

ADDENDUM NO. 02

PROJECT: South Orangetown Central School District
PHASE 1: 2022 BOND

CPL PROJECT NO. 14457.20

DATE: November 3, 2023

Include this Addendum as part of the Contract Documents. It supplements portions of the original specifications and drawings, the extent of which shall remain, except as revised herein:

CLARIFICATIONS

- 1.1 CLE: H201, H203, H205, H206
Delete all grilles on the return ductwork that are above the ceiling connected to the DOAS units. Duct shall be open ended.

CHANGES TO THE SPECIFICATIONS

- 2.1 Section 230593: Remove Part 3.8 Commissioning
- 2.2 Section 224000; Part 2.4.A: Replace Item 3 to read:
3. Flush Operation: Manual
- 2.3 Section 224000; Part 2.4.B: Remove item 1.
- 2.4 Section 224000; Part 2.5.A: Replace Item 3 to read:
3. Flush Operation: Manual
- 2.5 Section 224000; Part 2.5.C: Remove item 1.
- 2.6 After Section 101423 Panel Signage: Add attached Section 101463 LED Video Display
- 2.7 After Section 107300: Add attached Section 116843 Arena Pro 1000 Sound System

CHANGES TO THE DRAWINGS

- 3.1 Drawings WOS P200 & WOS P201: Revise Keynotes 1 & 2 to read as follows:
1. PROVIDE SINK, SUPPORTS, DOMESTIC WATER SUPPLY LINES, SUPPLY SHUT OFF VALVES, & P-TRAP. RECONNECT TO EXISTING SANITARY AND VENT PIPING SYSTEM.
2. PROVIDE FLOOR MOUNTED WATER CLOSET, COLD WATER SUPPLY LINE, AND SUPPLY SHUT OFF VALVE. RECONNECT TO EXISTING SANITARY AND VENT PIPING SYSTEM.



- 3.2 Drawing CLE H900: Replace with attached revised CLE H900
- 3.3 Drawing CLE H901: Replace with attached revised CLE H901
- 3.4 Drawing WOS H902: Replace with attached revised WOS H902
- 3.5 Drawing WOS P202: Replace with attached revised WOS P202

END OF ADDENDUM NO. 02

SOUTH ORANGETOWN CSD**2022 BOND PROJECT-PHASE 1**

14457.20

**FULL COLOR LED 6MM VIDEO
DISPLAY**

101463

**SECTION 101463
FULL COLOR LED 6MM VIDEO DISPLAY****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes: Electronic, full color, LED video display with 6mm pitch including control software for operating video display and other accessories for complete functional installation.
 - 1. Related Sections
 - a. Section 01 10 00 - Summary: Provision by Owner of computer and basic software to control message center.
 - b. Section 05 12 00 - Structural Steel Framing: Walls to receive wall mounted message center and / or steel posts and other structural framing to support message center.
 - c. Division 26 - Electrical: Grounding and Bonding, Electrical supply, conduit, wiring, and other electrical compenents for message centers and controls.
- B. REFERENCES
 - 1. American Society for Testing and Materials (ASTM) Publications:
 - a. ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.
 - b. National Electrical Code.
 - c. Federal Communications Commission, Part 15 Rules & Regulations.
 - d. UL and C-UL Standard for Electric Signs

1.2 DEFINITIONS

- A. Light emitting diode (LED): Semi-conductor diode that converts DC electric energy into electromagnetic radiation at a visible frequency. Color of the LED is a function of emitted wavelength.
- B. Luminosity: Brightness of light emitting image. Unit of measure is NIT equal to one candela per square meter.
- C. Pitch: Spacing or distance between two pixels.
- D. Pixel: The smallest element of a display which can be assigned a color. A pixel consists of 1 red, 1 green, 1 blue LED, in the case of an SMD display the LEDs are contained within one package.
- E. Resolution: Indication of amount of detail or sharpness of an image. Typically measured by the number of pixels displayed horizontally and vertically.

1.3 SUBMITTALS

- 1. Provide in accordance with Section 01 33 00 - Submittal Procedures:
 - a. To minimize the environmental impact of multiple paper copies, product installation prints, instructions and diagrams of manufacturer will be submitted in a paperless fashion. The end user shall receive all pertinent hard-copy documentation at delivery.
 - b. Product data for scoreboards, controls, and accessories shall include descriptions of control functions etc.
 - c. Installation drawings, face layout, dimensions, construction, electrical wiring diagrams, and method of anchorage. (Paperless when applicable).
 - d. Copy of guarantee required by Paragraph 1.5 for review by Architect. (Paperless when applicable).
 - e. Manufacturer's installation instructions. (Paperless when applicable).
 - f. Finish Samples.

1.4 QUALITY ASSURANCE

- A. Video Displays shall be designed for interior installation.

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DISPLAY**

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- B. Video Display and other electrical components shall be certified for use in United States and Canada by Underwriters Laboratories (UL) and shall bear UL label.
- C. Video Display and other electrical components shall be electrically grounded in accordance with National Electrical Code (NEC), Article 600.
 - 1. Wireless control unit shall comply with Part 15 of FCC Rules.

1.5 GUARANTEE

- A. Provide under provisions of Section 01 77 00 - Closeout Procedures: 6mm video displays are guaranteed for a period of one (1) year* from the date of invoice against defects in workmanship or material and will be replaced or repaired without cost to the owner provided the equipment or parts (which includes LED segments) are returned postage-paid to the Nevco, Inc. factory.

PART 2 - PRODUCTS**2.1 ACCEPTABLE MANUFACTURERS**

- A. Nevco, 301 East Harris Avenue, Greenville, Illinois 62246; 800-851-4040; www.nevco.com.
- B. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01 25 00 - Product Substitution Procedures.

2.2 MATERIALS

- A. Fabricated viewing area made from aluminum "columns" of custom height in increments of 9.45 inches [240mm] and width of either 28.35 inches [720mm] or 37.8 inches [960mm].
- B. LED (light emitting diode): Designed to provide excellent visibility from all angles and sides. LED life expectancy shall be 100,000 hours to 50% brightness degradation.
- C. Control cable: Ethernet
- D. Fasteners, anchors, brackets, and other exposed hardware not supplied shall be corrosion resistant.

2.3 FULL COLOR VIDEO DISPLAY

- A. Type: [Interior], electronic, LED, [single-sided] video display to be [wall mounted] [installed in combination with scoreboard] [__N/A__]; 6 MM Full Color LED Video Display as manufactured by Nevco.
 - 1. Viewing area: 440 pixels high x 760 pixels wide.
 - 2. Video Display dimensions: 9.00'H x 14.96'W.
 - 3. Display depth: [6 inches] [152mm].
 - 4. LED pixel elements:
 - a. Single Tri-color SMD LED.
 - b. "Virtual Pixels" and other specious designs are specifically excluded.
 - 5. LED pixel pitch: Exactly 6.00mm.
 - 6. Pixel Brightness: 1,500 NITS (cd/m²) minimum.
 - 7. Color capacity: Any additive color perceptible by the human eye. Mathematically greater than 16.7 million colors.
 - a. Color Processing shall be 24 bits minimum (19 bit color, 5 bit brightness).
 - b. Color Temperature, 6500- 9500 deg K (adjustable)
 - 8. Viewing angles: 170 degrees horizontal and vertical.
 - 9. Contrast Ratio: 2,000:1

FRAME RATE: 60 FRAMES PER SECOND.**REFRESH RATE: 3840 HZ.**

- A. Power requirements:
 - 1. Input: 85-265 VAC.
 - 2. Voltage: 100 to 265 Volt AC, 50 – 60 HZ per column with Power Factor Correction.

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**FULL COLOR LED 6MM VIDEO
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WORKING TEMPERATURE: -40 TO +65C

- A. Sub-Module parts replacement shall include per-pixel filtering to simplify matching without use of additional software, or mechanical/electrical adjustments.
 - 1. Maintenance
 - a. Service access: LED Panels front by latches, all other components, front or rear.
 - b. Shall not require any regular scheduled maintenance such as filter cleaning or replacement.

5.2 VIDEO DISPLAY CONTROL SYSTEM

- A. Provide [laptop] [touch screen] and complete control system processor for fully functional installation.
 - 1. Video Display shall be controlled from [laptop] [touch screen] by one person.
 - a. Access to [Display Director™] software shall be limited by a hardware security key.
 - b. Access to [Display Director™] shall be further limited by customer protected password.
 - 2. Operating System: [Display Director™]
 - 3. Video Display Control System has the capability of operating or being expanded to operate multiple displays having different resolutions and aspect ratios from a single user interface.
- B. Video Processor:
 - 1. Capable of supporting up to [650,000] [1,300,000] pixels with full redundancy.
 - 2. Video Input: DVI
 - 3. Video Output: CAT5e Ethernet cable
- C. Communications link: CAT5e Ethernet cable
 - 1. Status of communications between [Display Director™] [Motion Rocket™] and Video Display shall be constantly
- D. monitored.
- E. Graphic capabilities: Text, animation, logos, multiple fonts, moving messages, and video file capability.
- F. Input: Control software shall have ability to import Video files [.avi, .mpg, .mov], Image files [.jpg, .png, .bmp], Audio files [.wav, .mp3/mp4], and live data integration.
 - 1. Cat5e: NTSC, or PAL standard, via Composite (BNC), S-Video mini DIN, Serial Digital Interface (SDI), High
 - a. Definition Serial Digital Interface (HD-SDI). HDMI available.
- G. Proof of Performance: Software will provide an event record as proof of performance.
- H. Display dimming: 64 levels controlled manually.

ACCESSORIES

- A. Provide video display with control cable of required length in installation drawings. Electrical junction boxes, conduits, mounting hardware, and other accessories as required for installation are to be provided by others.

PART 3 - EXECUTION**7.1 PREPARATION**

- A. Coordinate provision of video display with:
 - 1. Design and construction of [wall blocking] [auxiliary framing and supports] [suspension cables] [concrete footings and steel posts and other structural framing] [exterior wall] [monument sign] [] detailed on Drawings and specified in other sections.
 - 2. Design and provision of electrical supply, conduit, wiring, disconnect switch, circuit boxes, and other electrical components for powering video display and controls.
- B. Prior to installation, verify type and location of power supply.

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7.2 INSTALLATION

- A. Before installation, field test video display for operating functions. Ensure that video display accurately performs all operations. Correct deficiencies.
- B. Install video display and accessories in accordance with manufacturer's instructions and approved installation drawings.
- C. Rigidly mount video display level and plumb with fasteners.
- D. Protect video display from other construction operations.

7.3 DEMONSTRATING AND TRAINING

- A. In accordance with Section 01 75 50 - Starting, Adjusting, and Demonstrating, provide demonstration and training session for Owner's representative covering operation and maintenance of electronic message center.
 - 1. 1. Provide operating manual with clear easy to follow instructions. Manufacturer will offer instruction and demonstration at the factory. Provide technical consultation by phone to answer any questions.
- B. .

END OF SECTION

SECTION 11 68 43**NEVCO, INC.****ARENA PRO 1000 SOUND SYSTEM****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes: Interior sound system including control center and other accessories for complete functional installation.
 - 1. Section 26 20 00 Low Voltage Electrical Distribution
 - 2. Section 27 41 14 Integrated Audio-Video Systems

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM) Publications:
 - 1. ASTM B221 - Aluminum-Alloy Extruded Bar, Rod, Wire, Shape, and Tube.
- B. National Electrical Code.
- C. Federal Communications Commission, Part 15 Rules & Regulations.
- D. UL and C-UL Standard for Electric Signs

1.3 SUBMITTALS

- A. Provide in accordance with Section 01 33 00 - Submittal Procedures:
 - 1. To minimize the environmental impact of multiple paper copies, product installation prints, instructions and diagrams of manufacturer will be submitted in a paperless fashion. The end user shall receive all pertinent hard-copy documentation at delivery.
 - 2. Product data for scoreboards, controls, and accessories shall include descriptions of control functions etc.
 - 3. Installation drawings, face layout, dimensions, construction, electrical wiring diagrams, and method of anchorage. (Paperless when applicable).
 - 4. Copy of guarantee required by Paragraph 1.5 for review by Architect. (Paperless when applicable).
 - 5. Manufacturer's installation instructions. (Paperless when applicable).
 - 6. Finish Samples.

1.4 QUALITY ASSURANCE

- A. Source limitation: All components of the Arena Pro sound systems and other accessories and installation hardware shall be products of a single manufacturer.
- B. Manufacturer qualifications: Company specializing in manufacturing electronic scoreboards with 10 years minimum successful world-wide experience.
- C. Scoreboards and other electrical components shall be certified for use in United States and Canada by Underwriter Laboratories, (UL), Inc. and shall bear either UL or C-UL label only.
- D. Scoreboards and other electrical components shall be electrically grounded in accordance with National Electrical Code (NEC), Article 600.

NEVCO, INC. PRODUCT SPECIFICATIONS**MAY 2022****1.5 GUARANTEE**

- A. Provide under provisions of Section 01 78 00 - Closeout Submittals: Guarantee to cover defects in materials and workmanship.
 - 1. 5 years parts and factory labor guarantee for scoreboards, marquees, message centers, video displays, Arena Pro/Stadium Pro loudspeaker enclosures and accessories from invoice date.
 - 2. 2 years part and factory labor guarantee for wireless components, portable scoreboards and solar power kits from invoice date
 - 3. 1 year part and factory labor guarantee for scorer's tables, handheld controls, switches, and Arena Pro accessories and loudspeaker front printed scrim from invoice date.
 - 4. Lifetime telephone support.

PART 2 - PRODUCTS**2.1 ACCEPTABLE MANUFACTURERS**

- A. Nevco, Inc., 301 East Harris Avenue, Greenville, Illinois 62246; 800-851-4040; www.nevco.com.
- B. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01 25 00 - Product Substitution Procedures.

2.2 MATERIALS

- A. Speakers
 - 1. Frequency response:
 - a. (-10DB@1M): 37Hz to 20Khz
 - b. (+/-3db@1M): 43Hz to 20Khz
 - 2. Max SPL @1m: 127dB
 - 3. Max. System Coverage: 40°V x 120°H
 - 4. Audio input: Includes 12 channel mixer with 6 high-gain balanced inputs and 3 stereo line inputs
 - 5. Power input: 120VAC 15 Amp inputs
 - a. Includes automatically sequenced power to properly bring the amplifiers up and down avoiding risk of damage to the speakers
 - b. Power input is required inside the control room, and will need a 120VAC power outlet available at each location.
- B. Subwoofers
 - 1. Single 12"
 - 2. Ported Cabinet for optimal LF tuning
 - 3. Independent Amplifier driven
- C. Custom Designed Speaker Cabinet
 - 1. 6'H x 25"W x 18.5"D
 - 2. Sturdy Steel Fram Construction
 - 3. Total Cabinet Weight (speakers included): 100lbs
- D. Control Equipment
 - 1. 4 space rack 9.5"H x 22.25"W x 24"D, with wheels
 - 2. Furman Power Conditioner
 - 3. Wireless Microphone Receiver

NEVCO, INC. PRODUCT SPECIFICATIONS**MAY 2022**

- 4. 12-Channel Mixer
- 5. Bluetooth Receiver

- E. User Sound system accessory packages consisting of one or more of the following
 - 1. EV Desktop Microphone
 - 2. EV Handheld Wireless Mic with receiver
 - 3. Front mount antenna cable kit

2.3 CABLE CONTORL/WIRING

- A. 22 gauge Mic/Line Cable to be installed between the wall/floor signal plate and first speaker box. Wire is ordered separately by the foot, maximum 1000 ft.
- B. 22 gauge Mic/Line Cable to be installed between two speaker boxes. Wire is ordered separately by the foot, maximum 1000 ft.

PART 3 - EXECUTION**3.1 PREPARATION**

- A. Verify exact Arena Pro 1000 and control center quantities and junction box locations with Architect.
- B. Coordinate requirements for electrical power, wall blocking, auxiliary framing and supports, suspension cables, and other components to be provided under other Specification Sections to ensure adequate provisions are made for complete, functional installation of scoreboards. [Ensure that building roof structure has been designed for loads of suspended scoreboards.]
- C. Coordinate Arena Pro 1000 electrical requirements to ensure proper power source, conduit, wiring, and boxes are provided. Prior to installation, verify type and location of power supply.

3.2 INSTALLATION

- A. Install Arena Pro 1000 sound system and accessories in accordance with manufacturer's instructions and approved installation drawings.
- B. Before installation, field test Arena Pro 1000 and accessories for operating functions. Ensure that sound system accurately perform all operations. Correct deficiencies.
- C. Rigidly mount equipment and loudspeaker enclosures level and plumb with brackets and fasteners.
- D. Clean exposed surfaces.
- E. Protect speaker cabinet finishes from other construction operations.

3.3 DEMONSTRATING AND TRAINING

- A. In accordance with Section 01 75 00 - Starting, Adjusting, and Demonstrating, provide demonstration and training session for Owner's representative covering operation and maintenance of electronic scoreboard.

END OF SECTION



INTEGRATED DISPLAY AND SCORING SOLUTIONS

SPECIFICATION SECTION 116843 INCLUDED FOR
REFERENCE ONLY. SOUND SYSTEM BY OTHERS.

NEVCO, INC. PRODUCT SPECIFICATIONS

MAY 2022

REGISTERS, GRILLES, AND DIFFUSERS						
TAG	APPLICATION	MATERIAL	TYPE	FINISH	DESIGN EQUIP.	NOTES:
D-1	SUPPLY	STEEL	CEILING GRILLE	WHITE	PRICE 500	3
D-2	SUPPLY	STEEL	LAY-IN	WHITE	PRICE SPD	2,4
D-3	SUPPLY	STEEL	ROUND	WHITE	PRICE HCD	1
R-1	RETURN/EA	STEEL	CEILING GRILLE	WHITE	PRICE 510	3
R-2	RETURN/EA	STEEL	LAY-IN	WHITE	PRICE PDN	-
R-3	RETURN/EA	STEEL	GYM RA	WHITE	PRICE 90	1,3
NOTES: 1. OPPOSED BLADE DAMPER. 2. STANDARD AIR FLOW PATTERN. 3. SINGLE DEFLECTION, BLADES PARALLEL TO LENGTH. 4. INSULATED BACK PAN.						

GRAVITY VENTILATOR SCHEDULE										
TAG	LOCATION	SERVICE	MANUF.	MODEL	THROAT AREA (SQ.FT.)	HOOD AREA (SQ.FT.)	AIR FLOW (CFM)	S.P. (IN.WG.)	TYPICAL UNIT MFG & MODEL NO.	NOTES
GI-1	ROOF	I.T. & RESOURCES	GREENHECK	GRSI-8	0.4	2.0	160	0.032	GREENHECK: GRSI-8	1,2
GI-2	ROOF	NURSE	GREENHECK	GRSI-8	0.4	2.0	100	0.013	GREENHECK: GRSI-8	1,2
GR-1	ROOF	I.T. & RESOURCES	GREENHECK	GRSR-8	0.4	2.0	160	0.019	GREENHECK: GRSR-8	1,2
GR-2	ROOF	NURSE	GREENHECK	GRSR-8	0.4	2.0	100	0.008	GREENHECK: GRSR-8	1,2
NOTES: 1. BAROMETRIC RELIEF DAMPER IN CURB. 2. 14" CURB, HINGED BASE AND BIRD SCREEN.										

VRF BRANCH SELECTOR UNITS										
MARK	NUMBER OF BRANCHES AVAILABLE	NUMBER OF BRANCHES USED	MAX TOTAL CAPACITY (MBH)	MAX BRANCH CAPACITY (MBH)	CONNECTED TOTAL HEATING CAPACITY (MBH)	CONNECTED TOTAL COOLING CAPACITY (MBH)	DIMENSIONS (H x W x D)	POWER (V/Ø/HZ)	POWER (WATTS)	TYPICAL UNIT MFG & MODEL NO.
RBU-1	8	8	245	27	216	192	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-2	8	6	245	27	162	144	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-3	8	8	245	27	216	192	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-4	8	5	245	27	128	132	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-5	4	2	191	96	30	51	11" x 26" x 25"	208-230 / 1 / 60	110 W	FUJITSU UTP-RU08AH
RBU-6	8	3	245	27	60	108	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-7	8	8	245	27	216	192	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-8	8	8	245	27	216	192	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-9	4	3	191	96	81	96	11" x 26" x 25"	208-230 / 1 / 60	110 W	FUJITSU UTP-RU08AH
RBU-10	4	4	191	96	49	81	11" x 26" x 25"	208-230 / 1 / 60	110 W	FUJITSU UTP-RU08AH
RBU-11	8	7	245	27	165	195	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-12	4	4	191	96	108	96	11" x 26" x 25"	208-230 / 1 / 60	110 W	FUJITSU UTP-RU08AH
RBU-13	8	8	245	27	216	192	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-14	8	6	245	27	162	144	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH
RBU-15	8	5	245	27	97	135	11" x 26" x 25"	208-230 / 1 / 60	226 W	FUJITSU UTP-RU08AH

HOT WATER REHEAT COIL SCHEDULE														
TAG	LOCATION	AIR DATA				WATER DATA				MFG SIZE RXL (IN.)	ROWS	TYPICAL UNIT MFG & MODEL NO.	NOTES:	
		CFM	TEMP °F		MAX APD (IN WC)	MIN. MBH	GPM	TEMP °F						MAX WPD (FT. HD)
			ENT	LVG				ENT	LVG					
HC-1	GYM	3750	22.6	90.1	0.27	268.6	21.3	180	154.2	2.5	30X30	2	CAPITAL COIL W8-3030-10B-HCA-R	1
HC-2	GYM	3750	22.6	90.1	0.27	268.6	21.3	180	154.2	2.5	30X30	2	CAPITAL COIL W8-3030-10B-HCA-R	1
HC-3	GYM STAGE	2000	28.2	92.0	0.21	138.1	10.7	180	153.2	2.9	18X30	2	CAPITAL COIL W8-3018-09B-4CA-R	1
NOTES: 1. TUBE OD 0.625, TUBE SPACING 1.500 x 1.299														

ELECTRIC REHEAT COIL SCHEDULE													
TAG	LOCATION	AIR DATA					ELECTRICAL			MFG SIZE H (IN.)	MFG SIZE L (IN.)	TYPICAL UNIT MFG & MODEL NO.	NOTES:
		CFM	TEMP °F		MAX APD (IN WC)	KW	VOLTS	Ø	AMPS				
			ENT	LVG									
EC-1	MAIN OFFICE	390	40	72	0.08	13.48	208	3	65	8	10	INDEECO QUA	1,2,3
EC-2	RESOURCE	160	40	72	0.08	5.53	208	3	27	6	6	INDEECO QUA	1,2,3
EC-3	NURSE	100	40	72	0.08	3.46	208	3	17	8	8	INDEECO QUA	1,2,3
EC-4	ENL	265	40	72	0.08	9.16	208	3	45	6	8	INDEECO QUA	1,2,3
EC-5	MAC LAB	260	40	72	0.08	8.99	208	3	45	8	8	INDEECO QUA	1,2,3
NOTES: 1. PROVIDE PROPORTIONAL SCR CONTROLS AND DUCT TEMPERATURE SENSOR. 2. CONNECT TO BMS. 3. FACTORY MOUNTED AND WIRED DISCONNECT.													

ROOFTOP AIR CONDITIONING UNIT SCHEDULE																	
TAG	LOCATION	NOM. TONS	IEER	SUPPLY FAN				COOLING CAPACITY				ELECTRICAL			TYPICAL UNIT MFG & MODEL NO.	NOTES:	
				CFM	OA CFM	ESP (IN. W.C.)	BHP / HP	TOTAL MBH	SENS MBH	EAT°F		LAT°F	AMB °F	VOLT/Ø			MCA
										DB	WB						
RTU-3	STAGE	6	14.8	2000	1100	1.25	1.23/2	72.67	60.37	84.7	67.2	56.04	95	460/3	19	AAON: RN-007-3-0-BABC-V0-21-000-A	1,2,3
NOTES: 1. 14" INSULATED CURB. EXTEND EXISTING CONTROLS TO NEW UNITS. 2. FACTORY MOUNTED AND WIRED DISCONNECT. 2" PREFILTER, 2" MERV 13 FILTER. 3. DOUBLE WAS, R-13 FOAM INSULATION.																	

ENERGY RECOVERY UNITS																					
TAG	LOCATION	AREA SERVED	SA (CFM)	EA (CFM)	RA (CFM)	SUPPLY FAN				EXHAUST FAN				TOTAL MBH SAVED SUMMER	TOTAL MBH SAVED WINTER	OPERATING WEIGHT (LBS)	FILTERS	ELECTRICAL REQUIREMENTS		TYPICAL UNIT MFG & MODEL NO.	NOTES:
						FAN TYPE	E.S.P. (IN. WC)	WATTS	HP	FAN TYPE	E.S.P. (IN. WC)	WATTS	HP					V/Ø/HZ	MCA		
ERU-12	ROOF	MAIN OFFICE	390	390	390	DIRECT	0.75	395	0.5	DIRECT	0.75	395	0.5	9.0	21.1	184-243	MERV 8	208/1	15	RENEWAIRE EV450RT	1,2,3,4
ERU-13	CORRIDOR	RESOURCE	160	160	160	DIRECT	0.47	146	0.1	DIRECT	0.47	146	0.1	4.2	9.3	68	MERV 8	208/1	15	RENEWAIRE: EV200	1,2,3,4
ERU-14	212 NURSE	NURSE	100	100	100	DIRECT	0.77	111	0.1	DIRECT	0.77	111	0.1	2.8	6.1	68	MERV 8	208/1	15	RENEWAIRE: EV200	1,2,3,4
ERU-15	ROOF	MAT LABS	260	260	260	DIRECT	0.75	493	0.6	DIRECT	0.75	493	0.6	6.9	15.1	184-243	MERV 8	208/1	15	RENEWAIRE EV450RT	1,2,3,4
ERU-16	ROOF	ENL, BOOK, CUSTODIAN	265	265	265	DIRECT	0.75	493	0.6	DIRECT	0.75	493	0.6	7.0	15.4	184-243	MERV 8	208/1	15	RENEWAIRE EV450RT	1,2,3,4
NOTES: 1. FACTORY MOUNTED AND WIRED DISCONNECT. 2. FRESH AIR AND EXHAUST DAMPERS. 3. TERMINAL STRIP FOR BMS CONTROL OF FAN AND DAMPERS. 4. DIRTY FILTER SENSORS.																					

VRF INDOOR UNITS														
MARK	ROOM SERVED	TYPE	AIRFLOW (H/M/L) CFM	OUTDOOR AIRFLOW CFM	ESP (INWG)	NOM.HEATING CAPACITY MBH	NOM.COOLING CAPACITY MBH	DIMENSIONS (W" X H" X D")	WEIGHT (LBS)	POWER (ØV/HZ)	MOCP	FLA	TYPICAL UNIT MFG & MODEL NO.	NOTES
SSI-1,2	411	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-3,4	409	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-5,6	407	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-7,8	405	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-9,10	410	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-11,12	408	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-13,14	406	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-15	404	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-16	400B	CEILING CASSETTE	318/271/230	50	-	9.5	7.5	23 X 23 X 10	40	1/208/60	15	0.41	FUJITSU AUUA7TLAV2	1,2,3,4,5,6
SSI-17	400C	CEILING CASSETTE	418/348/271	50	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-18,19	400	CEILING CASSETTE	418/348/271	75	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-20,21	106	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-22,23	108	CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-24,25	110	CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-26,27	111	CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-28,29	109	CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-30,31	107	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-32,33	105	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-34	101A	CEILING CASSETTE	318/271/230	50	-	9.5	7.5	23 X 23 X 10	40	1/208/60	15	0.41	FUJITSU AUUA7TLAV2	1,2,3,4,5,6
SSI-35	101G	CEILING CASSETTE	418/348/271	-	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-36	200B	CEILING CASSETTE	418/348/271	-	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-37	200	CEILING CASSETTE	418/348/271	-	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-38	202	CEILING CASSETTE	418/348/271	50	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-39	204	CEILING CASSETTE	418/348/271	-	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-40,41	206	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-42,43	208	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-44,45	210	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-46,47	209	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-48,49	207	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-50,51	205	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-52	201B	CEILING CASSETTE	318/271/230	110	-	9.5	7.5	23 X 23 X 10	40	1/208/60	15	0.41	FUJITSU AUUA7TLAV2	1,2,3,4,5,6
SSI-53	202A	CEILING CASSETTE	418/348/271	50	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-54	212	CEILING CASSETTE	318/271/230	50	-	9.5	7.5	23 X 23 X 10	40	1/208/60	15	0.41	FUJITSU AUUA7TLAV2	1,2,3,4,5,6
SSI-55	212A	CEILING CASSETTE	318/271/230	50	-	9.5	7.5	23 X 23 X 10	40	1/208/60	15	0.41	FUJITSU AUUA7TLAV2	1,2,3,4,5,6
SSI-56,57	300C	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-58	300B	CEILING CASSETTE	318/271/230	-	-	9.5	7.5	23 X 23 X 10	40	1/208/60	15	0.41	FUJITSU AUUA7TLAV2	1,2,3,4,5,6
SSI-59	300A	CEILING CASSETTE	418/348/271	-	-	20	18	23 X 23 X 10	44	1/208/60	15	0.41	FUJITSU AUUA18TLAV2	1,2,3,4,5,6
SSI-60	302	CEILING CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-61,62	301	CEILING CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-63,64	301A	CEILING CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-65,66	301B	CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-67	304	CEILING CASSETTE	589/512/436	-	-	27	24	46 X 32 X 13	84	1/208/60	15	0.74	FUJITSU ABUA24TLAV2	1,2,3,4,5,6
SSI-68,69	306	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-70,71	308	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-72,73	310	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-74,75	312	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-76,77	311	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-78,79	309	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-80,81	307	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-82,83	305	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
SSI-84,85	303	CEILING CASSETTE	607/465/330	-	-	27	24	23 X 23 X 10	44	1/208/60	15	0.62	FUJITSU AUUA24TLAV2	1,2,3,4,5,6
NOTES:	1. UNIT MOUNTED AND WIRED DISCONNECT. 2. BAC NET INTEGRATION TO BMS. 3. COLOR WHITE. 4. DRAIN PAN LEVEL SENSORS. 5. CONDENSATE PUMP. 6. OUTDOOR UNITS POWERS INDOOR UNITS.													

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FAN COIL UNIT SCHEDULE																																	
TAG	LOCATION	SERVICE	MANUFACTURER	MODEL	TYPE	FAN				HOT WATER HEATING COIL											FILTER	ELECTRICAL						WEIGHT (LBS)	NOTES				
						AIR FLOW (CFM)	ESP (IN.WG.)	MOTOR BHP	MOTOR HP	DRIVE	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	CAPACITY (MBH)	FLUID TYPE	GPM	WPD (FT.WG)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)		AMBIENT (°F)	FACE VELOCITY (FPM)	CIRCUITS	REFRIGERANT	V	PH			HZ	MCA	FLA	MOCp
FCU-1	VEST	102 VEST	AIR THERM	SRBB	DUCTED	500	100	-	2	DIRECT	50	90	180	150	21.6	WATER	1.44	-	19.3	13.5	85	400	1	R410A	MERV 8	120	1	60	-	-	15	-	1.2
NOTES: 1. PROVIDE DISCONNECT. 2. CEILING RECESSED																																	

NOTES: 1. PROVIDE DISCONNECT.
2. CEILING RECESSED

2

ENERGY RECOVERY EHEEL PERFORMANCE SCHEDULE																													
TAG	SUPPLY FAN				EXHAUST FAN				WINTER CONDITIONS										SUMMER CONDITIONS									TYPICAL UNIT MFG & MODEL NO.	NOTES:
	AIR FLOW (CFM)	E.S.P. (IN WC)	RPM	HP	AIR FLOW (CFM)	E.S.P. (IN WC)	RPM	HP	WHEEL ENTERING CONDITIONS				WHEEL LEAVING CONDITIONS				TOTAL CAPACITY	WHEEL ENTERING CONDITIONS				WHEEL LEAVING CONDITIONS				TOTAL CAPACITY	EFFECTIVENESS @ SUMMER DESIGN		
									OUTSIDE AIR		RETURN AIR		SUPPLY AIR		EXHAUST AIR			OUTSIDE AIR		RETURN AIR		SUPPLY AIR		EXHAUST AIR					
									DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)		DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)				
RTU-1	3675	0.75	1760	5	2390	0.5	1760	2	-2	-3	65	62	42.71	42.71	20.29	20.29	185.74	95	71	72	62	79.25	65.08	87.47	68.27	46.05	66.4	AAON RN-011-3-0-DAAC-V0-21-000-A	1,2,3
RTU-2	3675	0.75	1760	5	2390	0.5	1760	2	-2	-3	65	62	42.71	42.71	20.29	20.29	185.74	95	71	72	62	79.25	65.08	87.47	68.27	46.05	66.4	AAON RN-011-3-0-DAAC-V0-21-000-A	1,2,3
NOTES: 1. 14" INSULATED CURB. EXTEND EXISTING CONTROLS TO NEW UNITS. 2. FACTORY MOUNTED AND WIRED DISCONNECT. 2" PREFILTER, 4" MERV 13 FILTER. 3. DOUBLE WAS, R-13 FOAM INSULATION.																													

NOTES: 1. 14" INSULATED CURB. EXTEND EXISTING CONTROLS TO NEW UNITS.
2. FACTORY MOUNTED AND WIRED DISCONNECT. 2" PREFILTER, 4" MERV 13 FILTER.
3. DOUBLE WAS, R-13 FOAM INSULATION.

ENERGY RECOVERY UNIT																						
MARK	LOCATION	AREA SERVED	SA/OA (CFM)	EA (CFM)	RA (CFM)	SUPPLY FAN				EXHAUST FAN				HEATING TYPE	FROST CONTROL	OPERATING WEIGHT (LBS)	FILTERS	UNIT ELECTRICAL REQUIREMENTS				
						FAN TYPE	E.S.P. (IN. WC)	RPM	BHP	HP	FAN TYPE	E.S.P. (IN. WC)	RPM					BHP	HP	V/Ø/HZ	MCA	
ERU-1	ROOF	CLASSROOMS	2000	2000	2000	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-2	ROOF	CLASSROOMS	1500	1500	1500	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-3	ROOF	CLASSROOMS	2000	2000	2000	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-4	ROOF	CLASSROOMS	1500	1500	1500	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-5	ROOF	CLASSROOMS	2000	2000	2000	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-6	ROOF	CLASSROOMS	1060	1060	1060	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-7	ROOF	CLASSROOMS	2000	2000	2000	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-8	ROOF	CLASSROOMS	2000	2000	2000	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-9	ROOF	CLASSROOMS	700	700	700	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-10	ROOF	CLASSROOMS	1660	1660	1660	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	
ERU-11	ROOF	CLASSROOMS	1040	1040	1040	PLENUM	1	1760	1.48	2	PLENUM	0.5	1760	0.85	2	ELECTRIC	YES	1554	2" PRE-FILTER/4" MERV 13	460/3/60	54	

ENERGY RECOVERY UNIT (CONT.)																					
MARK	WINTER CONDITIONS									SUMMER CONDITIONS									TYPICAL UNIT MFG & MODEL NO.	NOTES	
	WHEEL ENTERING CONDITIONS				WHEEL LEAVING CONDITIONS				EFFECTIVENESS @ WINTER DESIGN	WHEEL ENTERING CONDITIONS				WHEEL LEAVING CONDITIONS				EFFECTIVENESS @ SUMMER DESIGN			
	OUTSIDE AIR		RETURN AIR		SUPPLY AIR		EXHAUST AIR			OUTSIDE AIR		RETURN AIR		SUPPLY AIR		EXHAUST AIR					
	DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)		TOTAL %	DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)	WB (°F)	DB (°F)				WB (°F)
ERU-1	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-2	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-3	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-4	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-5	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-6	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-7	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-8	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-9	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-10	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
ERU-11	-7	-8	68	50	40	32	18.5	16.9	64.8	90	71	75	62	80	65	84.7	68	63.7	AAON RN-007-8-0-E809-13A	1,2,3,4	
NOTES: 1. FACTORY MOUNTED AND WIRED DISCONNECT. 2. FRESH AIR AND EXHAUST DAMPERS. 3. TERMINAL STRIP FOR BMS CONTROL OF FAN AND DAMPERS. 4. DIRTY FILTER SENSORS.																					

NOTES: 1. FACTORY MOUNTED AND WIRED DISCONNECT.
2. FRESH AIR AND EXHAUST DAMPERS.
3. TERMINAL STRIP FOR BMS CONTROL OF FAN AND DAMPERS.
4. DIRTY FILTER SENSORS.

ENERGY RECOVERY UNIT (CONT.)																		
MARK	TYPE	FINS PER INCH	ROWS	FACE VEL	COIL PD	REF.	COMP QTY	COOLING				REHEAT		HEATING				
								TOTAL CAPACITY (MBH)	SENSIBLE (MBH)	EAT(F)	LAT(F)	CAPACITY (MBH)	LAT(F)	INPUT (MBH)	OUTPUT (MBH)	AMBIENT (F)	EAT(F)	LAT(F)
ERU-1	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-2	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-3	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-4	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-5	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-6	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-7	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-8	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-9	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-10	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6
ERU-11	AIR TO AIR	14	3	235	0.12	410A	1	69.2	54.7	80.0/65.3	54.2/53.3	34	70.0/59.5	8.6	47	27/24.3	53.4/41.7	72.1/50.6

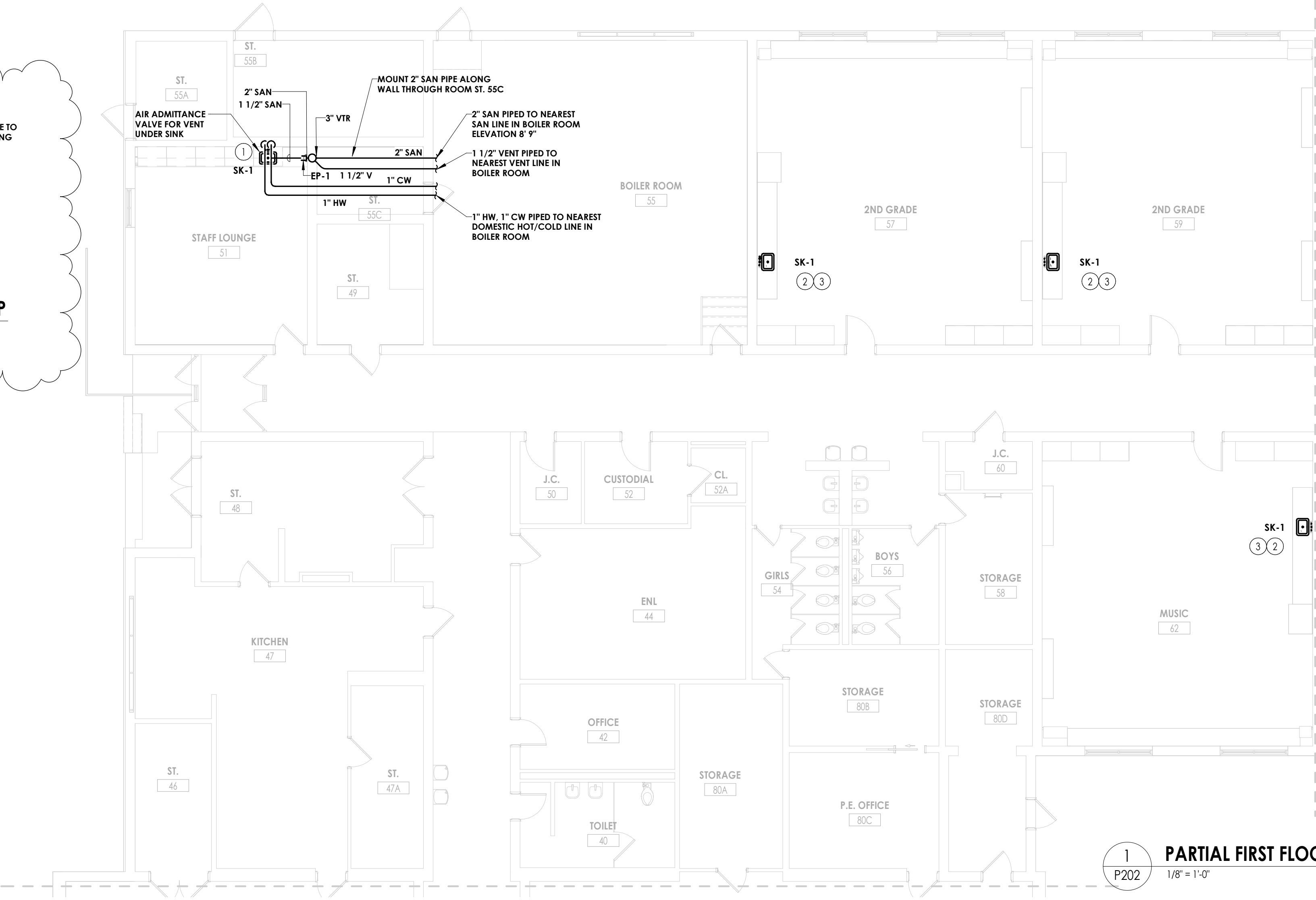
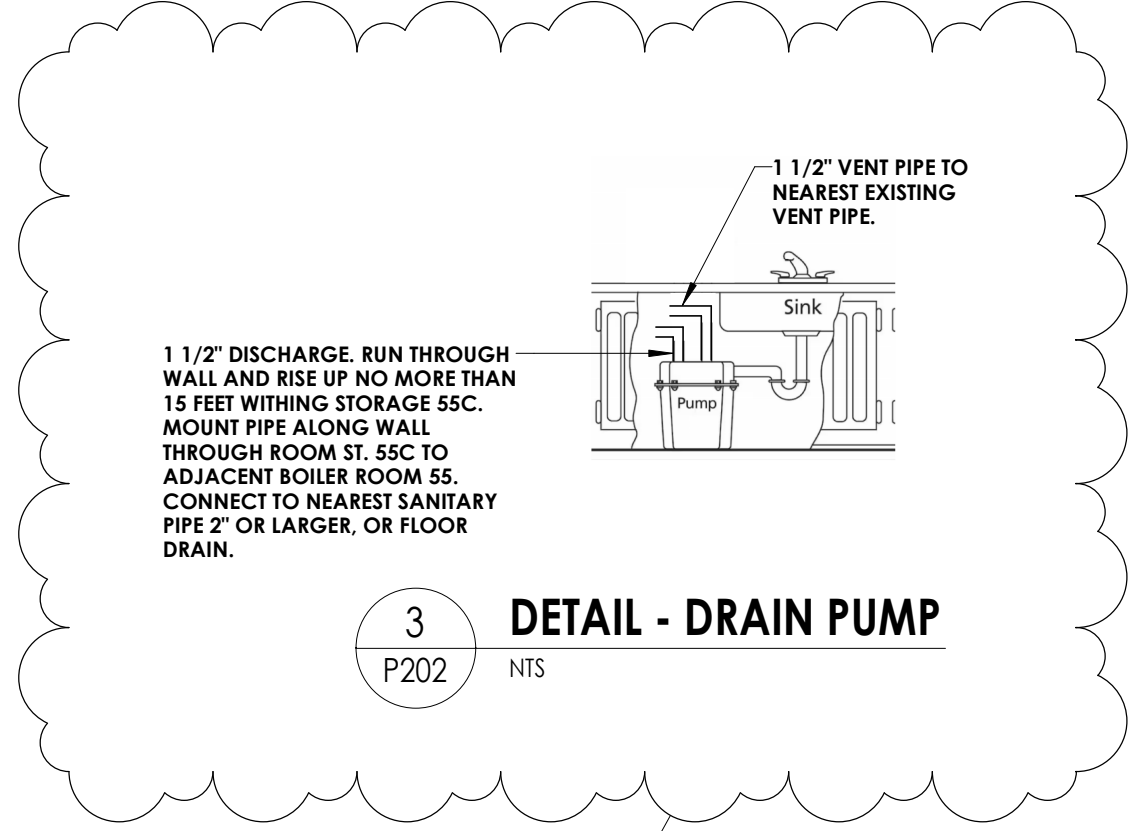
ENERGY RECOVERY UNIT (CONT.)									
MARK	SOUND SOURCE	OCTAVE BAND AND CENTER FREQUENCY (HZ)							
		1	2	3	4	5	6	7	8
ERU-1	DISC.	62.5	125	250	500	1000	2000	4000	8000
	INLET	85	83	86	82	74	72	69	63
		83	81	78	72	70	68	64	60
ERU-2	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-3	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-4	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-5	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-6	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-7	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-8	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-9	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-10	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63
ERU-11	DISC.	85	83	86	82	74	72	69	63
	INLET	83	81	78	72	70	68	64	60
		85	83	86	82	74	72	69	63

VENTILATION CALCULATIONS													
SPACE NAME		HVAC SYSTEM	SPACE MAXIMUM SUPPLY (CFM)	FLOOR AREA (SQ FT)	OCCUPANT DENSITY (PERSONS/SQ FT)	TOTAL OCCUPANCY FOR VENTILATION (PEOPLE/1000 SQ FT)	PEOPLE OUTDOOR AIRFLOW RATE (CFM/PERSON)	AREA OUTDOOR AIRFLOW RATE (CFM/SQ FT)	EXHAUST AIRFLOW RATE (CFM/SQ FT)	AIR DISTRIBUTION EFFECTIVENESS	BREATHING OUTDOOR AIR (CFM)	ZONE OUTDOOR AIRFLOW (CFM)	ADJUSTED CFM
ROOM #	CLASSIFICATION		Vp2	Az	A		Rp	Ra		Ez	Vbz	Voz	
1	CLASSROOMS (5-8)	SSI-19.20	425	891 SF	25	23	10.0	0.12	-	0.8	337	422	425
2	CLASSROOMS (5-8)	SSI-34.35	425	891 SF	25	23	10.0	0.12	-	0.8	337	422	425
3	CLASSROOMS (5-8)	SSI-17.18	425	885 SF	25	23	10.0	0.12	-	0.8	336	421	425
4	CLASSROOMS (5-8)	SSI-36.37	425	888 SF	25	23	10.0	0.12	-	0.8	337	421	425
5	LIBRARY	SSI-11.12.13	240	1099 SF	10	11	5.0	0.12	-	0.8	187	234	240
5A	LIBRARY	SSI-14.15	190	882 SF	10	9	5.0	0.12	-	0.8	151	189	190
6	CLASSROOMS (5-8)	SSI-38.39	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
15	CLASSROOMS (5-8)	SSI-9.10	405	857 SF	25	22	10.0	0.12	-	0.8	323	404	405
16	OFFICE SPACES	SSI-7.7	55	464 SF	5	3	5.0	0.06	-	0.8	43	54	55
16B	SICKROOM	SSI-7.8	50	66 SF	25	2	10.0	0.18	-	0.8	32	40	50
17	CLASSROOMS (5-8)	SSI-7.8	405	857 SF	25	22	10.0	0.12	-	0.8	323	404	405
19	CLASSROOMS (5-8)	SSI-5.6	405	857 SF	25	22	10.0	0.12	-	0.8	323	404	405
20	OFFICE SPACES	SSI-8.4	250	228 SF	5	2	5.0	0.06	-	0.8	24	30	50
21	CLASSROOMS (5-8)	SSI-3.4	480	1025 SF	25	26	10.0	0.12	-	0.8	383	479	480
22	OFFICE SPACES	SSI-8.4	150	104 SF	5	1	5.0	0.06	-	0.8	11	15	50
23	OFFICE SPACES	SSI-8.4	240	266 SF	5	2	5.0	0.06	-	0.8	26	33	50
23A	OFFICE SPACES	SSI-8.4	200	142 SF	5	1	5.0	0.06	-	0.8	14	17	50
23B	OFFICE SPACES	SSI-8.4	200	142 SF	5	1	5.0	0.06	-	0.8	14	17	50
24	CLASSROOMS (5-8)	SSI-85.86	405	857 SF	25	22	10.0	0.12	-	0.8	323	404	405
26	CLASSROOMS (5-8)	SSI-87.88	405	857 SF	25	22	10.0	0.12	-	0.8	323	404	405
30	CLASSROOMS (5-8)	SSI-89.90	520	1105 SF	25	28	10.0	0.12	-	0.8	413	516	520
32	CLASSROOMS (5-8)	SSI-1.2	480	1025 SF	25	26	10.0	0.12	-	0.8	383	479	480
37A	CLASSROOMS (5-8)	SSI-79.80	280	600 SF	25	15	10.0	0.12	-	0.8	222	278	280
37B	CLASSROOMS (5-8)	SSI-81.82	170	356 SF	25	9	10.0	0.12	-	0.8	133	166	170
38	OFFICE SPACES	SSI-7.6	50	309 SF	5	2	5.0	0.06	-	0.8	29	36	50
39	OFFICE SPACES	SSI-7.5	50	261 SF	5	2	5.0	0.06	-	0.8	26	33	50
42	OFFICE SPACES	SSI-7.2	50	141 SF	5	1	5.0	0.06	-	0.8	13	17	50
44	CLASSROOMS (5-8)	SSI-7.1	185	377 SF	25	10	10.0	0.12	-	0.8	145	182	185
51	BREAK ROOMS	SSI-7.0	105	369 SF	30	12	5.0	0.06	-	0.8	82	103	105
57	CLASSROOMS (5-8)	SSI-88.69	425	898 SF	25	23	10.0	0.12	-	0.8	338	423	425
59	CLASSROOMS (5-8)	SSI-86.67	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
61	CLASSROOMS (5-8)	SSI-64.65	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
63	CLASSROOMS (5-8)	SSI-62.63	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
64	CLASSROOMS (5-8)	SSI-42.43	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
65	CLASSROOMS (5-8)	SSI-60.61	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
66	CLASSROOMS (5-8)	SSI-44.45	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
67	CLASSROOMS (5-8)	SSI-58.59	425	889 SF	25	23	10.0	0.12	-	0.8	337	421	425
68	CLASSROOMS (5-8)	SSI-46.47	420	882 SF	25	23	10.0	0.12	-	0.8	336	420	420
69	CLASSROOMS (5-8)	SSI-56.57	425	891 SF	25	23	10.0	0.12	-	0.8	337	422	425
70	CLASSROOMS (5-8)	SSI-48.49	425	889 SF	25	23	10.0	0.12	-	0.8	337	421	425
71	CLASSROOMS (5-8)	SSI-54.55	425	891 SF	25	23	10.0	0.12	-	0.8	337	422	425
72	CLASSROOMS (5-8)	SSI-50.51	425	891 SF	25	23	10.0	0.12	-	0.8	337	422	425
74	ART CLASSROOM	SSI-52.53	715	891 SF	20	18	10.0	0.18	0.70	0.8	340	713	715
80C	OFFICE SPACES	SSI-7.3	50	186 SF	5	1	5.0	0.06	-	0.8	16	21	50
100	CLASSROOMS (5-8)	SSI-32.33	410	869 SF	25	22	10.0	0.12	-	0.8	324	406	410
101	CLASSROOMS (5-8)	SSI-30.31	410	870 SF	25	22	10.0	0.12	-	0.8	324	406	410
102	CLASSROOMS (5-8)	SSI-28.29	410	872 SF	25	22	10.0	0.12	-	0.8	325	406	410
103	CLASSROOMS (5-8)	SSI-26.27	410	872 SF	25	22	10.0	0.12	-	0.8	325	406	410
104	CLASSROOMS (5-8)	SSI-21.22	410	872 SF	25	22	10.0	0.12	-	0.8	325	406	410
105	HEALTH CLUB/WEIGHT ROOM	SSI-23.24	290	856 SF	10	9	20.0	0.06	-	0.8	231	290	290
106	CORRIDOR	RTU-3	50	172 SF	-	0	-	0.06	-	0.8	10	13	50
106A	OFFICE SPACES	RTU-3	50	181 SF	5	1	5.0	0.06	-	0.8	16	20	50
106B	OFFICE SPACES	RTU-3	50	132 SF	5	1	5.0	0.06	-	0.8	13	17	50
106C	OFFICE SPACES	RTU-3	50	124 SF	5	1	5.0	0.06	-	0.8	12	16	50
106D	OFFICE SPACES	RTU-3	50	245 SF	5	2	5.0	0.06	-	0.8	25	31	50
M1	OFFICE SPACES	SSI-25	175	113 SF	5	1	5.0	0.06	-	0.8	12	15	50
M2	OFFICE SPACES	SSI-25	225	150 SF	5	1	5.0	0.06	-	0.8	14	18	50
M3	OFFICE SPACES	SSI-25	385	241 SF	5	2	5.0	0.06	-	0.8	24	31	50
1	CORRIDOR	ERU-13	1,000	2472 SF	-	0	-	0.06	-	0.8	148	186	1000
2	CORRIDOR	ERU-13	1,000	1500 SF	-	0	-	0.06	-	0.8	90	113	1000
	CORRIDOR	SSI-16	600	3830 SF	-	0	-	0.06	-	0.8	230	288	600
3	CORRIDOR	SSI-7.4	600	3830 SF	-	0	-	0.06	-	0.8	230	288	600

ROOFTOP AIR CONDITIONING UNIT SCHEDULE																		
TAG	LOCATION	NOM. TONS	SEER	SUPPLY FAN				TOTAL MBH	SENS MBH	COOLING CAPACITY				ELECTRICAL			TYPICAL UNIT MFG & MODEL NO.	NOTES:
				CFM	OA CFM	ESP (IN. W.C.)	BHP / HP			EAT°F		LAT°F	AMB °F	VOLT/Ø	MCA	FLA		
										DB	WB							
RTU-3	ROOF	1-6	13.4	1250	250	1	0.73/1	37.81	25.61	75	64.66	55.78	95	208/1	32	28	AAON: RQ-003-1-0-DAAC-V0-21-000-A	1,2,3
NOTES: 1. 14" INSULATED CURB. UNIT SHALL HAVE PACKAGED CONTROLS AND CONNECT TO BMS. 2. FACTORY MOUNTED AND WIRED DISCONNECT. 2" PREFILTER, 4" MERV 14 FILTER. 3. DOUBLE WAS, R-13 FOAM INSULATION.																		

FIN TUBE SCHEDULE												
TAG	LOCATION	BTU/FT.	GPM	TUBE SIZE (IN.)	FINS / FT.	EWT (°F)	EAT (°F)	ENCLOSURE		TYPICAL UNIT MFG & MODEL NO.	NOTES:	
								H (IN.)	D (IN.)			
FT-1	6	1200	0.7	0.75	50	180	65	28"	5-5/16"	BARE ELEMENT	STERLING JVB-T-C3/4-435	1,2,3
NOTES: 1. LOCATE ELEMENT BEHIND MILLWORK BY GC. 2. MC TO FIELD VERIFY ENCLOSURE LENGTH. ENCLOSURE TO BE FULL WIDTH WITHOUT GAPS. 3. COORDINATE HEIGHT WITH ELECTRICAL DEVICES.												

11/29/2023 10:43:47 AM c:\project\location> REVIT PROJECT FILES ON BIM360



- KEY NOTES:**
- 1 PROVIDE SINK, SUPPORTS, DOMESTIC WATER SUPPLY LINES, SUPPLY SHUT OFF VAVLES, P-TRAP, SANITARY PIPING, & VENT PIPING.
 - 2 PROVIDE SINK, SUPPORTS, DOMESTIC WATER SUPPLY LINES, SUPPLY SHUT OFF VAVLES, & P-TRAP, RECONNECT TO EXISTING SANITARY AND VENT PIPNG SYSTEM.
 - 3 PROVIDE ADDITIONAL PIPING AS REQUIRED WITHIN CASEWORK, TO RECONNECTION NEW FIXTURES TO EXISTING ROUGH-IN CONNECTIONS.



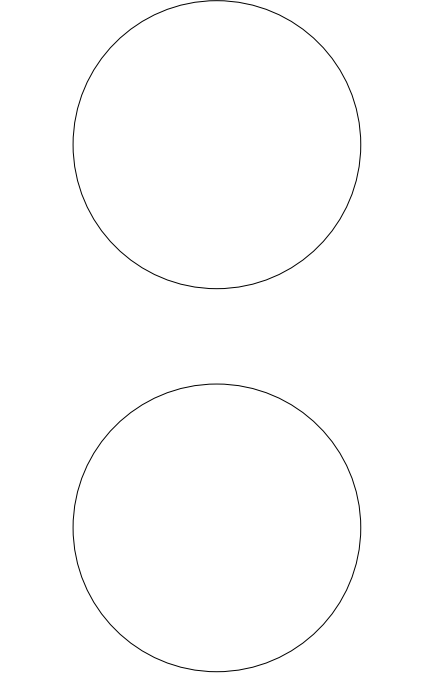
PROJECT INFORMATION
Project Number
14457.20
Client Name
SOUTH ORANGETOWN CENTRAL SCHOOL DISTRICT
Project Name
PHASE 1: 2022 BOND

District Office Address
160 VAN WYCK RD. BLAUVELT, NY 10913

- SOUTH ORANGETOWN CSD**
- ☒ WILLIAM O. SCHAFER SED#50-03-01-06-0-010-2019
 - ☒ COTTAGE LANE ELEMENTARY SED# 50-03-01-06-0-010-022
 - ☐ TAPPAN ZEE HIGH SCHOOL SED# 50-03-01-06-0-004-032
 - ☐ WILLIAM O. SCHAFER SAL SED# 50-03-01-06-0-010-020
 - ☐ COTTAGE LANE SAL SED# 50-03-01-06-0-010-023
 - ☐ COTTAGE LANE LIBRARY SAL SED# 50-03-01-06-8-023-002
 - ☐ WOS OUTDOOR CLASSROOM SED# 50-03-01-06-7-035-001
 - ☐ SCONE OUTDOOR CLASSROOM SED# 50-03-01-06-7-036-001
 - ☐ CLE OUTDOOR CLASSROOM SED# 50-03-01-06-7-034-001
 - ☐ T2H5 OUTDOOR CLASSROOM SED# 50-03-01-06-7-035-001

PROJECT ISSUE & REVISION SCHEDULE		
No.	Date	Description
1	11/03/2023	BID ADDENDUM #2

PROFESSIONAL STAMPS



NEW YORK STATE DECLARATION STATEMENT
I, AS A VOUCHER OF THE NEW YORK STATE EDUCATION LAW AND THE COMMISSIONERS' REGULATION FOR ANY PERSON, UNDER THE DIRECTION OF A LICENSED ARCHITECT, ENGINEER OR LAND SURVEYOR, TO ACT AS AN ITIN IN ANY WAY, IF AN ITIN, BEARING THE SEAL OF AN ARCHITECT, ENGINEER OR SURVEYOR IS ISSUED, THE ATTESTING PART SHALL BE IN THE HAND OF THE ITIN, AND THE ITIN SHALL BE FOLLOWED BY THEIR SIGNATURE AND THE DATE OF SUCH ATTESTATION, AND A SPECIFIC DESCRIPTION OF THE ATTESTATION.

SHEET INFORMATION	
Issued	Scale
10/18/2023	As indicated
Project Status	
BID DOCUMENTS	
Drawn By	Checked By
MLS	JJW
Drawing Title	
PARTIAL FIRST FLOOR PLUMBING NEW WORK PLANS - AREAS E&F	

Drawing Number
WOS
P202

2
P202
1/8" = 1'-0"

PARTIAL FIRST FLOOR PLUMBING NEW WORK PLAN - AREA F

