PURCHASED IN EARLY PROCURMENT PACKAGE.

AIR HANDLING UNIT SCHEDULE

MARK	LOCATION/AREA SERVED	MAX SIZE (L x W x H)	MIN. O.A. CFM	MAX SUPPLY CFM	SUPPLY FAN				HEATING COIL							COOLING COIL								RETURN / EXHAUST FAN					MERV 13 FILTER SECTION		ENERGY RECOVERY SECTION							EQUIPMENT WEIGHT (LBS)
					E.S.P. (IN W.G.)	T.S.P. (IN W.G.)	FAN QTY. / HP	FAN SIZE & TYPE	FLUID TYPE	COILS / ROWS / FPI	CAPACITY (MBH)	EWT / LWT (°F)	EAT / LAT (°F)	FLOW (GPM)	WPD (FT)	MAX COIL AIR VELOCITY (FPM)	FLUID TYPE	ROWS	CAPACITY (MBH) TOTAL	CAPACITY (MBH) SENS.	EDB / EWB (°F)	LDB / LWB (°F)	FLOW (GPM)	WPD (FT)	MAX COIL AIR VELOCITY (FPM)	CFM	E.S.P. (IN W.G.)	T.S.P. (IN W.G.)	FAN QTY. / HP	FAN SIZE & TYPE	AREA (SQ FT)	MEAN P.D. (IN W.G.)	AHU	CFM	TYPE	SUMMER TOTAL (MBH)	SUMMER EFF (%)	WINTER TOTAL (MBH)	WINTER EFF (%)	
AHU-1	B-119 MECHANICAL - KITCHEN/DINING	242" x 74" x 96"	3,050	8,100	1.75	6.1	1 / 15.0	18.25" CENTRIFUGAL PLENUM	30% P.G.	1 / 2 / 8	356.2	180 / 149.8	60 / 100.2	24.9	2.5	516	30% P.G.	1 / 10 / 12	337.0	237.3	76.4 / 64.0	49.6 / 49.4	50.2	11.4	490	8,100	1.0	2.2	1 / 5.0	24.5" CENTRIFUGAL PLENUM	17.8	1.0	AHU-1	3,050	WHEEL	87.5	73.9	227.5	77.2	6,100
AHU-2	B-119 MECHANICAL - GYMNASIUM	170" x 58" x 84"	1,500	6,000	2.0	5.3	1 / 7.5	18.25" CENTRIFUGAL PLENUM	30% P.G.	1 / 2 / 9	263.8	180 / 149.8	60 / 100.2	18.4	1.2	527	30% P.G.	1 / 10 / 12	287.5	190.1	78.5 / 65.8	49.5 / 49.3	42.5	14.4	492	6,000	1.0	1.1	1 / 3.0	18.25" CENTRIFUGAL PLENUM	12.6	1.0	--	--	--	--	--	--	--	3,350
AHU-3	A-229 MECHANICAL - ADMINISTRATION	170" x 54" x 80"	1,000	5,050	2.0	5.2	1 / 7.5	18.25" CENTRIFUGAL PLENUM	30% P.G.	1 / 2 / 10	227.0	180 / 149.2	60 / 101.1	15.5	0.9	532	30% P.G.	1 / 12 / 9	230.7	155.7	77.8 / 65.2	49.6 / 49.4	34.3	12.6	493	5,050	1.0	1.1	1 / 3.0	15.75" CENTRIFUGAL PLENUM	12.6	1.0	--	--	--	--	--	--	--	3,150
AHU-4	A-229 MECHANICAL - KINDERGARTEN	258" x 92" x 120"	8,200	12,900	3.25	7.8	1 / 25.0	27" CENTRIFUGAL PLENUM	30% P.G.	1 / 2 / 8	595.1	180 / 148.4	60 / 102.2	39.6	2.8	490	30% P.G.	1 / 12 / 9	597.9	396.6	78.0 / 65.6	49.9 / 49.7	90.0	12.2	490	12,900	1.0	2.4	1 / 10.0	27.0" CENTRIFUGAL PLENUM	28.8	1.0	AHU-4	8,200	WHEEL	212.6	66.0	560.9	70.0	9,300
AHU-5	A-229 MECHANICAL - FIRST GRADE	246" x 68" x 96"	5,000	7,300	2.75	7.3	1 / 15.0	20" CENTRIFUGAL PLENUM	30% P.G.	1 / 2 / 9	332.8	180 / 148.7	60 / 101.7	22.4	1.9	518	30% P.G.	1 / 10 / 12	337.4	224.0	78.0 / 65.6	49.9 / 49.7	50.9	11.2	490	7,300	0.75	2.1	1 / 5.0	20" CENTRIFUGAL PLENUM	16.7	1.0	AHU-5	5,000	WHEEL	134.0	68.5	352.1	72.3	5,900
AHU-6	A-229 MECHANICAL - SECOND AND THIRD GRADE	264" x 90" x 132"	9,200	14,500	2.75	7.4	1 / 25.0	27" CENTRIFUGAL PLENUM	30% P.G.	1 / 2 / 8	662.3	180 / 148.7	60 / 101.8	44.5	3.0	502	30% P.G.	1 / 12 / 10	674.0	447.3	77.9 / 65.5	49.7 / 49.5	100.4	12.4	502	14,500	1.0	2.4	1 / 10.0	30" CENTRIFUGAL PLENUM	32.9	1.0	AHU-6	9,200	WHEEL	243.7	67.6	641.4	71.5	10,000

AIR HANDLING UNIT SCHEDULE NOTES:
1. ALL AHU HEAT WHEELS REQUIRE 460v / 3ø POWER. THE MOTOR HP IS FRACTIONAL
2. ALL AHU SUPPLY AND RETURN FANS SHALL BE 460v / 3ø WITH HP AS SCHEDULED AND NOTED ON DRAWINGS. EACH FAN SECTION SHALL HAVE VFD MOUNTED ON AHU CASING.
3. MANUFACTURE SHALL PROVIDE UNIT MOUNTED VFDS OR ECM CONTROL BOXES FOR SUPPLY AND RETURN/EXHAUST FANS FOR ACCESSIBILITY ON LOWER TIER OF STACKED AIR HANDLING UNITS.
4. ENERGY RECOVERY WHEEL CRITERIA IS AS FOLLOWS: SUMMER OA = 89°F DB, 73°F WB | WINTER OA = 0°F DB, -2°F WB | SUMMER RA = 75°F DB, 62.5°F WB | WINTER RA = 70°F DB, 55°F WB
5. CHILLED WATER CONDITIONS 42°F EWT, 56°F LWT
6. MAXIMUM SOUND POWER CRITERIA AS SCHEDULED.

AIR HANDLING UNIT CONSTRUCTION NOTES:
1. EXTERNAL DIMENSION VALUES DO NOT INCLUDE BASE RAILS, COIL CONNECTORS, DRAIN CONNECTORS AND/OR CONTROL BOXES.
2. 2" DOUBLE WALL CONSTRUCTION - R-13 INSULATION
3. 6" STEEL BASERAIL BY UNIT MANUFACTURER
4. FAN AIRFLOW MEASURING STATIONS BY MANUFACTURER
5. VFDS TO BE FACTORY MOUNTED. WIRING BETWEEN FAN AND VFD TO BE IN CONDUIT.
6. NOT USED
7. ACCESS DOORS SHALL BE A MINIMUM OF 18 INCHES WIDE.
8. ALL BOTTOM OPENINGS SHALL INCLUDE A WELDED WALK-ON SAFETY GRATE.
9. DEVIATIONS FROM THE SCHEDULED DIMENSIONS ARE THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.

AHU MAXIMUM SOUND POWER LEVELS

MARK	(RADIATED / UNIT DISCHARGE / UNIT RETURN) 63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
AHU-1	77 / 87 / 77	72 / 81 / 75	72 / 85 / 83	75 / 92 / 75	71 / 93 / 71	58 / 86 / 72	48 / 86 / 63	51 / 79 / 61
AHU-2	75 / 84 / 75	69 / 79 / 72	71 / 83 / 83	71 / 89 / 77	66 / 87 / 74	57 / 82 / 77	47 / 81 / 75	51 / 74 / 65
AHU-3	73 / 82 / 75	70 / 78 / 75	69 / 82 / 80	73 / 88 / 91	64 / 83 / 78	58 / 80 / 79	50 / 76 / 82	51 / 71 / 73
AHU-4	81 / 91 / 81	76 / 85 / 79	79 / 92 / 89	69 / 90 / 78	67 / 88 / 77	60 / 86 / 79	46 / 81 / 70	51 / 76 / 66
AHU-5	78 / 87 / 78	74 / 82 / 79	75 / 86 / 89	74 / 91 / 82	67 / 88 / 78	59 / 84 / 78	47 / 81 / 75	51 / 76 / 67
AHU-6	81 / 91 / 81	77 / 85 / 78	81 / 94 / 94	71 / 91 / 81	69 / 89 / 83	62 / 87 / 83	47 / 84 / 73	51 / 77 / 67

BOILER SCHEDULE

MARK	TYPE	LOCATION	EWT °F	LWT °F	GPM	PD (FT.)	MBH INPUT	MBH OUTPUT	INTAKE/VENT SIZE INTAKE	INTAKE/VENT SIZE VENT	GAS PRESSURE (IN W.C)	NOTES
B-1	CONDENSING	MECHANICAL A-119	155	180	209	4	3000	2610	10"	10"	4-14	1, 2, 3, 4, 5
B-2	CONDENSING	MECHANICAL A-119	155	180	209	4	3000	2610	10"	10"	4-14	1, 2, 3, 4, 5

BOILER SCHEDULE NOTES:
1. BASIS OF DESIGN IS PK SOLIS. REFER TO SPECIFICATIONS FOR ADDITIONAL MANUFACTURES.
2. BOILER SHALL BE FURNISHED FROM MANUFACTURE WITH PRESET GAS REGULATOR AND BOILER GAS TRAIN. INSTALL REGULATOR AND GAS TRAIN AS REQUIRED PER MANUFACTURE'S INSTALLATION RECOMMENDATIONS. ALL GAS PIPING SHALL BE SIZED AT FULL LINE SIZE AND TRANSITION AT CONNECTION TO BOILER.
3. BOILER SHALL BE FURNISHED FROM MANUFACTURE WITH CONDENSATE TRAP, CONDENSATE PIPING, AND PH NUETRALIZING KIT FOR DISPENSING CONDENSATE INTO THE PLUMBING SYSTEM. INSTALLATION OF SYSTEM SHALL BE BY MECHANICAL CONTRACTOR.
4. BOILER TO BE MOUNTED ON 6" HIGH CONCRETE PAD.
5. HEATING HOT WATER SYSTEM SHALL HAVE 30% PG WATER SOLUTION.

UNIT HEATER SCHEDULE

MARK	TYPE	LOCATION	CFM	VOLTAGE/ PHASE	MOTOR HP	M.B.H.	G.P.M.	E.W.T. °F	W.P.D. FT.	WEIGHT	NOTES
UH-1	HORIZONTAL	B-121 LOADING	450	120 / 1	16 WATT	14.9	1.0	180	0.004	25	1, 2, 3, 4
UH-2	HORIZONTAL	B-119B - OUTDOOR STORAGE	450	120 / 1	16 WATT	14.9	1.0	180	0.004	25	1, 2, 3, 4
UH-3	HORIZONTAL	B-119 MECHANICAL	450	120 / 1	16 WATT	14.9	1.0	180	0.004	25	1, 2, 3, 4
UH-4	HORIZONTAL	A-229 - MECHANICAL	450	120 / 1	16 WATT	14.9	1.0	180	0.004	25	1, 2, 3, 4
UH-5	HORIZONTAL	A-229 - MECHANICAL	450	120 / 1	16 WATT	14.9	1.0	180	0.004	25	1, 2, 3, 4

UNIT HEATER SCHEDULE NOTES:
1. BASIS OF DESIGN IS STERLING, REFER TO SPECIFICATIONS FOR ADDITIONAL MANUFACTURES.
2. CAPACITY BASED ON 30% PG WATER, 60°F EAT, 30°F DELTA T, AND 180°F EWT.
3. SUSPEND UNIT WITH SPRING VIBRATION ISOLATION.
4. FURNISH WITH LINE VOLTAGE WALL MOUNTED THERMOSTAT.

PUMP SCHEDULE

MARK	SERVICE	LOCATION	CAPACITY G.P.M.	T.D.H. FT. H2O	MOTOR HP	TYPE	SIZE	MIN FLOW G.P.M.	EFFICIENCY %	NPSH FT.	NOTES
P-1	BUILDING HOT WATER	MECHANICAL A-119	302	45	5.0	FRAME MOUNTED	4x3	-	84	4	1, 2, 3, 4
P-2	BUILDING HOT WATER	MECHANICAL A-119	302	45	5.0	FRAME MOUNTED	4x3	-	84	4	1, 2, 3, 4
P-3	BOILER CIRCULATOR	MECHANICAL A-119	201	30	2.0	INLINE	3x3	201	78	4	1, 2, 3
P-4	BOILER CIRCULATOR	MECHANICAL A-119	201	30	2.0	INLINE	3x3	201	78	4	1, 2, 3
P-5	BUILDING CHILLED WATER	MECHANICAL A-119	394	35	5.0	INLINE	5x5	394	84	7	1, 2, 3
P-6	BUILDING CHILLED WATER	MECHANICAL A-119	369	50	7.5	FRAME MOUNTED	4x3	-	79	7	1, 2, 3, 4
P-7	BUILDING CHILLED WATER	MECHANICAL A-119	369	50	7.5	FRAME MOUNTED	4x3	-	79	7	1, 2, 3, 4

PUMP SCHEDULE NOTES:
1. BASIS OF DESIGN IS TACO, REFER TO SPECIFICATIONS FOR ADDITIONAL MANUFACTURES.
2. HORSEPOWERS ARE TO BE NON-OVERLOADING THROUGHOUT THE PUMP CURVE.
3. PUMP SIZED AT 100% FLOW, 100% HEAD LOSS.
4. FURNISH PUMP WITH VFD.

CHILLER SCHEDULE

MARK	SERVING	NOMINAL CAPACITY TONS	CAPACITY TONS	E.W.T. °F	L.W.T. °F	EVAP. FLOW RATE GPM	EVAP. PRESS. DROP FT	ELECTRICAL VOLT / PHASE	ELECTRICAL UNIT POWER KW	EER	NOTES
CH-1	BUILDING CHILLED WATER	225	200	56	42	364.7	6.7	480 / 3	233.8	10.3	1, 2, 3, 4

CHILLER SCHEDULE NOTES:
1. BASIS OF DESIGN IS DAIKIN. REFER TO SPECIFICATIONS FOR ADDITIONAL MANUFACTURES.
2. CHILLED WATER SYSTEM SHALL HAVE 30% PG WATER SOLUTION.
3. MAXIMUM SOUND PRESSURE LEVEL AT PROPERTY LINE SHALL BE 55 dBA. FURNISH WITH SOUND ATTENUATING PACKAGE AS REQUIRED TO ACHIEVE SOUND LEVELS.
4. CAPACITIES ARE BASED ON 95°F AMBIENT TEMPERATURE.

ELECTRIC UNIT HEATER SCHEDULE

MARK	TYPE	LOCATION	CFM	VOLTAGE/ PHASE	MOTOR HP	M.B.H.	HEATER KW	TEMP. RISE	STAGES	WEIGHT	NOTES
EUH-1	HORIZONTAL UNIT HEATER	B-119A ELECTRIC ROOM	350	208V/3ø	1/100	17.0	5.0	40	1 STAGE	50	1, 2, 3, 4, 5

ELECTRIC UNIT HEATER SCHEDULE NOTES:
1. BASIS OF DESIGN IS MARKEL. REFER TO SPECIFICATIONS FOR ADDITIONAL MANUFACTRES.
2. FURNISH WITH MANUFACTURER MOUNTING BRACKET AND SUSPEND UNIT WITH SPRING VIBRATION ISOLATION.
3. FURNISH WITH LINE VOLTAGE DPST WALL MOUNTED THERMOSTAT.
4. FURNISH WITH DIRECTIONAL LOUVER ASSEMBLY.
5. FURNISH WITH DISCONNECT SWITCH.

DIFFUSERS, REGISTERS, AND GRILLES SCHEDULE

TAG	MOUNTING	DIFFUSE R FACE	NECK SIZE	MAX CFM	MAX N.C.	TYPE	MANUFACTURER & MODEL NO.
A	CEILING	11"	6"ø	AS NOTED	30	ROUND PLAQUE FACE DIFFUSER	TITUS R-OMNI
B	CEILING	15"	8"ø	AS NOTED	30	ROUND PLAQUE FACE DIFFUSER	TITUS R-OMNI
C	CEILING	18"	10"ø	AS NOTED	30	ROUND PLAQUE FACE DIFFUSER	TITUS R-OMNI
D	CEILING	12x12	6"ø	AS NOTED	30	PLAQUE FACE DIFFUSER	TITUS OMNI
E	CEILING	24x24	6"ø	AS NOTED	30	PLAQUE FACE DIFFUSER	TITUS OMNI
F	CEILING	24x24	8"	AS NOTED	30	PLAQUE FACE DIFFUSER	TITUS OMNI
G	CEILING	24x24	10"ø	AS NOTED	30	PLAQUE FACE DIFFUSER	TITUS OMNI
H	CEILING	24x24	8"	AS NOTED	30	PLAQUE FACE DIFFUSER	TITUS PAS
I	CEILING	24x24	10"ø	AS NOTED	30	PERFORATED FACE DIFFUSER	TITUS PAS
J	SIDEWALL	12x6	12x6	AS NOTED	30	LOUVERED FACE SUPPLY REGISTER	TITUS S300FL
K	SIDEWALL	12x8	12x8	AS NOTED	30	LOUVERED FACE SUPPLY REGISTER	TITUS S300FL
L	DUCT	12x8	12x8	AS NOTED	30	LOUVERED FACE SUPPLY REGISTER	TITUS S-DL
M	CEILING	48x5	8"ø	AS NOTED	30	LINEAR SLOT DIFFUSER	TITUS ML-39
N	SIDEWALL	62x8	60x6	AS NOTED	30	LINEAR BAR GRILLE	TITUS CT-580
O	CEILING	24x24	22x22	AS NOTED	30	EGGCRATE RETURN GRILLE	TITUS 50F
P	SIDEWALL	8x6	8x6	AS NOTED	30	LOUVERED FACE RETURN REGISTER	TITUS 350
Q	SIDEWALL	12x12	12x12	AS NOTED	30	LOUVERED FACE RETURN REGISTER	TITUS 350
R	SIDEWALL	24x16	24x16	AS NOTED	30	LOUVERED FACE RETURN REGISTER	TITUS 350
S	SIDEWALL	24x12	24x12	AS NOTED	30	LOUVERED FACE RETURN REGISTER	TITUS 350
T	SIDEWALL	42x18	42x18	AS NOTED	30	HEAVY DUTY RETURN	TITUS 33R
U	SIDEWALL	62x8	60x6	AS NOTED	30	LINEAR BAR GRILLE	TITUS CT-580
V	CEILING	12x12	10x10	AS NOTED	30	LOUVERED FACE EXHAUST REGISTER	TITUS 350
W	CEILING	24x24	22x22	AS NOTED	30	LOUVERED FACE EXHAUST REGISTER	TITUS 350
X	SIDEWALL	8x6	8x6	AS NOTED	30	LOUVERED FACE EXHAUST REGISTER	TITUS 350

SPLIT AIR CONDITIONING UNIT SCHEDULE

MARK	DESCRIPTION	LOCATION	FAN DATA C.F.M.	DX COOLING COIL DATA TOTAL CAPACITY MBH	DX COOLING COIL DATA SENSIBLE CAPACITY MBH	DX COOLING COIL DATA E.A.T. DB/WB	HEATING DATA TYPE	HEATING DATA TOTAL CAPACITY KW	NOTES
AC-1	CEILING MOUNTED SPLIT SYSTEM	A-118L MAIN TECH ROOM	1200	48.0	35.0	80 / 67	HEAT PUMP	54.0	1, 2, 4
AC-2	WALL MOUNTED SPLIT SYSTEM	B-127 TECH ROOM	700	18.0	14.5	80 / 67	HEAT PUMP	12.7	1, 2, 3
AC-3	WALL MOUNTED SPLIT SYSTEM	C-111 TECH ROOM	700	18.0	14.5	80 / 67	HEAT PUMP	12.7	1, 2, 3
AC-4	WALL MOUNTED SPLIT SYSTEM	A-229B TECH ROOM	700	18.0	14.5	80 / 67	HEAT PUMP	12.7	1, 2, 3
AC-5	WALL MOUNTED SPLIT SYSTEM	A-232 TECH ROOM	700	18.0	14.5	80 / 67	HEAT PUMP	12.7	1, 2, 3

SPLIT SYSTEM SCHEDULE NOTES:
1. BASIS OF DESIGN IS DAIKIN, REFER TO SPECIFICATIONS FOR ADDITIONAL MANUFACTURES.
2. FURNISH WITH MATCHING OUTDOOR HEAT PUMP. HEATING CAPACITY AT 5°F.
3. FURNISH WITH EXTERNAL CONDENSATE PUMP. MOUNT PUMP ON WALL UNDER UNIT. PIPE CONDENSATE TO NEAREST MOP SINK, SAFE-WASTE CONNECTION, OR FLOOR DRAIN.
4. FURNISH WITH INTERNAL CONDENSATE. PIPE TO NEAREST MOP SINK, SAFE-WASTE CONNECTION, OR FLOOR DRAIN.

PROJECT NO 2203-2

ARCHITECTURAL VISION GROUP, LTD
ARCHITECTS ○ PLANNERS
23850 SPERRY DRIVE CLEVELAND, OHIO 44145

PROFESSIONAL SEAL: STATE OF OHIO ARCHITECT PROFESSIONAL ENGINEER

CONSULTANT: J.M. VERGOSTKO, INC. MECHANICAL ENGINEERING

MASSILLON CITY SCHOOLS
MASSILLON EAST ELEMENTARY PK-3
1 PAUL E BROWN DRIVE SE, MASSILLON, OHIO 44646
MASSILLON CITY SCHOOL DISTRICT MASSILLON, OHIO

MARK	DATE	DESCRIPTION
1	07/07/23	EPP - POST BID BULLETIN
	07/14/23	100% BID / PERMIT SET
	09/01/23	EARLY PROCUREMENT PACKAGE

ISSUED AS:

PROJECT NO	2203-2
DRAWN BY	PH
CHECKED BY	ARB
DATE	07/12/23

HVAC SCHEDULES

SCALE:

SHEET NO
M-501