ABBREVIATIONS

AD	ACCESS DOOR
AF	AFTER FILTER
AFCE	AIR FLOW CONTROL VALVE
AFMS	AIR FLOW MEASURING STATION
AF	AIR FOIL WHEEL
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BIW	BACKWARD INCLINED WHEEL
BG	BOTTOM GRILLE (WALL TYPE)
BR	BOTTOM REGISTER (WALL TYPE)
Db	DRY BULB TEMPERATURE
dB	DECIBELS
Dp	DEWPOINT TEMPERATURE
E/A	EXHAUST AIR
ECC	ENGINEERING CONTROL CENTER
EF	EXHAUST FAN
EPO	EMERGENCY POWER OFF (SWITCH)
EX.	EXISTING
FC	FLEXIBLE CONNECTION
FL	FLOOR
FD	FIRE DAMPER
HF	HEPA FILTER
HP	HORSEPOWER
LBS/HR	POUNDS PER HOUR
MPC	MEDIUM PRESSURE STEAM CONDENSATE RETURN
MPS	MEDIUM PRESSURE STEAM
MAX.	MAXIMUM
MIN.	MINIMUM
NOM.	NOMINAL
O/A	OUTDOOR AIR
PD	PRESSURE DROP
PF	PRE-FILTER
PH	PREHEAT
R/A	RETURN AIR
RF	RETURN FAN
RH	REHEAT COIL
Rh	RELATIVE HUMIDITY
RV	POWER TYPE ROOF VENTILATOR
S/A	SUPPLY AIR
SA	SOUND ATTENUATING UNIT
SCD	SMOKE CONTROL DAMPER
SD	SMOKE DAMPER
SP	STATIC PRESSURE
SPS	STATIC PRESSURE SENSOR
VFD	VARIABLE FREQUENCY DRIVE
VTW	VENT THROUGH WALL
Wb	WET BULB TEMPERATURE

DRAWING SYMBOLS

- INDICATES AIR DISTRIBUTION DEVICE TYPE (SEE SCHEDULE)
- A2C — FRAME SIZE (SEE SCHEDULE); NECK SIZE (SEE SCHEDULE)
- 250 — CFM
- INDICATES SINGLE DUCT AIR TERMINAL UNIT
- AIR HANDLING UNIT NUMBER
- SINGLE DUCT AIR TERMINAL UNIT NUMBER
- TERMINAL UNIT SIZE (SEE SCHEDULE)
- LEAVING AIR TEMPERATURE (SEE SCHEDULE)
- V 1 – 1.45 / 500/150 — CFM (MAXIMUM/MINIMUM) – DUCTWORK PLANS
- V 1 – 1.45 / 1 GPM — MAXIMUM REHEAT GPM – PIPING PLANS
- 100 — UNDERCUT DOOR BY GENERAL CONTRACTOR
- SUPPLY DIFFUSER (4-WAY)
- SUPPLY DIFFUSER (3-WAY)
- SUPPLY DIFFUSER (2-WAY ADJACENT)
- SUPPLY DIFFUSER (2-WAY OPPOSITE)
- SUPPLY DIFFUSER (1-WAY)
- RETURN/TRANSFER GRILLE
- EXHAUST GRILLE

CONTROLS SYMBOLS

- (T) — ROOM CONTROL: THERMOSTAT (ROOM ADJUSTABLE)

GENERAL SYMBOLS

- DIRECTION OF PIPE PITCH (DOWN)
- DIRECTION OF FLOW
- ANCHOR
- REDUCER OR INCREASER
- ECCENTRIC REDUCER
- TOP CONNECTION, 45° OR 90°
- BOTTOM CONNECTION, 45° OR 90°
- SIDE CONNECTION
- CAPPED OUTLET
- RISE OR DROP IN PIPE
- UNION
- ORIFICE UNION
- STRAINER
- THERMOMETER
- PRESSURE GAGE
- WATER FLOW MEASURING DEVICE
- MV — MANUAL AIR VENT

PIPING SYMBOLS

HEATING

- HWS — HOT WATER HEATING SUPPLY
- HWR — HOT WATER HEATING RETURN

AIR CONDITIONING

- CHS — CHILLED WATER SUPPLY
- CHR — CHILLED WATER RETURN
- D — CONDENSATE DRAIN PIPING
- R — REFRIGERANT PIPING

PIPING RISER SYMBOLS

- HWS / HWR — HOT WATER SUPPLY AND RETURN

VALVE SYMBOLS

- SHUT-OFF VALVE – SEE SPECIFICATIONS
- GLOBE VALVE
- GATE VALVE WITH 3/4 " HOSE ADAPTER
- CHECK VALVE
- ANGLE GLOBE VALVE
- BUTTERFLY VALVE
- BALL VALVE
- BALANCING VALVE
- CIRCUIT SETTER
- STRAIGHT-THRU MODULATING CONTROL VALVE
- STRAIGHT-THRU TWO POSITION CONTROL VALVE
- THREE-WAY MODULATING CONTROL VALVE
- AUTOMATIC FLOW CONTROL VALVE
- SAFETY OR PRESSURE RELIEF VALVE
- PRESSURE REDUCING VALVE
- MANUAL AIR VENT
- TEST PLUG (PRESSURE/TEMPERATURE)
- STEAM TRAP (MEDIUM/HIGH PRESSURE)
- CIRCUIT SETTER (METERING AND BALANCING)
- CONCENTRIC REDUCER

DUCTWORK SYMBOLS

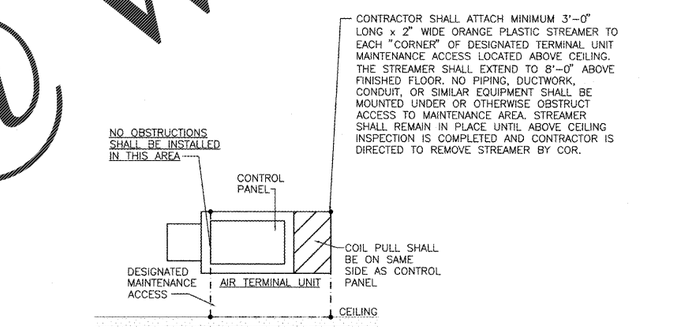
- SUPPLY REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN CEILING REGISTER OR GRILLE
- EXHAUST OR RETURN BOTTOM REGISTER OR GRILLE (WALL TYPE)
- EXHAUST OR RETURN REGISTER OR TOP GRILLE (WALL TYPE)
- FC — FLEXIBLE CONNECTION
- VANED ELBOW (PROVIDE ALL SQUARE OR RECTANGULAR ELBOWS WITH AIRFOIL TYPE TURNING VANES EVEN IF SYMBOL IS MISSING)
- VANED ELBOW (SHORT RADIUS)
- STANDARD RADIUS ELBOW
- 10x8 — NEW DUCT (WIDTH x DEPTH)
- FLEXIBLE DUCTWORK (INSULATED)
- 45° SUPPLY — STANDARD BRANCH SUPPLY OR RETURN, NO DAMPER (45° TAP)
- 45° RETURN
- FIRE DAMPER WITH ACCESS DOOR
- MANUAL VOLUME DAMPER
- MOTORIZED DAMPER WITH ACCESS DOOR
- COMBINATION FIRE/SMOKE DAMPER WITH ACCESS DOOR
- DUCT MOUNTED SMOKE DETECTOR WITH ACCESS DOOR
- ACCESS DEVICE – SEE SPECIFICATIONS
- FLEXIBLE DUCT CONNECTION (EQUIPMENT)
- SUPPLY DUCT TURNING UP THROUGH FLOOR
- RETURN DUCT TURNING UP THROUGH FLOOR
- EXHAUST DUCT TURNING UP THROUGH FLOOR
- SUPPLY DUCT TURNING DOWN THROUGH FLOOR
- RETURN DUCT TURNING DOWN THROUGH FLOOR
- EXHAUST DUCT TURNING DOWN THROUGH FLOOR

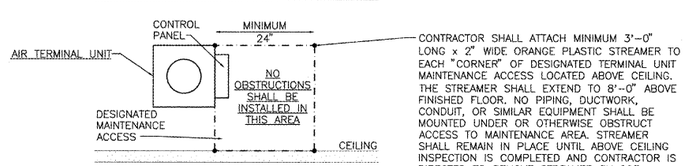
GENERAL NOTES

1. ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN A FURRED CHASE OR ABOVE THE SUSPENDED CEILING.
2. THE FIRST FIGURE OF DUCT SIZE INDICATES DIMENSION OF FACE SHOWN OR INDICATED.
3. ACCESS PANELS IN SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, TRAPS, DAMPERS, CLEANOUTS, CONTROLS, ETC. ACCESS PANELS SHALL BE FURNISHED AND INSTALLED UNDER THE ARCHITECTURAL SPECIFICATIONS.
4. TOTAL STATIC PRESSURE NOTED IN THE SCHEDULES INCLUDES DUCT SYSTEM, TERMINAL UNITS, FILTERS, COILS, ETC.
5. FOR TYPICAL STEAM AND WATER PIPING CONNECTIONS TO EQUIPMENT SEE STANDARD EQUIPMENT DETAILS.
6. DIFFUSER, REGISTER AND GRILLE SIZES SHOWN ON FLOOR PLANS ARE NECK SIZES.
7. WATER PIPE CONNECTIONS TO AIR HEATING AND COOLING COILS SHALL BE MADE TO PROVIDE COUNTER FLOW BETWEEN WATER AND AIR.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF CEILING DIFFUSERS, REGISTERS, AND GRILLES.
9. MECHANICAL CONTRACTOR SHALL PERFORM DUCT PRESSURE/LEAKAGE TEST(S) FOR ALL DUCTWORK IN THE PRESENCE OF DESIGN ENGINEER AND/OR COTR PRIOR TO INSTALLING INSULATION. DUCTWORK SHALL MEET DUCT PRESSURE CLASS AND DUCT LEAKAGE CLASSIFICATION SPECIFIED ON SHEET M-601.
10. PRIOR TO CONTROLS PROGRAMMING, MECHANICAL CONTRACTOR SHALL PROVIDE TO CONTROLS VENDOR THE ACTUAL ROOM NUMBERS PROVIDED BY THE OWNER.
11. COORDINATE ANY PENETRATIONS IN EXISTING ROOF WITH TREMCO, INC.
12. MECHANICAL CONTRACTOR SHALL COORDINATE FINAL LOCATION FOR EQUIPMENT, VALVES, FITTINGS, ETC. REQUIRING ACCESS FOR MAINTENANCE AND REPAIR ABOVE HARD CEILINGS WITH ACCESS PANELS. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS.
13. ALL PIPING, DUCTWORK ND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE SEISMIC REQUIREMENTS OF THE VETERAN'S ADMINISTRATION GUIDELINES.

HVAC DESIGN DATA

OUTDOOR DESIGN TEMPERATURES	97.1 °F Db SUMMER 76.2 °F Wb SUMMER 22.2 °F Db WINTER	DESIGN ALTITUDE: 148 FT.		
INDOOR AREA DESIGN CONDITIONS	SUMMER		WINTER	
	Db °F	% HUMIDITY	Db °F	% HUMIDITY
PATIENT ROOMS & OFFICES	75	50	70	30





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Revisions	By Date
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1. MEDICAL CENTER DIRECTOR	6. OPERATIONS SERVICE LINE MANAGER
2. ASSISTANT DIRECTOR	7. INFECTION CONTROL MANAGER
3. CHIEF OF STAFF	8. SAFETY MANAGER
4. ASSOC. DIRECTOR	9. GENERAL ENGINEER
5. SERVICE LINE MGRS.	10. COR

Drawing Title: MECHANICAL LEGEND AND GENERAL NOTES

100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: RENOVATE MENTAL HEALTH UNITS

Drawn | Building Number | AutoCAD File Name
Checked | Reviewed | Const. Contract No.

Date: February 10, 2017
Project Number: 509-12-104
DRAWING No.: M001

Veterans Affairs