

Office of

Construction and Facilities

Management

VA U.S. Department of Veterans Affairs

MECHANICAL DETAILS

NEW FRONT LOBBY AND

PRIMARY CARE ADDITION

SIOUX FALLS, SOUTH DAKOTA

Checked

JRG

Drawn

TNH

Drawing Number

M402

CONSTRUCTION

DOCUMENTS

one eighth inch = one foot

0 4 8 16

Revision# Description

VA FORM 08 - 6231

ERA

2550 University Ave W

St. Paul, MN 55402

Phone: 651-251-7570

Suite 423-S

50 South Sixth St

Minneapolis, MN 55402

Phone: 612-465-7550

0421950-002-00

BWBR 380 St. Peter St

St. Paul, MN 55102

Phone: 651-222-3701

600 E 7th Street

605-271-1144

524 N Main Ave

Sioux Falls, SD 57104

Phone: 605-339-1205

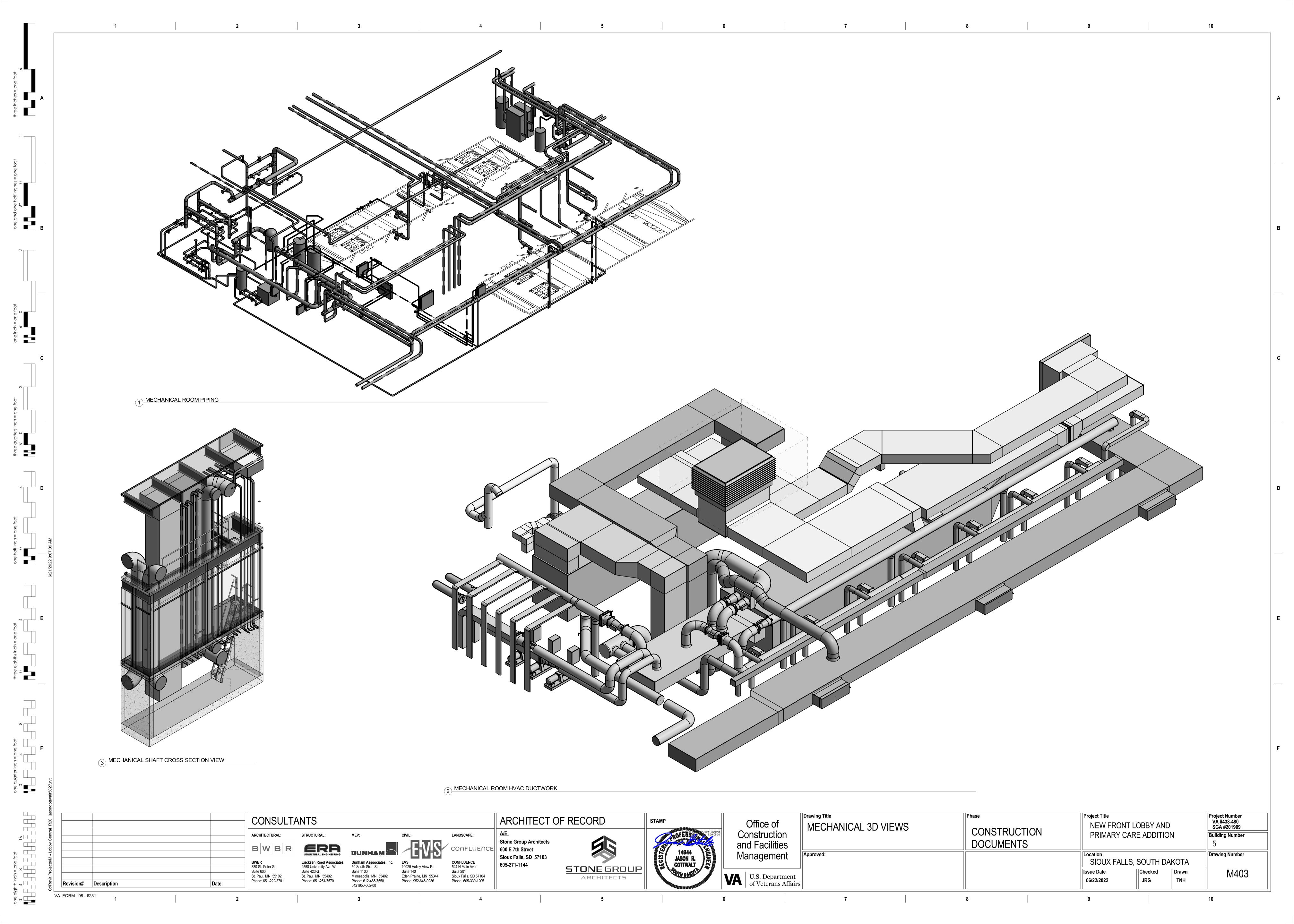
Eden Prairie, MN 55344

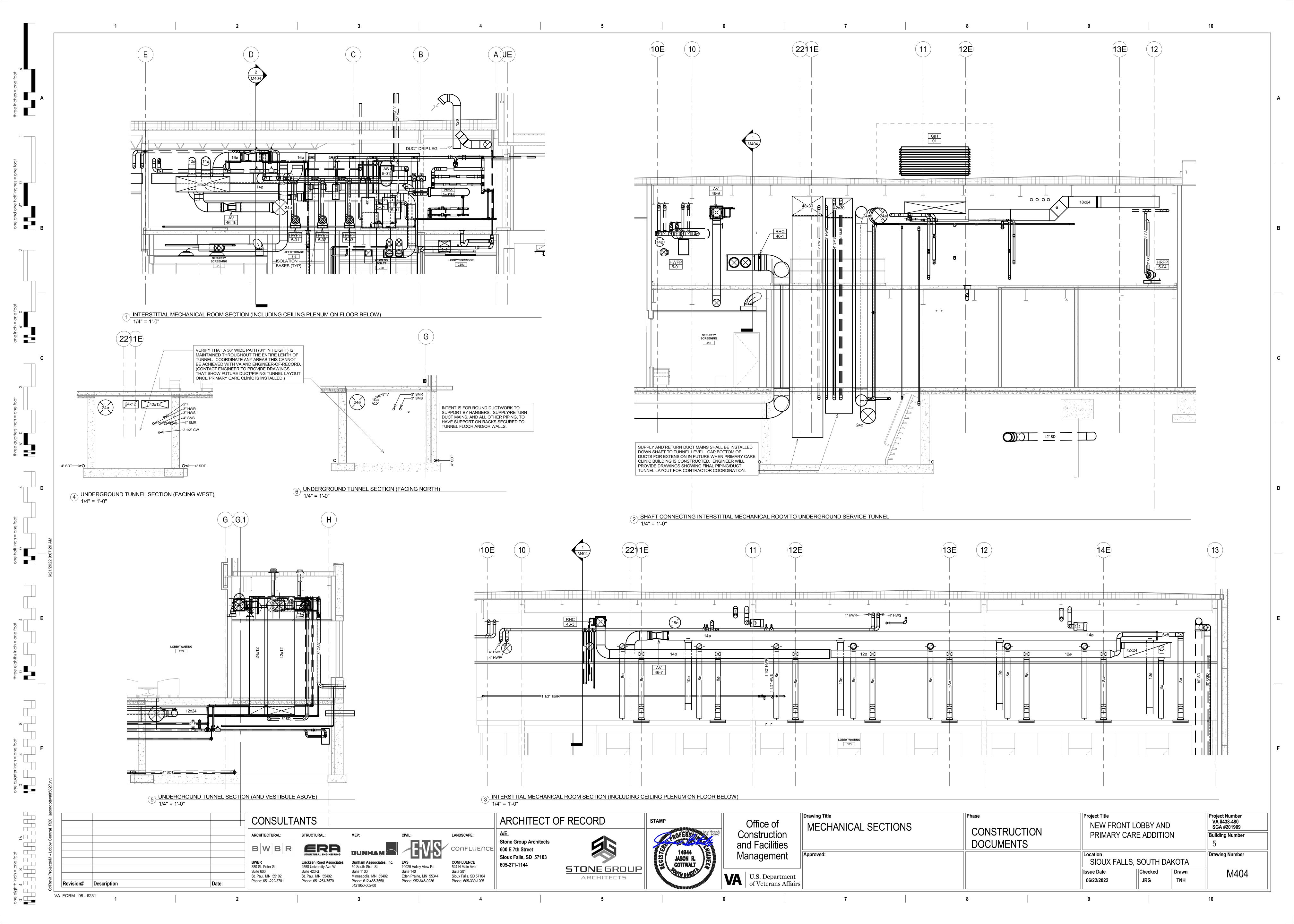
Phone: 952-646-0236

Sioux Falls, SD 57103

STONE GROUP

ARCHITECT5





VARIA	BLE AIR	VOL	UME BC	X SCH	EDULE - H	HEATIN	NG V	VAT	ER										
MECHANI	CAL (233600))																	
		INLET										HEATING	COIL						
EQUIPMENT TAG	UNIT SERVED	SIZE (IN)	MAXIMUM CFM	MINIMUM CFM	MAXIMUM APD (IN W.C.)	HEATING CFM	EAT (F)	LAT (F)	CAPACITY (MBH)	EWT (F)	LWT (F)	GPM	GLYCOL TYPE	GLYCOL %	MAXIMUM WPD (FT)	COIL ROWS	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
VAV 46-01	AHU 47	10	800	400	0.35	400	55	95	17.4	180	160	1.7	PROPYLENE	40%	4.5	2	TITUS	DESV	1,2,3,4,5
2. PROVIDE 3. VAV BOX 4. VERIFY S	ACCESS PANEL ALL VAV BOXES REHEAT COILS ERVICE ACCESS	WITH FI MAY BE I SIBILITY T	BER FREE CLO PROVIDED WITH O EACH VAV C	SED CELL FO H PREPIPED V ONTROLLER /	AM INSULATION LI /ALVE KITS AS LO	NER. LINER NG AS THEY MBLY. CONF	SHALL I HAVE A IRM API	BE FUL LL COM PROXIM	LY WASHAB IPONENTS S IATELY 36" (BLE WITH	H ANTIMI IN PIPIN	CROBIAL G DETAILS	TREATMENT INFUSE S. COMBINATION BA	D WITHIN INSU LANCING/CHE	ILATION. CK VALVES MA	AY NOT BE	ES SECURED WITH S USED FOR ISOLATION CATIONS WHERE THA	N VALVE FUNC	TION.

VIECHANIC	CAL (238216)																
					COIL			AIR	1				WATER				
EQUIPMENT TAG	UNIT SERVED	AREA SERVED	CFM	DUCT WIDTH (IN)	DUCT HEIGHT (IN)	ROWS	EAT (F)	LAT (F)	APD (IN W.C.)	EWT (F)	LWT (F)	GPM	GLYCOL TYPE	GLYCOL %	WPD (FT)	CAPACITY (MBH)	MECHANICAL NOTE
RHC 46-1	AHU 46	CLINIC WAITING	4160	24	24	4	55	95	0.5	180	160	18.1	PROPYLENE	40%	5.0	180.5	1,2,3,4
RHC 46-2	AHU 46	LOBBY CORRIDOR S	3360	24	24	4	55	95	0.5	180	160	14.6	PROPYLENE	40%	5.0	145.8	1,2,3,4
RHC 46-3	AHU 46	LOBBY WAITING N	1200	14	14	2	55	95	0.5	180	160	5.2	PROPYLENE	40%	5.0	52.1	1,2,3,4
RHC 46-5	AHU 46	LOBBY RESTROOMS	550	12	12	2	55	95	0.5	180	160	2.4	PROPYLENE	40%	5.0	23.9	1,2,3,4
RHC 46-6	AHU 46	WEST CORRIDOR	400	14	14	2	55	95	0.5	180	160	1.7	PROPYLENE	40%	5.0	17.4	1,2,3,4
RHC 46-7A	AHU 46	WEST OFFICES	290	10	10	2	55	95	0.5	180	160	1.3	PROPYLENE	40%	5.0	12.6	1,2,3,4
RHC 46-7B	AHU 46	WEST OFFICES	290	10	10	2	55	95	0.5	180	160	1.3	PROPYLENE	40%	5.0	12.6	1,2,3,4
RHC 46-7C	AHU 46	WEST OFFICES	290	10	10	2	55	95	0.5	180	160	1.3	PROPYLENE	40%	5.0	12.6	1,2,3,4
RHC 46-7D	AHU 46	WEST OFFICES	330	10	10	2	55	95	0.5	180	160	1.4	PROPYLENE	40%	5.0	14.3	1,2,3,4
RHC 46-8A	AHU 46	EAST OFFICES	470	12	12	2	55	95	0.5	180	160	2.0	PROPYLENE	40%	5.0	20.4	1,2,3,4
RHC 46-8B	AHU 46	EAST OFFICES	470	12	12	2	55	95	0.5	180	160	2.0	PROPYLENE	40%	5.0	20.4	1,2,3,4
RHC 46-8C	AHU 46	EAST OFFICES	470	12	12	2	55	95	0.5	180	160	2.0	PROPYLENE	40%	5.0	20.4	1,2,3,4
RHC 46-8D	AHU 46	EAST OFFICES	480	12	12	2	55	95	0.5	180	160	2.1	PROPYLENE	40%	5.0	20.8	1,2,3,4
RHC 46-8E	AHU 46	LOBBY WAITING S	1200	16	16	2	55	95	0.5	180	160	5.2	PROPYLENE	40%	5.0	52.1	1,2,3,4
RHC 46-8F	AHU 46	LOBBY VESTIBULE	1050	14	14	2	55	95	0.5	180	160	4.6	PROPYLENE	40%	5.0	45.6	1,2,3,4
RHC 46-9	AHU 46	CLINIC WAITING	1620	18	18	2	55	95	0.5	180	160	7.0	PROPYLENE	40%	5.0	70.3	1,2,3,4

						TUBE					SHE	ELL					
EQUIPMENT TAG	APPLICATION	EWT (F)	LWT (F)	GPM	VELOCITY (FPS)	NUMBER OF PASSES	MINIMUM SURFACE AREA (SQ FT)	WPD (FT)	GLYCOL TYPE	GLYCOL %	INLET STEAM PRESSURE (PSIG)	STEAM CAPACITY (LBS/HR)	LENGTH (FT)	CAPACITY (MBH)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
HEX 5-01A	HEATING WATER	160	180	200	5.05	2	58.4	1.1'	PROPYLENE	40%	15	2150	4.5'	2,000	BELL & GOSSETT	SU-104-2	1,2,3
HEX 5-01B	HEATING WATER	160	180	200	5.05	2	58.4	1.1'	PROPYLENE	40%	15	2150	4.5'	2,000	BELL & GOSSETT	SU-104-2	1,2,3

MECHANIC	AL (235700)																
				(COLD SIDE					H	IOT SIDE						
EQUIPMENT		EWT	LWT		WPD		GLYCOL	EWT	LWT		WPD		GLYCOL	CAPACITY			
TAG	APPLICATION	(F)	(F)	GPM	(FT)	GLYCOL TYPE	%	(F)	(F)	GPM	(FT)	GLYCOL TYPE	%	(MBH)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
HEX 5-02A	SNOWMELT	80	110	80	<25'	PROPYLENE	50%	180	160	120	<20'	PROPYLENE	40%	1,200	BELL & GOSSETT		1,2,3
HEX 5-02B	SNOWMELT	80	110	80	<25'	PROPYLENE	50%	180	160	120	<20'	PROPYLENE	40%	1,200	BELL & GOSSETT		1,2,3,4

EQUIPMENT		NUMBER OF	FIN SIZE			PIPE	PIPE SIZE	ENCLOSURE	ENCLOSURE	EAT DB	EWT	LWT		GLYCOL	CAPACITY PER LINEAR		MODEL	MECHANICAL
TAG	TYPE	ROWS	(INxIN)	FINS/FT	FIN MATERIAL	MATERIAL	(IN)	GAUGE	HEIGHT (IN)	(F)	(F)	(F)	GLYCOL TYPE		FT (BTUH)	MANUFACTURER	NUMBER	NOTES
FTR 01	PEDESTAL	2	4-1/4" X 3-5/8"	50	ALUMINUM	COPPER	3/4"	16	10-3/4"	70	180	160	PROPYLENE	40%	1375	STERLING	JVB-2PM	1,2
FTR 02	PEDESTAL	2	4-1/4" X 3-5/8"	50	ALUMINUM	COPPER	3/4"	16	10-3/4"	70	180	160	PROPYLENE	40%	1375	STERLING	JVB-2PM	1,2,3

one quart

one eighth inch = one foot

0 4 8 16

GRILLE	ES, REGIS	STERS, AND	D DIFFUSERS SCHEDULE						
MECHANI	CAL (233713)								
EQUIPMENT TAG	APPLICATION	MOUNTING TYPE	DESCRIPTION	MATERIAL	ACCESSORIES	FINISH	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
А	SUPPLY	CEILING	SQUARE 3-CONE DIFFUSER	ALUMINUM	-	WHITE	TITUS	TMS-AA	1,3,6
В	SUPPLY	SURFACE	DOUBLE DEFLECTION GRILLE	ALUMINUM	-	WHITE	TITUS	300FL	1,2,4,6
С	RETURN	CEILING	LAY-IN RETURN GRILLE	ALUMINUM	-	WHITE	TITUS	50F	1,2,3,6
D	RETURN	SURFACE	HEAVY DUTY 0 DEGREE DEFLECTION GRILLE	STEEL	FIELD PAINTED BY G.C.	FACTORY PRIMED	TITUS	30RL	1,4,5,6
Е	EXHAUST	SURFACE	SINGLE DEFLECTION GRILLE WITH PLENUM CONNECTION	ALUMINUM	FIELD FABRICATED PLENUM, PAINT INTERIOR BLACK	WHITE	TITUS	350FL	1,2,4,6
F	SUPPLY	SURFACE	2 FT LINEAR FLOWBAR WITH 2" SLOT	ALUMINUM	FBPI - FACTORY PLENUM, BORDER TYPE 77	FACTORY PRIMED	TITUS	FL-20	1,3,5,6
G	SUPPLY	SURFACE	16"X24" - DISPLACEMENT DIFFUSER (WALL MOUNT)	ALUMINUM	HEAVY DUTY 16 GAUGE PREFORATED FACE	WHITE	TITUS	DVIR	7,8,11
Н	SUPPLY	RECESSED	36"X24" - DISPLACEMENT DIFFUSER (FLUSH MOUNT)	ALUMINUM	HEAVY DUTY 16 GAUGE PREFORATED FACE	WHITE	TITUS	DVR1	7,9,11
J	SUPPLY	FLOOR MOUNT	36"X24" - CORNER MOUNT DISPLACEMENT DIFFUSER	ALUMINUM	SPECIAL ORDER BOTTOM CONNECTION	WHITE	TITUS	DVC1	10
K	SUPPLY	SURFACE	DOUBLE DEFLECTION GRILLE	ALUMINUM	AG-15 OPPOSED BLADE DAMPER	FACTORY PRIMED	TITUS	300RL	4,5

MECHANICAL NOTES:

1. REFER TO REFLECTED CEILING PLANS FOR CEILING TYPE/MOUNTING REQUIREMENTS. MECHANICAL CONTRACTOR SHALL COORDINATE BORDER TYPE REQUIRED WITH CEILING GRID SYSTEM AS DOCUMENTED IN ARCHITECTURAL PLANS AND SPECIFICATIONS.
2. PROVIDE FIELD FABRICATED PLENUM BOX WITH INTERIOR PAINTED FLAT BLACK FOR CONNECTION. REFER TO DRAWINGS FOR NECK SIZE.
3. REFER TO DRAWINGS FOR NECK SIZE. PROVIDE FULL SIZED BUTTERFLY BALANCING DAMPER AT TAKE-OFF FROM DUCT FOR INDIVIDUAL BALANCING.
4. REFER TO DRAWINGS FOR GRILLE SIZE. PROVIDE OPPOSED BLADE BALANCING DAMPER POSITIONED UPSTREAM IN DUCT A MINIMUM OF 2 TRANSITIONS FOR SOUND ABATEMENT PURPOSES.
5. PROVIDE IN A FACTORY PRIMED FINISH TO BE PAINTED ON SITE WITH SAME COLOR PAINT AS WALL SURFACE FINISH. COORDINATE WITH GENERAL CONTRACTOR.
6. BALANCE ALL DIFFUSERS AND GRILLES AT TAKE-OFF DAMPERS. PROVIDE DAMPERS AT TAKE-OFF FOR EVERY GRD INDICATED EVEN IF NOT DIRECTLY SHOWN ON PLANS, DRAWINGS WILL TYPICALLY SHOW RECOMMENDED LOCATIONS FOR THOSE DAMPERS.
7. PROVIDE EACH DIFFUSER WITH A SECOND PERFORATED FACE PLATE FOR FUTURE REPLACEMENT IN DAMAGED. BOTH FACE PLATES TO BE HEAVY DUTY 16 GAUGE CONSTRUCTION.
8. REFER TO ARCHITECTURAL AND MECHANICAL DETAILS FOR MOSTALLATION BETWEEN STANDARD STUD FRAMING AT 16" O.C. INSULATE DUCT RISERS PRIOR TO SECURING INTO PLACE.
9. REFER TO ARCHITECTURAL CASEWORK DETAILS FOR MOSTALLATION BETWEEN STANDARD STUD FRAMING AT 16" O.C. INSULATE DUCT RISERS PRIOR TO SECURING INTO PLACE.
10. PROVIDE FLOOR MOUNTED CORNER DIFFUSER WITH SPECIAL ORDER BOTTOM CONNECTION TO TIE INTO HOPE DUCTWORK FROM BELOW FLOOR. INCLUDE STAND TO HOLD UNIT SLIGHTLY ABOVE FLOOR FOR FINAL CONNECTION.
11. PROVIDE PERFORATED FACE OF DISPLACEMENT DIFFUSER IN A CUSTOM COLOR SELECTED BY ARCHITECT. COORDINATE FINISH/COLOR (RAL CODE) WITH ARCHITECT AND PROVIDE A 6"X6" METAL SAMPLE FOR REVIEW AND APPROVAL.

MECHANI	CAL (232113)										
			TANK	ACCEPTANCE	PRECHARGE	ASME	SIZ	Ξ [
EQUIPMENT			VOLUME	VOLUME	PRESSURE	CERTIFIED	DIAMETER	HEIGHT		MODEL	MECHANICAL
TAG	APPLICATION	TYPE	(GAL)	(GAL)	(PSIG)	(YES/NO)	(IN)	(IN)	MANUFACTURER	NUMBER	NOTES
ET 5-01	HEATING WATER	DIAPHRAGM	159	56	15	YES	30"	60.5"	BELL & GOSSETT	D-260V	1,2
ET 5-02	SNOWMELT	DIAPHRAGM	77	34	15	YES	24"	48.75"	BELL & GOSSETT	D-144V	1,2

EQUIPMENT TAG	APPLICATION	GPM	WATER CONNECTION SIZE (IN)	WPD (FT)	STRAINER (YES/NO)	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
AS 5-01	HEATING WATER	400	6"	<4'	YES	BELL & GOSSETT	R-6	1,2
AS 5-02	SNOWMELT	180	4"	<4'	YES	BELL & GOSSETT	R-4	1,2,3

MECHANI	CAL (233600)									
EQUIPMENT			NECK	CONTROL	MAXIMUM	MINIMUM	AIR PRESSURE				
TAG	APPLICATION	AREA SERVED	SIZE	TYPE	CFM	CFM	DROP (IN W.C.)	COATING	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTE
AV 46-1a	SUPPLY	CLINIC WAITING	14	2	2080	2080	NOTE #1	UNCOATED ALUMINUM	PHOENIX	CSVA214M-A	1,2,3,4,5
AV 46-1b	SUPPLY	CLINIC WAITING	14	2	2160	2160	NOTE #1	UNCOATED ALUMINUM	PHOENIX	included in above	1,2,3,4,5
AV 46-2a	SUPPLY	LOBBY CORRIDOR S	14	1	1680	840	NOTE #1	UNCOATED ALUMINUM	PHOENIX	BSVA214M-A	1,2,3,4,5
AV 46-2b	SUPPLY	LOBBY CORRIDOR S	14	1	1680	840	NOTE #1	UNCOATED ALUMINUM	PHOENIX	included in above	1,2,3,4,5
AV 46-3	SUPPLY	LOBBY WAITING N	12	2	1000	500	NOTE #1	UNCOATED ALUMINUM	PHOENIX	CSVA110M-A	1,2,3,4,5
AV 46-5	SUPPLY	LOBBY RESTROOMS	8	1A	550	280	NOTE #1	UNCOATED ALUMINUM	PHOENIX	BSVA108M-A	1,2,3,4,5
AV 46-6	SUPPLY	WEST BACK CORRIDOR	8	1A	400	200	NOTE #1	UNCOATED ALUMINUM	PHOENIX	BSVA114M-A	1,2,3,4,5
AV 46-7	SUPPLY	WEST OFFICES	12	2	1200	1200	NOTE #1	UNCOATED ALUMINUM	PHOENIX	CSVA112M-A	1,2,3,4,5
AV 46-8a	SUPPLY	EAST OFFICES	14	2	1850	1850	NOTE #1	UNCOATED ALUMINUM	PHOENIX	CSVA214M-A	1,2,3,4,5
AV 46-8b	SUPPLY	EAST OFFICES	14	2	1850	1850	NOTE #1	UNCOATED ALUMINUM	PHOENIX	included in above	1,2,3,4,5
AV 46-9	SUPPLY	CLINIC WAITING / SECURITY	14	2	1620	1620	NOTE #1	UNCOATED ALUMINUM	PHOENIX	CSVA-114M-A	1,2,3,4,5

	CAL (233723)		LOUV	ER SIZE							
EQUIPMENT TAG	APPLICATION	TYPE	WIDTH (IN)	HEIGHT (IN)	CFM	VELOCITY (FPM)	MAXIMUM APD (IN W.C.)	ACCESSORIES	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
LV 01	RELIEF AIR	DRAINABLE BLADE	107	96	35,000	495 (total area)	0.20"	BIRDSCREEN AND FLANGE	GREENHECK	EHM-601	1,2,3,4,5

IVILOI IAINI	CAL (233723)		CUF	RB SIZE							
EQUIPMENT TAG	APPLICATION	TYPE	WIDTH (IN)	HEIGHT (IN)	CFM	VELOCITY (FPM)	MAXIMUM APD (IN W.C.)	ACCESSORIES	MANUFACTURER	MODEL NUMBER	MECHANICA NOTES
GIH 01	OUTDOOR AIR INTAKE	LOUVERED	96"	60"	35,000	875	0.1"	SEE NOTES	GREENHECK	WIH	1,2,3,4,5

					PUMP						
EQUIPMENT TAG	APPLICATION	TYPE	STEAM PRESSURE (PSIG)	MOTIVE TYPE	MOTIVE PRESSURE (PSIG)	INSTALLAT ION HEAD (INCHES)	BACK PRESSURE (PSIG)	PUMPING CAPACITY (LBS/HR)	MANUFACTURER	MODEL NUMBER	MECHANICA NOTES
SCP 5-01	CONDENSATE	PRESSURE DRIVEN	15	STEAM	125	12"	25 PSI	13,000	ARMSTRONG	PT-312	1,2

			TANK	SIZE	STEAM				
EQUIPMENT TAG	APPLICATION	DISCHARGE STEAM PRESSURE (PSIG)	DIAMETER (IN)	HEIGHT (IN)	CAPACITY (LBS/HR)	ACCESSORIES	MANUFACTURER	MODEL NUMBER	MECHANICAL NOTES
FT 5-01	LOW PRESSURE	15	8	40	10,000	100AICF8 F&T TRAP	ARMSTRONG	VAFT-12	1,2,3

		CONSULT	ANTS				ARCHITECT (OF RECORD	STAMP	Office of	Drawing Title MECHANICAL SCHEDULES	Phase	Project Title NEW FRONT	LOBBY AN	D	Project Number VA #438-480 SGA #201909
		ARCHITECTURAL:	STRUCTURAL:	MEP:	CIVIL:	LANDSCAPE:	A/E: Stone Group Architects		Digitally Sector by Jason Gottwalt Day (02-96): 190-18:29-05:00'	Construction	WEOTIATIOAL COTTEDUCES	CONSTRUCTION	PRIMARY CA			Building Number
		BWBR	ERA STRUCTURAL ENGINEERING	DUNHAM	EVS	CONFLUENCE	600 E 7th Street Sioux Falls, SD 57103		3~ { 4844	and Facilities Management	Approved:	DOCUMENTS	Location			Drawing Number
		BWBR 380 St. Peter St Suite 600	Ericksen Roed Associates 2550 University Ave W Suite 423-S	Dunham Asssociates, Inc. 50 South Sixth St Suite 1100		CONFLUENCE 524 N Main Ave Suite 201	605-271-1144	STONE GROUP	JASON R. GOTTWALT				SIOUX FALL	S, SOUTH D	AKOTA Drawn	
Revision# Description	Date:	St. Paul, MN 55102 Phone: 651-222-3701	St. Paul, MN 55402 Phone: 651-251-7570	Minneapolis, MN 55402 Phone: 612-465-7550 0421950-002-00	Eden Prairie, MN 55344 Phone: 952-646-0236	Sioux Falls, SD 57104 Phone: 605-339-1205		ARCHITECTS	THE DAMPS OF THE PARTY OF THE P	U.S. Department of Veterans Affairs	rs		06/22/2022	JRG	TNH	M500

AIR HANDLING UNIT SCHEDULE MECHANICAL (237313, 237316, 237333, 237339) | MIXING BOX | MINIMUM OUTDOOR | COOLING | HEATING | RECOVERY SOUND EQUIPMENT FACE & BYPASS SUPPLY APPLICATION FAN TAG DAMPERS (YES/NO) (YES/NO) AIR CFM COIL PRE-FILTER | FINAL-FILTER | HUMIDIFIER | AIR BLENDER | ATTENUATOR FAN MECHANICAL NOTES COIL COIL MODEL NUMBER AHUCC 46 AHUHC 46 AHURC 46A AHUPF 46 AHUFF 46 EXTERNAL AHUSF 46 AHURF 46 INNOVENT AHU 5-46 AHUHU 46 CAHU-20000-AB-IB-HM-CW-FF-460 1,2,3,4,5,6,7 AHUCC 47 AHUHC 47 NONE AHU 5-47 PCC - PACT 1 AHUPF 47 AHUFF 47 AHUHU 47 CAHU-15000-AB-HW-HM-CW-FF-460 1,2,3,4,5,6 <u>GENERAL MECHANICAL NOTES:</u> REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT ALL AIR HANDLERS TO BE PROVIDED WITH 4" CONCRETE EQUIPMENT PAD TO ENSURE LEVEL FLOOR. AHU MANUFACTUER TO PROVIDE BASE RAILS HIGH ENOUGH TO ALLOW FOR CONDENSATE DRAIN TRAPS TO BE INSTALLED ABOVE SLAB ON GRADE FLOOR LEVEL.
ALL FANS TO ALL HAVE DEDICATED VFD'S WITH COMPONENTS LISTED IN FAN SECTIONS AND SPECIFICATIONS. FANS SHALL BE ABLE TO BE INDIVIDUALLY ISOLATED WITHOUT IMPACTING OVERALL OPERATION OF AHU.
APPROVED EQUAL MANUFACTURERS SHALL REFERENCE DIMENSIONS SHOWN ON DRAWINGS AND ATTEMPT TO MATCH THOSE DIMESIONS AS CLOSE AS POSSIBLE. CONTRACTOR TO VERIFY SERVICE CL; EARANCES FOR ALL COMPONENTS PRIOR TO RELEASING ORDER. BALANCING CONTRACTOR TO VERIEV FAN SPEED TRACKING REQUIRED TO MAINTAIN MINIMUM OUTDOOR AIR FLOW RATE AT BOTH MAXIMUM AND MINIMUM VAV ARIFLOW VOLUMES. REFER TO SEQUENCE OF OPERATION FOR ADDITIONAL INFORMATION.

AHU MANUFACTURER TO PROVIDE INSULATED BLADE DAMPERS AT EACH POINT OF DUCT CONNECTION (SUPPLY/RETURN/OA). DAMPERS TO BE TAMCO 9000 SERIES OR EQUAL. CONTRACTOR TO PROVIDE ACTUATORS FOR ALL DAMPERS.

CONTRACTOR TO COORDINATE LARGEST DIMENSION OF COMPONENTS/SECTIONS ABLE TO BE TRANSPORTED INTO INTERSTITIAL SPACE DURING CONSTRUCTION SCHEDULE. AHU MANUFACTUER TO COMPLY WITH THESE MAXIMUM DIMENSIONS ALLOWABLE FOR TRANSPORT TO PROJECT SITE. PROVIDE LOBBY AHU WITH BIPOLAR IONIZATION SYSTEM INSTALLED DOWNSTREAM OF FINAL FILTERS. REFER TO AHU SECTIONS AND KEY NOTES ON DRAWING M400 FOR ADDITIONAL INFORMATION. **ELECTRICAL** =QUIPMEN⁼ CALCULATED FURNISHED BY/ FURNISHED BY CIRCUIT INSTALLED BY LOCATION | CTRL WIRE BY | AMPS/TYPE NEMA TYPE | INSTALLED BY | LOCATION NUMBER CONDUIT/FEEDER SIZE **ELECTRICAL NOTES** AFC VFD 90A NEMA 1 DIV 26/DIV 26 AT UNIT AHU 5-46 87A 10000 DIV 23/DIV 26 AT UNIT DIV 23 100A HNSM2.2 1,3,5 1 1/4"C. 3#3 & 1# 8 GND 70A AHU 5-47 DIV 23/DIV 26 AT UNIT 100A NEMA 1 DIV 26/DIV 26 AT UNIT 1 1/4"C. 3#3 & 1# 8 GND **CONTROLLER TYPES:** <u>GENERAL ELECTRICAL NOTES:</u> WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE VFD - VARIABLE FREQUENCY MOTOR CONTROLLER MAGS - MAGNETIC STARTER MMS - MANUAL MOTOR STARTER (WITH OVERLOADS) MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS) MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT CP - CONTROL PANEL RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN. EC TO COORDINATE EXTENSION OF POWER FROM AIR HANDLING UNIT ELECTRICAL ENCLOSURE TO INDIVIDUAL SUPPLY AND RETURN FANS. PROVIDE SEPERATE CONTROL, OVERCURRENT PROTECTION AND CONNECTION TO INDIVIDUAL FANS. PROVIDE 120V POWER TO UNIT LIGHTING AND CONVENICENE RECEPTACLES. EXTEND FROM LOCAL 120V POWER SOURCE. **| AIR HANDLING UNIT - PREFILTER SCHEDULE** | AIR HANDLING UNIT - FINAL FILTER SCHEDULE MECHANICAL (234100) MECHANICAL (234133) **EQUIPMENT** NUMBER OF | SIZE PER MODULE | EFFICIENCY APD CLEAN APD CLEAN CFM MODULES (H"xL"xD") RATING (IN W.C.) LOADING (IN W.C.) | MANUFACTURER NOTES SERVED MODULES (H"xL"xD") RATING (IN W.C.) LOADING (IN W.C.) | MANUFACTURER | MODEL NUMBER AHUPF 46 AHU 5-46 2" PLEATED 20000 25"X16" CAMFIL-FARR AHUFF 46 AHU 5-46 12" CARTRIDGE 20000 24"X20" 0.34" 0.92" CAMFIL-FARR VARICELL 30/30 AHUPF 47 AHU 5-47 2" PLEATED 15000 20"X24" AHUFF 47 AHU 5-47 12" CARTRIDGE 15000 24"X24" 0.92" CAMFIL-FARR VARICELL CAMFIL-FARR 30/30 COORDINATE WITH AIR HANDLING UNIT SUPPLIER FOR MAXIMUM FACE VELOCITY OF 500 FPM.
PROVIDE THREE(3) SET OF FILTERS. FIRST TO BE USED DURING PROJECT PHASING WITH A SECOND SET TO BE INSTALLED JUST PRIOR TO OCCUPANCY. THIRD SET WILL BE TURNED OVER TO VA FOR STORAGE.
PROVIDE BOTH LOCAL MAGNAHELIC GAUGES AROND EACH FILTER BANK, AND DIFFERENTIAL PRESSURE SENSORS WIRED INTO BAS FOR REMOTE MONITORING. COORDINATE WITH AIR HANDLING UNIT SUPPLIER FOR MAXIMUM FACE VELOCITY OF 500 FPM PROVIDE THREE(3) SET OF FILTERS. FIRST TO BE USED DURING PROJECT PHASING WITH A SECOND SET TO BE INSTALLED JUST PRIOR TO OCCUPANCY. THIRD SET WILL BE TURNED OVER TO VA FOR STORAGE. PROVIDE FILTER RACK WITH GASKETED SEAL EDGES WITH HEAVY DUTY CLAMP DOWN ASSEMBLIES (NO SPRING CLIPS). TAB CONTRACTOR TO TEST LEAKAGE AROUND PERIMETER OF FILTER SEALS. PROVIDE BOTH LOCAL MAGNAHELIC GAUGES AROND EACH FILTER BANK, AND DIFFERENTIAL PRESSURE SENSORS WIRED INTO BAS FOR REMOTE MONITORING. AIR HANDLING UNIT - HEAT RECOVERY COIL SCHEDULE AIR HANDLING UNIT - RETURN FAN SCHEDULE MECHANICAL (233416) MECHANICAL (238216) TOTAL SP | DIAMETER | VFD FACE ESP (IN W.C.) (IN W.C.) AHU SERVED CFM PER FAN (DESIGN/ACTUAL) (IN) (YES/NO) | FAN RPM | BHP | (BELT/DIRECT) | MANUFACTURER | MODEL NUMBER MECHANICAL NOTES VELOCITY QUIPMENT NUMBER | EACH COIL GLYCOL GLYCOL | WPD | CAPACITY **MECHANICAL** 1.50" 1.80" 20" YES 1412 / 2514 8.7 / 18 DIRECT AHURF 46 MIXED FLOW 6667 / 10000 20,000 / 14,200 GREENHECK GPM TYPE (MBH) SERVED OF COILS | SIZE (W"XH") | ROWS | INCH | (F) | (F) | (F) | (F) (FPM) W.C.) (F) (F) (FT) MANUFACTURER MODEL NUMBER NOTES AHURF 47 PLENUM 3750 / 5000 15,000 / 10,900 1.50" 1.80" 450 MM YES 1672 / 2600 12 / 10.9 DIRECT 1,2,3,4,5,6 1 99" X 66" 3 7 -15 - -1 -0.15" 33.1 26.2 96.6 PROPYLENE 40% AHURC 46A | AHU 5-46 | 20,000 25.8' 304.5 PORECISION COILS HW58S03H07-66x99-R 1,2,3,4,5 GENERAL MECHANICAL NOTES MECHANICAL NOTES: REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT REFER TO PIPING DIAGRAM ON DRAWING M300 FOR CONTROL VALVES ASSOCIATED WITH SWITCHING THIS COIL BETWEEN A WINTER HEAT RECOVERY, AND A SUMMER MODE AUXILLIARY COOIL COIL (ONLY NEEDED IN 100% O.A. OPERATION). SINCE THIS COIL WILL SERVE DUAL PURPOSE, A DUAL SLOPED DRAIN PAN CONTRACTED OF 316 STAINLESS STEEL SHALL BE PROVIDED TO ACCOMATED ANY CONDENSATE DRAINING FROM COIL FACE. PROVIDE COIL WITH 304 STAINLESS STEEL CASING TO PREVENT POTENTIAL CORROSSION. PROVIDE EACH FAN WITH DEDICATED VFD WITHIN A FULLY VENTILATED ENCLOSURE. VFD CONTROL PANEL SHALL BE REMOTELY MOUNTED ON OUTSIDE OF ENCLOSURE TO ALLOW VERIFICATION AND ADJUSTMENT WITHOUT OPENING ENCLOSURE. PROVIDE EACH FAN WITH BACKDRAFT DAMPER TO ALLOW TO REMOVAL FROM SERVICE WITHOUT AFFECTING ADJACENT FANS. EACH FAN MOTOR SHALL ALSO HAVE A DEDICATED TOUCH-SAFE DISCONNECT SWITCH. WHEN THIS COIL IS UTILIZED AS PRE-COOLING DURING 100% OUTDOOR AIR MODE IT WILL HAVE 92 DB/74 WB ENTERING AIR WITH 71 DB/66.5 WB LEAVING AIR CONDITIONS. CHILLED WATER BALANCE AT 97 GPM TO PRODUCE THAT 530 MBH OF PRE-COOLING. REFER TO SEQUENCE OF OPERATION FOR AUTOMATION OF CONTROL VALVE TO SWITCH THIS COIL BETWEEN HEAT ERCOVERY, AND 100% OUTDOOR AIR PRE-COOLING, MODES OF OPERATION. CHECK FAN ALIGNMENT AND VIBRATION ON START UP. FAN ARRAY IS NOT ANTICIPATED TO REQUIRE VIBRATION ISOLATION. SEE SPECIFICATION FOR ACCEPTABLE VIBRATION LIMITS.

COORDINATE WIRING CONNECTIONS BETWEEN VFD ENCLOSURE AND EACH INDIVIDUAL FAN MOTOR WITH ELECTRICAL CONTRACTOR TO ENSURE SCOPE OF WORK IS COVERED WITHIN BID.

ALL RETURN FANS SHALL BE SIZED WITH 'N+1' REDUNDANCY TO PROVIDE FULL DESIGN FLOW WITH LOSS OF ONE FAN WITHIN THE ARRAY. REFER TO SPECIFICATION AND SEQUENCE FOR ISOLATION OF FAN THAT IS OUT OF SERVICE. RETURN FANS WITHIN AHU-46 SHALL BE UL 705 LISTED FOR SMOKE PURGE AT 1000 DEGREES FOR 30 MINUTES (OR 500 DEGREES FOR 6 HOURS). REFER TO SEQUENCE OF OPERATION. RELIEF/EXHAUST - HEAT RECOVERY COIL SCHEDULE **ELECTRICAL** MECHANICAL (238216) EQUIPMENT FURNISHED BY/ FURNISHED BY/ FACE LOCATION | CTRL WIRE BY | AMPS/TYPE HP/LOAD | VOLTAGE | PHASE | INSTALLED BY (AMPS) NEMA TYPE | INSTALLED BY | LOCATION CONDUIT/FEEDER SIZE **ELECTRICAL NOTES EQUIPMENT** PER DB WB DB WB VELOCITY GLYCOL | WPD | CAPACITY NUMBER | EACH COIL SIZE | APD (IN VFD 15A 480 V DIV 23/DIV 26 AT UNIT DIV 23 NEMA 1 DIV 26/DIV 26 AT UNIT 1 1/4"C. 3#3 & 1# 8 GND 30A APPLICATION | CFM | OF COILS | (W"XH") | ROWS | INCH | (F) | (F) | (F) | (F) (FPM) W.C.) GPM GLYCOL TYPE % (FT) (MBH) MANUFACTURER (F) (F) 1 1/4"C. 3#3 & 1# 8 GN DIV 23/DIV 26 1 96" X 37.5" 4 10 70 53 56.1 46.8 800 0.84" 26.2 | 33.1 | 96.6 | PROPYLENE | 40% | 14.6' | 304.5 | PRECISION COILS | CW58S04F10-37.5x96-RH | **GENERAL ELECTRICAL NOTES: CONTROLLER TYPES** <u> MECHANICAL NOTES:</u> WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER VFD - VARIABLE FREQUENCY MOTOR CONTROLLER MAGS - MAGNETIC STARTER REFER TO DRAWING M300 FOR PIPING DIAGRAM SHOWING PUMP AND CONNECTIONS FOR WINTER MODE HEAT RECOVERY. SEE SEQUENCE OF OPERATION.
INCLUDE SECTION OF 316 STAINLESS STEEL DUCTOWRK AROUND ENERGY RECOVERY COIL (MINIMUM 48" ON BOTH SIDES). INCLUDE SLOPED BOTTOM TO 1" DRAIN ROUTED TO NEAREST FLOOR DRAIN FOR WATER INFILTRATION.
SUPPORT COIL AS REQUIRED FROM STRUCTURE AND PROVIDE ACCESS PANELS ON DUCTWORK TO BOTH SIDE OF COIL FOR CLEANING AND INSPECTION PURPOSES. SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION. MMS - MANUAL MOTOR STARTER (WITH OVERLOADS) MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS) MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CP - CONTROL PANEL CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN. EC TO COORDINATE EXTENSION OF POWER FROM AIR HANDLING UNIT ELECTRICAL ENCLOSURE TO INDIVIDUAL RETURN FANS. PROVIDE SEPERATE CONTROL, OVERCURRENT PROTECTION AND CONNECTION TO INDIVIDUAL FANS. AIR HANDLING UNIT - COOLING COIL SCHEDULE - CHILLED WATER TYPICAL OF FOUR FANS MECHANICAL (238216) LAT SENSIBLE | TOTAL |GLYCOL | GLYCOL | WPD | CAPACITY | CAPACITY NUMBER | EACH COIL DB WB VELOCITY APD (IN EWT LWT EQUIPMENT MODEL **MECHANICAI** SERVED OF COILS | SIZE (W"xH") | ROWS | INCH | DB (F) | WB (F) | (F) | (F) | (FPM) W.C.) (F) (F) GPM TYPE % (FT) (MBH) (MBH) MANUFACTURER NUMBER NOTES PG 441 40% 27.2' AHUCC 46 AHU 5-46 8 12 77.5 / 71 66 / 66.5 54 53.5 1.2" 44 56 133 20,000 1,2,3,4,5,6 482 PG AHUCC 47 AHU 5-47 15,000 8 8 78 65 55 54.5 1.0" 44 56 80 40% 1,2,3,4 AIR HANDLING UNIT - SUPPLY FAN SCHEDULE MECHANICAL NOTES: MECHANICAL (233416) PROVIDE ALL COOLING COILS WITH STAINLESS STEEL CASING, ALONG WITH STAINLESS STEEL CONSTRUCTION OF ALL SUPPORT RACKS. PROVIDE DOUBLE SLOPED DRAIN PAN, AND INTERMEDIATE DRAIN PAN, CONSTRUCTED OF 316 STAINLESS STEEL. VERIFY CONDENSATE DRAIN CONNECTION ELEVATION WITH TRAP HEIGHT REQUIREMENTS REFER TO DETAIL 4a/M300. VA WILL REQUIRE AN OVERSIZED 2" DRAIN WITH THREADED CAP ON EACH COIL TO HELP ACCELERATE THE DRAIN DOWN PROCESS (TYPICAL OF ALL LARGE COILS). FANS TYPE CFM PER FAN | TOTAL CFM (DESIGN/ACTUAL) | ESP (IN W.C.) | (IN W.C.) | DIAMETER (IN) | (YES/NO) | FAN RPM | BHP (BELT/DIRECT) MANUFACTURER MODEL NUMBER MECHANICAL NOTES AHU SERVED COIL CAPACITY BASED ON ENERGY RECOVERY COIL FAILURE. MANUFACTURER TO PROVIDE OPERATING CONDITIONS FOR BOTH NORMAL OPERATION AND RECOVERY COIL FAILURE.

COIL CAPACITIES SHOWN ABOVE ARE FOR TWO DIFFERENT OPERATING CONDITIONS. FIRST LISTING IS FOR NORMAL OPERATION AT MINIMUM O.A. MODE, SECOND LISTING IS FOR 100% OUTDOOR AIR MODE WITH PRE-COOLING FROM HEAT RECOVERY COIL.

REFER TO SEQUENCE OF OPERATION FOR SWITCHING BETWEEN MODES OF OPERATION BETWEEN MINIMUM OUTDOOR AIR MODE, AND 100% OUTDOOR AIR PURGE MODE. APPLIES TO AHU-46 ONLY. PLENUM YES DIRECT 30.2 / ??? DIRECT AHUSF 46 5000 / 6666 20,000 / 17,010 7.0" 500 MM GREENHECK 1,2,3,4,5 AHUSF 47 PLENUM 3750 / 5000 15,000 / 12,650 6.5" 400 MM YES DIRECT 19.0 / ??? DIRECT GREENHECK APD-400 1,2,3,4,5 <u>GENERAL MECHANICAL NOTES:</u> $_{ extsf{A}}$ REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT AIR HANDLING UNIT - HEATING COIL SCHEDULE - HEATING WATER MECHANICAL NOTES PROVIDE EACH FAN WITH DEDICATED VFD WITHIN A FULLY VENTILATED ENCLOSURE. VFD CONTROL PANEL SHALL BE REMOTELY MOUNTED ON OUTSIDE OF ENCLOSURE TO ALLOW VERIFICATION AND ADJUSTMENT WITHOUT OPENING ENCLOSURE. PROVIDE EACH FAN WITH BACKDRAFT DAMPER TO ALLOW TO REMOVAL FROM SERVICE WITHOUT AFFECTING ADJACENT FANS. EACH FAN MOTOR SHALL ALSO HAVE A DEDICATED TOUCH-SAFE DISCONNECT SWITCH. CHECK FAN ALIGNMENT AND VIBRATION ON START UP. FAN ARRAY IS NOT ANTICIPATED TO REQUIRE VIBRATION ISOLATION. SEE SPECIFICATION FOR ACCEPTABLE VIBRATION LIMITS. COORDINATE WIRING CONNECTIONS BETWEEN VFD ENCLOSURE AND EACH INDIVIDUAL FAN MOTOR WITH ELECTRICAL CONTRACTOR TO ENSURE SCOPE OF WORK IS COVERED WITHIN BID. ALL RETURN FANS SHALL BE SIZED WITH 'N+1' REDUNDANCY TO PROVIDE FULL DESIGN FLOW WITH LOSS OF ONE FAN WITHIN THE ARRAY. REFER TO SPECIFICATION AND SEQUENCE FOR ISOLATION OF FAN THAT IS OUT OF SERVICE. MECHANICAL (238216) NUMBER | EACH COIL SIZE | PER LAT VELOCITY MODEL QUIPMENT GLYCOL | WPD | MECHANICA ELECTRICAL ROWS GPM TAG SERVED OF COILS INCH (F) (FPM) APD (IN W.C.) (F) (F) GLYCOL TYPE % (FT) (MBH) MANUFACTURER NUMBER NOTES 539 0.34" 180 152 151 PROPYLENE AHUHC 46 AHU 5-46 20.000 -20 63 40% 31.9' AHUHC 47 AHU 5-47 EQUIPMENT FURNISHED BY/ 15,000 55.9 79.1 500 0.09" PROPYLENE 40% 1,2,3 **ELECTRICAL NOTES** TAG INSTALLED BY LOCATION CTRL WIRE BY AMPS/TYPE (AMPS) NEMA TYPE | INSTALLED BY | LOCATION CONDUIT/FEEDER SIZE AHUSF 46 10HP VFD AT UNIT 25A NEMA 1 AT UNIT 480 V DIV 23/DIV 26 DIV 23 25A DIV 26/DIV 26 3/4"C. 3#12 & 1#12 GND AHUSF 47 10HP VFD DIV 23/DIV 26 AT UNIT NEMA 1 DIV 26/DIV 26 480 V DIV 23 25A 25A AT UNIT 3/4"C. 3#12 & 1#12 GND REFER TO DETAIL 4b/M300 FOR ALL REQUIRED PIPING COMPONENTS AND LAYOUT FOR CONTROLS AND MAINTENANCE <u>GENERAL ELECTRICAL NOTES:</u> **CONTROLLER TYPES** WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER VFD - VARIABLE FREQUENCY MOTOR CONTROLLER MAGS - MAGNETIC STARTER SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION. MMS - MANUAL MOTOR STARTER (WITH OVERLOADS) MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS) MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CP - CONTROL PANEL CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN. AIR HANDLING UNIT - HUMIDIFIER SCHEDULE EC TO COORDINATE EXTENSION OF POWER FROM AIR HANDLING UNIT ELECTRICAL ENCLOSURE TO INDIVIDUAL SUPPLY FANS. PROVIDE SEPERATE CONTROL, OVERCURRENT PROTECTION AND CONNECTION TO INDIVIDUAL FANS. MECHANICAL (238413) |EAT DB | EAT WB | CAPACITY **EQUIPMENT** PRESSURE MANIFOLD (LBS/HR) TAG (PSIG) MANIFOLDS | LENGTH (IN) DISTANCE (FT) MANUFACTURER MODEL NUMBER MECHANICAL NOTES (IN) 20,000 PRESSURIZED PAN 53 / -20 | 42 / -20 | 300 LB/HR * 15 PSI DRISTEAM **ULTRASORB** XV 1,2,3,4,5 AHUHU 46 AHU 5-46 per AHU per manuf Digitally signed by Curtis Barlage **ULTRASORB XV** AHUHU 47 AHU 5-47 PRESSURIZED PAN 15,000 53 42 100 LB/HR 15 PSI per AHU DRISTEAM 1,2,3,4 ate: 2022-06-21-10:08:50-05'0 . OA CONDITIONS: -20F DRY AIR. TERMPERATURE AT HUMIDIFIER IS SHOWN ON SHEDULE. SPACE DESIGN CONDITIONS: 75F AT 30% RH. PROVIDE ALL HUMIDIFIERS WITH PRESSURIZED CONDENSATE PANS TO RE-VAPORIZE CONDENSATE AND ALLOW FOR PRESSURIZED RETURN IF REQUIRED FOR LIFT. INCLUDE HIGH LIMIT RH DISCHARGE SENSOR AND PROOF OF AIRFLOW SAFETIES. REFER TO SEQUENCE OF OPERATION.
HUMIDIFIERS THAT ARE POSITIONED ABOVE COOLING COIL DRAIN PANS SHALL HAVE THOSE PANS EXTENDED PAST MANUFACTURER ABSORBTION DISTANCES ENTERING AIR CONDITIONS ARE SHOWN FOR BOTH MINIMUM OUTSIDE AIR MODE, AND DURING 100% OUTDOOR AIR INTAKE. OVERALL CAPACITY INCREASED TO SATISFY DEMANDS ON 100% OUTDOOR AIR. CURTIS D. BARLAGE **Project Title Drawing Title Project Number** ARCHITECT OF RECORD CONSULTANTS STAMP VA #438-480 Office of **NEW FRONT LOBBY AND** MECHANICAL/ ELECTRICAL AHU SGA #201909 CONSTRUCTION Construction PRIMARY CARE ADDITION **Building Number** LANDSCAPE: SCHEDULES **Stone Group Architects DOCUMENTS** and Facilities ERA 600 E 7th Street **Drawing Number** Management Approved: Sioux Falls, SD 57103 SIOUX FALLS, SOUTH DAKOTA CONFLUENCE 605-271-1144 380 St. Peter St 50 South Sixth St 2550 University Ave W 10025 Valley View Rd 524 N Main Ave STONE GROUP M501 Suite 600 Suite 423-S Checked Drawn Suite 1100

ARCHITECTS

U.S. Department of Veterans Affairs

JRG

TNH

one eighth inch = one toot

0 4 8 16

Revision# Description

VA FORM 08 - 6231

St. Paul, MN 55102

Phone: 651-222-3701

St. Paul, MN 55402

Phone: 651-251-7570

Eden Prairie, MN 55344

Phone: 952-646-0236

Sioux Falls, SD 57104

Phone: 605-339-1205

Minneapolis, MN 55402

Phone: 612-465-7550

0421950-002-00

## Company of the content of the con	FAN SCHEDULE	UNIT HEATER SCHEDULE - HEATING WATER
Married Control Married Co		
The content of the	TAG APPLICATION TYPE CFM ESP (IN W.C.) BHP RPM TYPE SONES (YES/NO) MANUFACTURER MODEL NUMBER MECHANICAL NOTES	EQUIPMENT APPLICATION TYPE CFM HP (F) ROWS (F) (F) GPM GLYCOL TYPE % (FT) (MBH) MANUFACTURER MODEL NUMBER MECHANICAL NOTES
The content of the		CUH 02 VESTIBULE C55A SEMI-RECESSED 140 - 300 1/4 60 3 180 152 2.1 PROPYLENE 40% 1.1' 30.1 RITTLING RRW-320 (SIZE 03) 1,2,3,4,5,6 CUH 03 VESTIBULE F02C FREESTANDING 350 - 620 1/4 60 2 180 161 7.3 PROPYLENE 40% 9.3' 69.5 RITTLING RF-220 (SIZE 06) 1,2,3,4,5,6
The contract of the contract		GENERAL MECHANICAL NOTES:
The content of the		MECHANICAL NOTES:
A	CONTROLLER DISCONNECT AT MOTOR	2. ALL CABINET UNIT HEATERS SHALL BE FURNISHED WITH HEAVY DUTY 14-GAUGE CONSTRUCTION ADD OPTION INCLUDED. SUBMIT COLOR SAMPLES TO ARCHITECT FOR SELECTION OF FINAL FINISH. 3. INCLUDE FAN MOTOR WITH ECM OPTION AND 2-10 VDC INPUT FROM BUILDING AUTOMATION TO VARY AIRFLOW PER SEQUENCE OF OPERATION. 4. PROVIDE ALL CABINET UNIT HEATER WITH PLEATED MERV 8 FILTERS. INCLUDE ONE(1) EXTRA SET OF FILTERS TO TURN OVER TO OWNER UPON OCCUPANCY. 5. REFER TO DRAWING FOR LOCATION OF REMOTE MOUNTED THERMOSTAT BY CONTROLS CONSTRACTOR. COORDINATE CONTROL OPTIONS TO ALLOW BAS FULL CONTROL OF UNIT AND ACCESSORIES.
The content of the	TAG HP/LOAD VOLTAGE PHASE AFC TYPE INSTALLED BY LOCATION CTRL WIRE BY AMPS/TYPE (AMPS) NEMA TYPE INSTALLED BY LOCATION PANEL NUMBER CONDUIT/FEEDER SIZE ELECTRICAL NOTES	
A CLICATION SCIENCE - HEATING WATER 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987 1987	. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, MAGS - MAGNETIC STARTER MAGS - MAGNETIC STARTER MMS - MANUAL MOTOR STARTER (WITH OVERLOADS) CP - CONTROL PANEL CP - CONTROL PANEL	FQUIPMENT TAG
## Company of the Com		A. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MMS - MANUAL MOTOR STARTER (WITH OVERLOADS) MAGS - MAGNETIC STARTER MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS)
The content is a part The	AIR CURTAIN SCHEDULE - HEATING WATER	RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN.
Mary	NOZZLE FAN HEATING COIL	
Control Cont	TAG APPLICATION TYPE (IN) FANS (EACH) CFM (F) (F) (F) GPM GLYCOL TYPE % (FT) (MBH) MANUFACTURER MODEL NUMBER MECHANICAL NOTES AC 5-01A LOBBY VESTIBULE RECESSED 84" 2 0.5 HP 2,518 60 88 180 165 11 PROPYLENE 40% 4.2' 76 MBH BERNER ARD12-2084WA 1,2,3,4,6 AC 5-01B LOBBY VESTIBULE RECESSED 84" 2 0.5 HP 2,518 60 88 180 165 11 PROPYLENE 40% 4.2' 76 MBH BERNER ARD12-2084WA 1,2,3,4,6	UNIT HEATER SCHEDULE - ELECTRIC
The content of the	AC 5-02B LOBBY VESTIBULE WALL MOUNT 84" 2 0.5 HP 3,064 72 72 BERNER AE10-E-2084A 1,2,3,4,5,7	FAN COIL
Column C	A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.	TAG APPLICATION TYPE CFM HP (F) KW CONTROL STEPS MANUFACTURER MODEL NUMBER MECHANICAL NOTES
Property		
Mary	. PROVIDE DOOR POSITION INDICATOR SWITCH AND WIRE INTO PACKAGED CONTROLLER TO AUTOMATE START/STOP SEQUENCE OF AIR CURTAIN PER SEQUENCE OF OPERATION. DOOR CONTACT SWITCH SHALL BE CONCEALED WITHIN DOOR FRAME. INTERIOR AIR CURTAIN WILL CIRCULATE ROOM AIR WITHOUT HEATING ELEMENT. REFER TO MODEL FOR AIR IONIZATION STERILZATION SYSTEM FURNISHED WITHIN THIS INTERIOR LAYER OF AIR CURTAIN (BERNER PUREAIR PACKAGE OR EQUAL). EXTERIOR DOOR AIR CURTAINS SHALL HAVE HOT WATER HEATING COILS PER SCHEDULED CAPACITY. REFER TO PIPING DIAGRAM FOR ALL ASSOCIATED PIPING COMPONENTS AND CONTROL SENSORS. PROVIDE INTERIOR AIR CURTAINS WITH WALL MOUNTING BRACKETS AND IN A FACTORY CUSTOM PAINT COLOR AS SELECTED BY ARCHITECT. SUBMIT 6"X6" METAL SAMPLES FOR COLOR SELECTION.	
Column C	CONTROLLER DISCONNECT AT MOTOR	
## 1 10 10 10 10 10 10 10	TAG HP/LOAD VOLTAGE PHASE AFC TYPE INSTALLED BY LOCATION NEMA TYPE INSTALLED BY LOCATION PANEL NUMBER CONDUIT/FEEDER SIZE NOTES AC 5-01A 17A 120 V 1 3400 INTEGRAL DIV 23 30A N/A NEMA 1 DIV 26/DIV 26 AT UNIT LNSM2.1A 10 3/4"C. 2#8 & 1#10 GND AC 5-01B 17A 120 V 1 3400 INTEGRAL DIV 23 30A N/A NEMA 1 DIV 26/DIV 26 AT UNIT LNSM2.1A 12 3/4"C. 2#8 & 1#10 GND	EQUIPMENT TAG HP/LOAD VOLTAGE PHASE AFC TYPE INSTALLED BY LOCATION CTRL WIRE BY AMPS/TYPE (AMPS) NEMA TYPE INSTALLED BY LOCATION PANEL CIRCUIT NUMBER CONDUIT/FEEDER SIZE NOTES UH 01 7.5 KW 480 V 3 INTEGRAL DIV 23/DIV 23 AT UNIT DIV 23 30A 15A NEMA 3R DIV 26/DIV 26 AT UNIT CURRENT AFTER A CIRCUIT NUMBER CONDUIT/FEEDER SIZE NOTES
Extraction Control C	AC 5-02B 17A 120 V 1 3400 INTEGRAL DIV 23 INTEGRAL DIV 23 30A N/A NEMA 1 DIV 26/DIV 26 AT UNIT LNSM2.1A 16 3/4"C. 2#8 & 1#10 GND	A. WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE MMS - MANUAL MOTOR STARTER (WITH OVERLOADS) MAGS - MAGNETIC STARTER MRS/MS - MAGNETIC STARTER (WITH OVERLOADS) MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS) B. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT
Company Comp	MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION. CP - CONTROL PANEL MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS) MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS)	
Company Comp		
COMMON C	CHILLER SCHEDULE - AIR COOLED	
APPLICATION 17°C (10°K) 24°) SEP OLYCOLOGY S	MECHANICAL (236423 & 236426)	
ENERGY, MODIFIED STRUCTURE CONTROLLER SHOW FOR GALOUATED SHORT-CIRCUIT CURRENT AT EQUIPMENT. ENERGY TO SERVICE AND STRUCTURE CONTROLLER SHOW FOR GALOUATED SHOW FOR	QUIPMENT TAG APPLICATION TYPE CAPACITY (TONS) POWER (KW) GH GLYCOL TYPE % MIN FLOW FOULING FACTOR EWT (F) LWT TEMPERATURE (F) MOTOR HP FANS FAN RPM (EACH) NUMBER OF COMPRESSORS FLA (EACH) 250 500 1000 TYPE YFD (YES/NO) MANU ACC 01 EXISTING - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	RTAC 3004 U1CA UAGP W1WY 1CDB NN5U N11A R0EX N EXISTING RANE RTAC 3004 U1CA UAGP W1WY 1CDB NN5U N11A R0EX N EXISTING
ELECTRICAL NOTES: RETER TO STRUCTURA, PLANS FOR SUPPORT BEAMS ABOVE ROOK TO SET CHILLER ONTO, PROVIDE ADDRESS SAFETISES. THIS SUBJECT BY MEDIANDAY OF SOCIEDADE TO SECURIFICATION OF SUPPORT BEAMS AS RECURSED. ALL LOSS COMPONENTS BROUNDED BY MANUFACTURE PROVIDE CAND TO MANUFACTURE PROVIDE CAND TO SET CHILLER STALL EST BY MEDIANDAY OF REAL MITSORY FOR MANUFACTURE PROVIDE CAND TO SET COMPONENTS THAN SUPPORT BEAMS AS RECURSED. BECOME AND THE CAND THE CONTROL OF THE WAS ASSETTED SHALL BE BY MEDIANDAY OF THE MANUFACTURE PROVIDE CAND TO SET CHILLER SHALL BY MEDIANDAY OF THE MANUFACTURE PROVIDE CAND TO SET CHILLER SHALL BY MEDIANDAY OF THE MANUFACTURE PROVIDE CAND TO SET CHILLER SHALL BY MEDIANDAY OF THE MANUFACTURE PROVIDE CAND TO SET CHILLER SHALL BY MEDIANDAY OF THE MANUFACTURE PROVIDE CAND TO SET CHILLER SHALL BY MEDIAN OF THE MANUFACTURE PROVIDE CAND TO SET CHILLER SHALL BY MEDIANDAY OF THE MANUFACTURE PROVIDED CONTROL FROM THE MANUFACTURE PROVIDED CONTROL FOR THE MANUFACTURE PROVIDED CONTROL FROM THE MANU		TRANE RTAC 3004 U^A UAGP W1WY 1DDB NN5U N11A R0EX N 1,2,3,4
ELECTRICAL SUMMENTAL CONTROLLER SUBSCINUTE S	A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT.	
ELECTRICAL SECURING NOT SET STATER SOLECULE FOR MICH SCHOOL SET SATER SOLECULE FOR MICH SCHOOL STATE STATER SOLECULE FOR MICH SCHOOL STATE STATE SOLECULE FOR MICH SCHOOL STATE SOLECULE FOR MICH SCHOOL STATE SOLECULE FOR MICH SCHOOL STATE STATE SOLECULE FOR MICH SCHOOL SCHOOL SOLECULE FOR MICH SCHOOL S	ENCEPTION STRUCTURAL PLANS FOR SUPPORT BEAMS ABOVE ROOF TO SET CHILLER ONTO. PROVIDE APPROPRIATE MOUNTING HARDWARE TO SECURE CHILLER RAILING TO SUPPORT BEAMS AS REQUIRED. 2. ALL LOSE COMPONENTS PROVIDED BY MANUFACTURER (FLOW SWITCHES, TEMP SENSORS, SAFETIES, ETC) SHALL BE INSTALLED BY MECHANICAL CONTRACTOR ON SITE. COORDINATE WITH MANUFACTURER INSTALLATION REQUIREMENTS. 3. PROVIDE ENCLOSED BREAKER FOR SINGLE POINT POWER CONNECTION. PROVIDE DEDICATED ISOLATION VALVES TO TAKE-OUT OF SERVICE FOR MAINTENANCE OR REPAIRS. 4. INCLUDE BAC INTEGRATION NETWORK CARD WITHIN FACTORY MOUNTED CONTROLED. CONTROLED SONTROLED CONTROLED.	
USE ON TROLLER US CONTROLLER U		
When the controller Type is a vfd or magnetic starter, refer to the variable frequency drive controller schedule or the Magnetic starter schedule for more information. MRS-MADURL MOTOR STARTER (WITH OVERLOADS) MRS-MS-MOTOR RATED SWITCH (WITHOUT OVERLOADS) MRS/MS-MOTOR RATED SWITCH (WITHOUT OVERLOADS) MRS/MS-MOTOR RATED SWITCH (WITHOUT OVERLOADS) MRS/MS-MOTOR RATED SWITCH (WITHOUT OVERLOADS) RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT CP-CONTROL PANEL ECTRICAL NOTES:	QUIPMENT TAG HP/LOAD VOLTAGE PHASE TYPE INSTALLED BY LOCATION CTRL WIRE BY AMPS/TYPE (AMPS) NEMA TYPE INSTALLED BY LOCATION CTRL WIRE BY AMPS/TYPE (AMPS) NEMA TYPE INSTALLED BY LOCATION CONDUIT/FEEDER SIZE	ELECTRICAL NOTES 1
. MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN. LECTRICAL NOTES:		MOTOR CONTROLLER MAGS - MAGNETIC STARTER
	MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION. MMS - MANUAL MOTOR START MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT CP - CONTROL PANEL RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN.	



Project Number VA #438-480 SGA #201909

Building Number

Drawing Number

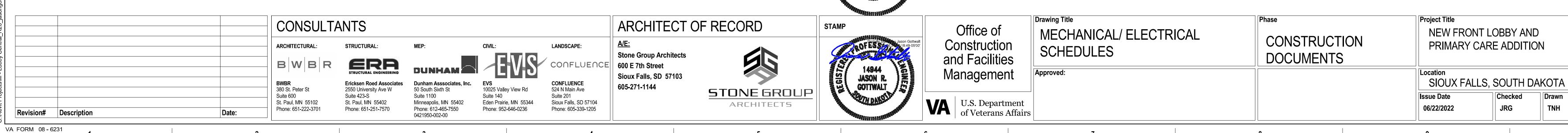
M502

Checked

JRG

Drawn

TNH



one eighth inch = one foot

0 4 8 16

HYDRONIC PUMP SCHEDULE MECHANICAL (232123) TRIPLE DUTY VALVE **EQUIPMENT** DISCHARGE GLYCOL NPSHR SUCTION DISCHARGE MODEL PRESSURE MODEL PRESSURE GPM | HEAD (FT) | GLYCOL TYPE | % SIZE (IN) SIZE (IN) NUMBER DROP (PSI) NUMBER DROP (PSI) (YES/NO) | MANUFACTURER | MODEL NUMBER MECHANICAL NOTE HRPP 5-04 ENERGY RECOVERY END SUCTION 50 PROPYLENE 0.75 1.25" YES BELL & GOSSETT SERIES E-1510-1.25AD 1,2,3,4,5 40% PROPYLENE 40% BELL & GOSSETT SERIES E-1510-2.5BB HWPP 5-01 HEATING WATER | END SUCTION | 100 6.75 3DS-2.5S 1,2,3,4,5 HWPP 5-02 HEATING WATER | END SUCTION | 100 3DS-2.5S DC-3 PROPYLENE 6.75 BELL & GOSSETT SERIES E-1510-2.5BB 1,2,3,4,5 PROPYLENE 40% HWPP 5-03 **HEATING WATER** END SUCTION 100 6.75 3DS-2.5S DC-3 YES BELL & GOSSETT 1,2,3,4,5 PROPYLENE 50% SMP 1A ECM BELL & GOSSETT ECOCIRC XL 110-180 3PH 6.7.8 **SNOWMELT SNOWMELT** WET ROTOR 80 PROPYLENE ECM BELL & GOSSETT | ECOCIRC XL110-180 3PH SNOWMELT PROPYLENE 50% ECM BELL & GOSSETT | ECOCIRC XL110-180 3PH | 6,7,8,9 **GENERAL MECHANICAL NOTES:** A. REFER TO ELECTRICAL SECTION BELOW FOR CALCULATED SHORT-CIRCUIT CURRENT AT EQUIPMENT. MECHANICAL NOTES: 1. PROVIDE A 4" EQUIPMENT PAD FOR ALL FLOOR MOUNTED PUMPS. CONTRACTOR TO VERIFY FRAME TYPE AND SECURE WITH ANCHOR BOLTS ON TOP OF NEOPRENE PADS AS REQUIRED (INERTIA BASES WILL NOT BE REQUIRED FOR SLAB ON GRADE INSTALLATIONS).

2. REFERENCE PIPING DIAGRAMS FOR INSTALLATION OF ALL REQUIRED ISOLATION VALVES, PRESSURE GAUGES, TRIPLE DUTY VALVES, SUCTION DIFFUSERS, ETC FOR EACH DIFFERENT TYPE OF PUMP INSTALLATION.

3. INCLUDE START-UP OF ALL PUMPS BY A FACTORY CERTIFIED TECHNICIAN. ENSURE ALL PUMPS ARE NOT OVERLOADING BY EITHER ADJUSTING TRIPLE DUTY VALVE, OR SETTING HIGH LIMITS ON VFD CONTROLLER. CONFIRM WITH ENGINEER IF ANY CLARIFICATIONS ARE REQUIRED.

4. PROVIDE A FACTORY CERTIFIED LASER ALIGNMENT WITH FULL REPORT SUBMITTED TO ENGINEER OF RECORD. ALTERNATE VED PROVIDE A FACTORY CERTIFIED LASER ALIGNMENT WITH ENGINEER IF ANY CLARIFICATIONS ARE REQUIRED.

5. MANUFACTURER'S THAT HAVE OPTION TO PROVIDE INTEGRAL VFD'S MAY SUBMIT, INSTEAD OF SEPARATE VFD ENCLOSURES, WITH FORMAL APPROVAL FROM ENGINEER. CONTROLS CONTRACTOR TO VERIFY COMPATIBILITY WITH THEIR CONTROL SEQUENCES.

6. VERIFY WITH CONTROLS CONTRACTOR THAT ANY ECM MOTORS PROVIDED WILL BE ABLE TO BE INTEGRATEED INTO BUILDING AUTOMATION SYSTEM. ADDITIONAL SENSORS MAY BE REQUIRED IF OPTIONS ARE NOT AVAILABLE VIA PUMP MANUFACTURER.

7. SUPPORT WET ROTOR, OR INLINE TYPE, PUMP INSTALLATIONS ON BRACKET SECURED EITHER DIRECTLY TO WALL OR UNISTRUT STAND. PROVIDE PIECES OF NEOPRENE AT POINTS OF CONNECTION TO STRUCTURE TO REDUCE ANY VIBRATION TRANSMISSION THROUGH FLOOR PROVIDE WALL BRACKET WITH NEOPRENE SUPPORT CRADLE FOR MOUNTING PUMPS ONTO EXTERIOR WALL. ANCHOR AS REQUIRED FOR WEIGHT AND VIBRATION/RESTRAINT.

9. DELETE THIRD SNOWMELT PUMP UNDER ACCEPTANCE OF DEDUCT ALTERNATE #5. PUMPS INTENDED TO HAVE 'N-1' REDUNDANCY. ELECTRICAL CONTROLLER **DISCONNECT AT MOTOR ELECTRICAL** EQUIPMENT CALCULATED FURNISHED BY/ FURNISHED BY NUMBER TAG HP/LOAD VOLTAGE PHASE **INSTALLED BY** (AMPS) INSTALLED BY LOCATION PANEL CONDUIT/FEEDER SIZE NOTES AFC LOCATION HRPP 5-04 1 HP 10000 VFD DIV 23/DIV 26 AT UNIT AT UNIT HNSM2.2 20,22,24 3/4"C. 3#10 & 1#10 GND DIV 26/DIV 26 HWPP 5-01 HNSM2.2 VFD 13,15,17 3/4"C. 3#10 & 1#10 GND HWPP 5-02 VFD HNSM2.2 19,21,23 3/4"C. 3#10 & 1#10 GND DIV 26/DIV 26 HWPP 5-03 VFD HNSM2.2 3/4"C. 3#10 & 1#10 GND 14,16,18 INTEGRAL INTEGRAL LNSM2.1A 61,63,65 3/4"C, 3#12 & 1#12 GND LNSM2.1A 67.69.71 208 V INTEGRAL **DIV 23** INTEGRAL DIV 23 3/4"C. 3#12 & 1#12 GND LNSM2.1A 22,24,26 208 V 3400 3/4"C. 3#12 & 1#12 GND INTEGRAL DIV 23 INTEGRAL DIV 23 **GENERAL ELECTRICAL NOTES:** CONTROLLER TYPES WHEN THE CONTROLLER TYPE IS A VFD OR MAGNETIC STARTER, REFER TO THE VARIABLE FREQUENCY DRIVE CONTROLLER SCHEDULE OR THE VFD - VARIABLE FREQUENCY MOTOR CONTROLLER MAGS - MAGNETIC STARTER MAGNETIC STARTER SCHEDULE FOR MORE INFORMATION. MMS - MANUAL MOTOR STARTER (WITH OVERLOADS) MRS/MS - MOTOR RATED SWITCH (WITHOUT OVERLOADS) MECHANICAL EQUIPMENT AND CORRESPONDING ELECTRICAL DISCONNECTS/CONTROLLERS SHALL HAVE A STANDARD SHORT-CIRCUIT CURRENT CP - CONTROL PANEL RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN.

MECHANIC	CAL (232)	113)															
EQUIPMENT TAG	APPLI	CATION	I	BER OF GPN JMPS (EAC			RPM (EACH)	VOLTAGE/PHASE (EACH)	TANK CAPACITY (GAL)	MANUFA	ACTURER	MODEL NUMBER			MECHAN	NICAL NOTES	
GFS 5-01	SNO	WMELT		1 10	70'	1/2	3600	120/1	55 GAL	BELL & C	GOSSETT	GMU-30				1,2,4	
GFS 5-02	SNO	WMELT		1 10	70'	1/2	3600	120/1	55 GAL	BELL & C	GOSSETT	GMU-30				1,2,4	
MECHANICAL 1. PROVIDE (2. INCLUDE (3. GLYCOL F		E EQUIPME RAM TANK (p TO HOLD 40	NT PAD A ot-5) AND 0% PROP	AND NEARBY FLC LOW WATER CU PYLENE GLYCOL	OR DRAIN. REI T OFF SWITCH. SOLUTION WITH	FER TO PLANS FO STARTER TO BE IIN HEATING WAI SNOWMELT SYS	OR COORDINA E PREWIRED F TER SYSTEM.	ATION OF SERVICE FROM FACTORY F	E SPACE AND A OR STANDARD	CCESS. PLUG INTO ELEC	CTRICAL RECE	PTACLE.					
ELECTRIC			07011101	TLENE GLTCOL	SOLUTION FOR	SINOVIVILLI 313	T LIVI.										
			07811101	L	SOLUTION FOR	CONTRO					CONNECT AT M						
	AL			CALCULATED AFC		CONTRO FURNISHED BY/	DLLER			DISC FUSE SIZE	CONNECT AT M	MOTOR FURNISHED BY/	LOCATION	PANEL	CIRCUIT NUMBER	CONDUIT/FEEDER SIZE	
ELECTRIC EQUIPMENT		VOLTAGE 120 V		CALCULATED		CONTRO				DISC		MOTOR	LOCATION N/A	PANEL LNSM2.1A	CIRCUIT NUMBER 28	CONDUIT/FEEDER SIZE 3/4"C. 2#12 & 1#12 GND	ELECTRICA NOTES
ELECTRIC EQUIPMENT TAG	AL HP/LOAD	VOLTAGE		CALCULATED AFC	TYPE	CONTRO FURNISHED BY/ INSTALLED BY	DLLER LOCATION	CTRL WIRE BY	AMPS/TYPE	DISC FUSE SIZE (AMPS)	CONNECT AT M	MOTOR FURNISHED BY/ INSTALLED BY			NUMBER		

VARIABLE FREQUENCY MOTOR CONTROLLER SCHEDULE MECHANICAL/ELECTRICAL (230923) HARMONIC CONTROL MULTIPLE DAMPER | SERVICE/ FIRE ENCLOSURE OUTPUT AC BYPASS TYPE BYPASS CONTROL MOTOR STARTING IN PLENUM SEISMIC MOTOR CONTROL ENCLOSURE TYPE RATED BRACING (CONTACTOR/ TYPE (MANUAL/ BYPASS MODE CONTROL CIRCUIT MODE EQUIPMENT VARIABLE TORQUE/ INPUT AC LINE LINE BYPASS REQUIREMENTS CONSTANT TORQUE TAG VOLTAGE PHASE (NEMA 1/4X/12) (YES/NO) (YES/NO) (YES/NO) (YES/NO) (YES/NO) VFD) AUTÒMATIC) (FULL/REDUCED VOLTAGE) (YES/NO) (YES/NO) (YES/NO) (YES/NO) ACC 03 CONTACTOR YES REDUCED VOLTAGE NEMA 4 MANUAL 480 V AHU 5-46 NEMA 1 **VARIABLE** YES CONTACTOR MANUAL REDUCED VOLTAGE NEMA 1 VARIABLE YES CONTACTOR REDUCED VOLTAGE AHU 5-47 480 V MANUAL NEMA 1 YES AHURF 46 VARIABLE CONTACTOR MANUAL REDUCED VOLTAGE NEMA 1 AHURF 47 480 V **VARIABLE** YES CONTACTOR MANUAL REDUCED VOLTAGE AHUSF 46 480 V NEMA 1 VARIABLE CONTACTOR REDUCED VOLTAGE YES MANUAL AHUSF 47 NEMA 1 CONTACTOR REDUCED VOLTAGE **VARIABLE** YES MANUAL HRPP 5-04 NEMA 1 CONTACTOR **VARIABLE** REDUCED VOLTAGE HWPP 5-01 NEMA 1 NO VARIABLE YES CONTACTOR REDUCED VOLTAGE 480 V MANUAL HWPP 5-02 NEMA 1 VARIABLE YES CONTACTOR REDUCED VOLTAGE 480 V MANUAL HWPP 5-03 NEMA 1 VARIABLE YES CONTACTOR REDUCED VOLTAGE 480 V

GENERAL NOTES:

A. FOR VFD'S WITH BYPASS PROVISIONS, SEPARATE MOTOR OVERLOAD PROTECTION REQUIRED FOR EACH MOTOR, WHEN IN THE BYPASS POSITION. B. VFD EQUIPMENT SHALL HAVE STANDARD SHORT-CIRCUIT CURRENT RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THE MOTOR SCHEDULE. C. VFDS TO HAVE INTEGRAL DISCONNECT UNLESS NOTED OTHERWISE.

. TYPICAL OF THREE FANS . TYPICAL OF FOUR FANS

DX SP	LIT SYSTE	EM SCH	IEDUL	E																	
MECHANI	CAL (238126)																				•
	,		SUPPLY FA	N		COOLING COIL	L	Н	EATING COIL			C	ONDENSING UN	NIT.			FILTE	R			
EQUIPMENT TAG	APPLICATION	I CFM	ESP (IN W.C.)	MOTOR HP	TYPE	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (ME	3H) TYPE	TOTA CAPACITY		ER / EER	REFRIGERANT TYPE	NUMBER OF FANS	SOUND PRESS.	AMBIENT TEMPERATURE (F	TYPE	EFFICIENCY (%)		MANUFACTURER	MODEL NUMBER	MECHANICA NOTES
DXSS 01	BUS STOP COOL	ING 1200	0.25"	- H	HEAT PUMP	VARIES	17,000	HEAT PU	MP 18,00	00	-	-	-	-	-	PLEATED	30%	0.5"	CARRIER	40MAQB18B3	1,2,3
DXSSCU 01	HEAT PUMP	-	-	-	-	-	-	-	-	2	0 / 12.5	R410A	1	59.0	-22 - 120				CARRIER	38MAQB18R3	4,5,6
2. INCLUDE 3. PROVIDE 4. PROVIDE 5. INCLUDE	ALL WALL MOUNTI THE 7-DAY PROGR EITHER 4" CONCRI PRECHARGED REF START-UP AND TR	AMMABLE CO ETE PAD ON G FRIGERANT LI	NTROL PAN GRADE, OR A NE SET FOR	NEL OPTION ANGLE IRON R COMPLETE	I WITHIN A CL N SUPPORT F E INSTALLAT	LEAR VANDAL RE	SISTANT COVE	R. SET UP 7-D	AY PROOGRAM	MING CYCLE	FOR STAND-	ALONG CONTR	ROL.								
						CONTROLL	ER.				DISCONNECT	AT MOTOR									
EQUIPMENT TAG	HP/LOAD VOL	TAGE PHASE	CALCULA ⁻ AFC			URNISHED BY/ NSTALLED BY	LOCATION (CTRL WIRE BY	AMPS/TYPE	FUSE SIZE (AMPS)	NEMA TY	FURNIS PE INSTAL		DCATION		CUIT MBER	CONDU	IIT/FEEDER SIZE		ELECTRICAL NOT	ES
DXSS 01	20	8 V 3		INTE	EGRAL	DIV 23	AT UNIT	DIV 23	30A	25	3R	DIV 26	/DIV 26	AT UNIT	LN13 A 6,8	3,10	3/4"C. 3	8#10 & 1#10 GND		1	
A. WHEN THE	ECTRICAL NOTES: HE CONTROLLER T' IC STARTER SCHEI ICAL EQUIPMENT A	DULE FOR MO	RE INFORM	IATION.	•									MMS - N	DLLER TYPES: IANUAL MOTOR STA NTROL PANEL	ARTER (WITH	H OVERLOADS)		GNETIC STARTER OTOR RATED SWITC	CH (WITHOUT OVER	RLOADS)



380 St. Peter St St. Paul, MN 55102 Phone: 651-222-3701 Revision# Description

. INDOOR UNIT POWERED FROM OUTDOOR UNIT.

ELECTRICAL NOTES:

one eighth inch = one foot

0 4 8 16

VA FORM 08 - 6231

RATING HIGHER THAN THE CALCULATED VALUE SHOWN IN THIS SCHEDULE, DETAILED BY THE "CALCULATED AFC" COLUMN.

ELECTRICAL NOTES:

CONSULTANTS

Suite 423-S

Phone: 651-251-7570

2550 University Ave W 50 South Sixth St St. Paul, MN 55402 Minneapolis, MN 55402

Phone: 612-465-7550

0421950-002-00

Eden Prairie, MN 55344 Phone: 952-646-0236

524 N Main Ave Sioux Falls, SD 57104 Phone: 605-339-1205

ARCHITECT OF RECORD Stone Group Architects 600 E 7th Street 605-271-1144





twalt 5'00'	Office of Construction and Facilities Management

Drawing Title MECHANICAL/ ELECTRICAL SCHEDULES	CONSTRUCTION DOCUMENTS		Project Title NEW FRONT LOBBY AND PRIMARY CARE ADDITION				
Approved:	DOCOIVILIVIO	Location SIOUX FAL	LS, SOUTH DA	AKOTA	Drawing Number		
		Issue Date 06/22/2022	Checked JRG	Drawn TNH	M503		

