

MECHANICAL VENTILATION SCHEDULE													
ROOM	OCCUPANY CLASSIFICATION	FLOOR AREA (FT²)	ROOM VOLUME (FT³)	OCCUPANT LOAD (OCCUPANT/1,000 FT²)	# OF OCCUPANTS	REQUIRED CFM/OCCUPANT	REQUIRED CFM/FT²	BREATHING ZONE OUTDOOR AIRFLOW (CFM)	ZONE DISTRIBUTION EFFECTIVENESS	TOTAL ROOM OUTDOOR AIR REQUIRED (CFM)	ACTUAL ROOM OUTDOOR AIRFLOW RATE (CFM)	TOTAL SUPPLY AIRFLOW (CFM)	AIR CHANGE RATE (ACH)
									COOLING				
MAIN GYM	GYM	12736	318400	7	89	20	0.18	4076	0.8	5094	5095	9000	1.7
ANNEX GYM	GYM	11810	295250	7	83	20	0.18	3779	0.8	4724	4725	9000	1.8
MECHANICAL VENTILATION SCHEDULE NOTES : 1. ACTUAL OUTDOOR AIR VENTILATION SUPPLY IS BASED OFF MAX OCCUPANCY POSTED IN GYMNASIUM													

UNIT #	AREA SERVED	SUPPLY FAN					RETURN/EXHAUST FAN				COOLING						HEATING – HEAT PUMP			HEATING COIL (30% GLYCOL)				FILTER	ELECTRICAL			WEIGHT (LBS)	MAKE & MODEL NO.	REMARKS
		AIRFLOW (CFM)	OUTSIDE AIR (CFM)	ESP (IN WC)	TSP (IN WC)	MOTOR (HP)	AIRFLOW (CFM)	ESP (IN WC)	TSP (IN WC)	MOTOR (HP)	NOMINAL CAPACITY (TONS)	REFRIG.	TOTAL CAPACITY (MBH)	SENS. CAPACITY (MBH)	EER	CONDENSER	EDB/LDB (°F)	TOTAL CAPACITY (MBH)	COP	EDB/LDB (°F)	FLOW (GPM)	EWT/LWT (°F)	TOTAL CAPACITY (MBH)	MERV	MCA	MAX FUSE SIZE	VOLT/PH/Hz			
																EAT (°F DB)														
RTU-D1	MAIN GYM	9000	4500	1.25	3.35	10	6049	1.0	2.23	5	40	R410A	384.4	233.1	11.0	95	69.5/104.1	368.5	3.2	69.5/99.8	30.6	180/160	299.2	14	90.3	100	460/3/60	7912	TRANE HORIZON OANE480A4	
RTU-D2	MAIN GYM	9000	4500	1.25	3.35	10	6049	1.0	2.23	5	40	R410A	384.4	233.1	11.0	95	69.5/104.1	368.5	3.2	69.5/99.8	30.6	180/160	299.2	14	90.3	100	460/3/60	7912	TRANE HORIZON OANE480A4	
RTU-3	ANNEX GYM	4000	2250	1.50	3.25	5	2431	1.0	2.18	1.5	15	R410A	162.8	117.4	10.6	95	60.8/84.7	110.5	3.2	60.8/115.7	24.6	180/160	240.2	14	42.3	50	460/3/60	3914	TRANE HORIZON OADG015C3	
RTU-4	ANNEX GYM	4000	2250	1.50	3.25	5	2431	1.0	2.18	1.5	15	R410A	162.8	117.4	10.6	95	60.8/84.7	110.5	3.2	60.8/115.7	24.6	180/160	240.2	14	42.3	50	460/3/60	3914	TRANE HORIZON OADG015C3	
RTU-5	ANNEX GYM	4000	2250	1.50	3.25	5	2431	1.0	2.18	1.5	15	R410A	162.8	117.4	10.6	95	60.8/84.7	110.5	3.2	60.8/115.7	24.6	180/160	240.2	14	42.3	50	460/3/60	3914	TRANE HORIZON OADG015C3	
RTU-6	ANNEX GYM	4000	2250	1.50	3.25	5	2431	1.0	2.18	1.5	15	R410A	162.8	117.4	10.6	95	60.8/84.7	110.5	3.2	60.8/115.7	24.6	180/160	240.2	14	42.3	50	460/3/60	3914	TRANE HORIZON OADG015C3	

REMARKS:

1. BASIS OF DESIGN IS BY TRANE OR APPROVED EQUAL.
2. RTU - D1 & D2 TO HAVE ADAPTER CURBS.
3. RTU - 3, 4, 5, 6, **MECHANICAL CONTRACTOR TO PROVIDE NEW 14" HIGH INSULATED ROOF CURB WITH VIBRATION ISOLATORS, GENERAL CONTRACTOR TO INSTALL.**
4. PROVIDE SUPPLY AND RETURN AIR SMOKE DETECTORS (FACTORY INSTALLED) TO SHUTDOWN UNIT.
5. **PROVIDE 4" PLEATED AIR FILTERS, MERV 14 RATING, SEE SPEC 234100 FOR MORE INFO. MC TO REPLACE ALL FILTERS PRIOR TO TURN OVER.**
6. PROVIDE START-UP BY MANUFACTURER'S AUTHORIZED TECHNICIAN.
7. PROVIDE FACTORY INSTALLED 0-100% ECONOMIZER WITH DIFFERENTIAL ENTHALPY CONTROL.
8. UNIT TO BE DELIVERED VIA CRANES, ALL NECESSARY PERMITS FOR RIGGING REQUIRED.
9. **MC TO PROVIDE FACTORY INSTALLED VFD W/ INTEGRAL MOTOR STARTERS FOR EACH FAN, EC TO FURNISH AND INSTALL NON-FUNCTION TYPE DISCONNECT SWITCHES(FIELD INSTALL).**
10. **MC TO FURNISH UNIT WITH CONVENIENCE OUTLET AND SUPPLY AN EXHAUST FAN SERVICE LIGHT. COORDINATE WITH EC.**
11. PROVIDE WITH MODULATING DIGITAL SCROLL COMPRESSORS AND MODULATING HOT GAS REHEAT.
12. PROVIDE WITH 2" DOUBLE WALL CONSTRUCTION.
13. PROVIDE HOT GAS BYPASS WITH CONTINUOUS CAPACITY MODULATION (MAXIMUM 25% TOTAL CAPACITY).
14. PROVIDE FACTORY ZONE AND TEMPERATURE SENSORS FOR PROPER INSTALLATION AND COORDINATION WITH UNIT CONTROLS.
15. PROVIDE BACNET COMPATIBLE CONTROLS FOR INTERCONNECTION TO EXISTING SIEMENS BMS SYSTEM. FULL DDC CONTROL OF ENERGY WHEELS (WHERE APPLICABLE) INCLUDING FROST PROTECTION VIA ENERGY WHEEL VFD SPEED CONTROL. 100% ECONOMIZER MODE VIA ENERGY WHEEL BYPASS DAMPERS.
16. **MECHANICAL TO PROVIDE HEATING CONTROL VALVE. SEE COIL PIPING DETAILS ON DRAWING M503.**
17. **NET WEIGHT DOES NOT INCLUDE WEIGHT OF CURB. NET CURB WEIGHT TO BE CONFIRMED BY CURB MANUFACTURER.**
18. **MC TO FIELD INSTALL VIBRATION ISOLATION SUPPORTS FOR ENERGY RECOVERY WHEEL AT EACH UNIT.**
19. POWER/CIRCUIT INFORMATION OF NEW UNITS TO BE COORDINATED WITH ELECTRICAL CONTRACTOR. SHOWN HERE FOR REFERENCE ONLY.
20. UNITS TO BE PROVIDED WITH AND HAVE DEMAND CONTROL VENTILATION.
21. UNITS TO HAVE TWO CO2 SENSORS PER UNIT MOUNTED IN CONDITIONED SPACE.

ROOFTOP HEAT PUMP UNIT SCHEDULE - CONTINUED																
UNIT #	ENERGY RECOVERY WHEEL															
	WINTER CONDITIONS								SUMMER CONDITIONS							
	SUPPLY AIR			EXHAUST AIR			THERMAL EFF %	HEAT RECOVERED MBH	SUPPLY AIR			EXHAUST AIR			THERMAL EFF %	HEAT RECOVERED MBH
	INLET DB/WB	OUTLET DB/WB	AIR PD	INLET DB/WB	OUTLET DB/WB	AIR PD			INLET DB/WB	OUTLET DB/WB	AIR PD	INLET DB/WB	OUTLET DB/WB	AIR PD		
RTU-D1	9/5.6	64.1/55.6	0.78	75/63	31.6/31.4	0.98	83%	424.32	88/76	77/67.3	0.78	75/65	83.5/72.3	0.98	84%	148.95
RTU-D2	9/5.6	64.1/55.6	0.78	75/63	31.6/31.4	0.98	83%	424.32	88/76	77/67.3	0.78	75/65	83.5/72.3	0.98	84%	148.95
RTU-3	9/5.6	53.6/46.8	0.98	70/58	25.2/24.3	0.98	73%	163.46	77/63	75.5/63	0.98	75/63	76.5/63.1	0.98	74%	6.96
RTU-4	9/5.6	53.6/46.8	0.98	70/58	25.2/24.3	0.98	73%	163.46	77/63	75.5/63	0.98	75/63	76.5/63.1	0.98	74%	6.96
RTU-5	9/5.6	53.6/46.8	0.98	70/58	25.2/24.3	0.98	73%	163.46	77/63	75.5/63	0.98	75/63	76.5/63.1	0.98	74%	6.96
RTU-6	9/5.6	53.6/46.8	0.98	70/58	25.2/24.3	0.98	73%	163.46	77/63	75.5/63	0.98	75/63	76.5/63.1	0.98	74%	6.96

AIR OUTLETS SCHEDULE									
TAG	SERVICE	TYPE	FACE SIZE (IN)	NECK SIZE (IN)	MOUNTING	MAX. NOISE CRITERIA (NC)	BASIS OF DESIGN		REMARKS
							MFR.	MODEL #	
S-1	SUPPLY	STEEL ROUND PLAQUE DIFFUSER	27-3/8"Ø	SEE PLANS	DUCT MOUNTED	25	NAILOR	RJN1	1, 3, 4, 5
R-1	RETURN	STEEL RETURN REGISTER	24x24	-	LAY IN	25	NAILOR	6145H	1, 2, 3, 4, 5
S-3	SUPPLY	STEEL SUPPLY GRILLE	6X4	-	WALL MOUNTED	25	NAILOR	6145H	3,4,5
TG	RETURN	STEEL RETURN GRILLE	SEE PLANS	-	WALL MOUNTED	25	NAILOR	6145H	3,4,5

NOTES:

1. NECK SIZES ARE INDICATED ON THE PLANS.
2. PROVIDE 48X24 CEILING MODULE.
3. PROVIDE VOLUME DAMPERS OPPOSED BLADE DAMPER FROM MANUFACTURER.
4. COORDINATE FINISH, BORDER TYPE, AND INSTALLATION WITH ARCHITECTURAL PLANS.
5. OR APPROVED EQUAL

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO FULL SCALE

[illegible]

Drawn by	A.W
Checked by	P.C
Project No.	43065
Scale	AS NOTED
Date	12/06/23

REG. EXP DATE: 10-31-26

Mechanical & Electrical Engineer:	GREENMAN PEDERSEN, INC. 2 KENNEDY BOULEVARD, SUITE 202, SUFFERN, NY 10901
Structural Engineer:	

**NORTH ROCKLAND HIGH
SCHOOL CHILLER & HVAC
UPGRADES**

HIGH SCHOOL SED# 50-02-01-06-0-018-037

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HS A

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Drawing Title
**MECHANICAL
 SCHEDULES - 2**

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