONTRACTOR SHALL REMOVE, STORE AND PROTECT AND RE—INSTALL WITH ALL CONNECTIONS TO EXISTING AIR DEVICES. EXISTING AIR DEVICES TO REMAIN. REMOVE/RE—INSTALL AS REQUIRED FOR INSTALLATION OF WALL. RE—CONNECT AIR DEVICES.
- 2. EXISTING AIR DEVICES TO REMAIN. REMOVE/RE—INSTALL AS REQUIRED FOR INSTALLATION OF NEW ROOF DRAINS. RE—CONNECT AIR DEVICES.
- REMOVE EXISTING SINK, POINT-OF-USE WATER HEATER AND ALL ASSOCIATED PIPING. RE-INSTALL SINK AND RE-CONNECT 1/2" CW AND EXISTING WASTE AND VENT. PROVIDE NEW HW PIPING SERVICE FROM NEW LOCKER ARE, REFER TO P201. RETURN WATER HEATER TO OWNER.
- 4. REMOVE AIR DEVICES, DUCTWORK AND EXISTING VV TERMINALS SHOWN DASHED TO POINT INDICATED AND STORE/PROTECT TO ALLOW INSTALLATION OF NEW METAL DECK AND STRUCTURE. RE—INSTALL DUCTWORK, TERMINAL UNITS AND AIR DEVICES. REPAIR/REPLACE DAMAGED OR DEFECTIVE PARTS. RE—CONNECT TO EXISTING T—STAT/CONTROLS.
- 5. REMOVE EXISTING ROOFTOP UNIT AND CURB TO ALLOW INSTALLATION OF NEW ROOF INSULATION AND ROOF MODIFICATIONS. PROVIDE NEW ROOF CURB FOR EXISTING CARRIER 48LCS004B2M6 TO MAINTAIN MINIMUM REQUIRED ROOF HEIGHT ABOVE ROOF. CONTRACTOR TO VERIFY REQUIRED CURB HEIGHT NECESSARY FOR ADDITIONAL ROOF INSULATION ADDED AND PROPER FLASHING REQUIRED BY THIS INSTALLATION. RE—INSTALL UNIT AND RE—CONNECT ALL SERVICES AND DUCTWORK.
- 6. REMOVE EXISTING ABANDONED ROOF VENT. SEAL OPENING WEATHERTIGHT, REFER TO ARCHITECTURAL DRAWINGS AND SPECS.
- 7. REMOVE EXISTING ABANDONED GAS PIPING FROM ROOF, INCLUDING DROP THRU ROOF, AND ASSOCIATED SUPPORTS.
- 8. REMOVE DOUBLE DUCT TERMINAL UNIT AND ALL DOWNSTREAM DUCTWORK AND AIR DEVICES. CAP HP SUPPLY DUCT RUNOUTS.
- 9. REMOVE RETURN AIR DEVICE AND ANY ASSOCIATED DUCTWORK.
- 10. REMOVE RETURN AIR DEVICE AND ANY ASSOCIATED DUCT TO ALLOW INSTALLATION OF NEW STRUCTURAL PLATE. RE-INSTALL AIR DEVICE AND ANY ASSOCIATED
- 11. REMOVE T-STAT, PATCH WALL AS REQUIRED.
- 12. REMOVE ALL SCIENCE LAB FIXTURES AND ASSOCIATED PIPING. REMOVE ANY AND ALL NATURAL GAS PIPING (EXPOSED, SLEEVED OR ABANDONED). CAP WASTE PIPING BELOW FLOOR.
- 13. REMOVE ALL WATER SERVICES SHOWN HATCHED AND WITHIN THE EXISTING FURRED SPACES (PIPING NOT SHOWN). CAP PIPING UPSTREAM AT POINT OF CONNECTION INDICATED FOR CONNECTION TO NEW AS SHOWN ON P102.
- 14. REMOVE WASTE AND CAPPED WATER SERVICE AT THIS LOCATION SUCH THAT SERVICES ARE PROPRELY CAPPED WITHIN WALL AND WALL CAN BE PATCHED.
- 15. REMOVE AND REPLACE EXISTING WATER COOLER WITH NEW P-6BF. RE-CONNECT ALL SERVICES.
- 16. REMOVE EXISTING EXHAUST FAN AND PROVIDE CURB CAP FOR ROOF PENETRATION. ROOF OPENING TO BE USED FOR NEW PLUMBING VTR.



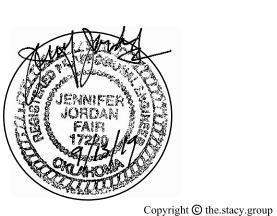


PLUMBING DEMOLITION PLAN — SCIENCE LABS

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JUNIOR HIGH SHELTER ADDITION

PRYOR PUBLIC SCHOOLS

> PRYOR, OK 2019

> > KEY I

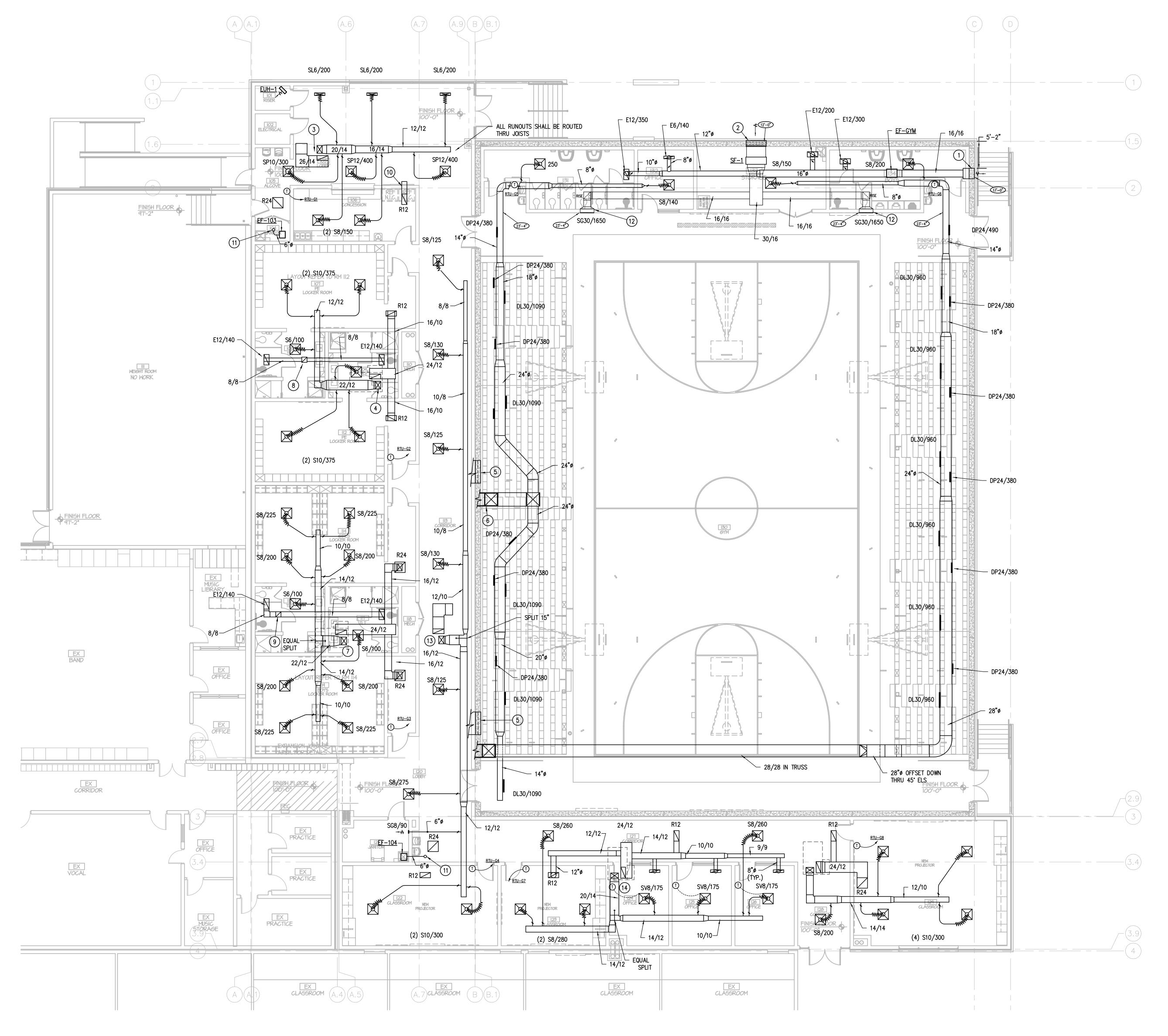
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PLAN

NGS PROJECT NO JJF DRAWN BY CHK'D BY

MECHANICAL/ PLUMBING DEMOLITION

MD101





GENERAL MECHANICAL NOTES:

- A. INSTALL ALL DUCTWORK AND ACCESSORIES PER 2015 INTERNATIONAL MECHANICAL CODE AND ALL LOCAL CODES, AND AUTHORITY HAVING JURISDICTION.
- B. COORDINATE EXACT LOCATION OF ALL AIR DEVICES WITH THE REFLECTED CEILING PLAN.
- C. COORDINATE ALL ROOF PENETRATIONS AND ROOF MOUNTED EQUIPMENT LOCATIONS WITH STRUCTURAL. COORDINATE MASONRY WALL PENETRATION WITH STRUCTURAL. PENETRATIONS THRU SHELTER WALL SHALL BE CAREFULLY COORDINATED WITH THE PRECAST PANEL SUPPLIER. SUPPLY OPENINGS THRU PRECAST WALL MUST ALIGN WITH DOUBLE TEE TRUSSES TO ALLOW DUCTS TO BE ROUTED UP INTO TRUSS SPACE WITHOUT OFFSET.
- D. MAXIMUM FLEXIBLE S/A DUCTWORK AT ANY AIR DEVICE SHALL NOT EXCEED 5'-0". PROVIDE ADDITIONAL SUPPORTS AS NECESSARY TO PREVENT CONTACT WITH CEILING MATERIAL/ASSEMBLY.
- E. REFER TO AIR DISTRIBUTION DEVICE SCHEDULE FOR SUPPLY RUNOUT
- F. MOUNT THERMOSTAT AT NOT MORE THAN 48" AFF. COORDINATE W/ LIGHT SWITCHES. MOUNT DEVICE LEVEL WITH COVER AND TRIM SNUG TO WALL. PROVIDE CLEAR PROTECTIVE COVER FOR T-STAT AT GYM SUBMIT CUTSHEET FOR APPROVAL.
- G. RETURN AND/OR EXHAUST DEVICE AIRFLOW VOLUMES SHALL EQUAL SUPPLY UNLESS INDICATED OTHERWISE.
- H. CO SENSOR SHALL BE PROVIDED FOR EACH CLASSROOM BY DIVISION 28 FIRE ALARM INSTALLED AT CEILING.

SPECIFIC MECHANICAL NOTES ():

- PROVIDE 24/24 EXHAUST LOUVER, FEMA RATED, REFER TO DETAIL K/M201 FOR ADDITIONAL INFORMATION. COORDINATE INSTALLATION WITH STRUCTURAL DRAWINGS.
- 2. PROVIDE 46/36 INTAKE LOUVER, FEMA RATED, REFER TO DETAIL B/M201 FOR ADDITIONAL INFORMATION. COORDINATE INSTALLATION WITH STRUCTURAL DRAWINGS. TRANSITION 46/36 O/A FROM LOUVER TO 43/14 INTAKE AT SUPPLY FAN. TRANSITION 40/11 DISCHARGE TO 30/16.
- 3. 18/12 S/A & 26/11 R/A FROM <u>RTU-G1</u>, TRANSITION TO 20/14 S/A, DROP 26/11 R/A INTO 26/14 R/A PLENUM.
- 4. 18/12 S/A & 26/11 R/A FROM <u>RTU-G2</u>, TRANSITION TO 22/12 S/A, DROP 26/11 R/A INTO 24/12 R/A DUCT.
- R52 RETURN AIR GRILLE AND FEMA LOUVER ASSEMBLY. REFER TO ROOF PLAN FOR CONTINUATION AND DETAILS ON M201 AND M202.
- 6. 28/28 S/A DUCT THRU SHELTER WALL AT ≈ 15'-5" AFF. STRUCTURAL PROTECTIVE SHROUD REQUIRED FOR PROTECTION OF OPENING. ALLOW OPENING SIZE TO INCLUDE 1.5" DUCTLINER.
- 7. 18/12 S/A & 26/11 R/A FROM <u>RTU-G3</u>, TRANSITION TO 22/12 S/A, DROP 26/11 R/A INTO 24/12 R/A DUCT.
- 8. CONNECT (2) 8/8 EXHAUST DUCTS ROUTED BETWEEN JOISTS IN STRUCTURE TO 12/12 EXHAUST UP TO $\underline{\text{EF}}-101$.
- 9. CONNECT (2) 8/8 EXHAUST DUCTS ROUTED BETWEEN JOISTS IN STRUCTURE TO 12/12 EXHAUST UP TO $\overline{EF-102}$.
- 10. 12/8 RETURN AIR TRANSFER.
- 11. EXTEND 6"Ø EXHAUST UP THRU ROOF. PROVIDE WITH MFR'S ROOF CAP/CURB.
- 12. EXTEND 16/16 S/A UP AND TRANSITION TO 30/16 SUPPLY GRILLE.

 COORDINATE EXACT LOCATION AND ELEVATION WITH ARCHITECTURAL ELEVATIONS.
- 13. 18/12 S/A & 26/11 R/A FROM <u>RTU-G4</u>, TRANSITION TO 22/12 S/A, TRANSITION 26/11 R/A TO 24/12 R/A DUCT.
- 14. 18/12 S/A & 26/11 R/A FROM <u>RTU-G7</u>, TRANSITION TO 22/12 S/A, DROP 26/11 R/A INTO 24/12 R/A PLENUM.
- 15. 18/12 S/A & 26/11 R/A FROM <u>RTU-G8</u>, TRANSITION TO 22/12 S/A, TRANSITION 26/11 R/A TO 24/12 R/A DUCT.

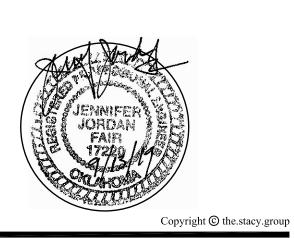
FIRE PROTECTION NOTES:

GENERAL:

- A. AN AUTOMATIC WET PIPE SPRINKLER SYSTEM SHALL BE INSTALLED FOR ALL SPACES WITHIN THE NEW CONSTRUCTION AND RENOVATION AREAS IN COMPLIANCE WITH NFPA-13 AND ALL OTHER APPLICABLE CITY AND STATE CODE REQUIREMENTS. CONTRACTOR SHALL PROVIDE HYDRAULIC CALCULATIONS FOR ALL PIPING, AND SHOP DRAWINGS SHOWING THE LOCATION AND SIZE OF ALL PIPING, INCLUDING SHUT-OFF VALVES, TEST VALVES, DRAINS, ALARMS, ETC. THAT ARE REQUIRED TO EXTEND SERVICE TO NEW AREAS.
- B. BUILDING IS CLASSIFIED AS LIGHT HAZARD OCCUPANCY. REFER TO ARCHITECTURAL CODE PLAN FOR TOTAL SQUARE FOOTAGE OF BUILDING. REFER SPECS FOR SPRINKLER TYPES.
- C. CONCEALED HEAD ESCUTCHEONS SHALL BE WHITE IN LAY—IN CEILINGS. CONCEALED HEAD ESCUTCHEONS IN ALL OTHER CEILING & DECORATIVE CEILING ELEMENTS SHALL BE BRUSHED CHROME.
- D. CONTRACTOR SHALL CLOSELY COORDINATE THE FIRE SYSTEM INSTALLATION WITH ALL OTHER CONTRACTORS, SUB—CONTRACTORS AND TRADES AT THOSE AREAS WITH LIMITED CLEARANCES DUE TO STRUCTURAL ELEMENTS, DUCTWORK, PIPING, LIGHTS, ETC.
- E. PROVIDE CONCEALED SPRINKLERS & LOCATE SPRINKLERS CENTER OF TILE AT ALL LAY—IN CEILING GRID. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN AND ARCHITECTURAL INTERIORS PLAN FOR CEILING TYPES, DIFFUSER AND LIGHT LOCATIONS. VERIFY CEILING HEIGHTS AND VARYING ELEVATIONS WITH ARCHITECTURAL DRAWINGS TO PROVIDE PROPER PROTECTION.
- F. SPRINKER PIPING WITHIN GYM SHALL ROUTE PIPING PARALLEL TO CONCRETE BEAMS/TRUSSES AT/NEAR BOTTOM OF TRUSS. PIPING SHALL ENTER THE SHELTER ABOVE THE RESTROOMS. PROTECTIVE SHROUD AS DETAILED IN STRUCTURAL DRAWINGS IS REQUIRED.
- G. COORDINATE VARYING ROOF HEIGHTS & STRUCTURE WITH PIPE ROUTING & OFFSET AS REQUIRED.
- H. CEILING HEIGHTS INDICATED WITHOUT GRID SHOWN ARE TYPICALLY LAY—IN CEILING TYPES. CONFIRM TYPE WITH ARCHITECTURAL FINISH PLANS.
- I. SLOPE ALL PIPING TO ALLOW FOR DRAINAGE OF SYSTEM.
- J. PROVIDE PROTECTIVE GUARDS AT SPRINKLER DEVICES IN EXPOSED AREAS, SUCH AS GYM.

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JUNIOR HIGH SHELTER ADDITION

PRYOR PUBLIC SCHOOLS

PRYOR, OK 2019

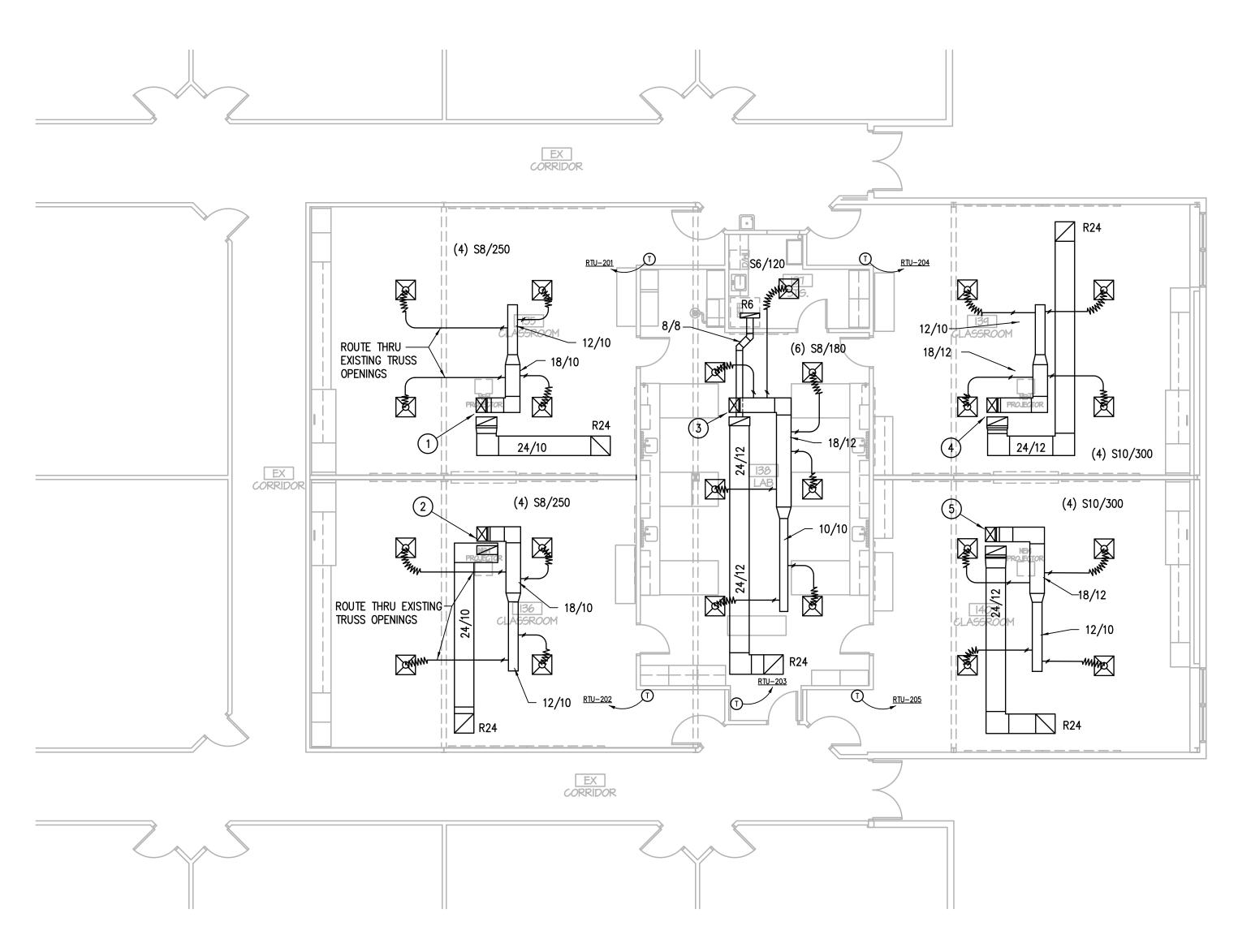
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ISSUE DATE

MECHANICAL FLOOR PLAN -AREA 1

M101





GENERAL MECHANICAL NOTES:

- A. INSTALL ALL DUCTWORK AND ACCESSORIES PER 2015 INTERNATIONAL MECHANICAL CODE AND ALL LOCAL CODES, AND AUTHORITY HAVING
- B. COORDINATE EXACT LOCATION OF ALL AIR DEVICES WITH THE REFLECTED CEILING PLAN.
- C. COORDINATE ALL ROOF PENETRATIONS AND ROOF MOUNTED EQUIPMENT LOCATIONS WITH STRUCTURAL FOR PENETRATIONS THRU THE EXISTING STRUCTURAL DECK. CONTRACTOR TO UTILIZE EXISTING TRUSS OPENINGS FOR ROUTING SUPPLY DUCT RUNOUTS. ADJUST/OFFSET SUPPLY RUNOUTS TO ACCOMMODATE EXISTING
- D. MAXIMUM FLEXIBLE S/A DUCTWORK AT ANY AIR DEVICE SHALL NOT EXCEED 5'-0". PROVIDE ADDITIONAL SUPPORTS AS NECESSARY TO PREVENT CONTACT WITH CEILING MATERIAL/ASSEMBLY.
- E. REFER TO AIR DISTRIBUTION DEVICE SCHEDULE FOR SUPPLY RUNOUT SIZES.
- F. REPLACE EXISTING THERMOSTATS UTILIZING EXISTING LOCATIONS. LOCATIONS INDICATED ARE BASED ON EXISTING DRAWINGS. REFER SPECIFICATIONS FOR REQUIREMENTS.
- G. RETURN AND/OR EXHAUST DEVICE AIRFLOW VOLUMES SHALL EQUAL SUPPLY UNLESS INDICATED OTHERWISE.
- H. CO SENSOR SHALL BE PROVIDED FOR EACH CLASSROOM PROVIDED WITH NEW PACKAGED GAS—FIRED RTU BY DIVISION 28 FIRE ALARM INSTALLED AT CFILING.
- I. COORDINATE ROUTING OF DUCTWORK WITH PROJECTOR LOCATION AND SUPPORT.

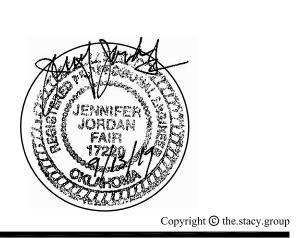
SPECIFIC MECHANICAL NOTES (O):

- 18/12 S/A & 26/11 R/A FROM RTU-201, TRANSITION TO 18/10 S/A, TRANSITION 26/11 R/A 24/10 R/A.
- 18/12 S/A & 26/11 R/A FROM RTU-202, TRANSITION TO 18/10 S/A, DROP 26/11 R/A DOWN INTO 24/10 R/A PLENUM. TAP PLENUM WITH 24/20 R/A DUCT ROUTED TO GRILLE.
- 18/12 S/A & 26/11 R/A FROM RTU-203, TRANSITION TO 18/12 S/A, TRANSITION 26/11 R/A 24/12 R/A.
- 4. 18/12 S/A & 26/11 R/A FROM <u>RTU-204</u>, TRANSITION TO 18/12 S/A, TRANSITION 26/11 R/A 24/12 R/A.
- 5. 18/12 S/A & 26/11 R/A FROM <u>RTU-205</u>, TRANSITION TO 18/12 S/A, TRANSITION 26/11 R/A 24/12 R/A.

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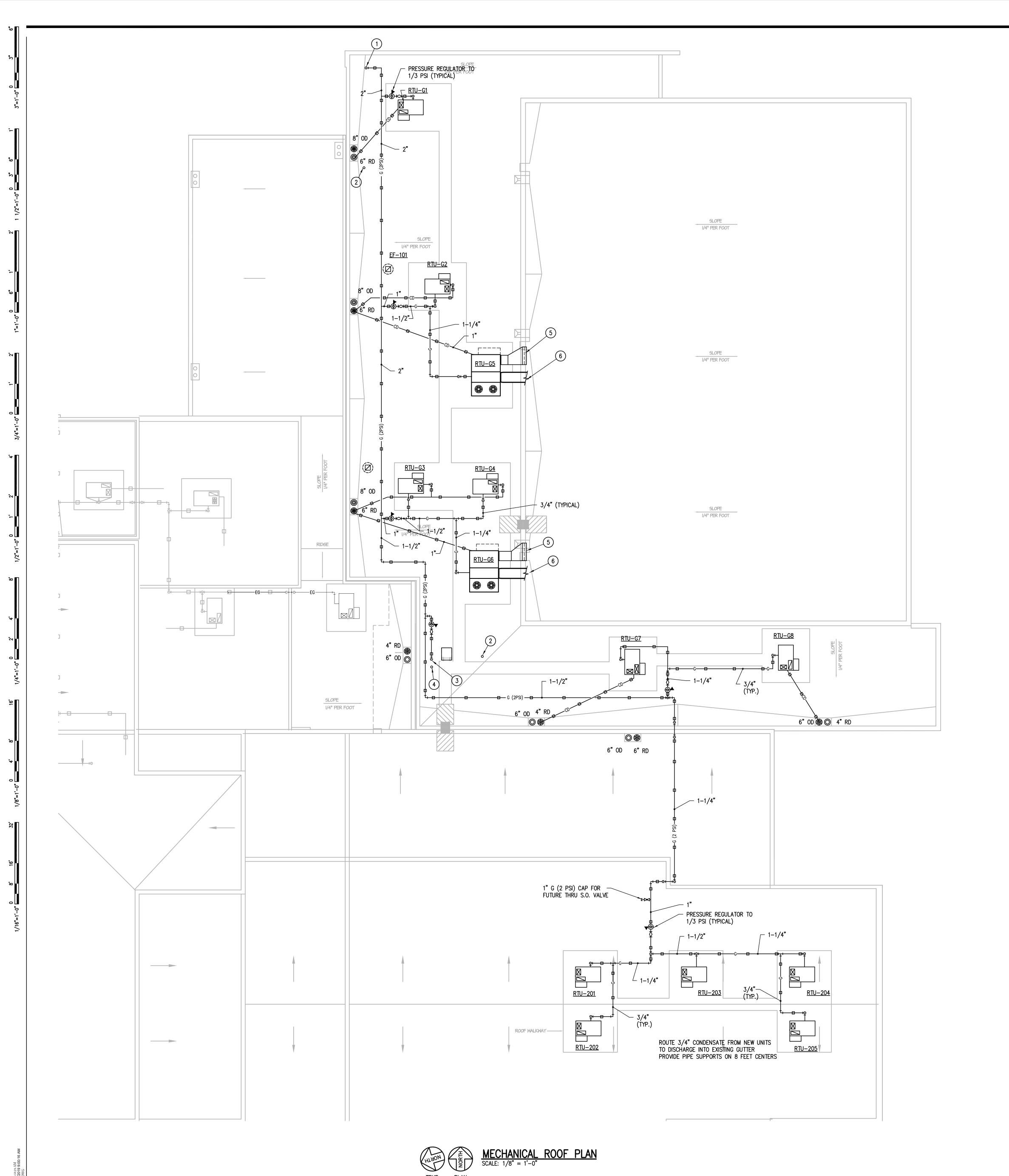
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MECHANICAL FLOOR PLAN -AREA 2

M102

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GENERAL MECHANICAL/PLUMBING NOTES:

- A. ALL MECHANICAL WORK SHALL BE INSTALLED PER THE 2015 INTERNATIONAL MECHANICAL, PLUMBING, AND FUEL GAS CODES, AMERICAN WITH DISABILITIES ACT (ADA), AND ALL LOCAL CODES, AND AUTHORITY HAVING JURISDICTION.
- B. ALL GAS PIPING SHALL BE PAINTED SILVER FOR CORROSION PROTECTION. ALL GAS PIPING TO UNITS TO BE 3/4" IN SIZE UNLESS NOTED OTHERWISE. SUPPORT ALL GAS PIPING ON ROOF NOT MORE THAN EVERY 8 FEET, REFER TO PIPING DETAILS
- C. COORDINATE ROUTING OF ALL DUCT, PIPING, ETC. WITH STRUCTURAL ELEMENTS. MODIFY ACTUAL LOCATIONS AS REQUIRED. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS AS REQUIRED BY THE DIVISION 23 SPECS FOR ALL DUCTWORK IN ALL AREAS, COORDINATED WITH THE ACTUAL STRUCTURE TO BE PROVIDED. DRAWINGS SHALL ENSURE THAT ALL CODE REQUIRED CLEARANCES ARE PROVIDED FOR ALL EQUIPMENT.
- D. ALL ROOF-TOP EQUIPMENT CURBS SHALL BE A MINIMUM OF 8 INCHES ABOVE THE FINISHED ROOF SURFACE FOR COUNTER-FLASH ENDORSED BY THE ROOF MANUFACTURER. THE TOPS OF ALL EQUIPMENT CURBS AND HOUSEKEEPING PADS SHALL BE LEVEL.
- E. ALL EQUIPMENT LABELING/IDENTIFICATION SHALL BE LEGIBLE AND SHALL BE MECHANICALLY SECURED AT THE EQUIPMENT WITH NON—CORRODING FASTENERS.
- F. ALL MISCELLANEOUS ROOF—TOP EQUIPMENT SUPPORTS SHALL BE ENDORSED BY BOTH THE RESPECTIVE EQUIPMENT AND THE ROOF SYSTEM MANUFACTURER.
- G. ALL VERTICAL LEADERS TO ROOF AND OVERFLOW DRAINS SHALL BE THE SAME SIZE AS DRAIN. NOTE THAT DRAIN PIPING SIZES MAY CHANGE AFTER TURNING HORIZONTAL.
- H. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING PIPING AND EQUIPMENT WITH ALL OTHER CONTRACTORS, SUBCONTRACTORS AND TRADES AT THOSE AREAS WITH LIMITED CLEARANCES DUE TO STRUCTURAL, MECHANICAL, CEILING AND ELECTRICAL ELEMENTS. ALL CODE REQUIRED CLEARANCES FOR ALL SYSTEMS MUST BE PROVIDED.
- I. EXTEND ALL PLUMBING VENTS UP THRU ROOF THRU PIPE PORTAL. LOCATE VENTS AT LEAST 10 FEET FROM O/A INTAKES. SUPPORT ALL GAS PIPING AND CONDENSATE PIPING ON ROOF NOT MORE THAN EVERY 8 FEET, REFER TO PIPING DETAILS.
- J. ALL RTU CONDENSATE DRAIN PIPING SHALL HAVE P-TRAPS WITH AIR VENT, ROUTE TO PRIMARY ROOF DRAIN ON PIPE SUPPORTS ON NOT MORE THAN 8 FEET CENTERS.. ALL CONDENSATE DRAINS ARE 3/4" PIPE SIZE UNLESS INDICATED OTHERWISE.
- K. LOCATE ALL ROOFTOP UNITS A MINIMUM OF 10 FEET FROM ROOF EDGE AND EXHAUST FANS A MINIMUM OF 10 FEET FROM RTU INTAKES.

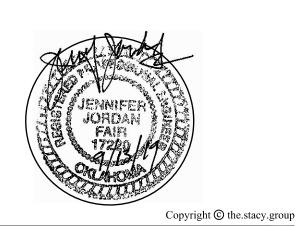
SPECIFIC MECHANICAL NOTES (O):

- 1. 2" GAS (2 PSI) UP FROM RISER ROOM BELOW, SEE P201 FOR CONTINUATION.
- 2. 6"Ø EXHAUST THRU MFR'S ROOF CAP.
- 3. 1-1/4" GAS DOWN TO WATER HEATER, SEE P201 FOR CONTINUATION.
- COMBINATION COMBUSTION AIR AND FLUE FROM WATER HEATER, SIZED PER MFR'S RECOMMENDATION AND GUIDLELINES.
- TRANSITION 27/46 R/A AT UNIT TO CONNECT TO 52/52 FEMA LOUVER ASSEMBLY. RETURN AIR DUCT SHALL BE PROVIDED WITH 1.5" DUCTLINER. CONTRACTOR SHALL COORDINATE REQUIRED OPENING SIZE AND LOCATION WITH STRUCTURAL.
- 6. TRANSITION 26/46 S/A TO 28/28 S/A AND EXTEND THRU SHELTER WALL. OPENING SIZE SHALL ACCOMMODATE THE REQUIRED 1.5" DUCTLINER. COORDINATE LOCATION AND REQUIRED SIZE OF OPENING WITH STRUCTURAL.

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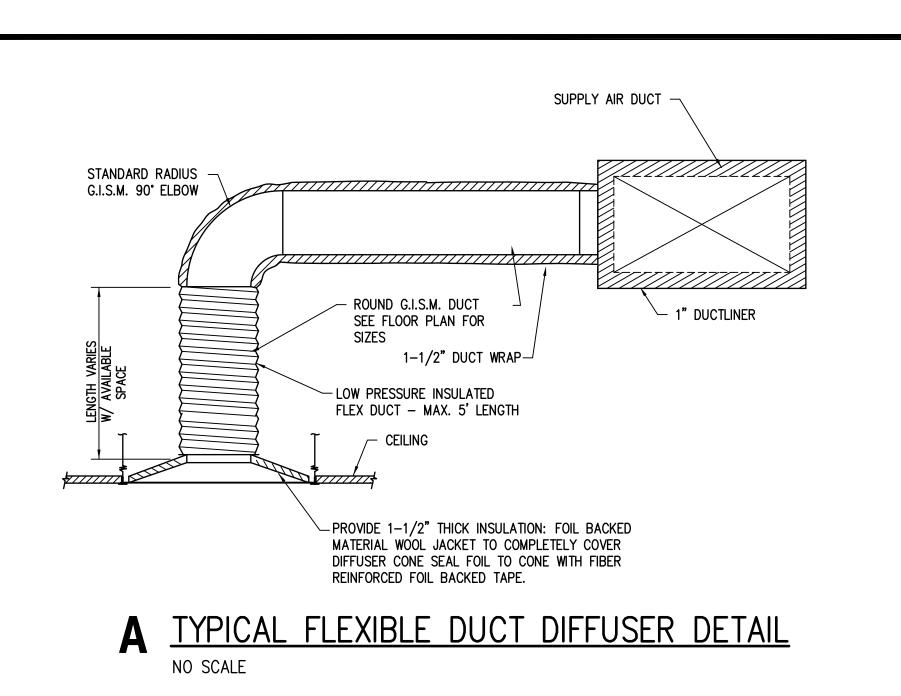
ROOF PLAN

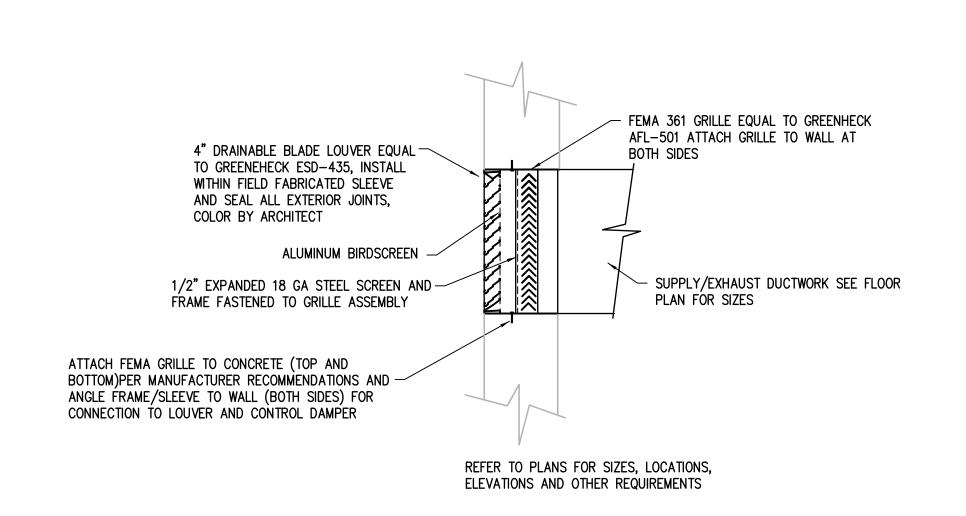
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MECHANICAL

M103





B FEMA LOUVER INTAKE/EXHAUST ASSEMBLY

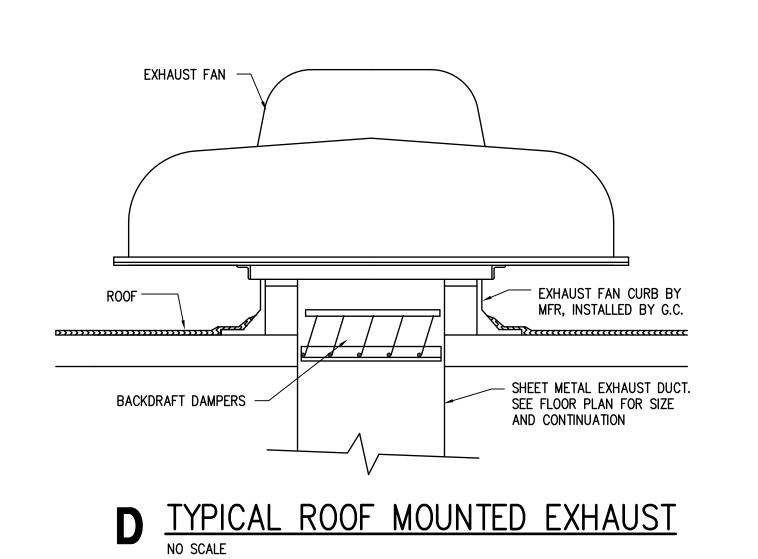
CAULK ALL EXPOSED SEAMS
AROUND PIPE, DUCT, ETC. W/
NON-HARDENING ACOUSTICAL
CAULK

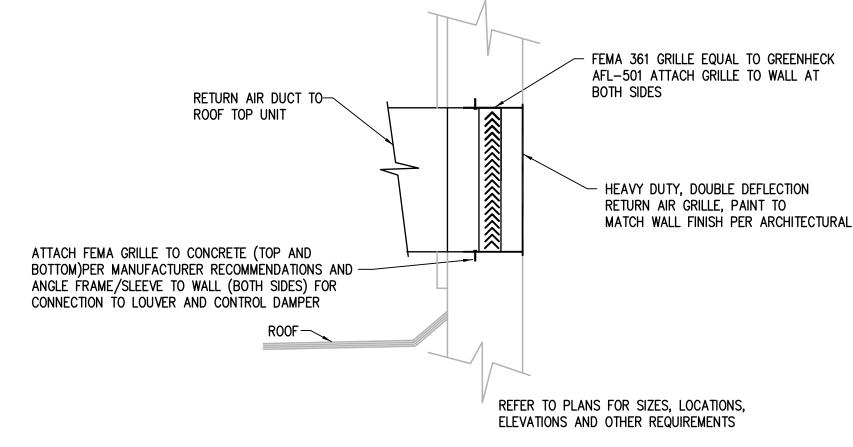
1/2" ANNULAR
SPACE AROUND
PENETRATION

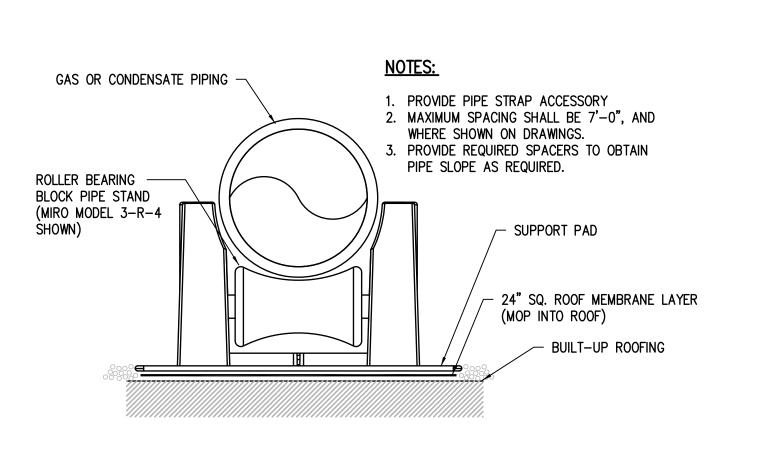
1/2" ANNULAR
SPACE AROUND
PENETRATION

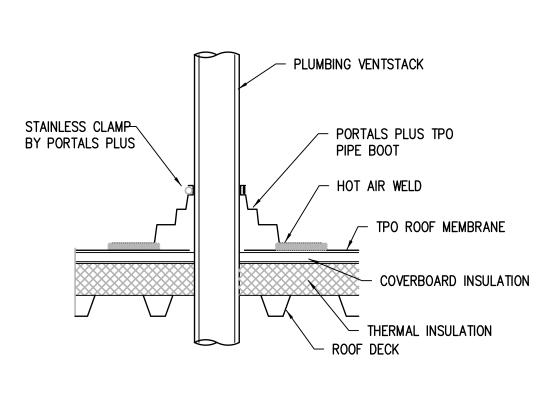
TYPICAL DUCT, PIPE OR
OTHER PENETRATION THRU
SOUND INSUL. WALL

C SEALING DETAIL AT PIPE, DUCT OR OTHER PENETRATION THRU INTERIOR WALLS





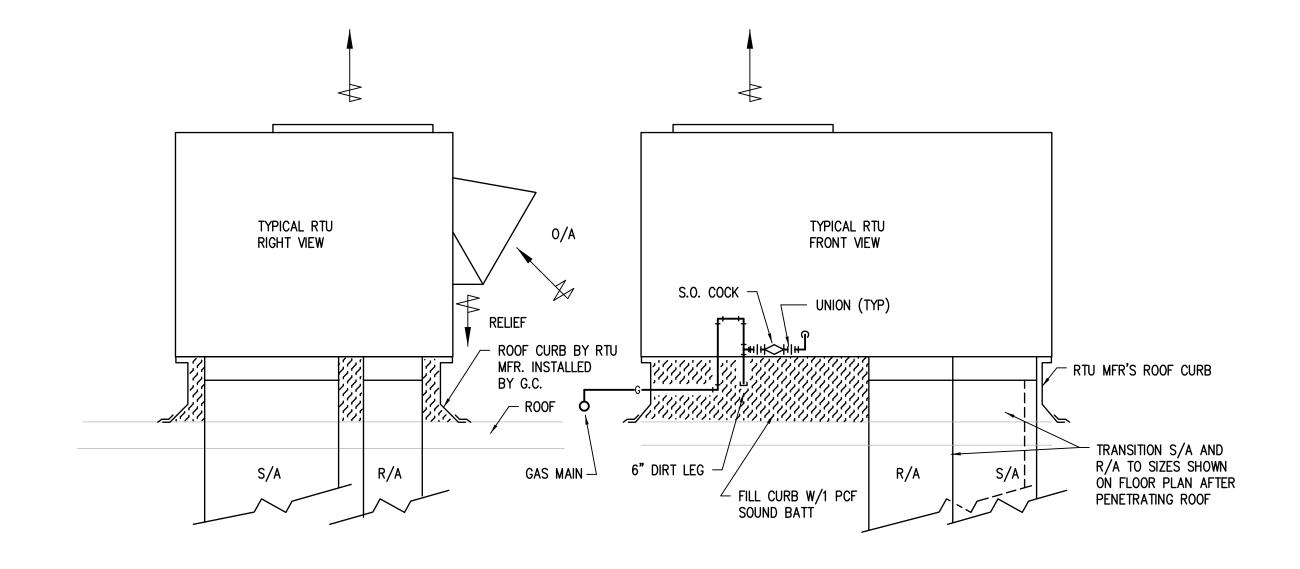


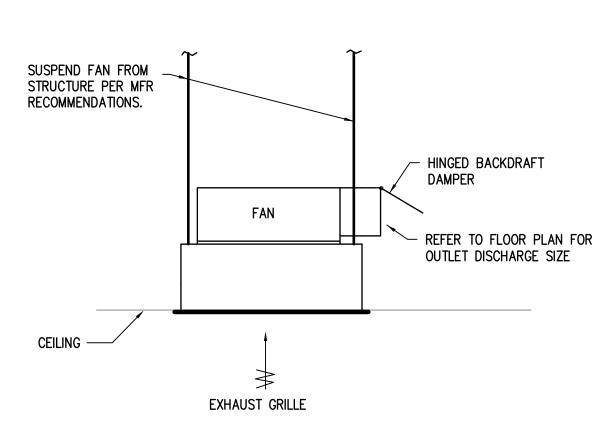


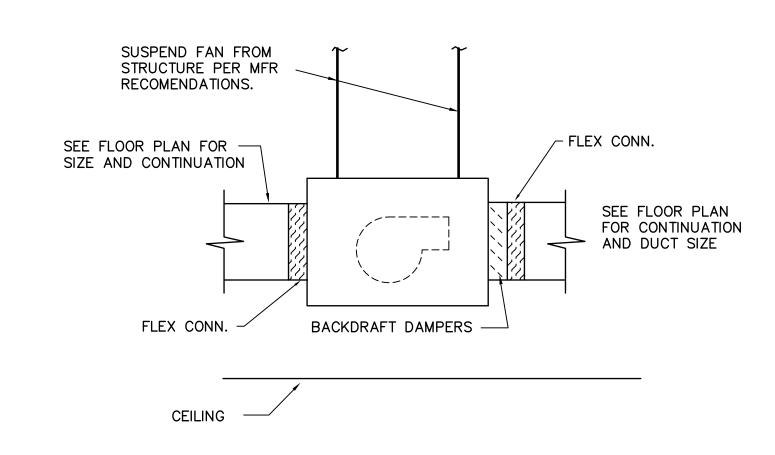
FEMA LOUVER RETURN AIR ASSEMBLY
NO SCALE

F SUPPORT FOR ROOF MOUNTED PIPE
NO SCALE

G PIPE FLASHING DETAIL
NO SCALE

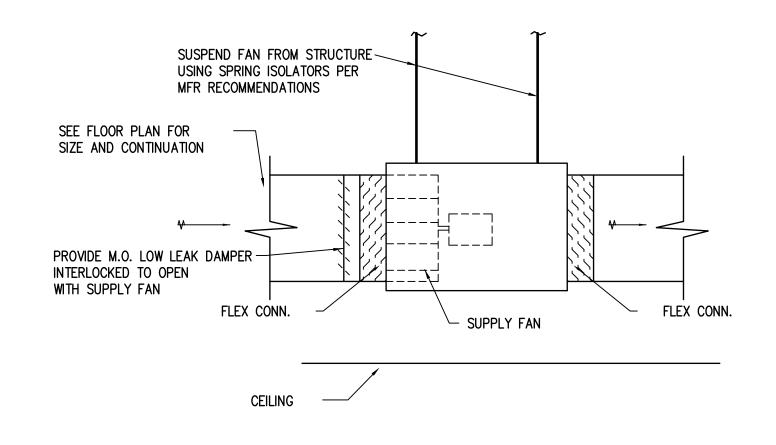






IN-LINE EXHAUST FAN WITH GRILLE DETAIL
NO SCALE

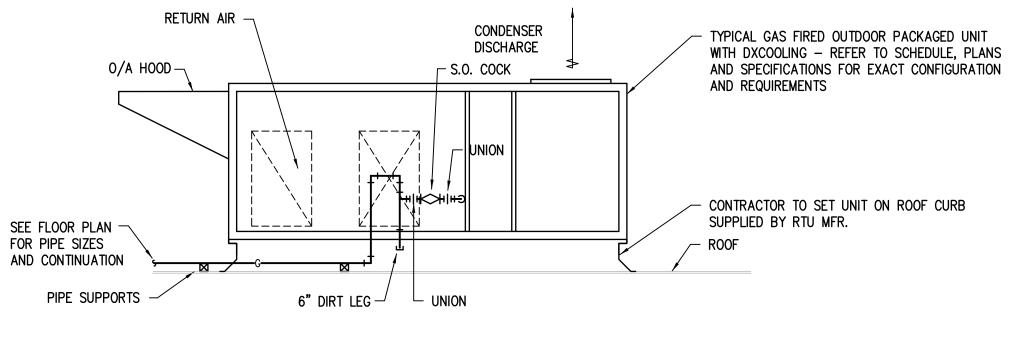
J IN-LINE EXHAUST FAN DETAIL
NO SCALE



K IN-LINE SUPPLY FAN DETAIL
NO SCALE

H TYPICAL ROOF TOP UNIT DETAIL

NO SCALE





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ADDITION

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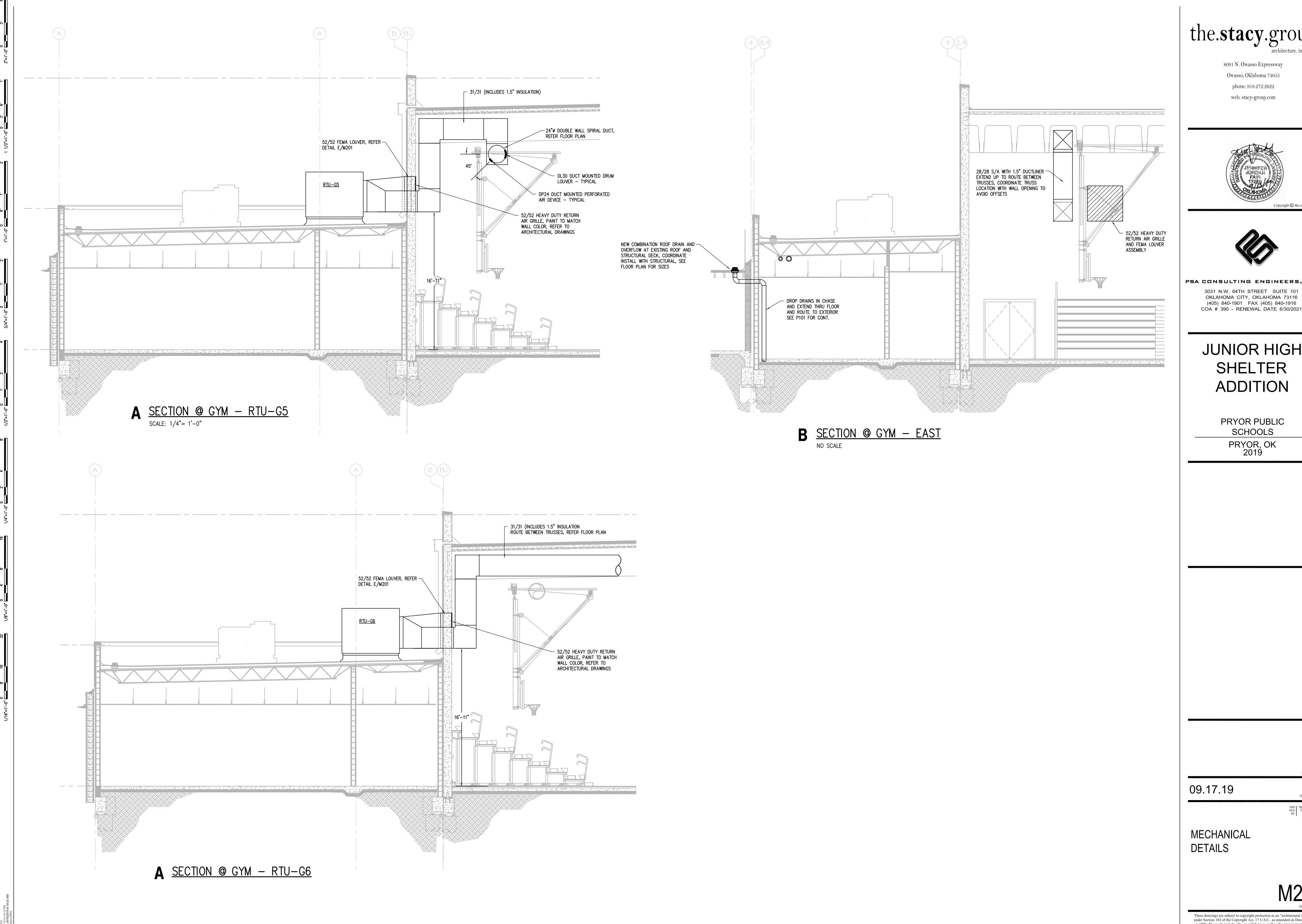
SCHOOLS

PRYOR, OK 2019

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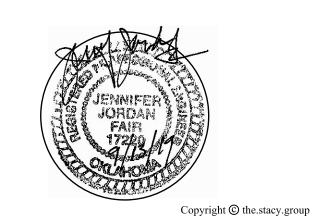
MECHANICAL DETAILS

M201
SHEET TITLE



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PSA CONSULTING ENGINEERS, INC. 3031 N.W. 64TH STREET SUITE 101

JUNIOR HIGH SHELTER **ADDITION**

PRYOR PUBLIC SCHOOLS

1803 PROJECT NO NES DRAWN BY JJF CHK'D BY

M202

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ARK	RTU-G1	RTU-G2	RTU-G3	RTU-G4	RTU-G7	RTU-G8
ERVES	LOBBY	PE LOCKER	PE LOCKER	CLASS 122	CLASS 123	CLASS 129
CARRIER MODEL NO.	48LCD006	48LCD006	48LCD006	48LCD005	48LCD005	48LCD005
OTAL AIRFLOW (CFM)	2000	1800	2000	1600	1600	1400
MINIMUM AIRFLOW (CFM)						
OUTSIDE AIR SETPOINT 1	350	350	350	250	250	250
OUTSIDE AIR SETPOINT 2	100	100	100	100	100	100
EXTERNAL SP. (IN WC)	0.50	0.50	0.50	0.50	0.50	0.50
COOLING SECTION						
TOTAL COOLING (MBH)	59.27	58.33	59.27	47.23	47.23	46.17
SENSIBLE COOLING (MBH)	46.2	48.47	46.2	35.19	35.19	32.76
EAT DB/WB (°F)	80/67	80/67	80/67	80/67	80/67	80/67
LAT DB/WB (°F)	58.2/57.7	57.2/56.7	58.2/57.7	59.3/57.7	59.3/57.7	57.9/56.5
ARI SEER OR IEER	16.2	16.2	16.2	16.2	16.2	16.2
HEATING SECTION			•			
INPUT (MBH)	115	115	115	115	115	115
OUTPUT (MBH)	93	93	93	93	93	93
LAT DB (°F)	113.8	113.8	113.8	113.8	113.8	113.8
, ,						
ELECTRICAL						
UNIT MCA	17	17	17	15	15	15
UNIT MOCP	20	20	20	20	20	20
UNIT VOLTAGE	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60	460/3/60
UNIT WEIGHT (LBS.)	925	925	925	915	915	915
NOTES	1, 2, 3, 4	1, 2, 3	1, 2, 3, 4	1, 2, 3	1, 2, 3	1, 2, 3

- 1. PROVIDE UNIT WITH THROWAWAY FILTER MERV 8 MINIMUM, 14" ROOF CURB, 0-100% ENTHALPY BASED
- ECONOMIZER WITH BAROMETRIC RELIEF AIR DAMPER, FACTORY MOUNTED DISCONNECT, HOT GAS REHEAT, NON-POWERED 20 GFI, 2 STAGE GAS HEAT, HINGED DOORS AND HAIL GUARDS.
- 2. PROVIDE CO2 SENSOR TO BE USED FOR DEMAND LIMITING OF OUTSIDE AIR. RTU CONTROLLER SHALL SHUT-DOWN OUTSIDE AIR WHEN CO2 SENSOR SATISFIED. SETTINGS SHALL BE PER ASHRAE AND AS
- RECOMMENED BY RTU MFR. 3. TRANSITION ALL FITTINGS FROM DUCT TO UNIT AS NECESSARY.
- 4. PROVIDE DUCT SMOKE DETECTOR IN RETURN SIDE OF UNIT. MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLATION OF SMOKE DETECTOR. PROVIDE AND INSTALL DUCT DETECTOR EQUAL TO SYSTEM SENSOR D4120 WITH SENSOR RTS-151 REMOTE TEST STATION. POWER AND WIRING BY DIVISION 26. FA
- CONTRACTOR TO CONNECT TO FACP.

ASHRAE AND AS RECOMMENED BY RTU MFR.

DIVISION 26. FA CONTRACTOR TO CONNECT TO FACP.

MARK RTU-G5, RTU-G6 SERVES GYM TRANE MODEL NO. YHH300 TOTAL AIRFLOW (CFM) 8500 MINIMUM AIRFLOW (CFM) OUTSIDE AIR SETPOINT 1 750 OUTSIDE AIR SETPOINT 2 300 EXTERNAL SP. (IN WC) 0.90 COOLING SECTION
TRANE MODEL NO. YHH300 TOTAL AIRFLOW (CFM) 8500 MINIMUM AIRFLOW (CFM) OUTSIDE AIR SETPOINT 1 750 OUTSIDE AIR SETPOINT 2 300 EXTERNAL SP. (IN WC) 0.90 COOLING SECTION
TRANE MODEL NO. YHH300 TOTAL AIRFLOW (CFM) 8500 MINIMUM AIRFLOW (CFM) OUTSIDE AIR SETPOINT 1 750 OUTSIDE AIR SETPOINT 2 300 EXTERNAL SP. (IN WC) 0.90 COOLING SECTION
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OUTSIDE AIR SETPOINT 1 750 OUTSIDE AIR SETPOINT 2 300 EXTERNAL SP. (IN WC) 0.90 COOLING SECTION
OUTSIDE AIR SETPOINT 2 300 EXTERNAL SP. (IN WC) 0.90 COOLING SECTION
EXTERNAL SP. (IN WC) 0.90 COOLING SECTION
COOLING SECTION
TOTAL COOLING (MBH) 267.98
SENSIBLE COOLING (MBH) 209.42
EAT DB/WB (°F) 80/67
LAT DB/WB (°F) 59.46/57.86
ARI SEER OR IEER 12.2
HEATING SECTION
INPUT (MBH) 250/175
OUTPUT (MBH) 200/140
LAT 92
ELECTRICAL
UNIT MCA 54
UNIT MOCP 70
<u>UNIT VOLTAGE</u> 460/60/3
UNIT WEIGHT (LBS.) 2375
NOTES 1, 2, 3, 4
ALL CAPACITIES BASED ON 630' ELEVATION AND 100°F AMBIENT, TOTAL AND SENSIBLE LOADS ARE NET CAPACITIES
1. PROVIDE UNIT WITH HOT GAS REHEAT. PROVIDE UNIT WITH HINGED DOORS, THROWAWAY FILTER MERV 8 MINIMUM,
14" ROOF CURB, 0-100% ENTHALPY BASED ECONOMIZER WITH BAROMETRIC RELIEF AIR DAMPER, FACTORY MOUNTED
DISCONNECT, NON-POWERED 20 AMP GFI, 2 STAGE GAS HEAT, HINGED DOORS AND HAIL GUARDS.
2. PROVIDE CO2 SENSOR TO BE USED FOR DEMAND LIMITING OF OUTSIDE AIR. RTU CONTROLLER
SHALL SHUT-DOWN OUTSIDE AIR WHEN CO2 SENSOR SATISFIED. SETTINGS SHALL BE PER

3. HORIZONTAL DISCHARGE UNIT, TRANSITION ALL FITTINGS FROM DUCT TO UNIT AS NECESSARY.

4. PROVIDE DUCT SMOKE DETECTOR IN RETURN SIDE OF UNIT. MECHANICAL CONTRACTOR RESPONSIBLE FOR

INSTALLATION OF SMOKE DETECTOR. PROVIDE AND INSTALL DUCT DETECTOR EQUAL TO SYSTEM SENSOR D4120W, SUITABLE FOR OUTDOOR APPLICATION, WITH SENSOR RTS-151 REMOTE TEST STATION. POWER AND WIRING BY

ROOF TOP UNIT SCHEDULE - AREA 2

MARK	RTU-201, 202, 203	RTU-204, 205
SERVES		
CARRIER MODEL NO.	48LCD004	48LCD004
TOTAL AIRFLOW (CFM)	1000	1200
MINIMUM AIRFLOW (CFM)		
OUTSIDE AIR SETPOINT 1	300	300
OUTSIDE AIR SETPOINT 2	100	100
EXTERNAL SP. (IN WC)	0.50	0.50
COOLING SECTION		
TOTAL COOLING (MBH)	34.34	35.58
SENSIBLE COOLING (MBH)	24.10	26.82
EAT DB/WB (°F)	80/67	80/67
LAT DB/WB (°F)	57.3/56.0	58.9/57.7
ARI SEER OR IEER	15.5	15.5
HEATING SECTION		
INPUT (MBH)	115	115
OUTPUŤ (MBH)	93	93
LAT DB (°F)	157.7	143.1
, ,		
ELECTRICAL		
UNIT MCA	14	14
UNIT MOCP	20	20
UNIT VOLTAGE	460/3/60	460/3/60
UNIT WEIGHT (LBS.)	828	828
NOTES	1, 2, 3	1, 2, 3
l		
		AMBIENT. SEE M202 FOR TYPICAL RTU DETAILS.
1. PROVIDE UNIT WITH THROW	AWAY FILTER MERV 8 MINI	IMUM, 14" ROOF CURB, 0-100% ENTHALPY BASED

ECONOMIZER WITH BAROMETRIC RELIEF AIR DAMPER, FACTORY MOUNTED DISCONNECT, HOT GAS REHEAT, NON-POWERED 20 GFI, 2 STAGE GAS HEAT, HINGED DOORS AND HAIL GUARDS.

PROVIDE CO2 SENSOR TO BE USED FOR DEMAND LIMITING OF OUTSIDE AIR. RTU CONTROLLER SHALL SHUT-DOWN OUTSIDE AIR WHEN CO2 SENSOR SATISFIED. SETTINGS SHALL BE PER ASHRAE AND AS RECOMMENED BY RTU MFR.

5. TRANSITION ALL FITTINGS FROM DUCT TO UNIT AS NECESSARY.

ELECTRIC UNIT HEATER SCHEDULE

RECOMMENDATIONS MOUNT AT 96" AFF.

MARK	SERVES	TYPE	MFR	MODEL	HEAT OUTPUT	AIRFLOW (CFM)	RISE (°F)	VOLTAGE (V/ø/HZ)	١
UH-A	FIRE RISER	UNIT HEATER	QMARK	MUH05-21	3.75 KW	350	34	208/3/60	1
NOTES:									L

AIR DISTRIBUTION DEVICE SCHEDULE

MARK	SERVICE	MANUFACTURER	MODEL	FACE TYPE	MOUNTING	DESCRIPTION	SIZE	S/A RUNOUT	NOTES
S6	SUPPLY	TITUS	TMSA	FULL FACED LOUVER	LAY-IN	SQUARE, ADJUSTABLE V—H DISCHARGE	24"x24" - 6"ø NECK	6"ø	1, 2
S6A	SUPPLY	TITUS	TMSA	FULL FACED LOUVER	LAY-IN	SQUARE, ADJUSTABLE V—H DISCHARGE	12"x12" - 8"ø NECK	8"ø	1, 2
S8	SUPPLY	TITUS	TMSA	FULL FACED LOUVER	LAY-IN	SQUARE, ADJUSTABLE V-H DISCHARGE	24"x24" - 8"ø NECK	8"ø	1, 2
S10	SUPPLY	TITUS	TMSA		LAY-IN	SQUARE, ADJUSTABLE V—H DISCHARGE	24"x24" - 10"ø NECK	10"ø	1, 2
SP10	SUPPLY	TITUS	OMNI	PLAQUE FACED LOUVER	LAY-IN	SQUARE BACKPAN, SQUARE PLAQUE	24"x24" - 10"ø NECK	10 " ø	1, 2
SP12	SUPPLY	TITUS	OMNI	PLAQUE FACED LOUVER	LAY-IN	SQUARE BACKPAN, SQUARE PLAQUE	24"x24" - 12"ø NECK	12"ø	1, 2
SL6	SUPPLY	TITUS	ML-39	LINEAR SLOT	SURFACE	(6) 1" SLOT, 2 FT. WITH PLENUM	24" LONG x ~12" WIDE	8"ø	1, 3
								1-"	<u> </u>
SV8	SUPPLY	TITUS		PLAQUE FACED	LAY-IN	DIGITAL VAV DIFFUSER	24"x24" - 8"Ø NECK	8"ø	1, 2, 6
SG8	SUPPLY	TITUS	300RL	GRILLE	SIDEWALL	DOUBLE DEFLECTION GRILLE	10"X 10" OVERALL - 8"X 8" DUCT		5
SG30	SUPPLY	TITUS	300RL	GRILLE	SIDEWALL	DOUBLE DEFLECTION GRILLE	30"x16"		5, 8
DL30	SUPPLY	AIR CONCEPTS	DL-C	CURVED DRUM LOUVER	DUCT	DRUM LOUVER, CURVED PANEL, W/DAMPER	30"x 10" DUCT OPENING - 32"x 12" OVERALL		7
SDG6	SUPPLY	AIR CONCEPTS	RGGD-C	GRILLE	DUCT	DOUBLE DEFLECTION GRILLE W/DAMPER	24"x6" DUCT OPENING - 25"x 7" OVERALL		7
R12	RETURN	TITUS	355 RL	LOUVER/GRILLE	LAY-IN	35° SINGLE DEFLECTION - 1/2" SPACING	12"x24" OVERALL - 10"x22" DUCT		5
R24	RETURN	TITUS	355 RL	LOUVER/GRILLE	LAY-IN	35° SINGLE DEFLECTION - 1/2" SPACING	24"x24" OVERALL - 22"x22" DUCT		5
R52	RETURN	TITUS	60f	LINEAR SLOT	SURFACE	0° DEFLECTION - 1/2" SPACING	52"x 52" OVERALL - 48"x 48" DUCT		8
F00	EVALUET.	T.T. 10	755 51	1.011/50 /00115	01105405	TEL CINCLE DEFI FOTION 4 /0" OD LONG			
EG8	EXHAUST	TITUS	355 RL	LOUVER/GRILLE	SURFACE	35° SINGLE DEFLECTION - 1/2" SPACING	8"x8" OVERALL - 6"x6" DUCT		8
E12	EXHAUST	TITUS	355 RL	LOUVER/GRILLE	SURFACE	35° SINGLE DEFLECTION - 1/2" SPACING	12"x24" OVERALL — 10"x22" DUCT		4
		1							

GENERAL: VERIFY GRILLE MOUNTING FRAME TYPES AND SIZES WITH CEILING AND/OR WALL REQUIREMENTS. ALL AIR DEVICE FINISHES AND COLOR TO BE COORDINATED WITH ARCHITECT PRIOR TO ORDERING AND INSTALLATION. SEE DETAIL A/M201 FOR TYPICAL S/A DIFFUSER DETAIL. 1. PROVIDE BALANCING DAMPER AT CONNECTION TO MAIN. IF CONNECTION TO MAIN IS ABOVE AN INACCESSIBLE CEILING, PROVIDE DAMPER ACCESSIBLE THROUGH FACE OF DEVICE.

- 2. 4-WAY PATTERN DISCHARGE UNLESS NOTED OTHERWISE ON DRAWINGS.
- 3. PROVIDE INSULATED PLENUM. 4. PROVIDE TITUS MODEL AG-15 OPPOSED BLADE DAMPER AT DEVICE UNLESS OTHERWISE NOTED, SIZE AS REQUIRED.
- 5. PROVIDE WITH DUCT MOUNTED BALANCING DAMPER FOR AIR DEVICE, SIZE AS REQUIRED. 6. VAV DIFFUSERS SHALL BE CONNECTED AND CONTROLLED THROUGH THERMOSTAT INDICATED IN ROOM SEPARATE FROM THE RTU THERMOSTAT.
- 7. DUCT MOUNTED WITH CURVED FRAME. PAINT COLOR INDICATED BY ARCHITECT, REFER TO ARCHITECTURAL FINISH SCHEDULE. 8. AIR DEVICE COLOR TO MATCH WALL FINISH. REFER TO ARCHITECTURAL FINISH SCHEDULE.

SLIPPLY FAN SCHEDLILF

SF-1 SAFE ROOM INLINE CSP-A3600 3300 0.35 1100 1038 W 4.5 14.2 115/1/60						(RPM)	(IN WC)	(CFM)	MODEL NO.		SERVES	MARK
3	122 1, 2	115/1/60	14.2	4.5	1038 W	1100	0.35	3300	CSP-A3600	INLINE	SAFE ROOM	SF-1
	1 1, -	, .,										

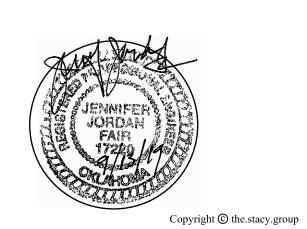
ALL SELECTIONS BASED ON 630 ELEVATION, 70 F AIR. PROVIDE ALL DIRECT DRIVE FANS WITH FAN SPEED CONTROLLER TO BE INSTALLED BY DIVISION 26. . INTERLOCK WITH INVERTER. 2. INSTALL FAN PER DETAIL F/M201.

EXHAUST FAN SCHEDULE

MARK	SERVES	LOCATION	GREENHECK	AIRFLOW	E.S.P.	FAN SPEED	MOTOR	SONES	FLA	VOLTAGE	WEIGHT	NOTES
			MODEL NO.	(CFM)	(IN WC)	(RPM)	(HP)		(A)	(V/ø/HZ)	(LBS)	
EF-101	TOILET 108/109	ROOF	GB-095-VG	280	0.35	1300	1/12	6.4		115/1/60	46	1, 5
EF-102	TOILET 115/117	ROOF	GB-095-G	280	0.35	1300	1/12	6.4		115/1/60	46	1, 6
EF-103	JANITOR 104	CEILING	SP-B110	95	0.20	950	80 W	2.0		115/1/60	12	2, 4
EF-104	JANITOR 104	CEILING	SP-A110	106	0.18	950	17 W	0.5		115/1/60	12	2, 7
EF-GYM	RESTROOM GROUP 131 & 134	INLINE	SQ-120-D	350	0.5	1504	1/8	7.7		115/1/60	49	3, 8

NOTES: ALL SELECTIONS BASED ON 630' ELEVATION, 70° F AIR. PROVIDE ALL DIRECT DRIVE FANS WITH FAN SPEED CONTROLLER TO BE 1. PROVIDE FAN WITH MANUFACTURER'S 12-INCH ROOF CURB, BACKDRAFT DAMPER, AND BIRDSCREEN. INSTALL FAN PER DETAIL H/M201. 2. PROVIDE FAN WITH MANUFACTURER'S ROOF CAP, CURB, INTEGRAL BACKDRAFT DAMPER, ISOLATION HANGERS AND WHITE GRILLE. SEE DETAIL D/M201. 3. PROVIDE WITH SPRING ISOLATION HANGERS, BACKDRAFT DAMPER, REFER TO DETAILS E/M201. 4. INTERLOCK WITH RTU-G1
5. INTERLOCK WITH RTU-G2
6. INTERLOCK WITH RTU-G3
7. INTERLOCK WITH RTU-G4
8. INTERLOCK WITH RTU-G5

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JUNIOR HIGH **ADDITION**

PRYOR PUBLIC SCHOOLS

PRYOR, OK 2019

SYSTEMS MATERIALS SCHEDULE

SYSTEM	MATERIAL	INSULATION					
		THICKNESS	TYPE	JACKET			
CONDENSATE DRAIN (INTERIOR)	TYPE "M" COPPER	1/2"	FIBERGLASS	VAPOR BARRIER			
CONDENSATE DRAIN (EXTERIOR)	TYPE "M" COPPER						
REFRIGERANT RS/RL	TYPE "ACR" COPPER	1/2"	FLEX. UNICELLULAR				
NATURAL GAS	SCHEDULE 40 BLACK STEEL						
FLUE AT DIRECT VENT WATER HEATER (2)	SCHEDULE 40 PVC (1)						
L.P. S/A DUCTWORK EXPOSED - ROUND	G.I.S.M. DOUBLE WALL (4)	1"	FIBERGLASS				
L.P. S/A DUCTWORK	G.I.S.M.	1-1/2"	DUCTWRAP				
L.P. S/A DUCTWORK EXTERIOR	G.I.S.M.	1-1/2"	DUCTLINER				
L.P. S/A RUNOUTS	G.I.S.M.	1-1/2"	DUCTWRAP				
L.P. S/A FLEX DUCT	1" INSULATED FLEX						
L.P. R/A DUCT — EXPOSED	G.I.S.M. (4)	1"	DUCTLINER				
L.P. R/A DUCTWORK	G.I.S.M.	1"	DUCTLINER				
L.P. R/A DUCTWORK AT BAND AND CHOIR	G.I.S.M.	2"	DUCTLINER				
L.P. EXHAUST DUCTWORK	G.I.S.M.						
FUME HOOD EXHAUST	PVC COATED G.I.S.M.						
FUME HOOD EXHAUST	PVC COATED G.I.S.M.						

SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL OR MORE SPECIFIC REQUIREMENTS.

) MATERIAL SHALL ALSO BE USED FOR COMBUSTION AIR. PROVIDE VENT KIT FOR FLUE AND SEALED COMBUSTION BY WATER HEATER MANUFACTURER.

ALL EXTERIOR DUCTWORK EXPOSED TO ELEMENTS TO BE PROVIDED 1-1/2" DUCTLINER. (4) EXPOSED INTERIOR DUCTWORK SHALL BE SUITABLE FOR PAINTING COLOR AS SPECIFIED BY ARCHITECT.

MECHANICAL SYMBOL LEGEND

SYMBOLS	DESCRIPTION	SYMBOLS	DESCRIPTION
—— CD ——	CONDENSATE DRAIN	— RS/RL—	REFRIGERANT SUCTION/LIQUID PIPE
——G——	NATURAL GAS		SHUT-OFF VALVE - BALL VALVE
——НРС—	NATURAL GAS — HIGH PRESSURE LINE	7	CHECK VALVE
*****	FLEX DUCT	\rightarrow	COCK
MBD	MANUAL BALANCING DAMPER	→ ××	BALL VALVE W/ MEMORY STOP
ø	MANUAL BALANCING DAMPER	Ď	PRESSURE REDUCING VALVE
T RTU-X	THERMOSTAT WITH ASSOCIATED EQUIP. MARK	<u> </u>	RELIEF VALVE
∰ RTU-X	TEMPERATURE SENSOR W/ASSOCIATED EQUIP. MARK	─	UNION
\square	C /A DEVICE	elev	BOTTOM OF DUCT MARKER
\boxtimes	S/A DEVICE	elev TO C.L.	CENTERLINE OF DUCT MARKER
		≠a	MOTOR-OPERATED BAL. DAMPER 120V
	R/A OR E/A DEVICE		

09.17.19

1803 PROJECT NO NES DRAWN BY JJF CHK'D BY

ISSUE DATE

MECHANICAL SCHEDULES & **DETAILS**