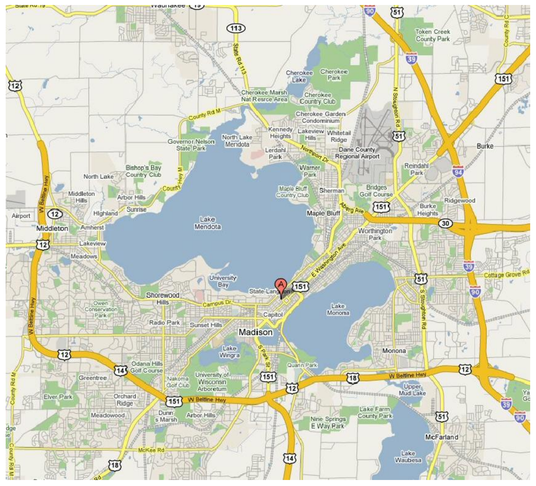
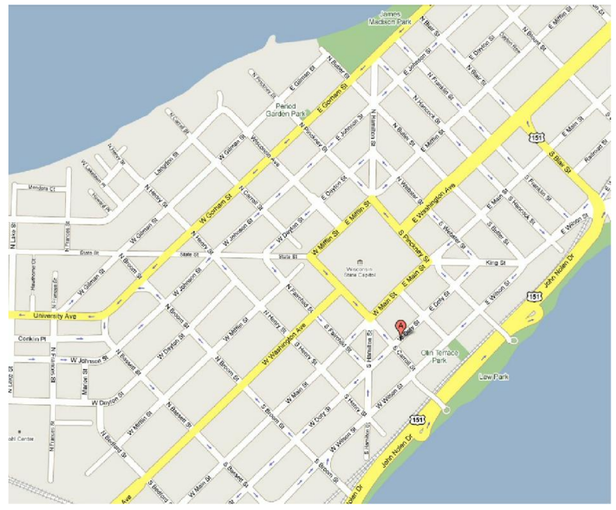
DANE COUNTY
PUBLIC SAFETY BUILDING
CHILLER PROJECT
MADISON, WISCONSIN

CONSTRUCTION DOCUMENT PACKAGE

APRIL 17, 2009





PUBLIC SAFETY BUILDING
115 WEST DOTY STREET
MADISON, WISCONSIN 53703

SHEET INDEX :

JDR
ENGINEERING, INC.
2939 S. FISH HATCHERY RD
SUITE 100
MADISON, WI 53711
ph:608.277.1728 fax:608.271.7046

CONSULTANTS

ISSUED

04/17/09	BID DOCUMENTS

REVISIONS / ADDENDA

-
-
-
-

PROJECT # :	090022
DRAWN :	RJH
CHECKED :	TDM
DATE :	4/17/09
PHASE :	BD

PROJECT

DANE COUNTY
PUBLIC SAFETY
BUILDING

CHILLER PROJECT

TITLE SHEET

T100

PIPING SYSTEMS

- BALL VALVE
- GAUGE VALVE
- BUTTERFLY VALVE
- GATE VALVE
- GATE, ANGLE VALVE
- GLOBE VALVE
- GLOBE, ANGLE VALVE
- PLUG VALVE (GAS)
- GENERAL SHUTOFF VALVE SEE SPECIFICATIONS FOR TYPE
- CALIBRATED BALANCE/SHUTOFF VALVE (FLOW MEASURING)
- OS & Y GATE VALVE
- OS & Y GLOBE VALVE
- 2-WAY TEMPERATURE CONTROL VALVE (ELECTRIC)
- 3-WAY TEMPERATURE CONTROL VALVE (ELECTRIC)
- CHECK VALVE
- DRAIN VALVE (W/ HOSE CONNECTION & BRASS CAP)
- LOCK SHIELD VALVE
- NEEDLE VALVE
- PRESSURE REDUCING VALVE
- RELIEF (R) OR SAFETY (S) VALVE
- SOLENOID VALVE
- BLIND FLANGE
- CAP
- CONNECTION, BOTTOM
- CONNECTION, TOP
- ELBOW, TURNED UP
- ELBOW, TURNED DOWN
- REDUCER, CONCENTRIC
- REDUCER, ECCENTRIC – STRAIGHT INVERT
- REDUCER, ECCENTRIC – STRAIGHT CROWN

- AIR VENT
- VACUUM BREAKER
- AIR SEPARATOR
- PIPE ALIGNMENT GUIDE
- PIPE ANCHOR
- BALL JOINT
- EXPANSION JOINT
- EXPANSION LOOP
- FLEXIBLE CONNECTOR
- STEAM TRAP
- FLOW METER
- FLOW SWITCH
- TEMPERATURE SENSOR
- PITCH OF PIPE
- PRESSURE GAUGE AND COCK
- PRESSURE SWITCH
- PUMP
- PUMP IN VERTICAL
- STRAINER
- STRAINER, W/ BLOW DOWN VALVE
- THERMOMETER
- THERMOMETER WELL, ONLY
- PETES PLUG
- BACKFLOW PREVENTER
- FLOW DIRECTION IN PIPES
- HANGERS
- UNION
- PIPE FLANGE
- WATER METER
- FLOW REGULATOR

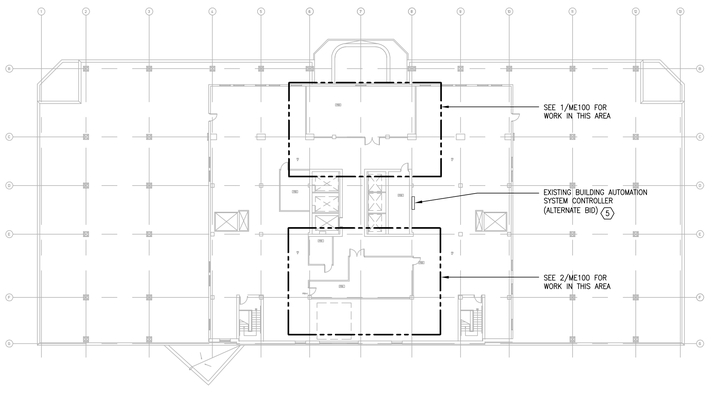
- HPS XX PSIG — HIGH-PRESSURE STEAM
- LPS — LOW-PRESSURE STEAM
- HPC — HIGH-PRESSURE CONDENSATE
- LPC — LOW-PRESSURE CONDENSATE
- BBD — BOILER BLOWDOWN
- PD — PUMP DISCHARGE CONDENSATE
- VAC — VACUUM PUMP CONDENSATE
- CW — COLD WATER (DOMESTIC)
- MU — MAKEUP WATER
- V — ATMOSPHERIC VENT
- FOO — FUEL OIL OVERFLOW
- FOS — FUEL OIL SUPPLY
- FOR — FUEL OIL RETURN
- FOV — FUEL OIL TANK VENT
- FOF — FUEL OIL FILL
- G XXX PSIG — GAS
- LP — LIQUID PROPANE
- HWS — HOT WATER SUPPLY
- HWR — HOT WATER RETURN
- A — COMPRESSED AIR
- VAC — VACUUM (AIR)
- RHG — REFRIGERANT HOT GAS
- RS — REFRIGERANT SUCTION
- RL — REFRIGERANT LIQUID
- BS — BRINE SUPPLY
- BR — BRINE RETURN
- CS — CONDENSER WATER SUPPLY
- CR — CONDENSER WATER RETURN
- CWS — CHILLED WATER SUPPLY
- CWR — CHILLED WATER RETURN
- H — HUMIDIFICATION LINE
- D — DRAIN

ABBREVIATIONS

A	COMPRESSED AIR
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADJ	ADJUSTABLE
A/E	ARCHITECT/ENGINEER
AF	AIR FOIL
AFF	ABOVE FINISHED FLOOR
AFMS	AIR FLOW MEASURING STATION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMP	AMPERE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ASC	ABOVE SUSPENDED CEILING
ATR	AIR TROFFER – RETURN
ATS	AIR TROFFER – SUPPLY
AUTO	AUTOMATIC
B	BOILER
BB	BASEBOARD
BC	BOOSTER COIL
BDD	BACK DRAFT DAMPER
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BI	BACKWARD INCLINED
BLDG	BUILDING
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BR	BRINE RETURN
BRG	BEARING
BS	BRINE SUPPLY
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
C	CONVECTOR
CA	COMBUSTION AIR
CAB	CABINET
CCC	COOLING COIL CONDENSATE
CD	CEILING DIFFUSER
CDR	CONDENSER WATER RETURN
CDS	CONDENSER WATER SUPPLY
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON OR CUBIC INCH
CL	CENTERLINE
CLG	CEILING
CMU	CONCRETE MASONARY UNIT
COMB	COMBINATION OR COMBUSTION
CONC	CONCRETE
COND	CONDENSATE
CONTR	CONTRACTOR
COP	COEFFICIENT OF PERFORMANCE
CP	CONDENSATE PUMP
CRU	COMPUTER ROOM UNIT
CT	COOLING TOWER
CU	COPPER
CUH	CABINET UNIT HEATER
CW	COLD WATER
D	DRAIN
DB	DRY BULB
DC	DRY COOLER
DCO	DOOR CUTOFF BY GC
DDC	DIRECT DIGITAL CONTROL
DEPT	DEPARTMENT
DG	DOOR GRILLE BY GC
DIA	DIAMETER
DN	DOWN
DSA	DUCT SOUND ATTENUATOR
DSF	DESTRATIFICATION FAN
DWD	DUAL WALL DUCTWORK
DWDI	DOUBLE WIDTH DOUBLE INLET
DWG	DRAWING
E	EXISTING
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EER	ENERGY EFFICIENCY RATIO
EFBP	EXTERNAL FACE & BYPASS
EG	EXHAUST GRILLE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EQUIP	EQUIPMENT
ER	EXHAUST REGISTER
ERU	ENERGY RECOVERY UNIT
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EWH	ELECTRIC WALL HEATER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXT	EXTERIOR OR EXTERNAL
F	FURNACE
°F	DEGREES FAHRENHEIT
F&B	FACE & BYPASS
F&T	FLOAT & THERMOSTAT TRAP
FA	FREE AREA
FC	FORWARD CURVED
FCU	FAN COIL UNIT
FD	FLOOR DRAIN OR FIRE DAMPER
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FILL	FILL LINE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FM	FLOW METER
FOO	FUEL OIL OVERFLOW
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FS	FLOW SWITCH
FT	FOOT OR FEET
G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLYR	GLYCOL RETURN
GLYS	GLYCOL SUPPLY
GRH	GAS FIRED RADIANT HEAT
GPM	GALLONS PER MINUTE
GUH	GAS FIRED UNIT HEATER
GV	GAS VENT
H	HUMIDIFIER
HB	HOSE BIBB
HC	HEATING CONTRACTOR
HCR	HOT/CHILLED WATER RETURN
HCS	HOT/CHILLED WATER SUPPLY
HD	HUB DRAIN
HDT	HORIZONTAL DRAW THRU
HG	MERCURY
HGT	HEIGHT
HP	HORSEPOWER
HPC	HIGH PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HPU	HEAT PUMP UNIT
HPWR	HEAT PUMP WATER RETURN
HPWS	HEAT PUMP WATER SUPPLY
HR	HOUR
HRU	HEAT RECOVERY UNIT
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HWY	HIGHWAY
HX	HEAT EXCHANGER
HYD	HYDRANT
HZ	HERTZ
IH	INTAKE HOOD
IFBP	INTERNAL FACE & BYPASS
IN	INCH
INV	INVERT
IPLV	INTEGRATED PART LOAD VALUE
JWR	JACKET WATER RETURN
JWS	JACKET WATER SUPPLY
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LD	LINEAR DIFFUSER
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LR	LINEAR RETURN
LT	LIGHT TROFFER
LWT	LEAVING WATER TEMPERATURE
M	MOTOR OPERATED DAMPER
MAT	MIXED AIR TEMPERATURE
MA	MIXED AIR
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS/HOUR
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFS	MAXIMUM FUSE SIZE
MH	MANHOLE
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
MUA	MAKE-UP AIR UNIT
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NPLV	NOMINAL PART LOAD VALUE
NTS	NOT TO SCALE
O	OXYGEN
OA	OUTDOOR AIR
OAT	OUTDOOR AIR TEMPERATURE
OC	ON CENTER
OPD	OPPOSED BLADE DAMPER
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PUMP DISCHARGE
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRE	POWER ROOF EXHAUST FAN
PRELIM	PRELIMINARY
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PS	PRESSURE SWITCH
PSD	PUMP SUCTION DIFFUSER
PSI	POUNDS PER SQUARE INCH
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PVC	POLYVINYL CHLORIDE
R	REFRIGERANT
RA	RETURN AIR
RCP	RADIANT CEILING PANEL
RD	ROOF DRAIN
REQD	REQUIRED
RF	RETURN FAN
RG	RETURN GRILLE
RH	RELIEF HOOD
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RR	RETURN REGISTER
RTU	ROOF TOP UNIT
S	SUPPLY
SA	SUPPLY AIR
SCR	SILICONE CONTROLLED RECTIFIERS
SD	SLOT DIFFUSER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SEG	SECURITY EXHAUST GRILLE
SF	SUPPLY FAN
SG	SUPPLY GRILLE
SM	SHEET METAL
SQ FT	SQUARE FEET
SR	SUPPLY REGISTER
SRG	SECURITY RETURN GRILLE
SRV	SAFETY RELIEF VALVE
SS	STAINLESS STEEL
SSG	SECURITY SUPPLY GRILLE
STG	SECURITY TRANSFER GRILLE
SWD	SINGLE WALL DUCTWORK
SWSI	SINGLE WIDTH SINGLE INLET
T	THERMOSTAT/TEMPERATURE SENSOR
TA	THROWAWAY
TCAC	TEMPERATURE CONTROL AIR COMPRESSOR
TCC	TEMPERATURE CONTROL CONTRACTOR
TCP	TEMPERATURE CONTROL PANEL
TCV	TEMPERATURE CONTROL VALVE
TEMP	TEMPORARY
TF	TRANSFER FAN
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TG	TRANSFER GRILLE
TO	TEST OPENINGS
TS	TIP SPEED
TYP	TYPICAL
UH	UNIT HEATER
UST	UNDERGROUND STORAGE TANK
UV	UNIT VENTILATOR
UNEX	UNEXCAVATED
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VACUUM BREAKER
VD	VOLUME DAMPER
VDT	VERTICAL DRAW THRU
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VSC	VARIABLE SPEED CONTROL
W TO W	WALL TO WALL
WB	WET BULB
WC	WATER COLUMN
WF	WALL FIN
WP	WEATHER PROOF
WPD	WATER PRESSURE DROP
YH	YARD HYDRANT

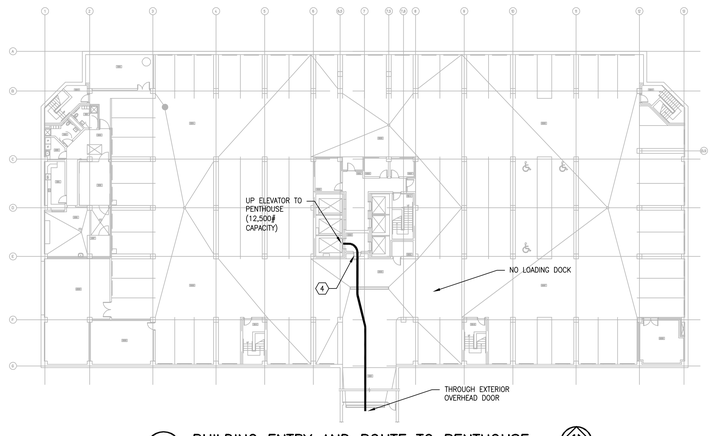
GENERAL SYMBOLS

- T — THERMOSTAT OR TEMPERATURE SENSOR
- TH — THERMOSTAT OR TEMPERATURE SENSOR WITH SECURITY COVER
- H — HUMIDISTAT OR HUMIDITY SENSOR
- HH — HUMIDISTAT OR HUMIDITY SENSOR WITH SECURITY COVER
- M — MOTOR STARTER
- S — SPEED CONTROLLER
- $ — START/STOP SWITCH
- EXISTING TO REMAIN (DUCTWORK, PIPING, & EQUIPMENT)
- EXISTING TO BE REMOVED (DUCTWORK, PIPING, & EQUIPMENT)
- NEW DUCTWORK/PIPING
- NEW EQUIPMENT



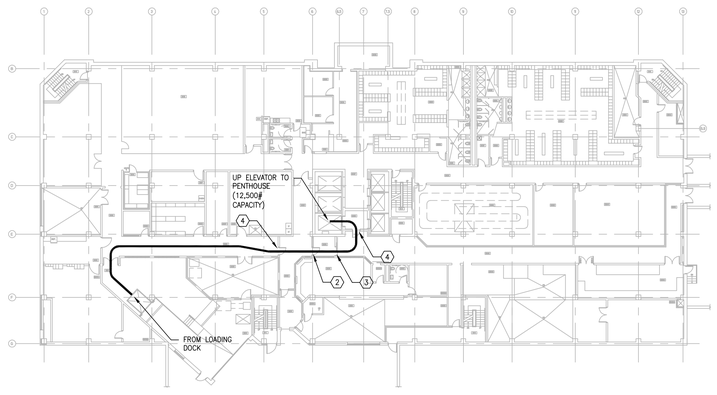
3 ME000 OVERALL PENTHOUSE PLAN
SCALE: NONE

NORTH



2 ME000 BUILDING ENTRY AND ROUTE TO PENTHOUSE
SCALE: NONE
ROUTE #2 – THRU SUB-BASEMENT

NORTH



1 ME000 BUILDING ENTRY AND ROUTE TO PENTHOUSE
SCALE: NONE
ROUTE #1 – THRU PARKING LEVEL 1

NORTH

KEYED NOTES: (FOR SHEET ME000)

1. 44" WIDTH CLEARANCE THROUGH DOOR.
2. 33" WIDTH CLEARANCE THROUGH DOOR.
3. 35" WIDTH CLEARANCE THROUGH DOOR.
4. 39" WIDTH CLEARANCE THROUGH DOOR.
5. AS PART OF ALTERNATE BID #1, TEMPERATURE CONTROLS CONTRACTOR (TCC) SHALL PROVIDE A COST FOR MATERIAL AND LABOR COMPLETE TO PROVIDE A NEW NETWORK CONTROLLER TO ALLOW FOR THE INTEGRATION OF ALL CURRENT PUBLIC SAFETY BUILDING DIRECT DIGITAL CONTROL POINT TO THE CITY/COUNTY BUILDING CENTRAL BUILDING AUTOMATION SYSTEM. THIS PANEL WILL BE EQUAL TO A FX-60 INTEGRATION PANEL. EXTEND OWNER ETHERNET TO NEW PANEL AND TIE-IN TO OWNER SPECIFIED IP ADDRESS FOR ACCESS FROM EXISTING CITY/COUNTY BUILDING BAS.

SHEET INDEX

JDR ENGINEERING, INC.
2939 S. FISH HATCHERY RD
SUITE 100
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ph:608.277.1728 fax:608.271.7046

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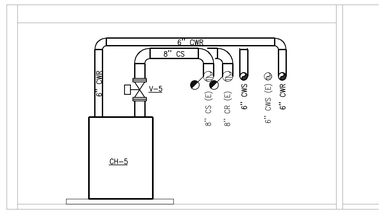
PROJECT

DANE COUNTY PUBLIC SAFETY BUILDING

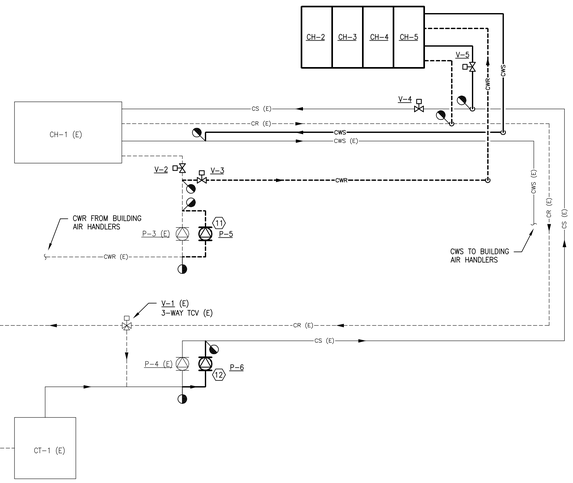
CHILLER PROJECT

ABBREVIATIONS, SYMBOLS AND OVERALL PLANS

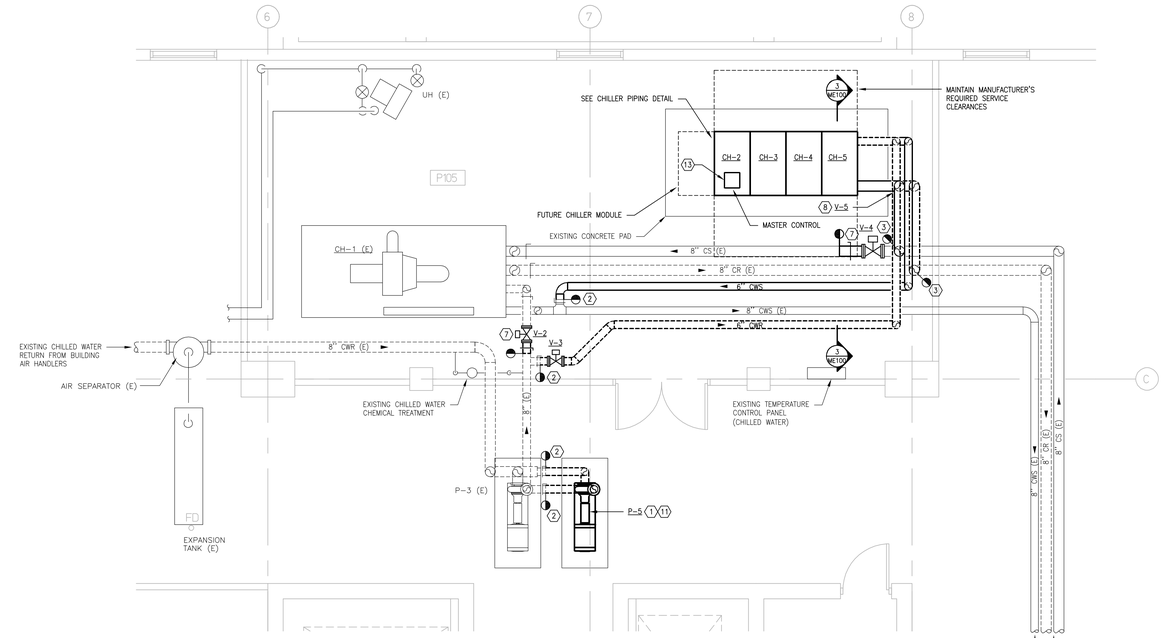
ME000



3 ME100 CHILLER ROOM SECTION
SCALE: 1/4"=1'-0"



4 ME100 CHILLER SYSTEM SCHEMATIC
SCALE: NONE



1 ME100 PARTIAL PENTHOUSE PLAN – HVAC & ELECTRICAL
SCALE: 1/4"=1'-0"

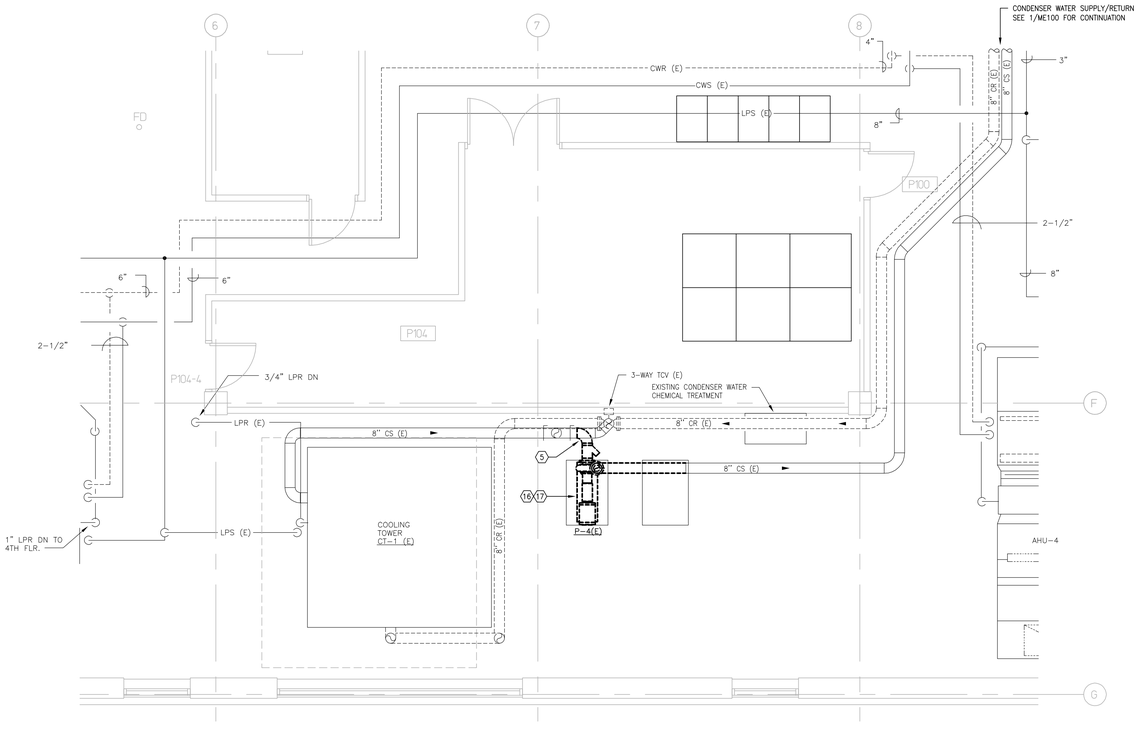
NORTH

GENERAL NOTES: (FOR SHEET ME100)

1. WHERE CONTRACTOR IS MODIFYING EXISTING INSULATED PIPING (FOR NEW PIPE TAPS, CONTROLS, ETC), CONTRACTOR SHALL PROVIDE NEW INSULATION ON EXISTING PIPING TO PROVIDE CONTINUOUS/SEAMLESS INSULATION BETWEEN EXISTING AND NEW PIPE.
2. THE COUNTY WILL BE PERFORMING ALL ELECTRICAL WORK FOR THE PROJECT. COORDINATE ELECTRICAL REQUIREMENTS WITH FACILITY MAINTENANCE. ALL ELECTRICAL WORK SHALL COMPLY WITH LOCAL, STATE AND NATIONAL ELECTRICAL CODES. ALL ELECTRICAL WORK SHALL BE DONE IN A TIMELY FASHION TO FACILITATE PROJECT COMPLETION.
3. THE COUNTY WILL RELOCATE LIGHTS, CONDUIT AND FIRE ALARM AS REQUIRED IN CHILLER ROOM TO INSTALL NEW PIPING. COORDINATE WITH COUNTY ON WHICH LIGHTS NEED TO BE RELOCATED.

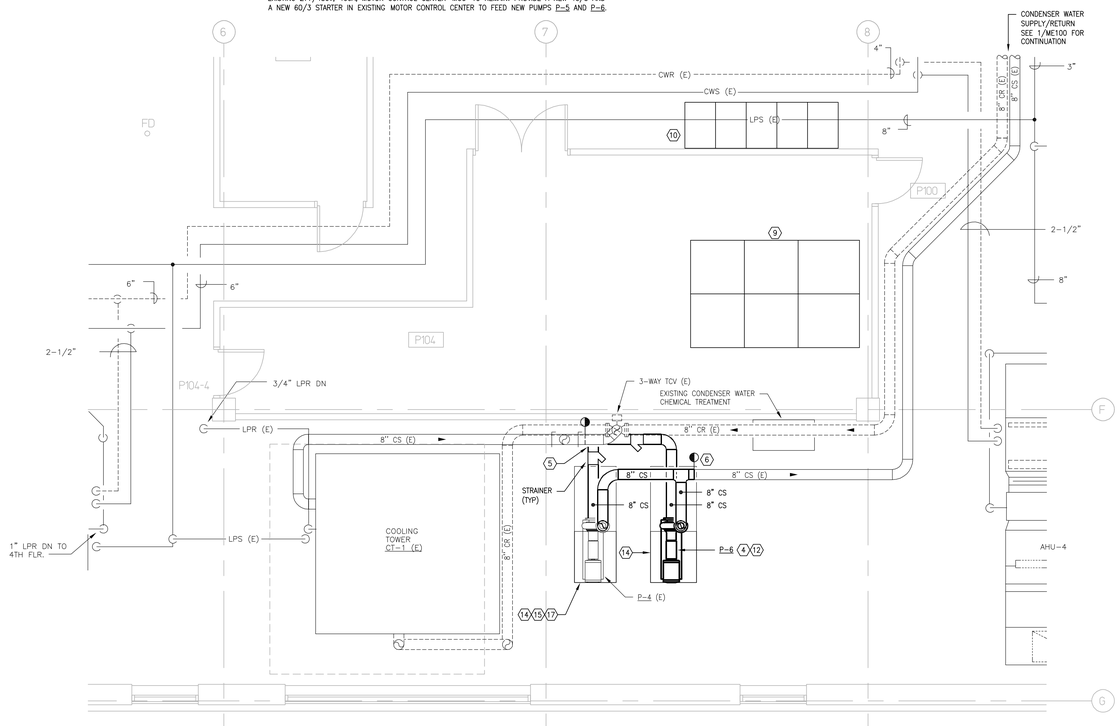
KEYED NOTES: (FOR SHEET ME100)

1. EXISTING CONCRETE EQUIPMENT PAD. PROVIDE NEW PUMP AND PUMP INERTIA BASE. SEE DETAIL.
2. CONNECT NEW 6" PIPING TO EXISTING VALVED TAPS (REMOVE CAP).
3. CONNECT NEW 8" PIPE TO TOP OF EXISTING 8" PIPING.
4. EXISTING CONCRETE EQUIPMENT PAD. PROVIDE NEW PUMP AND PUMP INERTIA BASE. MAINTAIN 40" STRAIGHT PIPE INTO PUMP INLET MINIMUM. SEE DETAIL.
5. REMOVE EXISTING 8" ELBOW AND REPLACE WITH NEW 8" TEE.
6. CONNECT NEW 8" PUMP DISCHARGE TO EXISTING 8" MAIN.
7. REMOVE SECTION OF PIPE FOR INSTALLATION OF NEW CONTROL AND BALANCING VALVES.
8. NEW 8" CONTROL VALVE IN 8" CS SERVING CH-2 THROUGH CH-5.
9. EXISTING 277/480V, 3000A, GE #AV-LINE SWITCHBOARD 'MDP-2L' TO REMAIN. PROVIDE A NEW 400A SWITCH IN EXISTING SWITCHBOARD TO FEED NEW CHILLER.
10. EXISTING 277/480V, 400A, MOTOR CONTROL CENTER 'MCC' TO REMAIN. PROVIDE A NEW 40/3 AND A NEW 60/3 STARTER IN EXISTING MOTOR CONTROL CENTER TO FEED NEW PUMPS P-5 AND P-6.
11. FEED NEW PUMP P-5 FROM 'MCC' WITH (3)#8 & (1)#10 GROUND IN A 1" CONDUIT. PROVIDE DISCONNECT NEAR PUMP (DISCONNECT PROVIDED BY COUNTY).
12. FEED NEW PUMP P-6 FROM 'MCC' WITH (3)#6 & (1)#10 GROUND IN A 1" CONDUIT. PROVIDE DISCONNECT NEAR PUMP (DISCONNECT PROVIDED BY COUNTY).
13. FEED NEW CHILLER FROM 'MDP-2L' WITH (3)#600 & (1)#3 GROUND IN A 4" CONDUIT. PROVIDE DISCONNECT NEAR CHILLER (DISCONNECT PROVIDED BY COUNTY).
14. EXTEND EQUIPMENT PAD. PROVIDE 3500# MIX WITH FIBER MESH REINFORCEMENT. DRILL/ANCHOR PAD EXTENSION TO BOTH EXISTING PAD AND FLOOR WITH EPOXY GLUED #8 REBAR.
15. REINSTALL PUMP P-4 (E) ON EXTENDED PAD. MAINTAIN 40" STRAIGHT PIPE INTO PUMP INLET MINIMUM.
16. DISCONNECT EXISTING PUMP. RELOCATE PUMP AND INERTIA PAD APPROXIMATELY 40" SOUTH. SEE 2/ME100. RELOCATE INLET STRAINER.
17. COUNTY TO DISCONNECT POWER TO P-4 (E) TO FACILITATE PUMP RELOCATION. EXTEND EXISTING CONDUCTORS TO NEW PUMP LOCATION.



5 ME100 PARTIAL PENTHOUSE DEMOLITION PLAN – HVAC & ELECTRICAL
SCALE: 1/4"=1'-0"

NORTH



2 ME100 PARTIAL PENTHOUSE PLAN – HVAC & ELECTRICAL
SCALE: 1/4"=1'-0"

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DANE COUNTY
PUBLIC SAFETY
BUILDING

CHILLER PROJECT

PARTIAL PENTHOUSE
PLANS - HVAC

ME100

PUMP SCHEDULE

UNIT NO.	P-3 (E)	P-4 (E)	P-5	P-6
MANUFACTURER	BELL & GOSSET	BELL & GOSSET	BELL & GOSSET	BELL & GOSSET
MODEL	4BC	5BC	4BC	5BC
LOCATION	PENTHOUSE	PENTHOUSE	PENTHOUSE	PENTHOUSE
SERVICE	CHILLED WATER	COND. WATER	CHILLED WATER	COND. WATER
TYPE	BASEMOUNT	BASEMOUNT	BASEMOUNT	BASEMOUNT
CAPACITY GPM	550	900	550	900
PRESSURE HEAD (FT)	81 (75)	71 (60)	81	71
SHUT-OFF PRESSURE HEAD (FT)			–	–
MIN. NPSH REQUIRED (FT)			7	11.8
INLET/OUTLET (IN)			5	6
IMPELLER DIAMETER	9.5 (9.25)	9.25 (8.875)	9.5	9.25
MIN. EFF. %			80.0	
RPM			1750	1750
BHP			13.97	19.56
HP		25 (20)	15.0	25
VOLTAGE/PHASE			460/3	460/3
VFD			NO	NO
UNIT WEIGHT (LBS)				
REMARKS	⟨1⟩⟨2⟩⟨3⟩	⟨1⟩⟨2⟩⟨3⟩⟨4⟩		

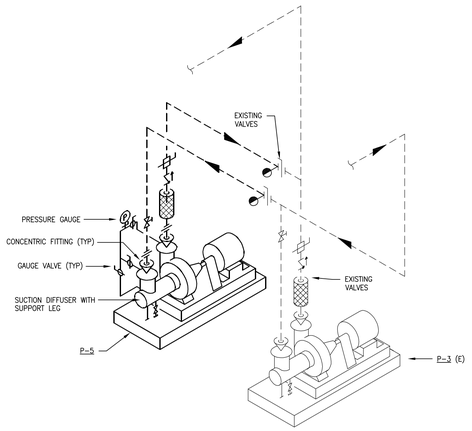
KEYED NOTES:

⟨1⟩ EXISTING PUMP. SCHEDULE INDICATES NEW CONDITIONS. EXISTING CONDITIONS IN PARENTHESIS.

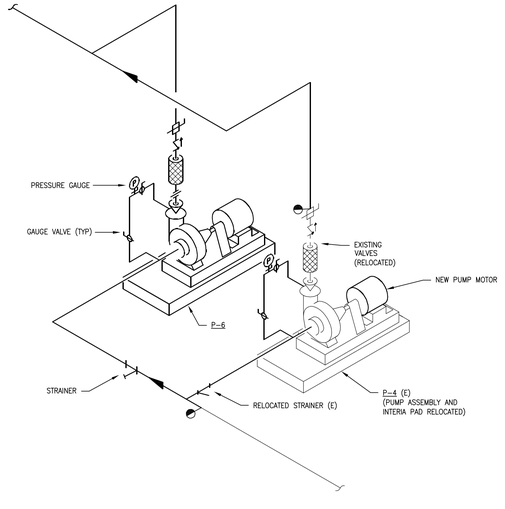
⟨2⟩ PROVIDE NEW IMPELLER / TRIM IMPELLER AS REQUIRED TO ACHIEVE NEW CONDITIONS.

⟨3⟩ REBALANCE EXISTING PUMPS.

⟨4⟩ PROVIDE NEW 25 HP MOTOR FOR PUMP.



3 ME200 PUMP DETAIL – CHILLED WATER
SCALE: NONE — P-3 (E) & P-5



4 ME200 PUMP DETAIL – CONDENSER WATER
SCALE: NONE — P-4 (E) & P-6

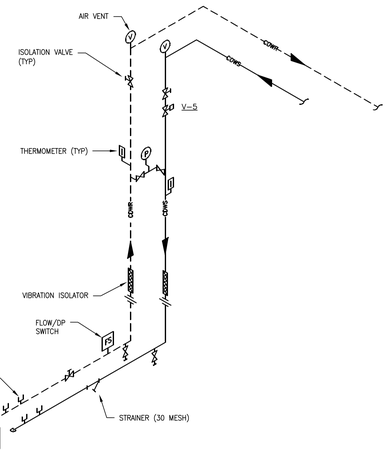
WATER COOLED CHILLER SCHEDULE

UNIT NO.		CH-2	CH-3	CH-4	CH-5
SERVICE		BUILDING	BUILDING	BUILDING	BUILDING
LOCATION		PENTHOUSE	PENTHOUSE	PENTHOUSE	PENTHOUSE
MANUFACTURER		MULTISTACK	MULTISTACK	MULTISTACK	MULTISTACK
MODEL NO.		MS70X	MS70X	MS70X	MS70X
TYPE		MODULAR	MODULAR	MODULAR	MODULAR
REFRIG. TYPE		R-410A	R-410A	R-410A	R-410A
COOLING CAPACITY (TONS)		280	280	280	280
KW/TON		0.708	0.708	0.708	0.708
IPLV		0.536	0.536	0.536	0.536
EVAPORATOR	EWT (°F)	57.0	57.0	57.0	57.0
	LWT (°F)	45.0	45.0	45.0	45.0
	GPM	560.0	560.0	560.0	560.0
	WPD (FT)	12.3	12.3	12.3	12.3
	FOULING FACTOR	0.0001	0.0001	0.0001	0.0001
CONDENSER	EWT (°F)	85.0	85.0	85.0	85.0
	LWT (°F)	95.0	95.0	95.0	95.0
	GPM	900.0	900.0	900.0	900.0
	WPD (FT)	19.3	19.3	19.3	19.3
	FOULING FACTOR	0.0005	0.0005	0.0005	0.0005
COMPRESSOR KW		198.2	198.2	198.2	198.2
UNIT ELECTRICAL DATA	VOLTS	460	460	460	460
	PHASE	3	3	3	3
	MCA	330	330	330	330
	MOCP	400	400	400	400
APPROX. WEIGHT (LBS) (SHIPPING)		1900	1900	1900	1900
APPROX. WEIGHT (LBS) (OPERATING)		2200	2200	2200	2200
REMARKS		⟨1⟩⟨2⟩	⟨1⟩⟨2⟩	⟨1⟩⟨2⟩	⟨1⟩⟨2⟩

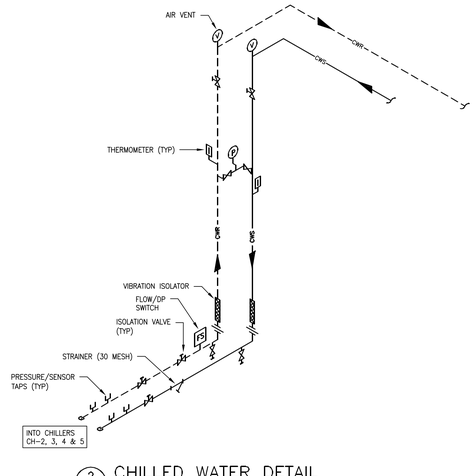
KEYED NOTES:

⟨1⟩ MODULAR CHILLER WITH (4) 70-TON MODULES, CONTINUOUS/INTERCONNECTED CHILLED WATER HEADER AND CONDENSER WATER HEADER.

⟨2⟩ 330 MCA AND 400 MOCP ARE TOTALS FOR ALL (4) MODULES COMBINED. SINGLE POINT ELECTRICAL CONNECTION.



1 ME200 CONDENSER WATER DETAIL
SCALE: NONE — CHILLER CH-2 THRU CH-5



2 ME200 CHILLED WATER DETAIL
SCALE: NONE — CHILLER CH-2 THRU CH-5

JDR
ENGINEERING, INC.
2939 S. FISH HATCHERY RD
SUITE 100
MADISON, WI 53711
ph:608.277.1728 fax:608.271.7046

CONSULTANTS

ISSUED

04/17/09	BID DOCUMENTS

REVISIONS / ADDENDA

-
-
-
-

PROJECT # :	090022
DRAWN :	RJH
CHECKED :	TDM
DATE :	4/17/09
PHASE :	BD

PROJECT

DANE COUNTY
PUBLIC SAFETY
BUILDING

CHILLER PROJECT

DETAILS AND
SCHEDULES

ME200