MECHANICAL GENERAL NOTES

1. GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH MECHANICAL DRAWING OF THIS SET. REFER TO EACH DRAWING FOR SPECIFIC NOTES APPLICABLE TO THAT DRAWING.
2. THESE DRAWINGS CORRESPOND WITH DRAWINGS PRODUCED BY SIEMENS DATED 10/26/23. REFER TO SIEMENS DRAWINGS FOR ADDITIONAL REQUIREMENTS.
3. EXISTING HVAC PIPING, DUCTWORK, AND EQUIPMENT SHOWN IS BASED ON EXISTING PLANS AND FIELD OBSERVATION WITHOUT DEMOLITION. AFTER DEMOLITION, ANY CLARIFICATION REQUIRED TO DETERMINE SCOPE OF WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
4. THE CONTRACTOR SHALL VISIT THE JOB SITE AND THOROUGHLY FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS.
5. DRAWINGS DO NOT SHOW EVERY EXISTING PIPE, CONDUIT, DUCT, ETC. CONTRACTOR SHALL TAKE CARE TO REMOVE ONLY ITEMS REQUIRED TO BE REMOVED AND VERIFY PIPES, DUCTS, ETC. BEFORE REMOVAL.
6. BUILDING IS TO REMAIN OCCUPIED DURING CONSTRUCTION. REMOVAL OR SHUT-DOWN OF EQUIPMENT THAT AFFECTS AN OCCUPIED AREA'S AIR CONDITIONING OR HEATING SHALL ONLY BE DONE AS APPROVED OR TEMPORARY AIR CONDITIONING OR HEATING SHALL BE PROVIDED AT CONTRACTOR'S EXPENSE. THIS MAY REQUIRE NIGHT AND WEEKEND WORK TO KEEP BUILDING IN OPERATION.
7. REMOVE EXISTING DUCTWORK AND PIPING NOT TO BE REUSED.
8. OVERHEAD PIPING IN SPACES WITHOUT HUNG CEILINGS SHALL BE RUN AS CLOSE TO THE ROOF DECK AS PRACTICABLE, AS CLOSE TO PARALLEL JOISTS AS POSSIBLE AND ABOVE LIGHTING FIXTURES TO CONCEAL PIPING.
9. ARRANGE DUCTWORK AND PIPING, PARTICULARLY ABOVE CEILINGS, AS REQUIRED TO CLEAR STRUCTURE, DUCTS, CONDUITS, ETC. ALLOWING SPACE FOR PIPING HANGERS, EXPANSION LOOPS AND ACCESS TO VALVES, FILTERS AND MAINTENANCE OF EQUIPMENT.
10. EQUIPMENT WITH FILTERS SHALL BE INSTALLED SO THAT FILTERS CAN BE EASILY REMOVED AND REPLACED.
11. CONTRACTOR SHALL VERIFY REFRIGERANT PIPE SIZES WITH EQUIPMENT MANUFACTURER FOR THE INDICATED INSTALLATION.
12. COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH ALL OTHER TRADES.
13. INSTALL ALL WALL MOUNTED NON-ADJUSTABLE SENSORS AT 5'-0" FROM FINISHED FLOOR TO TOP OF SENSOR. INSTALL ADJUSTABLE DEVICE 4'-0" ABOVE FINISHED FLOOR
14. DUCTWORK AND PIPING INSULATION SHALL BE RUN CONTINUOUSLY THROUGH NON-RATED FLOORS, WALLS AND PARTITIONS UNLESS OTHERWISE NOTED.
15. PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS DESCRIBED WITHIN THIS CONSTRUCTION SET. ADDITIONAL SUPPORTS AND HANGERS SHALL BE ADJACENT TO ELBOWS TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
16. LOCATE AND SIZE CONCRETE PADS AND CURBS FOR MECHANICAL EQUIPMENT IN ACCORDANCE WITH ACTUAL EQUIPMENT PURCHASED.
17. FOR LOCATION OF MOTOR STARTERS, REFER TO ELECTRICAL DRAWINGS.
18. FURNISH ALL MECHANICAL EQUIPMENT WITH DISCONNECTS.
19. ALL CONDENSATE PIPING SHALL BE COPPER OR PVC.
20. PROVIDE ALL ANCHORS/GUIDES AND VALVES RECOMMENDED BY THE MANUFACTURER.
21. THERMOSTATS SHALL BE CONTROLLED BY OCCUPANTS .
22. COORDINATE ALL MECHANICAL WORK WITH ELECTRICAL AND FIRE PROTECTION.
23. CONTRACTOR SHALL VISIT JOB SITE TO DETERMINE EXTENT OF WORK INVOLVED PRIOR TO BIDDING PROJECT.
24. THE MECHANICAL SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE.

CONTRACT GENERAL CONDITIONS

1. CONTRACTOR WILL VERIFY ALL SIZES AND EXISTING CONDITIONS PRIOR TO SUBMITTING A BID FOR THE PROJECT.
2. CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING AND POSTING ALL APPLICABLE PERMITS.
3. CONTRACTOR WILL NOT INTERRUPT OR DISTURB THE NORMAL OPERATIONS OF THE BUILDING.
4. COORDINATE WITH THE OWNER FOR LOCATION OF ANY CONSTRUCTION OFFICE OR STORAGE TRAILER. CONTRACTOR WILL NOT BLOCK ANY PARKING AREAS/DRIVEWAYS OR INTERFERE WITH THE TRAFFIC FLOW AROUND THE BUILDING.
5. CONTRACTOR WILL NOT INTERRUPT ANY UTILITIES OR SERVICE PROVIDED TO THE BUILDING WITHOUT PRIOR PERMISSION.
6. CONTRACTOR MUST PROVIDE SAFETY TAPE AND BARRIERS AROUND AREAS OR WORK. ALL EQUIPMENT AND MATERIALS MUST BE SECURED FROM THEFT AND VANDALISM.
7. CONTRACTOR WILL CONTROL WORKERS ON SITE AT ALL TIMES. WORKERS WILL BE RESTRICTED TO THE WORKING AREAS ONLY. WORKERS WILL NOT USE BUILDING LOUNGES, VENDING MACHINES OR TELEPHONES.
8. CONTRACTOR WILL NOT ALLOW TRASH TO ACCUMULATE OVER 1 DAY. ALL CONSTRUCTION DEBRIS AND TRASH MUST BE DISPOSED OF IN CONTRACTOR'S DISPOSAL BIN. CONTRACTOR WILL NOT USE BUILDING DUMPSTER FOR DISPOSAL OF DEBRIS OR TRASH.
9. NO SMOKING AT ANY TIME IN THE BUILDINGS.
10. THE BUILDINGS MUST BE IN OPERATION DURING CONSTRUCTION. PHASING AND SCHEDULING IS REQUIRED AS SPECIFIED. CONTRACTOR SHALL SCHEDULE HIS WORK AND COORDINATE HIS ACTIVITIES SO AS TO CAUSE THE LEAST INTERFERENCE WITH THE NORMAL OPERATIONS OF THE BUILDING. WORK THAT RESULTS IN EXCESSIVE NOISE OR FUMES SHALL BE SCHEDULED DURING WEEKENDS OR AFTER NORMAL WORKING HOURS.
11. THE SYSTEMS INSTALLED WILL BE COMMISSIONED IN ACCORDANCE WITH REQUIREMENTS OUTLINED WITHIN THE 2018 OUTPATIENT FGI, SECTION 1.2-8:

    KEY SYSTEMS AND COMPONENTS THAT SHOULD BE TESTED AND VALIDATED, AT MINIMUM, DURING THE CX PROCESS INCLUDE DESIGN AND OPERATIONS OF THE HVAC, PLUMBING, ELECTRICAL, EMERGENCY POWER, FIRE PROTECTION/SUPPRESSION, TELECOMMUNICATIONS, NURSE CALL, INTRUSION AND OTHER ALARM DEVICE, AND MEDICAL GAS AND VACUUM SYSTEMS AS WELL AS SPECIALTY EQUIPMENT.

    AIR BALANCING, CRITERIA FOR MECHANICAL SYSTEMS, INCLUDING LOCAL EXHAUST VENTILATION, SHOULD BE CLEARLY DESCRIBED AND TESTED TO CREATE AN ENVIRONMENT OF CARE THAT PROVIDES FOR INFECTION PREVENTION AND OCCUPANT SAFETY.

    AREAS REQUIRING EMERGENCY POWER SHOULD BE SPECIFIED AND TESTED.

LEGEND

- SUPPLY AIR CEILING DIFFUSER
- RETURN AIR GRILLE / REGISTER
- SUPPLY AIR DUCT TURNING DOWN
- SUPPLY AIR DUCT TURNING UP
- RETURN AIR DUCT TURNING DOWN
- RETURN AIR DUCT TURNING UP
- VOLUME DAMPER
- T — THERMOSTAT, WALL MOUNTED
- POINT OF CONNECTION NEW TO EXISTING
- ? — SHEET KEYNOTE
- PIPE TURN UP
- PIPE TURN DOWN
- CWS — CHILLED WATER SUPPLY PIPING
- CWR — CHILLED WATER RETURN PIPING
- D — CONDENSATE DRAIN PIPING
- RS/L — REFRIGERANT SUCTION AND LIQUID PIPING
- DEMOLISH MATERIAL AS NOTED
- VAV — VARIABLE AIR VOLUME TERMINAL UNIT

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
APD	AIR PRESSURE DROP
APPX	APPROXIMATELY
CFM	CUBIC FEET PER MINUTE
DB	DRY BULB TEMPERATURE
DN	DOWN
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
FLA	FULL LOAD AMPS
HP	HORSEPOWER
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB TEMPERATURE
LWB	LEAVING WET BULB TEMPERATURE
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MOCP	MAXIMUM OVER CURRENT PROTECTION
OA	OUTSIDE AIR
SD	SMOKE DETECTOR
SP	STATIC PRESSURE
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
WB	WET BULB TEMPERATURE
WC	WATER COLUMN
Ø	ROUND DUCT/PHASE

DUCT CONSTRUCTION AND LEAK TEST SCHEDULE

SYSTEM	DUCT PRESSURE CLASS (IN WG)		SUPPLY				RETURN / OUTSIDE AIR		DUCT TEST PRESSURE: IN OF WATER COULMN
			ROUND		RECTANGULAR				
	SUPPLY DUCT	RETURN DUCT	DUCT SEAL CLASS	DUCT LEAK CLASS	DUCT SEAL CLASS	DUCT LEAK CLASS	DUCT SEAL CLASS	DUCT LEAK CLASS	
MEDIUM VELOCITY DUCT (VAV INLETS)	4.0	-	A	6	A	12	A	12	4.0
LOW VELOCITY DUCT (VAV OUTLETS)	0.5	-	A	12	A	12	A	12	4.0

NOTES:

1. TEST IN ACCORDANCE WITH THE PROCEDURES IN SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL.

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RIVERSIDE HEALTH SYSTEM

COMMONWEALTH OF VIRGINIA
12/20/23
WILLIAM L. TAYLOR
Lic. No. 062684
PROFESSIONAL ENGINEER
SEAL

Revisions

No.	Description	Date

RIVERSIDE DIAGNOSTIC CENTER
HAMPTON CT REPLACEMENT
850 ENTERPRISE PKWY
HAMPTON, VA

MECHANICAL LEGEND, NOTES, ABBREVIATIONS, DETAILS, AND SCHEDULES

Project #:	23066
Date:	12/20/23

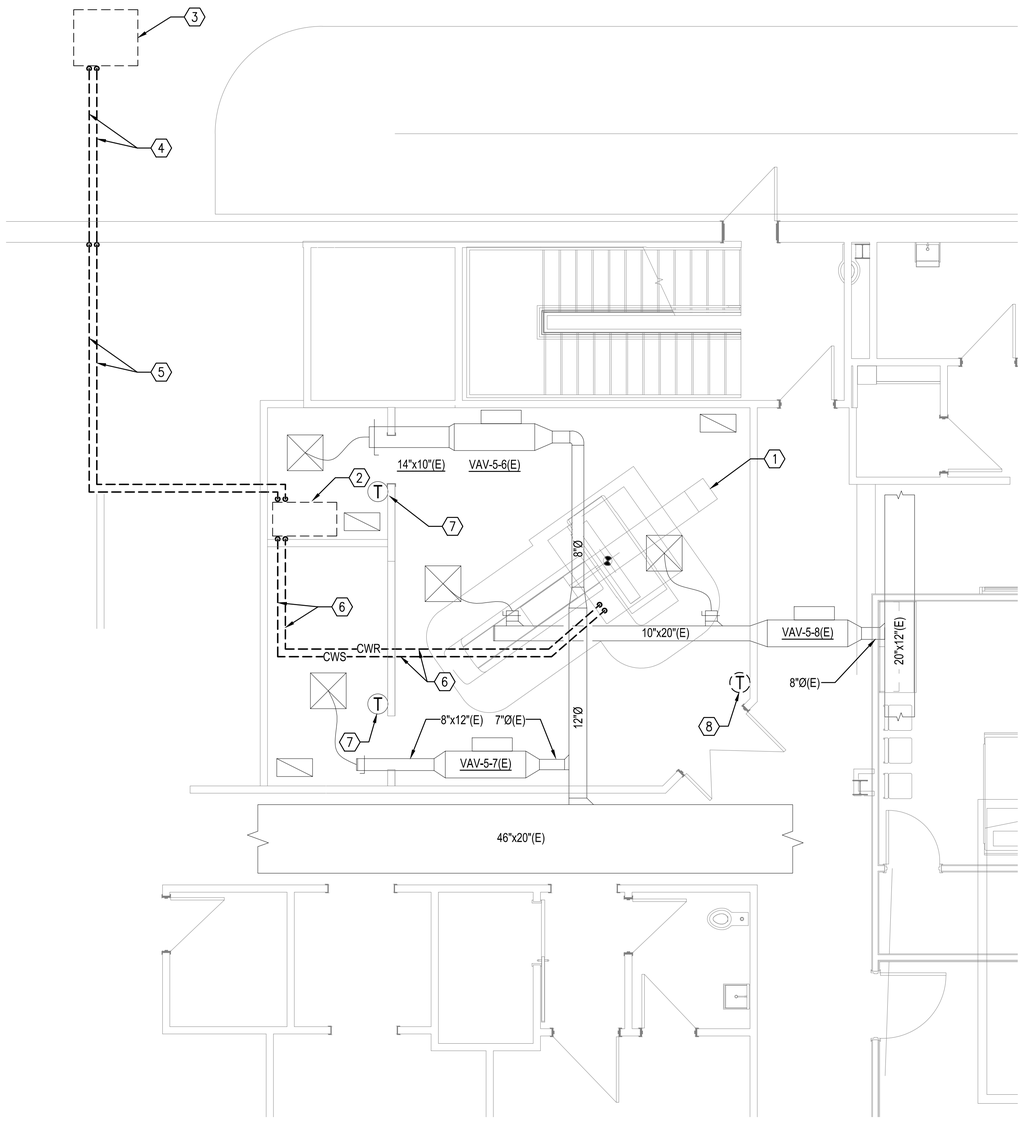
Project Manager:	WLT
Designed By:	WLT
Drawn By:	BAC
Checked By:	RCP

M-001

SHEET 1 OF 6

SHEET KEYNOTES

1. EXISTING CT SCANNER DEMOLISHED BY OTHERS.
2. DEMOLISH EXISTING CHILLER COMPLETE.
3. DEMOLISH EXISTING CONDENSING UNIT. CAP REFRIGERANT LINES AT GRADE. PROPERLY REMOVE AND DISPOSE OF ALL REFRIGERANTS FROM EXISTING SYSTEM BEFORE CAPPING.
4. ABANDON BELOW-GRADE REFRIGERANT LINES IN PLACE.
5. DEMOLISH ABOVE-CEILING REFRIGERANT PIPING. PIPING DEMOLITION FOR PIPING LOCATED IN OUT-OF-SCOPE AREAS SHALL BE PERFORMED IN NON-OCCUPIED HOURS.
6. DEMOLISH CHILLED WATER HOSES FROM CHILLER TO EXISTING CT SCANNER COMPLETE.
7. EXISTING WALL-MOUNTED TEMPERATURE SENSOR TO REMAIN.
8. DEMOLISH EXISTING TEMPERATURE SENSOR AND CONTROL WIRING.



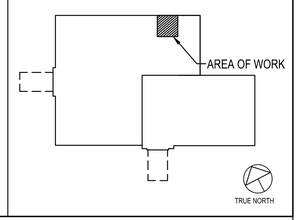
A3 1ST FLOOR CT SUITE - MECHANICAL DEMOLITION PLAN

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

PLAN NORTH

0' 1' 5' 10' 15'

KEY PLAN



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RIVERSIDE DIAGNOSTIC CENTER
HAMPTON CT REPLACEMENT
850 ENTERPRISE PKWY
HAMPTON, VA

1ST FLOOR CT SUITE - MECHANICAL DEMOLITION PLAN

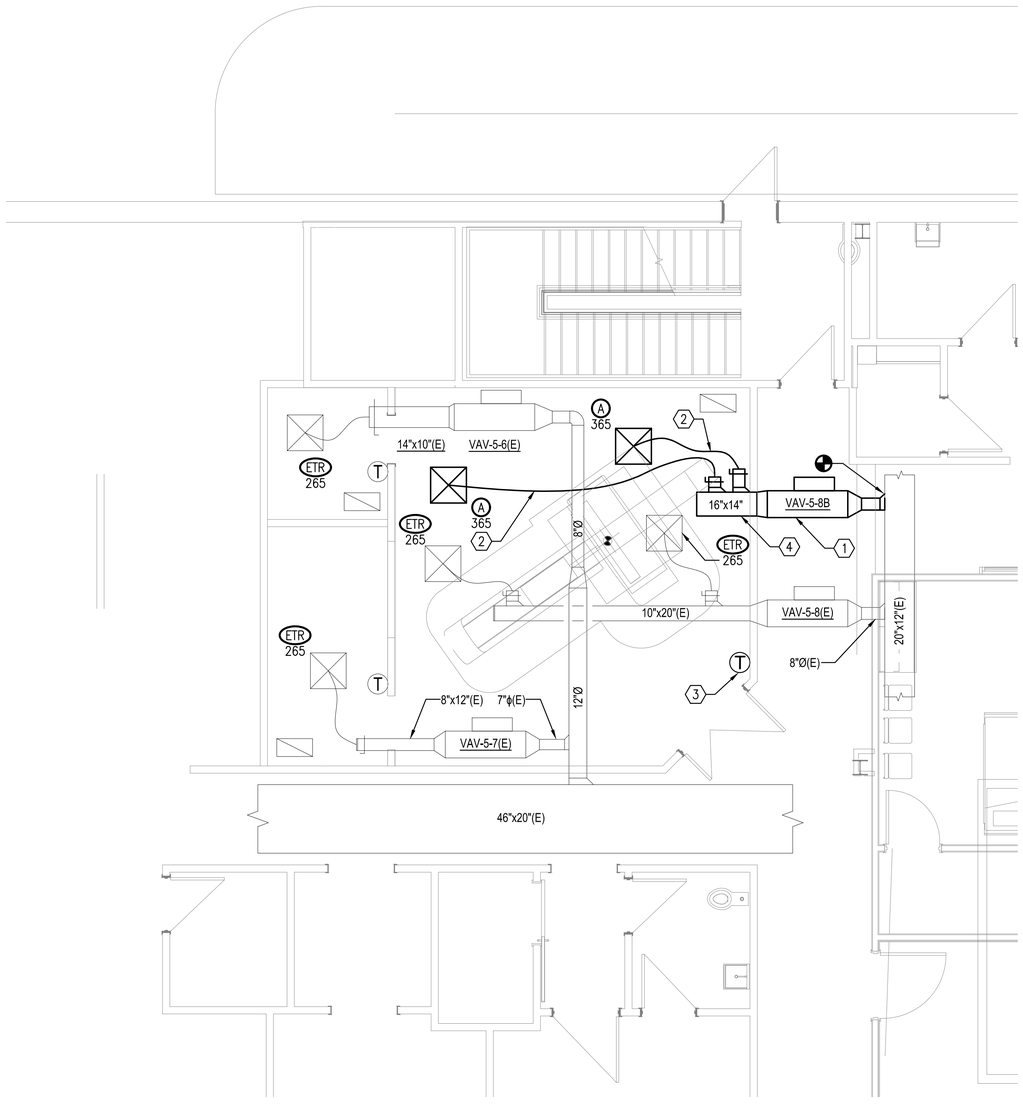
Project #:	23066
Date:	12/20/23
Project Manager:	WLT
Designed By:	WLT
Drawn By:	BAC
Checked By:	RCP

MD101

SHEET 2 OF 6

SHEET KEYNOTES

1. NEW VAV TERMINAL UNIT WITH ELECTRIC REHEAT COIL. MOUNT ABOVE CORRIDOR CEILING. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS
2. PROVIDE 12" ROUND INSULATED FLEXIBLE DUCTWORK ABOVE EXISTING LEAD-LINED CEILING.
3. PROVIDE NEW TEMPERATURE SENSOR AND TIE INTO EXISTING DDC SYSTEM. REFER TO CONTROLS SEQUENCE OF OPERATIONS.
4. ALL DUCTWORK PENETRATIONS SHALL OCCUR ABOVE THE EXISTING LEAD-LINED WALL. DUCTWORK SHALL BE SUPPORTED ABOVE LEAD LINED CEILING. SHOULD A PENETRATION OF LEAD-LINED WALL OCCUR, A WAVE-GUIDE VENT SHALL BE PROVIDED.

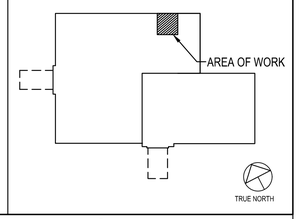


A3 1ST FLOOR CT SUITE - MECHANICAL NEW WORK PLAN
SCALE: 1/4" = 1' - 0"

PLAN NORTH

0' 1' 5' 10' 15'

KEY PLAN



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M-101

SHEET 3 OF 6

EXISTING VAV TERMINAL BOX SCHEDULE

TAG	INLET DIA (IN)	VOL. REG. C.F.M.		ELECTRIC REHEAT COIL					
		MAX.	MIN.	CFM	KW	EAT (°F)	LAT (°F)	VOLTS	PHASE
VAV-5-6	8	620	250	250	2.0	55	90.1	277	1
VAV-5-7	7	420	170	170	2.0	55	90.1	277	1
VAV-5-8A	8	530	210	210	2.3	55	90.1	277	1

NOTES:
1. SCHEDULE IS FOR BALANCING PURPOSES ONLY.

GRILLE, REGISTER & DIFFUSER SCHEDULE

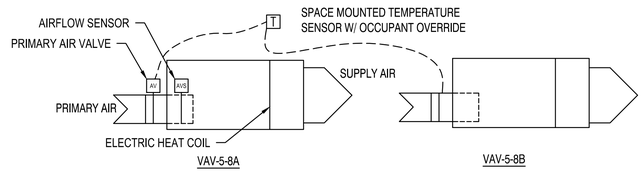
TAG	TYPE	SERVICE	C.F.M.	NECK SIZE	FACE SIZE	MAX. P.D.	MODEL NO.	THROW (FT)	NC
A	SQUARE LAY-IN	SUPPLY	0-650	12"ϕ	24X24	0.08	SCD	5	15

NOTES:
1. SELECTIONS BASED ON PRICE. TITUS AND KREUGER ARE ACCEPTABLE ALTERNATIVES.
2. PROVIDE ALUMINUM GRILLES WITH OPPOSED BLADE VOLUME DAMPERS, BAKED STANDARD WHITE ENAMEL FINISH (INCLUDING HEAD OF SCREWS), MAXIMUM NC=25 AT HIGHEST CFM AND PROVIDE NECK TRANSITION AS REQUIRED.
3. MAXIMUM PRESSURE DROP SHALL INCLUDE VOLUME DAMPER WHERE DAMPER IS PROVIDED.

VAV TERMINAL BOX SCHEDULE

TAG	INLET DIA (IN)	VOL. REG. C.F.M.		ELECTRIC REHEAT COIL								
		MAX.	MIN.	CFM	KW	EAT (°F)	LAT (°F)	VOLTS	PHASE	FLA	MCA	MOCP
VAV-5-8B	10	730	300	300	8.0	52	87.0	277	1	28.9	36.1	40

NOTES:
1. MAKE/MODEL IS TRANE VCEF. EQUIPMENT PURCHASED BY CONTRACTOR.
2. PROVIDE TEMPERATURE SENSOR CAPABLE OF OCCUPANT ADJUSTMENT.
3. PROVIDED WITH FACTORY DISCONNECT SWITCH, 277/24 VOLT TRANSFORMER



B4 FLOW DIAGRAM - SHUT OFF VAV TERMINAL
NOT TO SCALE

SHUT-OFF VAV TERMINAL UNIT SEQUENCE OF OPERATIONS

VAV-5-8A AND VAV-5-8B SHALL BE CONTROLLED BY A SINGLE TEMPERATURE SENSOR MOUNTED IN THE CT SCAN ROOM. VAV-5-8A SHALL ACT AS THE PRIMARY MEANS OF COOLING AND HEATING TO THE SPACE. VAV-5-8B SHALL ACT AS A SUPPLEMENTARY MEANS OF COOLING TO THE SPACE. VAV-5-8A SHALL BE ENERGIZED DURING ALL HOURS OF OCCUPANCY.

COOLING MODE:

THE SPACE TEMPERATURE SENSOR SHALL MODULATE THE PRIMARY AIR VALVE OF VAV-5-8A TO MAINTAIN SPACE TEMPERATURE COOLING SETPOINT (75°F ADJ.). THE AIR VALVE SHALL OPEN ON A RISE IN SPACE TEMPERATURE AND CLOSE ON A FALL IN SPACE TEMPERATURE.

UPON A CONTINUED RISE IN SPACE TEMPERATURE ABOVE SPACE TEMPERATURE COOLING SETPOINT, VAV-5-8B SHALL ENERGIZE AND SHALL ALSO MODULATE ITS PRIMARY AIR VALVE TO MAINTAIN SPACE TEMPERATURE COOLING SETPOINT. ON A FALL IN SPACE TEMPERATURE BELOW COOLING SETPOINT, VAV-5-8B SHALL DEENERGIZE.

HEATING MODE:

UPON A CALL FOR HEATING, THE SPACE TEMPERATURE SENSOR SHALL OPEN TO THE SCHEDULED HEATING POSITION. THE SPACE TEMPERATURE SENSOR SHALL MODULATE THE ELECTRIC REHEAT COIL FOR VAV-5-8A TO MAINTAIN SPACE TEMPERATURE HEATING SETPOINT (70°F ADJ.).

UPON A CONTINUED FALL IN SPACE TEMPERATURE BELOW SPACE TEMPERATURE HEATING SETPOINT, VAV-5-8B SHALL ENERGIZE AND SHALL ALSO BE OPENED TO ITS SCHEDULED HEATING POSITION TO MAINTAIN SPACE TEMPERATURE HEATING SETPOINT. ON A RISE IN SPACE TEMPERATURE ABOVE HEATING SETPOINT, VAV-5-8B SHALL DEENERGIZE.

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MECHANICAL CONTROLS, DETAILS, AND SCHEDULES

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Project Manager:	WLT
Designed By:	WLT
Drawn By:	BAC
Checked By:	RCP

M-601

SHEET 4 OF 6