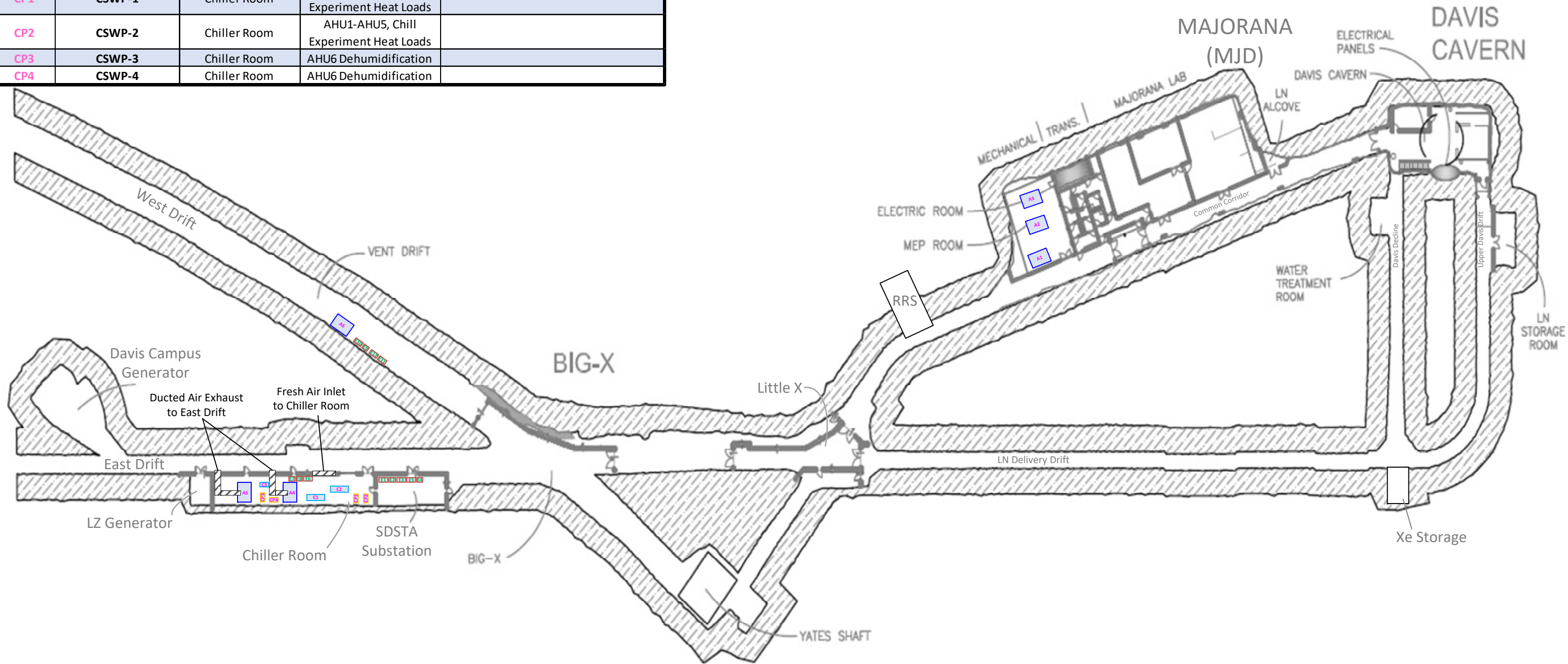


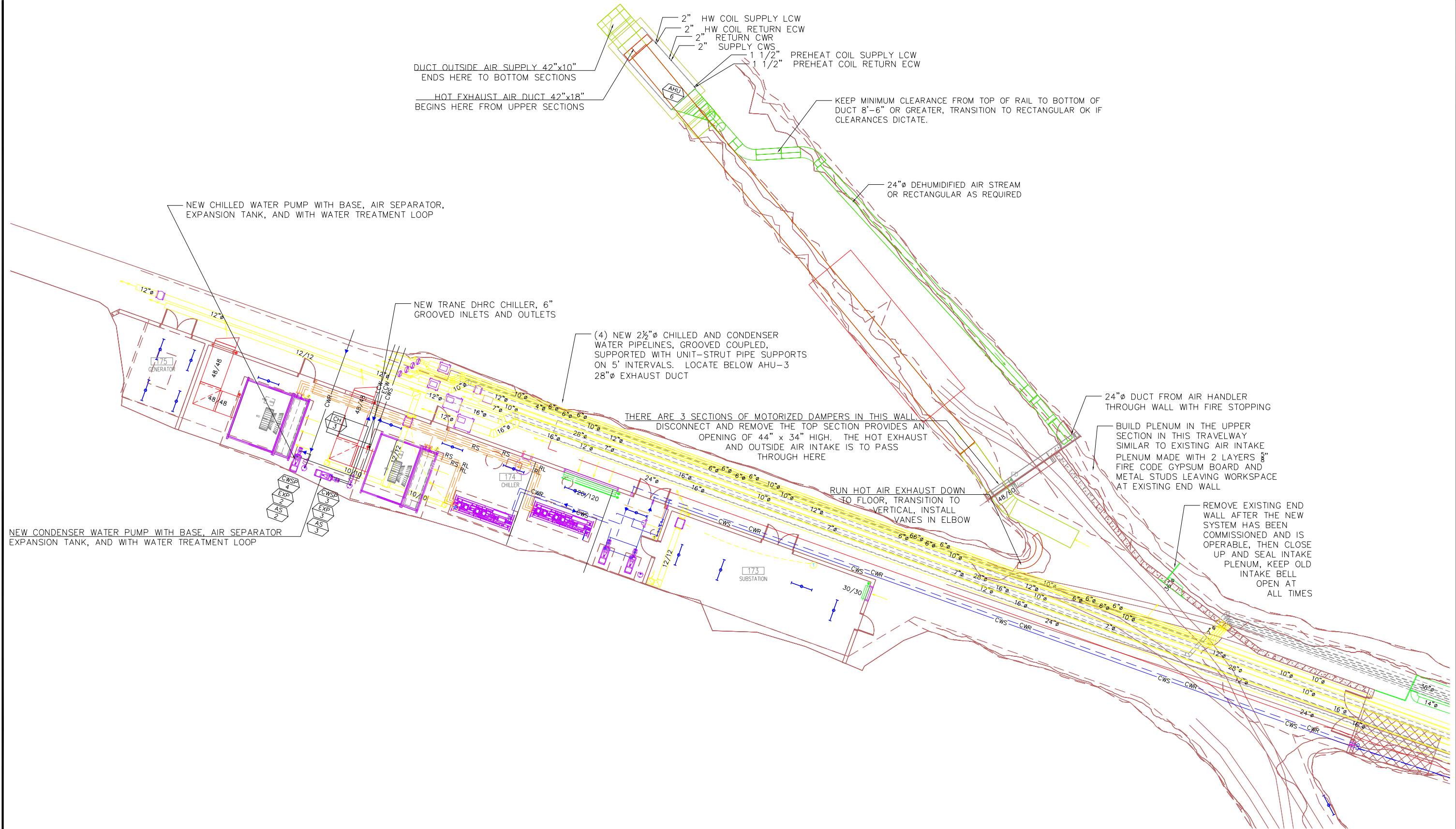
HVAC EQUIPMENT LEGEND

ID On Map	Equipment Number	Location	Service Area/Purpose	Supported By
A1	AHU-1	MEP Room	Clean Rooms	
A2	AHU-2	MEP Room	Davis Cavern & Transition Space	
A3	AHU-3	MEP Room	Majorana	
A4	AHU-4 (condenser unit)	Chiller Room	Chilled Water System to Davis Campus	Chiller #1, Chilled water circulating pumps #1 & #2 in Chiller Room
A5	AHU-5 (condenser unit)	Chiller Room	Chilled Water System to Davis Campus	Chiller #2, Chilled water circulating pumps #1 & #2 in Chiller Room
A6	AHU-6 (dehumidifier)	Big-X Vent Drift	Dehumidification	Chiller #3, Chilled water circulating pumps #3 & #4 in Chiller Room
C1	CH-1	Chiller Room	AHU1-AHU5, Chill Experiment Heat Loads	CSWP-1, CSWP-2
C2	CH-2	Chiller Room	AHU1-AHU5, Chill Experiment Heat Loads	CSWP-1, CSWP-2
C3	CH-3	Chiller Room	AHU6 Dehumidification	CSWP-3, CSWP-4
CP1	CSWP-1	Chiller Room	AHU1-AHU5, Chill Experiment Heat Loads	
CP2	CSWP-2	Chiller Room	AHU1-AHU5, Chill Experiment Heat Loads	
CP3	CSWP-3	Chiller Room	AHU6 Dehumidification	
CP4	CSWP-4	Chiller Room	AHU6 Dehumidification	

ELECTRICAL EQUIPMENT LEGEND

ID On Map	Equipment Number	Location	Purpose on Project
E1	SDSTA SUB Switchboard	SDSTA SUBSTATION	Feeds ATS-E1, 480V Chiller Panel
E2	ATS-E1	SDSTA SUBSTATION	Feeds EHH-2
E3	EHH-2	SDSTA SUBSTATION	Feeds NT-4
E4	NT-4	SDSTA SUBSTATION	Feeds LH-2
E5	LH-2	SDSTA SUBSTATION	Feeds AHU6 Desiccant & Controls
E6	480 VOLT CHILLER PANEL	Chiller Room	Feeds Chiller 3, CSWP-3, & CSWP-4
E7	VSD FOR CSWP-3	Chiller Room	Controls Power to CSWP-3
E8	VSD FOR CSWP-4	Chiller Room	Controls Power to CSWP-4
E9	Disconnect for AHU6 Exhaust Fan	Vent Drift	Safety Disconnect
E10	VSD FOR AHU6 Exhaust Fan	Vent Drift	Controls Power to AHU-6 Exhaust Fan
E11	Disconnect for AHU6 Supply Fan	Vent Drift	Safety Disconnect
E12	VSD FOR AHU6 Supply Fan	Vent Drift	Controls Power to AHU-6 Exhaust Fan





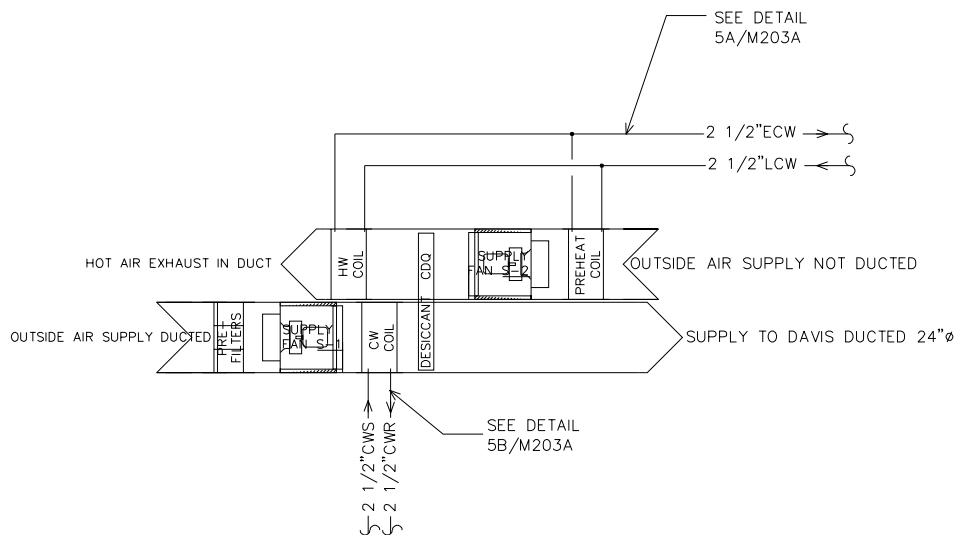
No.	Revision/Issue	Date	By

SOUTH DAKOTA SCIENCE AND
TECHNOLOGY AUTHORITY
630 EAST SUMMITT STREET
LEAD, SD 57754
605 722 8650

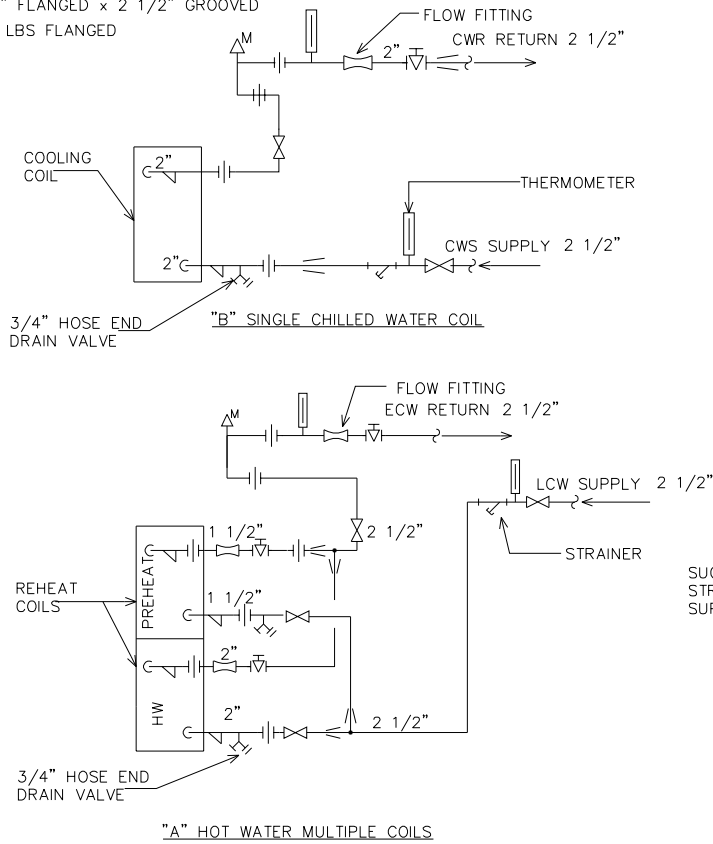
Drawn By	MFJ
Checked	
Date	12/30/13
Scale	1/8"=1'

Project Name and Address	
DAVIS AREA SCIENCE FACILITIES	
DEHUMIDIFICATION PROJECT	
EQUIPMENT INSTALLATION DETAILS	
DRWG NO. 12410 SHT 1	REV. 0

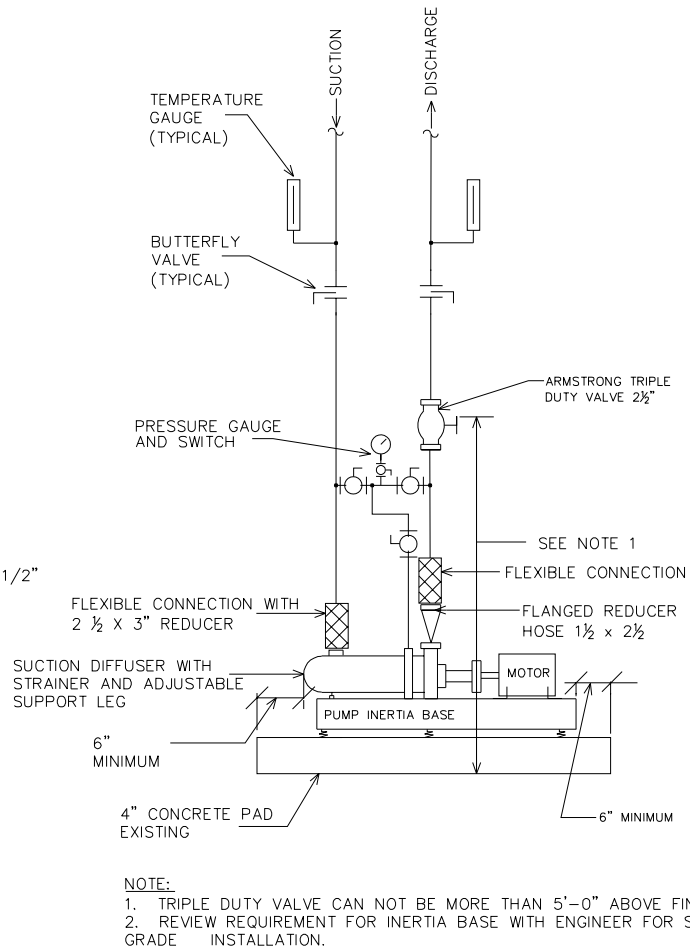
CH-3: TRANE MULTISTACK 30 TON 2 STAGE COMPRESSOR DHRC CHILLER BY SDSTA
AHU-6: TRANE INDOOR UNIT SIZE 14, PERFORMANCE CLIMATE CHANGER AIR HANDLER BY SDSTA
EXP-2: ARMSTRONG MODEL AX60-V (VERTICAL) DIAPHRAGM EXPANSION TANK WITH SIGHT GLASS, ASME 125 PSI STAMPED, PRE-CHARGED
EXP-3: SAME AS ABOVE
AS-2: ARMSTRONG MODEL VAS-2-UM, ASME CODE VORTEX AIR SEPARATOR WITH STRAINER
AS-3: SAME AS ABOVE
CWSP-3: ARMSTRONG 3x1 1/2x8 MODEL 4030 PUMP WITH 3 HP 1800 RPM TEFC MOTOR VFD READY 460 v 3 PHASE
PUMP SUCTION GUIDE FOR CWSP-4: ARMSTRONG SG-33 WITH 0.125" MESH STRAINER 3" x 125# FLANGED
CWSP-4: SAME AS ABOVE
PUMP SUCTION GUIDE FOR CWSP-4: SAME AS ABOVE
AIR VENTS, 2 REQD: METRAFLEX HIGH CAPACITY 3/4"-MV15C
SS METAL BRAID HOSES, 2 REQD, PUMP SUCTION, TWIN CITY #RCFG 0325x13" LONG, 2 1/2" TO 3", 300 LBS 3" FLANGED x 2 1/2" GROOVED
SS METAL BRAID HOSES, 2 REQD, PUMP DISCHARGE, TWIN CITY #RCFF 2515x13" LONG, 1 1/2" TO 2 1/2", 300 LBS FLANGED
TRIPLE DUTY VALVES 2 REQD: ARMSTRONG FTV-2 1/2FS 2 1/2" 125# FLANGED
PUMP INERTIAL BASE 2 REQD:



1 AIR HANDLER (AHU-1) CONTROL SCHEMATIC
NO SCALE



5 (NO 3-WAY VALVE) COIL PIPING DETAIL
NO SCALE 3-04-03A



3 END SUCTION PUMP WITH SUCTION DIFFUSER DETAIL
NO SCALE 3-09-03C

SYMBOL LEGEND	
	DAMPER MOTOR
	DUCT HUMIDITY SENSOR
	DUCT STATIC PRESSURE SENSOR
	DUCT TEMPERATURE SENSOR
	VALVE WITH OPERATOR
	SPACE HUMIDITY SENSOR
	SPACE OXYGEN SENSOR
	DUCT SMOKE DETECTOR

PROJECT:

SOUTH DAKOTA SCIENCE & TECHNOLOGY AUTHORITY

DAVIS CAMPUS UNDERGROUND OUTFITTING

Lead, South Dakota

REVISED

NO. DATE REMARK

COMM. NO.:

DATE:

DRAWN:

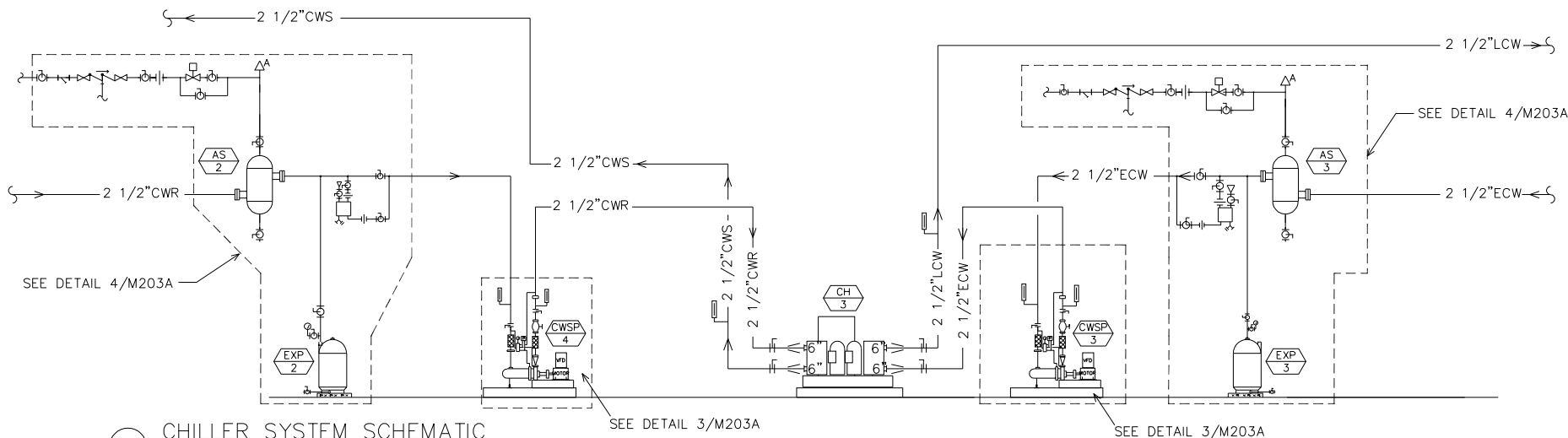
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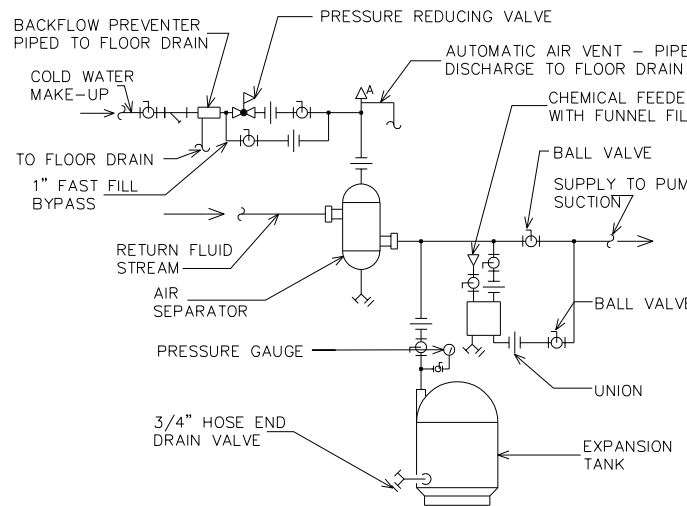
TEMPERATURE CONTROL SCHEMATICS

DRAWING NUMBER:

M203A



2 CHILLER SYSTEM SCHEMATIC
NO SCALE



4 DIAPHRAGM EXPANSION TANK AND AIR SEPARATOR PIPING DETAIL
NO SCALE 3-01-01D