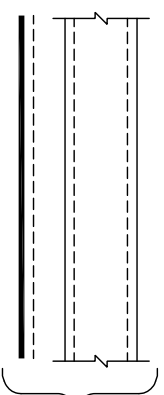
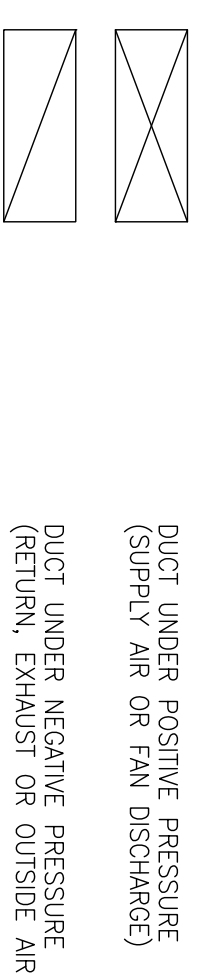


HVAC SYMBOLS

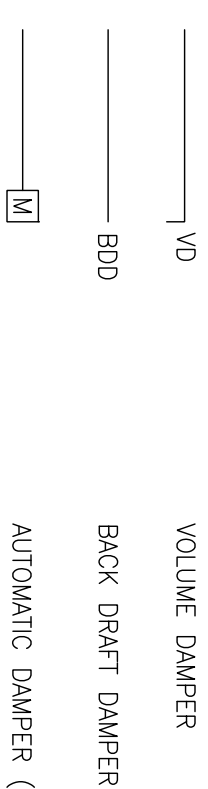
SINGLE LINE DUCTWORK OR EQUIPMENT - NEW



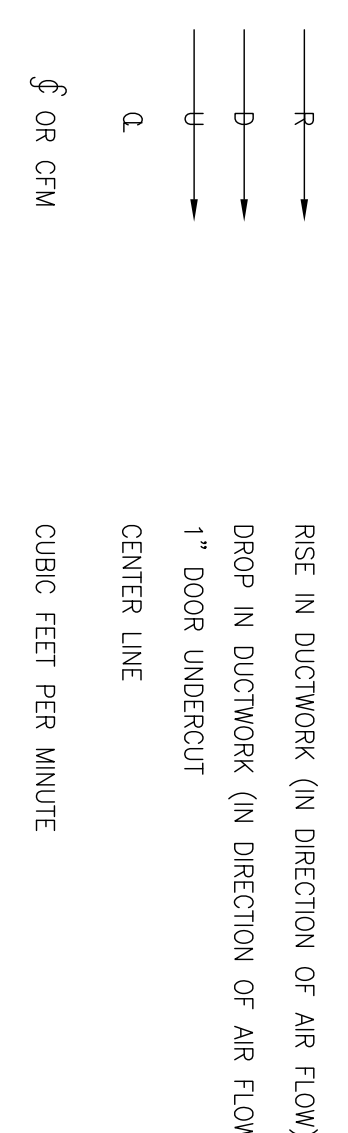
DUCTWORK WITH ACOUSTIC LINING



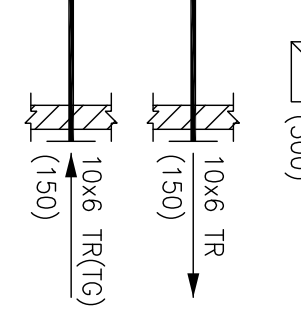
DUCT UNDER POSITIVE PRESSURE (SUPPLY AIR OR FAN DISCHARGE)
DUCT UNDER NEGATIVE PRESSURE (RETURN, EXHAUST OR OUTSIDE AIR)
VOLUME DAMPER



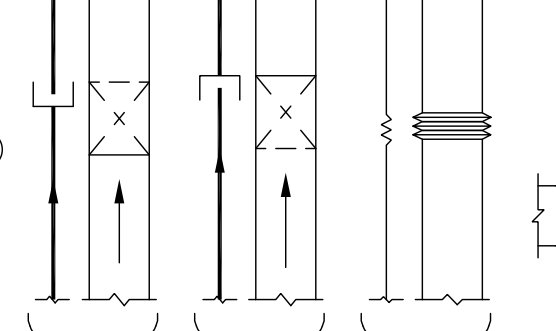
BACK DRAFT DAMPER
AUTOMATIC DAMPER (ELECTRIC)
RISE IN DUCTWORK (IN DIRECTION OF AIR FLOW)
DROP IN DUCTWORK (IN DIRECTION OF AIR FLOW)
1" DOOR UNDERCUT
CENTER LINE
CUBIC FEET PER MINUTE



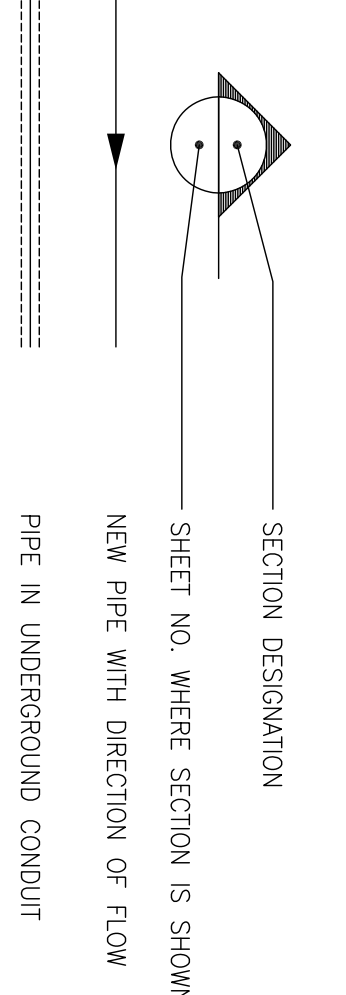
DIAMETER
SQUARE FEET
TYPE A CEILING DIFFUSER
400 CFM SUPPLY AIR
RECTANGULAR CEILING DIFFUSER WITH 12"x12" NECK
400 CFM SUPPLY AIR
10" BY 6" TOP REGISTER (CEILING GRILLE)
300 CFM RETURN AIR
10" BY 6" TOP REGISTER, 150 CFM SUPPLY AIR
10" BY 6" TOP REGISTER (TOP GRILLE)
150 CFM RETURN AIR



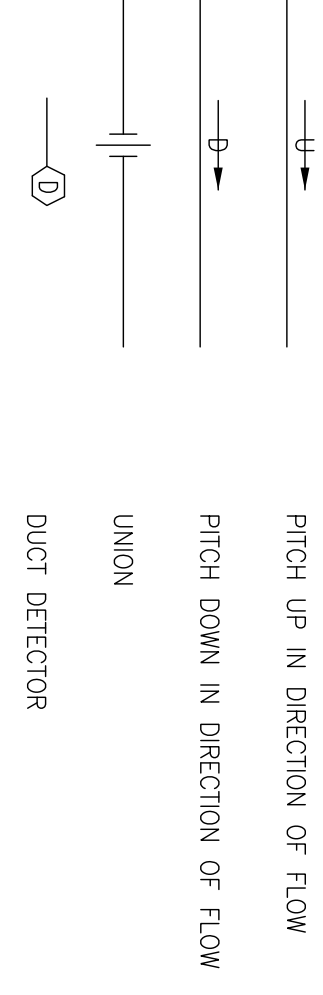
VANED ELBOW (SEE DETAIL)
VANED ELBOW (SEE DETAIL)
RADIUS ELBOW
DUCT FLEXIBLE CONNECTION



VERTICAL DUCT DROP (IN DIRECTION OF AIRFLOW)
VERTICAL DUCT RISE (IN DIRECTION OF AIRFLOW)
HUMIDISTAT
PRESSURE SWITCH
THERMOSTAT
SMOKE DETECTOR
REMOTE CONTROLLER



SHEET NO. WHERE SECTION IS SHOWN
NEW PIPE WITH DIRECTION OF FLOW
PIPE IN UNDERGROUND CONDUIT
PIPE DROP
PIPE RISE
CONDENSATE LINE



PITCH UP IN DIRECTION OF FLOW
PITCH DOWN IN DIRECTION OF FLOW
UNION
DUCT DETECTOR

HVAC ABBREVIATIONS

A	AMPERES	AW	AUTOMATIC AIR VENT	NC	NORMALLY CLOSED
AC	AIR CONDITIONING	NO	NOT IN CONTRACT	NIC	NOT IN CONTRACT
ACU	AIR COOLED CONDENSING UNIT	NO	NORMALLY OPEN	NO	NUMBER
ACU	AIR CONDITIONING UNIT	NO	NOT TO SCALE	NO	NOT TO SCALE
AD	ACCESS DOOR	PD	PRESSURE DROP	PSI	POUNDS PER SQUARE INCH
AF	AFTER FILTER	R	RISE	RA	RETURN AIR
AF	ABOVE FINISHED FLOOR	RA	RETURN AIR	REFR	REFRIGERANT
AHU	AIR HANDLING UNIT	RH	RELATIVE HUMIDITY	RL	REFRIGERANT LIQUID
AL	ACOUSTICAL LINING	RS	REFRIGERANT SUCTION	RLA	RUNNING LOAD AMPS
AP	ACCESS PANEL	RLA	RUNNING LOAD AMPS	RM	ROOM
BF	BOOSTER FAN	RPM	REVOLUTIONS PER MINUTE	SA	SUPPLY AIR
BHP	BRAKE HORSEPOWER	SP	STATIC PRESSURE	SP	SPECIFICATION
BU	BRITISH THERMAL UNIT	SPEC	SPECIFICATION	TEMP	TEMPERATURE
BTUH	BTU PER HOUR	TR	TOP REGISTER	TRD	TRANSFER DUCT
CCW	COUNTER CLOCKWISE	TV	TURNING VANES	TX	TYPICAL
CD	CEILING DIFFUSER	TV	TURNING VANES	TX	TYPICAL
CFM	CUBIC FEET PER MINUTE	TX	TYPICAL	TY	TOILET EXHAUST
CLG	CEILING	TY	TOILET EXHAUST	V	VOLTS
COMP	COMPRESSOR	V	VOLTS	V	VARIANT REFRIGERANT FLOW
COND	CONDENSATE	V	VARIANT REFRIGERANT FLOW	VF	VENTILATION FAN
CP	CONDENSATE PUMP	VA	VENTILATION AIR	VA	VENTILATION AIR
CR	CEILING REGISTER	VB	VENTILATION AIR	VB	VENTILATION AIR
CU FT	CUBIC FEET	VC	VENTILATION AIR	VC	VENTILATION AIR
CU IN	CUBIC INCHES	WD	WIDTH	WD	WIDTH
CW	CLOCKWISE	W	WIDTH	W	WIDTH
DB	DRY BULB	W	WIDTH	W	WIDTH
DX	DIRECT EXPANSION	W	WIDTH	W	WIDTH
DAM	DIAMETER	W	WIDTH	W	WIDTH
DMPR	DAMPER	W	WIDTH	W	WIDTH
DN	DOWN	W	WIDTH	W	WIDTH
DWG	DRAWING	W	WIDTH	W	WIDTH
EA	EXHAUST AIR	W	WIDTH	W	WIDTH
EAT	ENTERING AIR TEMPERATURE	W	WIDTH	W	WIDTH
EOR	ENTERING DRY BULB TEMPERATURE	W	WIDTH	W	WIDTH
EF	EXHAUST FAN	W	WIDTH	W	WIDTH
EL	ELEVATION	W	WIDTH	W	WIDTH
ELEC	ELECTRIC	W	WIDTH	W	WIDTH
EO	EQUAL	W	WIDTH	W	WIDTH
EMB	ENTERING WET BULB	W	WIDTH	W	WIDTH
EXH	EXHAUST	W	WIDTH	W	WIDTH
F	DEGREES FAHRENHEIT	W	WIDTH	W	WIDTH
FA	FREE AREA (SQ.FT.)	W	WIDTH	W	WIDTH
FC	FLEXIBLE CONNECTION	W	WIDTH	W	WIDTH
FD	FIRE DAMPER	W	WIDTH	W	WIDTH
FIN FL	FINISHED FLOOR	W	WIDTH	W	WIDTH
FLA	FULL LOAD AMPERES	W	WIDTH	W	WIDTH
FPM	FEET PER MINUTE	W	WIDTH	W	WIDTH
FPS	FEET PER SECOND	W	WIDTH	W	WIDTH
FT	FEET	W	WIDTH	W	WIDTH
FV	FACE VELOCITY	W	WIDTH	W	WIDTH
HR	HOUR	W	WIDTH	W	WIDTH
HT	HEIGHT	W	WIDTH	W	WIDTH
HZ	HERTZ	W	WIDTH	W	WIDTH
IN	INCH OR INCHES	W	WIDTH	W	WIDTH
KW	KILOWATT	W	WIDTH	W	WIDTH
L	LENGTH	W	WIDTH	W	WIDTH
LAT	LEAVING AIR TEMPERATURE	W	WIDTH	W	WIDTH
LBS	POUNDS	W	WIDTH	W	WIDTH
LDB	LEAVING DRY BULB TEMPERATURE	W	WIDTH	W	WIDTH
LRA	LOOKED ROTOR AMPS	W	WIDTH	W	WIDTH
LWB	LEAVING WET BULB TEMPERATURE	W	WIDTH	W	WIDTH
MAX	MAXIMUM	W	WIDTH	W	WIDTH
MBH	THOUSAND BTU PER HOUR	W	WIDTH	W	WIDTH
MHP	MOTOR HORSEPOWER	W	WIDTH	W	WIDTH
MIN	MINIMUM	W	WIDTH	W	WIDTH
MM	MILLIMETER	W	WIDTH	W	WIDTH
MOT	MOTOR	W	WIDTH	W	WIDTH

REFRIGERANT LIQUID LINE
REFRIGERANT SUCTION LINE

COMPLIANCE WITH NYS ECCC

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THIS APPLICATION IS IN COMPLIANCE WITH THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE.

AIR COOLED SINGLE PACKAGE/SPILT SYSTEM CONDITIONS	MINIMUM COOLING EFFICIENCY	PROPOSED COOLING EFFICIENCY
DUCTLESS SPLIT SYSTEM	11 EER	12.6 EER
>=65,000 BTU/h AND <=135,000 BTU/h		
DUCTED SPLIT SYSTEM	10.8 EER	11.6 EER
>=135,000 BTU/h AND <=400,000 BTU/h		

NOTES:

- ALL DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED.
- JUNTS AND SEAMS SHALL COMPLY WITH SECTION 603.9 OF THE NYS MECHANICAL CODE.
- EACH COOLING/HEATING SYSTEM SHALL BE SUPPLIED WITH THERMOSTATIC CONTROLS PER SECTION 503.2.4.1 OF NYS ECCC.
- THERMOSTATIC CONTROLS SHALL PROVIDE A DEAD BAND RANGE OF 5°F.
- TEMPERATURE CONTROLS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 503.2.4.3.1 OF NYS ECCC AND NYS ECCC.

PIPING INSULATION	MIN. THICKNESS	PROPOSED THICKNESS
REFRIGERANT PIPING	$\phi \leq 1\frac{1}{2}''$, $\frac{1}{2}''$ THICK (K < 0.27 BTU/IN-HR-FT ² -F) TABLE 503.2.8	$\phi \leq 1\frac{1}{2}''$, $\frac{1}{2}''$ THICK (K < 0.27 BTU/IN-HR-FT ² -F)

MECHANICAL DRAWING LIST

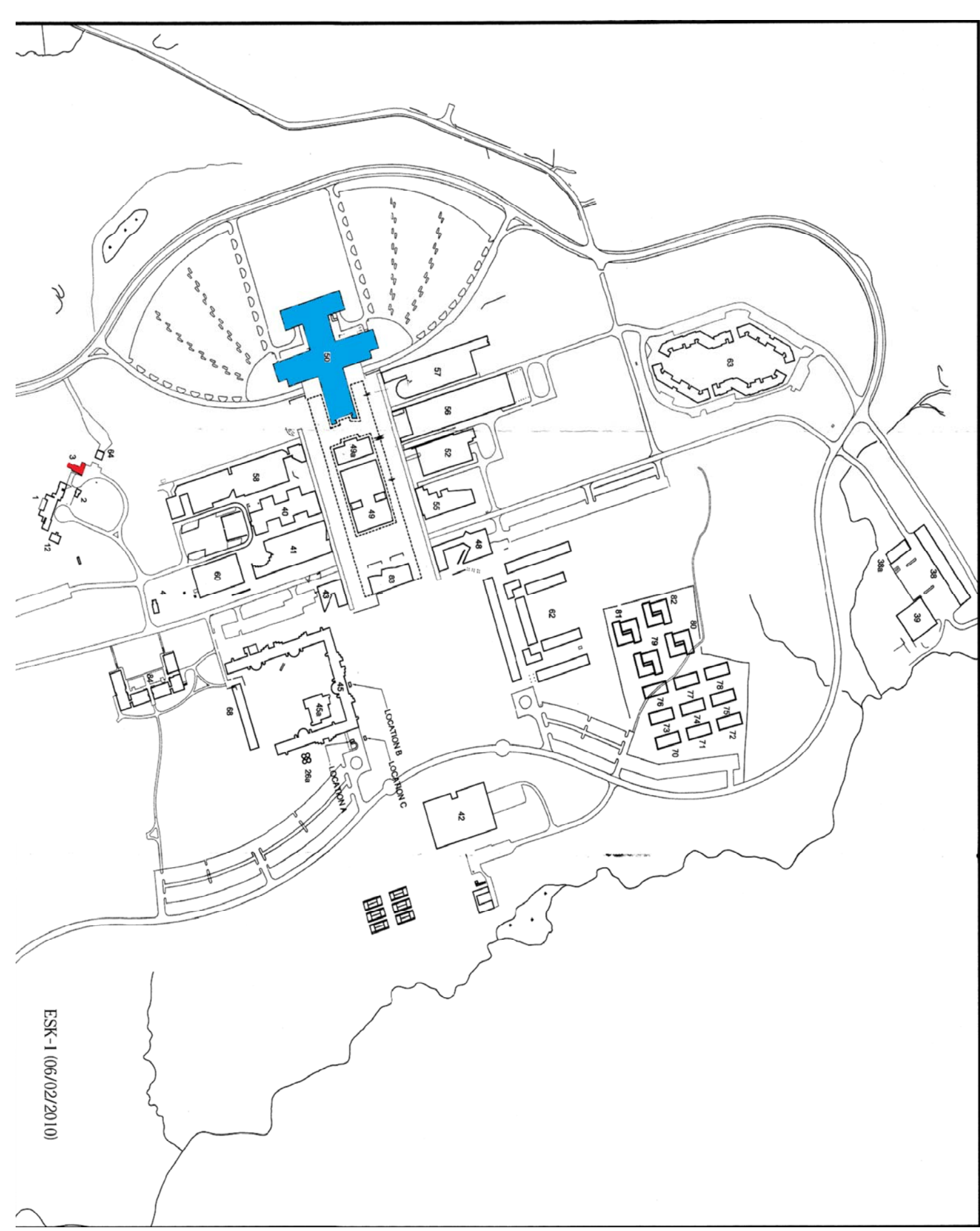
M-001	MECHANICAL SYMBOLS, NOTES, ABBREVIATIONS AND DRAWING LIST
MD-100	MECHANICAL/ELECTRICAL DEMOLITION PART PLANS
ME-100	MECHANICAL/ELECTRICAL INSTALLATION PART PLANS
ME-200	MECHANICAL PIPING AND WIRING DIAGRAMS
M-300	MECHANICAL DETAILS SHEET 1 OF 2
M-301	MECHANICAL/ELECTRICAL DETAILS SHEET 2 OF 2
M-400	MECHANICAL SCHEDULES
M-500	MECHANICAL SPECIFICATIONS

DEMOLITION/REMOVAL NOTES

- ALL PIPING IN WALLS, FLOORS AND ROOF SHALL BE REMOVED IN ITS ENTIRETY. CONTRACTOR SHALL PERFORM ALL CUTTING AND PACKING REQUIRED FOR WORK AND RESTORE EXISTING SURFACES TO ORIGINAL CONDITION.
- AFTER REMOVING PIPING THROUGH THE FLOOR SLABS, PACK OPENING WITH APPROVED FIRE-RATED PACKING.
- THE CONTRACTOR SHALL INCLUDE IN HIS PRICE ALL COSTS ASSOCIATED WITH REMOVALS OF HVAC WORK AS DESCRIBED IN THE DRAWINGS AND IN THE SPECIFICATIONS WITH ALLOWANCES FOR UNFORESEEN DIFFICULTIES WHEN CONGREGATED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT IN CERTAIN CASES CONSIDERED JUSTIFIABLE BY THE OWNER/ENGINEER.
- THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE TO FUNCTIONING HVAC SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
- DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED INTERIOR OR EXTERIOR BUILDING SURFACE TO ITS ORIGINAL CONDITION. THE CONTRACTOR SHALL REMOVE ALL SUPPORTS, ETC. OF EXISTING EQUIPMENT THAT IS TO REMAIN. THE CONTRACTOR SHALL INSTALL AND PROVIDE BYPASS CONNECTIONS NECESSARY.
- PORTIONS OF DUCTWORK TO BE ABANDONED AS A RESULT OF DEMOLITION WORK SHALL BE BLANKED OFF AS INDICATED ON DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROPOSED DEMOLITION AND PHASING SCHEDULE. THE CONTRACTOR SHALL REMOVE OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS.
- ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REUSED, SHALL BE PROPERLY IDENTIFIED AND THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER REMOVAL OF THE OWNER, IN A LEGAL AND SAFE MANNER.
- ARRANGE TO WORK CONTIGUOUSLY, INCLUDING OVER TIME IF REQUIRED, TO ASSURE THAT ALL WORK SHALL BE COMPLETED WITHIN THE TIME FRAME ACTUALLY REQUIRED TO MAKE THE NECESSARY CONNECTIONS TO THE EXISTING SYSTEMS.
- THE SHUTDOWN OF EXISTING BUILDING HVAC SERVICES SHALL BE COORDINATED WITH THE OWNER. MAKE ARRANGEMENTS AT LEAST 5 BUSINESS DAYS PRIOR TO A SHUTDOWN.
- CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE & LOCAL REQUIREMENTS REGARDING DISPOSAL OF REFRIGERANTS.

GENERAL NOTES

- GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL HVAC/MECHANICAL DRAWINGS.
 - DRAWINGS ARE DIAGNOSTIC. DETERMINE LOCATIONS OF SYSTEMS AND EQUIPMENT BEFORE BEGINNING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
 - COORDINATE THIS WORK WITH THAT OF OTHER TRADES.
 - NEVER ACQUIRE JOB COMPLETION OF SERVICES AND UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING SERVICES AND UTILITIES IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
 - MANUFACTURERS MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS. RECOMMENDATIONS, AND INSTALLATION INSTRUCTIONS.
 - PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
 - PROVIDE ALL HANGERS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT PIPING AND EQUIPMENT FROM STRUCTURE.
 - SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
 - COORDINATE ROOF PENETRATIONS WITH OWNER AND FLASHING REQUIREMENTS. MECHANICAL CONTRACTOR TO PROVIDE ALL FLASHING AND WEATHERING OF EXISTING ROOF WITH BOND AND WARRANTY OF EXISTING ROOF.
 - INSTALL THERMOSTATS/REMOTE CONTROLLERS 4'-6" ABOVE FINISHED FLOOR OR AS DIRECTED OTHERWISE BY ENGINEER.
 - STRUCTURAL WELDING SHALL BE CONTINUOUS 1/4" FILET UNLESS REQUIRED OTHERWISE.
- ELECTRICAL GENERAL NOTES**
- ALL WIRING SHALL BE COPPER CONDUCTOR WITH THHN/THWN INSULATION. MINIMUM SIZE #12 AWG
 - ALL CONDUIT SHALL BE EMT. MINIMUM SIZE 3/4"
 - FINAL WIRING CONNECTION TO ROTATING EQUIPMENT SHALL BE FLEXIBLE AC CABLE. MAXIMUM LENGTH: 18"
 - PROVIDE NEOPRENE JACKET OVER AC CABLE FOR OUTDOOR INSTALLATION.
 - PERFORM ALL WORK IN ACCORDANCE WITH NFPA 70, NEC AND AUTHORITIES HAVING JURISDICTION.
 - REMOVE EXISTING CONDUIT AND WIRING ASSOCIATED WITH THE A/C EQUIPMENT SLATED FOR REMOVAL.
- PIPING SYSTEMS**
- PITCH CONDENSATE PIPING 1" IN 12' IN DIRECTION OF FLOW.
 - PROVIDE TRAPS IN CONDENSATE LINES.

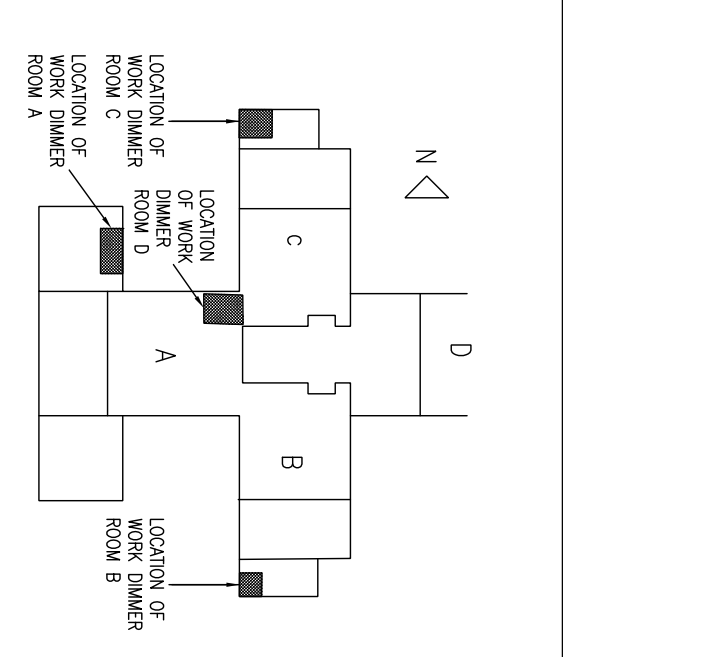


PURCHASE COLLEGE BUILDING INDEX
31 CAPITAL FACILITIES PLANNING
30 THE PERFORMING ARTS CENTER

ESK-11062/02/2010

Rev.	Description	Date
09/03/14	ISSUED FOR CLIENT APPROVAL	09/03/14
11/10/14	ISSUED FOR BID	11/10/14

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Client or Agent
State University of New York College at Purchase

Purchase, New York

Project Title
SUNNY PURCHASE DIMMER ROOMS

Drawing Title
MECHANICAL SYMBOLS, NOTES, ABBREVIATIONS AND DRAWING LIST

Scale: **AS NOTED**
Date: **7/30/2014**
Drawing No.: **ME-001.00**

Checked: _____ C.E. Job No. _____
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