

SYMBOL & ABBREVIATIONS

SYMBOL	ABBREVIATION	DESCRIPTION	SYMBOL	ABBREVIATION	DESCRIPTION
-	AD	ACCESS DOOR	---	EX.	EXISTING TO REMAIN
-	AFF	ABOVE FINISHED FLOOR	----	REL.	REMOVE AND RELOCATE
-	AHC	ABOVE HUNG CEILING	=====	NEW	NEW WORK
-	AP	ACCESS PANEL	----	DEM.	EXISTING TO BE REMOVED
-	BTU	BRITISH THERMAL UNIT	— D —	-	DRAIN
-	CFM	CUBIC FEET PER MINUTE	— HWS —	HWS	HOT WATER SUPPLY
-	CL	CENTERLINE	— HWR —	HWR	HOT WATER RETURN
-	DIA. OR Ø	DIAMETER			
-	EA	EXHAUST AIR	Ⓟ	-	THERMOSTAT
-	EAT	ENTERING AIR TEMPERATURE	Ⓜ	-	MOTORIZED DAMPER
-	EF-	EXHAUST FAN	Ⓢ	-	SMOKE DETECTOR
-	EL	ELEVATION	±	-	AIR INTO REGISTER
-	ER	EXHAUST REGISTER	⊗	-	POINT OF CONNECTION DISCONNECTION
-	ESP	EXTERNAL STATIC PRESSURE	⊥	TR	TOP REGISTER SUPPLY
-	GPM	GALLONS PER MINUTE	⊥	TR	TOP REGISTER RETURN
-	HVAC-	HEATING, VENTILATING AND AIR CONDITIONING UNIT	⊗	SR	SUPPLY REGISTER
-	LF	LINEAR FEET	⊗	CD	1-WAY
-	MBH	1000 BRITISH THERMAL UNITS PER HOUR	⊗	CD	2-WAY
-	MER	MECHANICAL EQUIPMENT ROOM	⊗	CD	2-WAY
-	NC	NORMALLY CLOSED	⊗	CD	3-WAY
-	NIC	NOT IN CONTRACT	⊗	CD	4-WAY
-	NO	NORMALLY OPEN	⊗	*CD	RELOCATED CEILING DIFFUSER
-	OAI	OUTSIDE AIR INTAKE	⊗	LD	LINEAR DIFFUSER
-	RA	RETURN AIR	⊗	RR/RG	RETURN REGISTER/GRILLE
-	RF-	RETURN FAN	⊗	*RR/RG	RELOCATED RETURN REGISTER/GRILLE
-	RPM	REVOLUTIONS PER MINUTE	⊗	VAV	VAV BOX
-	RTU-	ROOFTOP UNIT	⊗	VAV	VAV BOX WITH REHEAT
-	SA	SUPPLY AIR	⊗	CV	CONSTANT VOLUME BOX
-	SP	STATIC PRESSURE	⊗	-	SUPPLY DUCT UP
-	TD	TRANSFER DUCT	⊗	-	SUPPLY DUCT DOWN
-	TSP	TOTAL STATIC PRESSURE	⊗	-	RETURN DUCT UP
-	TYP.	TYPICAL	⊗	-	RETURN DUCT DOWN
-	U.O.N.	UNLESS OTHERWISE NOTED	⊗	-	TRANSITION FROM SQUARE TO ROUND DUCT
-	WG	INCHES OF WATER GAUGE	⊗	-	TRANSITION
-	WMS	WIRE MESH SCREEN	⊗	-	DUCT DROP
⊗	-	2-WAY VALVE	⊗	-	DUCT RISE
⊗	-	GATE VALVE	⊗	-	SQUARE VANED ELBOW
⊗	-	GLOBE VALVE	⊗	-	DUCT RISE
⊗	-	TEE DOWN	⊗	-	DUCT DROP
⊗	-	ELBOW DOWN	⊗	-	DUCT TRANSITION
⊗	-	TEE UP	⊗	AL	ACOUSTIC LINING
⊗	-	ELBOW UP	⊗	FD/AD	FIRE DAMPER W/ ACCESS DOOR
⊗	-	CONCENTRIC REDUCER	⊗	SD/AD	SMOKE DAMPER W/ ACCESS DOOR
⊗	-	ECCENTRIC REDUCER	⊗	CFSD	COMBINATION FIRE/SMOKE DAMPER W/ ACCESS DOOR
⊗	-	PIPE GUIDE	⊗	VD	VOLUME DAMPER
⊗	-	PIPE ANCHOR	⊗	AL	ACOUSTIC LINING
⊗	-	STRAINER	⊗	FC	FLEXIBLE CONNECTION
⊗	-	FLOW ARROW	⊗	-	DUCT SIZE - 1ST FIGURE IS SIDE SHOWN
⊗	-	BALANCING VALVE	⊗	FC	FLEXIBLE CONNECTION
⊗	-	MANUAL AIR VENT	⊗	SECTION CALLOUT	
⊗	-	AUTO AIR VENT	⊗	-	CEILING DIFFUSER
⊗	-	ANGLE GLOBE VALVE	⊗	-	EXHAUST REGISTER
⊗	-	ANGLE GLOBE VALVE	⊗	-	RETURN REGISTER
⊗	-	BALL VALVE	⊗	-	SUPPLY REGISTER
⊗	-	CHECK VALVE	⊗	-	TOP REGISTER
⊗	-	UNION	⊗	-	VARIABLE AIR VOLUME BOX

GENERAL NOTES

- CONTRACT DRAWINGS, AS FAR AS THEY RELATE TO THE GENERAL ARRANGEMENT AND LOCATION OF EQUIPMENT, SHEET METAL, AND PIPING, SHALL BE UNDERSTOOD AS DIAGRAMMATIC. ANY CHANGES TO EQUIPMENT, SHEET METAL, AND PIPING LOCATIONS NECESSARY TO AVOID INTERFERENCE WITH OTHER TRADES SHALL BE MADE AT NO EXTRA COST, AND MUST BE APPROVED BY THE ENGINEER.
- THE MECHANICAL CONTRACTOR SHALL INSTALL FIRE DAMPERS WITH ACCESS DOORS IN ALL DUCTS PENETRATING FIRE RATED WALLS, WHETHER SPECIFICALLY SHOWN ON THE DRAWINGS OR NOT.
- THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL VOLUME DAMPERS IN DUCTWORK AS REQUIRED TO BALANCE THE AIRFLOW AT ALL REGISTERS AND DIFFUSERS TO THE CFMS INDICATED ON PLAN, WHETHER SPECIFICALLY SHOWN ON THE DRAWINGS OR NOT.
- THE MECHANICAL CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO THE BEGINNING OF WORK, AND SHALL COORDINATE ALL WORK WITH OTHER TRADES.
- DUCT DIMENSIONS SHOWN ON MECHANICAL DRAWINGS REFER TO INSIDE CLEAR DUCT DIMENSIONS. WHERE DUCTWORK IS LINED, THE MECHANICAL CONTRACTOR SHALL INCREASE THE SIZE OF DUCT TO COMPENSATE FOR LINING.
- LOCATE THERMOSTATS AND TEMPERATURE SENSORS 5'-6" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. COORDINATE LOCATION WITH FURNITURE, CABINETS, ETC. & WITH ARCHITECTURAL DRAWINGS.
- COORDINATE DUCTWORK, GRILLE, DIFFUSER AND REGISTER LOCATIONS WITH LIGHTS, SMOKE DETECTORS, AND THE ARCHITECTURAL PLANS.
- THE MECHANICAL CONTRACTOR SHALL NOTE THAT, IN ADDITION TO THE SPECIFICATIONS AND DETAILS GIVEN IN THESE PLANS FOR PIPE HANGERS AND SUPPORTS, ALL HANGERS AND SUPPORTS SHALL BE DESIGNED AND INSTALLED IN COMPLIANCE WITH APPLICABLE SEISMIC CODES.
- THE MECHANICAL CONTRACTOR SHALL SUBMIT FOR REVIEW A COMPOSITE SHOP DRAWING, FULLY COORDINATED WITH ALL OTHER TRADES, INDICATING DUCTWORK, PLUMBING AND SPRINKLER PIPING, SMOKE DETECTORS, LIGHTS, CONDUITS, SMOKE DETECTORS, DIFFUSERS, GRILLES, ETC.
- ALL WORK SHALL COMPLY WITH STATE BUILDING CODE, LOCAL BUILDING CODE, AND ENERGY CODE REQUIREMENTS. IN CASE OF CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND A GOVERNING CODE OR ORDINANCE, THE MORE STRINGENT STANDARD SHALL APPLY.
- DURING CONSTRUCTION, ALL OPEN OR INCOMPLETE DUCTWORK SHALL BE CAPPED AIRTIGHT WITH WITH HEAVY POLYETHYLENE PLASTIC. AFTER THE INSTALLATION OF DUCTWORK, REGISTERS, GRILLES, AND DIFFUSERS, THE CONTRACTOR SHALL BLANK OFF ALL REGISTERS, GRILLES, AND DIFFUSERS WITH HEAVY POLYETHYLENE PLASTIC AND TAPE AIR TIGHT, IN AREAS THAT ARE UNDER CONSTRUCTION, UNTIL WORK IS COMPLETE IN THOSE AREAS.
- WHEN GENERAL CONSTRUCTION IS COMPLETE, VACUUM CLEAN ALL DIFFUSERS, REGISTERS, GRILLES, AND HVAC EQUIPMENT. REMOVE ANY CONSTRUCTION DEBRIS. REPLACE ALL AIR FILTERS WITH NEW.
- THE OWNER'S PERMANENT HVAC EQUIPMENT (EXISTING / NEW) SHALL NOT BE USED BY ANY CONTRACTOR DURING CONSTRUCTION FOR TEMPORARY HEATING, COOLING, VENTILATION, OR ANY OTHER PURPOSE. IF TEMPORARY HEATING, COOLING, VENTILATION, OR AIRFLOW IS REQUIRED AT ANY POINT DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE TEMPORARY HEATING, COOLING, OR VENTILATION EQUIPMENT, DUCTWORK, CONTROLS, AND POWER AT THEIR OWN EXPENSE.
- WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF MECHANICAL WORK, INCLUDING THE INSTALLATION OF HANGERS FOR PIPING, DUCTWORK, OR EQUIPMENT, SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR PAYING RELATED FEES.
- THE MECHANICAL CONTRACTOR SHALL PROVIDE ALL CUTTING, PATCHING, CORE DRILLING, ACCESS PANELS, PAINTING, AND FINAL RESTORATION REQUIRED TO FACILITATE THE INSTALLATION OF HVAC DUCTWORK, CONTROL CONDUITS, AND PIPING, INCLUDING ABOVE CEILINGS AND IN SHAFTS THAT WILL NOT BE REPLACED OR OPENED UNDER ANY OTHER SCOPE OF WORK RELATED TO THIS PROJECT. CONTRACTOR TO REMOVE AND REPLACE CEILINGS, AND OPEN AND PATCH SHAFTS AND WALLS, AS REQUIRED TO EXECUTE THE MECHANICAL WORK.
- THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING OF ALL EXISTING SUPPLY AIR DUCTWORK WITHIN THE PROJECT AREA.
- ALL HVAC CONTROL WIRING SHALL BE RUN IN EMT.
- ALL EQUIPMENT, MATERIALS, PRODUCTS, ETC., USED/INSTALLED ABOVE THE CEILING SHALL BE PLENUM RATED.
- DESIGN LOAD HAS BEEN CALCULATED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN CHAPTERS 27 AND 28 OF THE ASHRAE HANDBOOK OF FUNDAMENTALS.

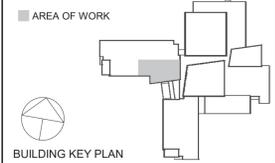
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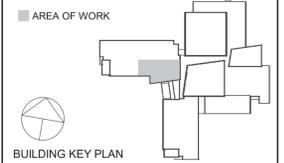
**MECHANICAL
SYMBOLS AND
GENERAL NOTES**

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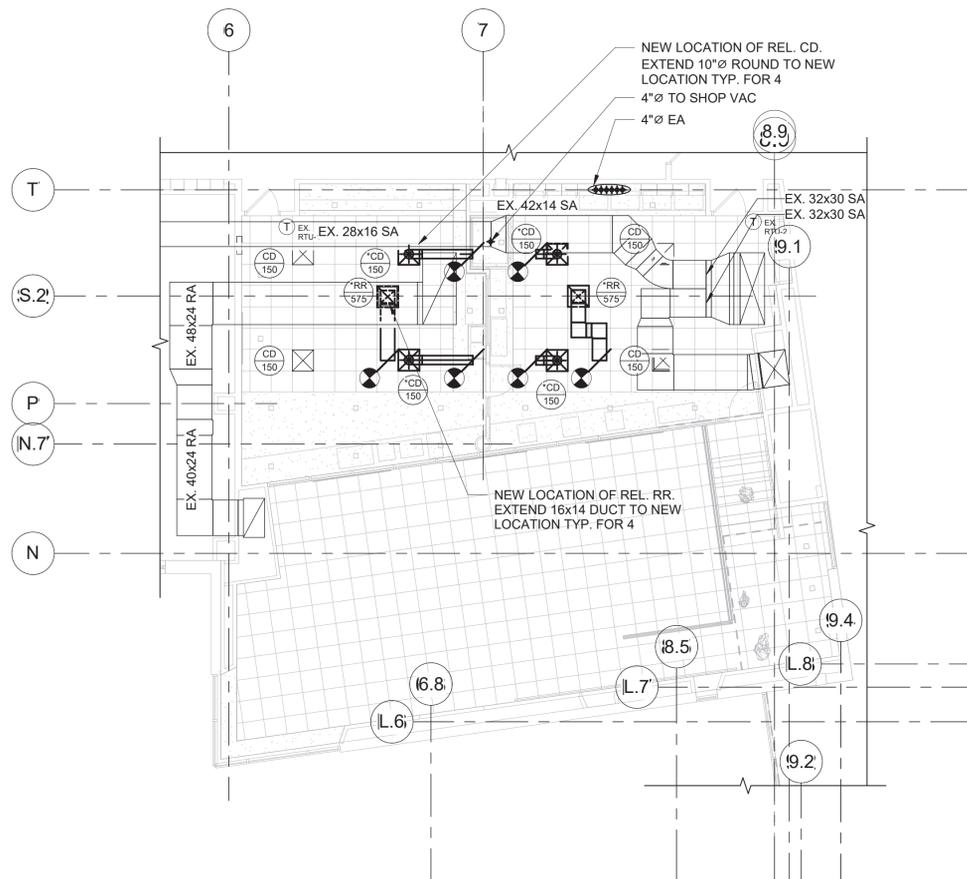
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Sheet Title

MECHANICAL
NEW WORK
PLANS

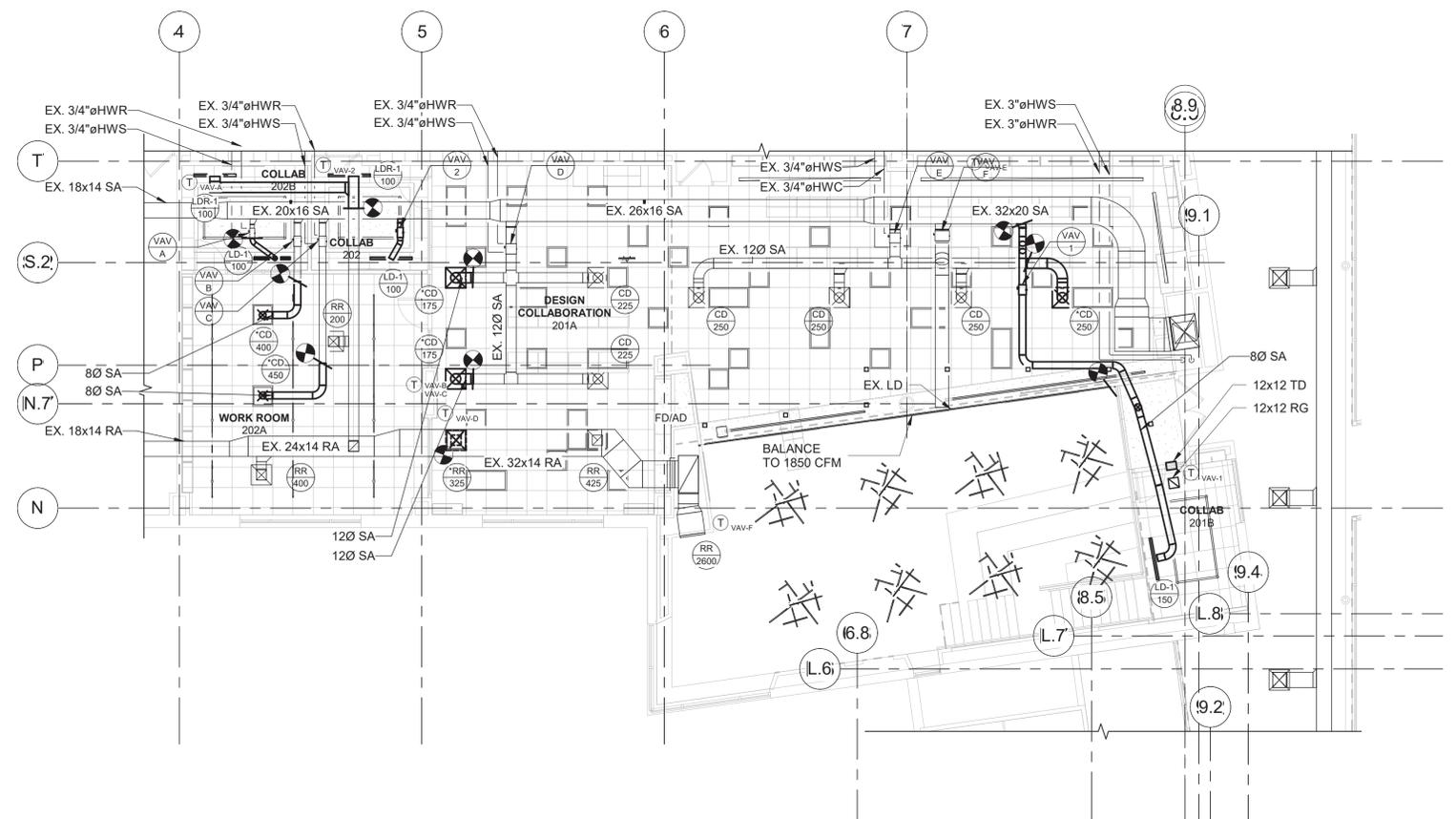
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4 MECHANICAL THIRD FLOOR NEW WORK PLAN
SCALE: 1/8" = 1'-0"

- Notes:
- REBALANCE EX. & NEW CD's & RR's TO CFM's INDICATED.
 - CD & RR TAGGED WITH A * SYMBOL REPRESENTS A RELOCATED CD OR RR



3 MECHANICAL SECOND FLOOR NEW WORK PLAN
SCALE: 1/8" = 1'-0"

- Notes:
- REBALANCE EX. & NEW CD's & RR's TO CFM's INDICATED.
 - CD & RR TAGGED WITH A * SYMBOL REPRESENTS A RELOCATED CD OR RR
 - LD-1 SHALL BE TITUS MODEL FL-10, SINGLE SLOT, HIGH THROW 4FT LONG, MAX NC 16
 - LDR-1 SHALL BE TITUS MODEL FL-10 SINGLE SLOT, JET THROW, 4FT LONG, MAX NC 10

VARIABLE AIR VOLUME BOX SCHEDULE

DESIGNATION	VAV-1	VAV-2
INLET SIZE	8"Ø	6"Ø
MINIMUM CFM	100	65
AVAILABLE RANGE (CFM)	100 - 150	65 - 100
MAX. DESIGN CFM	150	100

NOTES:
 1. VAV BOXES BASED ON TITUS MODEL DESV.
 2. VAV BOXES SHALL BE SINGLE DUCT, COOLING ONLY OR COOLING/ELECTRIC HEATING AS INDICATED WITH DIGITAL ELECTRONIC PRESSURE INDEPENDENT CONTROLS.
 3. BOXES SHALL BE PROVIDED WITH SHEETMETAL CONTROL ENCLOSURE BY TERMINAL MANUFACTURER.
 4. AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR SHALL FURNISH AND INSTALL ALL VAV BOX CONTROLS
 5. AUTOMATIC TEMPERATURE CONTROLS CONTRACTOR SHALL FURNISH AND INSTALL DISCONNECT SWITCH AND TRANSFORMER FOR EACH BOX, BOX SHALL BE U.L. LISTED AND LABELED.
 6. MAXIMUM RADIATED NC< 30, MAXIMUM DISCHARGE NC< 28.
 7. BOXES SHALL HAVE 1" ACOUSTIC LINING.

VENTILATION AIR SCHEDULE

HVAC UNIT	FLOOR	ROOM NUMBER	ROOM NAME	GROSS AREA (SQ.FT.)	NO. OF OCCUPANTS PER 1000 SQ.FT. (4)	NO. OF OCCUPANTS (4)	MIN. CODE OUTDOOR AIR REQUIREMENT (BASED ON CFM PER PERSON) (2)	MIN CODE OUTDOOR AIR REQUIREMENT (BASED ON SQ.FT.) (3)	DESIGN SUPPLY AIR (CFM)	DESIGN OUTDOOR AIR (CFM)
AHU-2	SECOND	201	LIBRARY	2050	10	21	105	250	2850	355
AHU-2	SECOND	201A	DESIGN COLLAB	830	35	30	300	100	800	400
AHU-2	SECOND	201B	COLLAB	145	50	8	40	10	100	50
AHU-2	SECOND	202	COLLAB	125	50	7	35	10	100	45
AHU-2	SECOND	202A	WORKROOM	570	35	20	200	70	850	270
AHU-2	SECOND	202B	COLLAB	130	50	7	35	10	150	45
AHU-2	THIRD	301	PRODUCTION LAB	605	35	22	220	75	600	295
AHU-2	THIRD	302	PRODUCTION CLASSROOM	585	35	21	210	70	600	280

MINIMUM CODE REQUIREMENTS:

1.) THE VENTILATION AIR SCHEDULE ABOVE MEETS OR EXCEEDS THE REQUIREMENTS FOR ALL SPACES BASED ON THE MECHANICAL CODE OF THE STATE OF NEW YORK, TABLE 403.3.

2.) THE MINIMUM OUTDOOR AIR REQUIREMENT PER PERSON:
 AUDITORIUM = 15 CFM PER PERSON
 CAFETERIA = 20 CFM PER PERSON
 CLASSROOMS = 15 CFM PER PERSON
 CONFERENCE ROOMS = 20 CFM PER PERSON
 GYMNASIUM = 20 CFM PER PERSON
 LIBRARY = 20 CFM PER PERSON
 NURSING ROOM = 25 CFM PER PERSON
 MUSIC CLASSROOM = 15 CFM PER PERSON
 OFFICE SPACES = 20 CFM PER PERSON
 RECEPTION AREA = 15 CFM PER PERSON
 SCIENCE CLASSROOMS = 20 CFM PER PERSON
 STAGE = 15 CFM PER PERSON
 THEATER LOBBY = 20 CFM PER PERSON
 TOILET ROOMS = 75 CFM PER WATER CLOSET OR URINAL

3.) THE MINIMUM OUTDOOR AIR REQUIREMENT PER/SF:
 CORRIDORS = 0.1 CFM PER/SF
 LOCKER ROOMS = 0.50 CFM PER/SF
 STORAGE = 0.15 CFM PER/SF

4.) THE NUMBER OF OCCUPANTS IS BASED ON THE LOCAL SCHOOL DISTRICT ALLOWABLE CLASS SIZE, OR THE NUMBER OF PEOPLE PER SQ.FT. AS PER THE NY STATE MECHANICAL CODE, TABLE 403.3.

5.) IN ROOMS WITH A PEAK OCCUPANCY OF LESS THAN THREE HOURS DURATION, THE OUTDOOR AIR VENTILATION RATE IS DETERMINED ON THE BASIS OF AVERAGE OCCUPANCY OVER THE DURATION OF THE OPERATION OF THE SYSTEM, OR NO LESS THAN FIFTY PERCENT OF MAXIMUM OCCUPANCY, WHICHEVER IS GREATER, AS PER ASHRAE 62, SECTION 6.1.3.4.

6.) THE SAMPLE CALCULATION BELOW IS FOR THE JUNIOR AUDITORIUM:
 No. OF OCCUPANTS = 111
 AVERAGE OCCUPANCY = 56 [NOTE 5]
 OUTDOOR AIR REQUIREMENT = 15 CFM PER OCCUPANT
 MIN CODE OUTDOOR AIR REQUIREMENT = 56 x 15 = 840 CFM

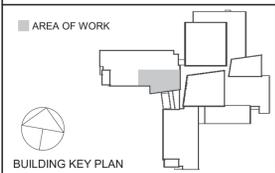
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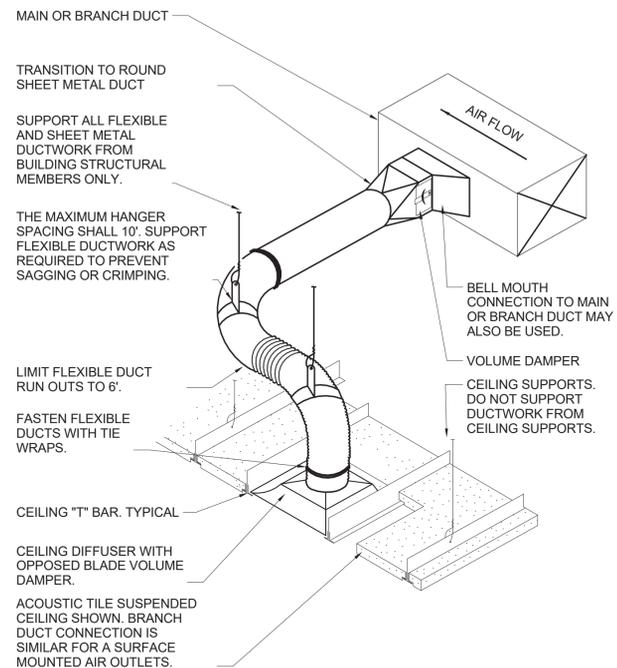
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MECHANICAL SCHEDULES

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Scale	AS NOTED	Drawn / Checked	Author Checker

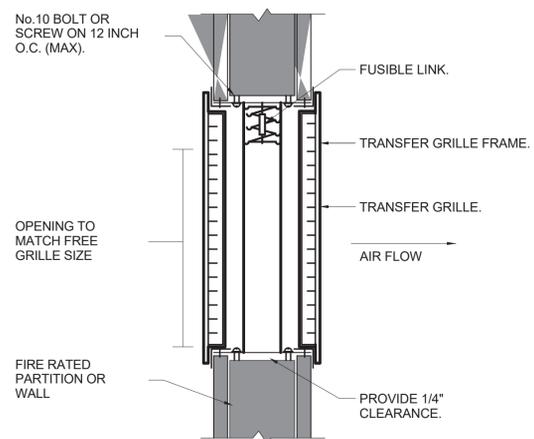
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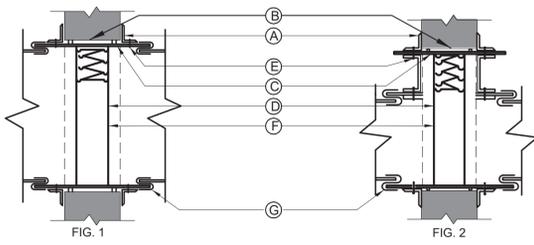
NOTES:
 1. THIS BRANCH DUCT ARRANGEMENT IS SIMILAR FOR PLENUM SLOT DIFFUSERS.

7 FLEXIBLE DUCT CONNECTION DETAIL
 SCALE: NONE



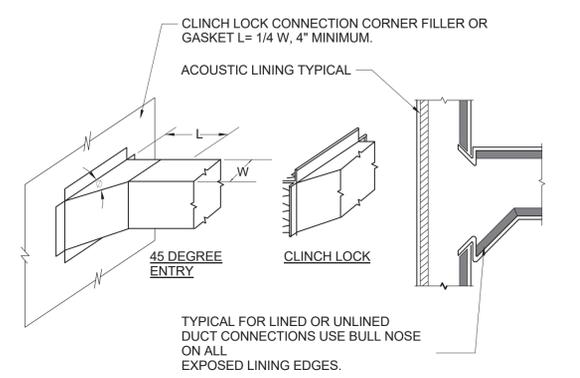
NOTES:
 1. FIRE DAMPERS TO BE CONSTRUCTED AND INSTALLED ACCORDING TO NFPA 90A UL LABELS.
 2. MULTI-BLADE PIVOTED FIRE DAMPERS MEETING THE ABOVE STANDARD WILL BE ACCEPTABLE.
 3. FIRE DAMPERS SHALL CONFORM TO N.Y.C. MANUFACTURING B.S. AND A. NUMBER 100-65 SM.

6 TRANSFER AIR FIRE DAMPER DETAIL
 SCALE: NONE

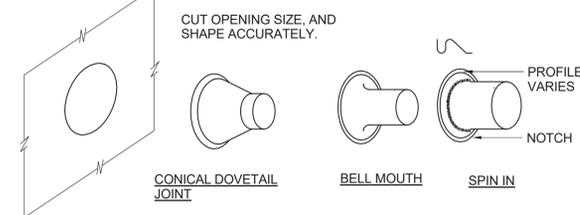


NOTES:
 1. RETAINING ANGLES SHALL BE A MINIMUM 1-1/2"x1-1/2"x16 GAUGE AND MUST OVERLAP THE STRUCTURAL OPENING BY A MINIMUM OF 1".
 2. CLEARANCE BETWEEN SLEEVE AND OPENING SHALL BE 1/8" PER LINEAR FOOT, AS PER SMACNA FIG. 2-1.
 3. STEEL SLEEVE SHALL BE AS PER SMACNA TABLE 2-2.
 4. U.L. APPROVED FIRE DAMPER.
 5. SECURE RETAINING ANGLES TO SLEEVE ONLY AT 8" CENTERS AS PER SMACNA FIG. 2-1.
 6. SECURE DAMPER TO SLEEVE AT 8" CENTERS AS PER SMACNA FIG. 2-1.
 7. CONNECT DUCT TO SLEEVE WITH BREAK-AWAY CONNECTION AS PER SMACNA FIG. 2-2.
 8. FIRE DAMPERS TO BE CONSTRUCTED AND INSTALLED ACCORDING TO NFPA 90A, UL LABELS AND THE LATEST ISSUE OF S.M.A.C.N.A. CHAPTER 2.
 9. CURTAIN TYPE FIRE DAMPERS SHOWN, MULTI-BLADE PIVOTED FIRE DAMPERS MEETING THE ABOVE STANDARD WILL BE ACCEPTABLE.
 10. PROVIDE ACCESS DOORS. INSTALL (1) AD FOR EACH FIRE DAMPER AS PER SMACNA FIG. 6-1.
 11. FOR DUCT 12" OR LESS IN DEPTH, FIRE DAMPER SHALL BE OUT OF THE AIR STREAM. REFER TO FIGURE 2.
 12. FIRE DAMPERS SHALL CONFORM TO N.Y.C. MANUFACTURING B.S. AND A. NUMBER 100-65 SM.

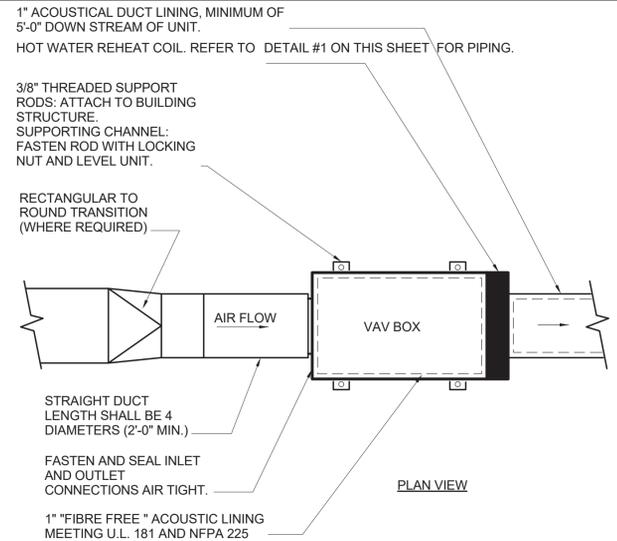
4 SHUTTER TYPE FIRE DAMPER AND SLEEVE DETAIL
 SCALE: NONE



CLOSE ALL OPENINGS AT CORNERS WITH FILLER PIECE OR GASKET.

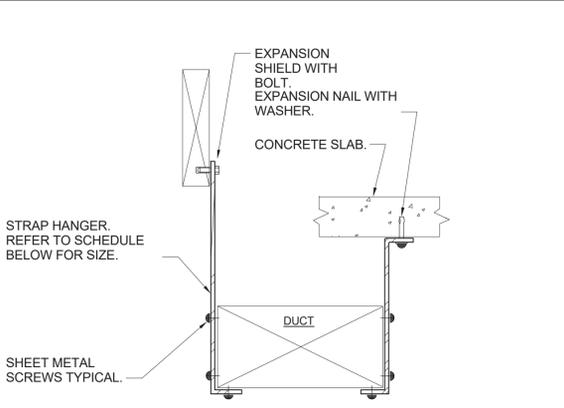


2 DUCT BRANCH CONNECTION DETAIL
 SCALE: NONE



NOTES:
 1. THE OPERATION OF VARIABLE VOLUME TERMINAL UNITS ARE AFFECTED BY EXCESSIVE TURBULENCE ON THE ENTERING SIDE OF EACH TERMINAL UNIT. THEREFORE, TERMINAL UNITS MUST NOT BE INSTALLED TO CLOSE TO MAIN DUCTS, ELBOWS AND FITTINGS.
 2. WHEN MINIMUM UPSTREAM STRAIGHT DUCT CONNECTION TO TERMINALS AS INDICATED ABOVE CANNOT BE MAINTAINED, PROVIDE ORIFICE PLATE, STRAIGHTENING VANES OR OTHER DEVICE AS RECOMMENDED BY TERMINAL UNIT MANUFACTURER AND SUBMIT TO ENGINEER FOR REVIEW PRIOR TO INSTALLATION.
 3. TERMINAL UNITS SHALL BE PROVIDED WITH CONTROLS ON LEFT OR RIGHT SIDE AS REQUIRED BY FIELD CONDITIONS. FOR UNITS WITH ELECTRONIC CONTROLS FURNISH NEMA 1 RATED ENCLOSURE AND U.L. II TRANSFORMER AND DISCONNECT SWITCH.
 4. ARRANGE ACCESS TO PERMIT EASY FIELD BALANCING AND MAINTENANCE.
 5. COORDINATE THE LOCATION, SIZE, AND QUANTITY OF REQUIRED ACCESS DOORS. INDICATE REQUIREMENT IN SHEET-METAL SHOP DRAWING SUBMITTAL FOR COORDINATION WITH G.C.
 6. ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARDS AND APPEALS (BSA) APPROVAL.

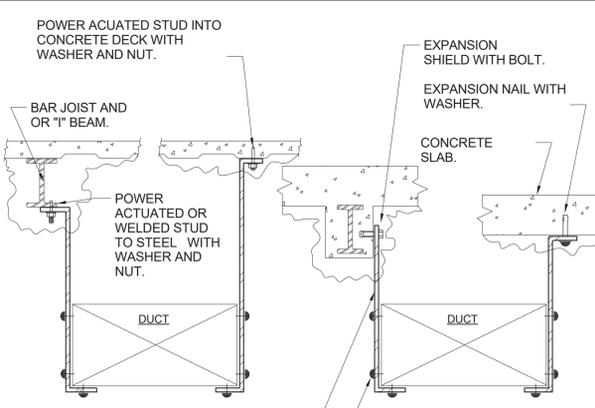
8 VARIABLE AIR VOLUME (VAV) BOX INSTALLATION DETAIL
 SCALE: NONE



NOTES:
 1. FOR DUCTS OVER 49" WIDE, THE STRAP HANGER SHALL BE TURNED UNDER THE BOTTOM OF THE DUCT.
 2. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
 3. ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD AND APPEALS, (BSA) APPROVAL.

HANGER STRAP SCHEDULE		
DUCT SIZE	HANGER SIZE	MAXIMUM SPACING
UP TO 2 SQ. FT.	1" x 1/8"	8'-0"
2 SQ. FT. TO 4 SQ. FT.	1" x 1/4"	8'-0"
4 SQ. FT. TO 10 SQ. FT.	1" x 3/8"	6'-0"
OVER 10 SQ. FT.	1" x 1/2"	4'-0"

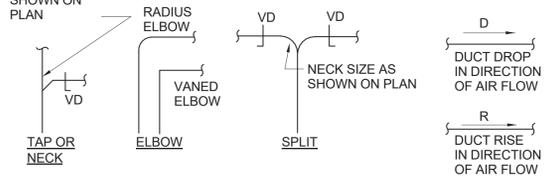
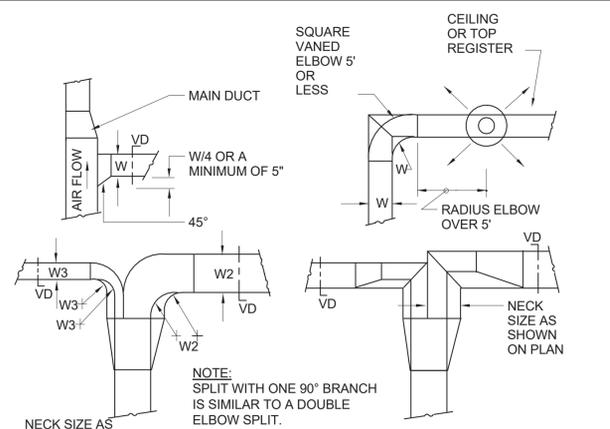
5 DUCT HANGER DETAIL
 SCALE: NONE



NOTES:
 1. FOR DUCTS OVER 49" WIDE, THE STRAP HANGER SHALL BE TURNED UNDER THE BOTTOM OF THE DUCT.
 2. WHERE EXISTING BUILDING STRUCTURAL COMPONENTS HAVE FIREPROOF MATERIAL, ANY AREA THAT IS DISTURBED OR DAMAGED AS A RESULT OF HANGER INSTALLATION SHALL BE PATCHED WITH UL AND FM APPROVED FIREPROOFING TO MATCH EXISTING.
 3. ALL ANCHORS AND INSERTS SHALL HAVE NEW YORK CITY BOARD OF STANDARD AND APPEALS, (BSA) APPROVAL.

HANGER STRAP SCHEDULE		
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UP TO 2 SQ. FT.	1" x 1/8"	8'-0"
2 SQ. FT. TO 4 SQ. FT.	1" x 1/4"	8'-0"
4 SQ. FT. TO 10 SQ. FT.	1" x 3/8"	6'-0"
OVER 10 SQ. FT.	1" x 1/2"	4'-0"

3 DUCT HANGER DETAIL
 SCALE: NONE



NOTES:
 1. SINGLE LINE REPRESENTATIONS REFER TO DOUBLE LINE DETAILS.
 2. USE RADIUS OR SQUARE VANED BENDS FOR BOTH ELBOWS AND SPLITS AS DETERMINED BY SPACE LIMITATIONS, AND THE DISTANCE FROM AIR OUTLETS.
 3. ALL SQUARE ELBOWS SHALL HAVE FACTORY TURNING VANES, AND MAINTAIN A CONSTANT WIDTH.
 4. WHERE DUCTS SPLIT, THE SOLID LINE REPRESENTATION IS PREFERRED, UNLESS PRECLUDED BY SPACE, OR OTHERWISE INDICATED.
 5. USE ELBOW SPLIT FOR BRANCH CONNECTIONS ONLY WHERE NECK SIZE IS GIVEN.

1 DUCT BRANCH TAKE-OFF DETAIL
 SCALE: NONE

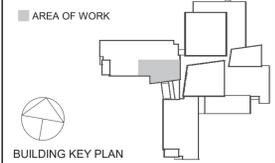
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 CHESTER UNION FREE SCHOOL DISTRICT
 64 HAMBLETONIAN AVENUE
 CHESTER, NY 10918

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3	11/02/2022	ISSUE FOR BID
2	06/16/2022	NYSED ADDENDUM #1
1	05/25/2022	CONSTRUCTION DOCUMENTS

Sheet Title

MECHANICAL DETAILS 1 OF 2

Job No. NKGO0245.00 Date 05/25/2022
 Scale AS NOTED Drawn / Checked Author Checker

Sheet Number
M701

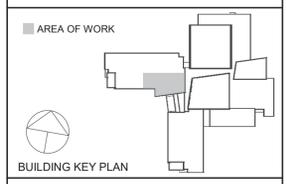
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ALTERATIONS**
CHESTER UNION FREE
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44-02-01-02-0-009-006

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olace.com



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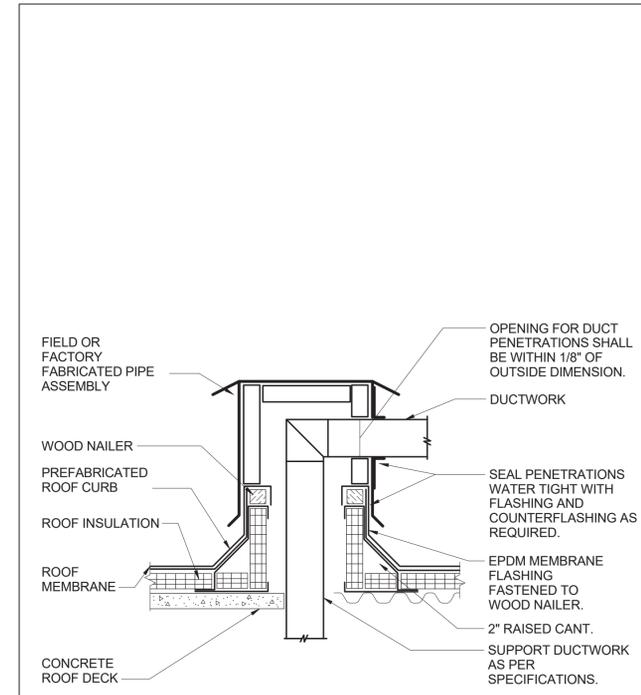
No.	Date	Issue
3	11/02/2022	ISSUE FOR BID

Sheet Title

**MECHANICAL
DETAILS 2 OF 2**

Job No. NKG0245.00	Date 07/09/15
Scale AS NOTED	Drawn / Checked Author Checker

Sheet Number
M702



- NOTES:**
1. PREFABRICATED ROOF CURB AND BOX ASSEMBLY BASED ON CUSTOM CURB INC. MODEL CPBA-1 CUSTOM ROOF CURB BOX ASSEMBLY WITH 1.5 INCH THICK 3.5 POUND RIGID INSULATION, 18 GAGE GALVANIZED STEEL SHELL AND BASE PLATE, AND 0.050 ALUMINUM PIPE BOX.
 2. CONTRACTOR SHALL PROVIDE ALL FLASHING, COUNTERFLASHING, AND ANY OTHER MATERIALS AND LABOR NECESSARY TO ENSURE A WATERTIGHT ROOF PENETRATION ENCLOSURE.
 3. ALL WORK ON THE EXISTING ROOF MUST BE PERFORMED BY AN AUTHORIZED CONSULTANT/APPLICATOR FOR THE ROOFING SYSTEM TO MAINTAIN THE EXISTING WARRANTY.

9 ROOF DUCT BOX DETAIL
SCALE: NONE