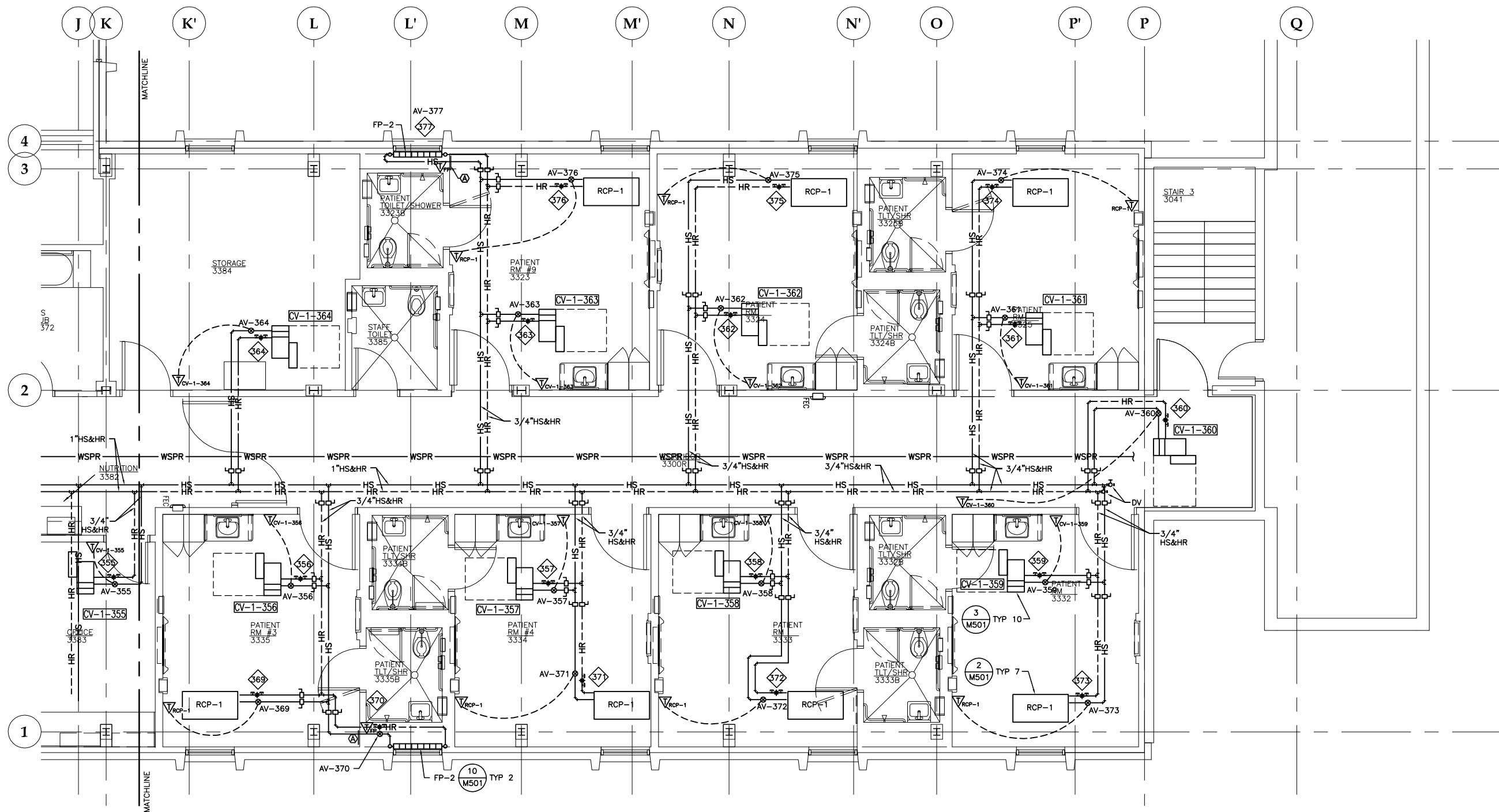
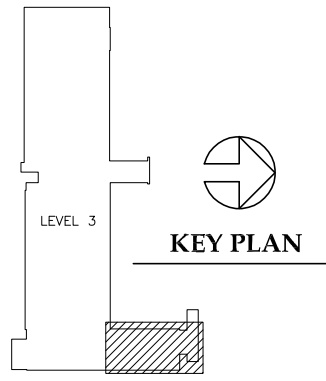




1 FLOOR PLAN: LEVEL 3 - NORTH HVAC PIPING

SCALE: 0 2' 4' 8'

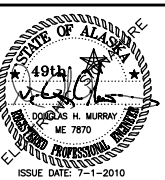


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Medical / Surgical East Wing Renovation
CBJ Contract No. E10-221
Juneau, Alaska

CONSTRUCTION DOCUMENTS

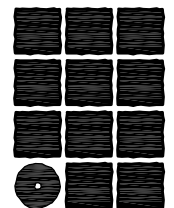
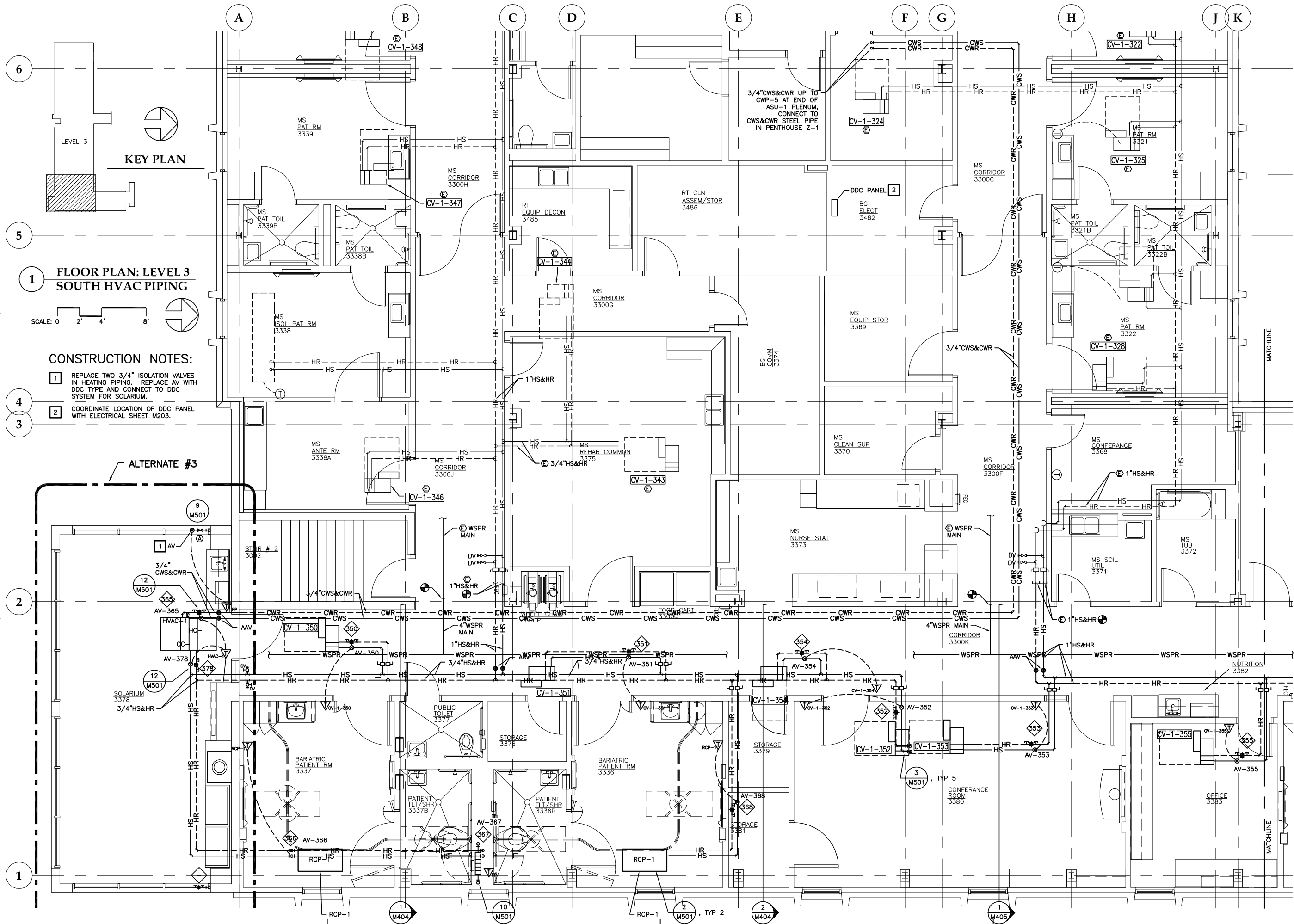
REVISIONS

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SHEET TITLE
FLOOR PLAN
LEVEL 3 - NORTH
HVAC PIPING

DATE: July 1, 2010
JOB #: 10-256

M205



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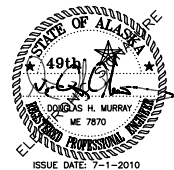
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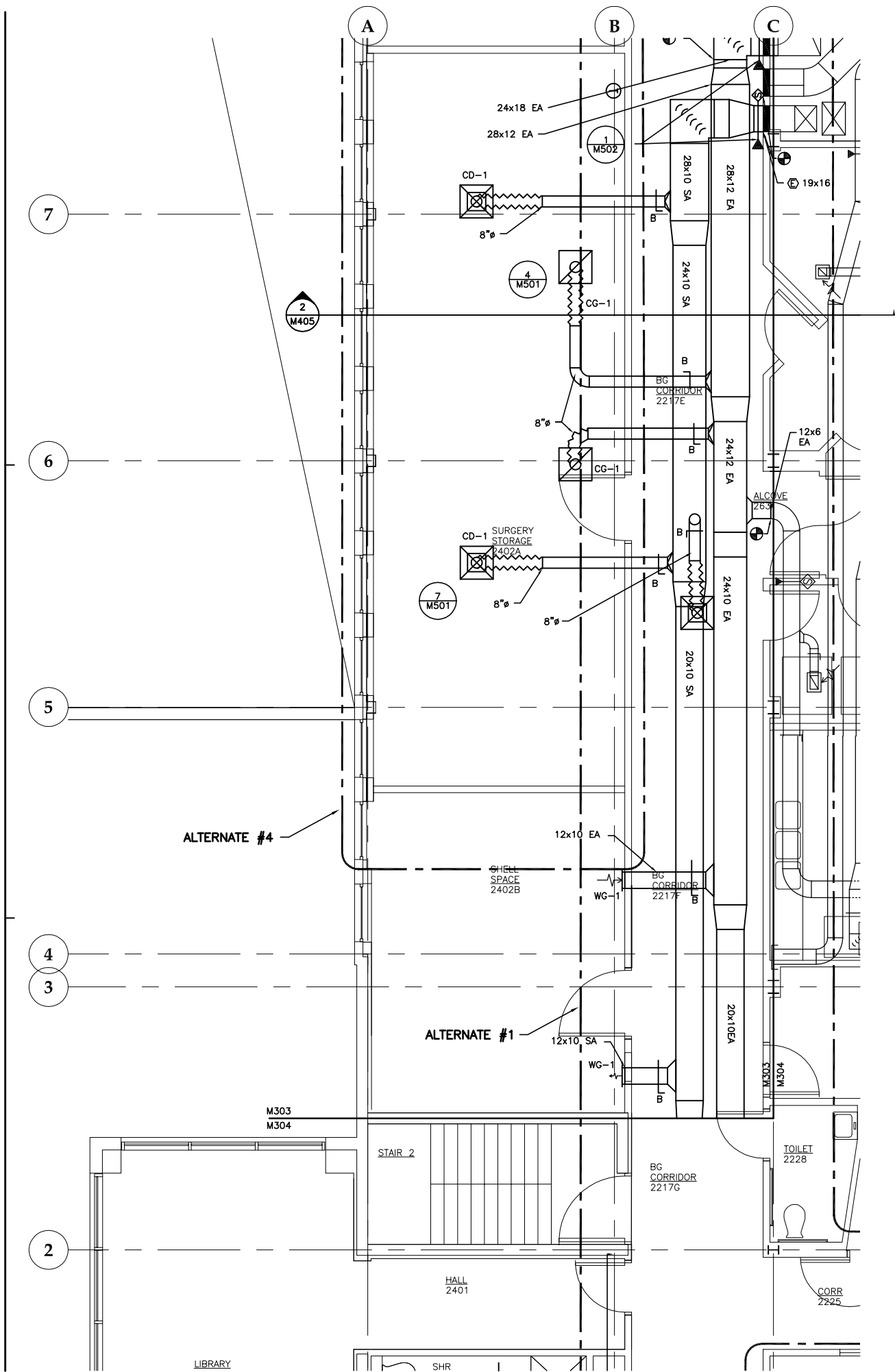
**CONSTRUCTION
DOCUMENTS**



SHEET TITLE
**FLOOR PLAN
LEVEL 3 - SOUTH
HVAC PIPING**

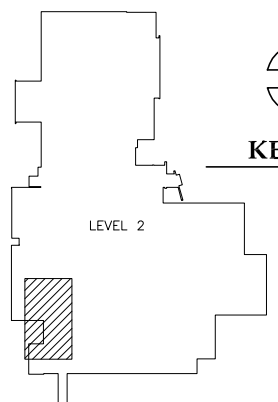
DATE: July 1, 2010
JOB #: 10-256

M206

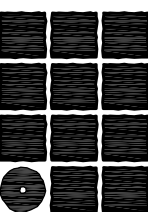


1 FLOOR PLAN : LEVEL 2 CORRIDOR HVAC DUCTWORK

SCALE: 0 2' 4' 8'



KEY PLAN



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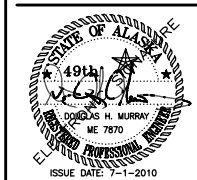
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CONSTRUCTION
DOCUMENTS

REVISIONS

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SHEET TITLE

FLOOR PLAN
LEVEL 2 - CORRIDOR
HVAC DUCTWORK

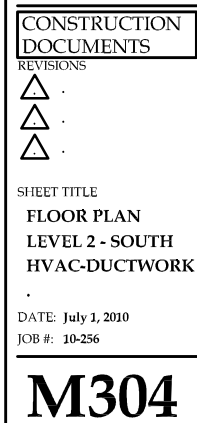
DATE: July 1, 2010
JOB #: 10-256

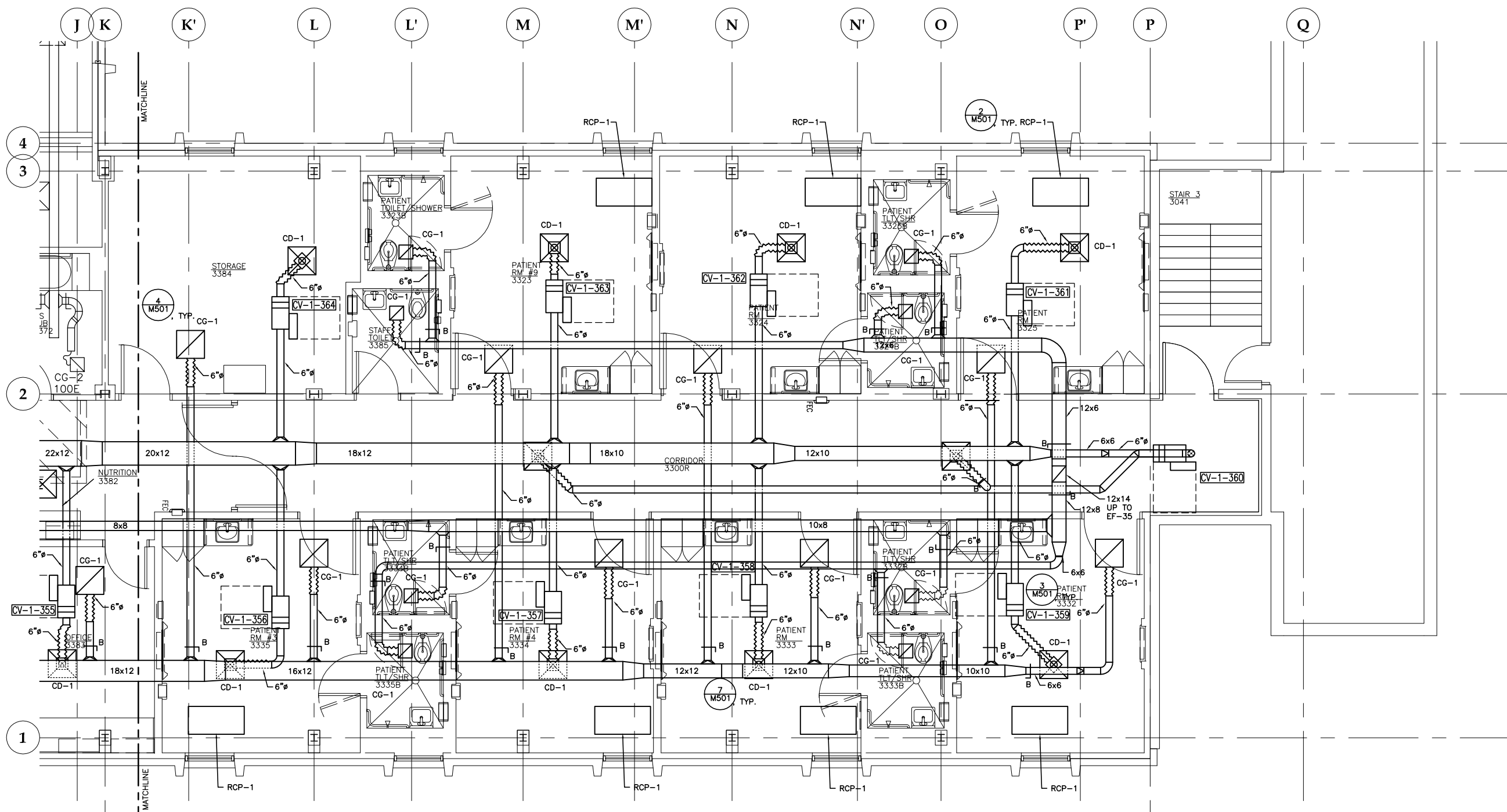
M303



KEY PLAN

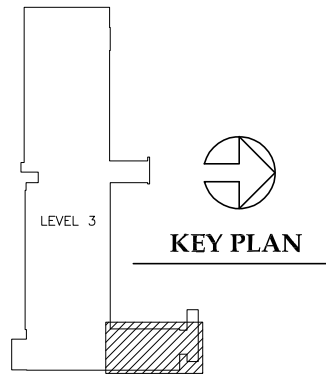
LEVEL 2





1 FLOOR PLAN: LEVEL 3 - NORTH HVAC DUCTWORK

SCALE: 0 2' 4' 8'

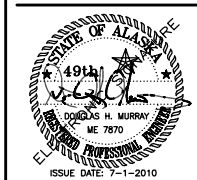


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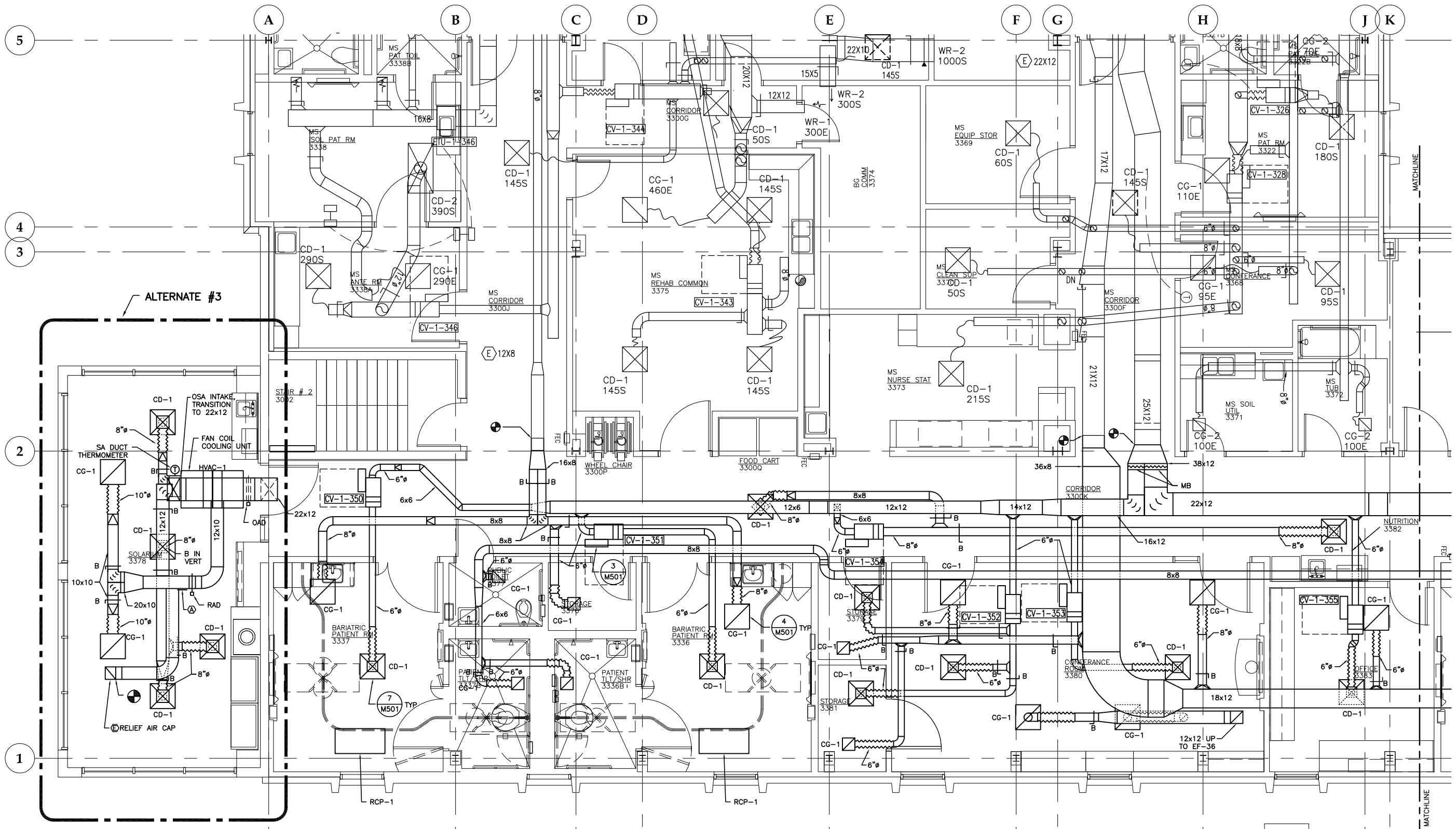
CONSTRUCTION DOCUMENTS

REVISIONS
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SHEET TITLE
FLOOR PLAN
LEVEL 3 - NORTH
HVAC DUCTWORK

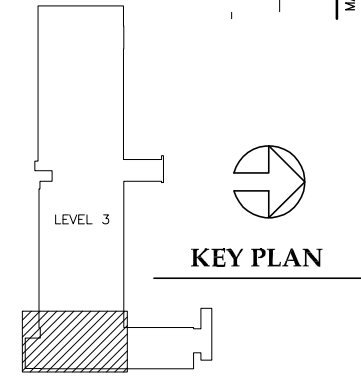
DATE: July 1, 2010
JOB #: 10-256

M305



1 FLOOR PLAN: LEVEL 3 - SOUTH HVAC DUCTWORK

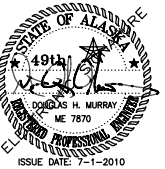
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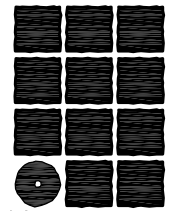


City & Borough of Juneau
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CBJ Contract No. E10-221
Juneau, Alaska

CONSTRUCTION DOCUMENTS
REVISIONS
1
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3
4

SHEET TITLE
FLOOR PLAN
LEVEL 3 - SOUTH
HVAC DUCTWORK
DATE: July 1, 2010
JOB #: 10-256

M306



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CBJ Contract No. E10-221
Juneau, Alaska**

**CONSTRUCTION
DOCUMENTS**



SHEET TITLE
**ENLARGED
PENTHOUSE
PLAN**

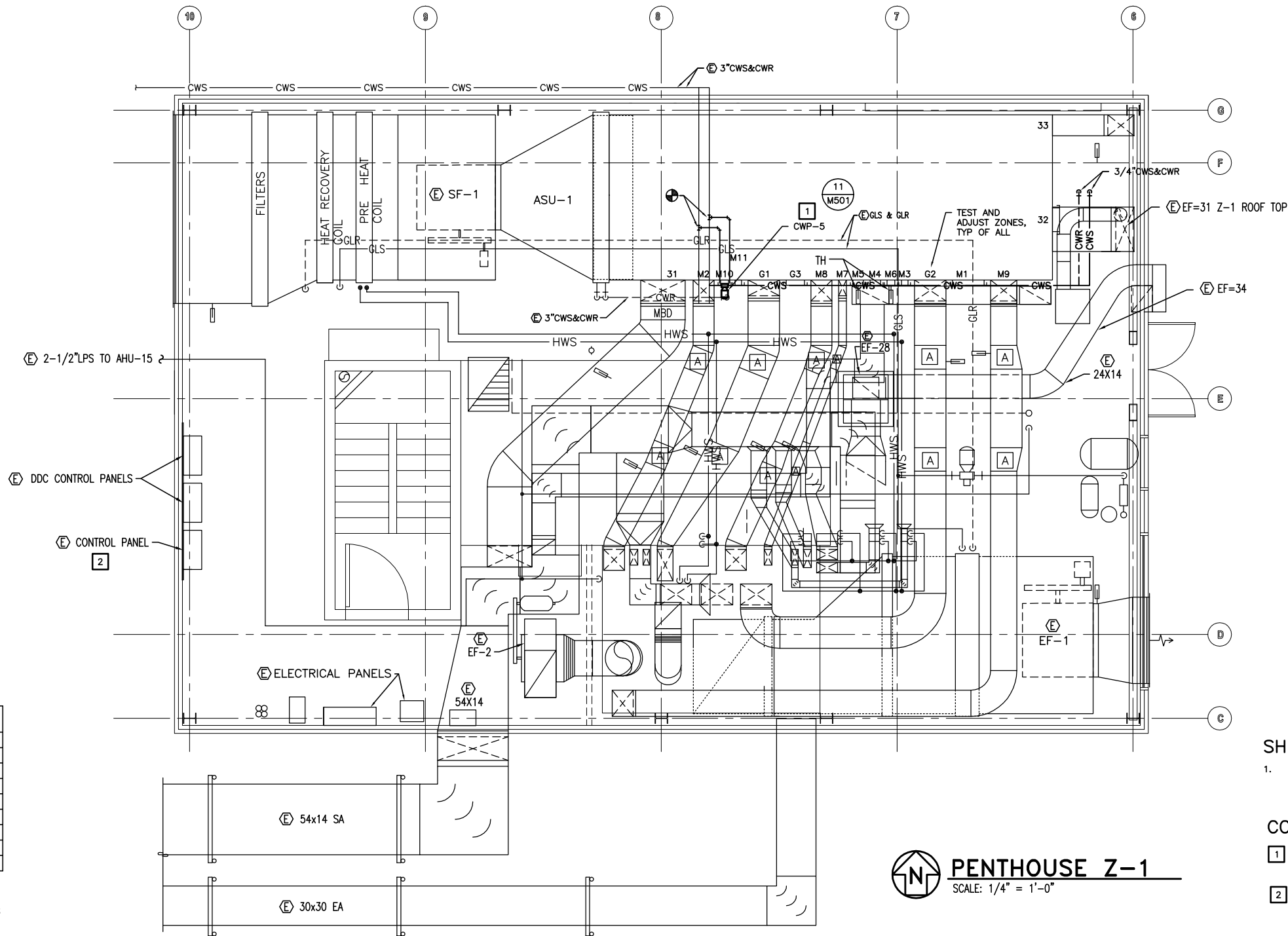
DATE: July 1, 2010
JOB #: 10-256

M402

**ZONE VOLUME
SCHEDULE**

ZONE	AIR VOLUME CFM
31	6,750
M2	2,140
G1	780
M8	270
M7	2,540
G2	2,040
M9	5,805
32	-
33	3,090

NOTE: CONTRACTOR TO
TEST AND ADJUST
ZONES TO VOLUMES
SHOWN.

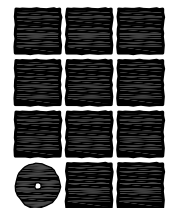


SHEET NOTES:

1. PROVIDE ADJUSTMENT MEANS TO BALANCE ZONES TO AIR VOLUME REQUIRED IN AIR VOLUME SCHEDULE ON THIS SHEET.

CONSTRUCTION NOTES:

1. INSTALL CHILLED WATER PUMP CWP-5 AT FLOOR LEVEL. CONNECT TO EXISTING CWS PIPING. WORK IS IN ALTERNATE #3.
2. CONTROL POINTS FOR CWP-5 PLACED IN DDC CONTROL PANEL. COORDINATE WORK.



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**CONSTRUCTION
DOCUMENTS**



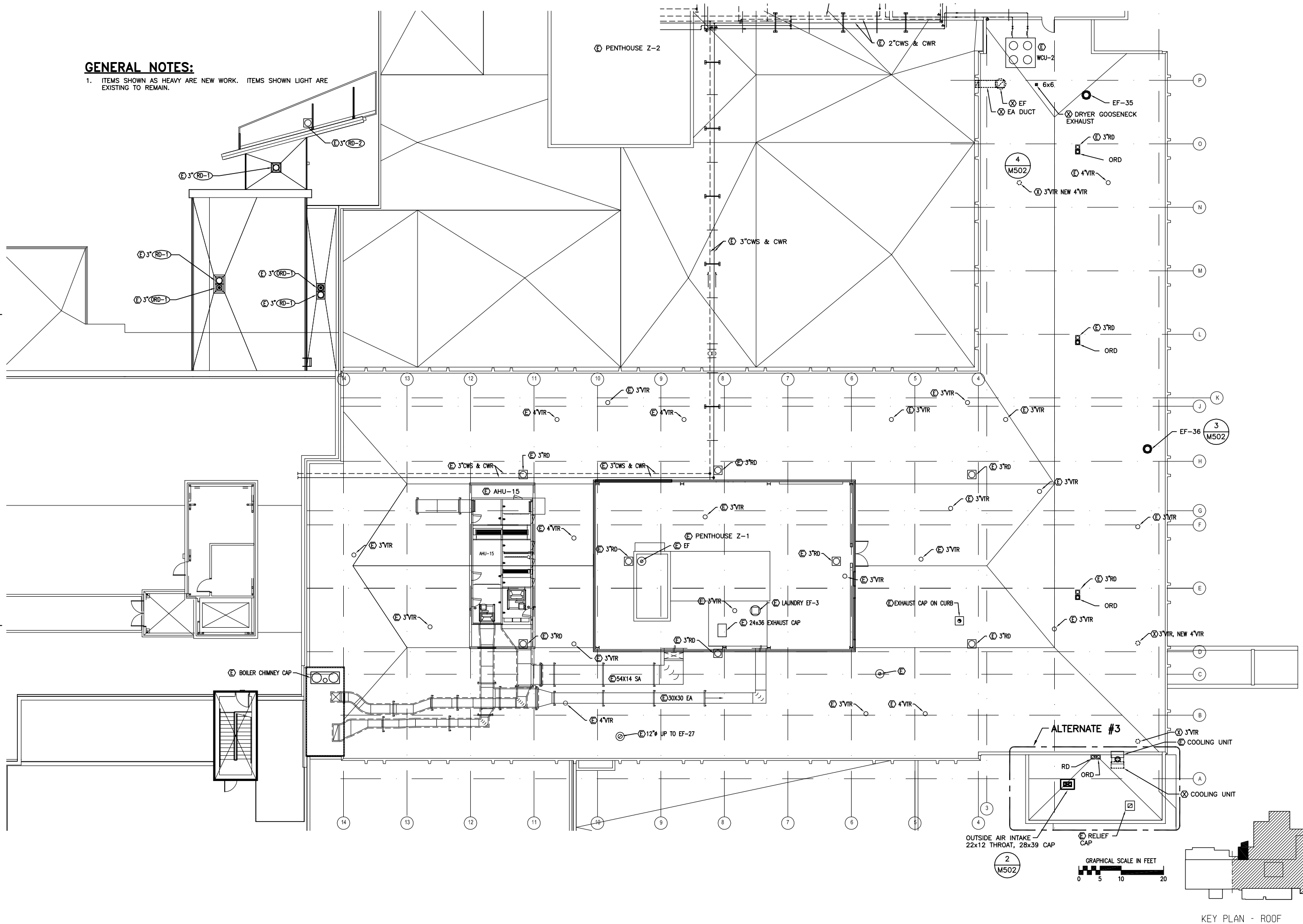
**SHEET TITLE
ROOF PLAN**

DATE: July 1, 2010
JOB #: 10-256

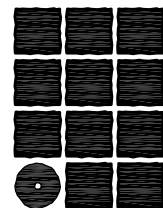
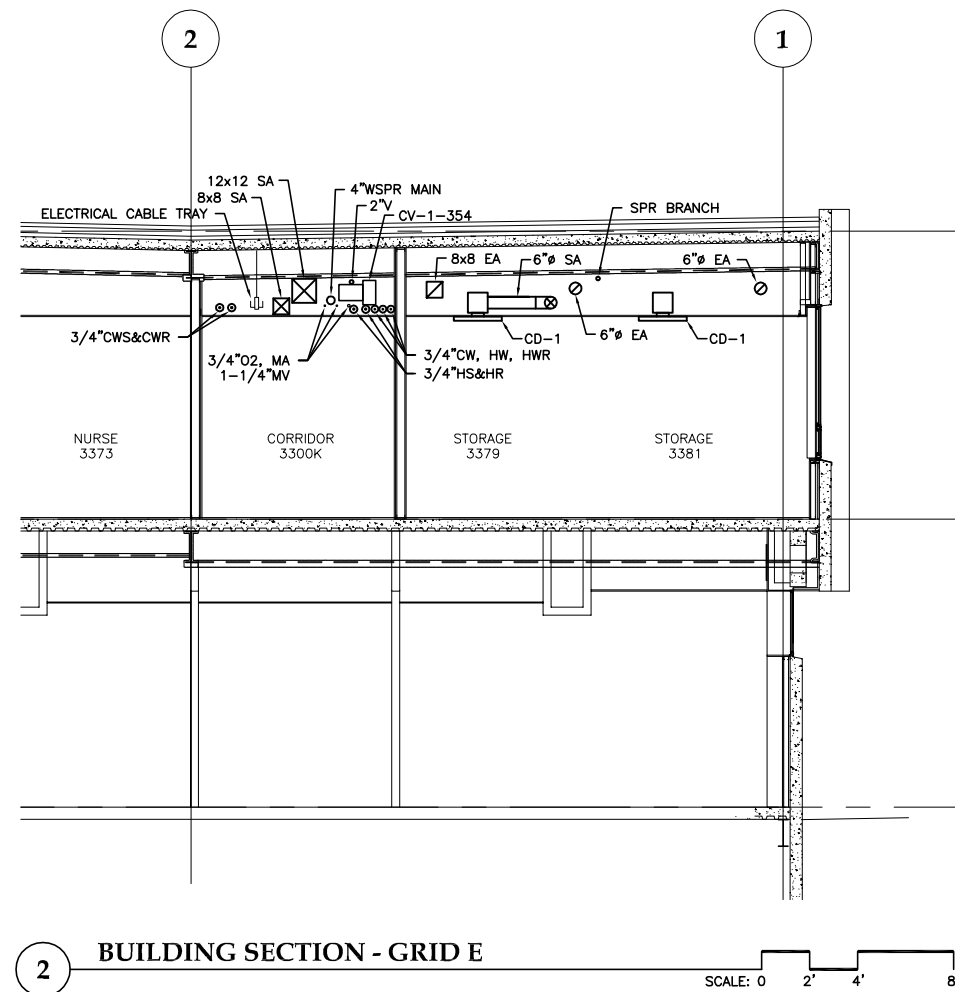
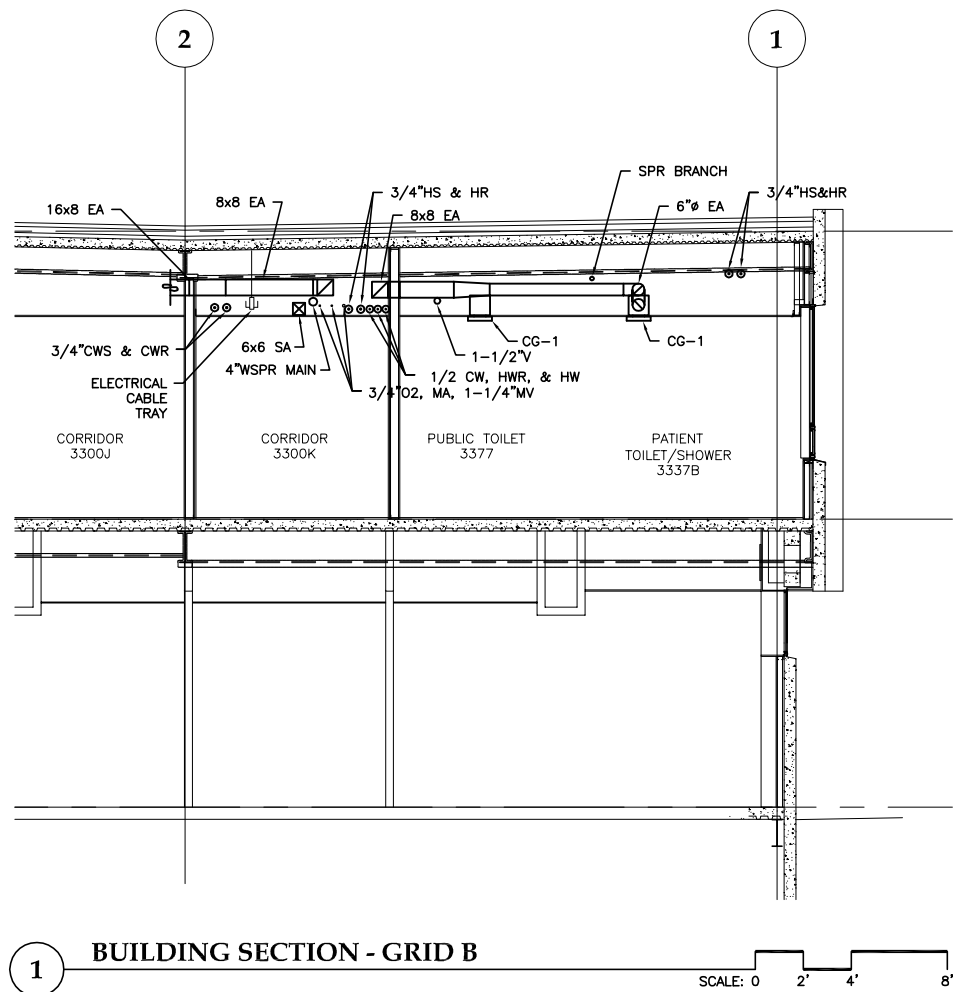
M403

GENERAL NOTES:

1. ITEMS SHOWN AS HEAVY ARE NEW WORK. ITEMS SHOWN LIGHT ARE EXISTING TO REMAIN.



KEY PLAN - ROOF



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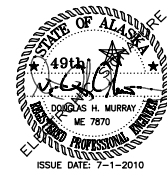
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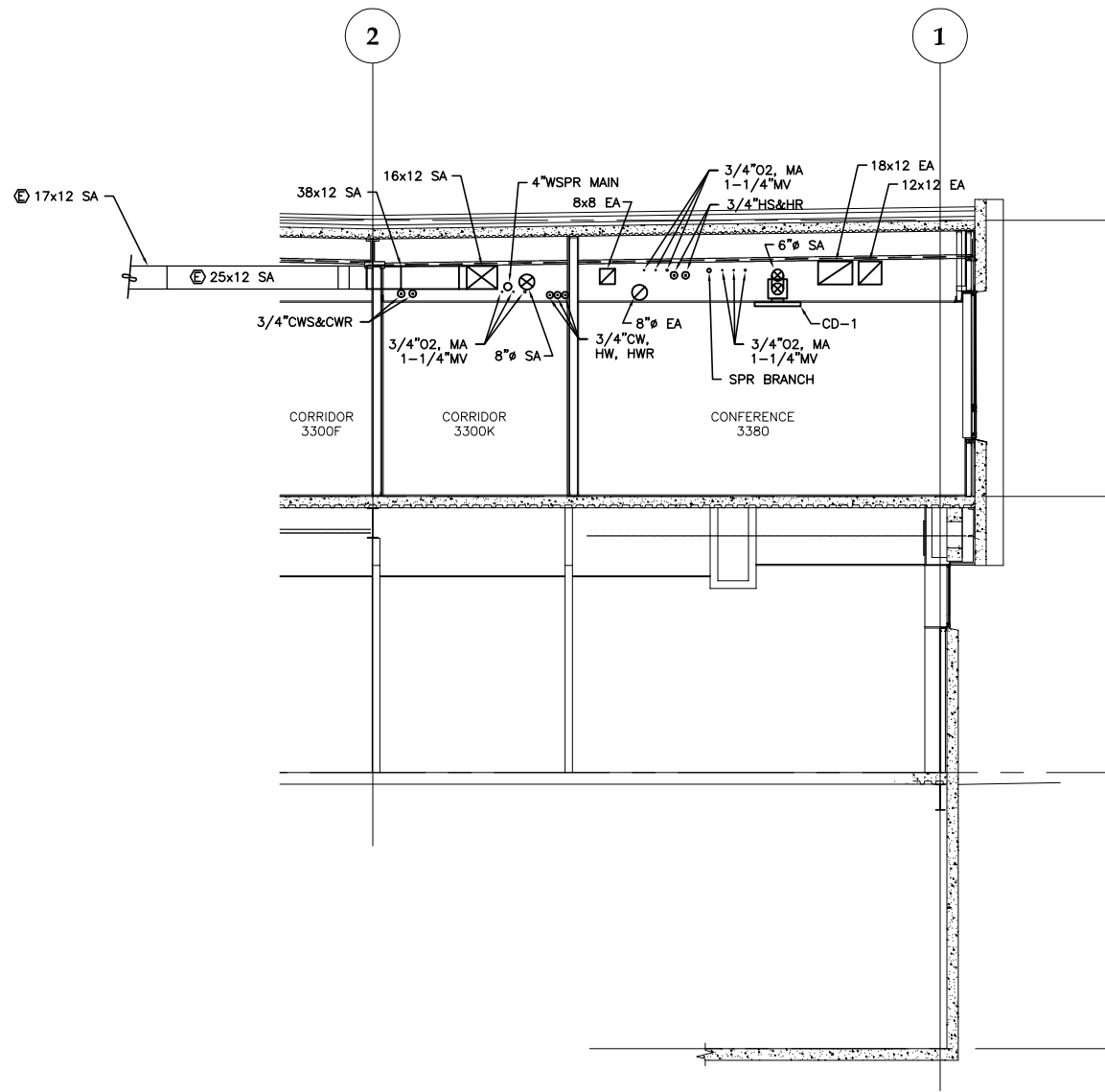
**CONSTRUCTION
DOCUMENTS**

REVISIONS
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SHEET TITLE
**BUILDING
SECTION**

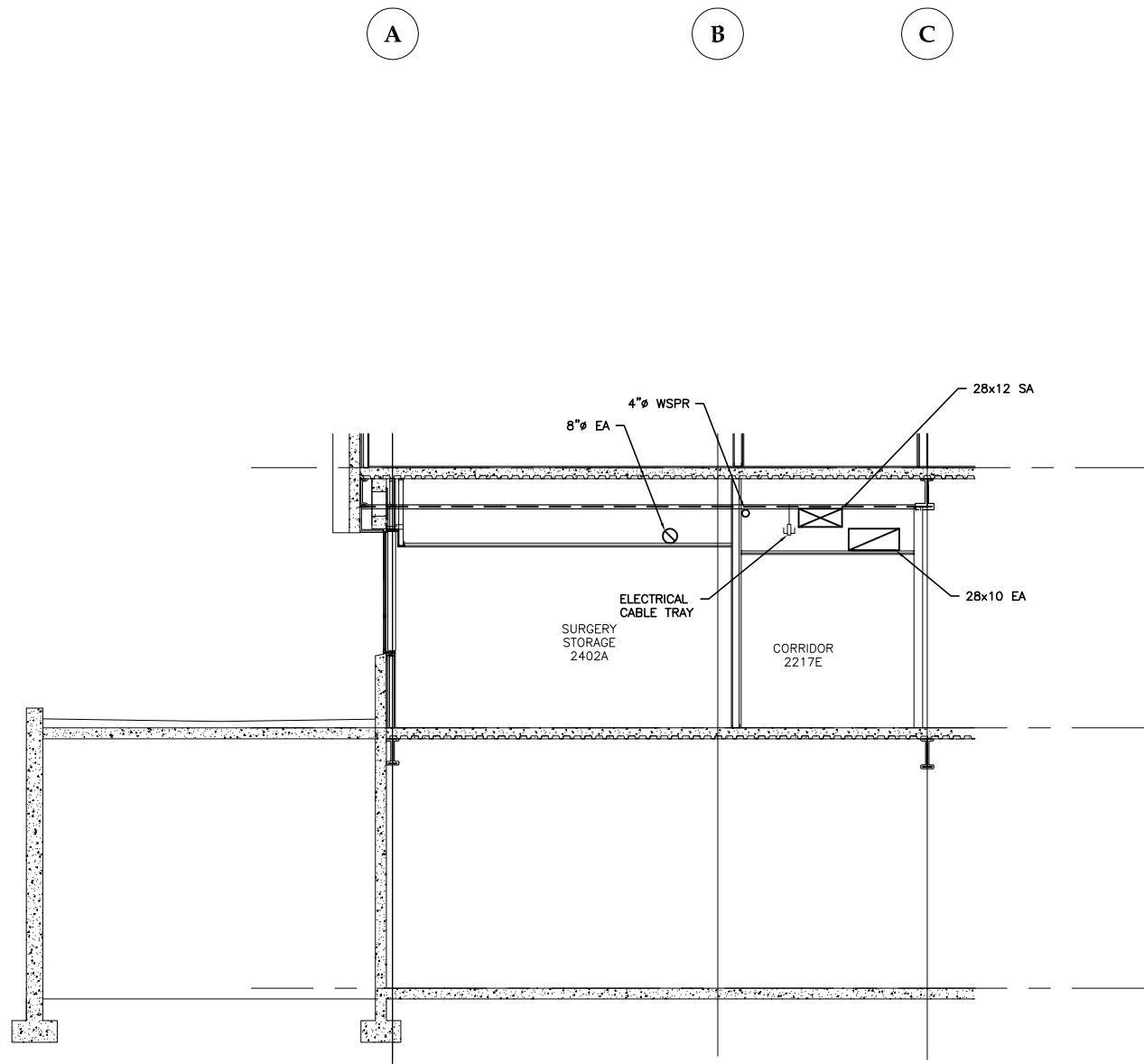
DATE: July 1, 2010
JOB #: 10-256

M404



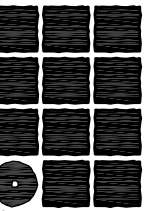
1 BUILDING SECTION - GRID G.5

SCALE: 0 2' 4' 8'



2 BUILDING SECTION - GRID E

SCALE: 0 2' 4' 8'



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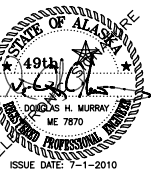
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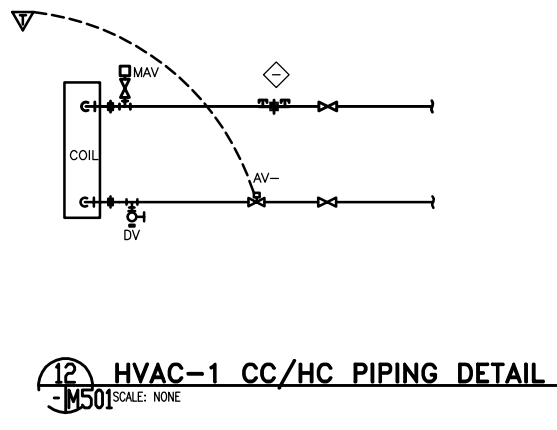
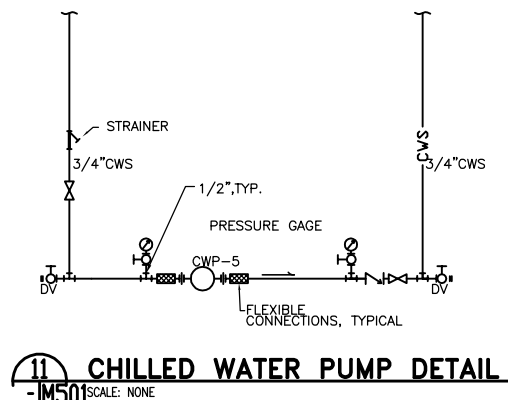
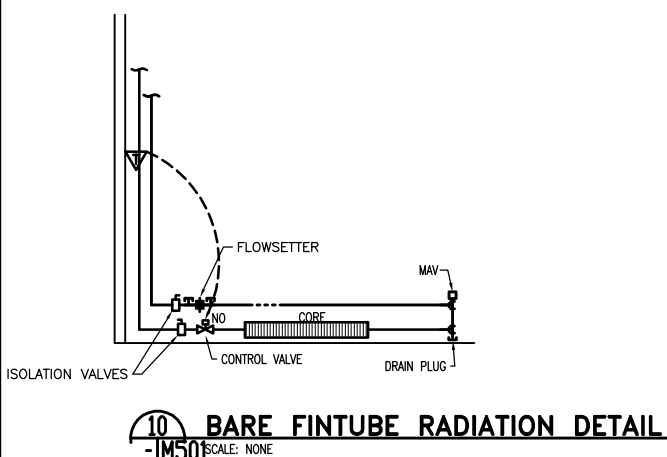
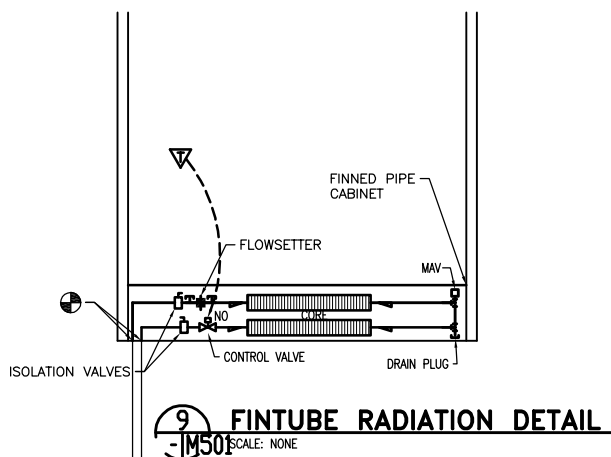
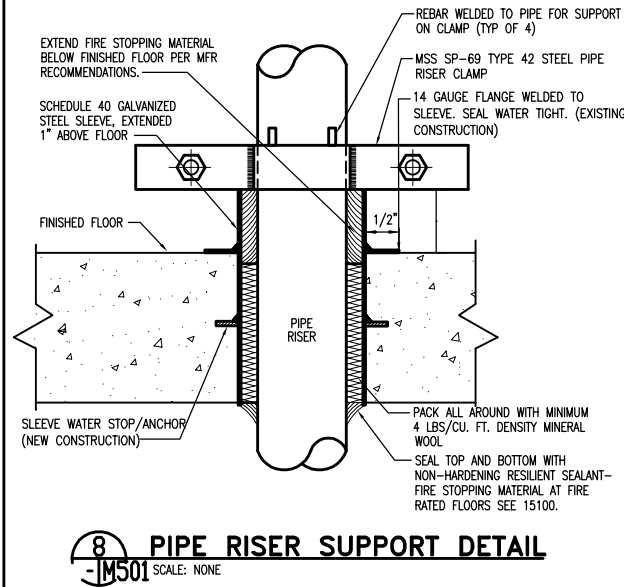
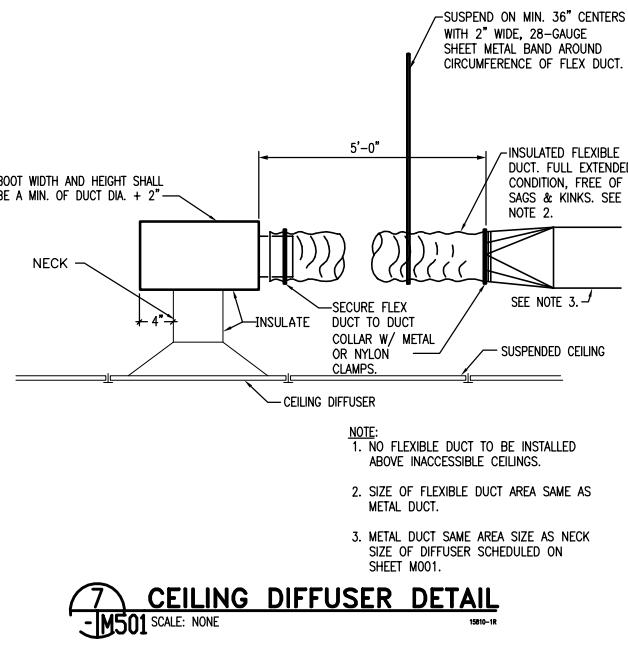
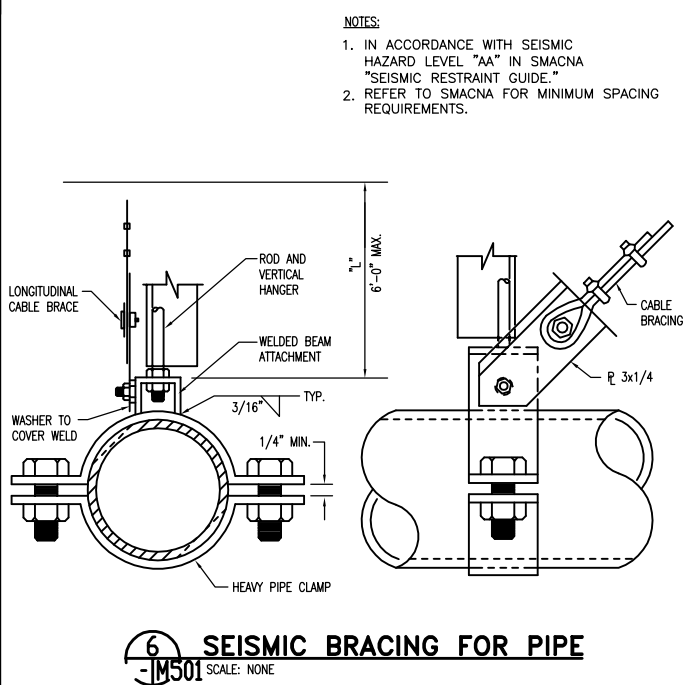
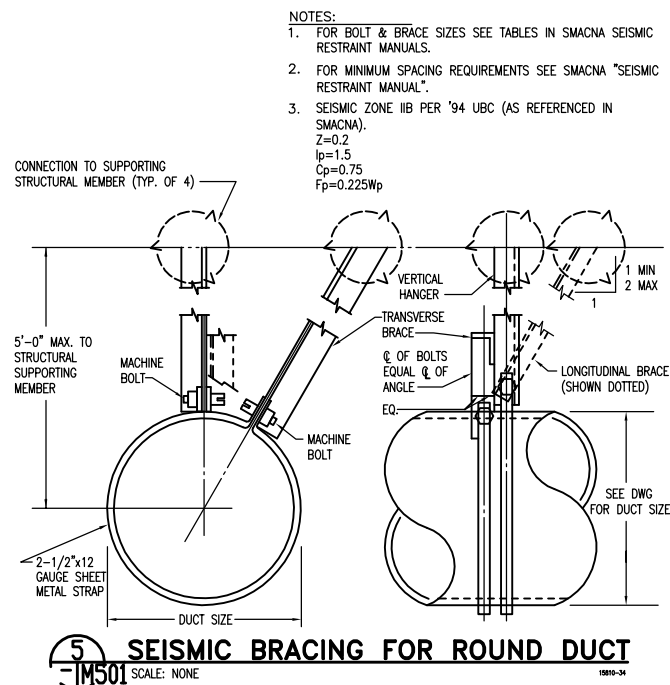
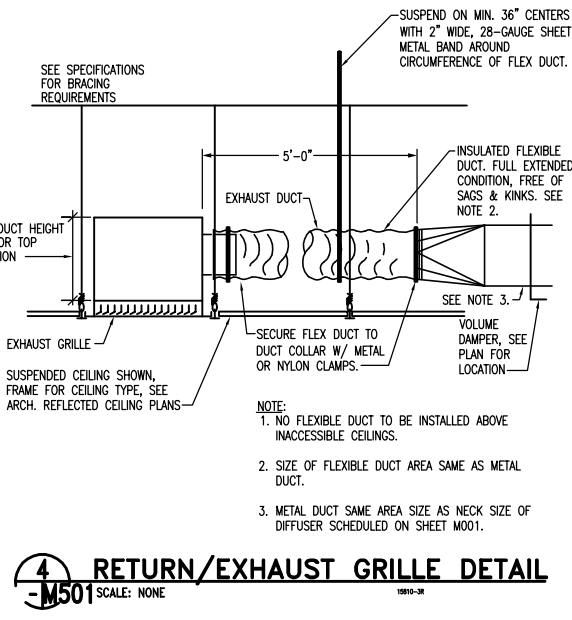
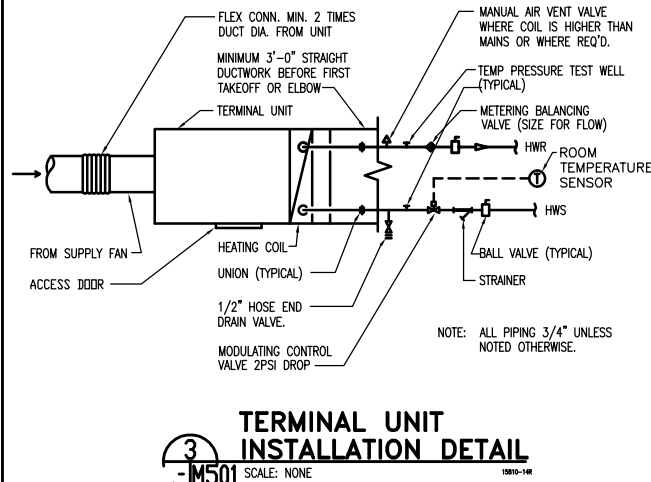
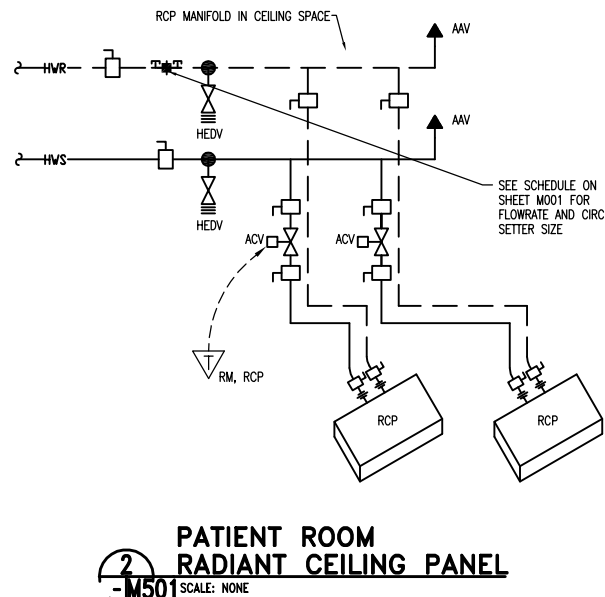
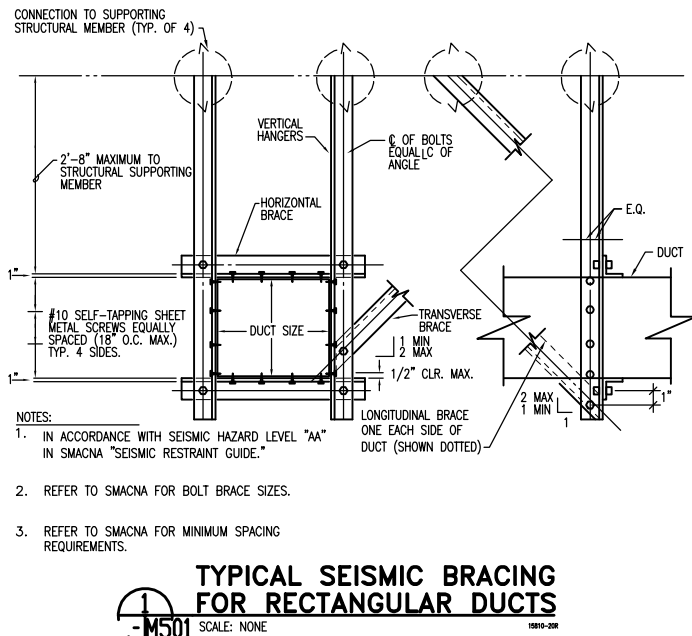
**CONSTRUCTION
DOCUMENTS**

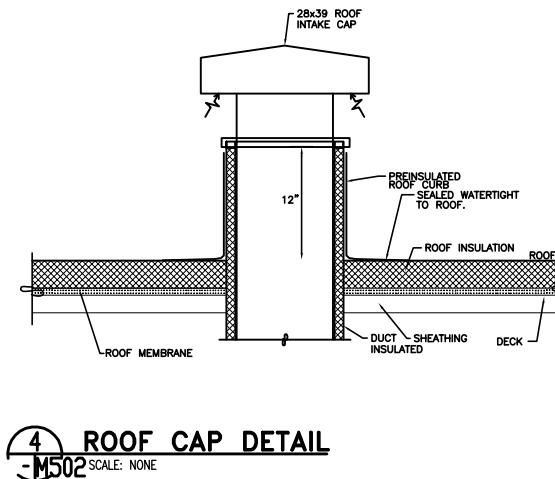
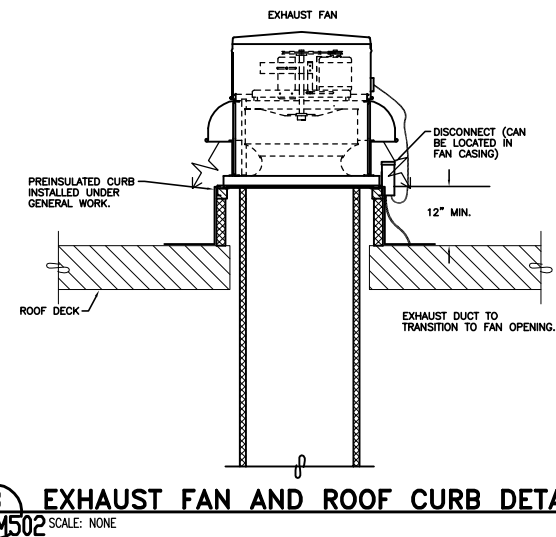
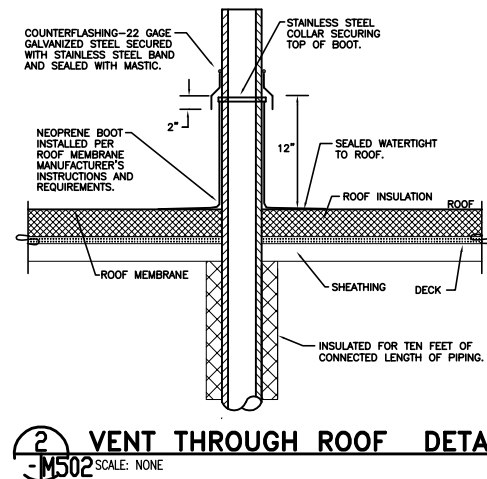
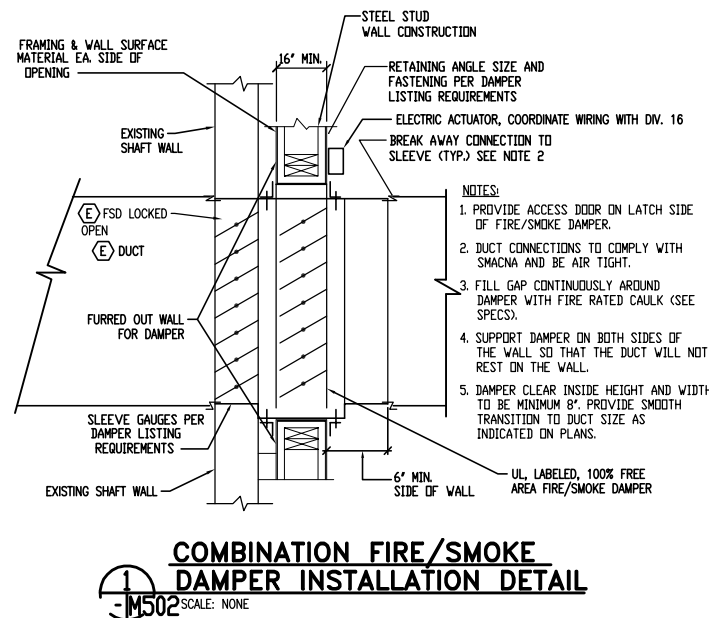
REVISIONS	
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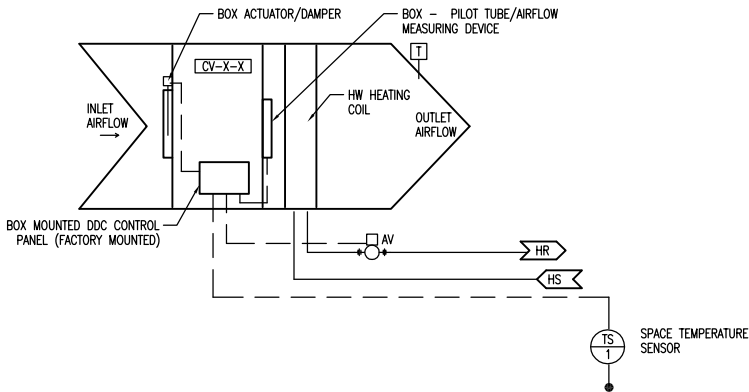
SHEET TITLE
**BUILDING
SECTION**

DATE: July 1, 2010
JOB #: 10-256

M405

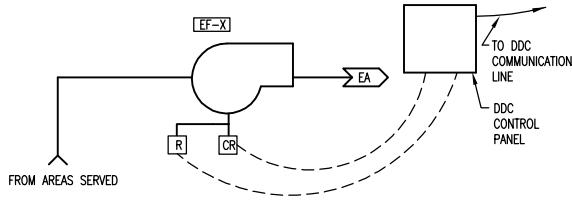






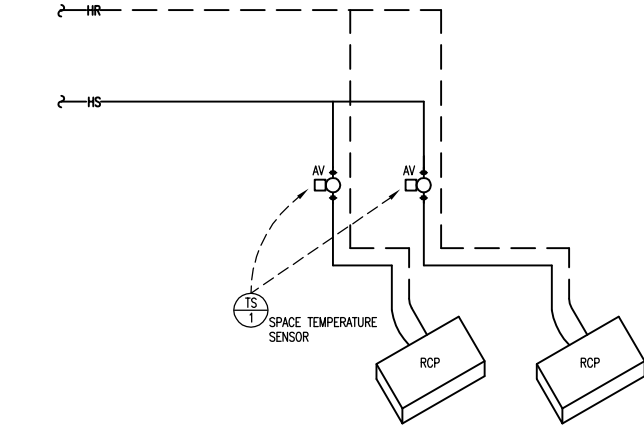
1 CV TERMINAL BOX (CV-X-X)
-M601 SCALE: NONE

GENERAL: THE CONSTANT AIR VOLUME TERMINAL DAMPER WILL MODULATE TO MAINTAIN CONSTANT AIRFLOW TO THE AREAS SERVED. THE TWO-WAY HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE SPACE TEMPERATURE SETPOINT AS SENSED BY TS/1 AND RESET BY DUCT IMMERSION THERMOSTAT.



2 GENERAL EXHAUST FAN
-M601 SCALE: NONE

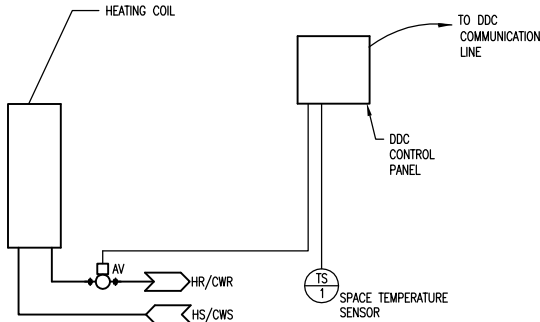
GENERAL: EXHAUST FAN WILL RUN CONTINUOUSLY. DDC SYSTEM WILL ALARM IF FAN FAILS TO OPERATE.



3 RADIANT CEILING PANELS
-M601 SCALE: NONE

RADIANT CEILING PANELS (RCP-X)

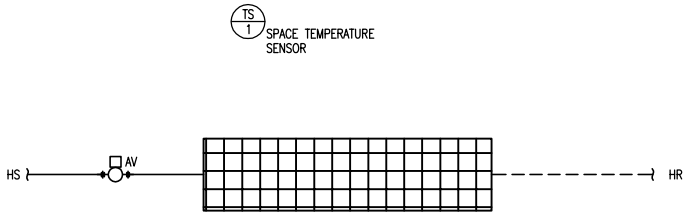
A. GENERAL: CONTROL VALVE WILL POSITION TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY TS/1.



4 TYPICAL HEATING COIL
-M601 SCALE: NONE

HEATING HEATING/COOLING COILS (HVAC-1)

A. GENERAL: CONTROL VALVE WILL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY TS/1.



5 FP HEATING UNIT
-M601 SCALE: NONE

FINNED PIPE ELEMENTS (FP-X)

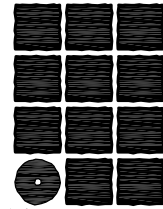
A. GENERAL: CONTROL VALVE WILL POSITION TO MAINTAIN SPACE TEMPERATURE SETPOINT AS SENSED BY TS/1.

CONTROLS LEGEND

C	CONTROLLER
S	SMOKE SENSOR
T	IMMERSION THERMOSTAT OR THERMOSTATIC SENSOR
P	PRESSURE SENSOR
VA	VALVE ACTUATOR
DA	DAMPER ACTUATOR
DP	DIFFERENTIAL PRESSURE GAGE
CS	CURRENT SENSOR
FS	FLOW SWITCH
VFD	VARIABLE FREQUENCY DRIVE
P	PUMP
▽	ROOM THERMOSTAT
→	AIR DIRECTION
⊥	THERMOMETER
M	MOTOR
- - -	CONTROL/ELEC. CIRCUIT

GENERAL NOTES:

1. THE DIAGRAMS AND POINTS SHOWN HERE ARE SCHEMATIC ONLY. REFER TO SEQUENCE OF OPERATIONS AND SECTION 230900'S OF THE SPECIFICATIONS FOR COMPLETE CONFIGURATION OF THE SYSTEMS. COORDINATE WITH ALL OTHER DISCIPLINES TO ACHIEVE RESULTS AS SHOWN AND INTENDED HEREUNDER IN THE DOCUMENTS FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM.
2. SEE FLOOR PLANS AND PIPING DIAGRAMS FOR RESPECTIVE ROOM THERMOSTAT, IMMERSION THERMOSTAT, AND PRESSURE SWITCH LOCATIONS. SEE PLANS FOR OTHER CONTROL EQUIPMENT LOCATIONS. COORDINATE WITH DIVISION 21, 22, 23, 26 AND 27 FOR EQUIPMENT INTERFACE REQUIREMENTS, INCLUDING PIPING TEES AND WELLS, SENSOR LOCATIONS, AND INTERCONNECTIONS.
3. ALL SYSTEMS ABBREVIATIONS, FUNCTIONS, AND EQUIPMENT NAMES SHALL BE LISTED IN ALL SUBMITTAL DATA, O&M DATA, AND AS-BUILTS, AND IN ALL BAS SOFTWARE AS SHOWN HEREUNDER.
4. ALL THERMOSTATS LOCATED IN ALL ROOMS SHALL HAVE DIGITAL THERMOMETER ON COVER WITH ACCESSIBLE ADJUSTMENT, AND SHALL BE MONITORED AND CONTROLLED BY THE BAS SYSTEM.
5. FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS SEE SHEET M001.



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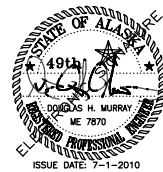
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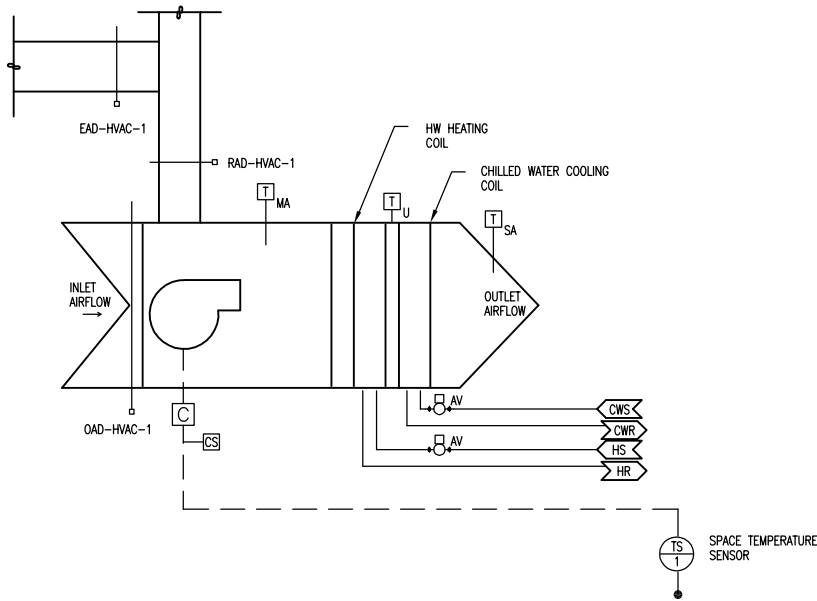
**CONSTRUCTION
DOCUMENTS**

REVISIONS
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SHEET TITLE
**CONTROL
DIAGRAMS**

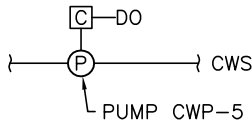
DATE: July 1, 2010
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M601



1 HVAC-1 CONTROL DIAGRAM
-M602 SCALE: NONE

HVAC-1 SUPPLY AIR TEMPERATURE CONTROL: DUCT THERMOSTAT IN THE SUPPLY AIR DISCHARGE TO CONTROL DISCHARGE TEMPERATURE. IN HEATING MODE AUTOMATIC VALVE MODULATES ACCORDING TO FOLLOWING RESET SCHEDULE: SUPPLY 65F DISCHARGE AIR AT 40F OUTSIDE AIR TEMPERATURE AND MODULATE TO SUPPLY 55F AT 50F OUTSIDE AIR TEMPERATURE. COOLING MODE IS TO BE ENABLED WHEN OUTSIDE AIR TEMPERATURE IS ABOVE 50F. FIRST STAGE OF COOLING IS TO BE OBTAINED FROM MIXED AIR TEMPERATURE CONTROL. SECOND STAGE OF COOLING IS TO GOVERN WHEN FIRST STAGE COOLING CANNOT MEET TEMPERATURE REQUIREMENT AFTER AN ADJUSTABLE 2 MINUTES AND REMAIN ACTIVE UNTIL OUTSIDE AIR TEMPERATURE DROPS BELOW 50F. SECOND STAGE OF COOLING SHALL ACTIVATE CHILLED WATER PUMP, CWP-5 COOLING SYSTEM AND OPEN CHILLED WATER COOLING COIL VALVE TO SUPPLY CHILLED WATER TO COOLING COIL IN HVAC-1. COOLING SYSTEM TO SUPPLY 55F SUPPLY AIR TEMPERATURE. HEATING MODE IS TO BE DISABLED ABOVE 55F OUTSIDE AIR TEMPERATURE WITH HEATING COIL AV CLOSED. MIXED AIR DAMPERS POSITION TO MINIMUM POSITION DURING SECOND STAGE OF COOLING.



2 CWP-5
-M602 SCALE: NONE

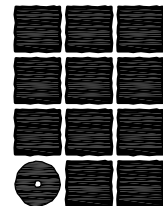
CHILLED WATER PUMP, CWP-5
A. GENERAL: HVAC-1 COOLING COIL CHILLED WATER PUMP, CWP-5: MAGNETIC STARTER WITH HAND-OFF-AUTO SWITCH LOCATED ON MOUNTING BOARD IN PENTHOUSE Z-1. IN AUTO POSITION, PUMP OPERATES CONTINUALLY WHEN COMMANDED INTO COOLING MODE BY HVAC-1 THERMOSTAT AND CONTROL SEQUENCE. AV ON CHILLED WATER COOLING COIL IS TO MODULATE OPEN.

CONTROLS LEGEND

C	CONTROLLER
S	SMOKE SENSOR
T	IMMERSION THERMOSTAT OR THERMOSTATIC SENSOR
P	PRESSURE SENSOR
VA	VALVE ACTUATOR
DA	DAMPER ACTUATOR
DP	DIFFERENTIAL PRESSURE GAGE
CS	CURRENT SENSOR
FS	FLOW SWITCH
VFD	VARIABLE FREQUENCY DRIVE
P	PUMP
▽	ROOM THERMOSTAT
→	AIR DIRECTION
⊥	THERMOMETER
M	MOTOR
- - -	CONTROL/ELEC. CIRCUIT

GENERAL NOTES:

1. THE DIAGRAMS AND POINTS SHOWN HERE ARE SCHEMATIC ONLY. REFER TO SEQUENCE OF OPERATIONS AND SECTION 230900'S OF THE SPECIFICATIONS FOR COMPLETE CONFIGURATION OF THE SYSTEMS. COORDINATE WITH ALL OTHER DISCIPLINES TO ACHIEVE RESULTS AS SHOWN AND INTENDED HEREUNDER IN THE DOCUMENTS FOR A COMPLETE AND FULLY OPERATIONAL CONTROL SYSTEM.
2. SEE FLOOR PLANS AND PIPING DIAGRAMS FOR RESPECTIVE ROOM THERMOSTAT, IMMERSION THERMOSTAT, AND PRESSURE SWITCH LOCATIONS. SEE PLANS FOR OTHER CONTROL EQUIPMENT LOCATIONS. COORDINATE WITH DIVISION 21, 22, 23, 26 AND 27 FOR EQUIPMENT INTERFACE REQUIREMENTS, INCLUDING PIPING TEES AND WELLS, SENSOR LOCATIONS, AND INTERCONNECTIONS.
3. ALL SYSTEMS ABBREVIATIONS, FUNCTIONS, AND EQUIPMENT NAMES SHALL BE LISTED IN ALL SUBMITTAL DATA, O&M DATA, AND AS-BUILTS, AND IN ALL BAS SOFTWARE AS SHOWN HEREUNDER.
4. ALL THERMOSTATS LOCATED IN ALL ROOMS SHALL HAVE DIGITAL THERMOMETER ON COVER WITH ACCESSIBLE ADJUSTMENT, AND SHALL BE MONITORED AND CONTROLLED BY THE BAS SYSTEM.
5. FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS SEE SHEET M001.



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**City & Borough of Juneau
Bartlett Regional Hospital
Medical / Surgical East Wing Renovation
CBJ Contract No. E10-221
Juneau, Alaska**

**CONSTRUCTION
DOCUMENTS**

REVISIONS	
△	.
△	.
△	.

SHEET TITLE
**CONTROL
DIAGRAMS**

DATE: July 1, 2010
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M602