

MECHANICAL SYMBOLS AND ABBREVIATIONS

GENERAL		GENERAL		DUCTWORK AND ACCESSORIES		PLUMBING	
SYMBOL	ABBR.	TYPE OF PIPE	GPM	GALLONS PER MINUTE	SYMBOL	ABBR.	ITEM
	3	- DETAIL OR DIAGRAM NO. 3 SHOWN ON DRAWING NO. 9	IN	INCH, INCHES		MVD	MANUAL VOLUME DAMPER
	3	- SECTION NO. 3 FROM DRAWING NO. 7 SHOWN ON DRAWING NO. 9 (ARROW DENOTES SECTION)	LAT	LEAVING AIR TEMPERATURE		-	DUCT (SIZE IN INCHES, FIRST FIGURE SIDE SHOWN)
	7	- SECTION NO. 7 FROM DRAWING NO. 9 (ARROW DENOTES SECTION)	LDB	LEAVING DRY BULB		-	SUPPLY OR OUTDOOR AIR DUCT SECTION
	9	- SECTION NO. 9 FROM DRAWING NO. 7 SHOWN ON DRAWING NO. 9 (ARROW DENOTES SECTION)	LWB	LEAVING WET BULB		-	RETURN OR EXHAUST AIR DUCT SECTION
	+	- POINT OF CONNECTION, NEW TO EXISTING	LWT	LEAVING WATER TEMPERATURE		SD	SMOKE DETECTOR
	ⓐ	- DEMOLITION WORK TERMINATION POINT	MAX	MAXIMUM		-	SQUARE TO ROUND TRANSITION
	ⓑ	- SYMBOL FOR SPECIFIC NOTE, NOTE APPLIES TO DRAWING ON WHICH IT OCCURS.	MBH	THOUSAND STUS PER HOUR		-	INCLINED DROP IN DIRECTION OF ARROW
	ⓐ	- INDICATES DIAMETER	MECH	MECHANICAL		-	INCLINED RISE IN DIRECTION OF ARROW
ABV	-	ABOVE	MFR	MANUFACTURER		-	ROUND FLEXIBLE DUCT
AFF	-	ABOVE FINISHED FLOOR	MIN	MINIMUM		-	ROUND STRAIGHT DUCT TAP FITTING
ALUM	-	ALUMINUM	MTD	JOINTED		-	ROUND STRAIGHT DUCT TAP FITTING WITH MANUAL VOLUME DAMPER CONNECTING TO RECTANGULAR DUCT
APD	-	AIR PRESSURE DROP	PD	PRESSURE DROP		-	RECTANGULAR 45 DEGREE DUCT TAP FITTING
ASSOC	-	ASSOCIATED	PSIG	POUNDS PER SQUARE INCH GAUGE		-	DIFFUSER DESIGNATION (EXAMPLE), TOP LINE INDICATES FACE SIZE, SECOND LINE INDICATES AIRFLOW, THIRD LINE INDICATES THROW PATTERN (IF OTHER THAN STANDARD 4-WAY), NECK SIZE EQUAL TO DUCT RUNOUT AS NOTED ON PLAN,
BLDG	-	BUILDING	PSI	POUNDS PER SQUARE INCH		A/D	ACCESS DOOR
BLW	-	BELOW	REQD	REQUIRED		CA	CONDITIONED OUTDOOR AIR
BTM	-	BOTTOM	RPM	REVOLUTIONS PER MINUTE		EA	EXHAUST AIR
BTUH	-	BRITISH THERMAL UNITS PER HOUR	RX	REMOVE EXISTING		EG	EXHAUST GRILLE
CFM	-	CUBIC FEET PER MINUTE	SF	SQUARE FEET		ER	EXHAUST REGISTER
CI	-	CAST IRON	SM	SHEET METAL		EXH	EXHAUST
CLG	-	CEILING	SPEC	SPECIFICATION		GR	GRILLE
CONC	-	CONCRETE	SQ	SQUARE		LSD	LINEAR SLOT DIFFUSER
CONN	-	CONNECT, CONNECTION	TEMP	TEMPERATURE		OAI	OUTDOOR AIR INTAKE
CONTN	-	CONTINUATION	TSP	TOTAL STATIC PRESSURE		RA	RETURN AIR
DB	-	DESIGNATION	TEMP	TEMPERATURE		REG	REGISTER
DIA	-	DIAMETER	TPP	TYPICAL		RG	RETURN GRILLE
DWG	-	DRAWING	W/	WITH		RR	RETURN REGISTER
EAT	-	ENTERING AIR TEMPERATURE	W/O	WITHOUT		SA	SUPPLY AIR
EDB	-	ENTERING DRY BULB	WB	WET BULB		SD	SUPPLY DIFFUSER
ELEV	-	ELEVATION	WC	WATER COLUMN		SG	SUPPLY GRILLE
ESP	-	EXTERNAL STATIC PRESSURE				SP	STATIC PRESSURE
ETR	-	EXISTING TO REMAIN				SR	SUPPLY REGISTER
EWT	-	ENTERING WET BULB					
EWT	-	ENTERING WATER TEMPERATURE					
EX	-	EXISTING					
EXP	-	EXPANSION					
F	-	FAHRENHEIT					
FL	-	FLOOR					
FPS	-	FEET PER SECOND					
FT	-	FEET					
FT HD	-	FEET OF HEAD					
GALV	-	GALVANIZED					

PIPE FITTINGS AND VALVES	
SYMBOL	ABBR. ITEM
	UNION
	CONCENTRIC REDUCER
	FLOW DIRECTION ARROW
	STRAINER
	SHUT-OFF VALVE
	CHECK VALVE; (ARROWHEAD INDICATES DIRECTION OF FLOW)

BUILDING DESIGN CRITERIA			
INTERIOR:	SUMMER	75°F / 50% RH	
	WINTER	70°F	
EXTERIOR:	SUMMER	95°F DB / 78°F WB	
	WINTER	0°F	
INTERIOR LOAD:		LIGHTING DENSITIES - IN ACCORDANCE WITH 2016 ASHRAE STANDARD 90.1	
		MISCELLANEOUS - 75 WATTS/COMPUTER	
VENTILATION LOAD:		IN ACCORDANCE WITH INTERNATIONAL MECHANICAL CODE (IMC) 2018 VENTILATION REQUIREMENTS	
PEOPLE DENSITY:		BASED ON ARCHITECTURAL FURNISHING PLANS	
WALL U/F COEFFICIENT:		EXISTING - 0.104 BTU/(HR)(SQ. FT.)/(DEG. F)	
		NEW - 0.064 BTU/(HR)(SQ. FT.)/(DEG. F)	
ROOF U/F COEFFICIENT:		0.027 BTU/(HR)(SQ. FT.)/(DEG. F)	
COMPOSITE GLAZING U/F COEFFICIENT:		OPERABLE - 0.45 BTU/(HR)(SQ. FT.)/(DEG. F)	
		FIXED - 0.38 BTU/(HR)(SQ. FT.)/(DEG. F)	
GLASS SHADING COEFFICIENT:		NORTH FACING - 0.55	
		EAST / WEST / SOUTH FACING - 0.41	
TOTAL HEATING LOAD:		39.3 MBH	
TOTAL COOLING LOAD:		49 MBH	



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GREENBRIER STATE PARK CHARGE STATION
 STATE OF MARYLAND - DEPARTMENT OF GENERAL SERVICES
 21843 NATIONAL PIKE
 BOONSBORO, MD 21713

NO.	REVISION TITLE	DATE

SYMBOLS AND ABBREVIATIONS

M.001



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JPA Project No. 7375-20
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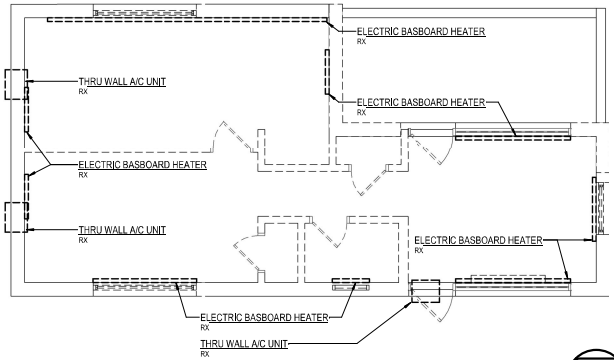
NO.	REVISION TITLE	DATE
REV AND CONSTRUCTION SET 23 AUGUST 2021		
CAD DWG FILE: GSP_M100.dwg		
DRAWN BY: MVB		
CHECKED BY: MVB		
DGS PROJECT NUMBER: P-653-200-002		
ZS PROJECT NUMBER: 2015.00		
DATE: 23 AUGUST 2021		

A FLOOR PLANS - DEMOLITION
AND NEW WORK

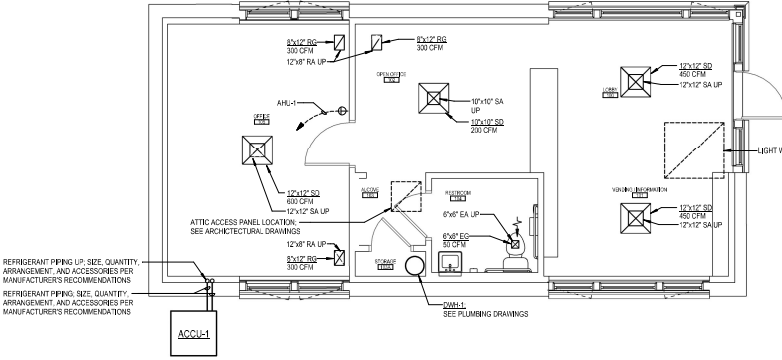
M.100

GENERAL NOTES: NEW WORK
A. INFORMATION SHOWN ON THE DRAWING PERTAINING TO EXISTING CONDITIONS HAS BEEN OBTAINED FROM AVAILABLE BUILDING DRAWINGS OR GENERAL FIELD OBSERVATIONS AND MAY NOT INDICATE EXISTING CONDITIONS IN DETAIL OR DIMENSION. DETERMINE EXISTING CONDITIONS PRIOR TO INITIATION OR PERFORMANCE OF ANY WORK. SHOULD CONDITIONS BE DISCOVERED THAT PREVENT EXECUTION OF THE WORK AS INDICATED IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING AND AVOID PROCEEDING BEFORE PROCEEDING WITH THE WORK.
B. DO NOT LOCATE DUCTWORK OR PIPING ABOVE ELECTRICAL PANELS OR EQUIPMENT.

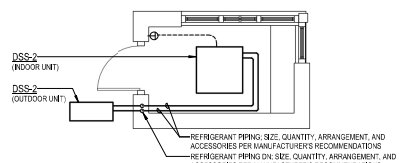
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B. DEMOLITION SHALL INCLUDE REMOVAL AND OFF-SITE DISPOSAL OF MATERIALS. DO NOT ABANDON IN PLACE ANY MECHANICAL AND RELATED ELECTRICAL COMPONENTS UNLESS OTHERWISE NOTED ON DRAWINGS.
C. UNLESS OTHERWISE NOTED, MECHANICAL/LUMING ITEMS SHOWN HEAVY DASHED (— —) SHALL BE REMOVED AND MECHANICAL/PLUMBING ITEMS SHOWN LIGHT SOLID (—) SHALL REMAIN.



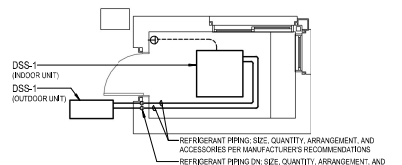
FLOOR PLAN - REGISTRATION STATION - HVAC - DEMOLITION
SCALE: 1/4" = 1'-0"



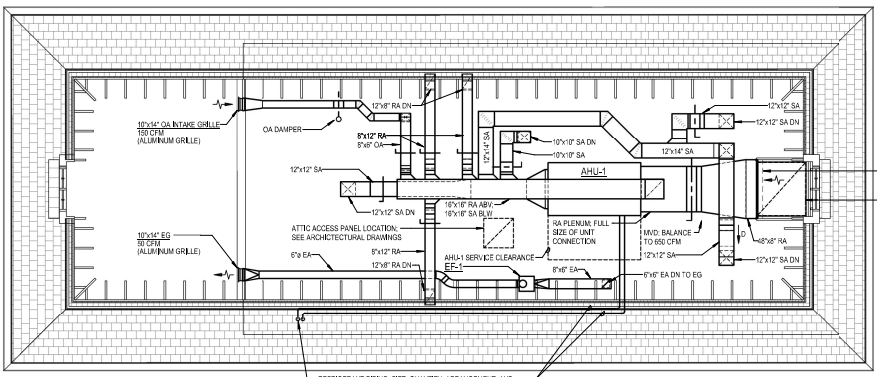
FLOOR PLAN - REGISTRATION STATION - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"



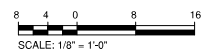
FLOOR PLAN - E BOOTH - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"

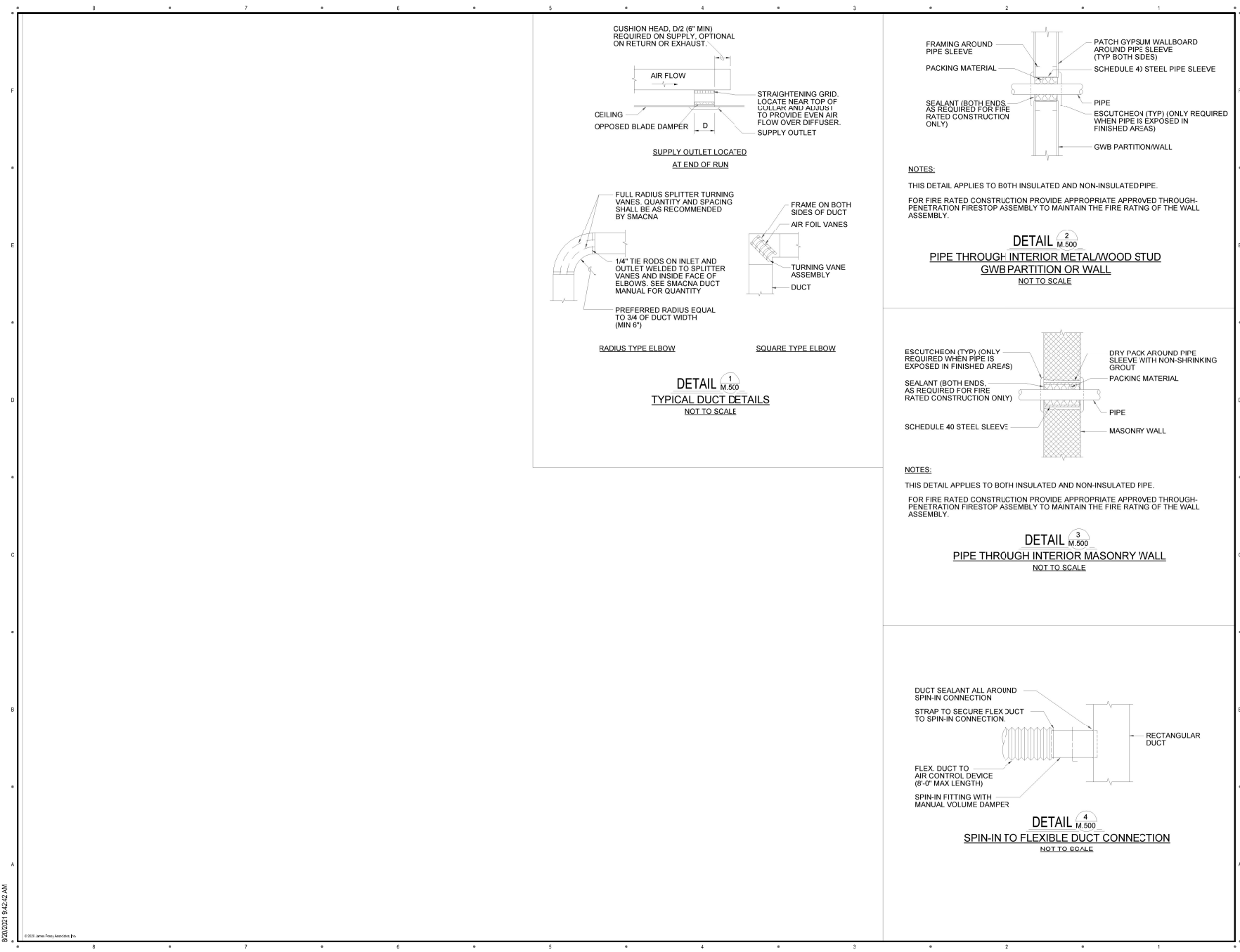


FLOOR PLAN - W BOOTH - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"



ROOF PLAN - REGISTRATION STATION - HVAC - NEW WORK
SCALE: 1/4" = 1'-0"





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JPA Project No. 7375-20

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NO.	REVISION TITLE	DATE

DATE AND CONSTRUCTION SET	23 AUGUST 2021
CAD DWG FILE:	GSP_M.500.dwg
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INDOOR SINGLE ZONE VAV AIR HANDLING UNIT

DESIG	MIN OUTSIDE AIR (CFM)	SUPPLY FAN						ELECTRIC HEATING COIL		HEAT PUMP										MAX DIMENSIONS				ELECTRICAL				MFR'S MODEL NO (A/CXN)		NOTES										
		CFM	APPROX RPM	WHEEL SIZE (IN DIA)	EXT SP (IN VAV)	TOTAL SP (IN W/C)	NO. OF FANS	MOTOR POWER (HP)	EAT (°F)	TEMP RISE (°F)	KW	COOLING OPERATION					HEATING OPERATION					AHL-1		ACCU-1		AHL-1		ACCU-1												
												TOTAL MBH	SENS MBH	COIL EAT (°F)	COIL LAT (°F)	COIL EAT (°F)	COIL LAT (°F)	MAX SP DROP (IN W/C)	ROWS	MAX WEIGHT (AHL-1) (LBS)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	VOLTS	PHASE	MCA		MOP	VOLTS	PHASE	MCA	MOP	AHL-1	ACCU-1			
AHU-1 / ACCU-1	150	1,700	2600	15.9	1.00	2.78	1	2.3	63.0	22.0	12	58.4	43.7	dd	vd	dd	vd	40.0	63	85.0	0.7	6.0	700	75	41	23	37	37	43	230	1	81	90	230	1	35	60	H9-BLB-1	CB-B-060	12,3,4,5

NOTES:
 1. PROVIDE ELECTRIC HEATING COIL WITH SCR CONTROL.
 2. FILTER LOADING IS INCLUDED IN THE INTERNAL STATIC PRESSURE.
 3. PROVIDE SINGLE POINT POWER CONNECTION.
 4. PROVIDE WRECT DRIVE PLENUM SUPPLY FAN WITH EC MOTOR.
 5. PROVIDE 7 MERV 8 PRE-FILTER AND 4" MERV 13 FINAL FILTER.

FAN SCHEDULE

DESIG	AREA SERVED	DUTY	CFM	ESP (IN WC)	FAN RPM (APPROX)	HP (WATTS)	SONES	WHEEL DIA (IN)	FAN TYPE	DRIVE	MFR'S NO. (TWIN CITY)	ELECTRICAL	CONTROL	NOTES
EF-1	RESTROOM 104	EF	50	0.5	650	1/8	1.5	7.82	INLINE	DIRECT	TL100S	115V-1P	A	1,2,3

NOTES:
 1. PROVIDE WITH BUILT IN BACKDRAFT DAMPER.
 2. PROVIDE WITH UNIT MOUNTED SOLID STATE SPEED CONTROLLER.
 3. PROVIDE WITH UNIT MOUNTED DISCONNECT SWITCH.

CONTROLS:
 A. OCCUPIED/UNOCCUPIED CONTROL

DUCTLESS SPLIT SYSTEM UNIT SCHEDULE

DESIG	AREA SERVED	INDOOR UNIT				OUTDOOR UNIT				MODEL NO'S (MITSUBISHI)		NOTES			
		CFM	COOLING CAPACITY SENSIBLE MBH	HEATING CAPACITY MBH	FLA	VOLTAGE PHASE	REFRIG TYPE	NOMINAL CAPACITY (MBH)	MIN CIRCUIT AMPS	MAX FUSE SIZE	VOLTAGE PHASE		SEER	INDOOR	OUTDOOR
DSS-1	W BOOTH	600	15.3	11.0	0.36	208V-1P	R410a	18.0	11	28	208V-1P	24.6	PLA-A18EA7	PUZ-A18NKA7	1,2
DSS-2	E BOOTH	600	15.3	11.0	0.36	208V-1P	R410a	18.0	11	28	208V-1P	24.6	PLA-A18EA7	PUZ-A18NKA7	1,2

NOTES:
 1. PROVIDE UNIT WITH FAN SPEED CONTROL.
 2. UNIT TO BE HEATING AND COOLING, HEAT PUMP DESIGN.



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NO.	REVISION TITLE	DATE

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 CHECKED BY: MVB

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 DATE: 23 AUGUST 2021

MECHANICAL SCHEDULES

M.600

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