GAS DETECTION AND VENTILATION SYSTEM

PROVIDE A SYSTEM EQUAL TO INTEC CONTROLS WITH THE FOLLOWING FEATURES/COMPONENTS:

- THREE (3) WALL MOUNTED SYSTEM GAS DETECTION CONTROL PANELS EQUAL TO SGC6-02-CO-NO2, EACH WITH 120 VOLT REQUIRED POWER SUPPLY, WITH A NEMA 4X ENCLOSURE, WALL MOUNTED AT APPROXIMATELY 5 FEET A.F.F. EACH GAS DETECTION CONTROL PANEL SHALL INCLUDE ONE (1) 0-250 PPM CO SENSOR, ONE (1) 0-20 PPM NO2 SENSOR. THE SYSTEM BE CAPABLE OF DETECTING THE FOLLOWING GASES:
  1. CARBON MONOXIDE (CO)
  2. NITROGEN DIOXIDE (NO2)
- 2-LINE, 16-CHARACTER LCD DISPLAY WITH DUAL COLOR BACKGROUND.
- TWO (2) SPDT ALARM RELAYS, 30 VAC/VDC, 0.5 A.
- ONE (1) 4-20 MA OR 2-10 VDC ANALOG OUTPUT, JUMPER SELECTABLE.
- ONE (1) 24 VDC DIGITAL INPUT FOR RELAY OVERRIDE.
- AUDIBLE / VISUAL ALARM ANNUNCIATION

VENTILATION CONTROL SEQUENCE:
EXHAUST FAN EF-1 WITH INTERLOCKED LOUVER L-3 SHALL PROVIDE A MINIMUM CONTINUOUS CFM AS SCHEDULED. UPON DETECTION OF 25 PPM CO (ADJ) OR 1 PPM NO2 (ADJ), EF-1 SHALL RUN AT FULL SPEED. PROVIDE QUANTITY OF SENSORS AS INDICATED ON THE PLAN. IF ANY SENSOR REACHES 150 PPM CO OR 5 PPM NO2 THEN THE SGC6 INTERNAL ALARM SHALL ENERGIZE.

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FABRIC DUCT SYSTEM
FABRIC DUCT SYSTEM SHALL BE EQUAL TO DUCTSOX, VERONA POUROUS FABRIC, IHS SUSPENSION SYSTEM WITH VENTS AS SPECIFIED. THROWS ARE BASED ON VELOCITIES OF 50, 100 & 150 FPM. THE FABRIC DUCT, FITTINGS AND SUSPENSION SYSTEM SHALL BE COMPONENTS OF AN ENGINEERED SYSTEM BY A SINGLE FABRIC DUCT SYSTEM MANUFACTURER. FABRIC SHALL BE FIRE RETARDANT POLYESTER, 6.8 OZ/SQ.YD., 2 CFM/S.F. POROSITY @ 0.5" WG, NFPA-90A COMPLIANT, AND UL 2518 COMPLIANT. ALL COLORS SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO ORDERING.

FABRIC DUCT SYSTEM
THE CONTRACTOR SHALL CLOSELY COORDINATE ROUTING WITH STRUCTURE, LIGHTS, AND VEHICLE EQUIPMENT. PROVIDE AND INSTALL INTERMEDIATE CABLE SUPPORTS, GLIDER ATTACHEMENTS, CABLE CLAMPS, TURNBUCKLES, EYEBOLTS, AND ALL OTHER REQUIRED ACCESSORIES FOR A FULLY SUPPORTED SYSTEM. ADJUSTMENTS TO THE CURRENT LAYOUT MAY BE REQUIRED AND SHOULD BE EXPECTED. THE INTENT IS TO KEEP THE DUCTWORK AS HIGH AS POSSIBLE AND CLOSE TO THE MAIN STRUCTURE ABOVE. OFFSETS IN THE DUCTWORK MAY BE NECESSARY.

DISPERSION INFORMATION (VELOCITY OF 50, 100, 150 FPM) 1-3 SET

TAG #	CFM DISPERSED	DISPERSION TYPE	DISPERSION SET 1	DISPERSION SET 2
1	4800	ORIFICE	SIZE 1.5 AT 4:30 - 12' 18' 29'	SIZE 1.5 AT 7:30 - 12' 18' 29'
2	4800	ORIFICE	SIZE 1.5 AT 4:30 - 12' 18' 29'	SIZE 1.5 AT 7:30 - 12' 18' 29'
3	4800	ORIFICE	SIZE 1.5 AT 4:30 - 12' 18' 29'	SIZE 1.5 AT 7:30 - 12' 18' 29'

*COLOR SHALL BE SUBMITTED TO ARCHITECT FOR REVIEW PRIOR TO ORDERING AND INSTALLATION.

*SIZE IS CFM DISPERSED PER LINLEAR FOOT FOR POSITIONS AS RECOMMENDED BY DUCTSOX AT 50, 100, 150 FPM

3

GENERAL NOTES

1 REFER TO SHEET M-001-B FOR MECHANICAL NOTES, ABBREVIATIONS, AND LEGEND SYMBOLS.

KEYED NOTES

1 DOOR SHALL BE UNDERCUT 1/2".

2 ADD 5" DEEP EXTERNAL AIR FILTER RACK. TYPICAL FOR ALL AIR HANDLING UNITS.

3 LOUVER WITH MOTORIZED DAMPER INSTALLED ON EXTERIOR WALL APPROXIMATELY 6'-4" A.F.F. LOUVER INTERLOCKED WITH ASSOCIATED WALL MOUNTED EXHAUST FAN.

4 GAS UNIT HEATER SUSPENDED FROM STRUCTURE ABOVE USING MANUFACTURER'S HANGING KIT. ROUTE 10" VENT THRU THE ROOF AND ATTACH TO VENT CAP.

5 INSTALL VEHICLE EXHAUST FAN APPROXIMATELY 15 FEET A.F.F. USING MANUFACTURER'S HANGING KIT. INSTALL FAN IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.

6 PROVIDE NEW 6" CONCRETE MECHANICAL EQUIPMENT PAD FOR MECHANICAL EQUIPMENT.

7 PROVIDE FLEXIBLE DUCT AT CONNECTION TO VEHICLE EXHAUST FAN TO THE DUCT SHOWN.

8 LOUVER WITH MOTORIZED DAMPER INSTALLED ON EXTERIOR WALL APPROXIMATELY 6'-4" A.F.F. MOTORIZED DAMPER SHALL BE INTERLOCKED WITH VEHICLE EXHAUST FAN CONTROLLERS. DAMPER SHALL BE NORMALLY CLOSED WHEN VEHICLE EXHAUST FANS ARE NOT OPERATING AND OPEN DURING VEHICLE EXHAUST FAN OPERATION.

9 INSTALL NEW RETRACTABLE FLEXIBLE HOSE REEL SYSTEM APPROXIMATELY 15' A.F.F. HOSE REEL SHALL BE MOUNTED TO VERTICAL COLUMN OR WALL AS REQUIRED TO PROVIDE A COMPLETE AND OPERABLE SYSTEM. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

10 CONDENSATE DRAIN LINE SHALL BE TRAPPED PER DETAIL 8 / M5-01-B.

11 CONDENSATE DRAIN LINE TURNS DOWN PRIOR TO WALL PENETRATION 9" A.F.F. DISCHARGE TO THE EXTERIOR AS SHOWN AND PROVIDE AND INSTALL ELBOW FOR DOWNWARD DISCHARGE.

12 MANUFACTURER'S REQUIRED SERVICE CLEARANCE.

13 ALL CONDENSATE DRAIN PIPING SHALL BE INSULATED COPPER.

14 REFRIGERANT LINE SETS SIZED PER MANUFACTURER'S RECOMMENDATIONS.

15 MINIMIZE ELBOWS INSTALLED IN REFRIGERANT LINE SETS AND INSTALL AS DIRECTLY WITH STRAIGHT RUNS AS MUCH AS POSSIBLE. TYPICAL.

16 ONE OF THREE GAS DETECTION CONTROL PANELS EACH WITH ONE (1) CO AND ONE (1) NO2 SENSOR INCLUDED. PROVIDE ALL NECESSARY COMPONENTS AND WIRING TO PROVIDE A FULLY OPERATIONAL GAS DETECTION SYSTEM.

17 PROVIDE DUCT WALL CAP FOR EXHAUST DUCT FROM CEILING MOUNTED EXHAUST FAN.

18 MOUNT DUCTLESS SPLIT INDOOR UNIT ABOVE DOOR APPROXIMATELY 8'-0" ABOVE FINISHED FLOOR.

19 GRAVITY DAMPER SHIPPED LOOSE FOR EXHAUST AIR DUCTWORK SERVING ASSOCIATED EXHAUST FAN.

KEYED NOTES

20 MOUNT SIDEWALL EXHAUST FAN APPROXIMATELY 18'-0" ABOVE FINISHED FLOOR.

21 MOUNT ELECTRIC UNIT HEATER APPROXIMATELY 8'-0" ABOVE FINISHED FLOOR.

22 PROVIDE AND INSTALL DUCT SMOKE DETECTOR IN LOCATION INDICATED.

23 HVAC BUILDING CONTROLLER WITH 120 V REQUIRED POWER SUPPLY. REFER TO ELECTRICAL DRAWINGS.

24 24 VOLT MOTORIZED DAMPER.

25 PRESSURE INDEPENDENT AUTOMATIC BALANCING DAMPER.

26 BALANCE OUTSIDE AIRFLOW TO 200 CFM.

27 MOUNT AIR HANDLING UNIT APPROXIMATELY 18'-6" AFF.

28 NOT USED.

3 1

29 VEHICLE EXHAUST FAN MOTOR STARTERS EQUAL TO GREENHECK MSAC-1-18/J-G13-40 EACH SEPARATELY SERVING VEF-1 AND VEF-2.

30 VEHICLE EXHAUST FAN MOTOR STARTERS EQUAL TO GREENHECK MSAC-1-9/J-G8-40 EACH SEPARATELY SERVING VEF-3 AND VEF-4.

31 EXHAUST FAN SERVING THE SIGN SHOP SHALL BE CONNECTED AND OPERATED WITH A SEPARATE SWITCH MOUNTED BESIDE THE LIGHT SWITCH.

32 24 VOLT CONTROLLER MOUNTED TO DAMPER EQUAL TO SIMPLY VAV / KMC CONTROLS. PROVIDE ALL NECESSARY WIRING AND ACCESSORIES FOR A COMPLETE OPERATING CONTROL SYSTEM. INSTALL PER MANUFACTUER'S INSTRUCTIONS.

33 DIGITAL ROOM SENSOR AND CONTROLLER EQUAL TO STE-8001 SIMPLY VAV / KMC CONTROLS. EACH ROOM SENSOR SHALL BE INTEGRATED WITH AN ACUATOR MOUNTED TO THE SPECIFIC ZONE DAMPER. CONNECT WITH BUILDING AUTOMATION SYSTEM (BAS) AND PROVIDE AND INSTALL ALL REQUIRED COMPONENTS, SENSORS, ACTUATORS AND WIRING FOR A FULLY OPERATIONAL CONTROL SYSTEM.

34 BALANCE OUTSIDE AIRFLOW TO 205 CFM.

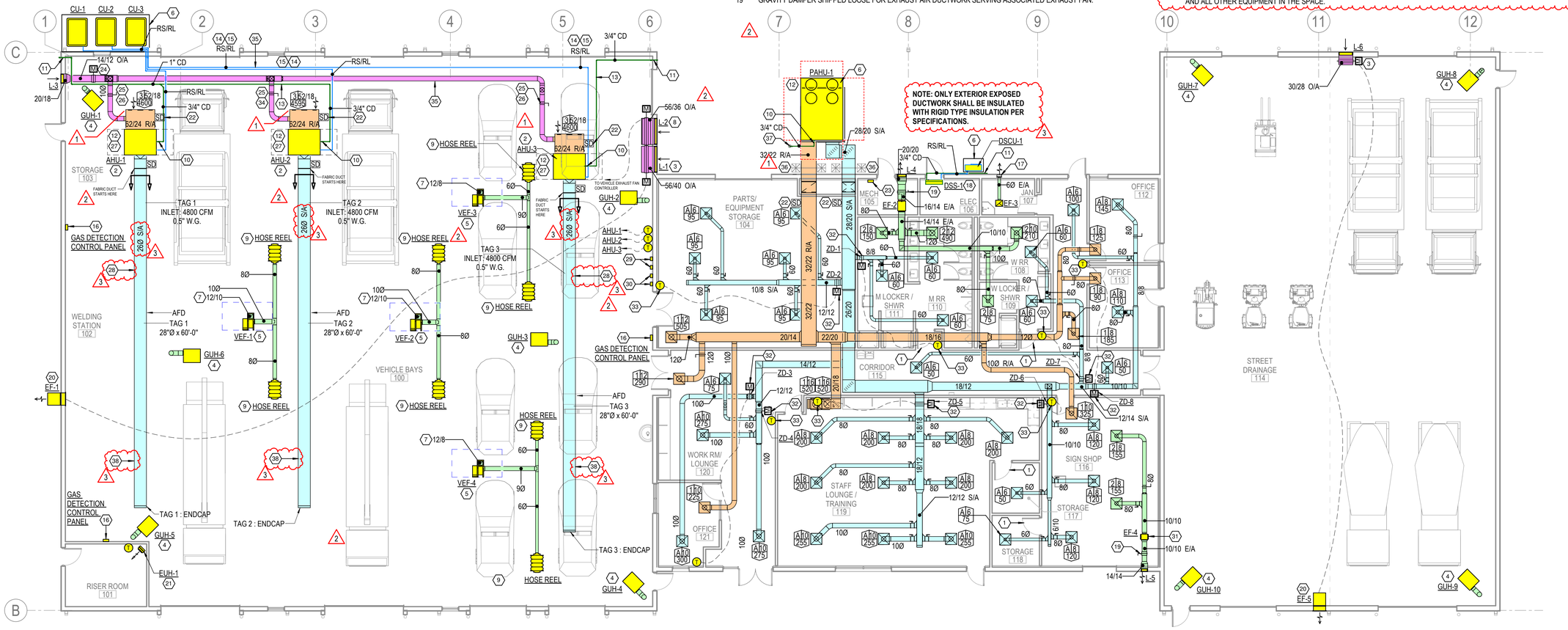
35 CAREFULLY COORDINATE ALL PIPING AND DUCTWORK WITH OVERHEAD DOOR TRACKS.

36 PROVIDE AND INSTALL DUCT SUPPORT PER DETAIL 9 / M-502-B.

37 CONDENSATE DRAIN LINE FROM PACKAGED UNIT TURNS ROUTED TO CATCH BASIN. SEE DETAIL 11 / M-502-B. REFER TO CIVIL FOR CONTINUATION.

38 INSTALL DUCTSOX APPROXIMATELY 17'-4" AFF. CAREFULLY COORDINATE WITH STRUCTURE ABOVE, STORAGE BELOW AND ALL OTHER EQUIPMENT IN THE SPACE.

3



1 MAINTENANCE AND OPERATIONS BUILDING MECHANICAL PLAN
1/8" = 1'-0"
0 4 8 16

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Project

MAINTENANCE AND OPERATIONS BUILDING
SHERWOOD
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Design Phase
CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description
1	10-09-2024	ADD 001
2	11-05-2024	ADD 002
3	11-15-2024	ADD 003

Stamp

CROMWELL ARCHITECTS/ ENGINEERS #5 ARKANSAS ENGINEER

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 22581 JESUS PADILLA
09-23-2024

Notes

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MAINTENANCE AND OPERATIONS BUILDING MECHANICAL PLAN

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