

The Shepaug Valley & Agriscience School

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Indoor Air Quality (IAQ) Evaluation and HVAC Systems Assessment

van Zelm Project # 2024005.00
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The Shepaug Valley & Agriscience School

INDOOR AIR QUALITY (IAQ) EVALUATION AND HVAC SYSTEMS ASSESSMENTS

EXECUTIVE SUMMARY

The following Findings Report is an overview of the heating, ventilation, and air conditioning (HVAC) systems and operations that has an impact on building ventilation and indoor air quality to support a healthy learning environment in your school. The report's focus, however, relates to occupied areas indoor ventilation and the compliance or non-compliance of this school with current ASHRAE-62.1, (2010) guidelines regarding Ventilation for Acceptable Indoor Air Quality for Schools.

Building Overview

The Shepaug Valley & Agriscience School, a Regional Public School located in Washington, CT, serves grade(s) 6-12 in Regional School District 12. It serves approximately 472 Students with 119 enrolled in the Agriscience program. There have been substantial revisions to the original HVAC and control systems from the early 70's, with most systems either newly added in 2018 and upgraded in 2020 time line.

HVAC System Overview

The building HVAC systems that were evaluated for operational performance, determination of overall condition, and included in our ventilation Testing Adjusting and Balancing (TAB) services are referenced within the attached Appendices.

Additional Information Related to HVAC Systems

The available equipment data and visual inspections indicate that all the Rooftop, Air Handling Heating, Cooling, Ventilation Units and distribution equipment have been maintained exceptionally and in very good operational condition.

van Zelm along with Wings Testing and Balancing performed the on-site inspections during the months of June-July 2024. The goal of this study is primarily focused towards addressing the operational conditions and outside air and outside air change rates of the occupied spaces. Although there are code exhaust air requirements for spaces like storage rooms, electrical rooms, mechanical rooms, etc., these spaces are often not directly ventilated with outside air, nor are they required to be since they typically have no occupancy. These non-occupied spaces typically do not affect building occupied areas as they are typically provided with some form of exhaust creating a negative pressure on the surrounding area. Unoccupied space exhaust may impact outside air infiltration into occupied areas; however, this would typically be limited and even though we had gathered data within these areas, it is not included in occupied spaces ventilation calculations. Should the School District pursue any Phase II activities for the building including recommissioning, balancing, and controls upgrades, these spaces could then be addressed as a component of that process.

Preliminary findings from the IAQ inspections and air-side Testing Adjusting and Balancing (TAB) to date found and documented issues that could be addressed immediately to improve building environmental control, reduce energy usage, and improve building ventilation compliance with the 2010 version of the ASHRAE-62.1, (2010) guidelines. Although there are very similar guidelines and regulations put forward by publications such as the International Mechanical Code that focuses on guidelines and directives to help achieve healthy well-ventilated buildings, the State program requires that

ASHRAE-62.1, (2010) ventilation guidelines be used in this study calculations. It should be noted that often suggested changes to HVAC systems to improve ventilation could increase energy costs; in some cases, this increase could be significant. Measures should be considered that offset this additional energy use with control upgrades that adjust ventilation systems based on use and measured values. The remainder of this report will address these concerns directly and provide a path forward for The Shepaug School.

EVALUATION

For the purposes of this study, our findings address identified few deficiencies or concerns related to overall school building ventilation, inherent capability of systems to achieve needed ventilation and operational performance of the site HVAC systems. Based on our findings, we offer some beneficial insight and recommendations as follows:

AHSRAE-62.1, (2010) Compliance

Our field observations indicate a mixture of ventilation compliances, with many of the individual occupied spaces at this school determined to not be resulting in meeting the applicable building codes or guidelines regarding indoor air quality and outdoor ventilation.

The ideal supply of outside air to interior occupied spaces should be based upon the 2018 Connecticut Building Code, which is based on the most currently adopted 2015 International Mechanical Code and coincides with ASHRAE-62.1, (2010) guidelines. These codes and guidelines prescribe the flow rate of outside air that must be supplied mechanically to occupied areas based on occupancy classifications. Depending on the type of use of a space, outdoor air flow rates in cubic feet per minute (CFM) per person are defined when the number of occupants within a space is known. When total occupants per space are unknown, the code defines occupant density for each classification type in number of occupants per space floor area. The final flow rate in CFM for every occupied space can thus be calculated. Please note that, although this is a school, the (CFM) per person requirements for some spaces such as an office may utilize the same occupancy classification ventilation rate of a commercial office space, as the rates are the same regardless on type of building. This applies to nearly every space that is not considered a space for traditional classroom activities including, but not limited to, nurse and healthcare offices, gymnasium, assembly halls, etc.

It shall be noted that this school does not currently utilize automatic space Carbon Dioxide (CO₂) Demand Controlled Ventilation (DCV) to increase or decrease outdoor ventilation air into areas based upon CO₂ levels within the spaces. There is an absolute correlation between CO₂ levels and cubic feet per minute (CFM) of ventilation air per person that could be controlled by the Building Automation System (BAS) to meet ASHRAE 62.1 (2016) indoor ventilation requirements for schools that should be understood! The accepted formula to calculate CFM/Person utilizes: Outdoor CO₂ level in ppm, Measured Indoor CO₂ level in ppm, and CO₂ Generation Rates (CFM) for different metabolic rates by age and activity level i.e., CO₂ generation by an individual for a classroom would be lower than within an art room. Active DCV control is an acceptable alternate method to determine if ventilation requirements are met and could supersede rooms that may fail otherwise using traditional measured data collection procedures prescribed by established ASHRAE guidelines!

As an alternative to providing outside air mechanically to occupied spaces, the code and guidelines also allows for outside air to enter occupied areas naturally through operable windows. If the area of operable windows for an occupied space is at least 4% of the space's floor area, mechanical ventilation for that space is not required by code. However, although even if there are spaces with sufficient operable window area may satisfy code requirements, this is not a realistic way of providing adequate ventilation

during periods of cold or hot weather, and this often adversely affects the temperature and humidity levels within the building.

The amount of outside air supplied to occupied spaces is important for occupant comfort and health because contaminants generated by people and materials in the space must be removed or they will build up to undesirable or unhealthy levels. It should be noted that diluting interior air with outside air reduces the concentration of various airborne contaminants, including viral particles that carry the COVID-19 virus and other viral and bacterial contaminants.

Outside Air Flow and Air Change Rate Findings

By individual space area/volume measurements and ventilation air being delivered, it could then be determined if spaces conform to the requirements within codes / guidelines and the results are calculated based on individual space classification and category. Additionally, these readings should be based upon “worst case” scenario, whereby each space is considered fully occupied and the associated air handling units are operating with minimum outside air to satisfy the controlled parameters. The reason for using this method is to ensure that if a building can maintain required outside air flow in this minimum ventilation mode, it will maintain them when more outside air is introduced. It does not necessarily mean that the units will handle thermal or humidity regulation in maximum ventilation modes, which should be considered prior to any system modifications. As a caveat, it is important to understand that forcing the worst case is not necessarily typical building operation but is necessary to discover root issues behind the ventilation control of the building. It is possible that making changes regarding outside airflow may cause other issues to be revealed, which in turn may require additional analysis.

The data collected in this study will provide a quantitative conclusion about how well the building performs regarding ventilation air introduction and distribution throughout the schools. For the occupied zones within these buildings, the total minimum required ventilation airflow will be calculated. The planned continuation TAB activity will attempt to determine the total delivered outside air for the best possible case by operating the units in 100% outside air mode to simulate the systems had the ability to function in this mode. Using this method along with room volumes and occupancy will reveal the potential amount of outside air is delivered to the spaces, and if it meets current ventilation codes.

A common calculation used for measuring the amount of air that is exchanged through space every hour is the Air Change Rate (ACH), and for this analysis specifically we are concerned with the Outside Air Change Rate (OACH). At its core, this is a ratio of the volume of air that can theoretically completely fill the volume of each space and how many times it can do that every hour. For example, a 1000 ft² room with 10 ft ceilings will have a volume of 10,000 ft³. If 250 CFM is delivered to this space, that results in 15,000 ft³ of air. Every hour, the space will be flushed with that much air, resulting in an ACH of 1.5. This number on its own will not determine if a space satisfies code requirements and it does not mean that every molecule of the air in that space has been replaced after the hour, but it helps to give an idea into the type of performance that could be expected and there are guidelines for many spaces regarding the OACH. While general spaces like classrooms and offices are among the space categories that do not have outside air ACH code requirements, these rates help to give some insight into overall performance. Current recommendations prescribe a total ACH of at least 3 throughout the building.

Outside Air Flow Improvements

It is possible that based upon study findings some remedial action could be suggested to improve the HVAC systems’ operation and overall environmental control. These measures alone may help to ensure required outside ventilation air will be delivered to spaces that currently have a deficit and could improve overall building ventilation performance as a result. Due to the age of the building and changes over the

years in occupancy, systems, and codes, considerations for HVAC and controls modifications may be in order.

Aside from the above, since the emergence of the COVID-19 virus in December 2019, the specific requirements and precautions taken regarding outside air have become more stringent. For example, ASHRAE has been continuously investigating the transmission of COVID-19 through HVAC systems and has made recommendations on how to adapt existing HVAC systems to minimize transmission of COVID-19. Changes to building systems to address the virus also positively improve the performance of the ventilation systems with handling the filtration of other particulate that directly impacts building air quality. On April 14, 2020, ASHRAE released a document “ASHRAE Position Document on Infectious Aerosols”. ASHRAE also gave a presentation on June 16, 2020, regarding Recommendations and Activities for re-opening schools for the fall 2020 academic semester. These ASHRAE recommendations remain relevant as COVID and other contaminants that impact indoor air quality continue to remain a concern.

General Recommendations to Improve Schools Performance

Based upon the schools HVAC systems configurations, implementation of occupied spaces CO₂ based Demand Control Ventilation followed up with Retro-commissioning of the building mechanical and control systems would typically recommend for energy savings and improved ventilation.

Typical Equipment Upgrades

Generally, the more outside air that can be supplied to occupied areas, the better. Existing HVAC systems, where practical, should have outside air flow rates increased above current setpoints if determined required and have the ability. Even units that currently meet code requirements for ventilation flow rates could be increased if there is not a negative energy impact but should not be increased beyond the capacity of the unit to heat or cool the air. Total space air change rates (ACH) should also be increased to the extent possible along with increases in outside air flow to better remove contaminants from the air. If a unit at maximum fan speeds is still incapable of providing at least the minimum ventilation or ACH required, then the system should be evaluated further to determine the best solution such as system air distribution modifications, or the installation of a self-contained HEPA filtration unit in areas where increasing fresh air is limited.

Other considerations to help improve the indoor air quality could include where HVAC systems allow the implementation of supplemental air cleaning technology, such as ultraviolet-C (UV-C) light or bi-polar ionization.

General Air Handling Unit Upgrade or Replacement

Most of the major HVAC systems in the school have been upgraded or replaced between 2018 and 2020, and other than some identified air distribution deficiencies are in excellent condition. HVAC Systems typically have a lifespan of 20-25 years if properly maintained. It would be expected based on our findings that the Facility Staff will do an excellent job keeping these units operating throughout the forthcoming years.

Field Study Findings & General Comments

General Comments:

- Keep all dampers and linkages cleaned and lubricated to allow free movement and reduce potential damage to actuators or linkages. Replace damper and damper seals where necessary.
- With some systems identified with excessive duct leakage, repairing and sealing supply and return air ductwork with help improve delivering of ventilation air to served spaces.

- Check heating and cooling coils for cleanliness and integrity. Clean coils as required to increase heat transfer performance.
- HVAC unit final filters should maintain a minimum MERV rating of 11 or higher and changed at regular intervals determined by BMS measured pressure drop, area served, or equipment operation.

Detailed in the attached appendix are our high-level observations of identified equipment unit information and overall operational notations.

CONCLUSIONS

The School District clearly has taken measures over the years to upgrade and maintain the HVAC systems in the two buildings and should be commended for being proactive over the years. Region 12 School District may want to consider capitol budgeting for implementing C02 Demand Control Ventilation (DCV) on Rooftop and Air Handling equipment to further enhance overall indoor air quality (IAQ) and improve the learning environment.

As the accompanying compliance spreadsheet results show, this ventilation study found that The Shepaug School does not meet the current minimum ventilation requirements per ASHRAE-62.1, (2010) in all areas.

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Appendix 1

Ventilation Data Calculations



Project Name:	Region 12-Shepaug High School
Project Number:	2024005.00
Scope	Ventilation Calculation by Building
Date	September 26, 2024



Zone Identification												ASHRAE-62.1, (2010) Ventilation Calculations								
Floor	Room#	Room Name	Occupancy Classification	Category	Total Airflow	Unit Actual OA %	BAS OA Damper Cond	Served By	Zone Area, Az, per space	Ceiling Height	Volume, per space	Zone Population, Pz, per space	People OA Rate in Breathing Zone, Rp	Area OA Rate in Breathing Zone, Ra	Default Occupant Density	Min. Required Ventilation Airflow	ACTUAL MEASURED VENTILATION AIR FLOW	Meets Current required airflow?	Ventilation ACH	DCV?
					(cfm)	(%)	(%)		(sq.ft)	(ft)	(cu.ft)	Adult	(cfm/ person)	(cfm/sf)	(#/1000sf)	(cfm)	(cfm)	Yes/No/N/A	(AC/hr)	
1	1	OFFICE	Offices	Reception Areas	553	7.50%	15%	AC-2	808	8.6	6948.8	5	5.0	0.06	30	73	40	No	0.345	No
1	2	PRINCIPAL	Offices	Office spaces	438	7.50%	15%	AC-2	354	8.6	3044.4	8	5.0	0.06	5	61	33	No	0.650	No
1	3	CONFERENCE	Offices	Conference rooms	205	7.50%	15%	AC-2	235	8.6	2021	11	5.0	0.06	50	69	15	No	0.445	No
1	4	OFFICE	Offices	Office spaces	109	7.50%	15%	AC-2	152	8.6	1307.2	2	5.0	0.06	5	19	8	No	0.367	No
1	5	EXAM	Offices	Office spaces	252	7.50%	15%	AC-2	209	8.6	1797.4	4	5.0	0.06	5	33	19	No	0.634	No
1	6	OFFICE	Offices	Office spaces	158	7.50%	15%	AC-2	106	8.6	911.6	2	5.0	0.06	5	16	12	No	0.790	No
1	7	REST (HEALTH ROOM)	Offices	Office spaces	129	7.50%	15%	AC-2	109	8.6	937.4	2	5.0	0.06	5	17	10	No	0.640	No
1	8	OFFICE	Offices	Office spaces	369	7.50%	15%	AC-2	222	8.6	1909.2	2	5.0	0.06	5	23	28	Yes	0.880	No
1	9	COUNCELOR	Offices	Office spaces	264	7.50%	15%	AC-2	117	8.6	1006.2	3	5.0	0.06	5	22	20	No	1.193	No
1	10	WORK ROOM	Offices	Conference rooms	226	7.50%	15%	AC-2	90	8.6	774	0	5.0	0.06	50	28	17	No	1.318	No
1	11	OFFICES	Offices	Office spaces	1034	7.50%	15%	AC-2	497	8.6	4274.2	10	5.0	0.06	5	80	78	No	1.095	No
1	12	CONFERENCE	Offices	Conference rooms	458	7.50%	15%	AC-2	253	8.6	2175.8	9	5.0	0.06	50	60	34	No	0.938	No
1	13	WAITING	Offices	Reception Areas	500	7.50%	15%	AC-2	223	8.6	1917.8	3	5.0	0.06	30	28	38	Yes	1.189	No
1	14	GUIDANCE	Offices	Office spaces	266	7.50%	15%	AC-2	106	8.6	911.6	2	5.0	0.06	5	16	20	Yes	1.316	No
1	15	OFFICE	Offices	Office spaces	206	7.50%	15%	AC-2	100	8.6	860	2	5.0	0.06	5	16	16	Yes	1.116	No
1	B-14	CLASSROOM	Education	Classroom (ages 9+)	516	7.50%	15%	AC-2	580	9.2	5336	16	10.0	0.12	35	230	39	No	0.439	No
1	B15	Science	Education	Classroom (ages 9+)	592	7.50%	15%	AC-2	942	9.2	8666.4	23	10.0	0.12	35	343	45	No	0.312	No
1	B16	CLASSROOM	Education	Classroom (ages 9+)	316	7.50%	15%	AC-2	464	9.2	4268.8	13	10.0	0.12	35	186	24	No	0.337	No
1		Book Storage	Storage	Warehouses	40	8%	15%	AC-1	250	10	2500	0	0.0	0.06	0	15	3.2	No	0.077	No
1	B17	Group Rm East	Education	Classroom (ages 9+)	3080	8%	15%	AC-1	1749	14.5	25360.5	75	10.0	0.12	35	960	246	No	0.582	No
1	B10	CLASSROOM	Education	Classroom (ages 9+)	895	82%	15%	AC-3	734	9.6	7046.4	22	10.0	0.12	35	308	75	No	0.639	No
1	B9	CLASSROOM	Education	Classroom (ages 9+)	962	82%	15%	AC-3	750	9.6	7200	26	10.0	0.12	35	350	29	No	0.242	No
1	B12	CLASSROOM	Education	Classroom (ages 9+)	210	31%	15%	RTU-9 VAV-3	558	8.3	4631.4	13	10.0	0.12	35	197	65	No	0.842	No
1	B11	CLASSROOM	Education	Classroom (ages 9+)	328	82%	15%	AC-3	621	9.6	5961.6	21	10.0	0.12	35	285	64	No	0.644	No
1	B8	CLASSROOM	Education	Classroom (ages 9+)	772	82%	15%	AC-3	800	9.6	7680	27	10.0	0.12	35	366	170	No	1.328	No
1	19	CLASSROOM	Education	Classroom (ages 9+)	185	82%	15%	AC-3	434	9.6	4166.4	15	10.0	0.12	35	202	155	No	2.232	No
1		CARRER CENTER	Education	Media Center	62	31%	15%	RTU-9 VAV-2	356	8.3	2954.8	9	10.0	0.12	25	133	19	No	0.386	No
1		LIBRARY (READING AREA)	Education	Media Center	7430	Vari 82, 100, 17, 100	15%	AC-3,4,7,8	12557		146630	40	10.0	0.12	25	1907	5573	Yes	2.280	No
1	A3	CLASSROOM	Education	Classroom (ages 9+)	1605	17%	15%	AC-7	1150	9.6	11040	23	10.0	0.12	35	368	273	No	1.484	No
1	A5	CLASSROOM	Education	Classroom (ages 9+)	2259	17%	15%	AC-7	1017	9.6	9763.2	26	10.0	0.12	35	382	384	Yes	2.360	No
1	A2	CLASSROOM	Education	Classroom (ages 9+)	1273	17%	15%	AC-7	745	9.6	7152	16	10.0	0.12	35	249	216	No	1.812	No
1	A1	CLASSROOM	Education	Classroom (ages 9+)	1297	17%	15%	AC-7	831	9.6	7977.6	23	10.0	0.12	35	330	220	No	1.655	No
1	A7	CLASSROOM	Education	Classroom (ages 9+)	136	17%	15%	AC-7	572	9.6	5491.2	15	10.0	0.12	35	219	23	No	0.251	No

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					(cfm)	(%)	(%)		(sq.ft)	(ft)	(cu.ft)	Adult	(cfm/ person)	(cfm/sf)	(#/1000sf)	(cfm)	(cfm)	Yes/No/N/A	(AC/hr)	
1	A6	CLASSROOM	Education	Classroom (ages 9+)	593	17%	15%	AC-7	623	9.6	5980.8	21	10.0	0.12	35	285	101	No	1.013	No
1	A4	CLASSROOM	Education	Classroom (ages 9+)	847	17%	15%	AC-7	1020	9.6	9792	21	10.0	0.12	35	332	144	No	0.882	No
1		LAB 1	Education	Science Laboratories	569	78%	15%	RTU-11 VAV-11-3 LEF-2	1395	8.6	11997	25	10.0	0.18	25	501	444	No	2.221	No
1		LAB 2	Education	Science Laboratories	1470	34%	15%	RTU-12	1392	8.6	11971.2	26	10.0	0.18	25	511	500	No	2.506	No
1		LAB 3	Education	Science Laboratories	473	78%	15%	RTU-11 VAV-11-3 LEF-3	1361	8.3	11296.3	25	10.0	0.18	25	495	369	No	1.960	No
1		LAB 4	Education	Science Laboratories	1205	34%	15%	RTU-12	1343	8.3	11146.9	25	10.0	0.18	25	492	410	No	2.207	No
1		PLANT SCIENCE	Education	Science Laboratories	1072	34%	15%	RTU-12	1006	8.1	8148.6	15	10.0	0.18	25	331	365	Yes	2.688	No
1		FLORAL MARKETING	Education	Art Classroom	472	31%	15%	RTU-9 VAV-4	789	8.1	6390.9	16	10.0	0.18	20	302	146	No	1.371	No
1		HEAD HOUSE	None	None	---	---	---	---			0		0.0	0.00	0	0	---	N/A		No
1		GREEN HOUSE	None	None	---	---	---	EX-1,2,3,4			0		0.0	0.00	0	0	---	N/A		No
1		LAB PREP/CHEM STOR	Education	Science Laboratories	110	78%	15%	RTU-11 VAV-1 LEF	608	9	5472	2	10.0	0.18	25	129	86	No	0.943	No
1		SPARE	None	None	---	---	---	---			0		0.0	0.00	0	0	---	N/A		No
1	d	CONFERENCE	Offices	Conference rooms	110	100%	15%	AC-4	176	8.9	1566.4	3	5.0	0.06	50	26	110	Yes	4.213	No
1	D33	CLASSROOM	Education	Classroom (ages 9+)	605	100%	15%	AC-4	447	9.6	4291.2	12	10.0	0.12	35	174	605	Yes	8.459	No
1	D24	CLASSROOM	Education	Classroom (ages 9+)	1810	100%	15%	AC-4	992	9.6	9523.2	27	10.0	0.12	35	389	1810	Yes	11.404	No
1	D27	CLASSROOM	Education	Classroom (ages 9+)	1107	100%	15%	AC-4	625	9.6	6000	24	10.0	0.12	35	315	1107	Yes	11.070	No
1	D25	CLASSROOM	Education	Classroom (ages 9+)	976	100%	15%	AC-4	750	9.6	7200	24	10.0	0.12	35	330	976	Yes	8.133	No
1	D26	CLASSROOM	Education	Classroom (ages 9+)	1107	100%	15%	AC-4	750	9.6	7200	26	10.0	0.12	35	350	1107	Yes	9.225	No
1		SPARE	None	None	---	---	---	---			0		0.0	0.00	0	0	---	N/A		No
1	D32	Group Room West	Education	Lecture hall (fixed seats)	2942	12%	15%	AC-9	1749	14.5	25360.5	40	7.5	0.06	150	405	353	No	0.835	No
1	D34	Projector Room	Education	Computer lab	114	21%	15%	AC-10	236	10	2360	6	10.0	0.12	25	88	24	No	0.610	No
1	D31	Business/Word Processing	Education	Classroom (ages 9+)	933	21%	15%	AC-10	956	9	8604	22	10.0	0.12	35	335	196	No	1.367	No
1	D35	CLASSROOM	Education	Classroom (ages 9+)	504	21%	15%	AC-10	467	9	4203	10	10.0	0.12	35	156	106	No	1.513	No
1	D30	CLASSROOM	Education	Classroom (ages 9+)	614	21%	15%	AC-10	567	9	5103	12	10.0	0.12	35	188	129	No	1.517	No
1	#1C	OFFICE	Offices	Office spaces	196	21%	15%	AC-10	100	8.6	860	2	5.0	0.06	5	16	41	Yes	2.860	No
1	#2C	OFFICE	Offices	Office spaces	196	21%	15%	AC-10	100	8.6	860	3	5.0	0.06	5	21	41	Yes	2.860	No
1	#3C	OFFICE	Offices	Office spaces	246	21%	15%	AC-10	218	8.6	1874.8	5	5.0	0.06	5	38	52	Yes	1.664	No
1	#4C	OFFICE	Offices	Office spaces	402	21%	15%	AC-10	253	8.6	2175.8	5	5.0	0.06	5	40	84	Yes	2.316	No
1	#5C	WAITING	Offices	Reception Areas	796	21%	15%	AC-10	435	8.6	3741	4	5.0	0.06	30	46	167	Yes	2.678	No
1	#6C	OFFICE	Offices	Office spaces	302	21%	15%	AC-10	218	8.6	1874.8	5	5.0	0.06	5	38	63	Yes	2.016	No
1	#7C	CONFERENCE	Offices	Conference rooms	323	21%	15%	AC-10	211	8.6	1814.6	12	5.0	0.06	50	73	68	No	2.248	No
1	#8C	WORK RM	Offices	Conference rooms	285	21%	15%	AC-10	112	7.9	884.8	2	5.0	0.06	50	17	60	Yes	4.069	No
1	C20	CLASSROOM	Education	Classroom (ages 9+)	619	100%	15%	AC-8	955	9.6	9168	24	10.0	0.12	35	355	619	Yes	4.051	No

Project Name:	Region 12-Shepaug High School
Project Number:	2024005.00
Scope	Ventilation Calculation by Building
Date	September 26, 2024



Zone Identification												ASHRAE-62.1, (2010) Ventilation Calculations								
Floor	Room#	Room Name	Occupancy Classification	Category	Total Airflow	Unit Actual OA %	BAS OA Damper Cond	Served By	Zone Area, Az, per space	Ceiling Height	Volume, per space	Zone Population, Pz, per space	People OA Rate in Breathing Zone, Rp	Area OA Rate in Breathing Zone, Ra	Default Occupant Density	Min. Required Ventilation Airflow	ACTUAL MEASURED VENTILATION AIR FLOW	Meets Current required airflow?	Ventilation ACH	DCV?
					(cfm)	(%)	(%)		(sq.ft)	(ft)	(cu.ft)	Adult	(cfm/ person)	(cfm/sf)	(#/1000sf)	(cfm)	(cfm)	Yes/No/N/A	(AC/hr)	
1	C21	CLASSROOM	Education	Classroom (ages 9+)	556	100%	15%	AC-8	605	9.6	5808	23	10.0	0.12	35	303	556	Yes	5.744	No
1	C25	CLASSROOM	Education	Classroom (ages 9+)	286	100%	15%	AC-8	426	9.6	4089.6	10	10.0	0.12	35	151	286	Yes	4.196	No
1	C-22,24	CLASSROOM	Education	Classroom (ages 9+)	802	100%	15%	AC-8	1133	9.6	10876.8	29	10.0	0.12	35	426	802	Yes	4.424	No
1		Spare	None	None	---				0	0	0		0.0	0.00	0	N/A	---	N/A	N/A	No
1	C18	CLASSROOM	Education	Classroom (ages 9+)	450	100%	15%	AC-8	780	9.6	7488	22	10.0	0.12	35	314	450	Yes	3.606	No
1	C19	CLASSROOM	Education	Classroom (ages 9+)	639	100%	15%	AC-8	750	9.6	7200	22	10.0	0.12	35	310	639	Yes	5.325	No
1	C17	CLASSROOM	Education	Classroom (ages 9+)	1053	8%	15%	AC-11	1060	9.7	10282	25	10.0	0.12	35	377	79	No	0.461	No
1		CAFETERIA	Food and beverage service	Dining Rooms	18603	8%	15%	AC-11	6080	14	85120	264	7.5	0.18	70	3074	1395	No	0.983	No
1	C26	FACULTY DINING	Food and beverage service	Dining Rooms	715	8%	15%	AC-11	565	9.5	5367.5	19	7.5	0.18	70	244	54	No	0.604	No
1		KITCHEN	Food and beverage service	Kitchens (cooking)	1982	0	N/A	UV- 1,2, KEF	1087	9.7	10543.9	6	0.0	0.00	0	0	0	N/A	0.000	No
1		STAFF-Multi-Purpose	Education	Computer lab	4210	15%	15%	AC-5	5706	9.4	53636.4	70	10.0	0.12	25	1385	632	No	0.707	No
1	C23	LIBRARY WORK ROOM C23	Offices	Office spaces	638	100%	15%	AC-8	487	9.6	4675.2	17	5.0	0.06	5	114	638	Yes	8.188	No
1		SRO-Mike Epps	Offices	Office spaces	470	15%	15%	AC-5	323	9.6	3100.8	4	5.0	0.06	5	39	71	Yes	1.374	No
1		OFFICESchool Psyc.	Offices	Office spaces	97	15%	15%	AC-5	136	9.6	1305.6	3	5.0	0.06	5	23	15	No	0.689	No
1		A/V WORKROOM	Education	Computer lab	530	15%	15%	AC-5	1016	9.4	9550.4	4	10.0	0.12	25	162	80	No	0.503	No
1		PLANETARIUM	Education	Lecture hall (fixed seats)	1855		15%	AC-12	754	10	7540	30	7.5	0.06	150	270	334	Yes	2.658	No
1		MALL	Education	Corridors (see Public Spaces)	8109	10%	15%	AC-13	10781	15	161715	35	0.0	0.00	0	0	810	N/A	0.301	No
1		AUDITORIUM & STAGE	Education	Auditoriums	9952	5%	15%	AC-15	8544	24	205056	504	5.0	0.06	150	3033	541	No	0.158	No
1		WOMENS ROOM	Public Spaces	Toilet rooms - public	---	---	---	EF-16			0		0.0	0.00	0	0	---	N/A		No
1		MENS ROOM	Public Spaces	Toilet rooms - public	---	---	---	EF-16			0		0.0	0.00	0	0	---	N/A		No
1		STAGE (Part of Auditorium)	Education	Music/theater/dance	---	---	---	EF-14			0		10.0	0.06	35	0	---	N/A		No
1	E1	M.S. ART ROOM	Education	Art Classroom	1258	77%	5%	HV-7	1838	9.345	17176.11	24	10.0	0.18	20	571	969	Yes	3.385	No
1	E2	H.S. ART ROOM	Education	Art Classroom	1453	77%	5%	HV-7	2235	9.3	20785.5	22	10.0	0.18	20	622	1112	Yes	3.210	No
1		CERAMICS	Education	Art Classroom	553	77%	5%	HV-7	485	9	4365	8	10.0	0.18	20	167	426	Yes	5.856	No
1		CLASSROOM-1	Education	Classroom (ages 9+)	327	77%	5%	HV-7	461	9.2	4241.2	6	10.0	0.12	35	115	252	Yes	3.565	No
1		STORAGE / OFFICE	Offices	Office spaces	83	77%	5%	HV-7	68	9.3	632.4	1	5.0	0.06	5	9	64	Yes	6.072	No
1		TV-STUDIO	Theaters	Stages, studios	714	77%	5%	HV-7	1030	9.3	9579	5	10.0	0.06	70	112	550	Yes	3.445	No
1		EDITING	Theaters	Stages, studios	344	77%	5%	HV-7	419	9.2	3854.8	15	10.0	0.06	70	175	265	Yes	4.125	No
1		CENTER OFFICE	Offices	Office spaces	205	77%	5%	HV-7	248	9.3	2306.4	1	5.0	0.06	5	20	158	Yes	4.110	No
1	E3	LIFE SKILLS	Education	Art Classroom	758	77%	5%	HV-7	1020	9.3	9486	20	10.0	0.18	20	384	584	Yes	3.694	No
1	E4	CHORAL	Education	Music/theater/dance	656	0	5%	AC-14	1260	13	16380	20	10.0	0.06	35	276	0	No	0.000	No

Project Name:	Region 12-Shepaug High School
Project Number:	2024005.00
Scope	Ventilation Calculation by Building
Date	September 26, 2024



Zone Identification												ASHRAE-62.1, (2010) Ventilation Calculations								
Floor	Room#	Room Name	Occupancy Classification	Category	Total Airflow	Unit Actual OA %	BAS OA Damper Cond	Served By	Zone Area, Az, per space	Ceiling Height	Volume, per space	Zone Population, Pz, per space	People OA Rate in Breathing Zone, Rp	Area OA Rate in Breathing Zone, Ra	Default Occupant Density	Min. Required Ventilation Airflow	ACTUAL MEASURED VENTILATION AIR FLOW	Meets Current required airflow?	Ventilation ACH	DCV?
					(cfm)	(%)	(%)		(sq.ft)	(ft)	(cu.ft)	Adult	(cfm/ person)	(cfm/sf)	(#/1000sf)	(cfm)	(cfm)	Yes/No/N/A	(AC/hr)	
1	#1	PRACTICE-	Education	Music/theater/dance	78	0	5%	AC-14	63	8.3	522.9	1	10.0	0.06	35	14	0	No	0.000	No
1	#2	PRACTICE-	Education	Music/theater/dance	179	0	5%	AC-14	70	8.3	581	1	10.0	0.06	35	14	0	No	0.000	No
1	#3	PRACTICE-	Education	Music/theater/dance	73	0	5%	AC-14	71	8.3	589.3	1	10.0	0.06	35	14	0	No	0.000	No
1	#4	PRACTICE-	Education	Music/theater/dance	43	0	5%	AC-14	50	8.2	410	1	10.0	0.06	35	13	0	No	0.000	No
1	#5	PRACTICE-Office Set-up	Offices	Office spaces	37	0	5%	AC-14	146	8.3	1211.8	3	5.0	0.06	5	24	0	No	0.000	No
1	#6	OFFICE- Studio Sound	Offices	Office spaces	183	0	5%	AC-14	190	8.3	1577	3	5.0	0.06	5	26	0	No	0.000	No
1	#7	OFFICE	Offices	Office spaces	177	0	5%	AC-14	78	8	624	1	5.0	0.06	5	10	0	No	0.000	No
1	#8	CUSTODIAL OFFICE	Offices	Office spaces	169	0	5%	AC-14	280	8.9	2492	6	5.0	0.06	5	47	0	No	0.000	No
1	#9	STAGE STORAGE-Prop Storage	Storage	Warehouses	460	0	5%	AC-14	797	14	11158	3	0.0	0.06	0	48	0	No	0.000	No
1	#10	STRG-Storage	Storage	Warehouses	118	0	5%	AC-14	365	8.3	3029.5	1	0.0	0.06	0	22	0	No	0.000	No
1	E10	BAND ROOM	Education	Music/theater/dance	645	0	5%	AC-14	1424	13	18512	20	10.0	0.06	35	285	0	No	0.000	No
1	E5	PLANNING-Drafting	Education	Computer lab	1034	40%	15%	RTU-10	1164	9	10476	30	10.0	0.12	25	440	414	No	2.371	No
1		DARK ROOM	Education	Computer lab	302	40%	15%	RTU-10	386	9	3474	4	10.0	0.12	25	86	121	Yes	2.090	No
1	E6	GRAPHICS LAB	Education	Computer lab	764	40%	15%	RTU-10	856	8.5	7276	30	10.0	0.12	25	403	306	No	2.523	No
1	E7	ROBOTICS	Education	Computer lab	446	40%	15%	RTU-10	1189	8.7	10344.3	20	10.0	0.12	25	343	178	No	1.032	No
1	E8	FOOD SCIENCE LAB	Education	Science Laboratories	3180	55%	KEF-O,OA 40%, 1 KEF 30%, 2 KEF 50%	RTU-8, KEF - 1,5	1420	9.6	13632	20	10.0	0.18	25	456	1749	Yes	7.698	No
1		HOUSEKEEPING	Storage	Warehouses	---	---	---	EF	152	9	1368	1	0.0	0.06	0	9	---	N/A		No
1	E#1	RECEPTIONIST-Social Worker	Offices	Reception Areas	309	10%	N/A	Cassette ACV-5	178	9.5	1691	2	5.0	0.06	30	21	31	Yes	1.100	No
1	E#2	OFFICE-E-Office	Offices	Office spaces	249	13%	N/A	Cassette ACU-4	178	9.5	1691	2	5.0	0.06	5	21	32	Yes	1.135	No
1	E9	VET SCIENCE STEM LAB	Education	Science Laboratories	1367	12%	15%	RTU-7	1280	9.5	12160	20	10.0	0.18	25	430	169	No	0.834	No
1	E9A	PREPROOM	Education	Science Laboratories	105	49%	15%	RTU-6	108	8.9	961.2	2	10.0	0.18	25	39	52	Yes	3.246	No
1	E14	Office	Offices	Office spaces	177	49%	15%	RTU-6	125	8.9	1112.5	1	5.0	0.06	5	13	87	Yes	4.692	No
1	E13B	REPTILES & AMPHIBIANS	Education	Science Laboratories	709	49%	15%	RTU-6	665	9.5	6317.5	2	10.0	0.18	25	140	347	Yes	3.296	No
1	E13C	WASH ROOM-Prep	Education	Science Laboratories	304	49%	15%	RTU-6	255	8.6	2193	2	10.0	0.18	25	66	149	Yes	4.077	No
1	E13A	SMALL ANIMALS-Reptile Hold	Education	Science Laboratories	718	49%	15%	RTU-6	777	9.4	7303.8	2	10.0	0.18	25	160	352	Yes	2.892	No
1		WEIGHT ROOM-Cardio Bikes	Sports and amusement	Health club/weight room	2060	10%	5%	HV-3	1678	16	26848	20	20.0	0.06	10	501	206	No	0.460	No
1	E#4	TEAM	Education	Locker/dressing room	0	15%	5%	HV-5	265	9.4	2491	20	0.0	0.00	0	0	0	N/A	0.000	No
1	E#5	H.S.GIRLS LOCKER	Education	Locker/dressing room	1400	15%	---	HV-5 EF-8	1086	9.2	9991.2	20	0.0	0.00	0	0	210	N/A	1.261	No
1	E#6	M.S. GIRLS LOCKER	Education	Locker/dressing room	1120	15%	---	HV-5 EF-8	1083	9.2	9963.6	20	0.0	0.00	0	0	168	N/A	1.012	No
1	E#7	POOL GIRLS LOCKER	Education	Locker/dressing room	675	15%	---	HV-5 E-7	957	9.2	8804.4	20	0.0	0.00	0	0	101	N/A	0.688	No
1	E#8	POOL BOYS LOCKER	Education	Locker/dressing room	1090	15%	---	HV-5 EF-8	843	9.3	7839.9	20	0.0	0.00	0	0	164	N/A	1.255	No
1	E#9	UNIFORMS-Storage	Education	Locker/dressing room	468	10%	5%	HV-3	153	8.8	1346.4	1	0.0	0.00	0	0	47	N/A	2.094	No

Project Name:	Region 12-Shepaug High School
Project Number:	2024005.00
Scope	Ventilation Calculation by Building
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Zone Identification												AHSRAE-62.1, (2010) Ventilation Calculations								
Floor	Room#	Room Name	Occupancy Classification	Category	Total Airflow	Unit Actual OA %	BAS OA Damper Cond	Served By	Zone Area, Az, per space	Ceiling Height	Volume, per space	Zone Population, Pz, per space	People OA Rate in Breathing Zone, Rp	Area OA Rate in Breathing Zone, Ra	Default Occupant Density	Min. Required Ventilation Airflow	ACTUAL MEASURED VENTILATION AIR FLOW	Meets Current required airflow?	Ventilation ACH	DCV?
					(cfm)	(%)	(%)		(sq.ft)	(ft)	(cu.ft)	Adult	(cfm/ person)	(cfm/sf)	(#/1000sf)	(cfm)	(cfm)	Yes/No/N/A	(AC/hr)	
1	E#10	TEAM	Education	Locker/dressing room	0	10%	5%	HV-3	2955	9.2	27186	12	0.0	0.00	0	0	---	N/A		No
1	E#11	TRAINING	Education	Locker/dressing room	157	10%	5%	HV-3	138	8.5	1173	2	0.0	0.00	0	0	16	N/A	0.818	No
1	E#12A	OFFICE-Coaches Locker	Education	Locker/dressing room	156	10%	5%	HV-3	170	8.7	1479	1	0.0	0.00	0	0	16	N/A	0.649	No
1	E#12	OFFICE	Offices	Office spaces	228	10%	5%	HV-3	146	9	1314	1	5.0	0.06	5	14	23	Yes	1.050	No
1	E#13	M.S. BOYS LOCKER	Education	Locker/dressing room	1870	10%	5%	HV-3	944	9.3	8779.2	20	0.0	0.00	0	0	187	N/A	1.278	No
1	E#14	H.S. BOYS LOCKER	Education	Locker/dressing room	1560	10%	5%	HV-3	1015	9.22	9358.3	20	0.0	0.00	0	0	156	N/A	1.000	No
1	E#15	OFFICE-Coaches Locker	Education	Locker/dressing room	---	10%	5%	HV-3	167	8.6	1436.2	1	0.0	0.00	0	0	---	N/A		No
1	E#16	OFFICE	Offices	Office spaces	110	10%	5%	HV-3	170	8.6	1462	1	5.0	0.06	5	15	11	No	0.451	No
1	F1	WOOD SHOP	Education	Wood/metal shops	5454	41%	15%	RTU-2	1946	18.7	36390.2	22	10.0	0.18	20	570	2400	Yes	3.957	No
1	F2	SMALL ENGINE REPAIR	Education	Wood/metal shops	2808	100%	15%	RTU-3	1561	18.6	29034.6	8	10.0	0.18	20	361	2808	Yes	5.803	No
1	F3	WELD SHOP	Education	Wood/metal shops	2114	11%	15%	RTU-1, EF-3	1422	18.2	25880.4	16	10.0	0.18	20	416	233	No	0.540	No
1	F#4	OFFICE	Offices	Office spaces	217	10%	N/A	ACU-3	140	9.9	1386	2	5.0	0.06	5	18	22	Yes	0.952	No
1	F#5	TOOLS	Education	Wood/metal shops	147	41	15%	RTU-2	254	14	3556	1	10.0	0.18	20	56	60	Yes	1.012	No
1	F#6	FINISH	Education	Wood/metal shops	170/1793	41, 43%	15%	RTU-2/ ERV-1	231	14	3234	66	10.0	0.18	20	702	836	Yes	15.510	No
EXT.	F-106	LAUNDRY	Education	Multiuse assembly	383	24%	15%	RTU-13	369	8.9	3284.1	1	7.5	0.06	100	30	92	Yes	1.681	No
EXT.	F-107	DOG GROOMING	Education	Multiuse assembly	884	24%	15%	RTU-13	873	8.5	7420.5	10	7.5	0.06	100	127	212	Yes	1.714	No
EXT.	F-108	CRATING	Education	Multiuse assembly	242	24%	15%	RTU-13	274	8.4	2301.6	1	7.5	0.06	100	24	58	Yes	1.512	No
EXT.	F-113	CUST.	Offices	Office spaces	---	---	15%	RTU-13	53	8.9	471.7	0	5.0	0.06	5	5	---	N/A		No
EXT.	F-142	INDOOR RIDING ARENA	Education	Multiuse assembly	---	---	---	---			0		7.5	0.06	100	0	---	N/A		No
EXT.	F-138	SHAVINGS	Education	Multiuse assembly	---	---	---	---			0		7.5	0.06	100	0	---	N/A		No
EXT.	F-139	EQUIPMENT GARAGE	Education	Multiuse assembly	---	---	---	EF-4			0		7.5	0.06	100	0	---	N/A		No
EXT.	F-127	VIEWING	Education	Multiuse assembly	---	----	---	---			0		7.5	0.06	100	0	---	N/A		No
EXT.	F-116	LARGE ANIMAL	Education	Multiuse assembly	---	---	---	---			0		7.5	0.06	100	0	---	N/A		No
E		POOL	Sports and amusement	Swimming pools (pool and deck area)	4787	100%	5%	Poolpak	5949	21	124929	35	0.0	0.48	0	2856	4787	Yes	2.299	No
		GYMNASIUM	Sports and amusement	Gym, stadium, arena (play area)	17974	0, 100%	5%	HV-1, 2 EF-12, 13	10511	27	283797	50	0.0	0.30	0	3153	14213	Yes	3.005	No
LL		Battery Room	Storage	Warehouses	---	---	---	---			0		0.0	0.06	0	0	---	N/A		No
1	E-11	AG Stem Mult purpose Class	Education	Classroom (ages 9+)	245	42%	15%	RTU-5 VAV-1	723	9.6	6940.8	21	10.0	0.12	35	297	103	No	0.890	No
1	E-12	AG Stem Comp Lab	Education	Computer lab	288	42%	15%	RTU-5 VAV-2	1044	9.6	10022.4	25	10.0	0.12	25	375	121	No	0.724	No

Appendix 2

TAB Airflow Survey Data





WING'S TESTING & BALANCING CO., INC.

Regional School District 12

Shepaug & Agriscience Academy

Ventilation Survey

* * * *

VanZelm Engineers
Attn: Bill Donald
10 Talcott Notch Road
Farmington, CT 06032

July 19, 2024



WING'S TESTING & BALANCING CO., INC.

July 19, 2024

VanZelm Engineers
Attn: Bill Donald
10 Talcott Notch Road
Farmington, CT 06032

Re: Regional School District 12 – Shepaug & Agriscience Stem Academy/ Ventilation Survey

Dear Bill,

The ventilation rates survey of the above referenced location has been completed, as noted on our work sheets. The following are our results:

- We measured and documented supply, return, and exhaust flow rates at all locations listed on the provided spreadsheets.
- We measured outside air flow rates on following units:
 - RTU 1-13, AC 1-15, HV 1-7, and ERV-1
 - We noted that RTU-4, AC-6, and HV-6 are not running.
- We added all restrooms in the Middle School, High School, and Agriscience Academy.
 - Supply and exhaust flow rates were recorded.
- We noted that following exhaust fans were not in operational due to bad motors or electrical problems:
 - EF-24 – Main Office restrooms
 - EF-23 – Middle School Office restrooms
 - EF-3 – High School Office restrooms
 - EF-2 – Faculty Multipurpose Women's Room
 - EF-12 & EF-13 – Gym exhaust (fan found with no belt)
- RTUs-5, 9, and 11 are equipped with VAV boxes.
 - Measurements were taken when boxes were at minimum airflow settings.
- All UVs, AC-14, and AC-15 minimum OA damper position is 5%.
- All other AC units and RTU units except RTU-8 minimum OA damper position is 15%.
- RTU-8 – Minimum damper position is 40% when both KEFs are off, 30% when one KEF is on, and 50% when two KEFs are on.
- We found that AC-14 (Band Area) has excessive leakage on discharge side of the supply fan and has a dirty coil as seen on attached pictures.

Page 2 of 3

Region 12 District/ Shepaug & Agriscience Stem Academy

The following pages are your record of current operating conditions. If you have any questions, or if we can be of further service, please do not hesitate to call.

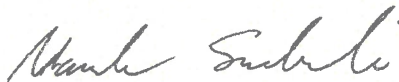
Very truly yours,

Wing's Testing & Balancing Co., Inc.

ICB Certified Contractor for:

TAB—Cx—Indoor Air Quality—Sound & Vibration

Fire & Smoke Damper—Smoke Control Systems



Marek Sadowski

CT SM-2 License #7078

MA SM-2 License #4508

TABB Technician- BB1083468T

Indoor Air Quality Technician- IAQ1083468T

Fire and Smoke Damper Technician- FLS11083468T





Collapsed Supply Duct (Above)
Light from MER indicating leakage (below L&R)



Dirty Coil (Above)



VELOCITY PRESSURE READINGS								
PROJECT: Shepaug High School - Washington, CT						DATE: 6/27/2024		
AREA SERVED: Building						TECH: MS, DD		
TRAVERSE LOCATIONS	DUCT SIZE "	AREA SQ.FT.	DESIGN		CENT. STAT. PRESS."	TEST		NOTES
			FPM	CFM		FPM	CFM	
<u>AC-7</u>								
Minimum OA	46" x 35"	11.2	178	1990	w/ Velgrid	120	1344	
<u>AC-8</u>								
Minimum OA	46" x 35"	11.2	171	1920	w/ Vegrid	582	6518	
<u>AC-9</u>								
Total	28" x 16"	3.1	968	3000	+0.29"	949	2942	
Minimum OA	36" x 15"	3.75	200	750	w/ Velgrid	97	364	
<u>AC-10</u>								
Minimum OA	60" x 17"	7.1	169	1200	w/ Velgrid	145	1030	
<u>AC-11</u>								
Total								
Min OA #1	58" x 24"	9.67	181	1750	w/ Velgrid	60	580	
Min OA #2	58" x 24"	9.67	181	1750	w/ Velgrid	100	967	
Total	79" x 71"	38.95	354	14000	w/ Velgrid	523	20371	
<u>AC-12</u>								
Minimum OA	36" x 15.5"	3.88	206	800	w/ Velgrid	86	334	
<u>AC-13</u>								
Total	78" x 38"	20.58	340	7000	w/ Velgrid	394	8109	
Minimum OA	35" x 34"	8.26	170	1400	w/ Velgrid	98	810	
<u>HV-1</u>								
Total	54" x 34"	12.75	1459	18600	-0.03"	295	3761	
Minimum OA	---	---	---	N/D	---	---	---	(2)
<u>HV-2</u>								
Total	94" x 29"	18.93	983	18600	w/ Velgrid	752	14213	(1)
<u>HV-3</u>								
Minimum OA	52" x 29"	10.47	177	1850	w/ Velgrid	62	649	
<u>HV-4</u>								
Total								
Minimum OA	42" x 27"	7.9	---	N/D	w/ Velgrid	606	4787	
REMARKS								
(1) OA open 100%								
(2) OA closed 100%								
N/A Not Available N/D No Design D/D Direct Drive N/R No Requirement								

VELOCITY PRESSURE READINGS								
PROJECT: Shepaug High School - Washington, CT						DATE: 6/27/2024		
AREA SERVED: Building						TECH: MS, DD		
TRAVERSE LOCATIONS	DUCT SIZE "	AREA SQ.FT.	DESIGN		CENT. STAT. PRESS."	TEST		NOTES
			FPM	CFM		FPM	CFM	
<u>RTU-1</u>								
Minimum OA	48" x 18"	6.0	683	4100	w/ Velgrid	40	240	
<u>RTU-2</u>								
Minimum OA	48" x 18"	6.0	313	1880	w/ Velgrid	396	2376	
<u>RTU-3</u>								
Minimum OA	48" x 18"	6.0	198	1190	w/ Velgrid	468	2808	
<u>RTU-4</u>								
Minimum OA	---	---	---	---	---	---	---	(1)
<u>RTU-5</u>								
Minimum OA	38" x 14 1/4"	3.76	234	880	w/ Velgrid	60	226	
<u>RTU-6</u>								
Minimum OA	58" x 23"	9.26	510	4725	w/ Velgrid	155	1435	
<u>RTU-7</u>								
Minimum OA	14 1/4" x 14 1/4"	1.41	567	800	w/ Velgrid	120	169	
<u>RTU-8</u>								
Minimum OA	58" x 23"	9.26	351	3250	w/ Velgrid	190	1759	
<u>RTU-9</u>								
Minimum OA	48.5" x 18.5"	6.23	241	1500	w/ Velgid	55	343	
<u>RTU-10</u>								
Minimum OA	48" x 18"	6.0	183	1100	w/ Velgrid	258	1548	
<u>RTU-11</u>								
Minimum OA	57.5" x 23.5"	9.4	387	3635	w/ Velgrid	93	402	
<u>RTU-12</u>								
Minimum OA	57.5" x 23.5"	9.4	303	3850	w/ Velgrid	137	1288	
<u>RTU-13</u>								
Minimum OA	38" x 14.5"	3.83	483	1850	w/ Velgrid	115	440	
REMARKS								
(1) Not in use								
N/A Not Available N/D No Design D/D Direct Drive N/R No Requirement								

Project Name:	Region 12 School District	Shepaug/Ag Center
Project Number:	2024005.00	
Scope	TAB Data	TAB Company & Technician:
Date	April 24, 2024	Wings Testing and Balancing; Marek Sadowski, Dominic DiLeonardo
	Updated 9-26-24	

Zone Identification											
Floor	Room#	Room Name	Design Min/Max	Measured	Measured	Measured	Calculated OA Flow	Minimum Flow	Associated	Supply System	Notes
			CFM	Supply CFM	Return CFM	Exhaust CFM	(CFM)	From BAS	Equipment	OA Percentage	
1	1	OFFICE	1100	553	116	---	40	15%	AC-2	7.50%	
1	2	PRINCIPAL	500	438	79	---	33	15%	AC-2	7.50%	
1	3	CONFERENCE	400	205	31	---	15	15%	AC-2	7.50%	
1	4	OFFICE	400	109	0		8	15%	AC-2	7.50%	OBD Closed
1	5	EXAM	200	252	0	---	19	15%	AC-2	7.50%	
1	6	OFFICE	200	158	---	---	12	15%	AC-2	7.50%	
1	7	REST (HEALTH ROOM)	200	129	30	---	10	15%	AC-2	7.50%	
1	8	OFFICE	400	369	26	---	28	15%	AC-2	7.50%	
1	9	COUNCELOR	400	264	0	---	20	15%	AC-2	7.50%	
1	10	WORK ROOM	200	226	0	---	17	15%	AC-2	7.50%	
1	11	OFFICES	800	1034	0	---	78	15%	AC-2	7.50%	
1	12	CONFERENCE	400	458	57	---	34	15%	AC-2	7.50%	
1	13	WAITING	400	500	44	---	38	15%	AC-2	7.50%	
1	14	GUIDANCE	200	266	---	---	20	15%	AC-2	7.50%	
1	15	OFFICE	200	206	---	---	16	15%	AC-2	7.50%	
1	B14	CLASSROOM	600	516	152	---	39	15%	AC-2	7.50%	
1	B15	Science	800	592	30	---	45	15%	AC-2	7.50%	
1	B16	CLASSROOM	400	316	0	---	24	15%	AC-2	7.50%	
1		Book Storage	100	40	---	---	3.2	15%	AC-1	8%	
1	B17	Group Rm East	3000	3080	2857	---	246	15%	AC-1	8%	Return calculated
1	B10	CLASSROOM	825	895	92	---	75	15%	AC-3	82%	
1	B9	CLASSROOM	975	962	35	---	29	15%	AC-3	82%	
1	B12	CLASSROOM	610/250	210	206	---	65	15%	RTU-9 VAV-3	31%	Area layout changed
1	B11	CLASSROOM	585	328	78	---	64	15%	AC-3	82%	
1	B8	CLASSROOM	1380	772	207	---	170	15%	AC-3	82%	
1	B19	CLASSROOM	525	185	189	---	155	15%	AC-3	82%	
1		CARRER CENTER	225/60	62	57	---	19	15%	RTU-9 VAV-2	31%	
1		LIBRARY (READING AREA)	10305	7430	2050	---	5573	15%	AC-3,4,7,8	Vari 82, 100, 17, 100	
1	A3	CLASSROOM	1455	1605	0	---	273	15%	AC-7	17%	
1	A5	CLASSROOM	1140	2259	0	---	384	15%	AC-7	17%	

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Date		April 24, 2024									
		Updated 9-26-24									
Zone Identification											
Floor	Room#	Room Name	Design Min/Max	Measured	Measured	Measured	Calculated OA Flow	Minimum Flow	Associated	Supply System	Notes
			CFM	Supply CFM	Return CFM	Exhaust CFM	(CFM)	From BAS	Equipment	OA Percentage	
1	A2	CLASSROOM	1005	1273	272	---	216	15%	AC-7	17%	
1	A1	CLASSROOM	885	1297	312	---	220	15%	AC-7	17%	
1	A7	CLASSROOM	630	136	119	---	23	15%	AC-7	17%	
1	A6	CLASSROOM	660	593	156	---	101	15%	AC-7	17%	
1	A4	CLASSROOM	1200	847	130	---	144	15%	AC-7	17%	
1		LAB 1	1500/175	569	60	1200 (1000)	444	15%	RTU-11 VAV-11-3 LEF-2	78%	18" Sash, Vel 192 FPM, Monitor - 400 FPM
1		LAB 2	1500	1470	1137	---	500	15%	RTU-12	34%	
1		LAB 3	1400/450	473	509	469 (1000)	369	15%	RTU-11 VAV-11-3 LEF-3	78%	18" Sash, Vel 75 FPM, Monitor - 170 FPM 2nd Sash open Vel 168 FPM
1		LAB 4	1200	1205	1187	---	410	15%	RTU-12	34%	
1		PLANT SCIENCE	1100	1072	1080	---	365	15%	RTU-12	34%	
1		FLORAL MARKETING	850/300	472	377	---	146	15%	RTU-9 VAV-4	31%	
1		HEAD HOUSE	---	---	---	---	---	---	---	---	Part of Greenhouse - 2 sterling
1		GREEN HOUSE	N/A	---	---	49284	---	---	EX-1,2,3,4	---	Heating units GWH1 - 1,2
1		LAB PREP/CHEM STOR	740/225	110	225	622 (785)	86	15%	RTU-11 VAV-1 LEF	78%	18" Sash Vel 131 FPM, Monitor - 356 FPM
1		SPARE	---	---	---	---	---	---	---	---	
1	D	CONFERENCE	100	110	---	---	110	15%	AC-4	100%	
1	D33	CLASSROOM	525	605	0	---	605	15%	AC-4	100%	
1	D24	CLASSROOM	1380	1810	0	---	1810	15%	AC-4	100%	
1	D27	CLASSROOM	705	1107	202	---	1107	15%	AC-4	100%	
1	D25	CLASSROOM	1005	976	0	---	976	15%	AC-4	100%	
1	D26	CLASSROOM	930	1107	350	---	1107	15%	AC-4	100%	
1		SPARE	---	---	---	---	---	---	---	---	
1	D32	Group Rm West	3000	2942	2589	---	353	15%	AC-9	12%	Return calculated
1	D34	Projector Room	200	114	0	---	24	15%	AC-10	21%	
1	D31	Buisness/ Word Processing	1000	933	75	---	196	15%	AC-10	21%	
1	D35	CLASSROOM	500	504	0	---	106	15%	AC-10	21%	
1	D30	CLASSROOM	600	614	0	---	129	15%	AC-10	21%	
1	#1C	OFFICE	200	196	---	---	41	15%	AC-10	21%	
1	#2C	OFFICE	200	196	---	---	41	15%	AC-10	21%	
1	#3C	OFFICE	400	246	215	---	52	15%	AC-10	21%	

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Date		April 24, 2024									
		Updated 9-26-24									
Zone Identification											
Floor	Room#	Room Name	Design Min/Max	Measured	Measured	Measured	Calculated OA Flow	Minimum Flow	Associated	Supply System	Notes
			CFM	Supply CFM	Return CFM	Exhaust CFM	(CFM)	From BAS	Equipment	OA Percentage	
1	#4C	OFFICE	400	402	115	---	84	15%	AC-10	21%	
1	#5C	WAITING	800	796	158	---	167	15%	AC-10	21%	
1	#6C	OFFICE	400	302	146	---	63	15%	AC-10	21%	Security Area
1	#7C	CONFERENCE	400	323	146	---	68	15%	AC-10	21%	
1	#8C	WORK RM	200	285	76	---	60	15%	AC-10	21%	
1	C20	CLASSROOM	1455	619	256	---	619	15%	AC-8	100%	
1	C21	CLASSROOM	750	556	0	---	556	15%	AC-8	100%	vZHS separated due to volume calculations and Ceiling Heights
1	C25	CLASSROOM	555	286	85	---	286	15%	AC-8	100%	vZHS separated due to volume calculations and Ceiling Heights
1	C-22,24	CLASSROOM	1290	802	375	---	802	15%	AC-8	100%	
1		Spare	---	---	---	---	---				
1	C18	CLASSROOM	1005	450	307	---	450	15%	AC-8	100%	
1	C19	CLASSROOM	1005	639	285	---	639	15%	AC-8	100%	
1	C17	CLASSROOM	2000	1053	---	---	79	15%	AC-11	8%	
1		CAFETERIA	9000	18603	---	---	1395	15%	AC-11	8%	
1	C26	FACULTY DINING	700	715	101	---	54	15%	AC-11	8%	
1		KITCHEN	N/A	1982	---	3025	0	N/A	UV- 1,2, KEF	0	
1		STAFF-Multi-Purpose	4165	4210	604	---	632	15%	AC-5	15%	
1	C23	LIBRARY WORK ROOM C23	750	638	185	---	638	15%	AC-8	100%	
1		SRO-Mike Epps	450	470	53	---	71	15%	AC-5	15%	
1		OFFICESchool Psyc.	150	97	---	---	15	15%	AC-5	15%	
1		A/V WORKROOM	750	530	89	---	80	15%	AC-5	15%	
1		PLANETARIUM	3200	1855	240	---	334	15%	AC-12		
1		MALL	7000	8109	7299	---	810	15%	AC-13	10%	
1		AUDITORIUM	8400	9952	9411	---	541	15%	AC-15	5%	Design from sched. No notes on plans
1		WOMENS ROOM	---	---	---	94	---	---	EF-16	---	
1		MENS ROOM	---	---	---	140	---	---	EF-16	---	
1		STAGE	---	---	---	N/A	---	---	EF-14	---	Part of auditorium, EF not RVN
1	E1	M.S. ART ROOM	2725	1258	230	---	969	5%	HV-7	77%	No seperation between rooms
1	E2	H.S. ART ROOM	2500	1453	---	---	1112	5%	HV-7	77%	No seperation between rooms
1		CERAMICS	500	553	70	941	426	5%	HV-7	77%	

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Scope		TAB Data									
Date		April 24, 2024									
		Updated 9-26-24									
Zone Identification											
Floor	Room#	Room Name	Design Min/Max	Measured	Measured	Measured	Calculated OA Flow	Minimum Flow	Associated	Supply System	Notes
			CFM	Supply CFM	Return CFM	Exhaust CFM	(CFM)	From BAS	Equipment	OA Percentage	
1		CLASSROOM-1	400	327	---	---	252	5%	HV-7	77%	
1		STORAGE / OFFICE	125	83	---	---	64	5%	HV-7	77%	
1		TV-STUDIO	1000	714	---	---	550	5%	HV-7	77%	two flexible ducts, disconnected
1		EDITING	500	344	---	---	265	5%	HV-7	77%	
1		CENTER OFFICE	250	205	140	---	158	5%	HV-7	77%	
1	E3	LIFE SKILLS	2000	758	---	---	584	5%	HV-7	77%	
1	E4	CHORAL	1980	656	0	---	0	5%	AC-14	0	OA damper closed
1	#1	PRACTICE-	75	78	---	---	0	5%	AC-14	0	
1	#2	PRACTICE-	75	179	---	---	0	5%	AC-14	0	
1	#3	PRACTICE-	75	73	---	---	0	5%	AC-14	0	
1	#4	PRACTICE-	75	43	---	---	0	5%	AC-14	0	
1	#5	PRACTICE-Office Set-up	100	37	---	---	0	5%	AC-14	0	
1	#6	OFFICE- Studio Sound	200	183	---	---	0	5%	AC-14	0	
1	#7	OFFICE	75	177	---	---	0	5%	AC-14	0	
1	#8	CUSTODIAL OFFICE	200	169	---	---	0	5%	AC-14	0	169 & 170 one space
1	#9	STAGE STORAGE-Prop Storage	1000	460	202	---	0	5%	AC-14	0	
1	#10	STRG-Storage	200	118	---	302	0	5%	AC-14	0	
1	E10	BAND ROOM	2200	645	170	---	0	5%	AC-14	0	
1	E5	PLANNING-Drafting	2000	1034	255	---	414	15%	RTU-10	40%	
1		DARK ROOM	N/D	302	0	2480	121	15%	RTU-10	40%	No tag on EF
1	E6	GRAPHICS LAB	800	764	346	---	306	15%	RTU-10	40%	
1	E7	ROBOTICS	400	446	384	---	178	15%	RTU-10	40%	2 cassettes AC unit Rec only ACU 6, 7
1	E8	FOOD SCIENCE LAB	5100	3180	1834	4437	1749	KEF-O,OA 40%, 1 KEF 30%, 2 KEF 50%	RTU-8, KEF - 1,5	55%	
1		HOUSEKEEPING	N/A	---	---	87 (75)	---	---	EF	---	
1	E#1	RECEPTIONIST-Social Worker	424	309	278	---	31	N/A	Cassette ACV-5	10%	
1	E#2	OFFICE-E-Office	230	249	217	---	32	N/A	Cassette ACU-4	13%	
1	E9	VET SCIENCE STEM LAB	1200	1367	730	---	169	15%	RTU-7	12%	
1	E9A	PREPROOM	100	105	203	---	52	15%	RTU-6	49%	
1	E14	Office	100	177	154	---	87	15%	RTU-6	49%	
1	E13B	REPTILES & AMPHIBIANS	580	709	825	---	347	15%	RTU-6	49%	One Room with 356 as Weight Room

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Zone Identification											
Floor	Room#	Room Name	Design Min/Max	Measured	Measured	Measured	Calculated OA Flow	Minimum Flow	Associated	Supply System	Notes
			CFM	Supply CFM	Return CFM	Exhaust CFM	(CFM)	From BAS	Equipment	OA Percentage	
1	E13C	WASH ROOM-Prep	250	304	314	---	149	15%	RTU-6	49%	
1	E13A	SMALL ANIMALS-Reptile Hold	650	718	887	---	352	15%	RTU-6	49%	
1		WEIGHT ROOM-Cardio Bikes	N/D	2060	1050	---	206	5%	HV-3	10%	No design listed on drawing
1	E#4	TEAM	N/D	0	210	---	0	5%	HV-5	15%	
1	E#5	H.S.GIRLS LOCKER	N/D	1400	1430	452	210	---	HV-5 EF-8	15%	
1	E#6	M.S. GIRLS LOCKER	N/D	1120	1520	411	168	---	HV-5 EF-8	15%	
1	E#7	POOL GIRLS LOCKER	N/D	675	732	458	101	---	HV-5 E-7	15%	
1	E#8	POOL BOYS LOCKER	N/D	1090	1197	390	164	---	HV-5 EF-8	15%	
1	E#9	UNIFORMS-Storage	N/D	468	0	---	47	5%	HV-3	10%	No design listed on drawing
1	E#10	TEAM	N/D	0	312	---	---	5%	HV-3	10%	No design listed on drawing
1	E#11	TRAINING	N/D	157	---	---	16	5%	HV-3	10%	No design listed on drawing
1	E#12A	OFFICE-Coaches Locker	N/D	156	144	---	16	5%	HV-3	10%	No design listed on drawing
1	E#12	OFFICE	N/D	228	---	---	23	5%	HV-3	10%	No design listed on drawing
1	E#13	M.S. BOYS LOCKER	N/D	1870	1400	0	187	5%	HV-3	10%	No design listed on drawing
1	E#14	H.S. BOYS LOCKER	N/D	1560	640	0	156	5%	HV-3	10%	No design listed on drawing
1	E#15	OFFICE-Coaches Locker	N/D	---	---	55	---	5%	HV-3	10%	No design listed on drawing
1	E#16	OFFICE	N/D	110	---	---	11	5%	HV-3	10%	No design listed on drawing
1	F1	WOOD SHOP	4040	5454	2236	---	2400	15%	RTU-2	41%	
1	F2	SMALL ENGINE REPAIR	2360	2808	2808	---	2808	15%	RTU-3	100%	
1	F3	WELD SHOP	3200	2114	1881	2513	233	15%	RTU-1, EF-3	11%	
1	F#4	OFFICE	230	217	195	---	22	N/A	ACU-3	10%	
1	F#5	TOOLS	100	147	---	---	60	15%	RTU-2	41	
1	F#6	FINISH	200	170/1793	1027	---	836	15%	RTU-2/ ERV-1	41, 43%	2 speed, min 50%, max 100%
EXT.	F-106	LAUNDRY	350	383	303	---	92	15%	RTU-13	24%	
EXT.	F-107	DOG GROOMING	760	884	813	---	212	15%	RTU-13	24%	
EXT.	F-108	CRATING	200	242	253	---	58	15%	RTU-13	24%	
EXT.	F-113	CUST.	50 RET	---	84	---	---	15%	RTU-13	---	
EXT.	F-142	INDOOR RIDING ARENA	---	---	---	---	---	---	---	---	No ventilation
EXT.	F-138	SHAVINGS	---	---	---	---	---	---	---	---	No ventilation
EXT.	F-139	EQUIPMENT GARAGE	---	---	---	950	---	---	EF-4	---	No access for EF measurements

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	Updated 9-26-24		

Zone Identification											
Floor	Room#	Room Name	Design Min/Max	Measured	Measured	Measured	Calculated OA Flow	Minimum Flow	Associated	Supply System	Notes
			CFM	Supply CFM	Return CFM	Exhaust CFM	(CFM)	From BAS	Equipment	OA Percentage	
EXT.	F-127	VIEWING	---	---	---	---	---	---	---	----	No ventilation
EXT.	F-116	LARGE ANIMAL	---	---	---	---	---	---	---	---	
E		POOL	12400	4787	4787	N/A	4787	5%	HV-4, EF-5	100%	Dedicated PoolPack Unit
		GYMNASIUM	37200	17974	3761	N/A	14213	5%	HV-1, 2 EF-12, 13	0, 100%	No belts on EF's
LL		Battery Room	---	---	---	---	---	---	---	---	No ventilation
1	E-11	AG Stem Mult purpose Class	760/220	245	346	---	103	15%	RTU-5 VAV-1	42%	
1	E-12	AG Stem Comp Lab	780/260	288	320	---	121	15%	RTU-5 VAV-2	42%	
		<u>AGRISCIENCE ACADEMY</u>									
1	F-115	Boys Room	150	163	---	206	39	15%	RTU-13	24%	
1	F-112	Girls Room	150	179	---	184	43	15%	RTU-13	24%	
		<u>MS, HS</u>									
1	F-116	Boys Room	100	83	---	216	41	15%	RTU-6	49%	
1	F-115	Girls Room	100	103	---	223	51	15%	RTU-6	49%	
1	D-7	Mens Room	---	---	---	69	---	---	EF-16	---	
1	D-6	Womens Room	---	---	---	61	---	---	EF-15	---	
1	D-52	Custodian TLT/ Locker	---	---	---	237	---	---	EF-20	---	
1	B-111	Womens Room	300	348	---	423	171	15%	RTU-6	49%	
1	B-114	Mens Room	300	361	---	550	177	15%	RTU-6	49%	
1	B-113	Multi TLT	---	---	---	85	---	15%	RTU-6	49%	
1	---	Main Office TLT #1	---	---	---	0	---	---	EF-24	---	
1	E-23	MS Office TLT #2	---	---	---	0	---	---	EF-23	---	
1	E-37	Girls Student TLT	---	---	---	164	---	---	EF-22	---	
1	E-38	Boys Student TLT	---	---	---	125	---	---	EF-22	---	
1	E-36	Faculty	---	---	---	32	---	---	EF-22	---	
1	E-35	Restroom	---	---	---	30	---	---	EF-22	---	
1	B-26	HS Office TLT #1	---	---	---	0	---	---	EF-3	---	
1	B-28	HS Office TLT #2	---	---	---	0	---	---	EF-3	---	
1	B-12	Girls Student TLT	---	---	---	312	---	---	EF-4	---	
1	B-11	Boys Student TLT	---	---	---	291	---	---	EF-4	---	
1	B-14	Restroom	---	---	---	106	---	---	EF-4	---	

Appendix 3

Room Data Take-Off Sheet



Project Name:	Region 12, Shepuag High School		
Project Number	2024005.00	Auditor : RCM & REA Rev. RCM 9-13-24	
Scope	Room DataTake-Off		
Date	4/17&18/2024		
	Shepaug High School		

Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
1	1	OFFICE	808	8.6	6948.8	5			
1	2	PRINCIPAL	354	8.6	3044.4	8			
1	3	CONFERENCE	235	8.6	2021	11			
1	4	OFFICE	152	8.6	1307.2	2			
1	5	EXAM	209	8.6	1797.4	4			
1	6	OFFICE	106	8.6	911.6	2			
1	7	REST (HEALTH ROOM)	109	8.6	937.4	2			
1	8	OFFICE	222	8.6	1909.2	2			
1	9	COUNCELOR	117	8.6	1006.2	3			
1	10	WORK ROOM	90	8.6	774	0			
1	11	OFFICES	497	8.6	4274.2	10			
1	12	CONFERENCE	253	8.6	2175.8	9			
1	13	WAITING	223	8.6	1917.8	3			
1	14	GUIDANCE	106	8.6	911.6	2			
1	15	OFFICE	100	8.6	860	2			
1	B-14	CLASSROOM	580	9.2	5336	16			
1	B15	Science	942	9.2	8666.4	23			
1	B16	CLASSROOM	464	9.2	4268.8	13			
1		Book Storage	250	10	2500				
1	B17	Group Rm East	1749	14.5	25360.5	75			
1	B10	CLASSROOM	734	9.6	7046.4	22			

Project Name:	Region 12, Shepaug High School	
Project Number:	2024005.00	<i>Auditor : RCM & REA Rev. RCM 9-13-24</i>
Scope	Room DataTake-Off	
Date	4/17&18/2024	

Shepaug High School

Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
1	B9	CLASSROOM	750	9.6	7200	26			
1	B12	CLASSROOM	558	8.3	4631.4	13			
1	B11	CLASSROOM	621	9.6	5961.6	21			
1	B8	CLASSROOM	800	9.6	7680	27			
1	19	CLASSROOM	434	9.6	4166.4	15			
1		CARRER CENTER	356	8.3	2954.8	9			
1		LIBRARY (READING AREA)	12557		146630	40	Core 4207@15.8'H/Ext. 8350@9.6'H	Ceiling average 11.6	
1	A3	CLASSROOM	1150	9.6	11040	23			
1	A5	CLASSROOM	1017	9.6	9763.2	26			
1	A2	CLASSROOM	745	9.6	7152	16			
1	A1	CLASSROOM	831	9.6	7977.6	23			
1	A7	CLASSROOM	572	9.6	5491.2	15			
1	A6	CLASSROOM	623	9.6	5980.8	21			
1	A4	CLASSROOM	1020	9.6	9792	21			
1		LAB 1	1395	8.6	11997	25	One hood within room		
1		LAB 2	1392	8.6	11971.2	26			
1		LAB 3	1361	8.3	11296.3	25			
1		LAB 4	1343	8.3	11146.9	25			
1		PLANT SCIENCE	1006	8.1	8148.6	15			
1		FLORAL MARKETING	789	8.1	6390.9	16	Coolers in room		
1		HEAD HOUSE			0		N/A		

Project Name:	Region 12, Shepuag High School		
Project Number	2024005.00	Auditor : RCM & REA Rev. RCM 9-13-24	
Scope	Room DataTake-Off		
Date	4/17&18/2024		
	Shepaug High School		

Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
1		GREEN HOUSE			0		N/A		
1		LAB PREP/CHEM STOR	608	9	5472	2			
1		SPARE			0				
1	d	CONFERENCE	176	8.9	1566.4	3			
1	D33	CLASSROOM	447	9.6	4291.2	12			
1	D24	CLASSROOM	992	9.6	9523.2	27			
1	D27	CLASSROOM	625	9.6	6000	24			
1	D25	CLASSROOM	750	9.6	7200	24			
1	D26	CLASSROOM	750	9.6	7200	26			
1		SPARE			0				
1	D32	Group Room West	1749	14.5	25360.5	40			
1	D34	Projector Room	236	10	2360	6			
1	D31	Business/Word Processing	956	9	8604	22			
1	D35	CLASSROOM	467	9	4203	10			
1	D30	CLASSROOM	567	9	5103	12			
1	#1C	OFFICE	100	8.6	860	2			
1	#2C	OFFICE	100	8.6	860	3			
1	#3C	OFFICE	218	8.6	1874.8	5			
1	#4C	OFFICE	253	8.6	2175.8	5			
1	#5C	WAITING	435	8.6	3741	4			
1	#6C	OFFICE	218	8.6	1874.8	5	Mr. Perachi	Athletic Director	

Project Name:	Region 12, Shepaug High School	
Project Number:	2024005.00	<i>Auditor : RCM & REA Rev. RCM 9-13-24</i>
Scope	Room DataTake-Off	
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Shepaug High School

Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
1	#7C	CONFERENCE	211	8.6	1814.6	12			
1	#8C	WORK RM	112	7.9	884.8	2			
1	C20	CLASSROOM	955	9.6	9168	24			
1	C21	CLASSROOM	605	9.6	5808	23			
1	C25	CLASSROOM	426	9.6	4089.6	10			
1	C-22,24	CLASSROOM	1133	9.6	10876.8	29	(C-24&C22 are technically one area)		
1		Spare	0	0	0				
1	C18	CLASSROOM	780	9.6	7488	22			
1	C19	CLASSROOM	750	9.6	7200	22	487		
1	C17	CLASSROOM	1060	9.7	10282	25			
1		CAFETERIA	6080	14	85120	264	ceiling average	Total Occupancy unknown	
1	C26	FACULTY DINING	565	9.5	5367.5	19	Rename C-26	See photo	
1		KITCHEN	1087	9.7	10543.9	6	Kitchen and serving combined		
1		STAFF-Multi-Purpose	5706	9.4	53636.4	70	Large multi purpose area		
1	C23	LIBRARY WORK ROOM C23	487	9.6	4675.2	17			
1		SRO-Mike Epps	323	9.6	3100.8	4	SRO Mike Epps		
1		OFFICESchool Psys.	136	9.6	1305.6	3	School Psych		
1		A/V WORKROOM	1016	9.4	9550.4	4	Ceiling Mitsubishi		
1		PLANETARIUM	754	10	7540	30	31'-diameter	Height average	
1		MALL	10781	15	161715	35			
1		AUDITORIUM	5955	23	136965	480			

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Date	4/17&18/2024		

Shepaug High School

Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
1		WOMENS ROOM			0		N/A		
1		MENS ROOM			0		N/A		
1		STAGE	2589	27	69903	22	Total Occupancy unknown		
1	E1	M.S. ART ROOM	1838	9.345	17176.1	24			
1	E2	H.S. ART ROOM	2235	9.3	20785.5	22			
1		CERAMICS	485	9	4365	8			
1		CLASSROOM-1	461	9.2	4241.2	6			
1		STORAGE / OFFICE	68	9.3	632.4	1	occupied space		
1		TV-STUDIO	1030	9.3	9579	5			
1		EDITING	419	9.2	3854.8	15			
1		CENTER OFFICE	248	9.3	2306.4	1			
1	E3	LIFE SKILLS	1020	9.3	9486	20			
1	E4	CHORAL	1260	13	16380	20			
1	#1	PRACTICE-	63	8.3	522.9	1			
1	#2	PRACTICE-	70	8.3	581	1			
1	#3	PRACTICE-	71	8.3	589.3	1			
1	#4	PRACTICE-	50	8.2	410	1			
1	#5	PRACTICE-Office Set-up	146	8.3	1211.8	3	Office set-up		
1	#6	OFFICE- Studio Sound	190	8.3	1577	3	Sound Studio		
1	#7	OFFICE	78	8	624	1			
1	#8	CUSTODIAL OFFICE	280	8.9	2492	6			

Project Name:	Region 12, Shepaug High School	
Project Number:	2024005.00	<i>Auditor : RCM & REA Rev. RCM 9-13-24</i>
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Shepaug High School

Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
1	#9	STAGE STORAGE-Prop Storage	797	14	11158	3	prop storage		
1	#10	STRG-Storage	365	8.3	3029.5	1	storage		
1	E10	BAND ROOM	1424	13	18512	20			
1	E5	PLANNING-Drafting	1164	9	10476	30	Drafting		
1		DARK ROOM	386	9	3474	4			
1	E6	GRAPHICS LAB	856	8.5	7276	30			
1	E7	ROBOTICS	1189	8.7	10344.3	20			
1	E8	FOOD SCIENCE LAB	1420	9.6	13632	20			
1		HOUSEKEEPING	152	9	1368	1			
1	E#1	RECEPTIONIST-Social Worker	178	9.5	1691	2	Social worker		
1	E#2	OFFICE-E-Office	178	9.5	1691	2	E-office		
1	E9	VET SCIENCE STEM LAB	1280	9.5	12160	20			
1	E9A	PREPROOM	108	8.9	961.2	2			
1	E14	Office	125	8.9	1112.5	1			
1	E13B	REPTILES & AMPHIBIANS	665	9.5	6317.5	2	Guinea pigs holding room		
1	E13C	WASH ROOM-Prep	255	8.6	2193	2	Prep		
1	E13A	SMALL ANIMALS-Reptile Hold	777	9.4	7303.8	2	Reptile holding room		
1		WEIGHT ROOM-Cardio Bikes	1678	16	26848	20	Tread mills Cardio bikes		
1	E#4	TEAM	265	9.4	2491	20			
1	E#5	H.S.GIRLS LOCKER	1086	9.2	9991.2	20			
1	E#6	M.S. GIRLS LOCKER	1083	9.2	9963.6	20			

Project Name:	Region 12, Shepaug High School	
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Scope	Room DataTake-Off	
Date	4/17&18/2024	

	Shepaug High School	
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Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
1	E#7	POOL GIRLS LOCKER	957	9.2	8804.4	20			
1	E#8	POOL BOYS LOCKER	843	9.3	7839.9	20			
1	E#9	UNIFORMS-Storage	153	8.8	1346.4	1	storage		
1	E#10	TEAM	2955	9.2	27186	12			
1	E#11	TRAINING	138	8.5	1173	2			
1	E#12A	OFFICE-Coaches Locker	170	8.7	1479	1	coaches locker		
1	E#12	OFFICE	146	9	1314	1			
1	E#13	M.S. BOYS LOCKER	944	9.3	8779.2	20			
1	E#14	H.S. BOYS LOCKER	1015	9.22	9358.3	20			
1	E#15	OFFICE-Coaches Locker	167	8.6	1436.2	1	coaches locker		
1	E#16	OFFICE	170	8.6	1462	1			
1	F1	WOOD SHOP	1946	18.7	36390.2	22			
1	F2	SMALL ENGINE REPAIR	1561	18.6	29034.6	8			
1	F3	WELD SHOP	1422	18.2	25880.4	16			
1	F#4	OFFICE	140	9.9	1386	2			
1	F#5	TOOLS	254	14	3556	1			
1	F#6	FINISH	231	14	3234	66			
EXT.	F-106	LAUNDRY	369	8.9	3284.1	1			
EXT.	F-107	DOG GROOMING	873	8.5	7420.5	10			
EXT.	F-108	CRATING	274	8.4	2301.6	1			
EXT.	F-113	CUST.	53	8.9	471.7	0			

Project Name:	Region 12, Shepaug High School	
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Shepaug High School

Floor	Room#	Room Name	Area (SF)	Ceiling Height (FT)	Volume	People	Notes	Identified Deficiencies	Pictures
									Y /N
EXT.	F-142	INDOOR RIDING ARENA			0		N/A		
EXT.	F-138	SHAVINGS			0		N/A		
EXT.	F-139	EQUIPMENT GARAGE			0		N/A		
EXT.	F-127	VIEWING			0		N/A		
EXT.	F-116	LARGE ANIMAL			0		N/A		
E		POOL	5949	21	124929	35	Total Occupancy unknown		
		GYMNASIUM	10511	27	283797	50	Total Occupancy unknown		
LL		Battery Room					Note: No Ventilation of Battery Rm		
1	E-11	AG Stem Mult purpose Class	723	9.6	6940.8	21			
1	E-12	AG Stem Comp Lab	1044	9.6	10022.4	25			
		<u>AGRISCIENCE ACADEMY</u>							
1	F-115	Boys Room							
1	F-112	Girls Room							
		<u>MS, HS</u>							
1	F-116	Boys Room							
1	F-115	Girls Room							
1	D-7	Mens Room							
1	D-6	Womens Room							
1	D-52	Custodian TLT/ Locker							
1	B-111	Womens Room							
1	B-114	Mens Room							

Appendix 4

Equipment Data Sheets



SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-1	1993
Location:	Roof E	
Serving:	Area E Group Room	
Manufacture	Trane	
Model #	THC102F4R0A0KG0COA1B601000~~	
Serial #	202313101L	
Manufacture Date	6/2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 20x25x2	
Filter Condition	Clean	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water reheats	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	
Other Conditional Notes: Package Economizer with very slight minimum on this 80 degree day		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar	X	
Unit Tag Info	X	
Heating Coil		
Cooling Coil	X	
Filters	X	
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-2	1993
Location:	Roof	
Serving:	Area E Offices	
Manufacture	Trane	
Model #	SXHLE2540U47C4CD1001A0CE000000RWOM8600	
Serial #	C20E03645	
Manufacture Date	2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(12) 20x20x2	
Filter Condition	Needs changing	
Utilize CO ₂ and/or DCV?:		
Heating Type	Hot Water Reheats	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Dirty needs cleaning	
Drain Pan Status		

Other Conditional Notes: Exhaust fan wheel should be cleaned

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-3	
Location:	Roof	
Serving:	Area A Library	
Manufacture	Trane	
Model #	SLHLF2D4CU36C3BD1001A0CE0000000W0M8600	
Serial #	C20E03644	
Manufacture Date	6/2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(16) 20x20x2	
Filter Condition	Clean	
Utilize CO ₂ and/or DCV?:		
Heating Type	Hot Water Reheats	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Some corrosion evident	
Drain Pan Status	Clean	
Other Conditional Notes:		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar	X	
Unit Tag Info	X	
Heating Coil		
Cooling Coil	X	
Filters	X	
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-4	
Location:	Roof	
Serving:	Library	
Manufacture	Trane	
Model #	SXHF3040U47C4D1001	
Serial #	C20E03649	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(16) 20x20x2	
Filter Condition	OK	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	DX R-410A	
Cooling Coil Condition	OK	
Drain Pan Status	OK	

Other Conditional Notes: filters lifting out of rack

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-5	
Location:	Roof over Lobby	
Serving:	Area A Teachers Room	
Manufacture	Trane	
Model #	TCB180G4R-B12H1COA1B^0000	
Serial #	202610162D	
Manufacture Date	6-2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(8) 20x20x2, (4) 16x20x2, Metal OA	
Filter Condition	Clean	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	NA	
Heating Coil Condition		
Cooling Type	DX 2 Compressors	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	
Other Conditional Notes:		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar	X	
Unit Tag Info	X	
Heating Coil	NA	
Cooling Coil	X	
Filters	X	
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-7 (previous AC-3)	
Location:	Roof	
Serving:	Area A Media	
Manufacture	Trane	
Model #	SXHLEF3040U47C4AD1001A00E000000RW0M8600	
Serial #	C20E03647	
Manufacture Date	2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(16) 20x20x2	
Filter Condition	Good	
Utilize CO ₂ and/or DCV?:		
Heating Type	Hot Water Reheat system	
Heating Coil Condition		
Cooling Type	DX-2 Compressors	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes: OA intake very slight minimum setting

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	
Unit Tag Info	
Heating Coil	
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-8	
Location:	ROOF	
Serving:	LIBRARY	
Manufacture	Trane	
Model #	SXHLE3040U47C4AD1001	
Serial #	C20E03618	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(16) 20x20x2	
Filter Condition	GOOD	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	DX R-410A	
Cooling Coil Condition	OK	
Drain Pan Status	OK	

Other Conditional Notes: reheats in space,

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-9	
Location:	ROOF	
Serving:	AC-GROUP 9	
Manufacture	Trane	
Model #	THC102F4RQAKG0C041B60	
Serial #	202313102L	
Manufacture Date	6/2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 20x20x2	
Filter Condition	GOOD	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	DX R-410A	
Cooling Coil Condition	OK	
Drain Pan Status	OK	

Other Conditional Notes: condenser fan rattles

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-10	
Location:	ROOF	
Serving:	HS OFFICE	
Manufacture	Trane	
Model #	TCD180G4ROB12H1C0A1B	
Serial #	202510592D	
Manufacture Date	6/2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 16x20x2 (8) 20x20x2	
Filter Condition	GOOD	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	DX R-410A	
Cooling Coil Condition	GOOD	
Drain Pan Status	GOOD	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-11	
Location:	ROOF	
Serving:	CAFE	
Manufacture	Trane	
Model #	SXHL5540U46C5AD1001	
Serial #	C20E03660	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(20) 20x25x2	
Filter Condition	GOOD	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	DX R-410A	
Cooling Coil Condition	GOOD	
Drain Pan Status	GOOD	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-12	
Location:	Roof	
Serving:	Planetarium	
Manufacture	Trane	
Model #	THC102F4ROAOKG0C0A1B601	
Serial #	202313133L	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 20x25x2	
Filter Condition	Good	
Utilize CO ₂ and/or DCV?:	No	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	Dx	
Cooling Coil Condition	Ok	
Drain Pan Status	Ok	
Other Conditional Notes:		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar	X	
Unit Tag Info	X	
Heating Coil	N/A	
Cooling Coil	X	
Filters	X	
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-13	
Location:	Roof	
Serving:	Central	
Manufacture	Trane	
Model #	SLHLF2D4CU36C3GD100HC102F4ROAOKG0C0A1B601	
Serial #	202313133L	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(12) 20x20x2	
Filter Condition	GOOD	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	DX R-410A	
Cooling Coil Condition	OK	
Drain Pan Status	OK	

Other Conditional Notes: Reheat In Space

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-14	
Location:	Mezz	
Serving:	Music	
Manufacture	AAON	
Model #	H2-DI-3-50-200:AB0000A0AX	
Serial #	CBW002560	
Manufacture Date	07/2009	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(8) 16x25x2	
Filter Condition	Dirty	
Utilize CO ₂ and/or DCV?:	No	
Heating Type	Hot Water	
Heating Coil Condition	DIRTY	
Cooling Type	DX R-410A	
Cooling Coil Condition	No Access	
Drain Pan Status	No Trap	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	AC-15	
Location:	MEZZ	
Serving:	AUDITORIUM	
Manufacture	Trane	
Model #	UCCAG21COFOE1B1300006	
Serial #	HSOE45671	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(2) 20x25x2 (2) 20x20x2 (2) 16x25x2 (2) 16x20x2	
Filter Condition	DIRTY	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	HOT WATER	
Heating Coil Condition	OK	
Cooling Type	DX R-410A FED FROM CU-1 ABOVE	
Cooling Coil Condition	OK	
Drain Pan Status	OK	

Other Conditional Notes: Dx and reheat is backwards

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	Fume Hood LEF-1	
Location:	ROOF	
Serving:	Science Lab Prep C105	
Manufacture	LOREN COOK	
Model #	120 TCNHL1	
Serial #	140SH92983-01/0000701	
Manufacture Date	2/2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	N/A	
Filter Condition	N/A	
Utilize CO ₂ and/or DCV?:	N/A	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	N/A	
Cooling Coil Condition	N/A	
Drain Pan Status	N/A	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	
Unit Tag Info	X
Heating Coil	
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	Fume Hood LEF-2	
Location:	ROOF	
Serving:	Science Lab STEM	
Manufacture	LOREN COOK	
Model #	120 TCNHL1	
Serial #	140SH92983-01/0002501	
Manufacture Date	2/2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	N/A	
Filter Condition	N/A	
Utilize CO ₂ and/or DCV?:	N/A	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	N/A	
Cooling Coil Condition	N/A	
Drain Pan Status	N/A	
Other Conditional Notes:		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar		
Unit Tag Info	X	
Heating Coil	N/A	
Cooling Coil	N/A	
Filters	N/A	
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	Hood LEF-3	
Location:	ROOF	
Serving:	Science Lab STEM ACADEMY	
Manufacture	LOREN COOK	
Model #	120TCN92983-01/0002502	
Serial #	140SH92983-01/0002502	
Manufacture Date	2/2019	
System CFM	N/A	
Min OA CFM	N/A	
Filter Data (Size, Qty)	N/A	
Filter Condition	N/A	
Utilize CO ₂ and/or DCV?:	N/A	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	N/A	
Cooling Coil Condition	N/A	
Drain Pan Status	N/A	
Other Conditional Notes:		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar		
Unit Tag Info	X	
Heating Coil		
Cooling Coil		
Filters		
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	HX-1	Ag Addition 2018
Location:	Roof	
Serving:	Pool Locker Rooms	
Manufacture	Renew-Air	
Model #	HE3XRT	
Serial #	121 1804C	
Manufacture Date	8-30-2021	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(6) 20x20x2	
Filter Condition	Looks New	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Box HX	
Heating Coil Condition		
Cooling Type	NA	
Cooling Coil Condition	NA	
Drain Pan Status	NA	
Other Conditional Notes:		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar	X	
Unit Tag Info	X	
Heating Coil		
Cooling Coil		
Filters	X	
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-1	Ag Addition 2018
Location:	Roof	
Serving:	Welding	
Manufacture	AAON	
Model #	RN-015-3-0-EBOA-EJN	
Serial #	201903-ANWL-06902	
Manufacture Date	2018	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 20x25x2 Ore, (4) 20x25x4 Final, (2) 16x20x2 Wheel, (4) 12x20x2 OA	Changed 11/23
Filter Condition	Fair	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Clean	
Drain Pan Status	Clean	

Other Conditional Notes: With OA in 70's should have been in economizer

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-2	Ag Addition 2018
Location:	Roof	
Serving:	Wood Shop	
Manufacture	AAON	
Model #	RN-015-3-0-EA09-EJJ	
Serial #	201903-ANWL-06898	
Manufacture Date	2018	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 20x25x2 Pre, (4) 20x25x4 Final, (2) 16x620x2 Wheel, (4) 12x20x2 OA, (2) 20x24x1 OA Metal	
Filter Condition	Fair, Metal filters very dirty	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Clean	
Drain Pan Status	Clean	

Other Conditional Notes: High SF suction due to dirty outdoor air metal prefilters.

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-3	Ag Addition 2018
Location:	Roof	
Serving:	Small Engine Shop	
Manufacture	AAON	
Model #	RN-011-3-0-EA09-EJK	
Serial #	201903-ANWZ06899	
Manufacture Date	2018	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 20x25x2 Ore, (4) 20x25x4 Final, (2) 16x20x2 Wheel, (4) 12x20x2 OA	11/23
Filter Condition	Slightly Dirty	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-5	Ag Addition 2018
Location:	Roof	
Serving:	Ag Stem	
Manufacture	AAON	
Model #	RN-007-3-0-EA09-EJJ	
Serial #	201990-ANWG069103	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 16x20x2, (2) 16x25x2, (2) 16x20x4, (2) 16x25x4, (2) 14x25x2 OA, (2) 16x25x2 Wheel, (2) 16x20x2 OA Metal	One bank of what should be 4' are stacked 2"
Filter Condition	Good	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition	NA	
Cooling Type	DX-1	
Cooling Coil Condition	Good	
Drain Pan Status	Clean but slight rust in pan	

Other Conditional Notes: **Heat Wheel Motor Belt Missing

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-6	Ag Addition 2018
Location:		
Serving:	Vet Science Animal Area	
Manufacture	AAON	
Model #	RN-016-3-0-EA09-EJN	
Serial #	201903-BNWM06913	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(6) 20x25x2, (6) 20x25x2, (6) 12x20x2 Wheel, (3) 16x24x1 OA Metal, (6) 16x20x2 OA Pre	
Filter Condition	Fair, metal OA dirty	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes: High fan suction and starve ventilation air due to plugged prefilters. Unit on Min ODA when it should have been in Economizer 100%

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	
Unit Tag Info	
Heating Coil	
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-2-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-7	Ag Addition 2018
Location:	Roof	
Serving:	Vet Science Class	
Manufacture	AAON	
Model #	RQ-004-3-0 Blurry Image	
Serial #	2019	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(2) 20x20x2, (2) 20x20x4, (2) 12x24x2 OA/RA, (1) 20x20x1 OA Pre metal	
Filter Condition	Fair with OA Pre metal very dirty	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-1	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes: Unit starving for OA due to OA filter dirty. Compressor C-SOLA solenoid short cycling 15 sec. interval

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	blurry
Heating Coil	
Cooling Coil	X
Filters	box
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-8	Ag Addition 2018
Location:		
Serving:	Kitchen	
Manufacture	AAON	
Model #	RN-020-3-0-EA09-EJN	
Serial #	201903-BNWP06914	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(6) 20x25x2, (6) 20-25-4, (3) 20x24x1 OA metal	
Filter Condition	good	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes: No Heat Wheel. Compressor unloader short cycle. With OA metal filters dirty, ventilation restricted and higher fan suction.

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	
Unit Tag Info	
Heating Coil	
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-9	Ag Addition 2018
Location:	Roof	
Serving:	Lab 4 Area C	
Manufacture	AAON	
Model #	RN-011-3-0-EA09-EJL	
Serial #	201903-ANWZ06900	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 20x25x2, (4) 20x25x4, (2) 16x20x2 RA Wheel, (4) 12x20x2 OA	
Filter Condition		
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water	
Heating Coil Condition		
Cooling Type	DX-2	
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes: 80 degree day with unit in economizer and 100% ODA with Mechanical Cooling running

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	
Unit Tag Info	
Heating Coil	
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-10	Ag Addition 2018
Location:	Roof B	
Serving:	Existing Area B	
Manufacture	AAON	
Model #	RN-013-3-0-EA09-EJK	
Serial #	201903-ANWK06901	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(1) 20x25x2, (1) 20x25x4, (2) 16x0x2 RA Wheel, (4) 12x20x2 OA, (2) Metal 20x24x1	
Filter Condition	Filters other than metal clean	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-2	Short Cycle of DX unloader
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	
Unit Tag Info	
Heating Coil	
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-11	
Location:	ROOF	
Serving:	ADDITION CLASS	
Manufacture	AAON	
Model #	RN-016-3-0-EA09EJM	
Serial #	BNWM06915	
Manufacture Date	03/2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(6) 20x25x2 (6) 20x25x4 (6) 16x20x2 (6) 14x20x2	
Filter Condition	OK	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	Hot Water (IN CURB)	
Heating Coil Condition	UNKNOWN	
Cooling Type	DX-R-410A	
Cooling Coil Condition	OK	
Drain Pan Status	OK	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	NO ACCESS
Cooling Coil	X
Filters	X
Additional	WHEEL

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-12	Ag Addition 2018
Location:	Area C Roof	
Serving:	Floral Marketing Area C	
Manufacture	AAON	
Model #	RN-016-3-0-EA09-EJL	
Serial #	201903-BNWM06916	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(6) 20x25x4, (6) 20x25x2, (6) 14x20x2 RA Wheel, (6) 16x20x2 OA, (2) 24x20x1 metal OA	Metal OA Plugged
Filter Condition	Clean except OA Primary	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water 50% PPG	
Heating Coil Condition		
Cooling Type	DX-2	Cooling unloader rapid cycling
Cooling Coil Condition	Good	
Drain Pan Status	Clean	

Other Conditional Notes: Wheel slightly dirty needing cleaning

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	
Cooling Coil	X
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	RTU-13	
Location:	ROOF	
Serving:	AG	
Manufacture	AAON	
Model #	RN-007-3-0-EA09-7K2	
Serial #	ANGG75625	
Manufacture Date	03/2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) 16x20x4 (4) 16x20x2 (1) 16x25x2 (2) 14x25x2 (2) 16x20x2 METAL	
Filter Condition		
Utilize CO ₂ and/or DCV?:		
Heating Type	GAS	
Heating Coil Condition	OK	
Cooling Type	DX-1	
Cooling Coil Condition	OK	
Drain Pan Status	OK	

other conditional notes: hg reheat
roof drain plugged, standing water

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	X
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	HV-1	
Location:	Stage Mezzanine	
Serving:	Gym	
Manufacture	Trane	
Model #	B2H949A/A	
Serial #	H20E45670	
Manufacture Date	2020	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(10) 16x25x2	
Filter Condition		
Utilize CO ₂ and/or DCV?:		
Heating Type	Hot Water	
Heating Coil Condition		
Cooling Type		
Cooling Coil Condition		
Drain Pan Status		
Other Conditional Notes:		
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>	
Unit From Afar		
Unit Tag Info		
Heating Coil		
Cooling Coil		
Filters		
Additional		

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	HV-2	
Location:	ROOF	
Serving:		
Manufacture	AAON	
Model #	RN-050-3-0-0000	
Serial #	BNBW00059	
Manufacture Date	08/2009	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(24) 12x24x4	
Filter Condition	DIRTY SHOULD BE REPLACED BEFORE TAB	
Utilize CO ₂ and/or DCV?:	NO	
Heating Type	N/A	
Heating Coil Condition	N/A	
Cooling Type	N/A	
Cooling Coil Condition	N/A	
Drain Pan Status	N/A	

Other Conditional Notes: NO COILS WITHIN UNIT

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	N/A
Filters	N/A
Additional	DAMPER SEALS MISSING

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5/21/24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	HV-3	
Location:	Roof	
Serving:		
Manufacture	Aaon	
Model #	RN-016-3-0-000	
Serial #	ANBM00056	
Manufacture Date	2009-08	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(6) 20x25x4	
Filter Condition	ok	
Utilize CO ₂ and/or DCV?:	N/A	
Heating Type	Hot Water REHEAT No RTU heating coils	
Heating Coil Condition	N/A	
Cooling Type	N/A	
Cooling Coil Condition	N/A	
Drain Pan Status	N/A	

Other Conditional Notes:

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	N/A
Cooling Coil	N/A
Filters	x
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	HV-5	
Location:	Roof	
Serving:	Locker Rooms	
Manufacture	AAON	
Model #	RN-016-3-0-000	
Serial #	200908-ANBM00057	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(6) 20x25x2	
Filter Condition	Fair	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	NA	
Heating Coil Condition		
Cooling Type	None	
Cooling Coil Condition		
Drain Pan Status		

Other Conditional Notes: Assume Reheats downstream

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	
Unit Tag Info	
Heating Coil	
Cooling Coil	
Filters	
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: RCM Date: 5-21-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	HV-7	1970
Location:	Roof B	
Serving:	Art	
Manufacture	AAON	
Model #	RN040-3-0-0000-EJH	
Serial #	201908-BNWW00939	
Manufacture Date	2019	
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(8) 24x24x4	
Filter Condition	Fair	
Utilize CO ₂ and/or DCV?:	NA	
Heating Type	Hot Water	
Heating Coil Condition		
Cooling Type	NA	
Cooling Coil Condition		
Drain Pan Status		

Other Conditional Notes: HV unit running on 100 RA when it should have been ventilating space with outside air.

<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	
Cooling Coil	
Filters	X
Additional	

SHEPAUG HIGH SCHOOL REGION 12 EQUIPMENT DATA SHEET

Auditor: REA Date: 5-22-24	<u>Data Collected</u>	<u>Addition Details</u>
Unit ID:	Pool-Pak	
Location:	Roof	
Serving:	Pool	
Manufacture	Pool Pak	
Model #	VHR-015-B-X-N3VB2143G2E3AG0	
Serial #	VHR20054011	
Manufacture Date		
System CFM		
Min OA CFM		
Filter Data (Size, Qty)	(4) Metal mesh (4) 20x20x2	
Filter Condition	Poor	
Utilize CO ₂ and/or DCV?	N/A	
Heating Type	(2) Gas Burner	
Heating Coil Condition	OK	
Cooling Type	HEAT PIPE	
Cooling Coil Condition	COIL DIRTY	
Drain Pan Status	OK	

Other Conditional Notes: Unit has the incorrect filters installed and the existing are in poor condition.

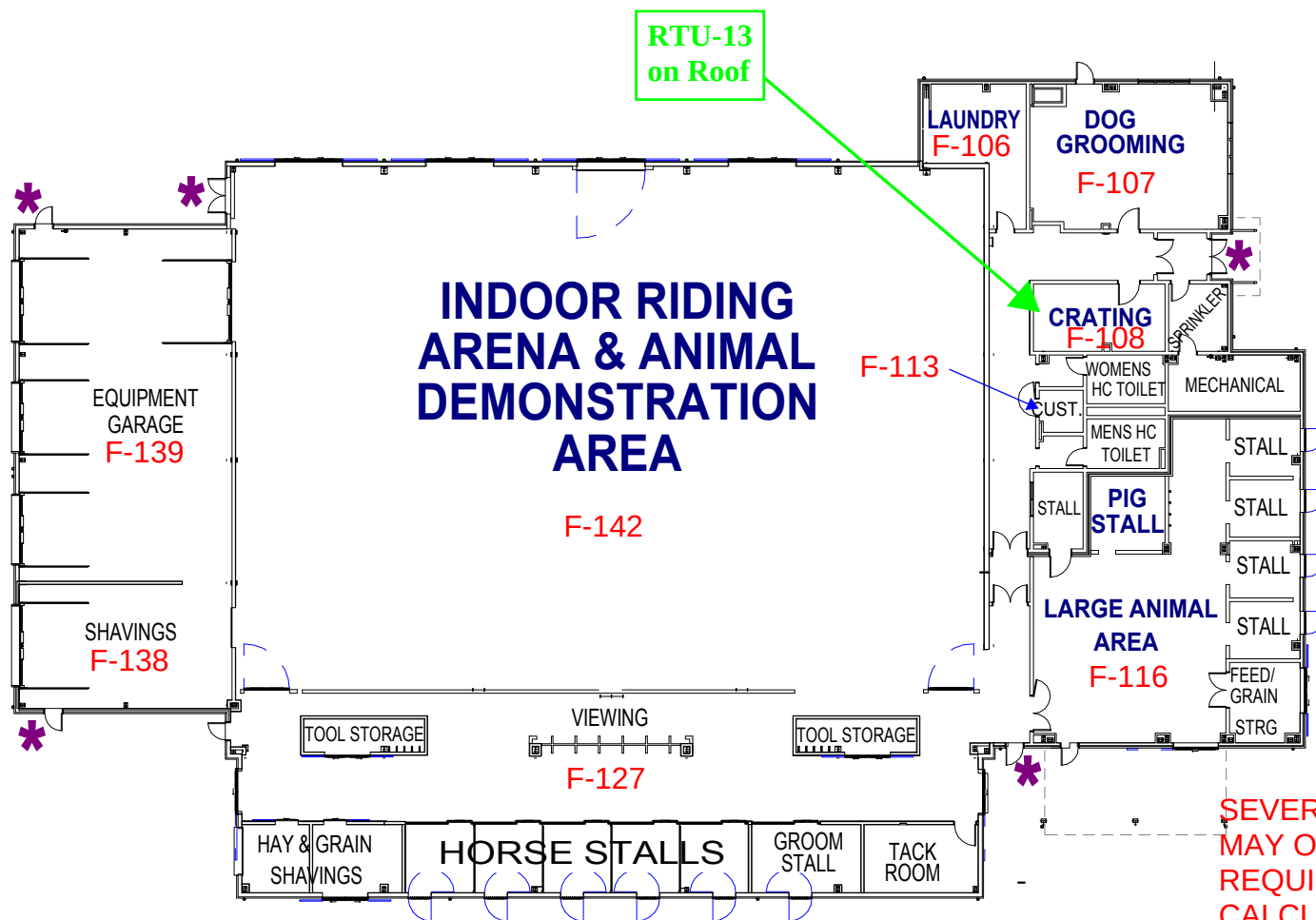
<u>Description</u>	<u>Supporting Photos Taken (Check All That Applies)</u>
Unit From Afar	X
Unit Tag Info	X
Heating Coil	X
Cooling Coil	X Heat Recovery
Filters	x
Additional	Wrong filters

Appendix 5

Floor Plans







OUTSIDE NEW
EXTERIOR DOORS
WITH AN ASTERISK:
ALL VISITORS MUST
REPORT TO THE
MAIN OFFICE

SEVERAL AREAS NOTED
MAY OR MAY NOT BE
REQUIRED IN IAQ
CALCULATIONS AS THERE
IS NO MECHANICAL
VENTILATION, (OPEN AIR)

Appendix 6

Photos





