

WESTPORT PUBLIC SCHOOLS CONNECTICUT



**REQUEST FOR PROPOSALS
FOR**

**KINGS HIGHWAY ELEMENTARY SCHOOL
EVALUATION OF BUILDING HVAC SYSTEM**

WESTPORT, CT 06880

#25-017-RFP

Issued for Bid: March 25, 2025

REQUEST FOR PROPOSALS

FOR:

KINGS HIGHWAY ELEMENTARY SCHOOL

EVALUATION OF BUILDING HVAC SYSTEM

RFP # 25-017

The deadline for submission of proposals is Friday, **April 18, 2025, at 2:00 p.m. EST**. Submit one (1) sealed paper copy and one (1) electronic copy (on flash drive) of the proposal to:

Elio Longo
Chief Financial Officer
Westport Public Schools
110 Myrtle Avenue
Westport, CT 06880

LATE OR INCOMPLETE BIDS WILL NOT BE ACCEPTED

Mark in left hand corner of envelope:

RFP: **#25-017 RFP**

Due: **April 18, 2025, at 2:00 p.m. EST**

Submitted by: _____

The designated contact for this RFP is listed below. All questions regarding this RFP must be submitted in writing to the designated contact within the timeframes set forth in the RFP Schedule. Copies of questions and responses will be issued to all respondents as an Addendum to this RFP as set forth in the RFP Schedule.

Designated contact: Theodore Hunyadi, Director of Facilities, (thunyadi@westportps.org)

I. RESERVATION OF RIGHTS:

- A. The Town of Westport reserves the right to qualify multiple respondents.
- B. The Town of Westport reserves the right to reject any and all proposals submitted in response to this Request for Proposals (“RFP”).
- C. The Town of Westport reserves the right to terminate this RFP process at any time.
- D. The Town of Westport reserves the right to waive any non-conformity with the requirements of this RFP.
- E. The Town of Westport reserves the right to seek clarification from a respondent at any time throughout the RFP process for the purpose of resolving ambiguities or questioning information presented in the proposal.
- F. The Town of Westport reserves the right to apportion the award among one or more respondents.

II. RFP SCHEDULE:

RFP Issued:	Tuesday, March 25, 2025
Site Review - Mandatory :	Wednesday, April 2, 2025 at 3:15 p.m.
(Meet at the front of Staples High School-Door #1 at Main Lobby)	
Deadline for Questions:	Thursday, April 10, 2025 at 1:00 p.m.
Answers Issued By Addendum:	Monday, April 14, 2025 by 2:00 p.m.
Proposals Due:	Friday, April 18, 2025 at 2:00 p.m.

III. INTRODUCTION

- A. The Town of Westport is looking to have an engineering consulting firm perform a comprehensive HVAC and building enclosure study and provide feasible alternatives to address replacement of existing aged heating and ventilation systems, building dehumidification, and provide path to net-zero/ electrification as an alternative located at the Kings Highway Elementary School.
- B. The existing boiler heating plant is at the end of its useful life and utilizes steam boilers located in the basement boiler room of the school. Additionally, the central block of the school utilizes steam for radiator heating. Additionally, the current systems are not capable of providing dehumidification to the building during the cooling season due to the boiler plant operations being shut off.
- C. Kings Highway Elementary School is located at 125 Post Rd W in Westport, Connecticut.
- D. The Town of Westport is seeking design proposals from architectural and/or engineering firms who are qualified in the provision of drawings and specifications for the work referenced within this request for proposal.
- E. A mandatory site review meeting is scheduled for 3:15 p.m. (following student dismissal) on Wednesday, April 2, 2025. Meet at the front of the school and we will review this scope of work for the Kings Highway Elementary School facility following the Staples HS project reviews.

IV. SCOPE OF BASIC SERVICES

- A. The following services are required of the architect and/or engineer:
- The selected firm shall perform the necessary holistic evaluation of the building's current HVAC systems and provide feasible alternatives to address
 1. The replacement of the existing outdated steam heating boilers, including, associated boiler plant equipment, necessary modifications to the existing heating hot water piping systems and end use equipment.
 2. The replacement of the existing air handling units with newer systems capable of providing heating, cooling and dehumidification.
 3. Alternate option to provide path to net-zero/ electrification.
 4. The reported solution(s) should highlight and quantify environmental and energy benefits, focus on sustainability and estimate implementation costs.
 - The project will be subject to Prevailing Wage Rates.
- B. Attached are exhibits, as part of this RFP, which are provided to help identify units as unit labeling in the field and on BMS may be different,
- Exhibit 3 – Mechanical schedule (1993 and 2010)
- C. The following systems are to be incorporated into the balancing and controls upgrades and design based on a prior review with the district:
- Whole Building HVAC
 - Dehumidification
 - Controllers & Control Accessories

V. PROPOSAL REQUIREMENTS

In order to be considered, proposals submitted in response to this RFP shall include the following information, which shall be presented in the below established format:

- A narrative introduction to your firm's experience and history in providing these design services for similar stage rigging and lighting replacement systems.
- An in depth narrative of your firm's applicable experience on relevant projects including detail on: a) the project scope and size, b) value of the resulting construction and/or renovation work, c) the identification of any involved sub-consultants and/or joint-venture partners, particularly those that were/are certified Minority ("MBE") or Woman Owned Business Enterprises ("WBE"), d) contact information for at least one Owner Representative per project, and e) a description of related Auditorium project experience with a school district project owner.
- Current resumes of all personnel that will be assigned to this project if your firm is selected to provide these design services. In addition, explain what role will be played by each member of your proposed team for these design services.
- Respondent's proposed organizational chart for this design proposal, identifying the specific roles of each team members.
- Disclose whether any shareholder, director, officer or employee is currently employed by the Town of Westport or was an employee of the Town of Westport during the two (2) year period preceding the date of the proposal.

- The following criteria, not listed in priority order, shall be considered in evaluating and selecting the proposing firms based upon qualifications and written proposal submissions:
 1. Quality of proposal
 2. Experience of firm with similar projects
 3. Success of completed projects
 4. Fee for services

VI. COMPENSATION

- Compensation for the proposed services shall be based on a combination of a lump sum fee for the defined "Basic Services" and forecasted costs associated with the defined "Reimbursable Services & Expenses".
- Compensation for travel time incurred to and from the site, reimbursements, meals, etc., whether associated with the provision of Basic or Reimbursable Services, shall **NOT** be considered or reimbursed.
- Reimbursable expenses shall be billed at cost with no markup.
- Any desired additional services beyond the defined scope shall be mutually agreed to in writing and shall be based upon mutually agreed to hourly rates.

VII. QUESTIONS

All questions shall be submitted in writing to Mr. Ravi Chavan, Sr. Project Manager for Commissioning via email to ravi.chavan@collierseng.com with a copy to Mr. John Koplas, Sr. Project Manager via email to john.koplas@collierseng.com and a copy to Mr. Elio Longo, Chief Financial Officer, elongo@westportps.org by 1:00 p.m. on Thursday, April 10, 2025. Addenda will be prepared and posted to the district bidding website by 2:00 p.m. on Monday, April 14, 2025.

VIII INSURANCE REQUIREMENTS

The successful respondent shall furnish a certificate of insurance to the Board for the following insurance coverage within ten (10) days from contract execution. The certificate of insurance shall contain the project description and name the Board as an additional insured. All insurance coverage shall be written with an insurance company licensed to conduct business in the State of Connecticut. Insurance coverage shall remain in full force for the duration of the contract term including any and all extensions. Such certificate of insurance shall specify that the Board will receive thirty (30) days' notice of any cancellation, non-renewal or reduction in coverage and limits originally provided.

1. General Liability with a combined single limit of \$1,000,000 per occurrence, \$2,000,000 aggregate for bodily injury and property damage.
2. Automobile Liability with a combined single limit of \$1,000,000 per occurrence, \$2,000,000 aggregate for owned, non-owned, and hired vehicles.
3. Workers Compensation with a minimum of \$500,000 as required by the State of Connecticut.

4. Professional Liability with a combined single limit of \$1,000,000 per occurrence, \$2,000,000 aggregate.
5. Umbrella Liability with a combined single limit of \$1,000,000 per occurrence, \$2,000,000 aggregate for bodily injury and property damage.

IX. OTHER

- The Board reserves the right to reject any and all proposals when it deems such action is in the best interests of the Board and also to select a respondent that the Board determines best meets its needs.
- Costs and fees contained in the proposal will remain valid for a period of ninety (90) days after the closing date for submission of proposals and may be extended beyond that time by mutual agreement between the Board and the respondent.
- The firm selected will be expected to execute the attached AIA B101 Contract and referenced AIA A201 Contract. Submitting firms shall provide any exceptions to the contract in writing with their proposal. Failure to do so will be considered full acceptance of the contract. Exceptions to the contract will also be considered in the evaluation of proposals.

X. EXHIBITS

1. Fee Proposal Form
2. Macro Schedule
3. Mechanical Schedule

EXHIBIT 1 – Fee Proposal Form

Westport Public Schools

Evaluation of Building HVAC System @ Kings Highway Elementary School

RFP # 25-017

Scope of Work	Fee
Review existing conditions, documentation and operations.	\$
Study of existing HVAC system and identify issues and deficiencies	\$
Provide viable solutions to update/replace HVAC system	
Alternative options that will provide path to net zero, electrification	\$
Quantify energy and environmental benefits, highlight community benefits	\$
Provide engineering cost estimates for solutions provided in the report	\$
Submit draft report including preliminary solutions and benefits.	\$
Submit final report including solutions evaluated, recommendations, benefits and engineering cost estimates to implement.	\$
Participate in review meetings with District Personnel and their representatives.	\$
Total Fee	\$
Reimbursable Expenses Not Included in Fees:	\$

Print Name (Authorized Representative of Company)

Date

Signature (Authorized Representative of Company)

Date

EXHIBIT 3: Kings Highway Elementary School KHS-006
HVAC Evaluation and Building Enclosure Study

SYMBOL	TYPE	SIZE	DOWN BLOW SLOT	PLENUM HEIGHT	INLET SIZE (RND)	N. C. MAX. CFM	MFR.	MODEL	REMARKS
DR-1	CLG REGISTER	10"x10"				18	STUS	50 F	
DR-2		12"x12"							
DR-3		24"x24"							
LD-1	LR DIFFUSER	48"x10" OVAL		12"		27		N-1-D	
LD-2						32		N-1-D	
LD-3						42		N-1-D	
CD-1	CLG DIFFUSER	24"x24"			8"	17		TC-AA	
CD-2					10"	16			
CD-3					14"	16			

SYMBOL	LOCATION	TYPE	CAPACITY (MBH)	WATER DATA			AIR DATA			FAN MOTOR DATA			REMARKS	
				CFM	MAX. P. D. (FT)	ENT.	TEMP. (F)	CFM	ENT.	L.V.G.	HP	RPM		VOLT
UH-1	ELEC. RM.	HORIZONTAL	10.0	1.0	05	180° F	543	60° F	84° F	1/20	1550	120	1	TRANE MODEL 38-S
UH-2	MECH. RM.	HORIZONTAL	20.0	2.0	18	180° F	815	60° F	91° F	1/20	1550	120	1	TRANE MODEL 60-S
UH-3	FUTURE C.A.	HORIZONTAL	30.0	3.0	25	180° F	1100	60° F	87° F	1/8	1550	120	1	TRANE MODEL 70-S

DESIGNATION	TYPE	LOCATION	HEATING COIL DATA @ 60 DEG. E.A.T.				FAN MOTOR DATA				MODEL NO.	REMARKS		
			HEATING CAPACITY (MBH)	WATER FLOW RATE (GPM)	ENT. TEMP. (F)	LEAVE TEMP. (F)	CFM	RPM	VOLT/PHASE	ARRANGEMENT AND STYLE				
CH-1	VERT. RECESSED	SEE PLAN	200	119' F	1.0	180° F	15.3	07	1/60	900	120/1	N48	N 48 AO 02	9" DEEP UNIT WALL RECESS W/ BUILT-IN P.A. THERMOSTAT UNITS TO BE FURNISHED WITH PRIME PAINT COAT.

DESIGNATION	SERVICE	LOCATION	FLOW RATE (GPM)	TOTAL PUMP HEAD (FT OF WATER)	MOTOR DATA		MODEL NO.	PUMP TYPE	REMARKS	
					HP	RPM				
P-1	HOT WATER HEATING	HWP-1	100	40	175	2	1750	208/3	1510 2AC	BASE MTD
P-2	HOT WATER HEATING	HWP-1	100	40	175	2	1750	208/3	1510 2AC	BASE MTD

SYMBOL	LOCATION	AREA SERVED	SERVICE	FAN TYPE	MODEL #	ROOF OPENING (N)	CFM	FAN DRIVE (N.W.G.)	MOTOR DATA			APPROX. WT. (LBS.)			
									HP	RPM	VOLT				
REF-1	ROOF	TOILET RML	EXHAUST	CRCE	QB-180-5	18-1/2"x18-1/2"	2000	3/4	1065	BELT	1/2	1750	208	3	150
REF-2	ROOF	ELEV. MACH. RM.	EXHAUST	CRCE	QB-80-4	12-1/2"x12-1/2"	300	3/4	1470	BELT	1/4	1750	120	1	50

FAN TYPES: CRCE=CENTRIFUGAL ROOF CURB MOUNTED EXHAUSTER
CE=CEILING MOUNTED EXHAUSTER
KUB=KITCHEN UP BLAST

REF-1 WITH BACKDRAFT DAMPER
REF-2 WITH MOTORIZED DAMPER BY ATC

DESIGNATION	MODEL NO.	MAX. FLOW (GPM)	INSTRUMENTAL SIZE	TRIPLE DUTY VALVE SIZE	HEAT EXCHANGER (NOMINAL)	OVERALL DIMENSIONS			REMARKS
						LENGTH	WIDTH	HEIGHT	
HWP-1	HWP-2-180	3"	3"	50/08-2	100.0	94"	36"	63"	1710

FURNISH UNIT WITH DISCHARGE HEADER, CONTROL PANEL, STEAM VALVE BYPASS PIPING AND STRAINER, SHUT-OFF VALVE AND CONDENSATE TRAP OR HEAT EXCHANGER CONDENSATE OUTLET TRAP.

SYMBOL	LOCATION	SYSTEM SERVED	NET CAP. (TONS)	REFRIG. TYPE	EER	CONDENSER DATA				COMPRESSOR DATA				MFR.	MODEL	REMARKS
						FAN(S) DATA (EACH)		ELECTRICAL DATA		FAN(S) DATA (EACH)		ELECTRICAL DATA				
						QTY.	H.P.	VOLT	Ø	R.L.A.	L.R.A.	VOLT	Ø			
ACCU-1	GRADE	AHU-1	15	R-22	9.9	2	1/2	208	3	46.0	248	208	3	McQUAY	ALF 016 C	

DESIGNATION	LOCATION	HEATING CAPACITY (MBH)	HOT WATER DATA			ENCLOSURE DATA			REMARKS
			FLOW RATE (GPM)	ENT. TEMP. (DEGREES F)	LEAVE TEMP. (DEGREES F)	TYPE	H x D x L	RECESS	
C-1	SEE PLANS	3.0	0.3	180° F	65° F	MC 400L	18-4/16	3-9/16"	UNITS TO BE FURNISHED WITH PRIME PAINT FINISH
C-2	SEE PLANS	8.0	0.8	180° F	65° F	MC 400L	32-4/16	5-9/16"	

SYMBOL	NDM CFM	EER	FAN MOTOR DATA				COMPRESSOR DATA				EVAPORATOR CAPACITY				H.W. COIL CAPACITY				CABINET DATA		MFR.	MODEL	REMARKS						
			INDOOR		OUTDOOR		NO.		HP		VOLT		Ø		TOTAL MBH		S.E.N.S. MBH		E.W.B. L.V.G. W.B.					G.P.M.		P.D. FT. OF WATER		E.W.1 MBH	
			NO.	HP	NO.	HP	NO.	HP	VOLT	Ø	NO.	HP	VOLT	Ø	NO.	HP	VOLT	Ø	NO.	HP				VOLT	Ø	NO.	HP	VOLT	Ø
UV-1	1280	8.2	2	1/6	2	1/3	120	1	2	175/2	208	3	41.7	31.0	67° F	96° F	2.0	4.8	180° F	70.0	100	31-1/4	15-3/4	15	NESBIT	MC-R-44-8	UNITS TO BE FURNISHED WITH FACTORY INSTALLED AUTOMATIC RELIEF DAMPERS AND BUILT-IN CONTROL PANEL. UNIT MANUFACTURER SHALL FURNISH HOT WATER CONTROL VALVE FOR FIELD PIPING.		

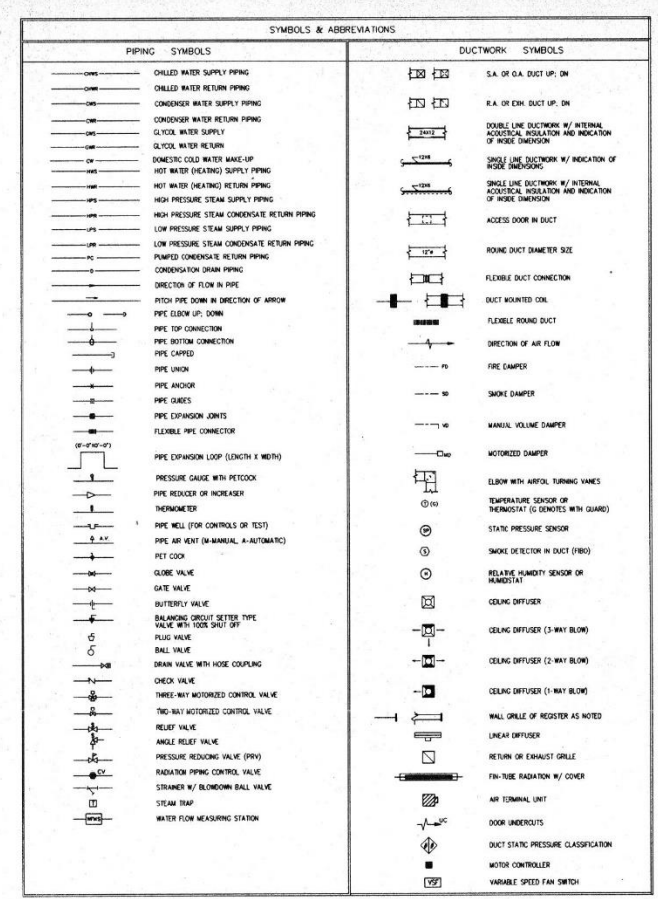
SYMBOL	LOCATION	AREA SERVED	TOTAL S.A. (CFM)	MIN. O.A. (CFM)	TOTAL S.P. (N.W.G.)	FAN DATA		MOTOR DATA			FILTER TYPE	HTG. COIL NO.	CLG. COIL	MFR./MODEL
						SIZE & TYPE	D.V. (FPM)	HP	VOLT	PH				
AHU-1	MECH. RM.	LIBRARY	6000	1200	3	14" FC	1714	7-1/2	208	3	308 ASHRAE	HC-1	CC-1	McQUAY LSL 111C

DESIGNATION	SERVICE	LOCATION	MAXIMUM AIR QUANTITY (CFM)	TOTAL STATIC (IN. OF WATER)	FAN SPEED (RPM)	MANUFACTURER	MODEL NO.	FAN MOTOR DATA			REMARKS
								MOTOR BHP	RPM	VOLT/PHASE	
RAF-1	AHU-1	MECH. RM.	6000	2	1714	McQUAY	L1V 111C	5	800	208/3	

DESIGNATION	MINIMUM HEATING CAPACITY (BTUH PER LIN. FT.)	FIN SIZE (INCHES)	FIN MATERIAL	FIN PITCH (INCH)	NUMBER OF ROWS	PIPE SIZE (INCHES)	PIPE MATERIAL	ENCLOSURE (INCHES)	TYPE	ELEMENT LENGTH	REMARKS
FT-1	1030	3-1/4"	CU	40	ONE	3/4"	57L	14	T	5'	COVERS TO BE PRIME PAINT FINISH
FT-2										5'	
FT-3										8'	
FT-4	1715				TWO			18	T	5'	

SYMBOL	LOCATION	CAPACITY (MBH)	AREA SERVED	AIR DATA			WATER DATA			COIL DATA		REMARKS
				CFM	ENT. TEMP.	L.V.G.	GPM	ENT. TEMP.	L.V.G.	MIN. FACE AREA (SF)	ROWS	
RHC-1	DUCTWORK	73.4	LIBRARY	1700	50° F	90° F	7.3	180° F	160° F	3.0	2	
RHC-2		21.6		500			2.2			0.6		
RHC-3		30.2		700			3.0			1.0		
RHC-4		34.6		800			3.5			1.25		
RHC-5		84.2		1900			8.4			3.0		

SYMBOL	LOCATION	AREA SERVED	CAPACITY (MBH)	SENS. (MBH)	CFM	AIR DATA			COIL DATA			REMARKS	
						ENT. D.B. ° F	ENT. W.B. ° F	L.V.G. D.B. ° F	L.V.G. W.B. ° F	MIN. FACE AREA (SF)	# OF CIRCUITS		
CC-1	AHU-1	LIBRARY	201.5	180.0	6000	80	67	51	50	12.0	6	5	



NO.	DATE	REVISION	BY

FLETCHER THOMPSON
ARCHITECTURE / ENGINEERING / INTERIOR DESIGN

131 CHARTER OAK AVENUE
HARTFORD, CT 06104-1912

PROJECT MANAGER: L. FREE
PROJECT ARCHITECT/ENGINEER: F. MINNIX
JOB CAPTAIN: J. CZUBATY
DRAWN BY: F. MINNIX

ADDITIONS AND RENOVATIONS TO KINGS HIGHWAY ELEMENTARY SCHOOL

65 Easton Road
Westport, Connecticut

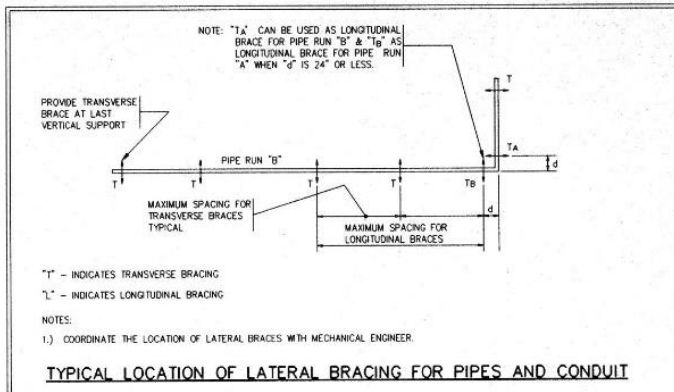
DRAWING TITLE: SCHEDULES HVAC

DATE: SEPT. 20, 1993

SCALE: NONE

PROJECT NO.: 46251.06

DRAWING NO.: M401



TYPICAL LOCATION OF LATERAL BRACING FOR PIPES AND CONDUIT

① SCHEDULE FOR BRACING PIPES

PIPE SIZE	"ELBOW" (OR EQUAL) HANGER TYPE	BOLTS TO "L" (2)	VERTICAL ANGLE (3)	DIAGONAL ANGLE	LONGITUDINAL DIAGONAL ANGLE (4)	TOP CONNECTION OF DIAGONAL & LONGITUDINAL "L" (1)	ROD SIZE	MAXIMUM LENGTH FOR RODS
2-1/2"	CLEMS TYPE	3/8"	2 X 2 X 16 GA.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	TYPE II	1/2"	25'
3"	DO DO	3/8"	2 X 2 X 16 GA.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	TYPE II	1/2"	25'
3-1/2"	DO DO	3/8"	2 X 2 X 16 GA.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	TYPE III	1/2"	25'
4"	DO DO	3/8"	2 X 2 X 16 GA.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	TYPE IV	5/8"	31'
5"	DO DO	1/2"	2 X 2 X 16 GA.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	TYPE IV	5/8"	31'
6"	DO DO	1/2"	2-1/2" X 2-1/2" X 16 GA.	2-1/2" X 2-1/2" X 16 GA.	2-1/2" X 2-1/2" X 16 GA.	TYPE V	3/4"	37'
8"	DO DO	5/8"	2-1/2" X 2-1/2" X 16 GA.	2-1/2" X 2-1/2" X 16 GA.	2-1/2" X 2-1/2" X 16 GA.	TYPE VI	7/8"	43'
10"	DO DO	3/4"	2-1/2" X 2-1/2" X 16 GA.	2-1/2" X 2-1/2" X 16 GA.	2-1/2" X 2-1/2" X 16 GA.	TYPE VI	7/8"	43'

"L" DENOTES ANGLE
(1) SEE SCHEDULE ④ FOR TYPICAL CONNECTION TO STRUCTURAL SUPPORTING MEMBERS.
(2) PLACE STANDARD CUT WASHERS BETWEEN SHEET METAL "L" & NUT.
(3) "VERTICAL ANGLE" IN THE SCHEDULE IS REQUIRED IN ADDITION TO HANGER ROD ONLY WHEN "MAXIMUM LENGTH FOR RODS" IS EXCEEDED.
(4) SEE GENERAL NOTE SCHEDULE ② LONGITUDINAL BRACING "L"

TRANSVERSE BRACING SCHEDULE "T"

SIZE O.D. IN.	MAX. SPACING OF TRANSVERSE BRACE (FEET)					
	STD WT. STEEL PIPE A05	X-STRONG STEEL PIPE B05	TYPE K COPPER PIPE	TYPE L COPPER PIPE	EXIT ELEC. CONDUIT	ROD ELEC. CONDUIT
2-1/2"	38	39	15	14	23	35
3"	42	43	16	15	24	36
3-1/2"	44	46	18	17	25	37
4"	46	48	20	18	--	41
5"	50	53	22	20	--	49
6"	54	58	29	25	--	56
8"	60	65	32	27	--	--
10"	66	70	36	31	--	--
12"	70	74	41	35	--	--

LONGITUDINAL BRACING "L"

LONGITUDINAL BRACING SHALL BE AT A MAXIMUM SPACING OF 80'-0"

③ SCHEDULE FOR BRACING PIPES ON TRAPEZE

PIPE SIZE	MAXIMUM DEAD LOAD ON TRAPEZE (LBS.)	BOLTS TO ANGLE	VERTICAL & LONGITUDINAL ANGLE	MAXIMUM TRAPEZE SPAN	TRAPEZE SIZE (5)	TOP CONNECTION OF DIAGONAL & LONGITUDINAL ANGLE	ROD SIZE	MAXIMUM LENGTH FOR RODS
2-1/2"	320	3/8"	2 X 2 X 16 GA.	5'-4"	1-5/8" X 3-1/4" X 12 GA.	TYPE II	1/2"	25'
3"	320	3/8"	2 X 2 X 16 GA.	5'-4"	1-5/8" X 3-1/4" X 12 GA.	TYPE IV	1/2"	25'
3-1/2"	320	3/8"	2 X 2 X 16 GA.	5'-4"	1-5/8" X 3-1/4" X 12 GA.	TYPE IV	5/8"	31'
4"	320	3/8"	2 X 2 X 16 GA.	4'-0"	1-5/8" X 3-1/4" X 12 GA.	TYPE V	5/8"	31'
5"	320	3/8"	2 X 2 X 16 GA.	4'-0"	1-5/8" X 3-1/4" X 12 GA.	TYPE V	3/4"	37'
6"	320	3/8"	2 X 2 X 16 GA.	5'-10"	1-5/8" X 3-1/4" X 12 GA.	TYPE V	3/4"	37'
8"	320	1/2"	2 X 2 X 16 GA.	5'-6"	1-5/8" X 3-1/4" X 12 GA.	TYPE V	3/4"	37'

NOTES:
1) THIS SCHEDULE IS BASED ON FOUR EQUAL SIZE PIPE ARRANGEMENT FOR PIPE 5" AND SMALLER. THE SCHEDULE ALSO LIMITS THE NUMBER OF 6" PIPES TO THREE, AND 8" PIPE TO TWO. HOWEVER, ANY COMBINATION OF PIPES CAN BE USED IF THE TOTAL COMBINED WEIGHT OF THE PIPES ON A TRAPEZE EQUAL OR LESS THAN THE "MAXIMUM DEAD LOAD" NOTED AND THAT THE MAXIMUM TRAPEZE SPAN AND SIZE AT DIAGONAL BRACES NOTED IN THE SCHEDULE ARE MAINTAINED. USE PIPE WEIGHT DATA ON SHEET 9.
2) SEE SCHEDULE ④ FOR TYPICAL CONNECTION TO STRUCTURAL SUPPORTING MEMBERS.
3) PLACE STANDARD CUT WASHERS BETWEEN SHEET METAL ANGLE & NUT.
4) PROVIDE TRANSVERSE AND LONGITUDINAL BRACES AS FOLLOWS:
PIPE SIZE TRANSVERSE DIAGONAL BRACE SPACING LONGITUDINAL DIAGONAL BRACE SPACING
3-1/2" & SMALLER 40'-0" O.C. MAXIMUM 40'-0" O.C. MAXIMUM
4" THRU 8" 20'-0" O.C. MAXIMUM 20'-0" O.C. MAXIMUM
INSTALL ONE TRANSVERSE BRACE AND ONE LONGITUDINAL BRACE AT EACH END OF THE TRAPEZE.
5) REFER TO PIPE BRACING DETAIL "TRAPEZE" ①

④ SCHEDULE FOR TYPICAL CONNECTIONS TO STRUCTURAL SUPPORTING MEMBERS

TYPE	MAX. LOAD CAPACITY IN TENSION (LBS.)	EXPANSION ANCHORS TO IN-PLACE CONCRETE (1,4,5,6,7)	CONCRETE CAST-IN-PLACE ANCHOR (1,4,5,6,7)	MACHINE BOLT AT STEEL BEAM CLAMP	SPREADER SIZE (SEE SHEET 31)	MACHINE BOLT AT WOOD	SPW-SHIELD ROD	ANGLE TO SUPPORTING STRUCTURAL MEMBER (1)	ROD SIZE FOR PIPES	
I	400	5/8"	1/2"	3/8"	3/8"	C4 X 5.4	1/2"	3/8"	13-1/2" X 2-1/2" X 3/8" X 0'-3" LH	1/2"
II	250	3/4"	5/8"	1/2"	3/8"	C4 X 5.4	1/2"	3/8"	15" X 3" X 3/8" X 0'-3" LH	5/8"
III	900	2-1/2"	2-3/8"	1/2"	3/8"	C5 X 6.7	3/4"	3/8"	2-1/4" X 3" X 5/16" X 0'-4" LH	3/4"
IV	1000	2-5/8"	2-5/8"	1/2"	1/2"	C8 X 8.5	1/2"	3/8"	2-1/2" X 3" X 3/8" X 0'-4" LH	3/4"
V	1800	2-3/4"	2-5/8"	5/8"	1/2"	C8 X 11.5	1/2"	3/8"	2-1/2" X 3" X 3/8" X 0'-4" LH	7/8"
VI	2600	4-5/8"	4-1/2"	2-1/2"	5/8"	C9 X 13.4		3/8"	2-1/2" X 3" X 3/8" X 0'-10" LH	7/8"
VII	3700	4-3/4"	4-5/8"	2-5/8"	5/8"	C10 X 15.3		3/8"	2-1/2" X 3" X 3/8" X 0'-11-1/2" LH	7/8"

NOTES:
1) FOR SLABS LESS THAN 5" THICK ONLY, 3/8" SLAB INSERTS MAY BE USED.
2) FOR USE WITH CONCRETE CAST-IN-PLACE INSERTS OR EXPANSION ANCHOR IN HARDROCK CONCRETE ONLY. SEE CONNECTION DETAIL ①, "B".
3) FOR USE WITH CONCRETE CAST-IN-PLACE INSERTS ONLY. SEE CONNECTION DETAIL ①, "B".
4) ANY OF THE FOLLOWING CONCRETE ANCHORS IS ACCEPTABLE. INSTALL PER REQUIREMENTS GIVEN IN THE LATEST I.C.B. RESEARCH COMMITTEE RECOMMENDATIONS FOR THE SPECIFIC ANCHOR:
PHILLIPS RED HEAD SELF-DRILLING, NON-DRILLS (A)
HELI HOY DROP-IN & KIM-BOLT ANCHORS (A)
PARABOLT ANCHOR
TRUBOLT AND DYNABOLT
RAWL SABER-TOOTH (SNAP-OFF FLOSH-TYPE) ANCHOR (A)
STAR SELFDRILL SHIELDS & STUD BOLT ANCHORS (A)
SUP-R-STUD ANCHORS
WE-I-T EXPANSION BOLT (A)
NATIONAL STUD ANCHORS (A)
TAPER-BOLT (A)
(A) THE ANCHORS ARE ALLOWED FOR STONE AGGREGATE CONCRETE ONLY. HOWEVER, THE ANCHOR CAN BE USED FOR LIGHTWEIGHT CONCRETE WHEN AN I.C.B. APPROVAL IS OBTAINED AND THAT BOTH SHEAR AND TENSION VALUES ARE EQUAL TO OR GREATER THAN ANY ONE OF THE APPROVED ANCHORS FOR LIGHTWEIGHT CONCRETE LISTED ON THIS PAGE.
5) FOR ESSENTIAL FACILITIES, 50 PERCENT OF THE EXPANSION TYPE ANCHORS (ALTERNATE ANCHORS IN ANY GROUP ARRANGEMENT) SHALL BE PROOF TESTED TO TWICE THE ALLOWABLE CAPACITY IN TENSION. IF ANY ANCHOR FAILS THE IMMEDIATELY ADJACENT ANCHORS MUST THEN ALSO BE TESTED.
6) EXPANSION ANCHOR SIZES ARE BASED ON ULTIMATE CONCRETE STRENGTH OF F'c = 3000 PSI. SPECIAL REVIEW AND APPROVAL IS REQUIRED BY O.S.A. ON THESE ANCHORS FOR CONCRETE STRENGTH LESS THAN F'c = 3000 PSI.
7) LH = LONG LEG HORIZONTAL.
8) THE USER OF THIS "GUIDELINE" SHALL BE RESPONSIBLE FOR SUBMITTING ALL PERTINENT MECHANICAL DATA TO THE STRUCTURAL ENGINEER SO THAT THE STRUCTURAL ENGINEER CAN DESIGN THE STRUCTURE TO SUPPORT THE MECHANICAL SYSTEM.

⑤ SCHEDULE OF SIDE BRACING FOR RECTANGULAR DUCTS

DUCT SIZE (3)	VERTICAL & LONGITUDINAL L's	DIAGONALS L's	HORIZONTAL L's	BOLT SIZE	CONNECTION (1) TO STRUCTURAL SUPPORTING MEMBER	WT. PER LINEAR FOOT (2)
30" SQ.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	1/4"	TYPE I	13
42" SQ.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	1/4"	TYPE II	20
54" SQ.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	3/8"	TYPE III	27
60" SQ.	3 X 3 X 16 GA.	3 X 3 X 16 GA.	3 X 3 X 16 GA.	3/8"	TYPE III	36
84" SQ.	4 X 4 X 14 GA.	4 X 4 X 14 GA.	4 X 4 X 14 GA.	3/8"	TYPE IV	53
96" SQ.	4 X 4 X 12 GA.	4 X 4 X 12 GA.	4 X 4 X 12 GA.	1/2"	TYPE V	80

(1) SEE SCHEDULE SHEET 40 FOR TYPICAL CONNECTION TO STRUCTURAL SUPPORTING MEMBERS.
(2) MAXIMUM WEIGHT OF DUCT OR COMBINATIONS OF DUCTS PER LINEAR FOOT.
(3) THE DUCTS MAXIMUM DIMENSION SHALL GOVERN WHAT BRACING IS REQUIRED. EXAMPLE: A 36" X 60" DUCT SHALL BE BRACED AS A 60" SQ. DUCT.

SCHEDULE OF CENTER BRACING FOR RECTANGULAR DUCTS

DUCT SIZE (3)	VERTICAL & LONGITUDINAL L's	DIAGONALS L's	HORIZONTAL L's	BOLT SIZE	CONNECTION (1) TO STRUCTURAL SUPPORTING MEMBER	WT. PER LINEAR FOOT (2)
30" SQ.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	2 X 2 X 16 GA.	3 X 3 X 16 GA.	1/4"	13
42" SQ.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	DO	1/4"	20
54" SQ.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	2-1/2 X 2-1/2 X 16 GA.	DO	3/8"	27
60" SQ.	3 X 3 X 16 GA.	3 X 3 X 16 GA.	3 X 3 X 16 GA.	DO	3/8"	36
84" SQ.	4 X 4 X 14 GA.	4 X 4 X 14 GA.	4 X 4 X 14 GA.	DO	3/8"	53
96" SQ.	4 X 4 X 12 GA.	4 X 4 X 12 GA.	4 X 4 X 12 GA.	DO	1/2"	80

"L" DENOTES ANGLE
ALL BOLTS IN L'S 1/2" OVERSIZE MAX.
PLACE STANDARD CUT WASHERS BETWEEN SHEET METAL L'S & NUT

MINIMUM EDGE DISTANCE FOR BOLTS
1/4" = 1"
3/8" = 1"
1/2" = 1"
3/8" = 1-1/8"
3/4" = 1-1/4"
7/8" = 1-1/2"

⑥ HANGER ROD SCHEDULE

HANGER ROD DIAMETER	ALLOWABLE LOAD POUNDS
1/4"	240
3/8"	610
1/2"	1130
5/8"	1810
3/4"	2710
7/8"	3770

⑦ BOLTS - "N" & "J" HANGER SCHEDULE

PIPE SIZE	STANDARD "J" BOLTS		"N" HANGER BOLT SIZE
	SIZE	"J" HANGER BOLT SIZE	
1/2" TO 1"	1/4"	1/4"	1/4"
1-1/4"	3/8"	3/8"	3/8"
1-1/2"	3/8"	3/8"	3/8"
2"	3/8"	3/8"	3/8"
2-1/2" TO 3"	1/2"	1/2"	5/8"
4" & 5"	1/2"	1/2"	5/8"
6" & 8"	5/8"	5/8"	3/8"

⑧ PIPE WEIGHT SCHEDULE

PIPE SIZE	WEIGHT POUNDS PER FOOT
1/2"	1.0
3/4"	1.4
1"	2.1
1-1/4"	3.0
1-1/2"	3.6
2"	5.2
2-1/2"	7.9
3"	10.8
4"	16.4
5"	23.4
6"	31.5
8"	50.3

WEIGHTS NOTED ARE FOR PIPES FULL OF WATER.
USE THIS TABLE FOR ALL PIPES INCLUDING CAST IRON.



PROJECT MANAGER: L. FREE
PROJECT ARCHITECT/ENGINEER: F. MINIX
JOB CAPTAIN: J. CZUBATYJ
DRAWN BY: F. MINIX

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FLETCHER THOMPSON
ARCHITECTURE / ENGINEERING / INTERIOR DESIGN
FLETCHER-THOMPSON, INC.
TWO WORLD TRADE PLAZA
BRIDGEPORT, CT 06604-3944
111 CHARTER OAK AVENUE
HARTFORD, CT 06184-1812

PROJECT TITLE
ADDITIONS AND RENOVATIONS TO KINGS HIGHWAY ELEMENTARY SCHOOL
125 Post Road West
Westport, Connecticut

DRAWING TITLE
SEISMIC DETAILS HVAC

DATE: SEPT. 20, 1993
SCALE: NONE
PROJECT NO.: 46252.06
DRAWING NO.: M501

AIR COOLED CHILLER SCHEDULE															
MARK	MANUFACTURER	MODEL	CAPACITY (MBH)	EWT	LWT	EER	GPM	WPD (in FT)	VOLTAGE	PHASE	FLA	POWER LEVEL (dBA)	SOUND DATA PRESSURE LEVEL (dBA)	WEIGHT (LBS)	REMARKS
CH1	TRANE	CGAM	1000	55 °F	45 °F	10	348.5	40	480	3	216	89	7489	1-12	

REMARKS:
 1. PROVIDE WITH LOW AMBIENT OPERATION TO 0 °F.
 2. PROVIDE SOLUTION OF 30% PROPYLENE GLYCOL.
 3. PROVIDE DUAL PUMP PACKAGE WITH AIR SEPARATOR, EXPANSION TANK, ISOLATION VALVES, TRIPLE DUTY VALVES, SUCTION DIFFUSER, TEMPERATURE AND PRESSURE GAUGES, FLOW SWITCH, STRAINER WITH BLOW-DOWN, 201 GALLON STORAGE TANK, VFD'S FOR VARIABLE-FLOW, BYPASS LINE WITH MODULATING 2-WAY VALVE, AND A PUMP ENCLOSURE WITH A LIGHT AND DOORS ON HINGES.
 4. PROVIDE FACTORY MOUNTED AND TEST CONTROLS FOR VARIABLE-PRIMARY FLOW.
 5. PROVIDE STAND ALONE CONTROLS INCLUDING EQUAL RUN-TIME FOR COMPRESSORS AND PUMPS. INTEGRATE CONTROLS INTO BMS.
 6. PROVIDE WITH SINGLE POINT POWER.
 7. PROVIDE ALARMS FOR EACH PUMP, EACH COMPRESSOR, HIGH AND LOW PRESSURE FAILS IN THE REFRIGERATION CIRCUIT.
 8. PROVIDE HEAT TRACE TESTED TO -20 °F ON A SEPARATE CIRCUIT WITH A DISCONNECT AND CONVENIENCE OUTLET FOR CONNECTION TO THE EMERGENCY POWER.
 9. PROVIDE 1 YEAR PARTS WARRANTY.
 10. PROVIDE 3/4" PAINTED ARMAREX INSULATION.

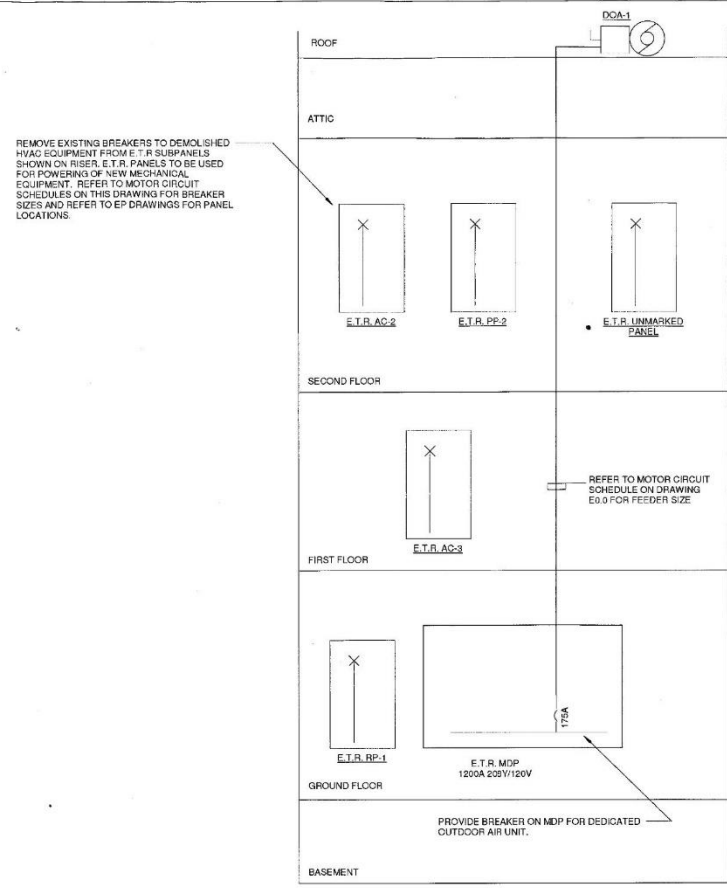
CONVECTOR SCHEDULE														
MARK	MANUFACTURER	MODEL	CAPACITY (BTU/LF)	LENGTH	WIDTH	MOUNTING HEIGHT	WATER DATA				FIN SIZE	FINS PER LF	REMARKS	
							EWT	LWT	GPM	PD (in FT)				
C2	STERLING	JVB-S C34-145	1950	80.5"	11.6"	24"	180 F	160 F	3 GPM	1.2 FT	3/4"	4-1/4" X 3-5/8"	50	1-5
C3	STERLING	JVB-S C34-145	1950	80"	11.6"	24"	180 F	160 F	3 GPM	1.2 FT	3/4"	4-1/4" X 3-5/8"	50	1-5
C4	STERLING	JVB-S C34-145	1950	81"	12"	24"	180 F	160 F	3 GPM	1.2 FT	3/4"	4-1/4" X 3-5/8"	50	1-5

REMARKS:
 1. PROVIDER SUPPORT SADDLE FOR RETURN PIPE WHERE SHOWN ON DRAWINGS.
 2. ENCLOSURE COVER SHALL COMPLETELY ENCLOSE ALL PIPING, FITTINGS AND VALVES.
 3. REMOVABLE COVER SECTION OR DOORS SHALL BE PROVIDED FOR ACCESS TO ISOLATION VALVES, CONTROL VALVES, DRAIN VALVES, BALANCING VALVES AND AIR VENTS.
 4. PROVIDE FINS ON BOTH PIPES WITHIN CONVECTOR.
 5. WIDTH REPRESENTS THE MAXIMUM ALLOWABLE SPACE TO PLACE THE CONVECTOR WITH ENCLOSURE.

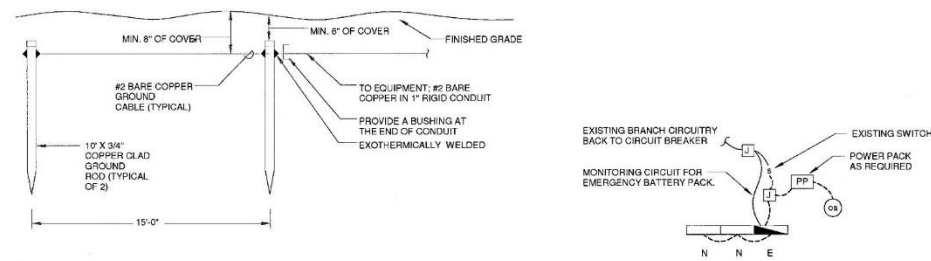
VARIABLE AIR VOLUME TERMINAL SCHEDULE									
SYMBOL	MANUFACTURER NAME	MODEL	MAX NC LEVEL	MIN INLET PRESSURE	AIRFLOW		VOLTAGE	PHASE	REMARKS
					DESIGN	MAX			
BASEMENT									
VAV-GFM	TRANE	VOCF08	30	0.5	300 CFM	300 CFM	120 V	1	1-4
GROUND FLOOR									
VAV-104	TRANE	VOCF08	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-105	TRANE	VOCF08	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-106	TRANE	VOCF08	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-CAF	TRANE	VOCF08	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-04.5	TRANE	VOCF04	30	0.5	150 CFM	225 CFM	120 V	1	1-4
VAV-032	TRANE	VOCF05	30	0.5	275 CFM	300 CFM	120 V	1	1-4
VAV-024	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-042	TRANE	VOCF04	30	0.5	150 CFM	225 CFM	120 V	1	1-4
FIRST FLOOR									
VAV-1	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-2	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-3	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-4	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-5	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-6	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-7	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-111	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-112	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-126	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-127	TRANE	VOCF04	30	0.5	150 CFM	225 CFM	120 V	1	1-4
SECOND FLOOR									
VAV-21	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-31	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-32	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-33	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-34	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-206	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-207	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-230	TRANE	VOCF04	30	0.5	150 CFM	225 CFM	120 V	1	1-4
ATTIC FLOOR									
VAV-22	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-23	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-24	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-25	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-26	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-28	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4
VAV-29	TRANE	VOCF05	30	0.5	300 CFM	300 CFM	120 V	1	1-4

REMARKS:
 1. CONTROLS SHALL BE BY CONTROL CONTRACTOR AND INSTALLED AT THE FACTORY (SEE SPECIFICATIONS).
 2. MOUNT WITH STRAIGHT DUCT DIAMETERS UPSTREAM OF THE BOX.
 3. MAXIMUM NOISE LEVELS ARE RADIATED SOUND DATA AND BASED ON THE MAXIMUM BOX CFM LISTED AND AT A PRESSURE DROP ACROSS THE BOX OF 0.20".
 4. PROVIDE VV50 DDC CONTROLLER WITH PULSE WIDTH MODULATION TO OPEN BASED ON CO2 SENSOR FROM CORRESPONDING SPACE.

AIR HANDLING UNIT SCHEDULE																	
MARK	MANUFACTURER	MODEL	AREA SERVED	AIR FLOW	ESP (in WG)	TC (MBH)	SC (MBH)	EAT/LAT	EWT/LWT	GPM	PD (in FT)	EMERGENCY POWER	VOLTAGE	PHASE	FLA	WEIGHT (LBS)	REMARKS
AHU-GYM	TRANE	FC09006E	GYM	3600 CFM	0.75	126.8	91	76-68/57-56	45/55	26.6	22.4	NO	208	3	8.9 A	385	1-4
GROUND FLOOR																	
AHU-104	TRANE	FC081205	CLASSROOM 104	1200 CFM	0.25	38.1	28	76-68/57-56	45/55	8	18.5	NO	208	3	1.4 A	200	1-3
AHU-106	TRANE	FC081205	CLASSROOM 106	1200 CFM	0.25	38.1	28	76-68/57-56	45/55	8	18.5	NO	208	3	1.4 A	200	1-3
AHU-CAF1	TRANE	FC081205	CAFETERIA	1200 CFM	0.25	45.5	30.5	76-68/57-56	45/55	9.5	25.2	NO	208	3	1.4 A	200	1-3
AHU-CAF2	TRANE	FC081205	CAFETERIA	1200 CFM	0.25	45.5	30.5	76-68/57-56	45/55	9.5	25.2	NO	208	3	1.4 A	200	1-3
AHU-04.5	TRANE	FC080605	SPECIAL EDUCIST OFFICE	800 CFM	0.25	18.4	15.2	76-68/57-56	45/55	3.9	5.7	NO	208	3	1.4 A	147	1-3
AHU-022	TRANE	FC081005	ART CLASSROOM	950 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-024	TRANE	FC081005	ART CLASSROOM	950 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-042	TRANE	FC081005	P.E. OFFICE	1200 CFM	0.25	45.5	30.5	76-68/57-56	45/55	9.5	25.2	NO	208	3	1.4 A	200	1-3
FIRST FLOOR																	
AHU-1	TRANE	FC080605	CLASSROOM 1	750 CFM	0.25	20	15.5	76-68/57-56	45/55	4.25	7.5	NO	208	3	1.2 A	139	1-3
AHU-2	TRANE	FC080605	CLASSROOM 2	750 CFM	0.25	20	15.5	76-68/57-56	45/55	4.25	7.5	NO	208	3	1.2 A	139	1-3
AHU-3	TRANE	FC081005	CLASSROOM 3	1200 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-4	TRANE	FC081005	CLASSROOM 4	1200 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-5	TRANE	FC081005	CLASSROOM 5	1200 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-6	TRANE	FC081005	CLASSROOM 6	1200 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-111	TRANE	FC080605	CLASSROOM 111	750 CFM	0.25	20	15.5	76-68/57-56	45/55	4.25	7.5	NO	208	3	1.2 A	139	1-3
AHU-112	TRANE	FC080605	CLASSROOM 112	750 CFM	0.25	20	15.5	76-68/57-56	45/55	4.25	7.5	NO	208	3	1.2 A	139	1-3
AHU-126	TRANE	FC080605	COMPUTER ROOM 12	900 CFM	0.25	24.6	18	76-68/57-56	45/55	5.1	11.8	NO	208	3	1.4 A	147	1-3
AHU-127	TRANE	FC080605	SP. ED. CLASSROOM	900 CFM	0.25	24.6	18	76-68/57-56	45/55	5.1	11.8	NO	208	3	1.4 A	147	1-3
SECOND FLOOR																	
AHU-31	TRANE	FC081205	CLASSROOM 31	1200 CFM	0.25	45.5	30.5	76-68/57-56	45/55	9.5	25.2	NO	208	3	1.4 A	200	1-3
AHU-32	TRANE	FC081205	CLASSROOM 32	1200 CFM	0.25	45.5	30.5	76-68/57-56	45/55	9.5	25.2	NO	208	3	1.4 A	200	1-3
AHU-33	TRANE	FC081005	CLASSROOM 33	1200 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-204	TRANE	FC080605	CLASSROOM 204	800 CFM	0.25	24.6	18	76-68/57-56	45/55	5.1	11.8	NO	208	3	1.4 A	147	1-3
AHU-205	TRANE	FC081005	CLASSROOM 205	1200 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-206	TRANE	FC080605	CLASSROOM 206	1200 CFM	0.25	24.6	18	76-68/57-56	45/55	5.1	11.8	NO	208	3	1.4 A	147	1-3
AHU-207	TRANE	FC081205	CLASSROOM 207	1200 CFM	0.25	45.5	30.5	76-68/57-56	45/55	9.5	25.2	NO	208	3	1.4 A	200	1-3
AHU-230	TRANE	FC080605	SPANISH 230	800 CFM	0.25	18.4	15.2	76-68/57-56	45/55	3.9	5.7	NO	208	3	1.4 A	147	1-3
AHU-A1	TRANE	BCH0368E	AUDITORIUM	1200 CFM	0.5	41.4	30.2	76-68/57-56	45/55	8.5	5	NO	208	3	1.6 A	160.5	1-5
AHU-A2	TRANE	BCH0368E	AUDITORIUM	1200 CFM	0.5	41.4	30.2	76-68/57-56	45/55	8.5	5	NO	208	3	1.6 A	160.5	1-5
AHU-A3	TRANE	BCH0368E	AUDITORIUM	2400 CFM	0.5	60	60	76-68/57-56	45/55	16.65	2	NO	208	3	3.8 A	290	1-8
ATTIC FLOOR																	
AHU-21	TRANE	FC080605	CLASSROOM 21	750 CFM	0.25	20	15.5	76-68/57-56	45/55	4.25	7.5	NO	208	3	1.2 A	139	1-3
AHU-22	TRANE	FC081005	CLASSROOM 22	1200 CFM	0.25	29.5	22.5	76-68/57-56	45/55	6.25	16	NO	208	3	2.0 A	147	1-3
AHU-23	TRANE	FC080605	CLASSROOM 23	750 CFM	0.25	20	15.5	76-68/57-56	45/55	4.25	7.5	NO	208	3	1.2 A	139	1-3
AHU-24	TRANE	FC081205	CLASSROOM 24	1200 CFM	0.25	38.1	28	76-68/57-56	45/55	8	18.5	NO	208	3	1.4 A	200	1-3
AHU-25	TRANE	FC080605	CLASSROOM 25	7													



1 ELECTRICAL ONE-LINE DIAGRAM N.T.S.



2 EQUIPMENT GROUND GRID DETAIL N.T.S.

3 LIGHTING BRANCH CIRCUITRY DETAIL 1/8" = 1'-0"

ELECTRICAL SYMBOL LIST			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
[Symbol]	SURFACE MOUNTED PANELBOARD	[Symbol]	SURFACE MOUNTED FLUORESCENT EMERGENCY LIGHTING FIXTURE
[Symbol]	RECESSED PANELBOARD	[Symbol]	SURFACE MOUNTED FLUORESCENT LIGHTING FIXTURE
[Symbol]	DISCONNECT SWITCH - REFER TO MOTOR CIRCUIT SCHEDULE FOR FUSED AND UNFUSED SIZES	[Symbol]	PENDANT MOUNTED FLUORESCENT EMERGENCY LIGHTING FIXTURE
[Symbol]	ELECTRICAL MOTOR	[Symbol]	PENDANT MOUNTED FLUORESCENT LIGHTING FIXTURE
[Symbol]	TRANSFORMER	[Symbol]	RECESSED FLUORESCENT LIGHTING FIXTURE
[Symbol]	ELECTRICAL METER	[Symbol]	RECESSED FLUORESCENT EMERGENCY LIGHTING FIXTURE
[Symbol]	TRANSIENT VOLTAGE SURGE SUPPRESSOR	[Symbol]	RECESSED DOWNLIGHT FIXTURE
[Symbol]	BRANCH CIRCUIT WIRING, CONCEALED IN WALLS OR CEILINGS	[Symbol]	RECESSED DOWNLIGHT EMERGENCY FIXTURE
[Symbol]	HOMERUN TO PANELBOARD, UNLESS INDICATED OTHERWISE SHALL BE CONNECTED TO A 1 POLE, 20 AMP CIRCUIT BREAKER	[Symbol]	POWER PACK
[Symbol]	BRANCH CIRCUIT WIRING, SWITCHED	[Symbol]	OCCUPANCY SENSOR, CEILING MOUNTED, WATT STOPPER DT-800
[Symbol]	CONDUIT RUN ON SURFACE OF WALLS/CEILINGS	[Symbol]	OCCUPANCY SENSOR, WALL/CORNER MOUNTED, WATT STOPPER DT-200
[Symbol]	BRANCH CIRCUIT WIRING BELOW GROUND/SLAB	[Symbol]	SINGLE POLE TOGGLE SWITCH
[Symbol]	UNDERGROUND PRIMARY ELECTRICAL SERVICE	[Symbol]	THREE WAY TOGGLE SWITCH
[Symbol]	UNDERGROUND SECONDARY ELECTRICAL SERVICE	[Symbol]	FOUR WAY TOGGLE SWITCH
[Symbol]	JUNCTION BOX	[Symbol]	
[Symbol]	DUPLEX WALL MOUNTED RECEPTACLE	[Symbol]	
[Symbol]	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION	[Symbol]	
[Symbol]	DUPLEX RECEPTACLE WITH WEATHERPROOF COVER	[Symbol]	

ELECTRICAL ABBREVIATIONS			
AMP	AMPERE	JB	JUNCTION BOX
AC	ALTERNATING CURRENT	KVA	THOUSAND CIRCULAR MILS
ACU	AIR CONDITIONING UNIT	KW	KILOWATT
AF	ABOVE FINISHED GRADE	MAX	MAXIMUM
AFG	ABOVE FINISHED GRADE	MAU	MAKE UP AIR UNIT
AHU	AIR HANDLING UNIT	MCC	MOTOR CONTROL CENTER
AIC	AMP'S INTERRUPTING CURRENT	MCCB	MOLDED CASE CIRCUIT BREAKER
AIS	AUTOMATIC SWITCH	MH	METAL HALIDE
AWG	AMERICAN WIRE GAUGE	MIN	MINIMUM
BSMT	BASEMENT	M.O	MAIN LISTS ONLY
C	CONDUIT	NA	NOT APPLICABLE
CATV	CABLE TELEVISION	NAC	NATIONAL ELECTRICAL CODE
CBS	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CCT	CIRCUIT	NL	NEW LOCATION OF EXISTING RELOCATED
COMP	COMPRESSOR	NTS	NOT TO SCALE
CP	CONDENSATE PUMP	NTS	NOT TO SCALE
CU	CURRENT TRANSFORMER	P	POLE
CUH	CONDENSING UNIT, COPPER	PE	PRIMARY ELECTRICAL SERVICE
DH	CABINET UNIT HEATER	PF	POWER FACTOR
D	DEGREE	PH	PHASE
DIM	DIMETER	PNL	PANEL
DN	DOWN	PVC	POLYVINYL CHLORIDE CONDUIT
DWS	DRAWING	RE	REMOVE EXISTING
EF	EXISTING TO REMAIN	RIS	RIGID GALVANIZED STEEL CONDUIT
EF	EXISTING TO REMAIN	RL	RELOCATE EXISTING
ELC	ELECTRICAL	RUC	REMOVE AND REPLACE ON NEW SURFACE
ELEV	ELEVATOR	RTU	ROOFTOP UNIT
EMT	ELECTRIC METALLIC TUBING	SE	SECONDARY ELECTRICAL SERVICE
EMT	EXISTING TO REMAIN	SPEC	SPECIFICATION
EWG	ELECTRIC WATER COOLER	SWBD	SWITCHBOARD
DWH	ELECTRIC WATER HEATER	TELE	TELECOMMUNICATIONS/TELEPHONE
F	FIRE-RESISTANT	TV	TELEVISION
FA	FIRE ALARM CONTROL PANEL	TVS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
FC	FOOT CANDLE	TYU	TRANSFORMER
FCU	FAN COIL UNIT	U	UNIT
G	GROUND	UHT	UNIT HEATER
GFI	GROUND FAULT INTERRUPTER	V	VOLTS
HP	HORSE POWER	VAC	VOLT AMPERE
HPS	HIGH PRESSURE SODIUM	W	WAIT, WIRE
HR	HOUR	WG	WIRE GUARD
HZ	HERTZ	WP	WEATHERPROOF
IG	ISOLATED GROUND		
I	INCHES		

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	VOLTAGE	LAMPS	FIXTURE DESCRIPTION
AD1	PHILITE S12-D-WCB-8-218-SC-RW-OPEN-120-F-FC1-080	120	(2) 30W T8 PER 4' 3000K 86 CR. 2000 MEAN LUMENS	DIRECT/INDIRECT HIGH PERFORMANCE PENDANT MOUNTED LINEAR FLUORESCENT FIXTURE WITH INTEGRATED BALLAST SENSOR FOR 8-HOUR DIMMING. ONE PHOTO SENSOR PER ROW. HANGY 8-1/2" DIMMING BALLAST. USE 2 LAMP 1.00 BF BALLAST FOR 8 FOOT SECTION AND 3 LAMP 1.00 BF BALLASTS FOR 4 FOOT SECTION. REFER TO FLOOR PLANS FOR SECTION FIXTURE LENGTHS. MOUNT BOTTOM OF FIXTURE AT 8'-0" A.F.F.
A1	PHILITE S12-D-WCB-8-218-SC-RW-OPEN-120-F-FC1	120	(2) 30W T8 PER 4' 3000K 86 CR. 2000 MEAN LUMENS	DIRECT/INDIRECT HIGH PERFORMANCE PENDANT MOUNTED LINEAR FLUORESCENT FIXTURE. REFER TO FLOOR PLANS FOR SECTION FIXTURE LENGTHS. MOUNT BOTTOM OF FIXTURE AT 8'-0" A.F.F. BALLAST SHALL HAVE A BALLAST FACTOR OF 0.88.
A1E	PHILITE S12-D-WCB-8-218-SC-RW-OPEN-120-F-FC1-080E-880	120	(2) 30W T8 PER 4' 3000K 86 CR. 2000 MEAN LUMENS	DIRECT/INDIRECT HIGH PERFORMANCE PENDANT MOUNTED LINEAR FLUORESCENT FIXTURE WITH 2000 LUMEN BATTERY PACK. REFER TO FLOOR PLANS FOR SECTION FIXTURE LENGTHS. MOUNT BOTTOM OF FIXTURE AT 8'-0" A.F.F. BALLAST SHALL HAVE A BALLAST FACTOR OF 0.88. EMERGENCY BATTERY PACK SHALL POWER BOTH LAMPS.
B	OMEGA LIGHTING SPEX S61H23249P-TL-TM2C2	120	(2) 20W FLT 3500K	0' OPEN RECESSED HORIZONTAL COMPACT FLUORESCENT DOWNLIGHT.
BE	OMEGA LIGHTING SPEX S61H23249P-TL-TM2C2	120	(2) 20W FLT 3000K	0' OPEN RECESSED HORIZONTAL COMPACT FLUORESCENT DOWNLIGHT WITH EMERGENCY BATTERY PACK
C	DAYRITE 2-0P-G-2-32-F5-21-120-1-E-85	120	(2) 32W T8 3500K 86 CR	2'X2' PRISMATIC ACRYLIC LENS FIXTURE
CE	DAYRITE 2-0P-G-2-32-F5-21-120-1-E-85	120	(2) 32W T8 3500K 86 CR	2'X2' PRISMATIC ACRYLIC LENS FIXTURE WITH EMERGENCY BATTERY PACK. EMERGENCY BATTERY PACK SHALL POWER BOTH LAMPS.
D	DAYRITE 2-0P-G-2-17-F5-21-120-1-E-85	120	(2) 17W T8 3500K 86 CR	2'X2' PRISMATIC ACRYLIC LENS FIXTURE
DE	DAYRITE 2-0P-G-2-17-F5-21-120-1-E-85	120	(2) 17W T8 3500K 86 CR	2'X2' PRISMATIC ACRYLIC LENS FIXTURE WITH EMERGENCY BATTERY PACK. EMERGENCY BATTERY PACK SHALL POWER BOTH LAMPS.
K	DAYRITE OWN-232-120-1-E-85	120	(2) 32W T8 3500K 86 CR	1'X4' SURFACE MOUNT ACRYLIC WRAP AROUND FIXTURE. PROVIDE LOW TEMPERATURE BALLASTS IN ATTIC.
HE	DAYRITE OWN-232-120-1-E-85	120	(2) 32W T8 3500K 86 CR	1'X4' SURFACE MOUNT ACRYLIC WRAP AROUND FIXTURE WITH EMERGENCY BATTERY PACK. EMERGENCY BATTERY PACK SHALL POWER BOTH LAMPS.

LIGHTING FIXTURE NOTES

- BIDS SHALL BE BASED ON THE LIGHTING FIXTURE SCHEDULE AND SPECIFICATIONS. SUBSTITUTIONS IF EQUAL BY LIGHTING AFFILIATES, LIGHTING SYSTEMS, INC., LANGKAS GROUP, APEX LIGHTING, AND VANGUARD LIGHTING SHALL BE ACCEPTED.
- ALL FIXTURES SHALL BE UL LISTED.
- HIGH FREQUENCY ELECTRONIC TYPE BALLASTS SHALL BE USED WITH ALL FLUORESCENT LAMPS WHEN POSSIBLE. ALL FLUORESCENT BALLASTS SHALL HAVE A MIN. POWER FACTOR OF 0.9. A CLASS A RATING WHERE POSSIBLE. BE UL LISTED AND BE ON THE NORTH-EAST UTILITIES LIST OF APPROVED BALLASTS. FLUORESCENT BALLASTS USED IN EXTERIOR FIXTURES SHALL HAVE A MIN. STARTING TEMPERATURE OF -20°.
- ALL NECESSARY MOUNTING HARDWARE, HANGERS, BRACKETS, RAILS, YOKES, STEMS, CHAINS, ETC., SHALL BE FURNISHED AND INSTALLED.
- REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC DETAILS, ARRANGEMENT, MOUNTING HEIGHTS, CEILING CONSTRUCTION, ETC. ALL COLORS AND FINISHES SHALL BE VERIFIED BY THE ARCHITECT.
- FIXTURES SHALL BE SEISMICALLY SUPPORTED AS REQUIRED BY THE CONNECTICUT BUILDING CODE.
- WIRE ALL BATTERY PACK UNITS (I.E. EXIT SIGNS AND EMERGENCY UNITS) TO LINE SIDE OF LOCAL LIGHTING BRANCH CIRCUIT. EMERGENCY BATTERY SHALL BE A MINIMUM 2 LAMP 1100 LUMEN OUTPUT, REMOTE MOUNT AS REQUIRED.
- MOUNT EXIT SIGN AND INTERNATIONAL SYMBOL OF ACCESSIBILITY SIGN NOT LESS THAN 8" OR MORE THAN 18" AFF AND ADJACENT TO THE DOOR WITH THE NEAREST EDGE WITH 4" OF DOOR.

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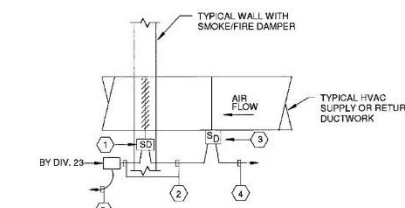
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ELECTRICAL ABBREVIATIONS NOTES & SYMBOLS



- NOTES:
- SMOKE/FIRE DAMPERS SHALL BE FURNISHED AND INSTALLED BY DIVISION 23. VERIFY EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 23. PROVIDE BOXES, PLATES, CONDUITS, WIRING AND LABOR FOR INSTALLATION OF STEP-DOWN TRANSFORMER IF FURNISH WITH DAMPER.
 - WIRING SHALL BE FURNISHED AND INSTALLED BY DIVISION 26. ALL WIRING SHALL BE #12 THHN.
 - DUCT SMOKE DETECTOR SHALL BE FURNISHED BY DIVISION 23 AND INSTALLED BY DIVISION 23. DETECTOR SHALL BE INSTALLED WITHIN 80° OF AIR INLET SIDE OF DAMPER.
 - WIRE TO NEAREST FIRE ALARM INITIATION LOOP BY DIVISION 26.
 - WIRE TO NEAREST 120V PANEL BY DIVISION 26. PROVIDE BREAKER HANDLE LOCKS FOR ALL BREAKERS SERVING SMOKE DAMPERS. CONNECT NO MORE THAN (4) SMOKE DAMPERS ON ONE CIRCUIT. ALL WIRING SHALL BE #12 THHN.
- DEDICATED OUTDOOR AIR COMBINATION SMOKE/FIRE DAMPER AND DETECTORS DETAIL N.T.S.

DATE: DEC. 1, 2010
PROJECT NO: 2010075.00
DRAWN: NJC
CHECKED: PUV
ISSUED FOR: CD
REVISIONS:
SCALE: As indicated

SHEET NO.



E0.0

Motor Circuit Schedule CH											
Mark	Model	Manufacturer	Panel	BREAKER	Circuit Number	VOLTAGE	Phase	FLA	DISCONNECT	DISCONNECT FUSE SIZE	FEEDER SIZE
CH-1	OSRAM	TRANE	TX-CHILLER		1	480 V	3	215.0 A	300A	300A	4/000 & 1/000 4"Ø

Motor Circuit Schedule Pump											
Mark	Model	Manufacturer	Panel	BREAKER	Circuit Number	VOLTAGE	Phase	FLA	DISCONNECT	DISCONNECT FUSE SIZE	FEEDER SIZE
PP-1			AC-2	20A-3P	15,17,19	208 V	3	3.7 A	15A	UNFUSED	3/12 & #120, 3/4"

Motor Circuit Schedule DOA											
Mark	Model	Manufacturer	Panel	BREAKER	Circuit Number	VOLTAGE	Phase	FLA	DISCONNECT	DISCONNECT FUSE SIZE	FEEDER SIZE
DOA-1	RTU-CDO-25	TRANE	MDP	175A	1	208 V	3	122.7 A	175A	UNFUSED	4/0 & #40, 2"Ø

Motor Circuit Schedule AHU											
Mark	Model	Manufacturer	Panel	BREAKER	Circuit Number	VOLTAGE	Phase	FLA	DISCONNECT	DISCONNECT FUSE SIZE	FEEDER SIZE
AHU-1	FCCB0605	TRANE	UNMARKED	20A-3P	1,2,5	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-2	FCCB0605	TRANE	UNMARKED	20A-3P	1,2,5	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-3	FCCB1005	TRANE	UNMARKED	20A-3P	2,4,6	208 V	3	2.0 A	15A	15A	3/12 & #120, 3/4"
AHU-4	FCCB1005	TRANE	UNMARKED	20A-3P	2,4,6	208 V	3	2.0 A	15A	15A	3/12 & #120, 3/4"
AHU-5	FCCB1005	TRANE	UNMARKED	20A-3P	2,4,6	208 V	3	2.0 A	15A	15A	3/12 & #120, 3/4"
AHU-6	FCCB1005	TRANE	UNMARKED	20A-3P	2,4,6	208 V	3	2.0 A	15A	15A	3/12 & #120, 3/4"
AHU-21	FCCB0605	TRANE	AC-2	20A-3P	7,9,11	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-22	FCCB0605	TRANE	AC-2	20A-3P	7,9,11	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-23	FCCB0605	TRANE	AC-2	20A-3P	7,9,11	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-24	FCCB0605	TRANE	AC-2	20A-3P	7,9,11	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-25	FCCB0605	TRANE	AC-2	20A-3P	2,4,6	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-26	FCCB0605	TRANE	AC-2	20A-3P	2,4,6	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-27	FCCB1005	TRANE	AC-2	20A-3P	2,4,6	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-28	FCCB1005	TRANE	AC-2	20A-3P	2,4,6	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-29	FCCB0605	TRANE	AC-2	20A-3P	2,4,6	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-31	FCCB1205	TRANE	UNMARKED	20A-3P	5,10,12	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-32	FCCB1205	TRANE	UNMARKED	20A-3P	5,10,12	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-33	FCCB1205	TRANE	UNMARKED	20A-3P	5,10,12	208 V	3	2.0 A	15A	15A	3/12 & #120, 3/4"
AHU-104	FCCB1205	TRANE	RP1	20A-3P	2,4,6	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-105	FCCB1205	TRANE	RP1	20A-3P	2,4,6	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-106	FCCB1205	TRANE	RP1	20A-3P	2,4,6	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-111	FCCB0605	TRANE	AC-3	20A-3P	13,15,17	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-112	FCCB0605	TRANE	AC-3	20A-3P	13,15,17	208 V	3	1.2 A	15A	15A	3/12 & #120, 3/4"
AHU-108	FCCB0605	TRANE	AC-3	20A-3P	13,15,17	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-127	FCCB0605	TRANE	AC-3	20A-3P	13,15,17	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-204	FCCB0605	TRANE	PP2	20A-3P	1,3,5	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-205	FCCB1005	TRANE	PP2	20A-3P	1,3,5	208 V	3	2.0 A	15A	15A	3/12 & #120, 3/4"
AHU-206	FCCB0605	TRANE	PP2	20A-3P	1,3,5	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-207	FCCB1205	TRANE	PP2	20A-3P	1,3,5	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-239	FCCB0605	TRANE	UNMARKED	20A-3P	5,10,12	208 V	3	1.4 A	15A	15A	3/12 & #120, 3/4"
AHU-141	BCHC036E	TRANE	AC-2	15A-2P	1,3,5	208 V	3	1.8 A	15A	15A	3/12 & #120, 3/4"
AHU-142	BCHC036E	TRANE	AC-2	15A-2P	1,3,5	208 V	3	1.8 A	15A	15A	3/12 & #120, 3/4"
AHU-143	BCHC036E	TRANE	AC-2	15A-2P	5,10,12	208 V	3	3.0 A	15A	15A	3/12 & #120, 3/4"
AHU-CA1											