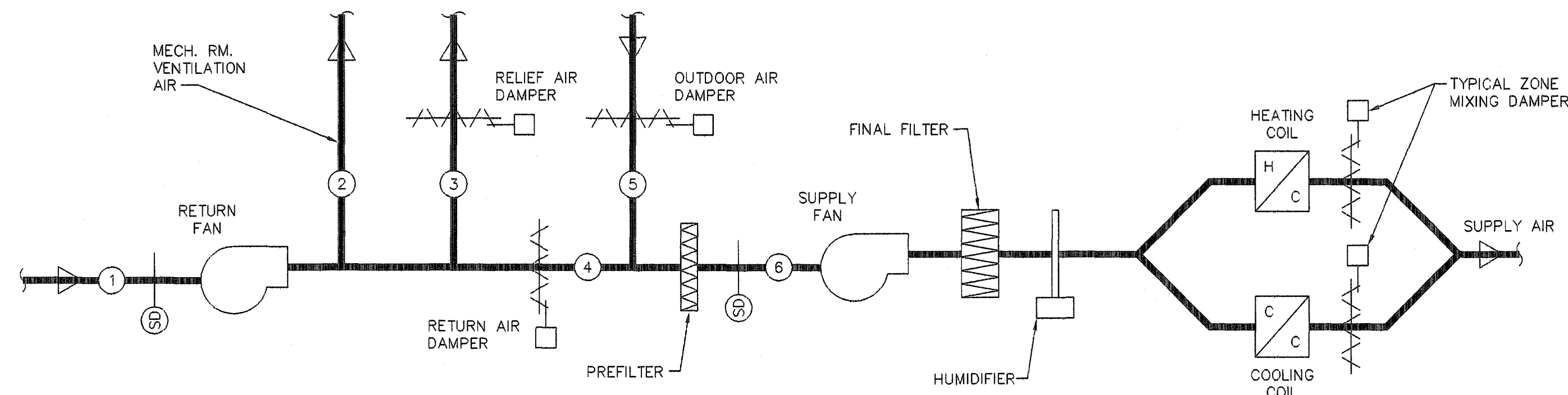


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M-16
FLOW DIAGRAM - DOUBLE DUCT AIR CONDITIONING SYSTEMS - RECIRCULATING
SCHEMATIC

AIR BALANCE DATA						
UNIT	AIR BALANCE AT POINT O - CFM					
	1 RETURN AIR	2 MECH. RM. VENTILATION	3 MIN./MAX. RELIEF	4 RETURN AIR	5 MIN./MAX. OUTDOOR AIR	6 SUPPLY AIR
AHU-1B	6075	685	0/5390	5390	9390/14770	14770
AHU-1H	21395	0	0/21395	21395	8135/29530	29530
AHU-6D	6910	1000	0/5910	5910	2685/8595	8595



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M-16
FLOW DIAGRAM - MULTIZONE AIR CONDITIONING SYSTEMS
SCHEMATIC

AIR BALANCE DATA						
UNIT	AIR BALANCE AT POINT O - CFM					
	1 RETURN AIR	2 MECH. RM. VENTILATION	3 MIN./MAX. RELIEF	4 RETURN AIR	5 MIN./MAX. OUTDOOR AIR	6 SUPPLY AIR
AHU-1A	9050	685	0/8365	8365	10405/18770	18770
AHU-1C	9800	685	1085/9115	8030	2675/10705	10705

HVAC LEGEND	
SYMBOL	DESCRIPTION
—	PIPING
----	EXISTING PIPING TO REMAIN
	PIPING TO BE DEMOLISHED
□	DUCTWORK
[---]	EXISTING DUCTWORK TO REMAIN
	DUCTWORK TO BE DEMOLISHED
□	EQUIPMENT
[---]	EXISTING EQUIPMENT TO REMAIN
	EQUIPMENT TO BE DEMOLISHED
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
HWS	HEATING HOT WATER SUPPLY
HWR	HEATING HOT WATER RETURN
LPS	LOW PRESSURE STEAM SUPPLY
LPR	LOW PRESSURE CONDENSATE RETURN
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
OA	OUTDOOR AIR
AP	ACCESS PANEL
FC	FLEXIBLE CONNECTION
-----	TEMPORARY DUCTWORK
24/12	DUCT SIZE (WIDTH/HEIGHT)
⋈	VALVE (SEE VALVE SCHEDULE)

VALVE SCHEDULE				
MARK	LOCATION	SERVICE	SIZE	TYPE
V-1A-1	MECH RM. 1A	CHS	4"	BALL
V-1A-2	MECH RM. 1A	CHR	4"	BALL
V-1A-3	MECH RM. 1A	HWS	2"	BALL
V-1A-4	MECH RM. 1A	HWR	2"	BALL
V-1A-5	MECH RM. 1A	LPS	1 1/2"	BALL
V-1A-6	MECH RM. 1A	CW-BYPASS	4"	GATE
V-1A-7	MECH RM. 1A	HW-BYPASS	2"	GATE
V-1B-1	MECH RM. 1B	CHS	4"	BALL
V-1B-2	MECH RM. 1B	CHR	4"	BALL
V-1B-3	MECH RM. 1B	HWS	2"	BALL
V-1B-4	MECH RM. 1B	HWR	2"	BALL
V-1B-5	MECH RM. 1B	LPS	1 1/2"	BALL
V-1B-6	MECH RM. 1B	LPS	2 1/2"	BALL
V-1B-7	MECH RM. 1B	CW-BYPASS	4"	GATE
V-1B-8	MECH RM. 1B	HW-BYPASS	2"	GATE
V-1C-1	MECH RM. 1C	CHS	2 1/2"	BALL
V-1C-2	MECH RM. 1C	CHR	2 1/2"	BALL
V-1C-3	MECH RM. 1C	HWS	1 1/4"	BALL
V-1C-4	MECH RM. 1C	HWR	1 1/4"	BALL
V-1C-5	MECH RM. 1C	LPS	1"	BALL
V-1C-6	MECH RM. 1C	CW-BYPASS	2 1/2"	GATE
V-1C-7	MECH RM. 1C	HW-BYPASS	1 1/4"	GATE
V-1H-1	MECH RM. 1H	CHS	4"	BALL
V-1H-2	MECH RM. 1H	CHR	4"	BALL
V-1H-3	MECH RM. 1H	HWS	2 1/2"	BALL
V-1H-4	MECH RM. 1H	HWR	2 1/2"	BALL
V-1H-5	MECH RM. 1H	LPS	1 1/2"	BALL
V-1H-6	MECH RM. 1H	CW-BYPASS	4"	GATE
V-1H-7	MECH RM. 1H	HW-BYPASS	2 1/2"	GATE
V-6B-1	MECH RM. 6B	CHS	4"	BALL
V-6B-2	MECH RM. 6B	CHR	4"	BALL
V-6B-3	MECH RM. 6B	HWS	2"	BALL
V-6B-4	MECH RM. 6B	HWR	2"	BALL
V-6B-5	MECH RM. 6B	LPS	2"	BALL
V-6B-6	MECH RM. 6B	CW-BYPASS	4"	GATE
V-6B-7	MECH RM. 6B	HW-BYPASS	2"	GATE

TEMPORARY HVAC UNIT SCHEDULE FOR HEATING MONTHS										
GENERAL		SUPPLY FAN			ELEC. HEATER CAPACITY		ELECTRICAL			NOTES
MARK	BASIS OF DESIGN (TRANE P/N)	SUPPLY CFM	O.A. CFM	E.S.P. IN. WG	MOTOR HP	KW/STAGES	MCA	MCOP	V/ø/Hz	
1A-HM	TEH600	20,000	10,405	2.50	20	108/2	237	243	460/3/60	①②④
1B-HM	TEH420	14,000	9,380	2.25	15	80/2	169	182	460/3/60	①④⑤
1C-HM	TEH420	14,000	2,675	2.25	15	—	90	117	460/3/60	①④⑤
1H-HM	TCCA	30,000	8,135	6.00	50	—	91	100	460/3/60	①②③④
6B-HM	TCCA	25,000	25,000	6.00	50	—	91	100	460/3/60	①②③④

- ① TEMPORARY HVAC UNIT IS TO BE SETUP, TESTED, AND FULLY OPERATIONAL PRIOR TO THE START OF THE DEMOLITION AND REMOVAL OF THE EXISTING AHU(S).
- ② POWER SHALL BE SUPPLIED BY TEMPORARY GENERATOR TG-1.
- ③ PROVIDE RETURN AIR PLENUM.
- ④ REFER TO SPECIFICATION 15885, AIR FILTERS, FOR FILTRATION REQUIREMENTS FOR EACH SERVICE.
- ⑤ TEH420 TEMPORARY HVAC UNIT SHALL BE USED IN MECH. ROOMS 1B-115, 1C-118, AND 6D-139. STAGE WORK TO ALLOW BOTH AREAS TO BE COMPLETED IN ONE RENTAL PERIOD.

TEMPORARY GENERATOR SCHEDULE							
MARK	BASIS OF DESIGN (BALDOR P/N)	PRIME OUTPUT (3ø @ 480V) KVA/KW	HP @ 1800 RPM	APPROXIMATE RUN TIME HOURS	FUEL CONSUMPTION GPH	FUEL CAPACITY GALLONS	NOTES
TG-1	TS400	365/282	538	17	24	420	①②

- ① TEMPORARY GENERATOR IS TO BE LOCATED ON THE GROUND NEAR THE REAR LOADING DOCK. COORDINATE LOCATION WITH FACILITIES STAFF.
- ② WIRING FROM GENERATOR TO TEMPORARY AHU SHOULD BE PROPERLY SUPPORTED TO PREVENT DAMAGE.

TEMPORARY EXHAUST FAN SCHEDULE							
MARK	BASIS OF DESIGN (GREENHECK P/N)	TYPE	ESP (IN WC)	NOM. CFM	FRPM	HP	ELECTRICAL V/ø/Hz
EF-1	QE1-27-1	INLINE	2.2	15,980	1,313	10	460/3/60

TEMPORARY HVAC UNIT SCHEDULE FOR COOLING MONTHS										
GENERAL		SUPPLY FAN			NOM. COOLING CAPACITY		CHILLED WATER COIL FLOW		ELECTRICAL	NOTES
MARK	BASIS OF DESIGN (TRANE P/N)	SUPPLY CFM	O.A. CFM	E.S.P. IN. WG	MOTOR HP	TONS	GPM	°F	V/ø/Hz	
1A-CM	TCCA	20,000	10,405	6.00	50	62.5	174	91	100	460/3/60 ①②③④
1B-CM	TCCA	20,000	9,380	6.00	50	62.5	124	91	100	460/3/60 ①②③④
1C-CM	TEH420	14,000	2,675	2.25	15	—	—	90	117	460/3/60 ①②③⑤
1H-CM	TCCA	30,000	8,135	6.00	50	62.5	194	91	100	460/3/60 ①②③④⑤
6B-CM	TCCA	25,000	25,000	6.00	50	62.5	343	91	100	460/3/60 ①②③④⑤

- ① TEMPORARY HVAC UNIT IS TO BE SETUP, TESTED, AND FULLY OPERATIONAL PRIOR TO THE START OF THE DEMOLITION AND REMOVAL OF THE EXISTING AHU(S).
- ② REFER TO SPECIFICATION 15885, AIR FILTERS, FOR FILTRATION REQUIREMENTS FOR EACH SERVICE.
- ③ PROVIDE RETURN AIR PLENUM.
- ④ TCCA TEMPORARY HVAC UNIT SHALL BE USED IN MECH. ROOMS 1A-121, 1B-115 AND MECHANICAL PENTHOUSE. STAGE WORK TO ALLOW ALL AREAS TO BE COMPLETED IN ONE RENTAL PERIOD.
- ⑤ TEH420 TEMPORARY HVAC UNIT SHALL BE USED IN MECH. ROOMS 1C-118 AND 6D-139. STAGE WORK TO ALLOW BOTH AREAS TO BE COMPLETED IN ONE RENTAL PERIOD.

TEMPORARY HOT WATER HEATING COIL SCHEDULE									
MARK	CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM	MAX PD FT. H2O	DIMENSIONS
HC-1	14000	607320	50.0	90.0	200	160	30.5	16	72"W x 36"H
HC-2	20000	867600	50.0	90.3	200	160	43.3	16	82"W x 42"H
HC-3	25000	894710	17.0	50.0	200	160	44.6	16	82"W x 54"H
HC-4	25000	1084500	50.0	90.0	200	160	54.1	16	82"W x 54"H

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RE-ISSUED FOR CONSTRUCTION	12/02/11	Drawn By: LPM	Recommended: Chief, Engineering Dept.	Recommended: ACOS/Research
ISSUED FOR CONSTRUCTION	05/06/11	Checked: CVW	Recommended: Safety Manager	Recommended: Energy Engineer
Revisions:	Date:	Recommended: M & O General Foreman	Recommended: Informatics Manager	Recommended: GEMS Coordinator
		Recommended: Chief, Construction Management	Recommended: Med. Center Epidemiologist	Recommended:



Approved:	Project Title: Correct AHU/HVAC Deficiencies, Phase 5 Building 801 - Downtown Division	Date: 8/30/10
FACILITY MANAGEMENT EXECUTIVE	Project No. 509-10-120	Drawing No. M-16
Approved:	Drawing Title: HVAC SCHEDULES, NOTES AND DETAILS	Dwg. 17 of 18
MEDICAL CENTER DIRECTOR		

