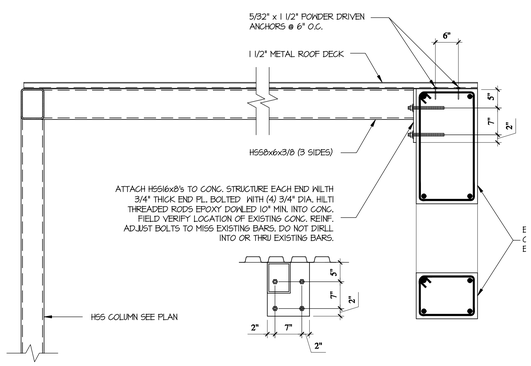
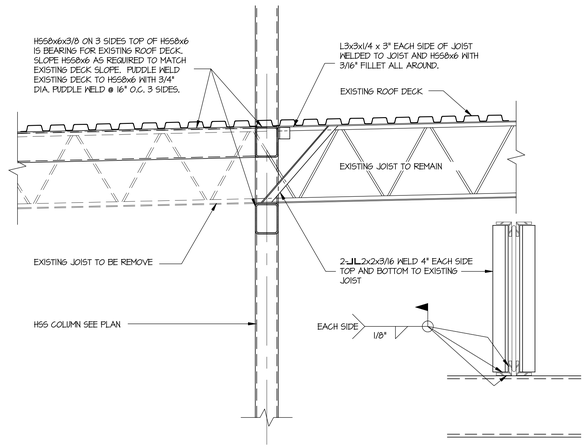


4 SECTION

SCALE: 3/4"=1'-0"



5 SECTION

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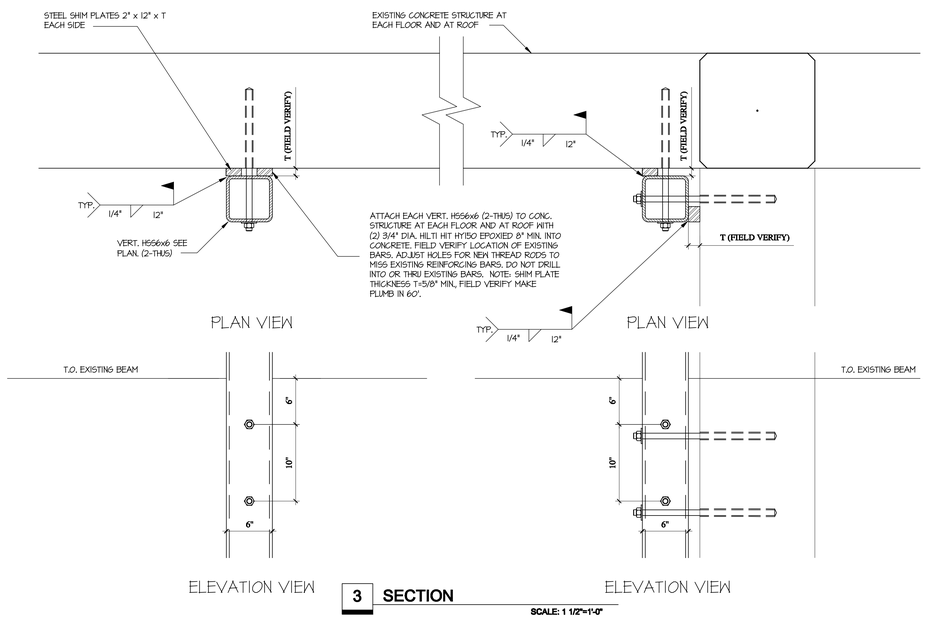

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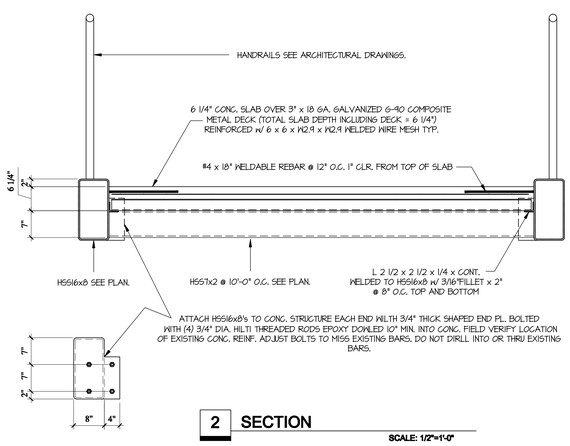
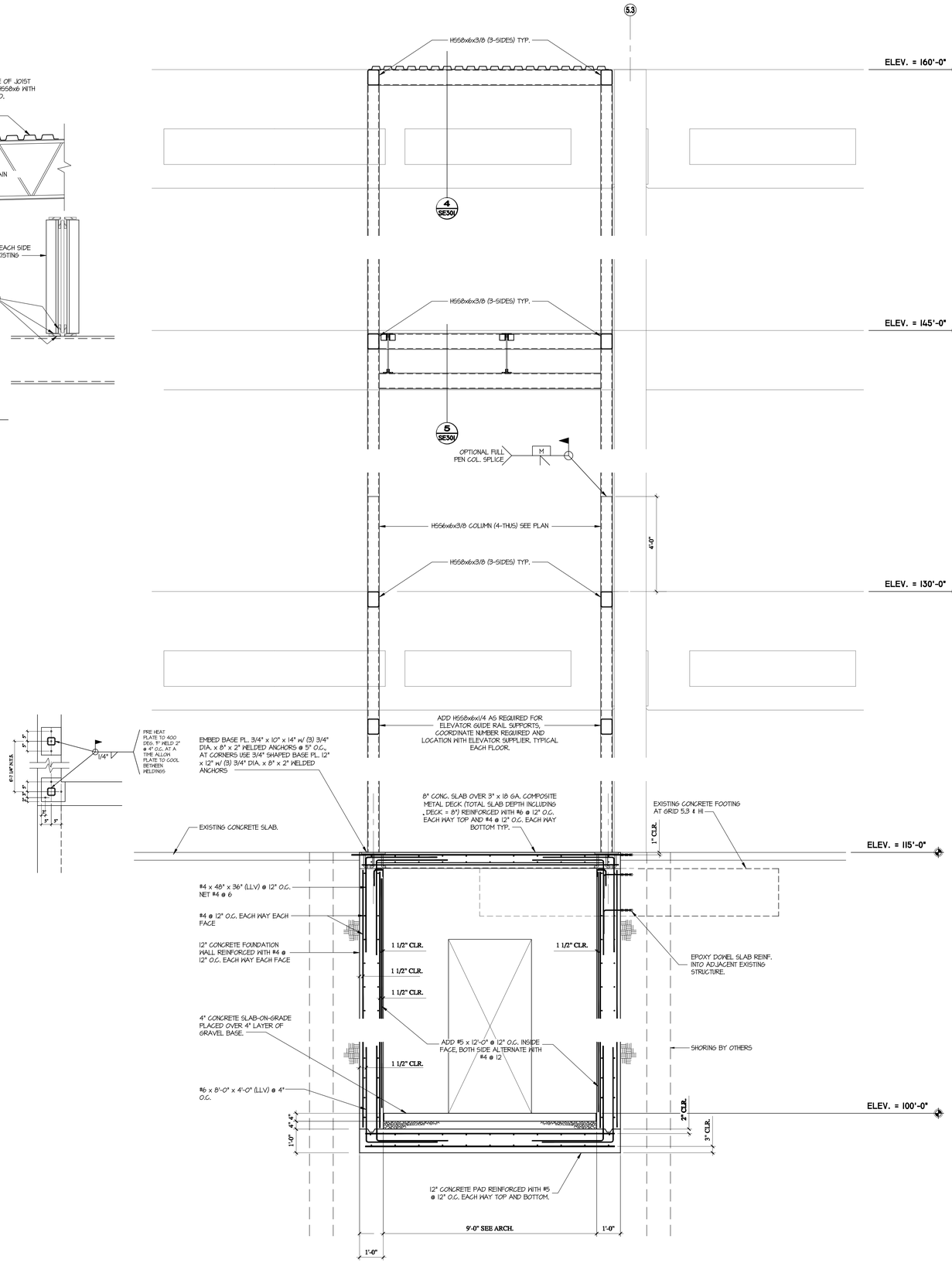


2 SECTION

SCALE: 1/2"=1'-0"



1 SECTION

SCALE: 1/2"=1'-0"

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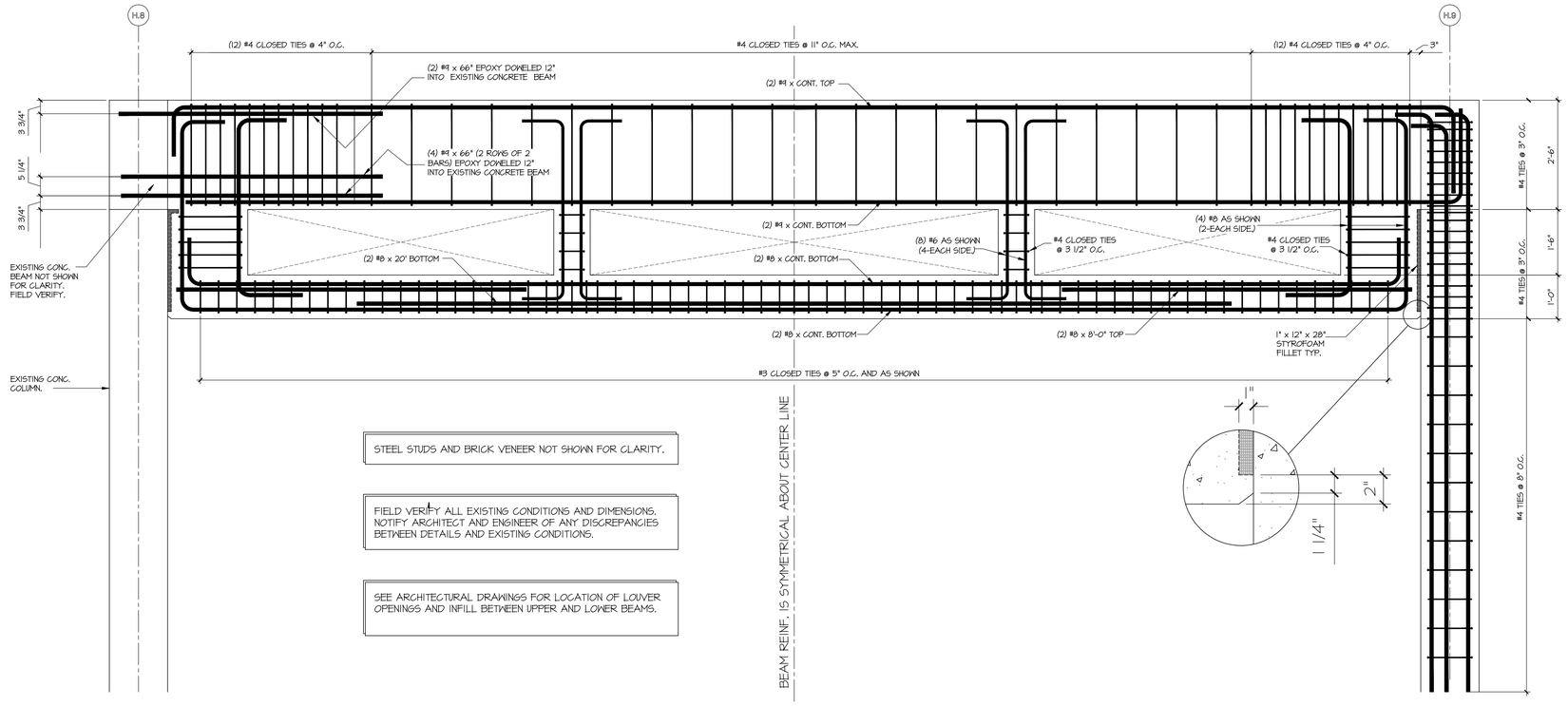
Axis Job # 28035
Owner # DFCM
Date 07-11-2008
Drawn -
Checked -

SECTIONS

SE301



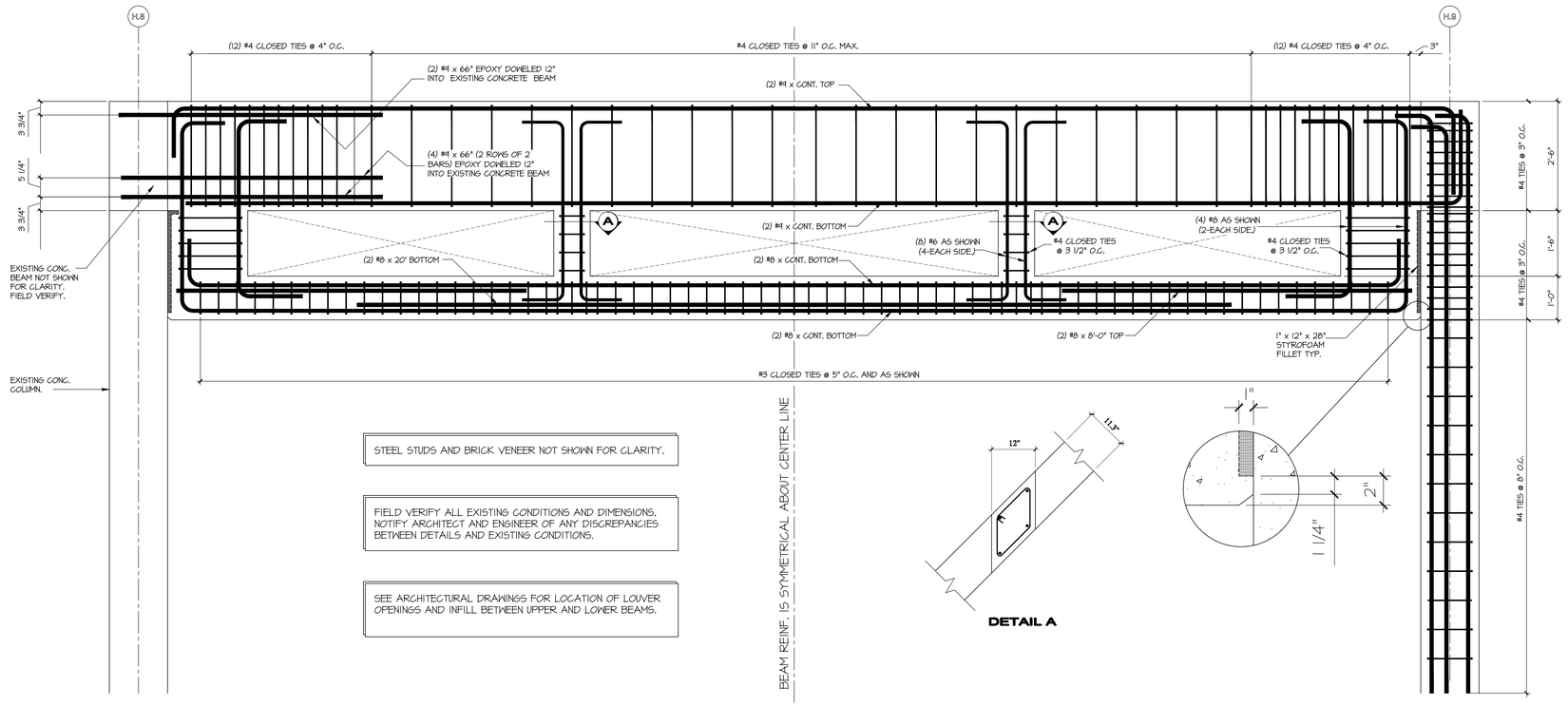
STEEL STUDS AND BRICK VENEER NOT SHOWN FOR CLARITY.

FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES BETWEEN DETAILS AND EXISTING CONDITIONS.

SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF LOUVER OPENINGS AND INFILL BETWEEN UPPER AND LOWER BEAMS.

1 ELEVATION

SCALE: 3/4"=1'-0"



STEEL STUDS AND BRICK VENEER NOT SHOWN FOR CLARITY.

FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES BETWEEN DETAILS AND EXISTING CONDITIONS.

SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF LOUVER OPENINGS AND INFILL BETWEEN UPPER AND LOWER BEAMS.

DETAIL A

2 ELEVATION

SCALE: NOT TO SCALE

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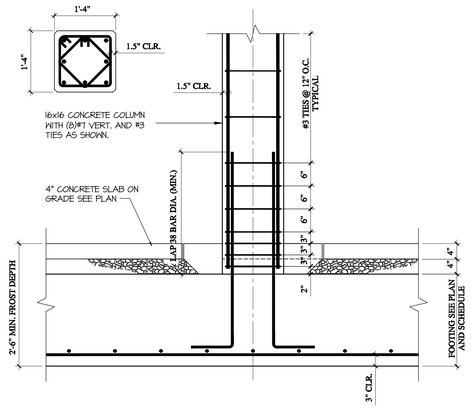
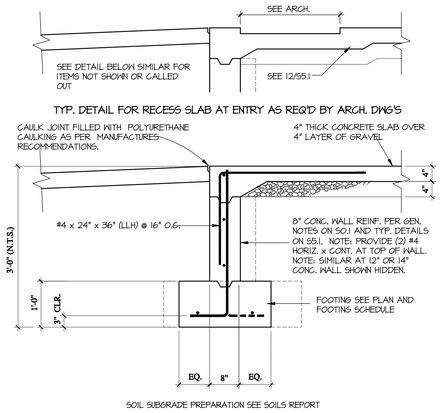
ELEVATIONS

SE302



1 SECTION

SCALE: 3/4"=1'-0"



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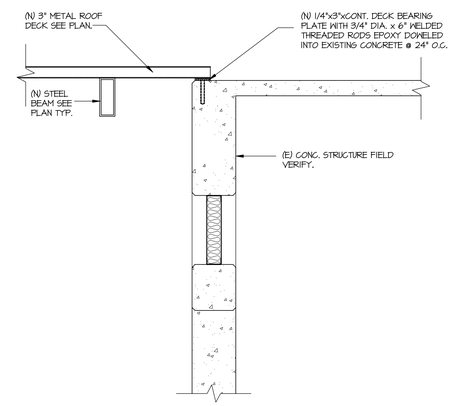

2 SECTION

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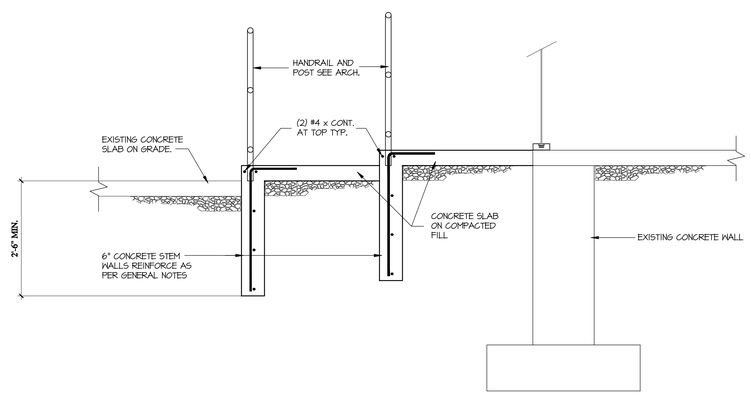

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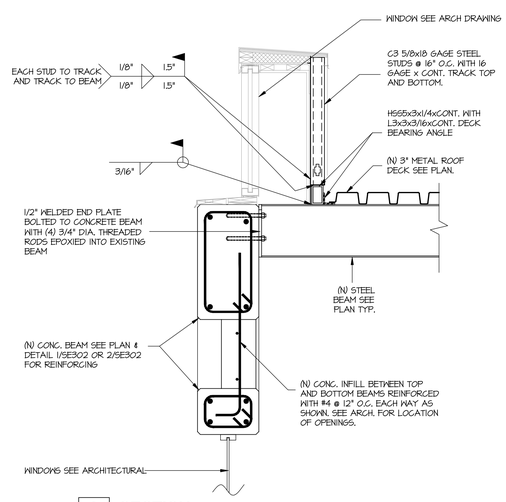
SCALE: 3/4"=1'-0"



3 SECTION

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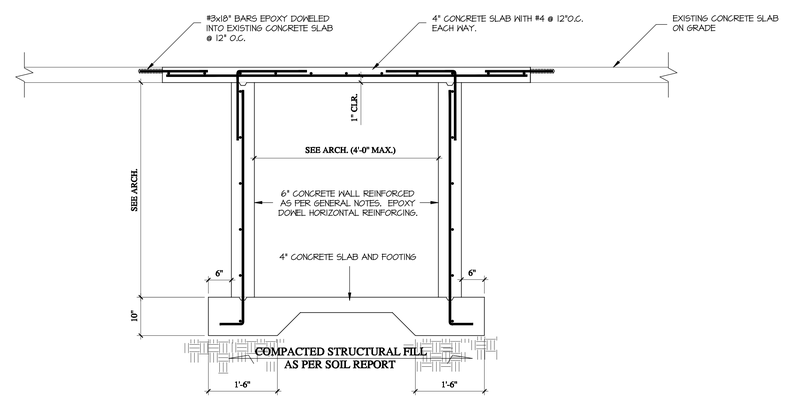

6 SECTION

SCALE: 3/4"=1'-0"

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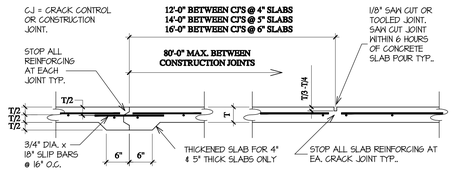
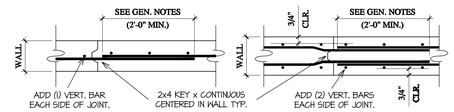
SECTIONS

SE303

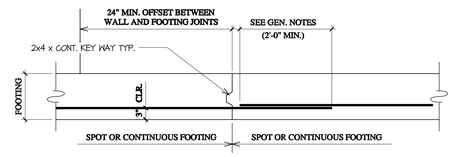


NOTE: CONCRETE SLABS TEND TO CRACK IN SQUARE PATTERNS, OFF OF WALL CORNERS, AT COLUMNS, AND AT OPENINGS IN SLAB. SUGGESTED C.J LENGTH TO WIDTH PATTERN RATIO IS : L TO 2L = W ASSUMING L>W, PROVIDE C.J's OF WALL CORNERS, CENTERED ON COLUMNS, AND BETWEEN THICKENED SLAB FOOTINGS AND MAINTAIN L:W RATIO

TYPICAL CONSTRUCTION JOINT AND CRACK CONTROL JOINT IN CONCRETE SLAB-ON-GRADE

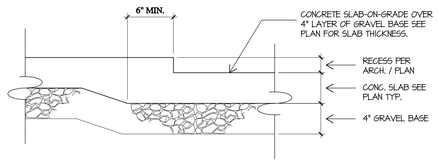


TYPICAL CONCRETE WALL CONSTRUCTION JOINT



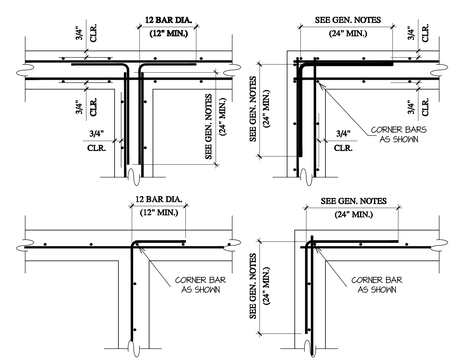
TYPICAL FOOTING CONSTRUCTION JOINT

1 DETAIL



TYPICAL SLAB RECESS DETAIL

2 DETAIL



TYP. CONCRETE WALL INTERSECTION

TYP. CONCRETE WALL CORNER

3 DETAIL

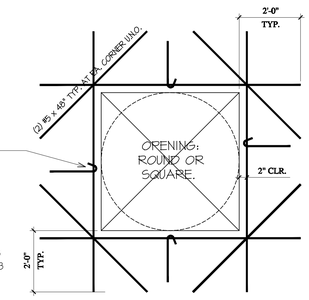
WALL OPENING SIZE AND REINFORCING:

UP TO 1'-0" ...(2)#6
1'-0" TO 10'-0" ...(2)#7
10'-0" TO 12'-0" ...(2)#8
NOTE: BARS ABOVE OPENING ONLY.

HOOK ALL REBARS AT DISCONTINUOUS ENDS TYP.

SLAB OPENING SIZE AND REINFORCING:

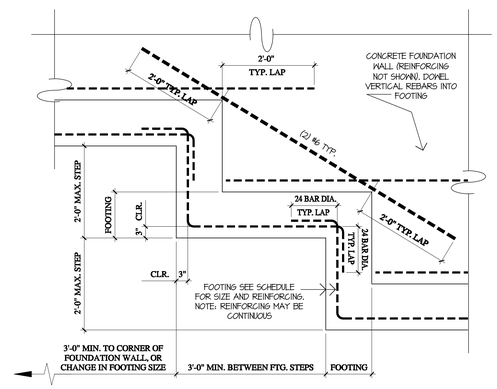
12" TO 18" ...(1)#4 T & B
19" TO 29" ...(2)#4 T & B
30" TO 48" ...(2)#5 T & B
ABOVE 48"...SEE DRAWINGS



NOTE: SLAB REINFORCING IS TOP AND BOTTOM ALL AROUND OPENING PLUS DIAGONAL BARS AS SHOWN. WHEN SLAB REINFORCING IS INTERUPTED BY AN OPENING, THEN PLACE FULL LENGTH BARS EACH SIDE OF OPENING TO EQUAL NUMBER OF BARS INTERUPTED BY OPENING.

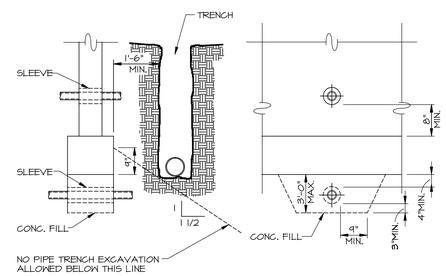
TYPICAL REINFORCING LAYOUT AROUND OPENINGS IN CONC. WALL OR SLAB.

4 DETAIL



TYPICAL CONCRETE STEP DETAIL

5 DETAIL



NOTE: CONCRETE FILL TO BE THE SAME WIDTH AS FOOTING & FULL WIDTH OF PIPE TRENCH. PIPE TO CLEAR SLEEVE BY 1/2" ALL AROUND

TYP. PIPES AT CONCRETE FOOTING

6 DETAIL

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TYPICAL DETAILS

SE501

LEGEND OF MECHANICAL SYMBOLS AND ABBREVIATIONS

MECHANICAL

- POSITIVE PRESSURE DUCT – RISE
- POSITIVE PRESSURE DUCT – DROP
- NEGATIVE PRESSURE DUCT – RISE
- NEGATIVE PRESSURE DUCT – DROP
- ROUND DUCT – RISE
- ROUND DUCT – DROP
- UNDER FLOOR DUCT
- TURNING VANES
- FRESH AIR LOUVER
- RELIEF AIR OR EXHAUST AIR LOUVER
- 12X12 / 200 — CEILING SUPPLY DIFFUSER
- 22X22 / 200 — CEILING RETURN REGISTER
- 12X12 / 200 — CEILING EXHAUST REGISTER, (BALANCE TO MATCH SUPPLY IF RETURN CFM IS NOT SHOWN)
- 24X10 / 200 — SIDEWALL SUPPLY REGISTER
- 24X10 / 200 — SIDEWALL EXHAUST OR RETURN REGISTER
- 12X12 / 200 — CEILING SUPPLY DIFFUSER WITH FLEXIBLE DUCT
- 12X12 / 200 — CEILING AIR GRILLE WITH FLEXIBLE DUCT

  (TOP FIGURES INDICATE NECK SIZE. BOTTOM FIGURE INDICATES CFM.)
- CEILING RETURN AIR GRILE W/ SOUND BOOT
- 3–1" SLOTS / 48" 400 — LINEAR DIFFUSER WITH PLENUM AND FLEXIBLE DUCT CONNECTION. NO. OF SLOTS & SIZE OF SLOT ON TOP, ACTIVE LENGTH AND CFM ON BOTTOM
- FLEXIBLE DUCT CONNECTION
- FLEXIBLE DUCT
- FAN
- 12/8 FO — FLAT OVAL DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12/8 — RECTANGULAR DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- 12ø — ROUND DUCT WITH NET INSIDE DIMENSIONS SHOWN IN INCHES.
- UP — INCLINED RISE
- DN — INCLINED DROP

  (WITH RESPECT TO AIR FLOW 15° NOMINAL INCLINE WITH RADIUS TURNS=DEPTH OF DUCT.)
- W R — R/W=1. ROUND DUCT SIMILAR TO RECTANGULAR
- 12/12 8/8 — RECTANGULAR TO RECTANGULAR OR ROUND TO ROUND DUCT TRANSFORMATION MAXIMUM 15° INCLUDED ANGLE EXCEPT WHERE SHOWN OTHERWISE.
- 12/12 12ø — RECTANGULAR TO ROUND DUCT TRANSFORMATION
- R — BRANCH DUCT SPLIT WITH 6" WIDTH AND MIN. R=WIDTH OF BRANCH DUCT DOWNSTREAM. ELBOW TURNING VANE OPTIONAL.
- 150 250 45° D — TAP ENTRY AREA EQUALS 150% OF BRANCH AREA
- 12ø 12/12 — HIGH EFFICIENCY FITTING
- MANUAL VOLUME DAMPER
- FD — FIRE DAMPER IN DUCT, W/ ACCESS PANEL REQD.
- FSD — COMBINATION FIRE/SMOKE DAMPER W/ ACCESS PANEL
- SD — SMOKE DAMPER W/ ACCESS PANEL
- BDD — BACK DRAFT DAMPER
- ATC OR — ATC DAMPER
- AD — ACCESS PANEL IN DUCT OR PLENUM
- HEATING OR COOLING COIL IN DUCT
- SINGLE DUCT AIR TERMINAL BOX VARIABLE OR CONSTANT VOLUME. MIN. 1–1/2 TERMINAL INLET SIZE STRAIGHT DUCT AT TERMINAL INLET.
- 4–WAY BLOW PATTERN
- 3–WAY BLOW PATTERN
- 2–WAY BLOW PATTERN
- 2–WAY BLOW PATTERN
- 1–WAY BLOW PATTERN
- SD — DUCT SMOKE DETECTOR
- UNIT HEATER

PLUMBING

- FLOOR SINK
- FLOOR DRAIN
- FCO / COTG — FLOOR CLEAN–OUT OR CLEAN–OUT TO GRADE
- ROOF DRAIN
- DOWNSPOUT NOZZLE
- ARROW INDICATES DIRECTION OF FLOW IN PIPE
- CHECK VALVE
- PRESSURE REDUCING, EXTERNAL PRESSURE VALVE
- PRESSURE REDUCING, SELF CONTAINED VALVE
- ATC VALVE – 2 WAY
- ATC VALVE – 3 WAY
- SOLENOID VALVE
- GATE VALVE
- GATE VALVE – NON RISING STEM
- GLOBE VALVE
- TEMPERATURE AND PRESSURE TEST PORT
- PS — PRESSURE SWITCH
- GAS COCK
- 0.8 GPM — CALIBRATED BALANCING VALVE WITH GPM INDICATED
- RPBP — REDUCED PRESSURE BACKFLOW PREVENTOR W/ DRAIN PAN
- BRANCH – BOTTOM CONNECTION
- BRANCH – TOP CONNECTION
- BRANCH – SIDE CONNECTION
- RISE OR DROP
- RISER – DOWN (ELBOW)
- RISER – DOWN (ELBOW)
- VTR — VENT THRU ROOF
- WATER HAMMER ARRESTOR
- INLINE PUMP
- INLINE PUMP
- CLEAN–OUT
- RELIEF VALVE
- ANGLE VALVE
- FLOW METER
- UNION
- BALANCING COCK
- SHUT–OFF COCK FOR USE WITH PRESSURE GAUGE
- FLEXIBLE EXPANSION JOINT
- THERMOMETER – TEMP RANGE AS INDICATED
- PRESSURE GAUGE WITH SHUT–OFF COCK
- PRESSURE GAUGE WITH PIGTAIL
- LATERAL STRAINER WITH BLOW–OFF VALVE, PROVIDE HOSE END WITH CAP WHERE DISCHARGE IS NOT PIPED TO DRAIN
- BALL VALVE (PIPE SIZES 2" AND SMALLER) BUTTERFLY VALVE (PIPE SIZES 2–1/2" AND LARGER)
- MOTOR OPERATED BUTTERFLY VALVE
- VALVE IN RISE
- AIR VENT–MANUAL
- AIR VENT–AUTO
- FLOW SWITCH
- REDUCER
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER

PLUMBING CONT.

- THERMOSTATIC MIXING VALVE
- HOSE BIBB
- PIPE CAP
- S — SWITCH
- S — SENSOR
- T — THERMOSTAT
- TN — NIGHT THERMOSTAT
- FILL PORT
- DRAIN PAN AND P–TRAP
- (NAME) — FIXTURE FROM LEVEL ABOVE
- GPM / LB/HR. — FLOW METER ORIFICE
- FLANGE
- 90° ELBOW
- STEAM TRAP, F&T=FLOAT & THERMOSTATIC 45° ELBOW
- F&T — B=BUCKET, T=THERMOSTATIC
- DN — LEADER INDICATES DOWNWARD SLOPE
- DEMOLITION
- ALIGNMENT GUIDE
- ANCHOR
- LUBRICATED PLUG COCK

SYMBOLS

- P–1 — PLUMBING FIXTURES
- POINT OF CONNECTION
- A / M–101 — SECTION TAG – TOP FIGURE IS SECTION NO. BOTTOM FIGURE IS SHEET NO.
- A / M101 — DETAIL TAG – TOP FIGURE IS DETAIL NO. BOTTOM FIGURE IS SHEET NO.
- EF / 1 — EQUIPMENT IDENTIFICATION
- 1 — KEYED NOTE IDENTIFICATION

FIRE

- HOSE VALVE
- NRS GATE VALVE WITH SUPERVISION
- FLOW SWITCH
- FIRE RISER
- SPRINKLER HEAD
- F — FIRE SPRINKLER WATER

LINETYPES

- AV — ACID VENT
- AW — ACID WASTE
- BBD — BOILER BLOW DOWN
- BF — BOILER FEED WATER
- B — BRINE
- CO2 — CARBON DIOXIDE
- CA — COMPRESSED AIR
- CF — CHEMICAL FEED
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- CS — CONDENSER WATER SUPPLY
- CR — CONDENSER WATER RETURN
- DOMESTIC COLD WATER (DCW)
- DOMESTIC HOT WATER (DHW)
- DOMESTIC HOT WATER RETURN (DHWR)
- DI — DEIONIZED WATER SUPPLY
- DIR — DEIONIZED WATER RETURN
- E(NAME) — EXISTING PIPING
- (NAME) — EXISTING PIPING TO BE REMOVED
- GHR — GLYCOL HEAT RECOVERY PIPING
- G(NAME) — GLYCOL PIPING SOLUTION
- FOR — FUEL OIL RETURN
- FOS — FUEL OIL SUPPLY
- FOV — FUEL OIL VENT
- G — NATURAL GAS
- HG — HOT GAS
- HFR — HELICOPTER FUEL RETURN
- HFS — HELICOPTER FUEL SUPPLY
- HP(NAME) — HIGH PRESSURE DOMESTIC WATER
- HPC — HIGH PRESSURE CONDENSATE
- HPS — HIGH PRESSURE STEAM
- HWR — HEATING HOT WATER RETURN
- HWS — HEATING HOT WATER SUPPLY
- IA — INSTRUMENT AIR
- IA 120 — INSTRUMENT AIR AT PRESSURE INDICATED
- LA — LAB AIR
- LV — LAB VACUUM
- LPC — LOW PRESSURE CONDENSATE
- LPG — LIQUIFIED PETROLEUM GAS
- LPS — LOW PRESSURE STEAM
- MA — MEDICAL AIR
- MA 120 — MEDICAL AIR AT PRESSURE INDICATED
- MPC — MEDIUM PRESSURE CONDENSATE
- MPS — MEDIUM PRESSURE STEAM
- MUW — MAKE UP WATER
- MV — MEDICAL VACUUM
- N — NITROGEN
- N2O — NITROUS OXIDE
- OX — MEDICAL OXYGEN
- OX 120 — MEDICAL OXYGEN AT PRESSURE INDICATED
- PUMPED CONDENSATE

LINETYPES CONT.

- RO — REVERSE OSMOSIS WATER SUPPLY
- ROR — REVERSE OSMOSIS WATER RETURN
- RD — ROOF DRAIN
- RDO — ROOF DRAIN OVERFLOW
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- SEWER (BELOW GRADE)
- SEWER (ABOVE GRADE)
- SW — SOFT DOMESTIC WATER (SW)
- V — VACUUM
- VENT (SEWER)

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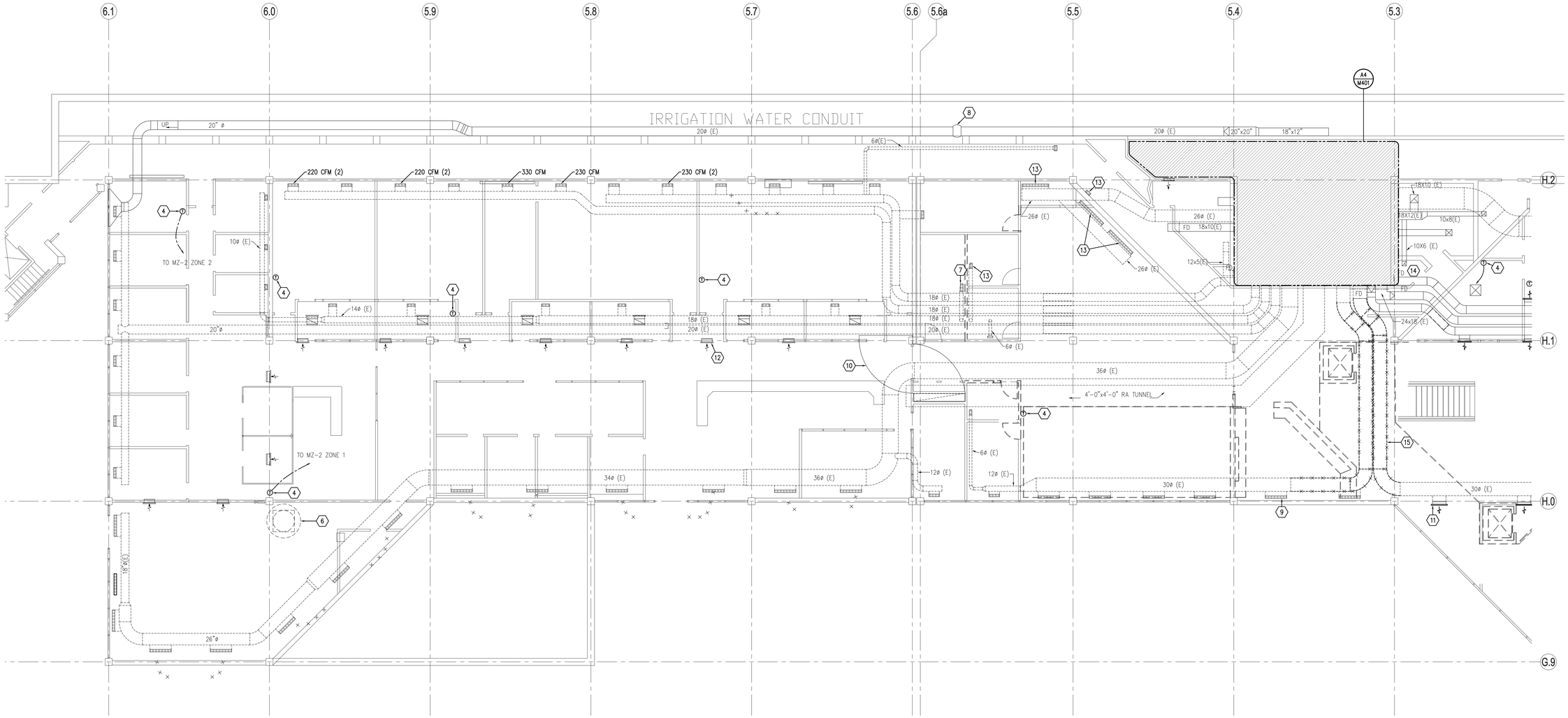
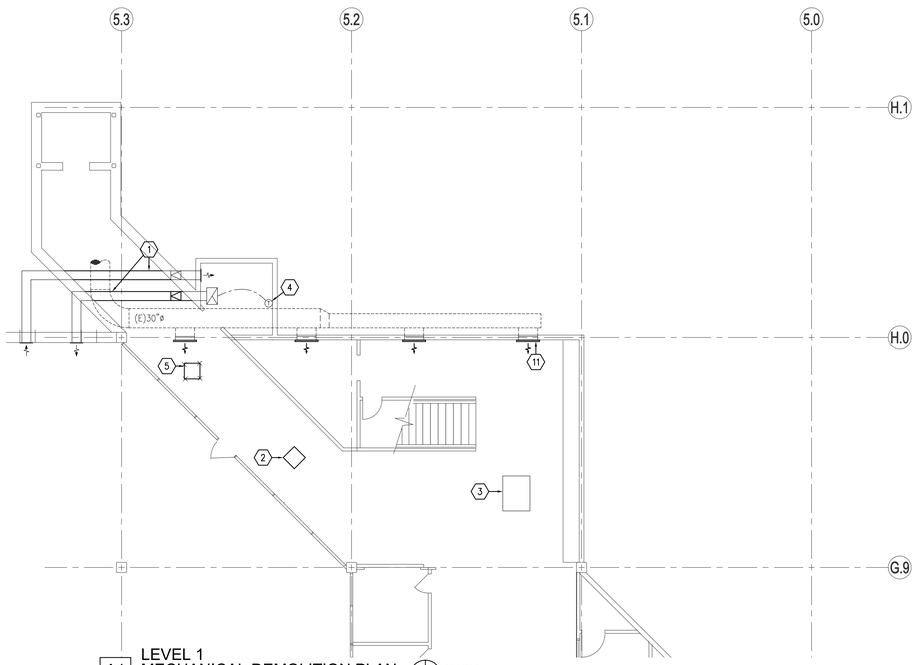
MECHANICAL SYMBOLS AND ABBREVIATIONS

M000



B4 LEVEL 2
MECHANICAL DEMOLITION PLAN
SCALE: 1/8"=1'-0"
PROJECT NORTH



A1 LEVEL 1
MECHANICAL DEMOLITION PLAN
SCALE: 1/8"=1'-0"
PROJECT NORTH

KEYED NOTES

1. REMOVE EXISTING ELEVATOR ROOM EXHAUST AND INTAKE DUCTS AS REQUIRED TO FACILITATE CONSTRUCTION OF NEW CORRIDOR.
2. REMOVE EXISTING TERMINAL HVAC UNIT AND ASSOCIATED DUCTS, PIPES, AND DIFFUSERS. REMOVE PIPING BACK TO NEAREST MAIN AND CAP.
3. EXISTING TERMINAL HVAC UNIT TO REMAIN.
4. REMOVE EXISTING THERMOSTAT.
5. REMOVE EXISTING TERMINAL HVAC UNIT AND RELOCATE TO NEW OFFICE, REFER TO MH102.
6. EXISTING ROOF RELIEF HOOD AND DAMPER TO REMAIN.
7. REMOVE EXISTING FLOOR SUPPLY GRILLE, PROTECT SUPPLY OPENING DURING CONSTRUCTION.
8. EXISTING INLINE EXHAUST FAN TO REMAIN.
9. EXISTING FLOOR SUPPLY GRILLE, TYPICAL.
10. EXISTING RETURN AIR TRANSER DUCT.
11. EXISTING SIDEWALL SUPPLY GRILLES.
12. EXISTING HIGH SIDEWALL RETURN, TYPICAL.
13. EXISTING FLOOR RETURN GRILLE.
14. EXISTING FIRE DAMPERS TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.

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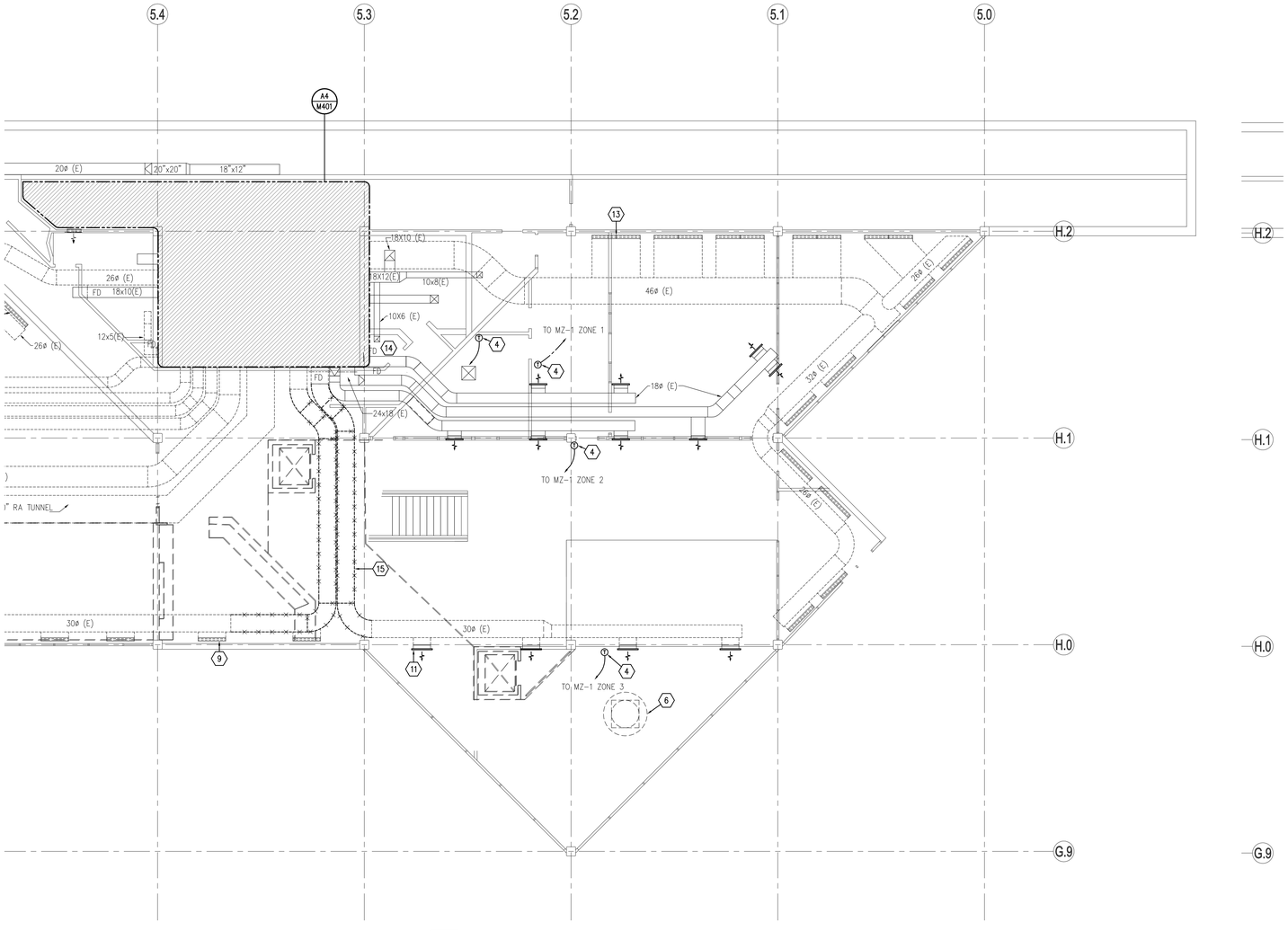
LEVEL TWO
MECHANICAL DEMOLITION PLAN

MD102

KEYED NOTES

1. NOT USED.
2. NOT USED.
3. NOT USED.
4. REMOVE EXISTING THERMOSTAT.
5. NOT USED.
6. EXISTING ROOF RELIEF HOOD AND DAMPER TO REMAIN.
7. NOT USED.
8. NOT USED.
9. EXISTING FLOOR SUPPLY GRILLE, TYPICAL.
10. NOT USED.
11. EXISTING SIDEWALL SUPPLY GRILLES.
12. NOT USED.
13. EXISTING FLOOR RETURN GRILLE.
14. EXISTING FIRE DAMPERS TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.
15. REMOVE EXISTING UNDERFLOOR SUPPLY DUCT AS INDICATED.



C1 LEVEL 2 MECHANICAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

Axis Architects

352 SOUTH DENVER STREET(440 EAST) SALT LAKE CITY UTAH 84111 P 355-3003 F 355-0113

LICENSED PROFESSIONAL ENGINEER No. 4775391 SPENCER W. HOWELL STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

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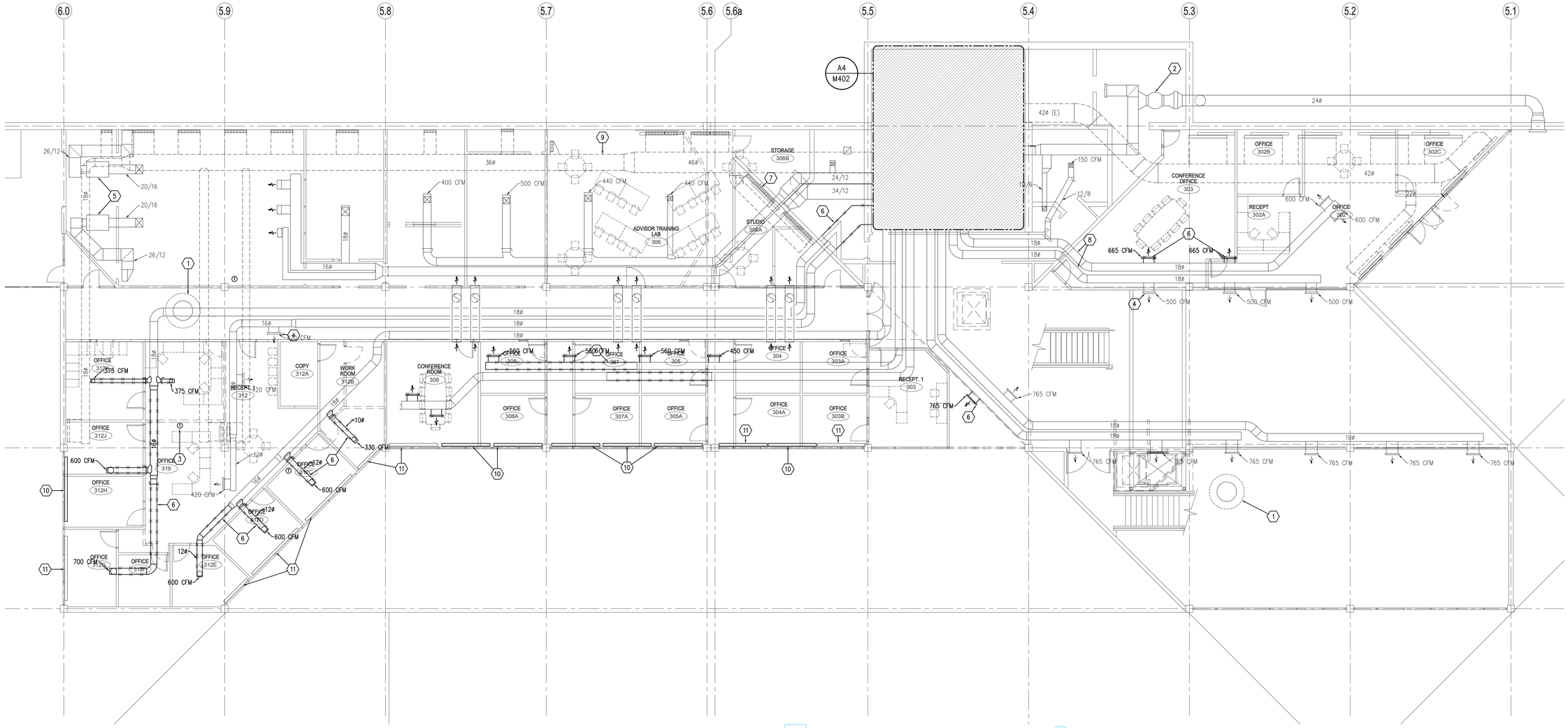
LEVEL TWO
MECHANICAL DEMOLITION PLAN

MD102B



C1 LEVEL 3 MECHANICAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING ROOF RELIEF HOOD AND DAMPER TO REMAIN.
2. EXISTING INLINE EXHAUST FAN TO REMAIN.
3. REMOVE EXISTING THERMOSTATS. CAP PNEUMATIC LINES AT NEAREST MAIN AS REQUIRED BY DEMOLITION. TYPICAL OF ALL EXISTING THERMOSTATS.
4. EXISTING DUCT MOUNT SUPPLY GRILLE.
5. EXISTING HEAT PUMP AND ASSOCIATED DUCT WORK TO REMAIN.
6. REMOVE EXISTING SUPPLY DUCT AND SUPPLY DIFFUSERS AS INDICATED.
7. EXISTING FLOOR RETURN GRILLE.
8. OVERHEAD SUPPLY DUCT, TYPICAL.
9. EXISTING UNDERGROUND RETURN DUCT, TYPICAL.
10. REMOVE AND SALVAGE EXISTING ELECTRIC BASEBOARD FOR REINSTALLATION, REFER TO SHEET M103.
11. EXISTING ELECTRIC BASEBOARD TO REMAIN.

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, DOMESTIC WATER AND DOMESTIC HOT WATER PIPING TO REMAIN.
2. REMOVE EXISTING SUPPLY AND OUTSIDE AIR DUCTS AS INDICATED.
3. EXISTING FIRE DAMPERS SHALL REMAIN IN PLACE.
4. EXISTING EXHAUST DUCT TO REMAIN IN PLACE.
5. PROTECT OPENINGS OF EXISTING SUPPLY AND RETURN DUCTS AT WALL AND FLOOR PENETRATIONS EXPOSED DURING DEMOLITION.
6. EXISTING HYDRONIC PIPING, NATURAL GAS PIPING, AND COMPRESSED AIR PIPING TO REMAIN UNLESS SPECIFICALLY NOTED OTHERWISE ON DEMOLITION PLANS.

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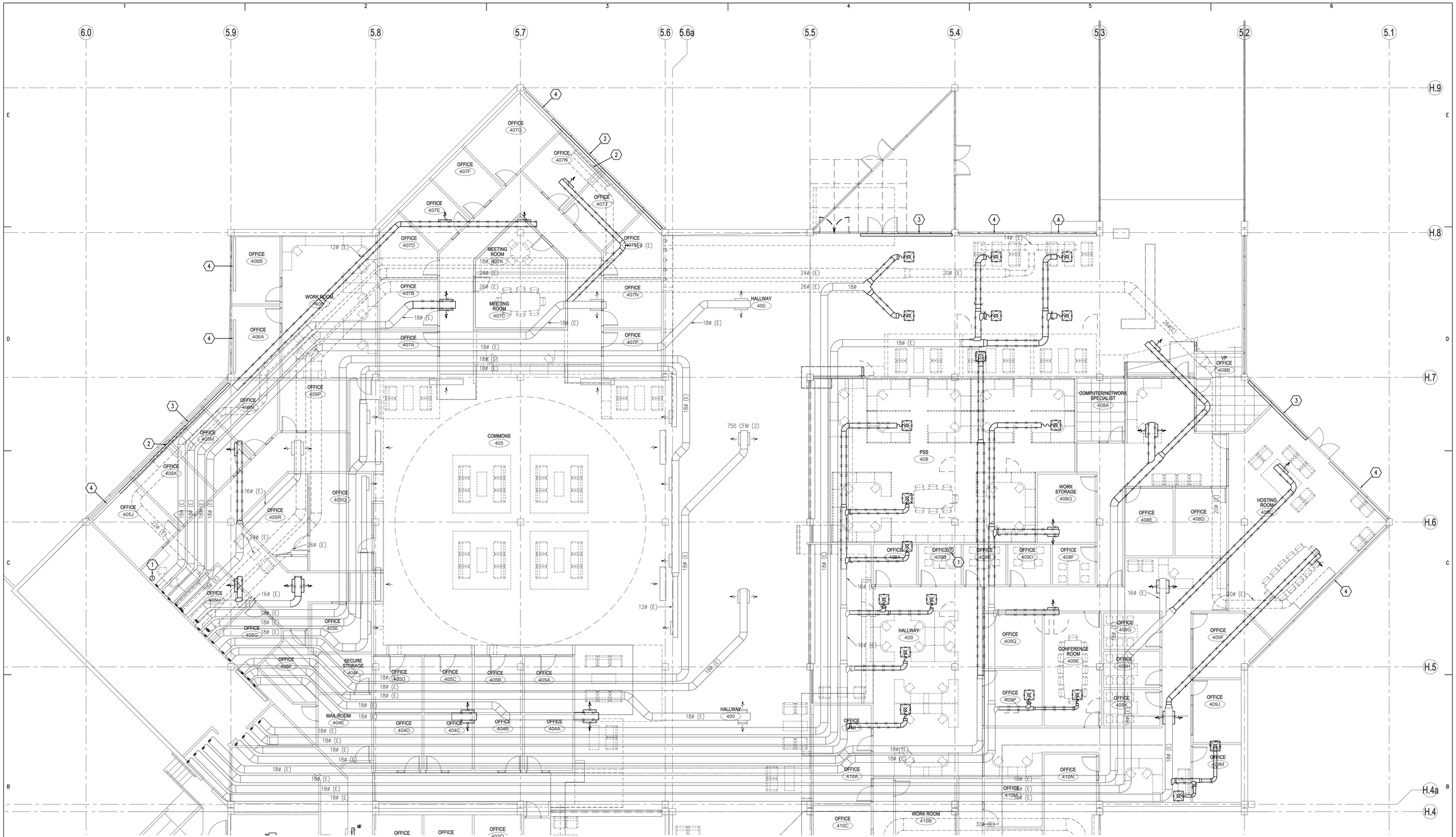
LEVEL THREE
MECHANICAL DEMOLITION PLAN

MD103



B1 LEVEL 4 MECHANICAL DEMOLITION PLAN (A)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. REMOVE EXISTING WALL THERMOSTAT. CAP PNEUMATIC LINES AT NEAREST MAIN AS REQUIRED BY DEMOLITION.
2. REMOVE EXISTING FLOOR RETURN GRILLE, PROTECT OPENING DURING CONSTRUCTION.
3. REMOVE AND SALVAGE EXISTING ELECTRIC BASEBOARD FOR REINSTALLATION, REFER TO SHEET M103.
4. EXISTING ELECTRIC BASEBOARD TO REMAIN.

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, DOMESTIC WATER AND DOMESTIC HOT WATER PIPING TO REMAIN.
2. REMOVE EXISTING SUPPLY AND OUTSIDE AIR DUCTS AND AIR OUTLETS AND INLETS AS INDICATED.
3. EXISTING FIRE DAMPERS SHALL REMAIN IN PLACE.
4. DO NOT RUN PIPING ABOVE ELECTRICAL PANELS. COORDINATE NEW RUNS OF PIPING WITH LOCATIONS OF EXISTING AND NEW ELECTRICAL PANELS.
5. EXISTING EXHAUST DUCT TO REMAIN IN PLACE.
6. PROTECT OPENINGS OF EXISTING SUPPLY AND RETURN DUCTS AT WALL AND FLOOR PENETRATIONS EXPOSED DURING DEMOLITION.

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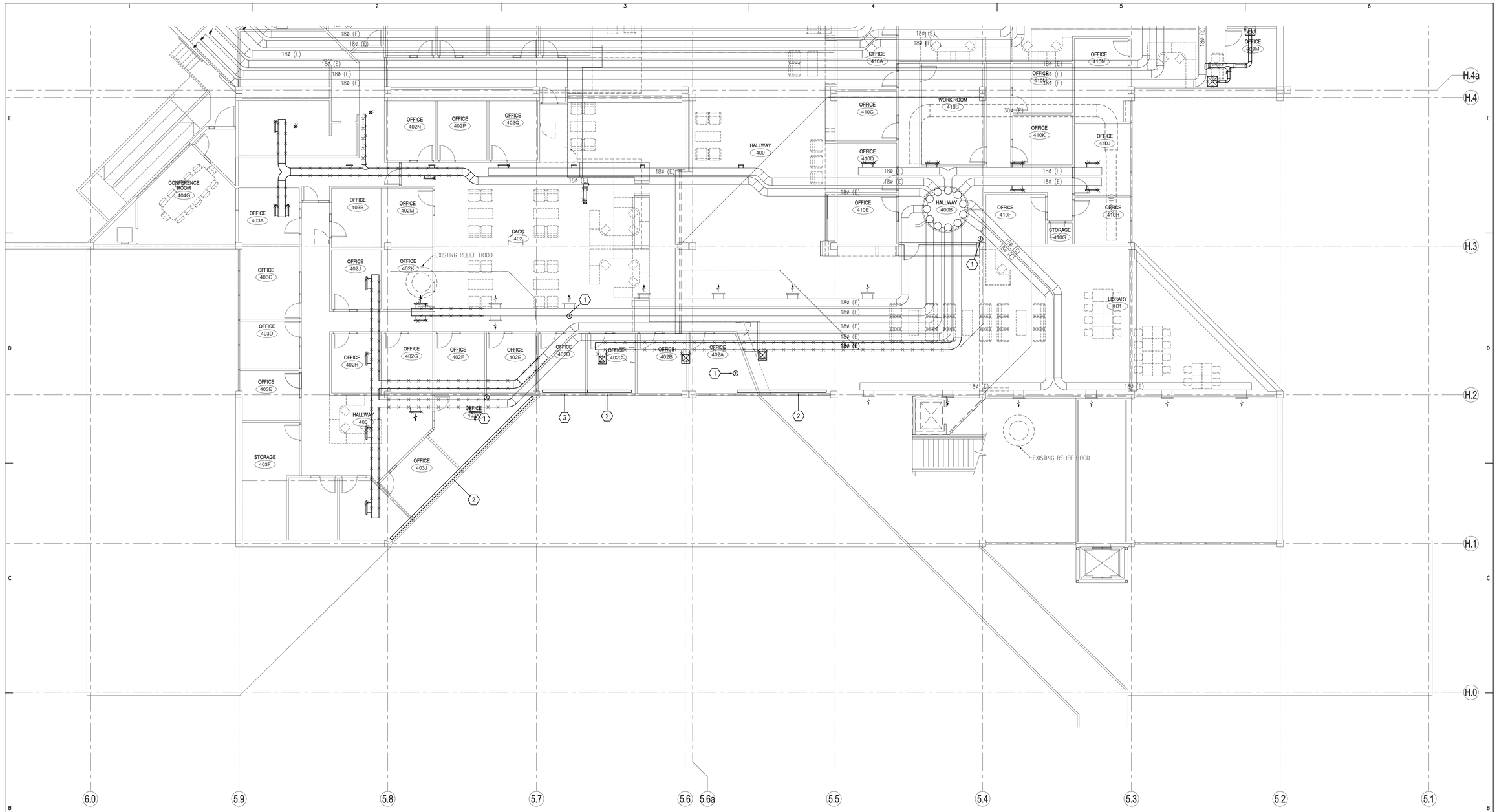
LEVEL FOUR (A)

MECHANICAL DEMOLITION PLAN

MD104A



B1 LEVEL 4 MECHANICAL DEMOLITION PLAN (B)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. REMOVE EXISTING THERMOSTATS, CAP PNEUMATIC LINES AT NEAREST MAIN.
2. REMOVE AND SALVAGE EXISTING ELECTRIC BASEBOARD FOR REINSTALLATION, REFER TO SHEET M103.
3. EXISTING ELECTRIC BASEBOARD TO REMAIN.

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, DOMESTIC WATER AND DOMESTIC HOT WATER PIPING TO REMAIN.
2. REMOVE EXISTING SUPPLY AND OUTSIDE AIR DUCTS AND AIR OUTLETS AND INLETS AS INDICATED.
3. EXISTING FIRE DAMPERS SHALL REMAIN IN PLACE.
4. DO NOT RUN PIPING ABOVE ELECTRICAL PANELS. COORDINATE NEW RUNS OF PIPING WITH LOCATIONS OF EXISTING AND NEW ELECTRICAL PANELS.
5. EXISTING EXHAUST DUCT TO REMAIN IN PLACE.
6. PROTECT OPENINGS OF EXISTING SUPPLY AND RETURN DUCTS AT WALL AND FLOOR PENETRATIONS EXPOSED DURING DEMOLITION.

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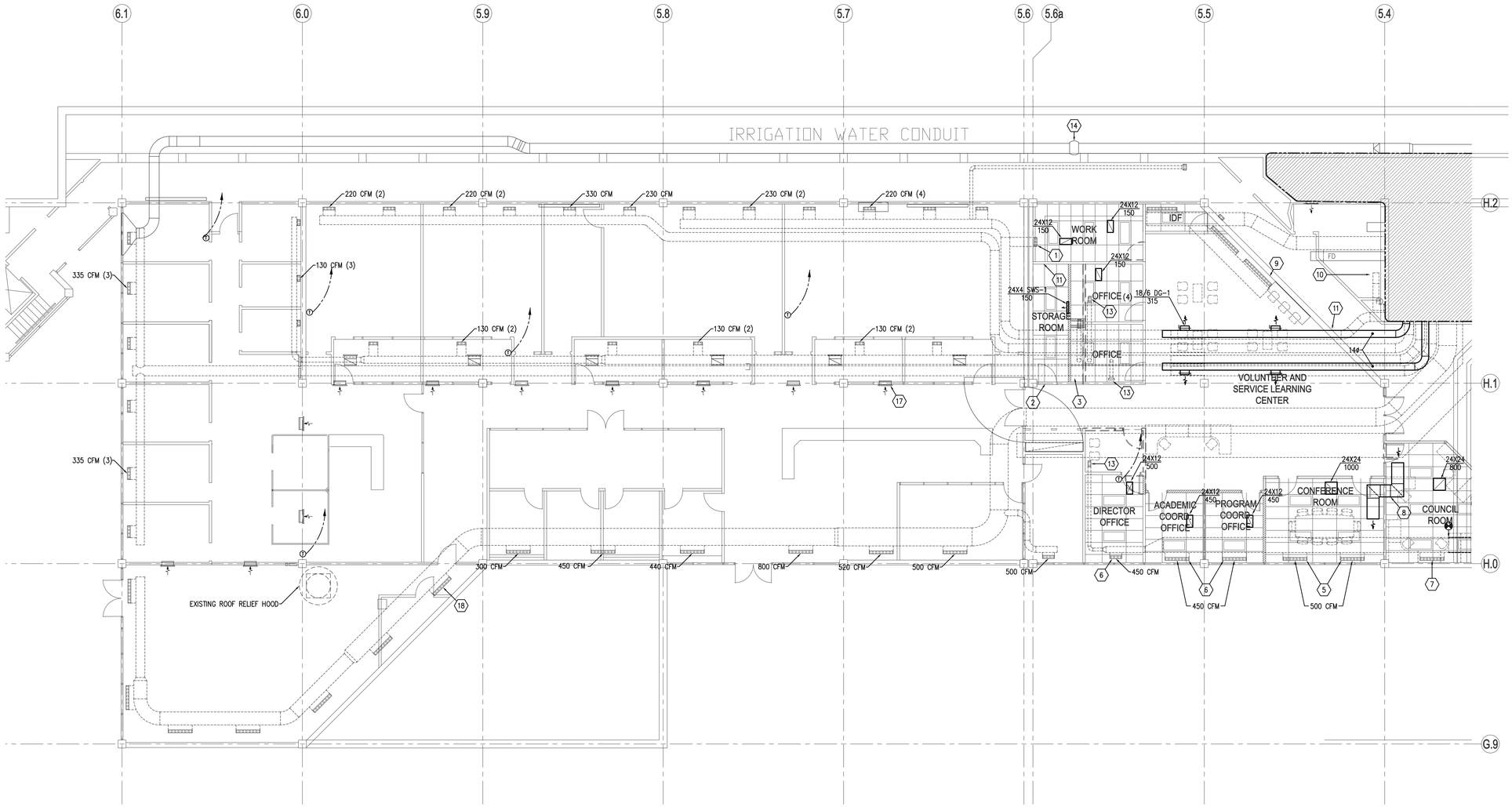
LEVEL FOUR (B)

MECHANICAL DEMOLITION PLAN

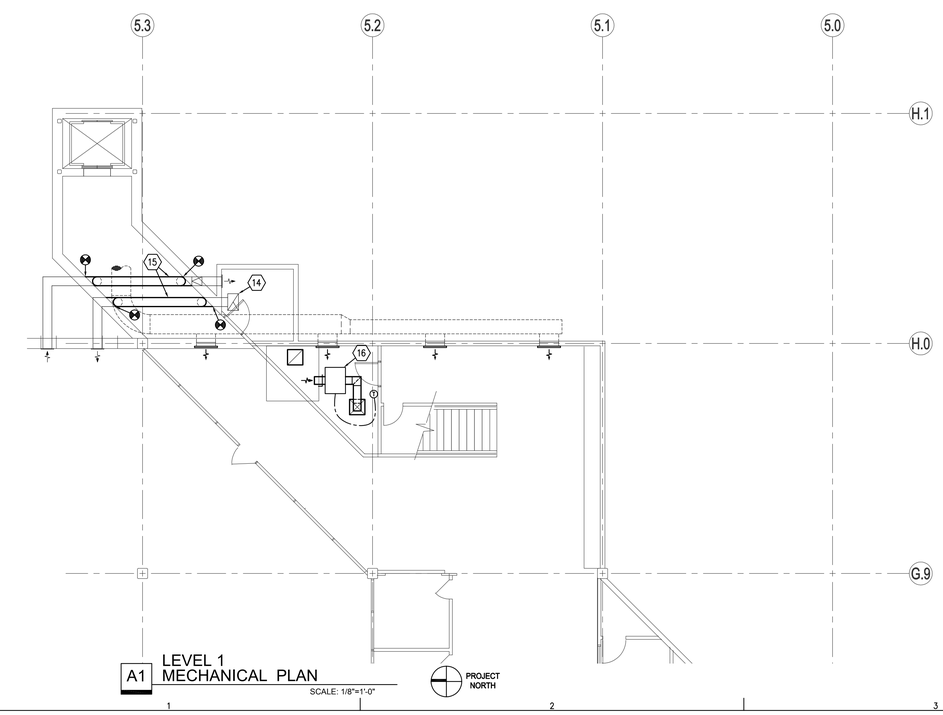
MD104B



C1 LEVEL 2 MECHANICAL PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH



A1 LEVEL 1 MECHANICAL PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING FLOOR SUPPLY REBALANCED TO 130 CFM.
2. REMOVE EXISTING TRANSFER GRILLES.
3. REMOVE EXISTING EXHAUST.
4. EXISTING FLOOR SUPPLY REBALANCED TO 130 CFM.
5. REBALANCE EXISTING FLOOR SUPPLY TO 500 CFM Ea.
6. REBALANCE EXISTING FLOOR SUPPLY TO 450 CFM.
7. REBALANCE EXISTING FLOOR SUPPLY TO 400 CFM.
8. 24X12 TRANSFER DUCT WITH 1" ACOUSTIC DUCT LINER.
9. EXISTING FLOOR RETURN GRILLES TO REMAIN UNLESS OTHERWISE NOTED.
10. REBALANCE EXISTING SUPPLY TO 100 CFM.
11. NOT USED.
12. COORDINATE PENETRATION THOUGH BEARING WALL WITH STRUCTURAL DRAWINGS.
13. EXISTING FLOOR SUPPLY GRILLE REBALANCED TO 150 CFM.
14. EXISTING EXHAUST FAN.
15. ROUTE NEW INTAKE AND EXHAUST TO MAINTAIN MAXIMUM HEIGHT CLEAR IN NEW HALLWAY.
16. REINSTALL EXISTING TERMINAL HVAC UNIT AT NEW LOCATION SHOWN. EXTEND BRANCH PIPING FROM EXISTING LOCATION TO NEW.
17. EXISTING HIGH SIDEWALL RETURN.
18. ~~REBALANCE EXISTING FLOOR SUPPLY GRILLES TO 370~~ CFM EACH. TYPICAL OF SEVEN (7).

GENERAL NOTES

1. ALL CEILING SUPPLY DIFFUSERS SHALL BE CD-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601.
2. ALL CEILING RETURN GRILLES SHALL BE RG-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601. PROVIDE SOUND BOOT ON ALL UNDUCTED CEILING RETURN GRILLES, REFER TO MECHANICAL DETAILS M501. SIZE TO MATCH NECK OF GRILLE.
3. ALL CEILING EXHAUST GRILLES SHALL BE EG-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601.
4. REBALANCE EXISTING SUPPLY, RETURN AND EXHAUST TO VOLUMES NOTED ON PLANS.

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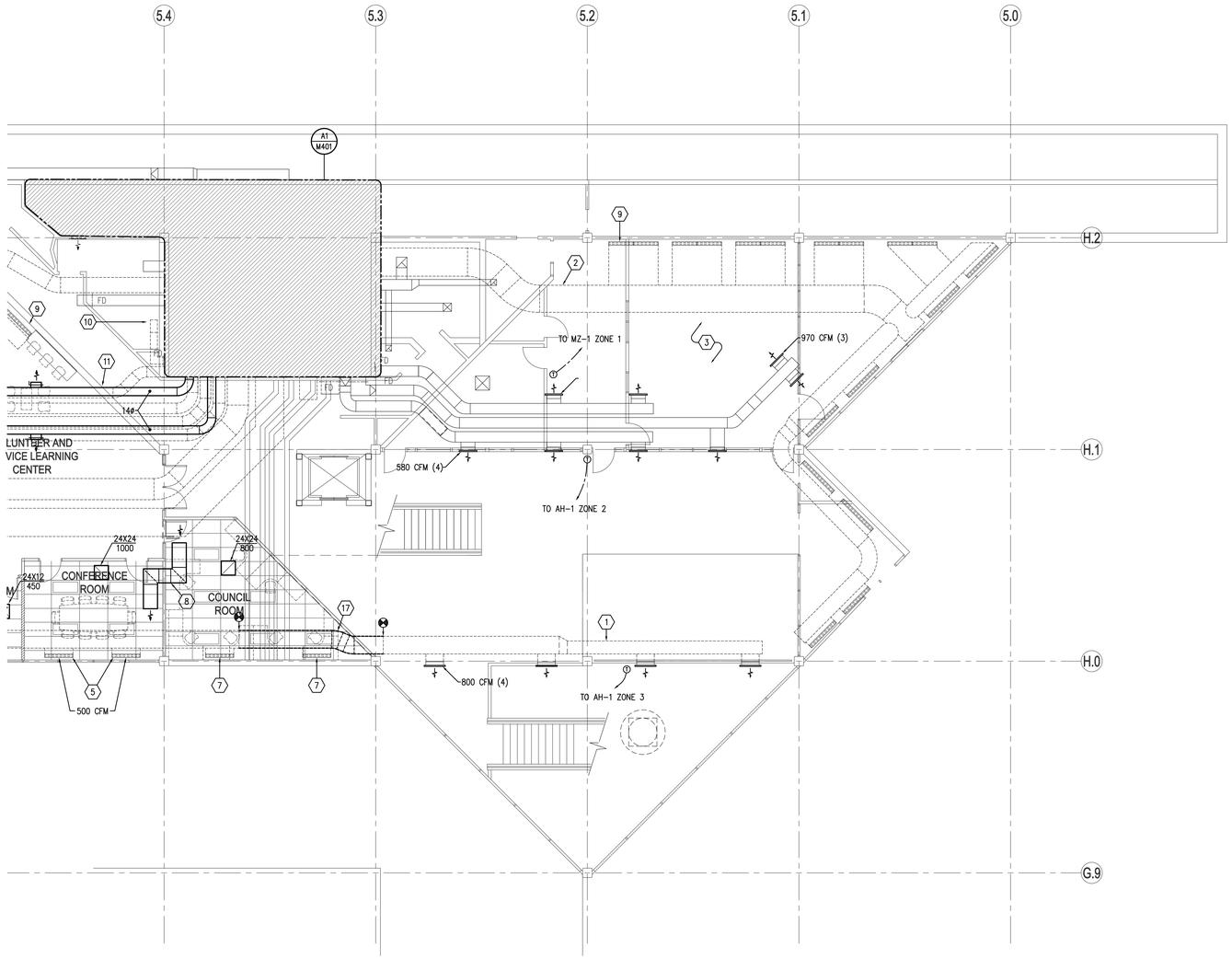
LEVEL TWO
MECHANICAL PLAN

M102A



C1 LEVEL 2 MECHANICAL PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING UNDER FLOOR SUPPLY DUCT.
2. EXISTING UNDER FLOOR RETURN DUCT.
3. EXISTING DUCT WORK AND DIFFUSERS TO REMAIN UNCHANGED THIS AREA.
4. NOT USED.
5. NOT USED.
6. NOT USED.
7. REBALANCE EXISTING SUPPLY TO 400 CFM.
8. NOT USED.
9. EXISTING FLOOR RETURN GRILLE TO REMAIN UNLESS OTHERWISE NOTED.
10. NOT USED.
11. NOT USED.
12. NOT USED.
13. NOT USED.
13. NOT USED.
14. NOT USED.
15. NOT USED.
16. NOT USED.
17. NEW MECHANICAL SUPPLY AIR TUNNEL. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS. PROVIDE BELL MOUTH TRANSITIONS FOR ALL DUCTS CONNECTING TO NEW TUNNEL.

GENERAL NOTES

1. ALL CEILING SUPPLY DIFFUSERS SHALL BE CD-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601.
2. ALL CEILING RETURN GRILLES SHALL BE RG-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601. PROVIDE SOUND BOOT ON ALL UNDUCTED CEILING RETURN GRILLES, REFER TO MECHANICAL DETAILS M501. SIZE TO MATCH NECK OF GRILLE.
3. ALL CEILING EXHAUST GRILLES SHALL BE EG-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601.
4. REBALANCE EXISTING SUPPLY, RETURN AND EXHAUST TO VOLUMES NOTED ON PLANS.

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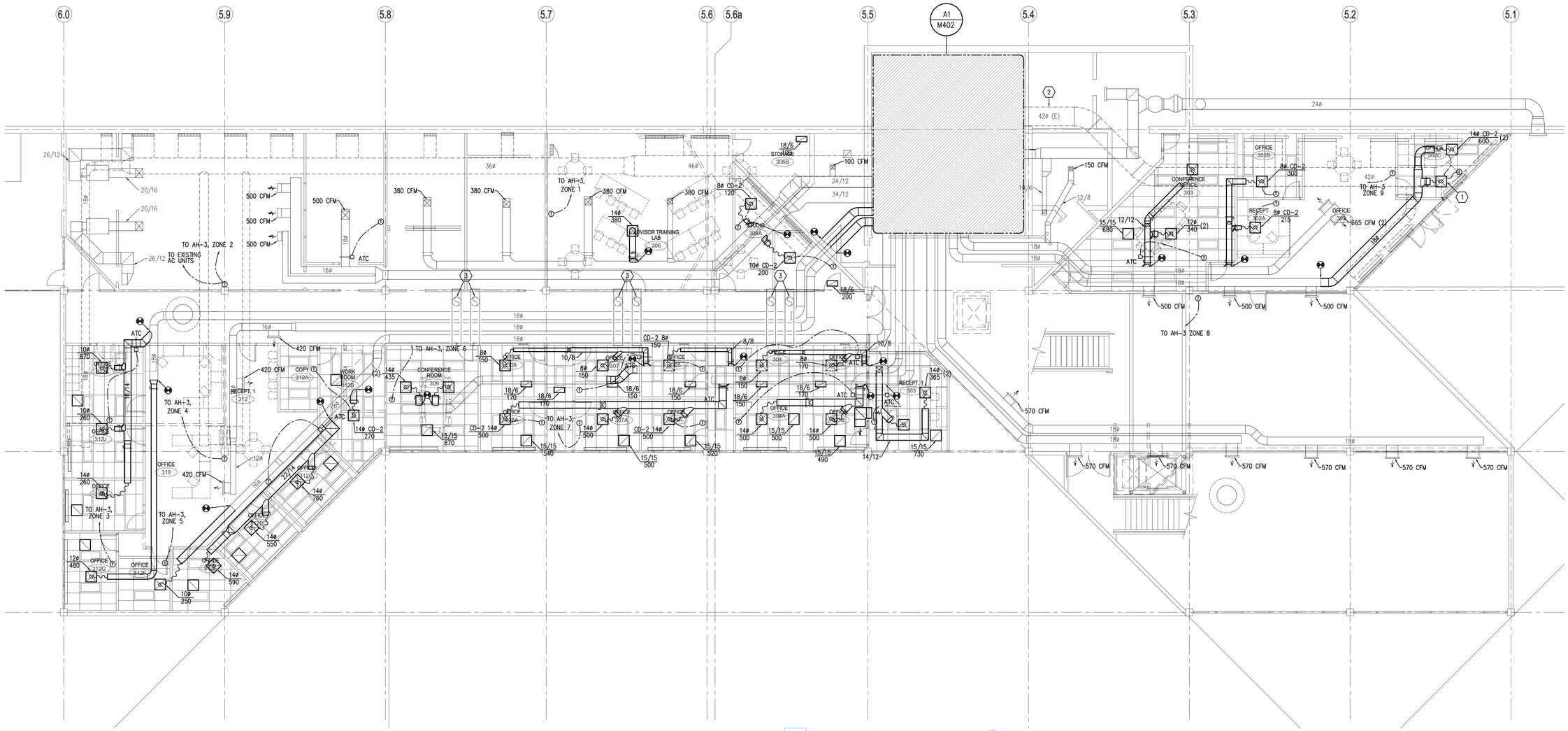
LEVEL TWO
MECHANICAL PLAN

M102B



C1 LEVEL 3 MECHANICAL PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. VARIABLE VOLUME DIFFUSER SLAVED TO MASTER DIFFUSER.
2. EXISTING UNDERFLOOR RETURN DUCT.
3. EXISTING TRANSFER DUCTS.

GENERAL NOTES

1. ALL CEILING SUPPLY DIFFUSERS SHALL BE CD-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601.
2. ALL CEILING RETURN GRILLES SHALL BE RG-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601. PROVIDE SOUND BOOT ON ALL UNDUCTED CEILING RETURN GRILLES, REFER TO MECHANICAL DETAILS M501. SIZE TO MATCH NECK OF GRILLE.
3. ALL CEILING EXHAUST GRILLES SHALL BE EG-1 UNLESS OTHERWISE NOTED. REFER TO SCHEDULES ON SHEET M601.
4. REBALANCE EXISTING SUPPLY, RETURN AND EXHAUST TO VOLUMES NOTED ON PLANS.

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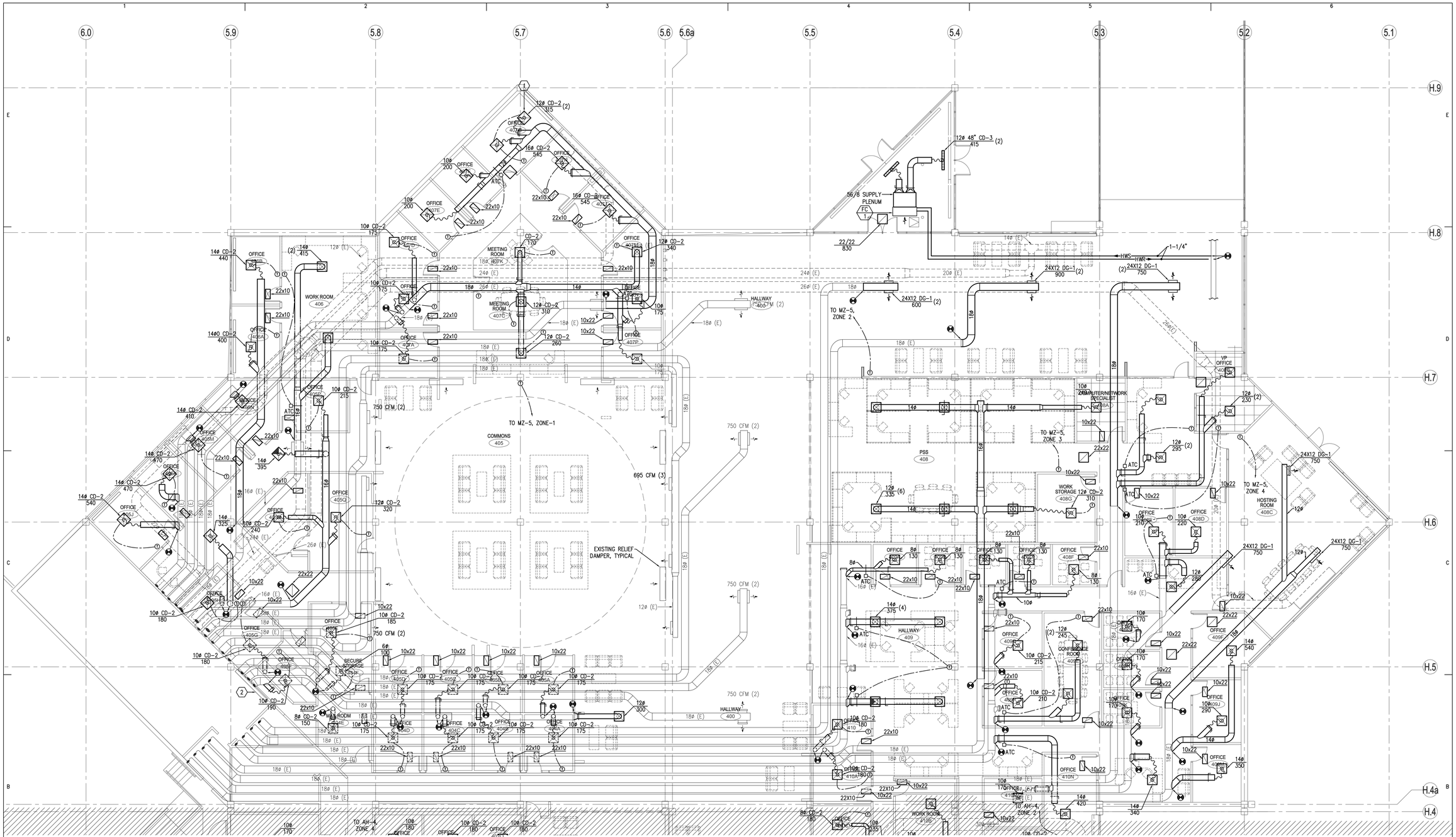
LEVEL THREE MECHANICAL PLAN

M103



B1 LEVEL 4 MECHANICAL PLAN (A)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. SLAVE VARIABLE VOLUME DIFFUSER TO MASTER DIFFUSER OF SUBZONE.
2. EXISTING AIR LOUVER TO REMAIN.
3. INSTALL NEW FAN COIL UNIT ABOVE CEILING. COORDINATE LOCATIONS OF FAN COIL UNIT, SLOT SUPPLY DIFFUSERS AND RETURN GRILLE WITH ARCHITECTURAL REFLECTED CEILING PLAN.
4. CONNECT NEW HEATING WATER SUPPLY AND RETURN LINES TO EXISTING MAINS AT THIS LOCATION. FIELD VERIFY EXISTING PIPE USE, SIZE, AND DIRECTION OF FLOW BEFORE STARTING WORK.

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, DOMESTIC WATER AND DOMESTIC HOT WATER PIPING TO REMAIN.
2. REMOVE EXISTING SUPPLY AND OUTSIDE AIR DUCTS AS INDICATED.
3. EXISTING FIRE DAMPERS SHALL REMAIN IN PLACE.
4. DO NOT RUN PIPING ABOVE ELECTRICAL PANELS. COORDINATE NEW RUNS OF PIPING WITH LOCATIONS OF EXISTING AND NEW ELECTRICAL PANELS.
5. EXISTING EXHAUST DUCT TO REMAIN IN PLACE.
6. PROTECT OPENINGS OF EXISTING SUPPLY AND RETURN DUCTS AT WALL AND FLOOR PENETRATIONS EXPOSED DURING DEMOLITION.

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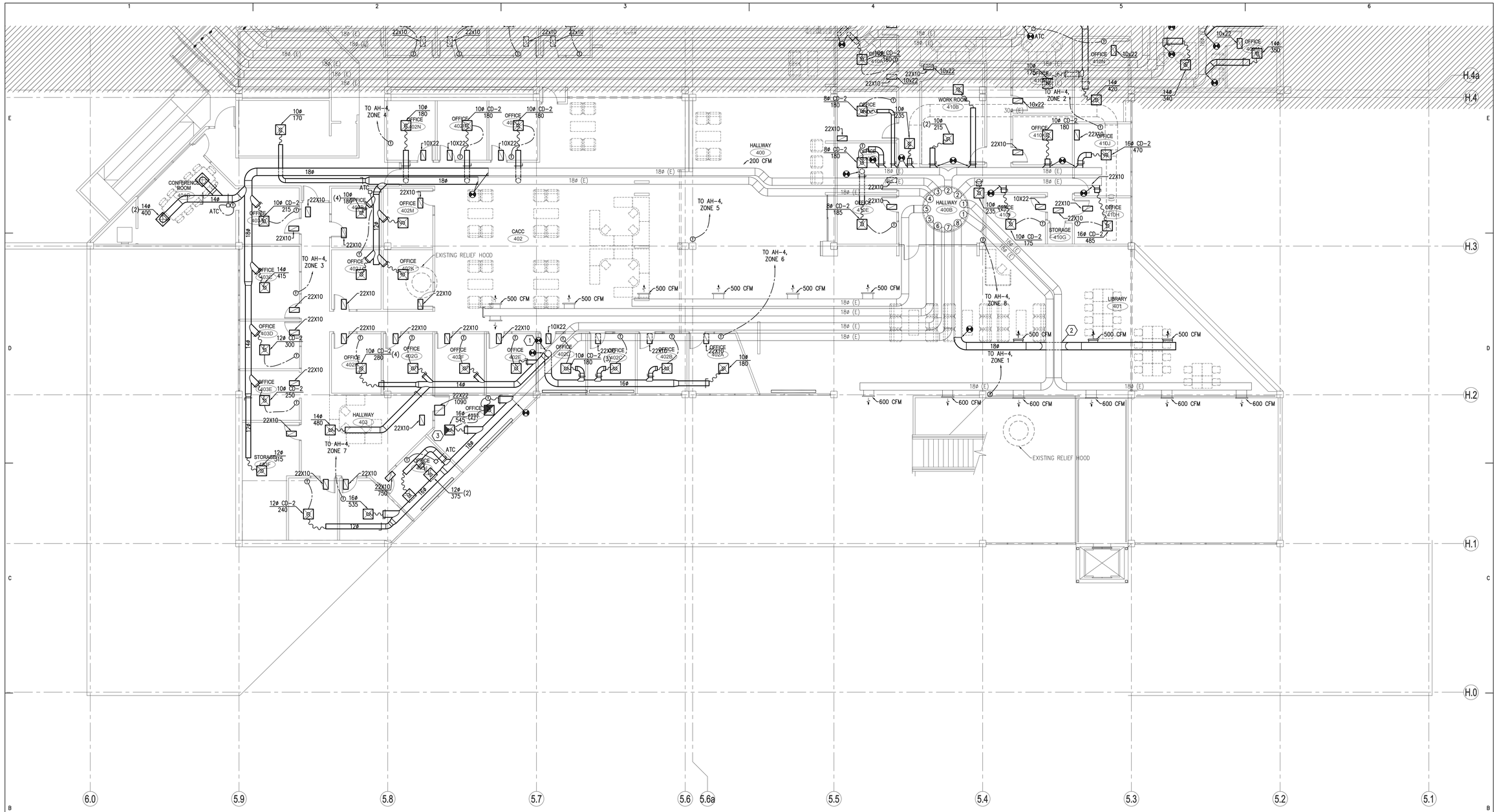
LEVEL FOUR (A)
MECHANICAL PLAN

M104A



B1 LEVEL 4 MECHANICAL PLAN (B)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. DROP OFF BOTTOM OF EXISTING 18ø SUPPLY WITH NEW 16ø BRANCH DUCT.
2. ROUTE NEW 18ø SUPPLY BELOW EXISTING 18ø SUPPLY DUCTS.
3. SLAVE VARIABLE VOLUME DIFFUSER TO SUBZONE MASTER VARIABLE VOLUME DIFFUSER.

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, DOMESTIC WATER AND DOMESTIC HOT WATER PIPING TO REMAIN.
2. REMOVE EXISTING SUPPLY AND OUTSIDE AIR DUCTS AS INDICATED.
3. EXISTING FIRE DAMPERS SHALL REMAIN IN PLACE.
4. DO NOT RUN PIPING ABOVE ELECTRICAL PANELS. COORDINATE NEW RUNS OF PIPING WITH LOCATIONS OF EXISTING AND NEW ELECTRICAL PANELS.
5. EXISTING EXHAUST DUCT TO REMAIN IN PLACE.
6. PROTECT OPENINGS OF EXISTING SUPPLY AND RETURN DUCTS AT WALL AND FLOOR PENETRATIONS EXPOSED DURING DEMOLITION.

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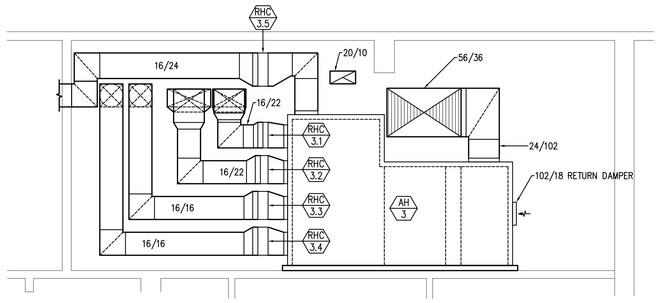
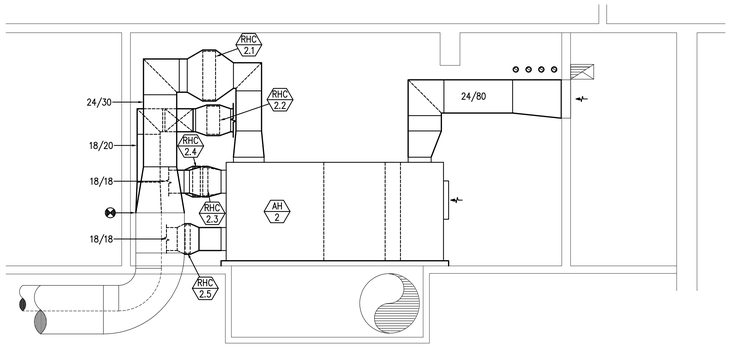
LEVEL FOUR (B)
MECHANICAL PLAN

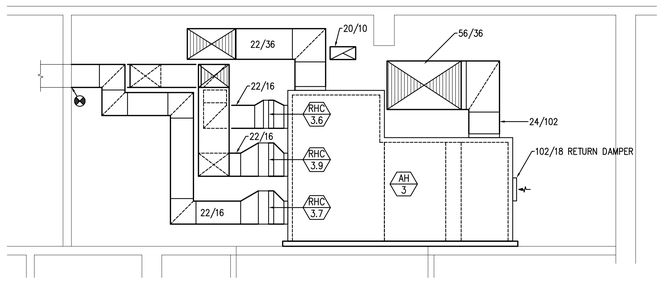
M104B



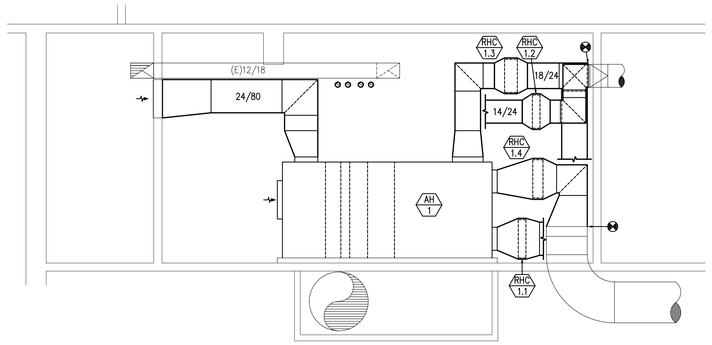
D2 LEVEL 3 MECHANICAL ROOM SECTION
SCALE: 1/4"=1'-0"



D4 LEVEL 2 MECHANICAL ROOM SECTION
SCALE: 1/4"=1'-0"



C2 LEVEL 3 MECHANICAL ROOM SECTION
SCALE: 1/4"=1'-0"



C4 LEVEL 2 MECHANICAL ROOM SECTION
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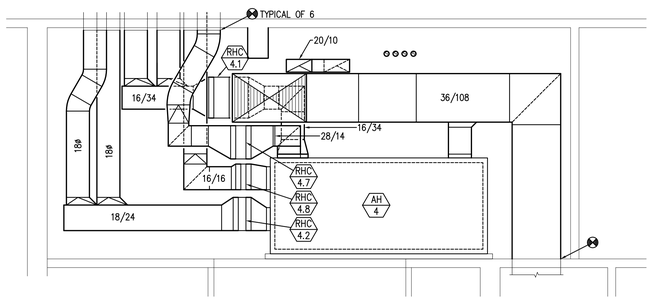
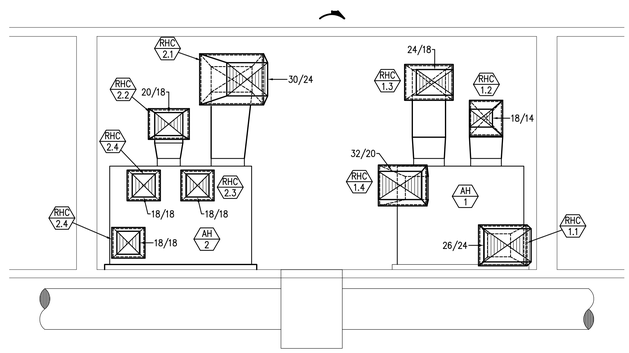
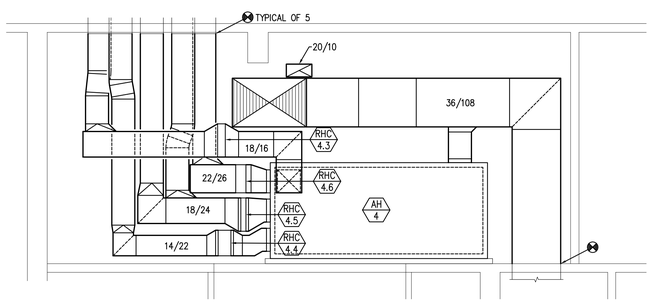


B2 LEVEL 3 MECHANICAL ROOM SECTION
SCALE: 1/4"=1'-0"



B4 LEVEL 2 MECHANICAL ROOM SECTION
SCALE: 1/4"=1'-0"



A2 LEVEL 3 MECHANICAL ROOM SECTION
SCALE: 1/4"=1'-0"

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MECHANICAL BUILDING SECTIONS

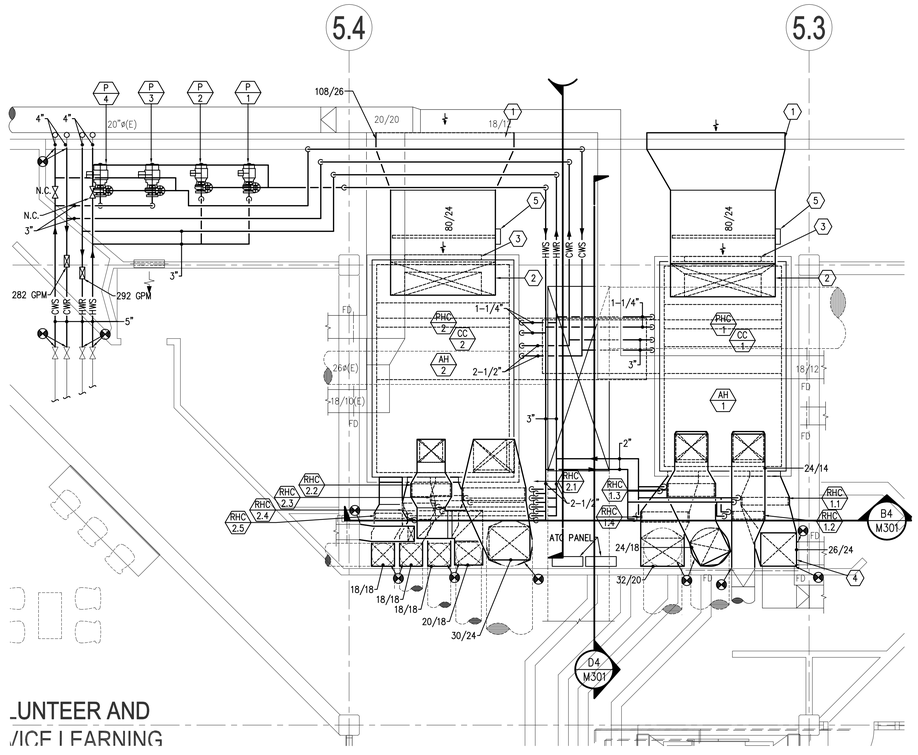
M301

KEYED NOTES

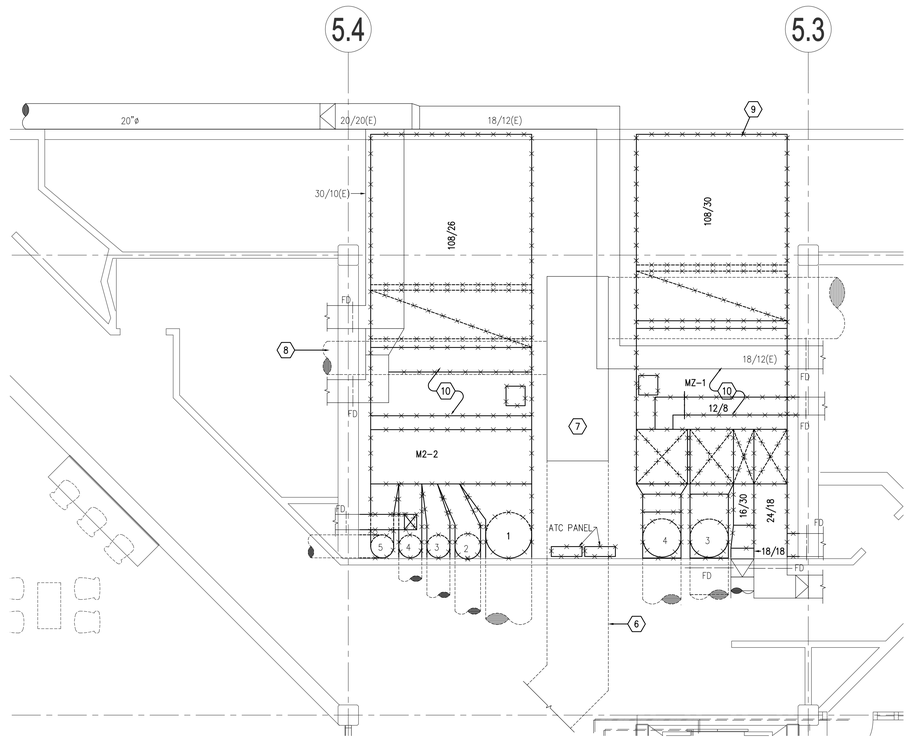
1. STUB END OF NEW 80/24 OUTSIDE AIR DUCT INTO TUNNEL THROUGH EXISTING OPENING. PROVIDE SHEET METAL TRANSITION TO FIT EXISTING OPENING AND SEAL AIRTIGHT.
2. DROP 80/24 OUTSIDE AIR DUCT TO DAMPER ON AIR HANDLER, TRANSITION AS NECESSARY TO MATCH DAMPER SIZE. ATTACH WITH FLEXIBLE CONNECTION.
3. RETURN AIR OPENING ON AIR HANDLER, DO NOT BLOCK.
4. 26/24 SUPPLY AIR PLENUM, EXTEND TO SUFFICIENT HEIGHT ALLOW CONNECTION OF EXISTING SUPPLY DUCTS.
5. OUTSIDE AIR FLOW MONITORING STATION.
6. EXISTING RETURN AIR TUNNEL.
7. EXISTING RETURN AIR PIT.
8. EXISTING UNDERFLOOR RETURN DUCT.
9. MAINTAIN EXISTING OUTSIDE AIR OPENING INTO TUNNEL. PROTECT OPENING DURING CONSTRUCTION.
10. REMOVE EXISTING MULTI-ZONE AIR HANDLERS MZ-1 AND MZ-2. INCLUDE ALL ASSOCIATED CONTROLS, DUCT AND PIPING CONNECTIONS IN DEMOLITION. REMOVE DUCT TO PERIMETER OF MECHANICAL ROOM. REMOVE PNEUMATIC TUBING AND HYDRONIC PIPING TO NEAREST MAIN OR SHUT-OFF VALVE AND CAP.

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, DOMESTIC WATER AND DOMESTIC HOT WATER PIPING TO REMAIN.
2. REMOVE EXISTING SUPPLY AND OUTSIDE AIR DUCTS AS INDICATED.
3. EXISTING FIRE DAMPERS SHALL REMAIN IN PLACE.
4. DO NOT RUN PIPING ABOVE ELECTRICAL PANELS. COORDINATE NEW RUNS OF PIPING WITH LOCATIONS OF EXISTING AND NEW ELECTRICAL PANELS.
5. UNLESS OTHERWISE NOTED, EXISTING EXHAUST DUCT TO REMAIN IN PLACE.
6. PROTECT OPENINGS OF EXISTING SUPPLY AND RETURN DUCTS AT WALL AND FLOOR PENETRATIONS EXPOSED DURING DEMOLITION.
7. MECHANICAL EQUIPMENT TO REMAIN IN SERVICE THROUGH END OF FALL SEMESTER ON OR ABOUT DECEMBER 8, 2008. COORDINATE DEMOLITION SCHEDULE WITH OWNER.



A1 LEVEL 2 MECHANICAL ROOM PLAN
SCALE: 1/4"=1'-0"
PROJECT NORTH



A4 LEVEL 2 MECHANICAL ROOM DEMOLITION PLAN
SCALE: 1/4"=1'-0"
PROJECT NORTH

Axis Architects
352 SOUTH DENVER STREET(440 EAST) SALT LAKE CITY UTAH 84111 P 355-3003 F 355-0113

LICENSED PROFESSIONAL ENGINEER
No. 4775391
SPENCER W. HOWELL
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision #	Date
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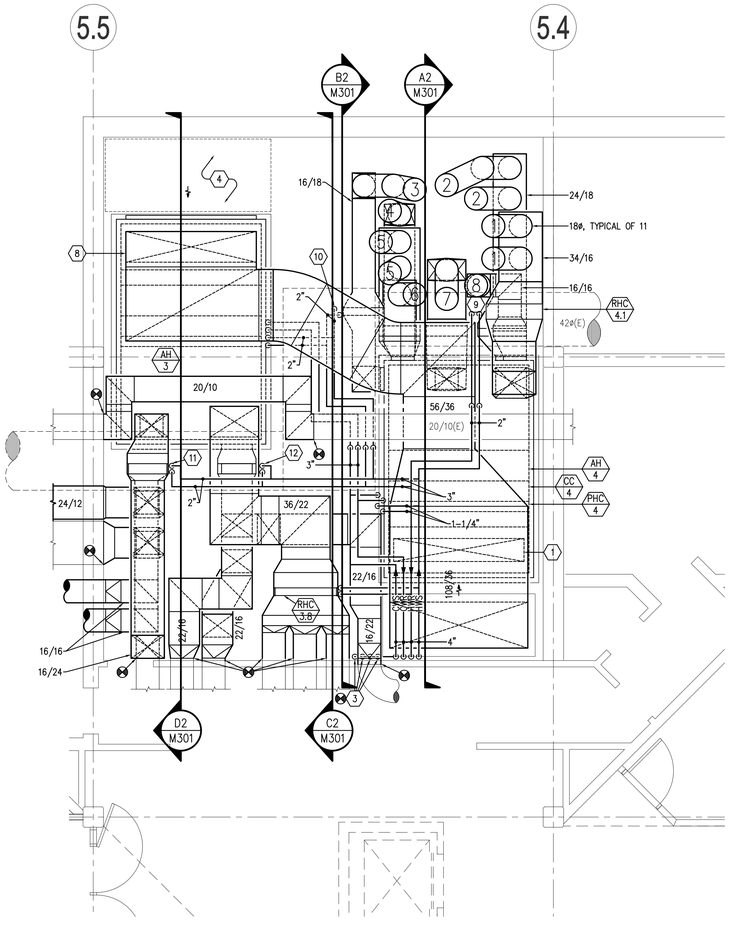
Axis Job # 0719
Owner # OFCM
Date 06-24-2008
Drawn
Checked

LEVEL TWO
MECHANICAL PLAN

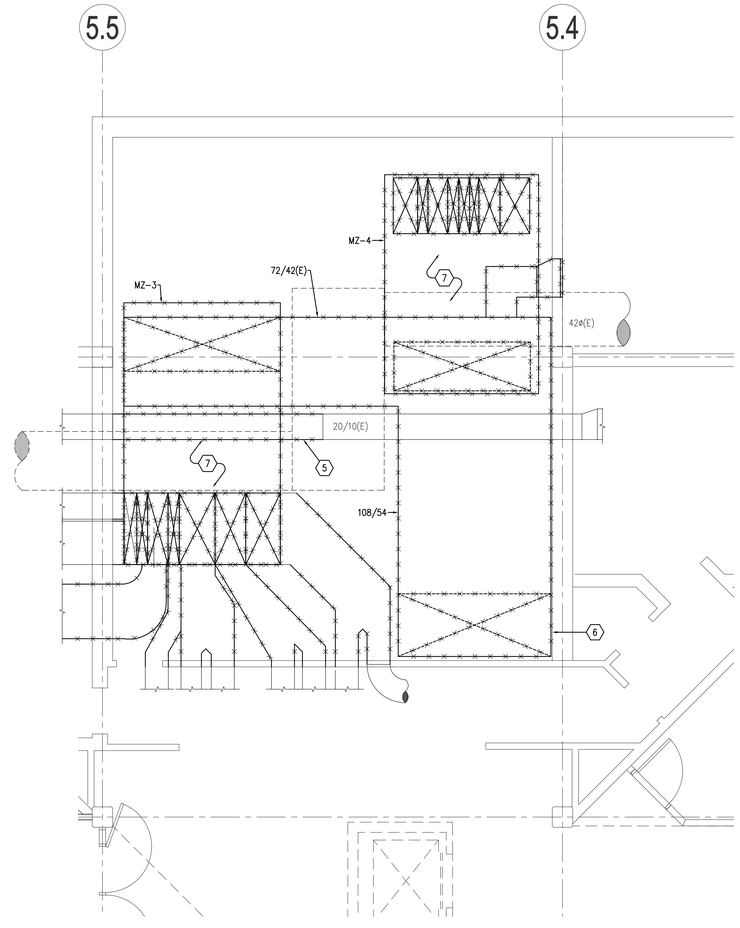
M401



A1 LEVEL 3 MECHANICAL ROOM PLAN

SCALE: 1/4"=1'-0"

PROJECT NORTH



A4 LEVEL 3 MECHANICAL ROOM DEMOLITION PLAN

SCALE: 1/4"=1'-0"

PROJECT NORTH

KEYED NOTES

1. STUB END OF NEW 108/26 OUTSIDE AIR DUCT INTO TUNNEL THROUGH EXISTING FLOOR OPENING. FILL GAP BETWEEN OPENING AND DUCT AND SEAL AIRTIGHT.
2. DROP 102/18 OUTSIDE AIR DUCT TO DAMPER ON AIR HANDLER, TRANSITION AS NECESSARY TO MATCH DAMPER SIZE. ATTACH TO AIR HANDLER WITH FLEXIBLE CONNECTION.
3. CONNECT NEW PIPING TO EXISTING PIPING RISERS FROM LEVEL 2 MECHANICAL ROOM. OFFSET PIPES ALONG WALL AND RISE ABOVE NEW OUTSIDE AIR DUCT.
4. KEEP AREA CLEAR, ELECTRICAL EQUIPMENT ACCESS.
5. REMOVE EXISTING EXHAUST DUCT AS INDICATED, PROTECT OPEN ENDS OF DUCT DURING CONSTRUCTION.
6. MAINTAIN EXISTING OUTSIDE AIR DUCT OPENING IN FLOOR FOR USE IN NEW WORK.
7. REMOVE EXISTING MULTI-ZONE AIR HANDLERS MZ-3 AND MZ-4. INCLUDE ALL ASSOCIATED CONTROLS, DUCT AND PIPING CONNECTIONS IN DEMOLITION. REMOVE DUCT TO PERIMETER OF MECHANICAL ROOM. REMOVE PNEUMATIC TUBING AND HYDRONIC PIPING TO NEAREST MAIN OR SHUT-OFF VALVE AND CAP.
8. DROP 108/24 OUTSIDE AIR DUCT TO DAMPER ON AIR HANDLER, TRANSITION AS NECESSARY TO MATCH DAMPER SIZE. ATTACH TO AIR HANDLER WITH FLEXIBLE CONNECTION.
9. HOT WATER SUPPLY AND RETURN RISERS TO REHEAT COILS RHC-4.1, RHC-4.2, RHC-4.7, RHC-4.8.
10. HOT WATER SUPPLY AND RETURN RISERS TO REHEAT COILS RHC-4.3, RHC-4.4, RHC-4.5, RHC-4.6.
11. HOT WATER SUPPLY AND RETURN RISERS TO REHEAT COILS RHC-3.1, RHC-3.2, RHC-3.3, RHC-3.4, RHC-3.5.
12. 2" HOT WATER SUPPLY AND RETURN RISERS TO REHEAT COILS RHC-3.6, RHC-3.7, RHC-3.9.

GENERAL NOTES

1. UNLESS SPECIFICALLY NOTED, DOMESTIC WATER AND DOMESTIC HOT WATER PIPING TO REMAIN.
2. REMOVE EXISTING SUPPLY AND OUTSIDE AIR DUCTS AS INDICATED.
3. EXISTING FIRE DAMPERS SHALL REMAIN IN PLACE.
4. DO NOT RUN PIPING ABOVE ELECTRICAL PANELS. COORDINATE NEW RUNS OF PIPING WITH LOCATIONS OF EXISTING AND NEW ELECTRICAL PANELS.
5. UNLESS OTHERWISE NOTED, EXISTING EXHAUST DUCT TO REMAIN IN PLACE.
6. PROTECT OPENINGS OF EXISTING SUPPLY AND RETURN DUCTS AT WALL AND FLOOR PENETRATIONS EXPOSED DURING DEMOLITION.
7. MECHANICAL EQUIPMENT TO REMAIN IN SERVICE THROUGH END OF FALL SEMESTER ON OR ABOUT DECEMBER 8, 2008. COORDINATE DEMOLITION SCHEDULE WITH OWNER.

Axis Architects
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LICENSED PROFESSIONAL ENGINEER
No. 4775391
SPENCER W. HOWELL
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision #	Date
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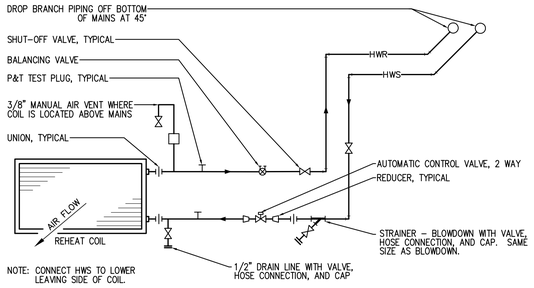
Axis Job # 0719
Owner # DFCM
Date 06-24-2008
Drawn
Checked

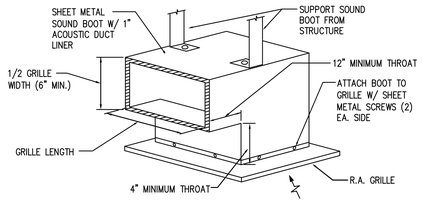
LEVEL 3
MECHANICAL ROOM DEMOLITION PLAN
AND MECHANICAL ROOM PLAN

M402



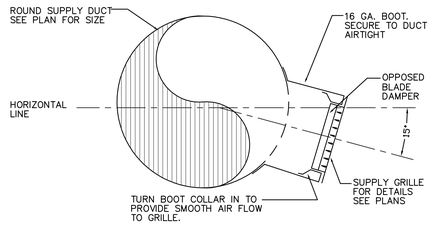
5 / M501 **REHEAT COIL PIPING DETAIL**

NO SCALE



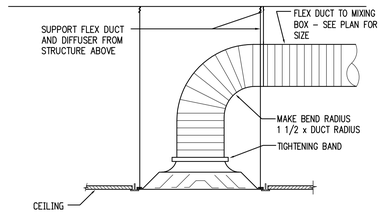
1 / M501 **R.A. GRILLE WITH SOUND BOOT**

NO SCALE



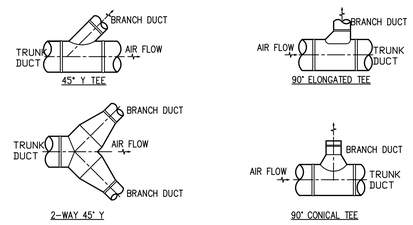
6 / M501 **DUCT MOUNTED DIFFUSER DETAIL**

NO SCALE



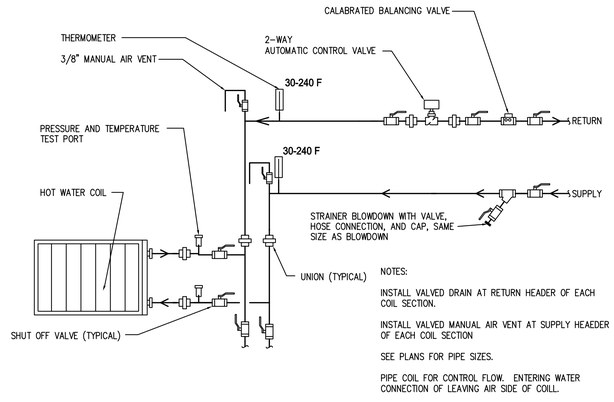
2 / M501 **DIFFUSER CONNECTION DETAIL**

NO SCALE



7 / M501 **ROUND DUCT BRANCH TAKE-OFF DETAILS**

NO SCALE



NOTES:

INSTALL VALVED DRAIN AT RETURN HEADER OF EACH COIL SECTION.

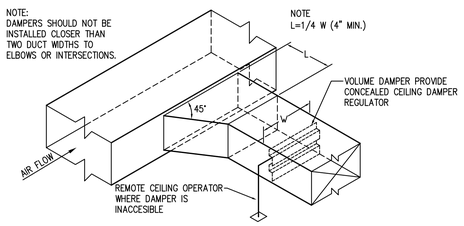
INSTALL VALVED MANUAL AIR VENT AT SUPPLY HEAEDER OF EACH COIL SECTION

SEE PLANS FOR PIPE SIZES.

PIPE COIL FOR CONTROL FLOW. ENTERING WATER CONNECTION OF LEAVING AIR SIDE OF COILL.

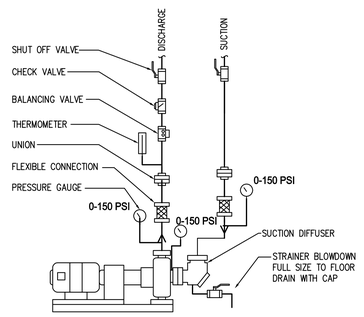
3 / M501 **HYDRONIC COIL PIPING SCHEMATIC**

NO SCALE



8 / M501 **BRANCH DUCT TAKE-OFF & DAMPER DETAIL**

NO SCALE



4 / M501 **FRAME MOUNT END SUCTION PUMP DETAIL**

NO SCALE

Axis Architects
352 SOUTH DENVER STREET(440 EAST) SALT LAKE CITY UTAH 84111 P 355-3003 F 355-0113

LICENSED PROFESSIONAL ENGINEER
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SPENCER W. HOWELL
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision # Date

Axis Job # 0719
Owner # DFCM
Date 06-24-2008
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Checked

LEVEL TWO
MECHANICAL PLAN

M501

PROJECT SCHEDULE

NAME	LOCATION	OUTSIDE AIR HEATING SEASON DB/RH (°F/%)	OUTSIDE AIR COOLING SEASON DB/WB (°F)	ALTITUDE (FT)	NOTES
UVSC Losee Center	Orem, UT	5.54/10	96.44/62.06	4660	

GRILLES, REGISTERS AND DIFFUSERS

ID	MANUFACTURER	MODEL	MAX NC	DESCRIPTION
CD-1	EH PRICE	SPD	30	SQUARE PLAQUE FACE CEILING DIFFUSERS. REMOVABLE FACE, C.W./O.B.D. FRAME SHALL BE FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED BY CEILING TYPE. LAY-IN FRAMES SHALL BE 24" x 24", 24" x 12" OR 12" x 12" AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE.
CD-2	EH PRICE	PPD2	30	VARIABLE AIR VOLUME DIFFUSER, VAV COOLING AND VAV HEATING WITH REMOTE MOUNTED THERMOSTAT. HIGH TORQUE 12-VOLT DC GEAR MOTOR, DUCT TEMPERATURE SENSOR FOR AUTO CHANGEOVER, COMPLETE WITH 120-24 VOLT TRANSFORMER. PROVIDE AND INSTALL ALL NECESSARY CONTROL WIRING AND INTERFACE FOR TIE IN TO EXISTING BAS.
CD-3	EH PRICE	ASPI 215	30	2 SLOT LINEAR CEILING DIFFUSER WITH FULLY ADJUSTABLE AIR PATTERN AND FLOW CONTROL VANES FOR ONE OR TWO WAY THROW PATTERN. UNITS SHALL HAVE 1-1/2" SLOTS AND INSULATED PLENUM WITH ROUND DUCT CONNECTION. FOR SURFACE OR LAY-IN MOUNTING AS REQUIRED.
SWS-1	EH PRICE	LBPH	30	HEAVY DUTY LINEAR BAR GRILLE FOR SIDEWALL MOUNTING; EXTRUDED ALUMINUM CONSTRUCTION; PROVIDE WITH HEAVY DUTY FLANGED BOARDER 750 WITH TYPE 'A' FASTENING AND O.B.D. ADJUSTABLE THROUGH GRILLE FACE. COLOR AND FINISH TO BE DETERMINED BY ARCHITECT.
RG-1	EH PRICE	SCD	30	PERFORATED FACE CEILING RETURN GRILLE, ALUMINUM CONSTRUCTION. PROVIDE UNIT IN 24x24, 12x24 OR 12x12 MODULES AS REQUIRED TO FIT CEILING TILE SPACE AVAILABLE WITH FRAME SUITABLE FOR MOUNTING IN LAY-IN OR SURFACE MOUNTING AS DETERMINED BY CEILING TYPE. AIRFLOW SHALL MATCH ROOM SUPPLY OR EXHAUST QUANTITY WHERE VOLUME IS NOT NOTED ON PLANS. COLOR AND FINISH TO BE DETERMINED BY ARCHITECT.
DG-1	EH PRICE	620	30	DOUBLE DEFLECTION LOUVERED FACE SUPPLY GRILLE, ALUMINUM CONSTRUCTION; PROVIDE WITH O.B.D. ADJUSTABLE THROUGH GRILLE FACE AND FRAME STYLE AND MOUNTING FOR DIRECT DUCT MOUNT APPLICATION. COLOR AND FINISH TO MATCH DUCT.

FILTER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	EFFICIENCY (%)	AIR CLEAN STATIC PRESSURE (IN. WATER)	AIR DIRTY STATIC PRESSURE (IN. WATER)	PHYSICAL NUMBER 24"X24" MODULES	PHYSICAL NUMBER 12"X24" MODULES	NOTES
FB-1		AH-1	FLAT	30%	0.5	0.8	7	1	
FB-2		AH-2	FLAT	30%	0.5	0.8	6	0	
FB-3		AH-3	FLAT	30%	0.5	0.8	11	1	
FB-4		AH-4	FLAT	30%	0.5	0.8	9	1	

DAMPER SCHEDULE

ID	LOCATION	AIR TYPE	CONTROL TYPE	BLADE OPERATION	AIR MAXIMUM AIRFLOW RATE (CFM)	AIR STATIC PRESSURE (IN. WATER)	ELECTRICAL VOLT/PH/HZ	PHYSICAL WIDTH/ HEIGHT OR DIAMETER (IN)	NOTES
D-1.1	AH-1	SUPPLY AIR	MODULAT	OPPOSED	4850	0.028	24/1/60	27/27	
D-1.2	AH-1	SUPPLY AIR	MODULAT	OPPOSED	2320	0.028	24/1/60	19/19	
D-1.3	AH-1	SUPPLY AIR	MODULAT	OPPOSED	3200	0.028	24/1/60	22/22	
D-1.4	AH-1	SUPPLY AIR	MODULAT	OPPOSED	4560	0.028	24/1/60	26/26	
D-2.1	AH-2	SUPPLY AIR	MODULAT	OPPOSED	6000	0.028	24/1/60	30/30	
D-2.2	AH-2	SUPPLY AIR	MODULAT	OPPOSED	2010	0.028	24/1/60	18/18	
D-2.3	AH-2	SUPPLY AIR	MODULAT	OPPOSED	1620	0.028	24/1/60	16/16	
D-2.4	AH-2	SUPPLY AIR	MODULAT	OPPOSED	1440	0.028	24/1/60	15/15	
D-2.5	AH-2	SUPPLY AIR	MODULAT	OPPOSED	1510	0.028	24/1/60	15/15	
D-3.1	AH-3	SUPPLY AIR	MODULAT	OPPOSED	2100	0.028	24/1/60	18/18	
D-3.2	AH-3	SUPPLY AIR	MODULAT	OPPOSED	2200	0.028	24/1/60	18/18	
D-3.3	AH-3	SUPPLY AIR	MODULAT	OPPOSED	1670	0.028	24/1/60	16/16	
D-3.4	AH-3	SUPPLY AIR	MODULAT	OPPOSED	1260	0.028	24/1/60	14/14	
D-3.5	AH-3	SUPPLY AIR	MODULAT	OPPOSED	2620	0.028	24/1/60	20/20	
D-3.6	AH-3	SUPPLY AIR	MODULAT	OPPOSED	2350	0.028	24/1/60	19/19	
D-3.7	AH-3	SUPPLY AIR	MODULAT	OPPOSED	2500	0.028	24/1/60	19/19	
D-3.8	AH-3	SUPPLY AIR	MODULAT	OPPOSED	6690	0.028	24/1/60	32/32	
D-3.9	AH-3	SUPPLY AIR	MODULAT	OPPOSED	2525	0.028	24/1/60	20/20	
D-4.1	AH-4	SUPPLY AIR	MODULAT	OPPOSED	3600	0.028	24/1/60	23/23	
D-4.2	AH-4	SUPPLY AIR	MODULAT	OPPOSED	2750	0.028	24/1/60	20/20	
D-4.3	AH-4	SUPPLY AIR	MODULAT	OPPOSED	2695	0.028	24/1/60	20/20	
D-4.4	AH-4	SUPPLY AIR	MODULAT	OPPOSED	1030	0.028	24/1/60	13/13	
D-4.5	AH-4	SUPPLY AIR	MODULAT	OPPOSED	3000	0.028	24/1/60	21/21	
D-4.6	AH-4	SUPPLY AIR	MODULAT	OPPOSED	1920	0.028	24/1/60	17/17	
D-4.7	AH-4	SUPPLY AIR	MODULAT	OPPOSED	2615	0.028	24/1/60	20/20	
D-4.8	AH-4	SUPPLY AIR	MODULAT	OPPOSED	1500	0.028	24/1/60	15/15	

PUMP SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	FLUID FLOW RATE (GPM)	FLUID WORKING FLUID	FLUID HEAD LOSS (FT)	PUMP EFFICIENCY (%)	PUMP CONSTRUCTION	ELECTRICAL MOTOR SIZE (HP)	ELECTRICAL MOTOR BHP (HP)	ELECTRICAL MOTOR SPEED (RPM)	ELECTRICAL VFD / STARTER	ELECTRICAL VOLT/PH/HZ	NOTES
P-1	BELL & GOSSETT 1531 3AC	SEE M401	HORIZ FRAME-MOUNT END-SUCTION	292	WATER	36	78.4	BRONZE FITTED	5	3.5	1750	VFD	208/3/60	1
P-2	BELL & GOSSETT 1531 3AC	SEE M401	HORIZ FRAME-MOUNT END-SUCTION	292	WATER	36	78.4	BRONZE FITTED	5	3.5	1750	VFD	208/3/60	1
P-3	BELL & GOSSET 1531 3BC	SEE M401	HORIZ FRAME-MOUNT END-SUCTION	282	WATER	46	72.0	BRONZE FITTED	7.5	4.6	1750	VFD	208/3/60	1
P-4	BELL & GOSSETT 1531 3BC	SEE M401	HORIZ FRAME-MOUNT END-SUCTION	282	WATER	46	72.0	BRONZE FITTED	7.5	4.6	1750	VFD	208/3/60	1

1. SUCTION DIFFUSER MODEL (SUCTION SIDE): NOT SPECIFIED, NON-GROOVED

COIL SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	USAGE	AIR DESIGN AIRFLOW RATE (CFM)	AIR MAX. AIRFLOW RATE (CFM)	AIR LOAD (BTU/H)	AIR SENSIBLE LOAD (BTU/H)	AIR ENTERING TEMP. DB/WB (°F)	AIR LEAVING TEMP. DB/WB (°F)	AIR MAX. STATIC PRESSURE (IN. WATER)	FLUID FLOW RATE (GPM)	FLUID ENTERING/ LEAVING TEMP. (°F)	FLUID WORKING FLUID	FLUID HEAD LOSS (FT)	PHYSICAL NO. COILS	PHYSICAL EACH COIL FIN WIDTH/ HEIGHT (IN)	PHYSICAL MINIMUM FACE AREA (FT²)	PHYSICAL MINIMUM NO. ROWS/ FINS PER INCH	PHYSICAL BRANCH PIPE SIZE (IN.)	NOTES
CC-1	RAE	AH-1	COOLING	14930	14930	458100	393200	80.5/59.6	52/47.3	0.55	61.0	48/63	WATER	14	2	90/24	30	8/9	3	
CC-2	RAE	AH-2	COOLING	12580	12580	407800	371800	84/60.2	52/47.3	0.22	45.0	48/63	WATER	9	2	76/24	25.3	8/7	2 1/2	
CC-3	RAE	AH-3	COOLING	23915	23915	732100	624300	80.3/59.6	52/47.3	0.80	98.0	48/63	WATER	6	2	96/24	48	8/11	3	
CC-4	RAE	AH-4	COOLING	19110	19110	585100	499400	80.3/59.6	52/47.3	0.72	78.0	48/63	WATER	5	2	115/24	38.3	8/11	3	
PHC-1	RAE	AH-1	HEATING	4662	14930	78400	78400	36.8/33.1	55/42.3	0.01	13.5	105/90	WATER	1	1	90/24	30	1/5	1 1/4	
PHC-2	RAE	AH-2	HEATING	4689	12580	52000	52000	43/38	55/43.8	0.01	10.0	105/90	WATER	1	1	76/24	25.3	1/4	1 1/4	
PHC-3	RAE	AH-3	HEATING	8396	23915	85800	85800	43.9/38.7	55/44	0.01	22.0	105/90	WATER	3	2	96/24	48	1/5	2	
PHC-4	RAE	AH-4	HEATING	5510	19110	89300	89300	37.4/33.6	55/42.5	0.01	13.0	105/90	WATER	2	2	115/24	38.3	1/4	1 1/4	
RHC-1.1	RAE	AH-1	HEATING	1500	4850	56800	56800	55/42.3	96/58.6	0.47	8.0	105/90	WATER	5	1	36/30	7.5	3/11	1 1/4	
RHC-1.2	RAE	AH-1	HEATING	765	2320	28900	28900	55/42.3	96/58.6	0.36	5.0	105/90	WATER	5	1	24/24	4	3/10	1	
RHC-1.3	RAE	AH-1	HEATING	2500	3200	93900	93900	55/42.3	95.7/58.5	0.47	13.0	105/90	WATER	5	1	39/24	6.5	5/9	1 1/4	
RHC-1.4	RAE	AH-1	HEATING	2120	4560	80200	80200	55/42.3	96/58.6	0.52	11.0	105/90	WATER	5	1	36/30	7.5	4/10	1 1/4	
RHC-2.1	RAE	AH-2	HEATING	5100	6000	192800	192800	55/43.8	95.9/59.7	0.47	27.0	105/90	WATER	5	1	48/36	12	5/10	2	
RHC-2.2	RAE	AH-2	HEATING	2010	2010	77300	77300	55/43.8	96.6/59.9	0.46	11.0	105/90	WATER	5	1	30/19.5	4.1	5/10	1 1/4	
RHC-2.3	RAE	AH-2	HEATING	500	1620	13900	13900	55/43.8	85/55.9	0.15	2.5	105/90	WATER	5	1	24/19.5	3.3	2/8	3/4	
RHC-2.4	RAE	AH-2	HEATING	1200	1440	33200	33200	55/43.8	85/55.9	0.18	6.5	105/90	WATER	5	1	18/24	3	3/8	1 1/4	
RHC-2.5	RAE	AH-2	HEATING	500	1510	13900	13900	55/43.8	85/55.9	0.13	2.5	105/90	WATER	5	1	19/24	3.2	2/8	3/4	
RHC-3.1	RAE	AH-3	HEATING	1000	2100	37100	37100	55/44	95.1/59.6	0.33	6.5	105/90	WATER	5	1	30/19.5	4.1	3/11	1 1/4	
RHC-3.2	RAE	AH-3	HEATING	1250	1250	47200	47200	55/44	95.9/59.8	0.17	7.0	105/90	WATER	5	1	30/19.5	4.1	4/10	1 1/4	
RHC-3.3	RAE	AH-3	HEATING	1280	1670	48400	48400	55/44	96/59.8	0.44	9.0	105/90	WATER	5	1	24/19.5	3.3	4/11	1 1/4	
RHC-3.4	RAE	AH-3	HEATING	400	1260	11300	11300	55/44	85.5/56.2	0.11	2.5	105/90	WATER	5	1	18/24	3	2/8	3/4	
RHC-3.5	RAE	AH-3	HEATING	1450	2620	54800	54800	55/44	95.9/59.8	0.41	8.0	105/90	WATER	5	1	30/24	5	4/10	1 1/4	
RHC-3.6	RAE	AH-3	HEATING	860	2350	23800	23800	55/44	85/56.1	0.38	6.5	105/90	WATER	5	1	24/19.5	3.3	2/11	1 1/4	
RHC-3.7	RAE	AH-3	HEATING	1800	2500	67300	67300	55/44	95.5/59.7	0.42	10.0	105/90	WATER	5	1	30/24	5	4/11	1 1/4	
RHC-3.8	RAE	AH-3	HEATING	6690	6690	193400	193400	55/44	86.3/56.5	0.34	27.0	105/90	WATER	5	1	48/36	12	3/10	2	
RHC-3.9	RAE	AH-3	HEATING	1620	2525	61200	61200	55/44	95.9/59.8	0.38	8.5	105/90	WATER	5	1	30/24	5	4/10	1 1/4	
RHC-4.1	RAE	AH-4	HEATING	3600	3600	149600	149600	55/42.5	100/60.1	0.46	21.0	105/90	WATER	5	1	42/30	8.8	6/11	2	
RHC-4.2	RAE	AH-4	HEATING	1250	2750	47200	47200	55/42.5	95.9/58.7	0.27	7.0	105/90	WATER	5	1	36/24	6	3/11	1 1/4	
RHC-4.3	RAE	AH-4	HEATING	800	2695	28900	28900	55/42.5	94.1/58.1	0.25	4.5	105/90	WATER	5	1	30/24	5	3/8	1	
RHC-4.4	RAE	AH-4	HEATING	1030	1030	39800	39800	55/42.5	96.8/59	0.23	6.5	105/90	WATER	5	1	18/24	3	5/9	1 1/4	
RHC-4.5	RAE	AH-4	HEATING	900	3000	24900	24900	55/42.5	85/54.9	0.20	7.0	105/90	WATER	5	1	30/24	5	2/8	1 1/4	
RHC-4.6	RAE	AH-4	HEATING	800	1920	29800	29800	55/42.5	95.4/58.5	0.39	5.0	105/90	WATER	5	1	24/19.5	3.3	4/8	1	
RHC-4.7	RAE	AH-4	HEATING	1700	2615	64500	64500	55/42.5	96.1/58.8	0.45	9.0	105/90	WATER	5	1	30/24	5	4/11	1 1/4	
RHC-4.8	RAE	AH-4	HEATING	450	1500	12500	12500	55/42.5	85/54.9	0.15	2.5	105/90	WATER	5	1	18/24	3	2/8	3/4	

FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR TYPE	AIR MAXIMUM AIRFLOW RATE (CFM)(2)	AIR STATIC PRESSURE (IN. WATER)	FAN FAN SPEED (RPM)	FAN FAN WHEEL DIAMETER (IN)	FAN STATIC EFFICIENCY (%)	ELECTRICAL MOTOR SIZE (HP)	ELECTRICAL MOTOR BHP (HP)	ELECTRICAL MOTOR SPEED (RPM)	ELECTRICAL VFD/ STARTER	ELECTRICAL VOLT/PH/HZ	PHYSICAL LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
SF-1	CLIMATECRAFT 24MTX	AH-1	FAN MATRIX	SUPPLY AIR	7,465	3.5	1,508	24.5	73	7.5	5.6	1800	VFD	208/3/60	-	1, 2
SF-2	CLIMATECRAFT 20MTX	AH-2	FAN MATRIX	SUPPLY AIR	6,290	3.5	2,037	20.0	67	7.5	5.2	1800	VFD	208/3/60	-	1, 2
SF-3	CLIMATECRAFT 27MTX	AH-3	FAN MATRIX	SUPPLY AIR	11,958	3.6	1,525	27.0	72	10.0	9.5	1800	VFD	208/3/60	-	1, 2
SF-4	CLIMATECRAFT 24MTX	AH-4	FAN MATRIX	SUPPLY AIR	9,555	3.6	1659	24.5	72	10.0	7.5	1800	VFD	208/3/60	-	1, 2

1. AIR HANDLING UNIT CONTAINS TWO (2) OF THE FANS SCHEDULED, FACTORY WIRED FOR SIMULTANEOUS OPERATION. REFER TO SPECIFICATIONS.
2. VOLUME AT DESIGN ELEVATION OF 4,600'.

AIR HANDLER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	AIR SUPPLY AIRFLOW (CFM)	COMPONENTS FANS	COMPONENTS COILS	COMPONENTS FILTERS	COMPONENTS OTHER	ELECTRICAL SINGLE POINT VOLT/PH/HZ	PHYSICAL CABINET LENGTH/ WIDTH/HEIGHT (IN)	PHYSICAL WEIGHT (LB)	NOTES
AH-1	CLIMATECRAFT	M401	14,930	SF-1	CC-1, PHC-1	FB-1	1	208/3/60	164 / 99 / 75	-	3
AH-2	CLIMATECRAFT	M401	12,580	SF-2	CC-2, PHC-2	FB-2	1	208/3/60	170 / 105 / 75	-	3
AH-3	CLIMATECRAFT	M402	23,915	SF-3	CC-3, PHC-3	FB-3	1	208/3/60	176 / 117 / 81	-	3, 4
AH-4	CLIMATECRAFT	M402	19,110	SF-4	CC-4, PHC-4	FB-4	1	208/3/60	170 / 117 / 75	-	3
MZ-5	EXISTING MULTI-ZONE	LEVEL 4 MECHANICAL	42,000	SF-1(E)	-	-	-	208/3/60	-	-	2

1. AIR HANDLER INCLUDES ZONE DAMPERS, REFER TO DAMPER SCHEDULE.
2. REPLACE EXISTING 50 HP FAN MOTOR WITH INVERTER DUTY MOTOR SUITABLE FOR USE WITH VFD. REFER TO SPECIFICATIONS.
3. AIR HANDLERS TO BE CUSTOM FACTORY BUILT FOR FIELD ASSEMBLY.
4. FAN SECTION OF AIR HANDLER SHALL BE EXTENDED TO 118" IN HEIGHT, REFER TO MECHANICAL SECTIONS.

FAN COIL SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR MAXIMUM AIRFLOW RATE (CFM)	FAN EXTERNAL STATIC PRESSURE (IN. WATER)	HEATING COIL ROWS	HEATING COIL ENTERING/ LEAVING WATER (°F)	HEATING COIL ENTERING AIR TEMP. (°F)	ELECTRICAL FAN QUANTITY	ELECTRICAL MOTOR SIZE (HP)	ELECTRICAL VOLT/PH/HZ	PHYSICAL LENGTH/ WIDTH/ HEIGHT (IN)	NOTES
FC-1	RITTLING FCHP-500-10	VESTIBULE, M1.04	ABOVE CEILING	830	0.25	3	105/90	50	3	1/25, 1/15	120/1/60	60 / 22 / 12	1, 2

1. AIRFLOW RATE AT SEA LEVEL.
2. UNIT CONTAINS TWO BLOWER MOTORS, ONE AT EACH HP LISTED.

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STATE OF UTAH

UTAH VALLEY UNIVERSITY
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Orem, Utah

Revision # Date

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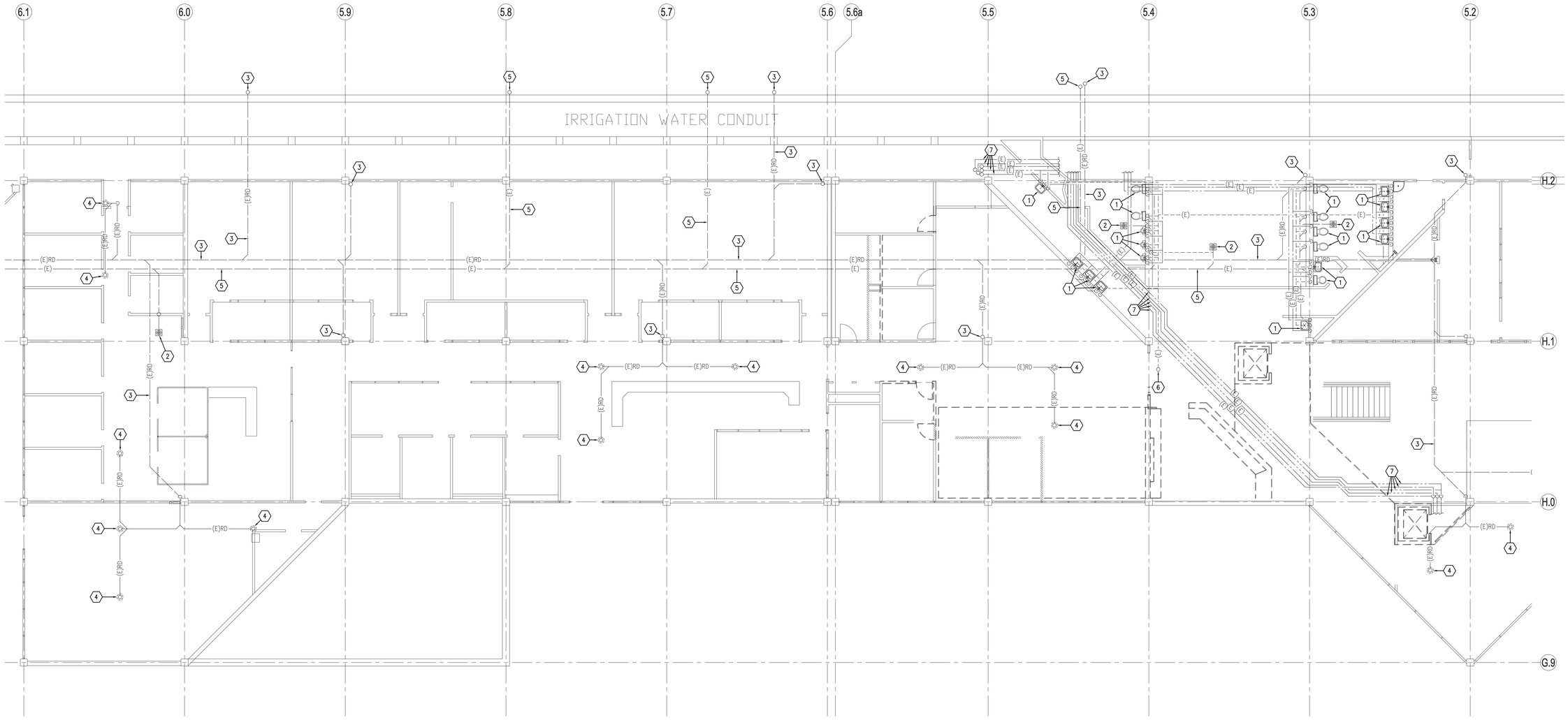
MECHANICAL SCHEDULES

M601



C1 LEVEL 2 PLUMBING DEMOLITION PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

GENERAL NOTES

23. PROVIDE ACCESS PANELS TO ALL VALVES LOCATED ABOVE HARD CEILINGS.
24. ROOF DRAIN LINES MUST HAVE AT LEAST 45 DEGREE SLOPE TO TIE INTO THE VERTICAL LEADER.
25. WHERE NOT SHOWN EXTEND ROOF DRAIN AND WASTE LINES TO OUTSIDE UTILITIES AT LEAST 5 FEET BEYOND BUILDINGS, AND IF NEEDED BEYOND 5 FEET TO CLEANOUT OR MANHOLE SHOWN ON SITE UTILITY DRAWINGS.
26. ALL PIPE AND DUCT SIZES SHALL REMAIN THE SAME SIZE SHOWN, IN THE DIRECTION OF FLOW, UNTIL SHOWN OTHERWISE.
27. REFER TO WATER CLOSET/CLINIC SINK VENT DETAIL FOR VENTING OPTIONS FOR WATER CLOSETS AND CLINIC SINKS. SEE A-P8.02 FOR ORDER PRIORITY. NUMBER 1 SHOULD BE USED UNLESS CONDITIONS PREVENT, THEN USE 2, 3, OR 4 IN THAT ORDER.
28. PROVIDE SECONDARY DRAIN PAN UNDER ENTIRE COMPUTER ROOM UNITS OR OTHER COOLING COILS ABOVE A CEILING. PROVIDE MOISTURE SENSOR IN DRAIN PAN TO SHUT DOWN UNIT UPON DETECTION OF WATER. RUN DRAIN TO NEAREST SINK TAILPIECE, FLOOR DRAIN (APPROVED BY ARCHITECT) OR AS SHOWN.
29. INSTALL CLEANOUTS IN DRAIN PIPING (INCLUDING ROOF DRAINS) AS INDICATED, AND WHERE NOT INDICATED, ACCORDING TO THE FOLLOWING.
    - A. SIZE SAME AS DRAINAGE PIPING UP TO 4" NPS. USE 4" NPS FOR LARGER DRAINAGE PIPING UNLESS LARGER CLEANOUT IS INDICATED.
    - B. LOCATE AT EACH CHANGE IN DIRECTION OF PIPING GREATER THAN 45 DEGREES.
    - C. LOCATE AT MINIMUM INTERVALS OF 50 FT FOR PIPING 4" NPS AND SMALLER AND 100 FT FOR LARGER PIPING
    - D. LOCATE AT THE BASE OF EACH VERTICAL STACK

GENERAL NOTES

1. UNLESS OTHERWISE NOTED, SLOPE PIPE AS FOLLOWS: WASTE BRANCHES: 1/4" PER FOOT; WASTE MAINS: 1/8" PER FOOT; ROOF DRAIN/ROOF DRAIN OVERFLOW: 1/8" PER FOOT.
2. SLEEVE PIPING THRU WALLS/FOUNDATIONS WHERE REQUIRED.
3. PLUMBING DRAWINGS ARE SCHEMATIC IN NATURE. FIELD VERIFY EXACT PIPE ROUTING AND COORDINATE WITH ALL OTHER TRADES.
4. ALL PIPING IN PLUMBING CHASES SHALL BE ARRANGED TO ALLOW MAINTENANCE ACCESS.
5. NO PIPING TO RUN OVER ELECTRICAL PANELS, VFD'S OR MCC'S. PROTECT EQUIPMENT WITH A 42" DEEP ZONE IN FRONT OF PANELS, VFD'S, AND MCC'S.
6. COORDINATE FAN ROOM FLOOR DRAIN LOCATIONS WITH COOLING COIL AND HEATING COIL LOCATIONS.
7. NO FIRE PROTECTION LINE SHALL BE DESIGNED OR INSTALLED PRIOR TO CLOSE COORDINATION WITH ALL OTHER DISCIPLINES. DUCTWORK, MECHANICAL PIPING AND PLUMBING TAKE SPACE PRECEDENCE OVER FIRE PROTECTION PIPING. FAILURE TO COMPLY WILL RESULT IN THE FIRE PROTECTION REMOVAL AND REINSTALLATION AT THE FIRE PROTECTION CONTRACTORS EXPENSE.
8. SLEEVE/CONFIGURE CMU WALLS FOR EMBEDDED PIPING AND PIPE PENETRATIONS AS REQUIRED.
9. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURE MOUNTING HEIGHTS, DIMENSIONS, AND OTHER REQUIREMENTS.
10. CONTRACTOR TO VERIFY CONNECTION SIDE OF ADA FIXTURES AND ADJUST ACCORDINGLY.
11. LOCATE ALL VENTS MINIMUM 25' AWAY FROM AIR INTAKES.
12. INSTALL ALL DOMESTIC WATER LINES BELOW DUCTWORK.
13. INSTALL A 24" X 24" ACCESS DOOR BELOW ALL ISOLATION VALVES & CIRCUIT SETTERS WHERE MOUNTED ABOVE HARD CEILINGS.
14. MOUNT ALL ISOLATION VALVES, CONTROL VALVES, CIRCUIT SETTERS, ETC. NEAR CEILING HEIGHT FOR ACCESSIBILITY.
15. INSTALL ALL EQUIPMENT WITH SUFFICIENT CLEARANCE FOR MAINTENANCE PER MANUFACTURERS RECOMMENDATION.
16. COORDINATE ALL FLOOR PENETRATIONS WITH STRUCTURAL AND PROVIDE SLEEVES AS NECESSARY.
17. COORDINATE EXACT LOCATION OF PLUMBING WITH STRUCTURAL MEMBERS, LIGHTS, REFLECTED CEILING, CABLE TRAY, DUCTWORK, MECHANICAL PIPING, MEDICAL GASES, FIRE PROTECTION AND OTHER TRADES, TYPICAL.
18. COORDINATE THE LOCATION OF THE FLOOR DRAIN, SHOWER DRAIN, OR FLOOR SINK WITH ARCHITECTURAL AND STRUCTURAL, TYPICAL.
19. ACCESS DOORS SHALL BE PROVIDED TO ALL WATER HAMMER ARRESTORS IN WALLS OR ABOVE CEILINGS.
20. COORDINATE ROOF PENETRATIONS WITH STRUCTURAL.
21. HOSE BIBBS SHOWN AT LAVATORIES ARE TO BE MOUNTED AT AN ACCESSIBLE LOCATION UNDER THE LAVATORY.
22. COORDINATE THE EXACT LOCATION OF ROOF DRAINS AND OVERFLOWS WITH ARCHITECTURAL ROOF PLAN.

KEYED NOTES

1. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
2. EXISTING FLOOR DRAIN AND RELATED PIPING TO REMAIN.
3. EXISTING ROOF DRAIN PIPING TO REMAIN.
4. EXISTING ROOF DRAIN AND RELATED PIPING TO REMAIN.
5. EXISTING WASTE LINE TO REMAIN.
6. EXISTING 4" VTR TO REMAIN.
7. EXISTING DOMESTIC WATER PIPING TO REMAIN.

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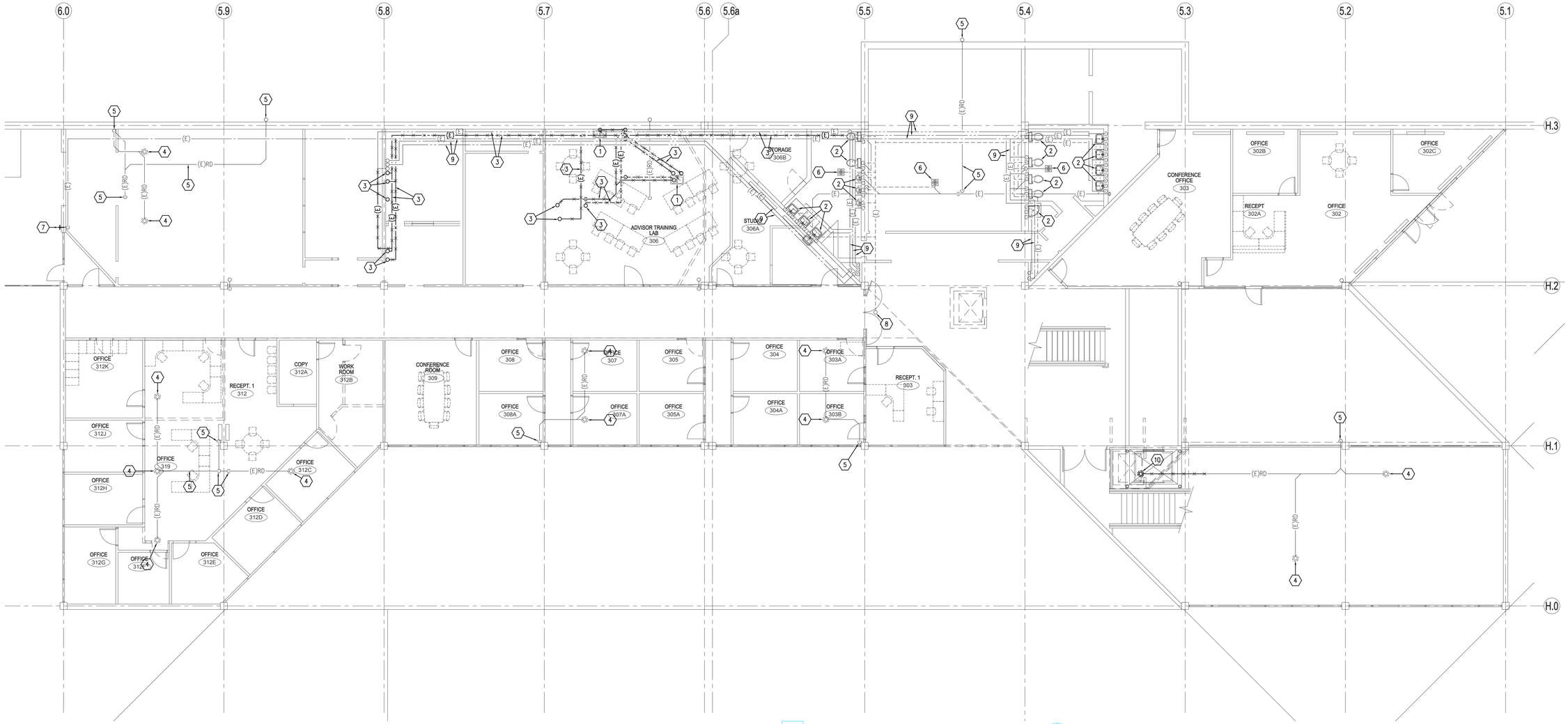
LEVEL TWO
PLUMBING DEMOLITION PLAN

PD102



C1 LEVEL 3 PLUMBING DEMOLITION PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. REMOVE EXISTING FIXTURE AND RELATED PIPING BACK TO ACTIVE MAINS AND CAP.
2. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
3. REMOVE EXISTING PIPING.
4. EXISTING ROOF DRAIN AND RELATED PIPING TO REMAIN.
5. EXISTING ROOF DRAIN LINE TO REMAIN.
6. EXISTING FLOOR DRAIN AND RELATED PIPING TO REMAIN.
7. EXISTING NON-FREEZE HYDRANT AND RELATED PIPING TO REMAIN.
8. EXISTING 4" VTR TO REMAIN.
9. EXISTING DOMESTIC WATER PIPING TO REMAIN.
10. REMOVE EXISTING ROOF DRAIN AND REALTED BACK TO ACTIVE MAIN AND CAP.

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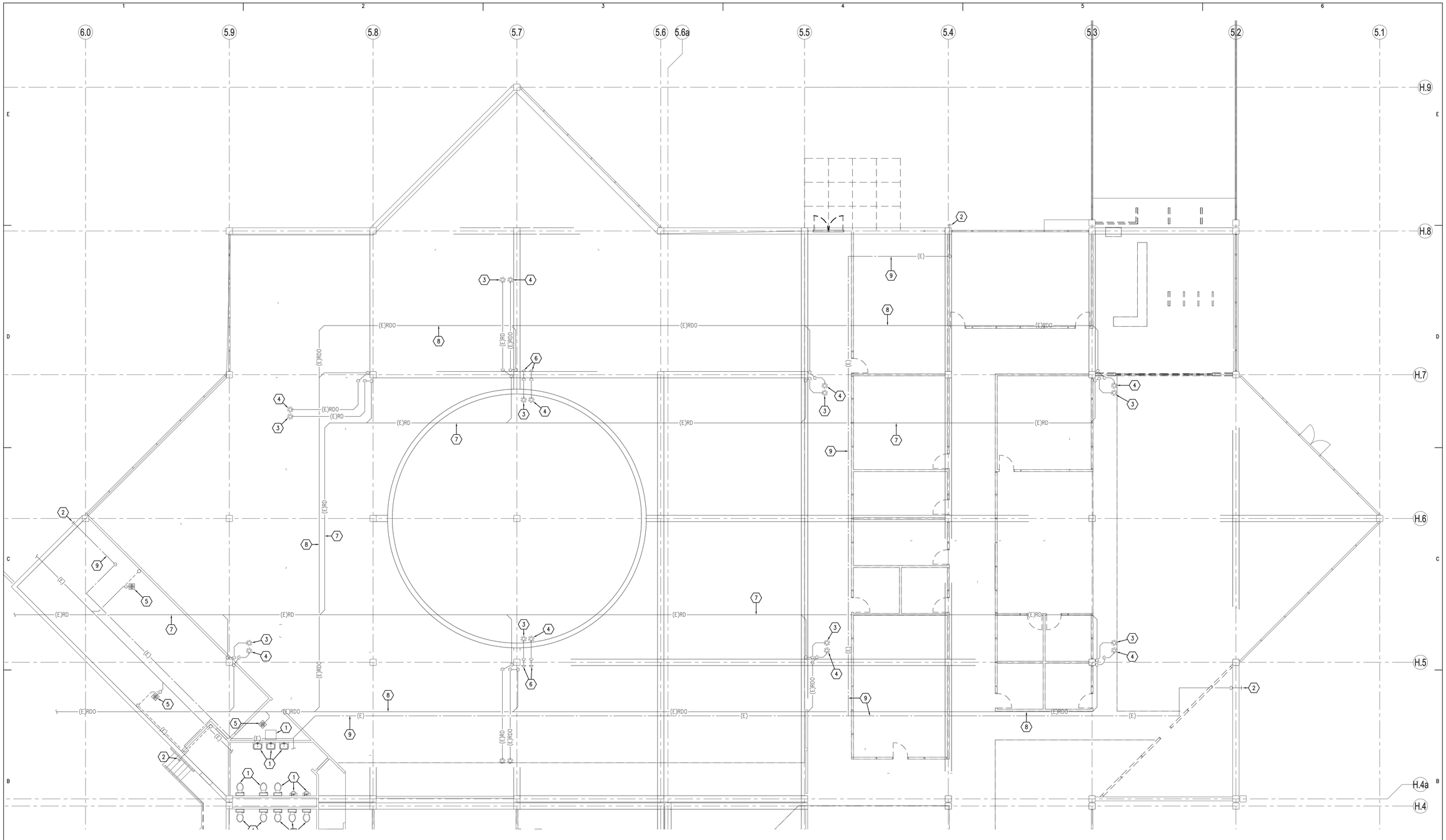
LEVEL THREE
PLUMBING DEMOLITION PLAN

PD103



B1 LEVEL 4 PLUMBING DEMOLITION PLAN (A)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
2. EXISTING NON-FREEZE HYDRANT AND RELATED PIPING TO REMAIN.
3. EXISTING ROOF DRAIN AND RELATED PIPING TO REMAIN.
4. EXISTING ROOF DRAIN OVERFLOW LINE AND RELATED PIPING TO REMAIN.
5. EXISTING FLOOR DRAIN AND RELATED PIPING TO REMAIN.
6. DOWNSPOUT NOZZLE TO REMAIN.
7. EXISTING ROOF DRAIN PIPING TO REMAIN.
8. EXISTING ROOF DRAIN OVERFLOW PIPING TO REMAIN.
9. EXISTING WATER PIPING TO REMAIN.

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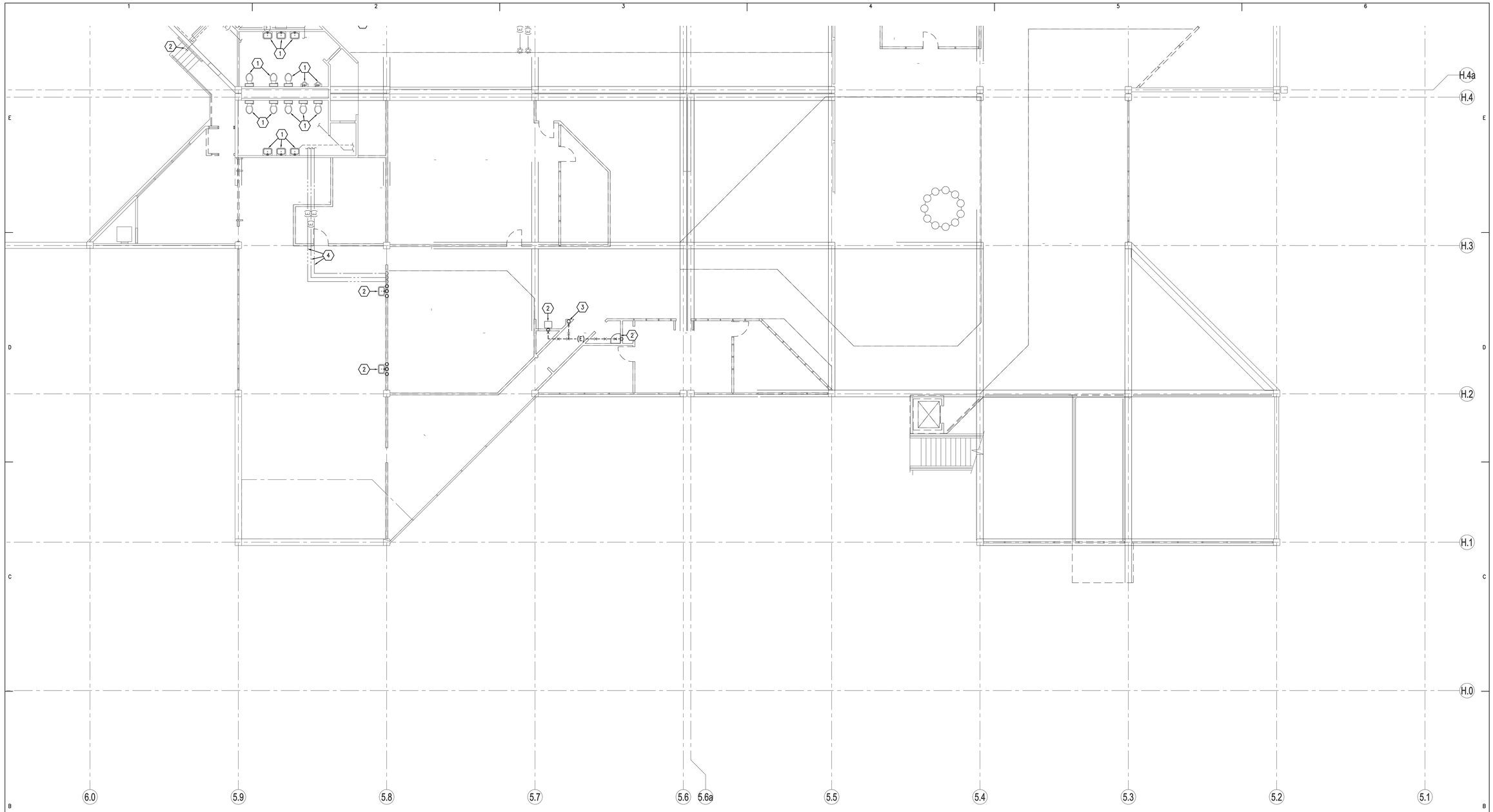
LEVEL FOUR (A)

PLUMBING DEMOLITION PLAN

PD104A



B1 LEVEL 4 PLUMBING DEMOLITION PLAN (B)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
2. REMOVE EXISTING FIXTURE AND RELATED PIPING BACK TO ACTIVE MAINS AND CAP.
3. CAP EXISTING VENT LINE AT STRUCTURE.
4. EXISTING DOMESTIC WATER PIPING TO REMAIN.

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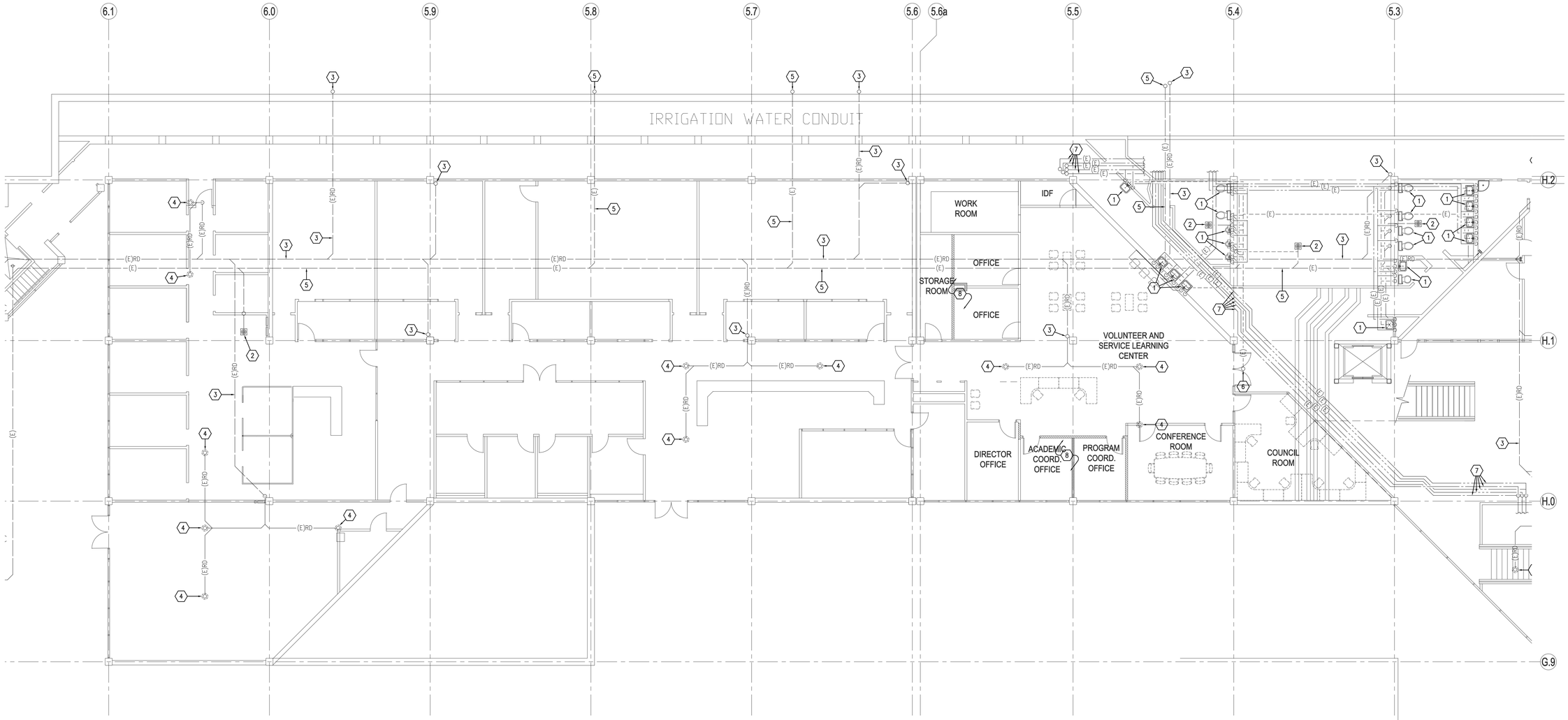
LEVEL FOUR (B)
PLUMBING DEMOLITION PLAN

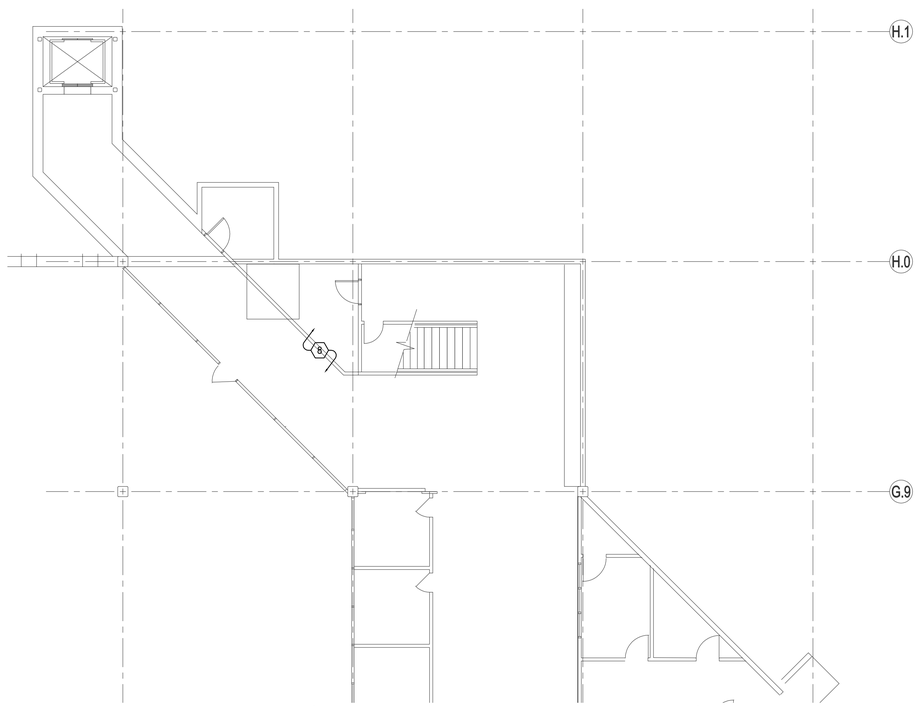
PD104B



C1 LEVEL 2 PLUMBING PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH



A1 LEVEL 1 PLUMBING PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
2. EXISTING FLOOR DRAIN AND RELATED PIPING TO REMAIN.
3. EXISTING ROOF DRAIN PIPING TO REMAIN.
4. EXISTING ROOF DRAIN AND RELATED PIPING TO REMAIN.
5. EXISTING WASTE LINE TO REMAIN.
6. EXISTING 4" VTR TO REMAIN.
7. EXISTING DOMESTIC WATER PIPING TO REMAIN.
8. RELOCATE FIRE SPRINKLER HEAD LOCATIONS FOR MODIFIED FLOOR & CEILING PLANS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS. CONTRACTOR TO FIELD VERIFY EXISTING FIRE SPRINKLER SYSTEM.

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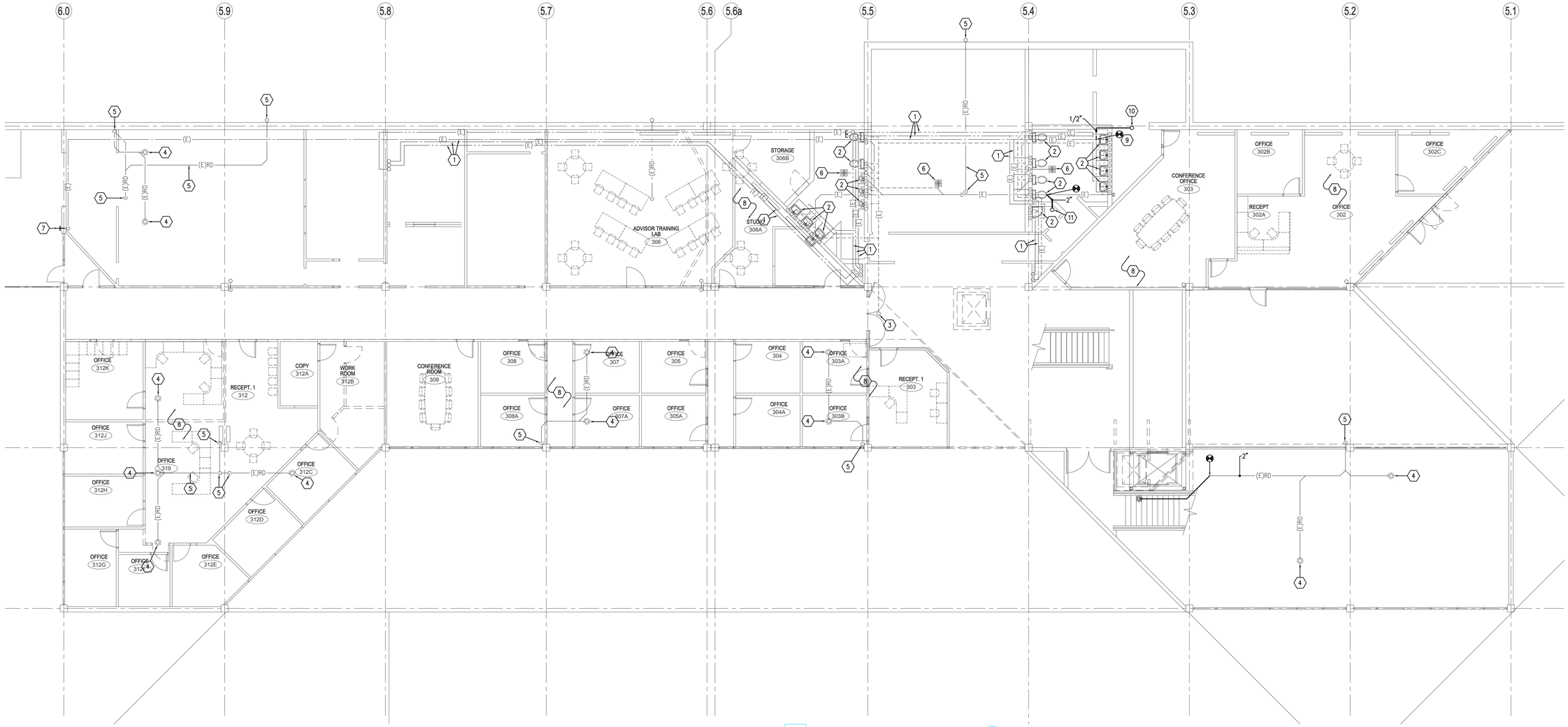
LEVEL TWO
PLUMBING PLAN

P102



C1 LEVEL 3 PLUMBING PLAN

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING DOMESTIC WATER PIPING TO REMAIN.
2. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
3. EXISTING 4" VTR TO REMAIN.
4. EXISTING ROOF DRAIN AND RELATED PIPING TO REMAIN.
5. EXISTING ROOF DRAIN LINE TO REMAIN.
6. EXISTING FLOOR DRAIN AND RELATED PIPING TO REMAIN.
7. EXISTING NON-FREEZE HYDRANT AND RELATED PIPING TO REMAIN.
8. RELOCATE FIRE SPRINKLER HEAD LOCATIONS FOR MODIFIED FLOOR & CEILING PLANS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS. CONTRACTOR TO FIELD VERIFY EXISTING FIRE SPRINKLER SYSTEM.
9. CUT OPENING IN CEILING TO MAKE NEW CONNECTION. PROVIDE AND INSTALL ACCESS DOOR.
10. 1/2" CW LINE UP, SEE P104B.
11. 2" WASTE LINE UP. SEE P04B.

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LEVEL THREE
PLUMBING PLAN

P103

B1 LEVEL 4 PLUMBING PLAN (A)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
2. EXISTING NON-FREEZE HYDRANT AND RELATED PIPING TO REMAIN.
3. EXISTING ROOF DRAIN AND RELATED PIPING TO REMAIN.
4. EXISTING ROOF DRAIN OVERFLOW LINE AND RELATED PIPING TO REMAIN.
5. EXISTING FLOOR DRAIN AND RELATED PIPING TO REMAIN.
6. DOWNSPOUT NOZZLE TO REMAIN.
7. EXISTING ROOF DRAIN PIPING TO REMAIN.
8. EXISTING ROOF DRAIN OVERFLOW PIPING TO REMAIN.
9. EXISTING WATER PIPING TO REMAIN.
10. RELOCATE FIRE SPRINKLER HEAD LOCATIONS FOR MODIFIED FLOOR & CEILING PLANS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS. CONTRACTOR TO FIELD VERIFY EXISTING FIRE SPRINKLER SYSTEM.

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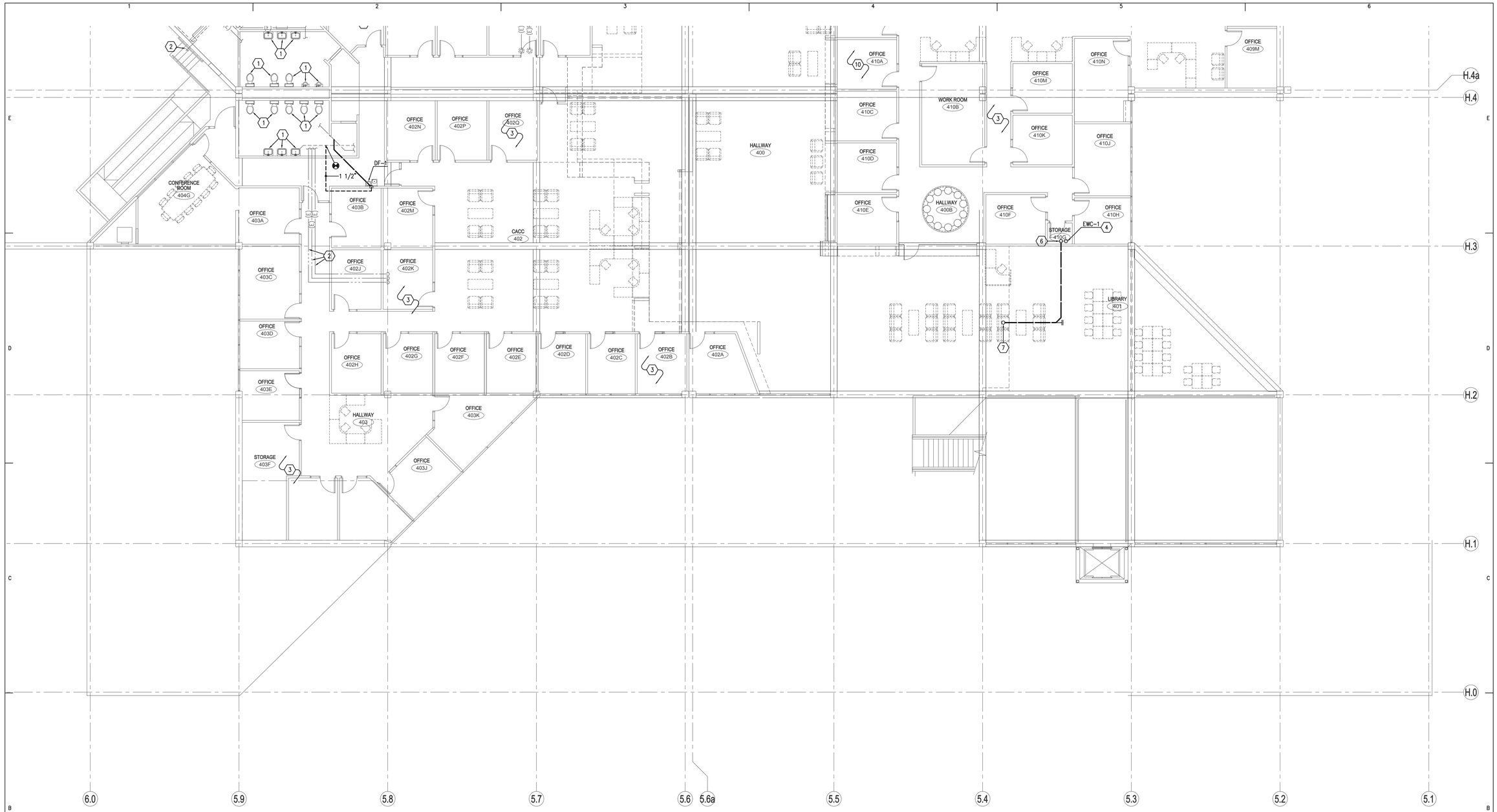
LEVEL FOUR (A)
PLUMBING PLAN

P104A



B1 LEVEL 4 PLUMBING PLAN (B)

SCALE: 1/8"=1'-0"

PROJECT NORTH

KEYED NOTES

1. EXISTING FIXTURE AND RELATED PIPING TO REMAIN.
2. EXISTING DOMESTIC WATER PIPING TO REMAIN.
3. RELOCATE FIRE SPRINKLER HEAD LOCATIONS FOR MODIFIED FLOOR & CEILING PLANS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS. CONTRACTOR TO FIELD VERIFY EXISTING FIRE SPRINKLER SYSTEM.
4. WATER PIPING FROM BELOW. SEE P103.
5. SLOPE 1%.
6. 1 1/2" VENT LINE UP TO STRUCTURE, TERMINATE 3" VENT THROUGH ROOF.
7. 2" WASTE LINE DOWN, SEE P103.

PLUMBING FIXTURE SCHEDULE

ID	FIXTURE	CW (IN)	HW (IN)	W (IN)	V (IN)	NOTES
DF-1	DRINKING FOUNTAIN	1/2		2"	1 1/2	
EWC-1	ELECTRIC WATER COOLER	1/2		2"	1 1/2	
RD-1	ROOF DRAIN			SEE PLANS		

1. ALL UNDER GROUND WASTE AND VENT SHALL BE 2" OR GREATER PER DRAWINGS.

Axis Architects
352 SOUTH DENVER STREET(440 EAST) SALT LAKE CITY UTAH 84111 P 355-3003 F 355-0113

LICENSED PROFESSIONAL ENGINEER
No. 4775391
SPENCER W. HOWELL
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision # Date

Axis Job # 0719
Owner # DFCM
Date 06-24-2008
Drawn
Checked

LEVEL FOUR (B)
PLUMBING PLAN

P104B

FIXTURE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	VOLTS	LAMPS
A	4' 2-LAMP STRIP WITH WIRE GUARD	LITHONIA C232 120 EB WG	120	(2) F32 T8 835
B	4' SURFACE MOUNTED ACRYLIC WRAPAROUND; 2-LAMP	LITHONIA CB 232 120 EB	120	(2) F32 T8 835
C	FLUORESCENT ELEVATOR PIT LIGHT	HUBBELL VW 151 VG15	120	(1) 32W TT
D2	2 X 4 LAY-IN; 2-LAMPS	LEDALITE 9724 D1 ST T232 S 1 1 E	120	(2) F32 T8 835
DM	2 X 4 LAY-IN DIMMING BALLAST	LEDALITE 9724 D1 ST T232 S 1 1 E DS	120	(2) F32 T8 835
E2	2 X 4 LAY-IN; 2-LAMP; A12.125 ACRYLIC LAY-IN	LITHONIA 2SP8 G 232 A12125 120 EB	120	(2) F32 T8 835
E2E	2 X 4 LAY-IN; 2-LAMP; A12.125 ACRYIC LAY-IN W/1400 LUMEN EMERGENCY BATTERY PACK	LITHONIA 2SP8G 232 A12125 120 EB EL1400	120	(2) F32 T8 835
E3	2 X 4 LAY-IN; 3-LAMP; A12.125 ACRYLIC LAY-IN	LITHONIA 2SP8 G 332 A12125 120 EB	120	(3) F32 T8 835
EM	1400 LUMEN EMERGENCY BATTERY PACK	LITHONIA PS1400 QD	120	
F4	EXIST. 4' 1 LAMP STRIP WITH SYMMETRICAL REFLECTORS SALVAGED FROM REMODELED AREAS CLEAN AND RELAMP	EXISTING	120	(1) F32 T8 835

LIGHT FIXTURE ABBREVIATION SCHEDULE

NOTE: NOT ALL ABBREVIATIONS WILL NECESSARILY BE USED.

A.F.F.	ABOVE FINISH FLOOR
WALL@CLG	WALL MOUNT AT CORNER OF WALL AND CEILING
CCBA	CUSTOM PAINTED COLOR AS SELECTED BY THE ARCHITECT
SCBA	STANDARD PAINTED COLOR AS SELECTED BY THE ARCHITECT
CFBA	CUSTOM FINISH AS SELECTED BY THE ARCHITECT
SFBA	STANDARD FINISH AS SELECTED BY THE ARCHITECT
MOD	MODIFY STANDARD LIGHT FIXTURE AS INDICATED

LIGHT FIXTURE GENERAL NOTES

1. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF LIGHT FIXTURES. BRING ALL DISCREPANCIES OF LOCATIONS AND QUANTITIES TO THE ATTENTION OF THE ARCHITECT AND ELECTRICAL ENGINEER PRIOR TO BIDDING.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS AND LOCATIONS OF LIGHT FIXTURES. BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.
3. REFER TO THE SPECIFICATIONS FOR OTHER LIGHT FIXTURE, FUSING, BALLAST, AND LAMP REQUIREMENTS AND ACCEPTABLE MANUFACTURERS.
4. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOUVER REQUIREMENTS AS REQUIRED.
5. CONFIRM AVAILABLE MOUNTING DEPTHS OF ALL LIGHT FIXTURES AND COMPARE WITH DEPTHS SHOWN ON SHOP DRAWINGS. BRING ALL POTENTIAL CONFLICT AREAS TO THE ATTENTION OF THE ARCHITECT AND ELECTRICAL ENGINEER PRIOR TO RELEASE.

BIDDING REQUIREMENTS

1. BID ONLY PRODUCTS THAT ARE SPECIFIED OR APPROVED BY ADDENDUM.
2. PACKAGING OF LIGHT FIXTURES WITH OTHER SYSTEMS IS NOT ALLOWED.
3. WHEN ONLY ONE PRODUCT IS APPROVED FOR BIDDING, THE PRICE FOR THAT ITEM SHALL BE BROKEN OUT SEPARATELY WHEN SUBMITTING PRICING TO VARIOUS DISTRIBUTORS AND/OR CONTRACTORS.
4. WHEN A CONTRADICTION EXISTS BETWEEN A SPECIFIC MODEL NUMBER AND THE DESCRIPTION, THE DESCRIPTION SHALL GOVERN.

PRIOR APPROVAL REQUIREMENTS

1. PRIOR APPROVAL IS REQUIRED BEFORE BIDDING THIS PROJECT.
2. PRIOR APPROVALS SHALL BE SUBMITTED TO THE ELECTRICAL ENGINEER'S OFFICE AT LEAST (8) EIGHT WORKING DAYS BEFORE THE BID. PRIOR APPROVALS RECEIVED AFTER THIS TIME PERIOD SHALL BE REJECTED.
3. PRIOR APPROVALS SHALL BE SIGNED BY A PRINCIPAL OF THE SUBMITTING ORGANIZATION STATING THAT THEY HAVE PREPARED AND/OR REVIEWED THE SUBMITTAL AND THAT THE PRODUCTS PROPOSED ARE EQUIVALENT TO THOSE SPECIFIED. ANY EXCEPTIONS SHALL BE SO NOTED.
4. ITEMS THAT ARE SUBMITTED AND HAVE BEEN APPROVED WILL BE LISTED IN THE ADDENDUM(S). VERBAL APPROVAL WILL NOT BE GIVEN ON ANY ITEM.
5. IT IS NOT THE RESPONSIBILITY OF THE ELECTRICAL ENGINEER TO NOTIFY THE SUBMITTING PARTY OF ERRORS IN THE SUBMITTAL. NOTIFICATION OF ERRORS BY THE ELECTRICAL ENGINEER PRIOR TO ISSUANCE OF THE ADDENDUM(S) MAY NOT BE GIVEN.
6. PRIOR APPROVALS SHALL CONSIST OF TWO SETS OF CUT SHEETS DESCRIBING THE PRODUCTS BEING SUBMITTED AS EQUIVALENTS. FAXES ARE NOT ACCEPTABLE. ALL SPECIFICATION INFORMATION SHALL BE CLEARLY MARKED, WITH NON-APPLICABLE INFORMATION CROSSED OUT. COMPLETE PHOTOMETRIC DATA SHALL BE PROVIDED. PRODUCTS WITHOUT PHOTOMETRIC DATA WILL NOT BE APPROVED.
7. SUPPLY POINT-BY-POINTS AS REQUIRED BY THE ELECTRICAL ENGINEER AND/OR LIGHTING DESIGNER.
8. SAMPLE FIXTURES MUST BE SUPPLIED WITH A CORD, PLUG AND 120V BALLAST.

LIGHTING SHOP DRAWING REQUIREMENTS

1. REFER TO SPECIFICATIONS 16001, 16510 & 16551.
2. MUST INCLUDE BALLAST AND LAMP CUT SHEETS.
3. LINEAR LIGHTING MUST INCLUDE DETAILED DRAWINGS WITH SUPPORT DETAILS, STEM LOCATIONS AND HAVE ALL LENGTHS IDENTIFIED WITH STEM LOCATIONS.
4. COLOR SAMPLES MUST BE INCLUDED IN FIRST SUBMITTAL.
5. CUT SHEETS MUST BE STAMPED WITH THE FACTORY REPRESENTATIVE'S COMPANY NAME.
6. VALUE ENGINEERING CONDUCTED WITHOUT THE DESIGN TEAM IE; ARCHITECT, OWNER, ENGINEER & LIGHTING CONSULTANT/DESIGNER WILL NOT BE ALLOWED, REVIEWED OR APPROVED.
7. PROVIDE A LIST OF SPARE PARTS, EQUIPMENT & LAMPS.

EQUIPMENT SCHEDULE

UNIT #	FUNCTION	LOAD	VOLT	PHASE	FULL LOAD AMPS	CONDUIT SIZE	WIRES: NO. SETS	WIRES: NO.	WIRES: SIZE	WIRES: EQUIP. GND (1)	OCPD: TYPE	OCPD: AMPS	REF. NOTES: STARTER	REF. NOTES: DISCONNECT	REF. NOTES: OTHER	REMARKS
EL-1	ELEVATOR	40 HP	208	3	120.00	1-1/2"	1	3	1/0	4	CB	250		2A		
P-1	PUMP	5 HP	208	3	16.70	3/4"	1	3	12	12	CB	30	9A			
P-2	PUMP	5 HP	208	3	16.70	3/4"	1	3	12	12	CB	30	9A			
P-3	PUMP	7.5 HP	208	3	24.20	3/4"	1	3	8	10	CB	50	9A			
P-4	PUMP	7.5 HP	208	3	24.20	3/4"	1	3	8	10	CB	50	9A			
SF-1	SUPPLY FAN	15 HP	208	3	46.20	1"	1	3	4	8	CB	90	9A			
SF-2	SUPPLY FAN	15 HP	208	3	46.20	1"	1	3	4	8	CB	90	9A			
SF-3	SUPPLY FAN	20 HP	208	3	59.40	1-1/4"	1	3	3	8	CB	100	9A			
SF-4	SUPPLY FAN	20 HP	208	3	59.40	1-1/4"	1	3	3	8	CB	100	9A			
SF-5	SUPPLY FAN	50 HP	208	3									9A			

NOTES:
1. NON-FUSED DISCONNECT SWITCH
2. FUSED DISCONNECT SWITCH
3. BREAKER IN ENCLOSURE
4. MANUAL STARTER W/THERMAL OVERLOAD
5. MAGNETIC STARTER
6. MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION
7. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION
8. MAGNETIC STARTER/BREAKER COMBINATION
9. VARIABLE FREQUENCY DRIVE
10. REDUCED VOLTAGE STARTER
11. DIRECT CONNECTION
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.
13. TWO-SPEED STARTER, COORDINATE W/MOTOR TYPE

A. FURNISHED, INSTALLED, AND CONNECTED UNDER DIVISION 16
B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIVISION 16.
C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIVISION 16.
D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.

CB = CIRCUIT BREAKER - THERMAL MAGNETIC
CKW = CHILLER KILOWATTS

NOTE 1: PER 250.122(A), EQUIPMENT GROUND IS NOT REQUIRED TO BE LARGER THAN PHASE CONDUCTOR.

DEMOLITION NOTES

1. COORDINATE ALL NEW ELECTRICAL EQUIPMENT REQUIREMENTS AND MAKE CONNECTION TO EXISTING SYSTEMS. THIS INCLUDES LIGHTING, POWER, SIGNAL, RACEWAY AND OTHER SYSTEMS INCLUDED UNDER DIVISION 16.
2. RELOCATE, REWIRE AND/OR RECONNECT EXISTING ELECTRICAL DEVICES AND/OR EQUIPMENT THAT FOR ANY REASON OBSTRUCTS CONSTRUCTION.
3. CONCEAL ALL RACEWAY AND WIRING IN EXISTING WALLS, CEILINGS, FLOORS, ETC. EXCEPT WHERE THE USE OF SURFACE METAL RACEWAYS (E.G. WIRE MOLD) IS INDICATED ON DRAWINGS OR IN SPEC.
4. LEAVE ALL EXISTING EQUIPMENT, IN PORTIONS OF THE BUILDING NOT BEING REMODELED, IN WORKING CONDITION. RESTORE ALL INTERRUPTED BRANCH CIRCUITS, FEEDERS, ETC. TO WORKING CONDITION.
5. EXISTING RACEWAYS MAY BE REUSED (IN PLACE) WHERE POSSIBLE, AND WHERE IN COMPLIANCE WITH THE SPECIFICATIONS AND THE INTENT OF THE CONTRACT DOCUMENTS. INSURE INTEGRITY OF EXISTING RACEWAY BEFORE REUSE.
6. REMOVE ALL RACEWAYS, CONDUCTORS, BOXES, DEVICES, EQUIPMENT, ETC. THAT ARE NOT TO BE REUSED.
7. REMOVE EXISTING LIGHT FIXTURES WHICH ARE NOT TO BE REUSED, PLACE IN CARTON, LABEL APPROPRIATELY, AND RETURN TO OWNER, OR PROPERLY DISPOSE OF FIXTURES THAT THE OWNER CHOOSES NOT TO KEEP.
8. DO NOT PENETRATE STRUCTURAL ELEMENTS OF FLOORS, WALLS, CEILINGS, ROOFS, ETC.
9. DISCONNECT AND RECONNECT ANY/ALL FIXTURES, DEVICES, EQUIPMENT, ETC. REQUIRED FOR PROPER COMPLETION OF THE WORK.

ELECTRICAL SYMBOL SCHEDULE

1. SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.
2. HEIGHT MEASURED TO CENTER LINE OF THE BOX FROM THE FINISH FLOOR.
3. REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.
4. SUBSCRIPT KEYS SWITCH TO FIXTURES CONTROLLED.
5. NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HD' 480 V.
6. HEIGHT TO BE THE LOWER OF EITHER 80" A.F.F. OR 6" BELOW CEILING.
7. PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED.
8. DOUBLE ARROWS DENOTE A DOUBLE FACE UNIT.
9. COORDINATE WITH MILLWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT.
10. SUBSCRIPT DENOTES NEMA CONFIGURATION.
11. HEIGHT MEASURED TO BOTTOM OF THE BOX FROM FINISH FLOOR.

* TYPICAL SYMBOL SCHEDULE. SOME SYMBOLS MAY NOT BE USED IN THIS SET OF DRAWINGS.

STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
	ONE CIRCUIT, TWO WIRE HOME RUN TO PANEL		
	2 CIRCUIT, 3 WIRE, COMMON NEUTRAL HOME RUN		
	3 CIRCUIT, 4 WIRE, COMMON NEUTRAL HOME RUN		
	CONDUIT RUN CONCEALED IN WALL OR CEILING		
	CONDUIT RUN CONCEALED IN FLOOR OR GROUND		
	CONDUIT UP		
	CONDUIT DOWN		
	CONDUIT STUB LOCATION	CAP CONDUIT	
	CABLE TRAY	AS NOTED	
	CEILING LIGHT FIXTURE	CEILING	1.
	WALL LIGHT FIXTURE	AS NOTED	1.
	RECESSED DOWNLIGHT FIXTURE	CEILING	1.
	FLUORESCENT LIGHT FIXTURE	AS NOTED	1
	FLUORESCENT EGRESS LIGHT FIXTURE	AS NOTED	UNSWITCHED
	AREA LIGHT POLE AND FIXTURE	CONCRETE BASE	SEE DIAGRAM
	FLOOD OR TRACK FIXTURE	AS NOTED	
	CEILING MOUNTED EXIT LIGHT	CEILING	1.3.8.
	WALL MOUNTED EXIT LIGHT	AS NOTED	1.3.8.
$	SINGLE POLE SWITCH	+4'-0"	2.
$a	SINGLE POLE SWITCH	+4'-0"	4. 2.
$3	THREE-WAY SWITCH	+4'-0"	2.
$4	FOUR-WAY SWITCH	+4'-0"	2.
$K	KEY OPERATED SWITCH	+4'-0"	2.
$P	SWITCH WITH PILOT LIGHT	+4'-0"	2.
$D	VARIABLE INTENSITY SWITCH	+4'-0"	2.
$TM	TIMER SWITCH	+4'-0"	2.
	MOMENTARY CONTACT SWITCH, CENTER POSITION OFF	+4'-0"	2.
	OCCUPANCY SENSOR	CEILING	
	OCCUPANCY SENSOR	+4'-0"	2.
PP	POWER PACK	CEILING	SEE DIAGRAM, SPEC.
A	AUTOMATIC RELAY PACK	CEILING	SEE DIAGRAM. SPEC.
T	LOW VOLTAGE TRANSFORMER		
	DUPLEX RECEPTACLE UPPER OUTLET SWITCH CONTROLLED	+16" OR AS NOTED	9. 11.
	SIMPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
A	DUPLEX RECEPTACLE		9.
W	ELECTRIC WATER COOLER RECEPTACLE		SEE DIAGRAM
WP	WEATHERPROOF RECEPTACLE	+24" OR AS NOTED	2. 9.
IG	ISOLATED GROUND RECEPTACLE	+16" OR AS NOTED	9. 11.
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	DUPLEX RECEPTACLE EMERGENCY POWER (RED)	+16" OR AS NOTED	9. 11.
	FOURPLEX RECEPTACLE	+16" OR AS NOTED	9. 11.
	FOURPLEX RECEPTACLE EMERGENCY POWER (RED)	+16" OR AS NOTED	9. 11.
	FLOOR OUTLET WITH 20A DEVICE	FLOOR	
	MULTIPLE SERVICE FLOOR BOX	FLOOR	
	SPECIAL PURPOSE OUTLET	+16" OR AS NOTED	10. WITH CAP. 11.
	CORD DROP		SEE DIAGRAM
	PLUGMOLD	+46" OR AS NOTED	
	TELEVISION OUTLET	+16" OR AS NOTED	11.
	DATA OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE/DATA OUTLET	+16" OR AS NOTED	9. 11.
	TELEPHONE OUTLET	FLOOR	
	CALL SWITCH	+4'-0"	2.
	CLOCK OUTLET	+7'-6"	8.
	CLOCK/SPEAKER COMBINATION	+7'-6"	

STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS

SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
J	JUNCTION BOX ('F' IN FLOOR)	AS NOTED	
	MOTOR OUTLET	TO SUIT EQUIP.	
P	PHOTO-ELECTRIC CONTROL	AS NOTED	TORK 2000A
TC	TIME CLOCK	+5'-0"	2.
	PUSHBUTTON	+4'-0"	2.
	NON-FUSED DISCONNECT SWITCH	+5'-0"	5.
F	FUSED DISCONNECT SWITCH	+5'-0"	5.
$T	MANUAL STARTER THERMAL OVERLOAD SWITCH WITH PILOT LIGHT	+4'-0"	2.
	MAGNETIC STARTER	+5'-0"	7.
	MAGNETIC STARTER / DISCONNECT COMBINATION	+5'-0"	
VFD	VARIABLE FREQUENCY DRIVE	+6'-6"	
	PANEL BOARD	TOP AT +6'-0"	
	MAIN DISTRIBUTION PANEL		
	TELEPHONE TERMINAL BOARD		
	BELL	+7'-6"	
	CHIME	+7'-6"	
F	FIRE ALARM MANUAL STATION	+4'-0"	2.
H	FIRE ALARM SIGNAL HORN/STROBE PROJECTORS	+6'-8"	6.
H	FIRE ALARM SIGNAL HORN/STROBE	+6'-8"	6.
E	FIRE ALARM SIGNAL SPEAKER/STROBE	+6'-8"	6.
S	SMOKE DETECTOR	CEILING	
D	DUCT SMOKE DETECTOR		MTD. IN DUCT
H	HEAT DETECTOR	CEILING	
D	FIRE/SMOKE DAMPER		
	DOOR HOLDER	AS NOTED	
FS	FLOW SWITCH		
TS	TAMPER SWITCH		
WF	WATER FLOOD INDICATOR		
	O.S. & Y. VALVE		SEE DIAGRAM
R	FIRE ALARM RELAY		
CM	FIRE ALARM CONTROL MODULE		
MM	FIRE ALARM MONITOR MODULE		
S	FIRE ALARM STROBE	+6'-8"	6.
D	DURESS PUSHBUTTON	+4'-0"	
D1	SECURITY SYSTEM DOOR SWITCH	DOOR JAMB	
D2	SECURITY SYSTEM OVERHEAD DOOR SWITCH	CEILING	MOUNT AS PER. MAN
ML	MAGNETIC SHEAR LOCK		
A	SECURITY SYSTEM KEYED ACCESS SWITCH	+4'-0"	2.
I	INFRARED SENSOR	AS NOTED	
M	SECURITY MOTION DETECTOR		MOUNT AS PER. MAN
G	GLASS BREAK DETECTOR	CEILING	
ES	ELECTRIC DOOR STRIKE		
CR	ACCESS CONTROL CARD READER	+4'-0"	2.
	CLOSED CIRCUIT TELEVISION CAMERA	AS NOTED	
	DOOR POSITION INDICATING SWITCH		
#	SOUND SYSTEM SPEAKER	+8'-0" OR AS NOTED	
IC	INTERCOM SPEAKER	AS NOTED	
V	VOLUME CONTROL	+4'-0"	2.
M	MICROPHONE OUTLET	+16"	11.
M	MICROPHONE FLOOR OUTLET	FLOOR	
M	MICROPHONE CEILING OUTLET	CEILING	
	SOUND EQUIPMENT CABINET		CIRCUIT TO 120V
842	ARCHITECTURAL ROOM NUMBER		
A	LIGHT FIXTURE (LETTER DESIGNATES TYPE)		
EQ 34	EQUIPMENT NUMBER		

GENERAL NOTES

1. CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
2. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED UNDER DIVISION 15 WITH APPROVED MECHANICAL SHOP DRAWINGS BEFORE BEGINNING ROUGH IN.
4. SEE SECTION 16510 OF THE SPECIFICATION REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
5. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
6. SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
7. FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
8. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN OTHER AREAS.
9. ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY CONTRACTOR.
10. ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
11. CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 165' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH MINIMUM #10 CONDUCTORS.

INDEX OF ELECTRICAL DRAWINGS

EG000 SYMBOLS, SCHEDULES AND NOTES

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ED102 LEVEL 2 DEMOLITION PLAN
ED103 LEVEL 3 DEMOLITION PLAN
ED104A LEVEL 4 (A) DEMOLITION PLAN
ED104B LEVEL 4 (B) DEMOLITION PLAN

EL101 LEVEL 1 LIGHTING PLAN
EL102 LEVEL 2 LIGHTING PLAN
EL103 LEVEL 3 LIGHTING PLAN
EL104A LEVEL 4 (A) LIGHTING PLAN
EL104B LEVEL 4 (B) LIGHTING PLAN

EP101 LEVEL 1 POWER PLAN
EP102 LEVEL 2 POWER PLAN
EP103 LEVEL 3 POWER PLAN
EP104A LEVEL 4 (A) POWER PLAN
EP104B LEVEL 4 (B) POWER PLAN

EX101 ONE-LINE DIAGRAM
EX102 PANELBOARD SCHEDULES
EX103 ELECTRICAL DIAGRAMS

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LICENSED PROFESSIONAL ENGINEER B. ELAINE FAWSON No. 295587 STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision # Date

Axis Job # 0719
BNA Job # 08110A
Owner # DFCM
Date 07-16-2008
Drawn BNA
Checked EF

SYMBOLS, SCHEDULES AND NOTES

EG000

By: doug; Jul 15, 2008 - 8:14am
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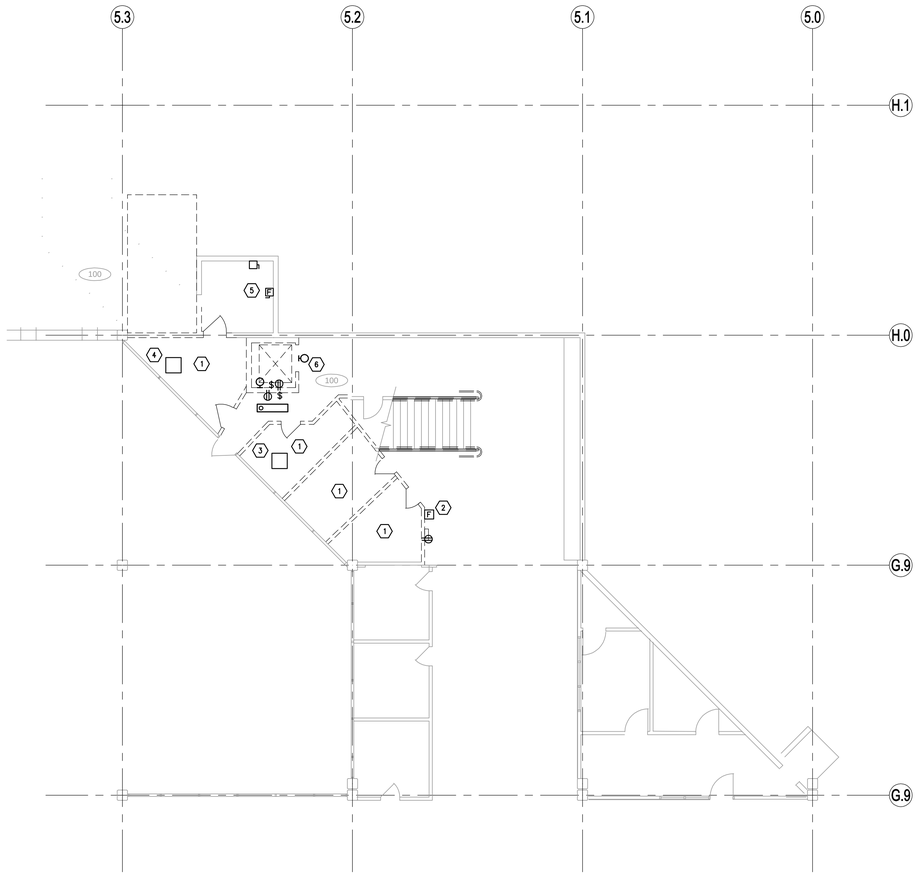
SHEET KEYNOTES

1. REMOVE EXISTING LIGHTS, SWITCHES, OUTLETS, TELEPHONE/DATA JACKS AND WIRING.
2. RELOCATE EXISTING PULL STATION TO NEW LOCATION SHOWN ON SHEET EP101.
3. REMOVE WIRING FROM EXISTING HVAC UNIT BACK TO THE PANEL.
4. EXTEND WIRING FROM EXISTING HVAC UNIT TO NEW LOCATION SHOWN ON MECHANICAL DRAWINGS.
5. REMOVE EXISTING ELEVATOR DISCONNECT SWITCH AND WIRING BACK TO PANEL. LABEL EXISTING CIRCUIT BREAKER "SPARE".
6. REMOVE EXISTING FIXTURE AND RETURN TO THE OWNER.



PLAN NORTH

LEVEL 1
DEMOLITION PLAN
1/8" = 1'-0"

0 4' 8' 16'

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LEVEL 1
DEMOLITION PLAN

ED101

By: doug; Jul 15, 2008 – 8:14am
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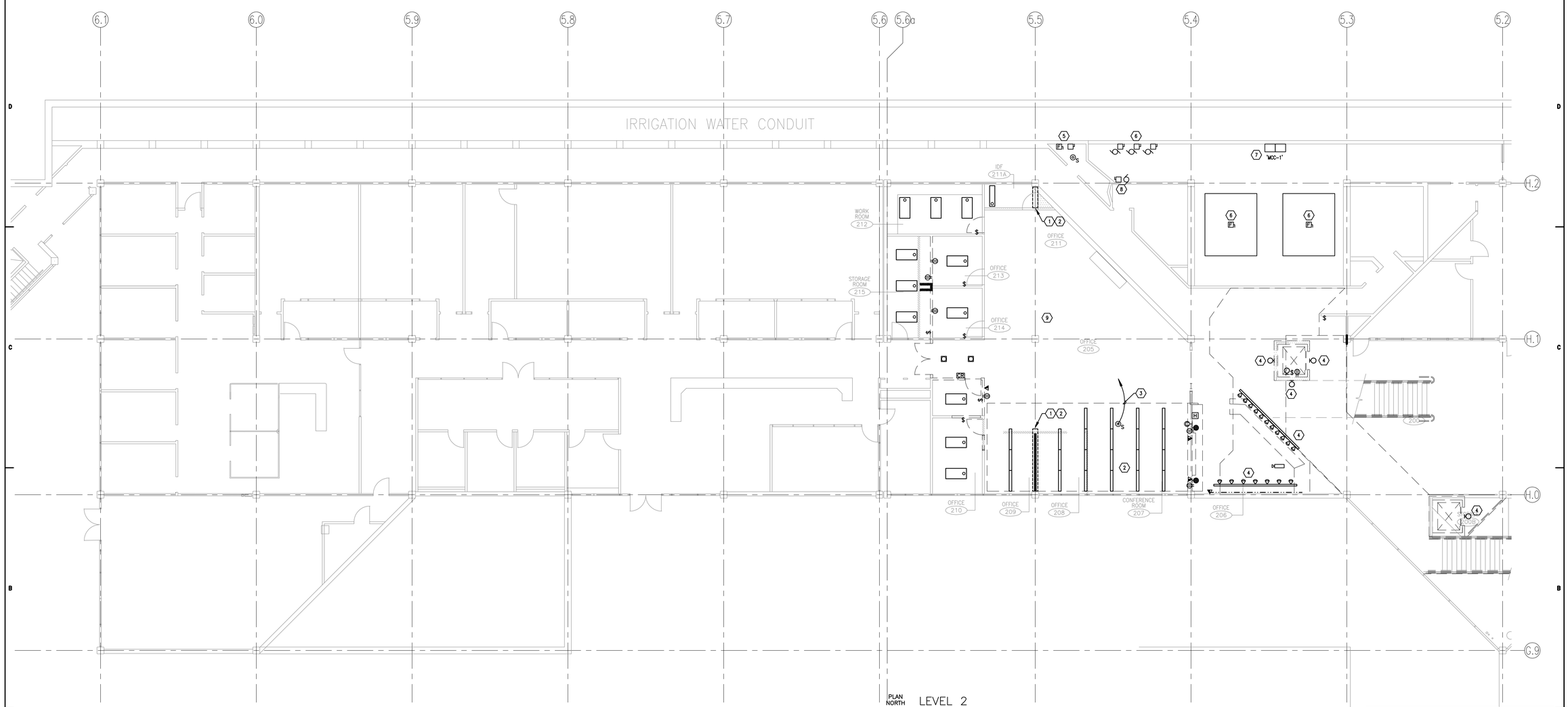
SHEET KEYNOTES

1. REMOVE STRIP LIGHTS FROM PORTIONS OF EXISTING WOOD SOFFIT AT LOCATIONS WHERE SOFFIT IS BEING REMOVED. SEE ARCHITECTURAL DEMOLITION DRAWINGS FOR LOCATIONS.
2. SALVAGE EXISTING FIXTURES AND RELOCATE TO NEW LOCATIONS SHOWN ON LIGHTING DRAWINGS. UNUSED FIXTURES SHALL BE RETURNED TO THE OWNER.
3. RELOCATE EXISTING SMOKE DETECTOR EAST OF NEW OFFICES.
4. REMOVE EXISTING FIXTURES AND RETURN TO THE OWNER.
5. REMOVE DISCONNECT SWITCHES FROM DEMOLISHED ELEVATOR EQUIPMENT AND WIRING BACK TO PANEL. LABEL CIRCUIT BREAKERS "SPARE".
6. REMOVE DISCONNECT SWITCHES FOR MZ-1, MZ-2, P-1, P-2 AND P-3 AND WIRING BACK TO MCC-1.
7. REMOVE EXISTING MCC-1 AND REPLACE WITH NEW MCC-1. SEE SHEET EP102.
8. REMOVE DISCONNECT SWITCH FROM P-4 AND WIRING BACK TO PANEL 18C.
9. COORDINATE DEMOLITION SCHEDULE WITH THE ARCHITECT ON THIS FLOOR.

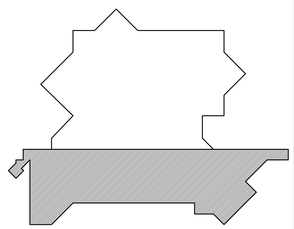


PLAN NORTH

LEVEL 2
DEMOLITION PLAN
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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LICENSED PROFESSIONAL ENGINEER
B. ELAINE FAWSON
No. 295587
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision # Date

Axis Job #	0719
BNA Job #	08110A
Owner #	OFCM
Date	07-16-2008
Drawn	BNA
Checked	EF

LEVEL 2
DEMOLITION PLAN

ED102

By: doug, Jul 15, 2008 - 8:14am
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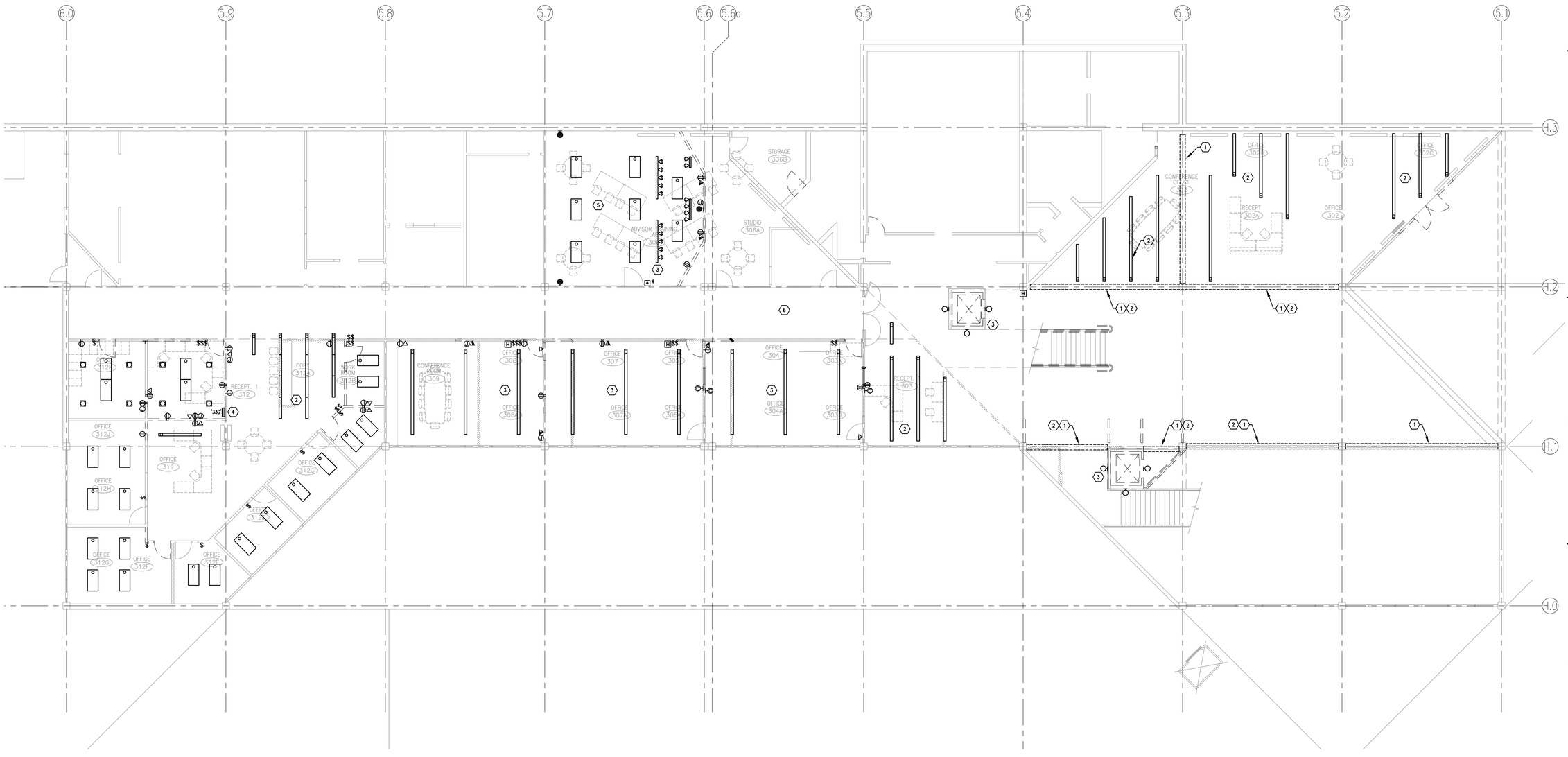
SHEET KEYNOTES

1. REMOVE STRIP LIGHTS FROM PORTIONS OF EXISTING WOOD SOFFIT AT LOCATIONS WHERE SOFFIT IS BEING REMOVED. SEE ARCHITECTURAL DEMOLITION DRAWINGS FOR LOCATIONS.
2. SALVAGE EXISTING FIXTURES AND RELOCATE TO NEW LOCATIONS SHOWN ON LIGHTING DRAWINGS. UNUSED FIXTURES SHALL BE RETURNED TO THE OWNER.
3. REMOVE EXISTING FIXTURES AND RETURN TO OWNER.
4. REMOVE EXISTING PANEL 33G & PROVIDE NEW PANEL 33G AT THE NEW LOCATION SHOWN ON SHEET EP103. PROVIDE NEW FEEDER AND EXTEND EXISTING BRANCH CIRCUITS TO NEW PANEL.
5. REMOVE EXISTING SOUND SYSTEM EQUIPMENT AND RETURN TO THE OWNER.
6. COORDINATE DEMOLITION SCHEDULE WITH THE ARCHITECT ON THIS FLOOR.

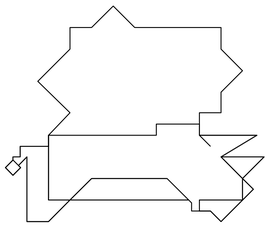


PLAN NORTH

LEVEL 3
DEMOLITION PLAN
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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LEVEL 3
DEMOLITION PLAN

ED103

By: doug, Jul 15, 2008 - 8:15am
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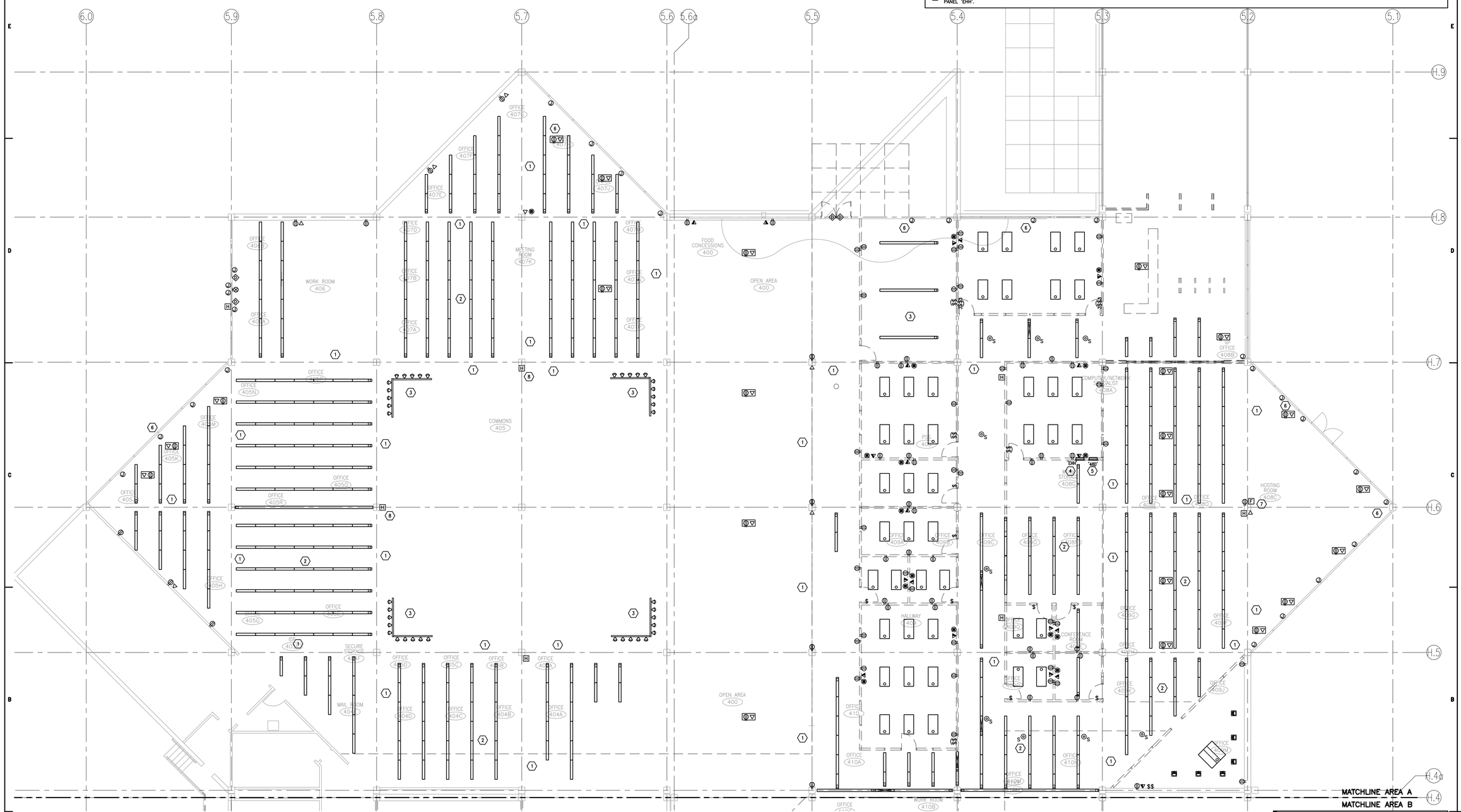
SHEET KEYNOTES

1. REMOVE STRIP LIGHTS FROM PORTIONS OF EXISTING WOOD SOFFIT AT LOCATIONS WHERE SOFFIT IS BEING REMOVED. SEE ARCHITECTURAL DEMOLITION DRAWINGS FOR LOCATIONS.
2. SALVAGE EXISTING FIXTURES AND RELOCATE TO NEW LOCATIONS SHOWN ON LIGHTING DRAWINGS. UNUSED FIXTURES SHALL BE RETURNED TO THE OWNER.
3. REMOVE EXISTING FIXTURES AND RETURN TO THE OWNER.
4. REMOVE EXISTING PANEL '48EHH'. EXTEND EXISTING LOADS WHICH REMAIN IN SERVICE TO NEW PANEL 'EHH'.
5. REMOVE EXISTING PANEL '48D'. EXTEND ANY EXISTING LOADS WHICH REMAIN IN SERVICE TO NEW PANEL '48D'.
6. REMOVE WIRING FROM EXISTING FIN TUBE HEATERS BACK TO PANEL.
7. RELOCATE EXISTING FIRE ALARM DEVICE TO NEW LOCATION SHOWN.
8. RELOCATE EXISTING HORN/STROBE TO OPPOSITE SIDE OF THE COLUMN.



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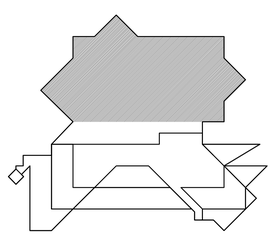

PLAN NORTH

LEVEL 4
DEMOLITION PLAN (A)
1/8" = 1'-0"

0 4' 8' 16'

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Date	07-16-2008
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LEVEL 4
DEMOLITION PLAN

ED104A

By: doug; Jul 15, 2008 – 8:15am
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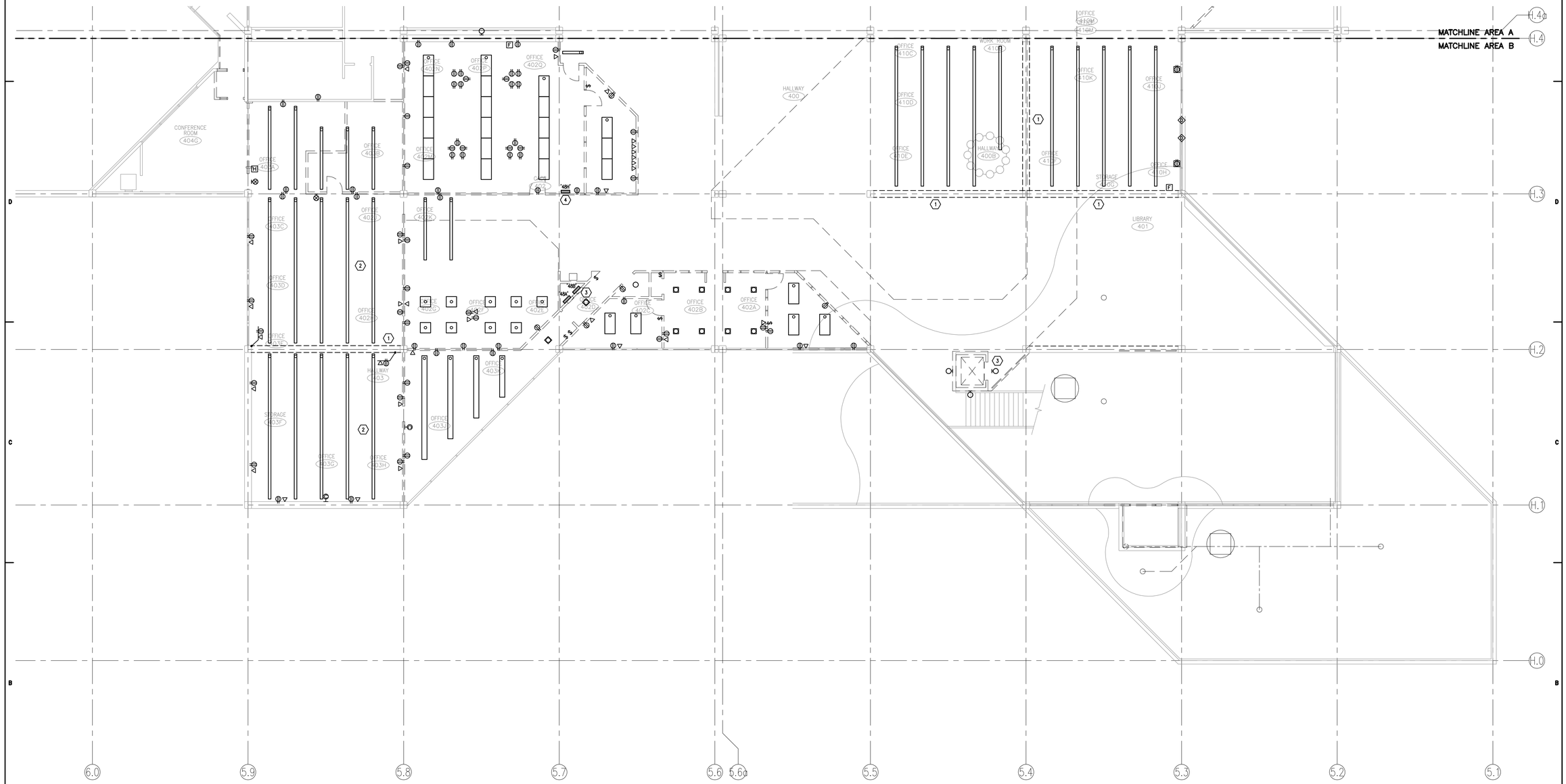
SHEET KEYNOTES

1. REMOVE STRIP LIGHTS FROM PORTIONS OF EXISTING WOOD SOFFIT AT LOCATIONS WHERE SOFFIT IS BEING REMOVED. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.
2. SALVAGE EXISTING FIXTURES AND RELOCATE TO NEW LOCATIONS SHOWN ON LIGHTING DRAWINGS. UNUSED FIXTURES SHALL BE RETURNED TO THE OWNER.
3. REMOVE EXISTING PANELS '48A' AND '48B'. EXTEND ANY EXISTING LOADS WHICH REMAIN IN SERVICE TO NEW PANELS '48A' AND '48B'.
4. REMOVE EXISTING PANEL '48H'. EXTEND ANY EXISTING LOADS WHICH REMAIN IN SERVICE TO NEW PANEL '48A'.

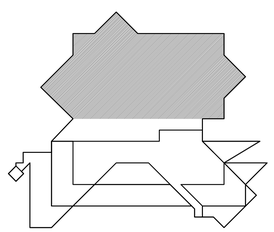


PLAN NORTH

LEVEL 4
DEMOLITION PLAN (B)
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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LEVEL 4
DEMOLITION PLAN (B)

ED104B

By: doug; Jul 15, 2008 – 8:15am
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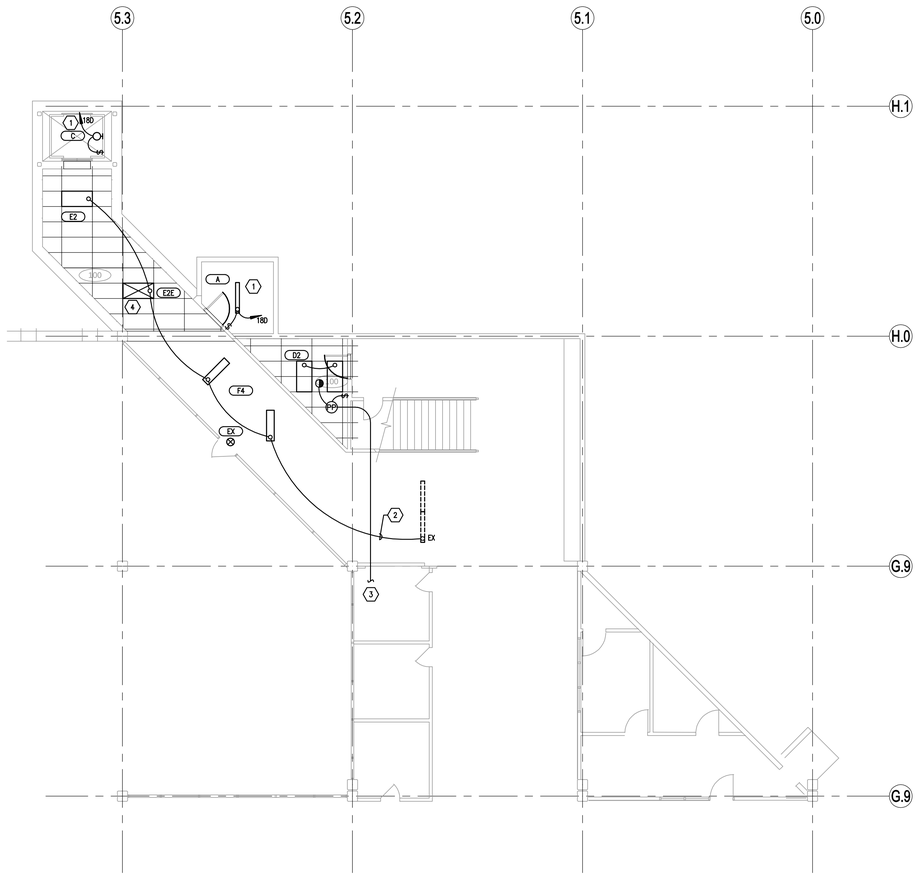
SHEET KEYNOTES

1. CONNECT TO EXISTING 20 AMP 1 POLE DEDICATED CIRCUIT BREAKER IN PANEL 18D.
2. CONNECT TO EXISTING HALLWAY LIGHTING CIRCUIT, VERIFY EXISTING HALLWAY LIGHTING CIRCUITS AMPERAGE AND NOTIFY THIS ENGINEER IF EXISTING LOAD EXCEEDS 14 AMPS PRIOR TO ROUGH-IN.
3. CONNECT TO EXISTING OFFICE LIGHTING CIRCUIT, VERIFY EXISTING OFFICE LIGHTING CIRCUIT AMPERAGE AND NOTIFY THIS ENGINEER IF EXISTING LOAD EXCEEDS 14 AMPS PRIOR TO ROUGH-IN.
4. EXTEND A HOT CONDUCTOR AHEAD OF THE SWITCH TO THE EMERGENCY BATTERY PACK. USE SAME CIRCUIT PROVIDED FOR NORMAL OPERATION OF THE FIXTURES.



PLAN NORTH

LEVEL 1
LIGHTING PLAN
1/8" = 1'-0"

0 4' 8' 16'

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Losee Center Remodel
Orem, Utah

Revision #	Date

Axis Job #	0719
BNA Job #	08110A
Owner #	DFCM
Date	07-16-2008
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LEVEL 1
LIGHTING PLAN

EL101

By: doug; Jul 15, 2008 - 8:16am
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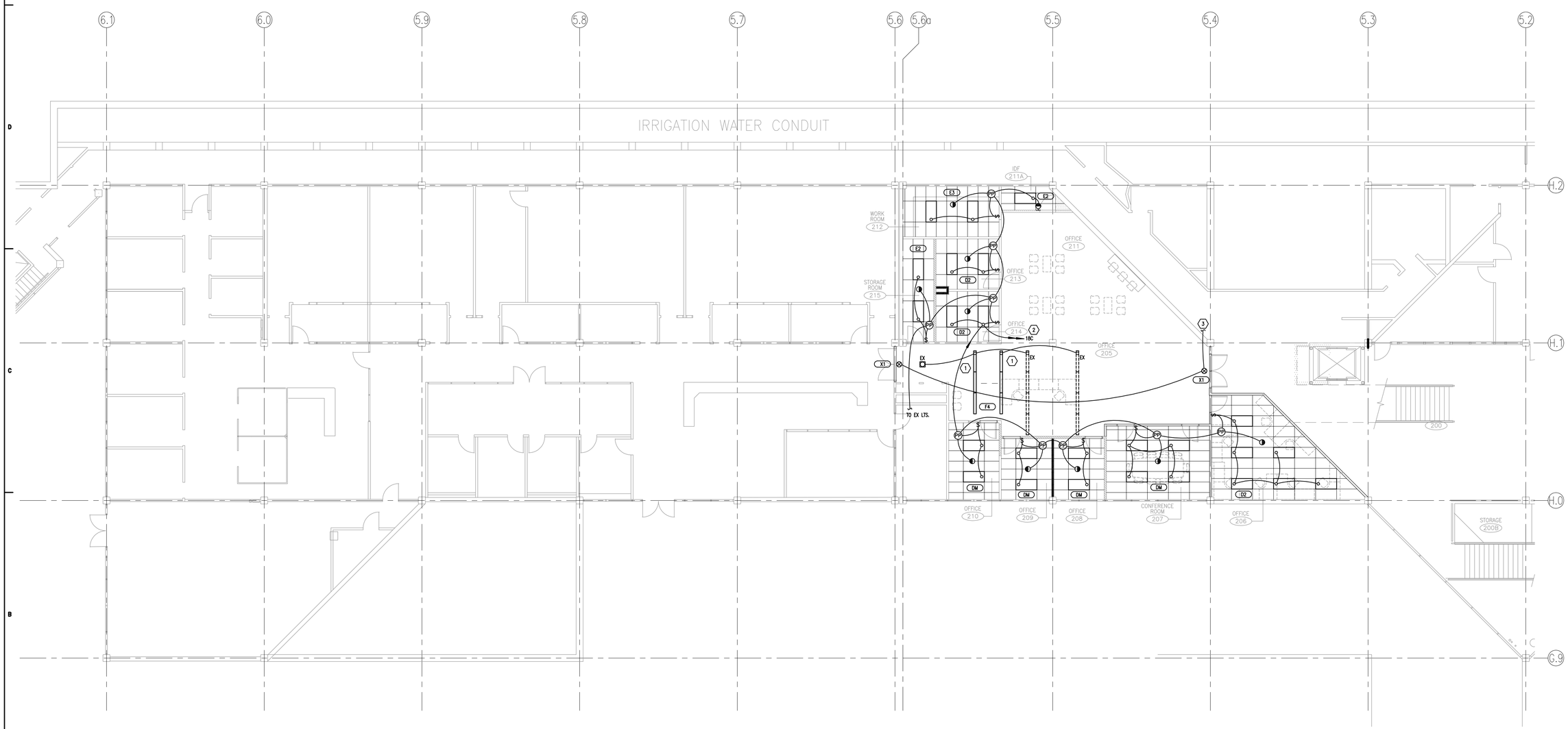
SHEET KEYNOTES

1. CONNECT RELOCATED FIXTURES TO EXISTING LIGHTING CIRCUIT.
2. CIRCUIT TO EXISTING CIRCUIT BREAKERS PREVIOUSLY FEEDING EXISTING LIGHTING IN THIS AREA.
3. CONNECT NEW EXIT LIGHT TO EXISTING HALLWAY EMERGENCY LIGHTING CIRCUIT.

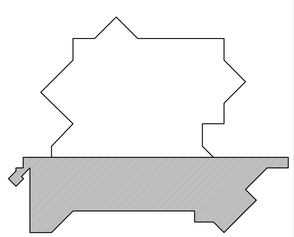


PLAN NORTH

LEVEL 2
LIGHTING PLAN
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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Revision # Date

Axis Job #	0719
BNA Job #	08110A
Owner #	DFCM
Date	07-16-2008
Drawn	BNA
Checked	EF

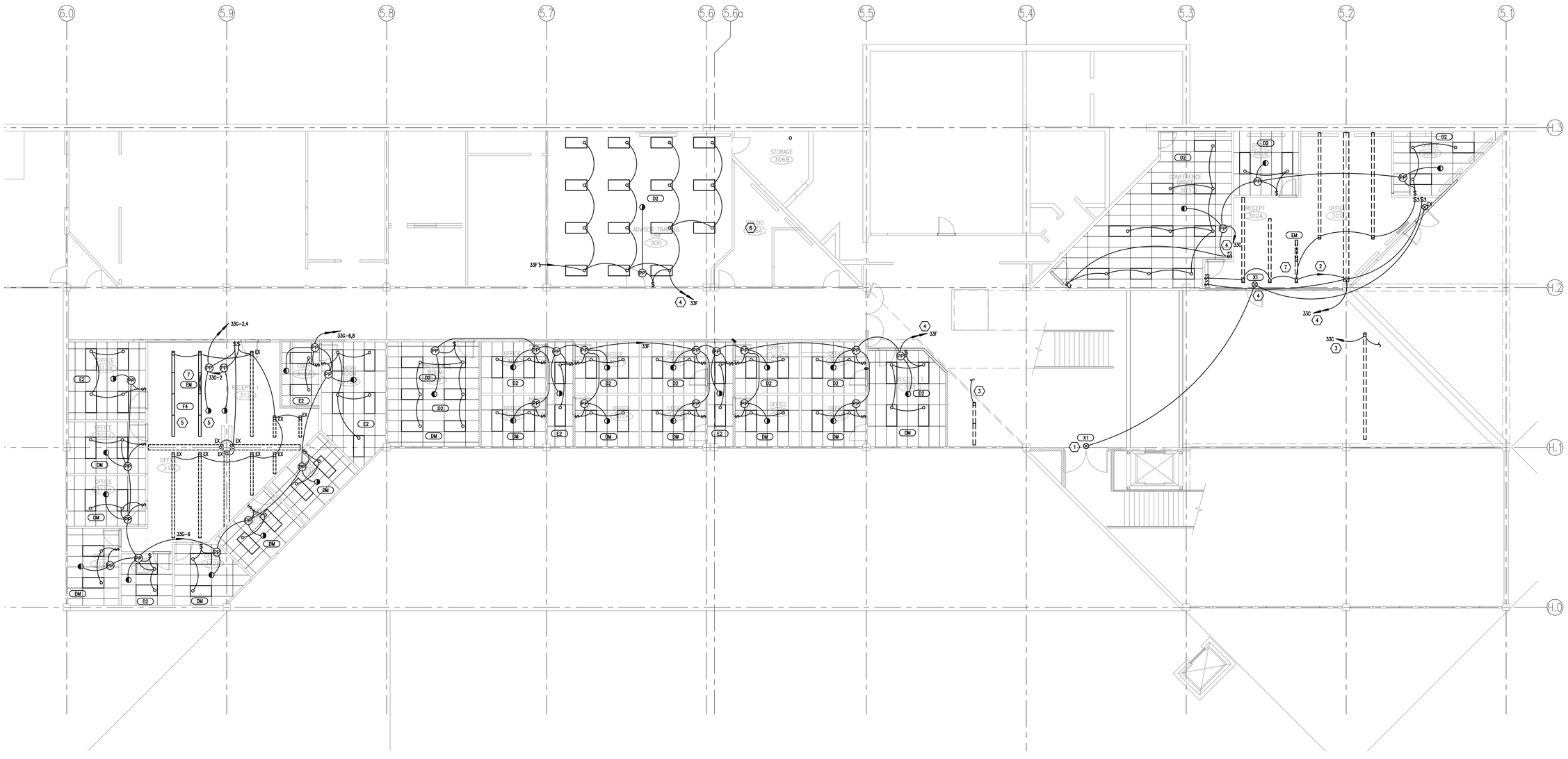
LEVEL 2
LIGHTING PLAN

EL102

By: doug; Jul 15, 2008 – 8:16am
F:\2008\110A\DRAW\110A-EL102.dwg

SHEET KEYNOTES

1. CONNECT NEW EXIT LIGHT TO EXISTING EMERGENCY CIRCUIT.
2. EXISTING LIGHTING IN THIS AREA SHALL REMAIN IN SERVICE. REMOVE EXISTING WIRING BACK TO PANEL AND RELAY PANEL AND RECIRCUIT AS SHOWN.
3. RECONNECT TO EXISTING CIRCUIT BREAKER AND RELAY PREVIOUSLY FEEDING EXISTING LIGHTS.
4. CIRCUIT TO 20 AMP 1 POLE CIRCUIT BREAKERS IN EXISTING PANEL INDICATED.
5. RELOCATED FIXTURES, NEW LOCATION.
6. RELOCATE EXISTING FIXTURES, IF REQUIRED, DUE TO NEW NORTH WALL. CONNECT TO EXISTING LIGHTING CIRCUIT.
7. ADD A NEW EMERGENCY BATTERY PACK AND WIRE TO EXISTING FIXTURE. EXTEND A HOT CONDUCTOR AHEAD OF THE SWITCH OR OCCUPANCY SENSOR TO THE BATTERY PACK. USE SAME CIRCUIT PROVIDED FOR NORMAL OPERATION OF THE FIXTURES.

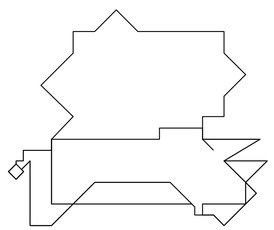


PLAN NORTH

LEVEL 3
LIGHTING PLAN
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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Orem, Utah

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BNA Job #	08110A
Owner #	OFCM
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Drawn	BNA
Checked	EF

LEVEL 3
LIGHTING PLAN

EL103

By: doug, Jul 15, 2008 – 8:16am
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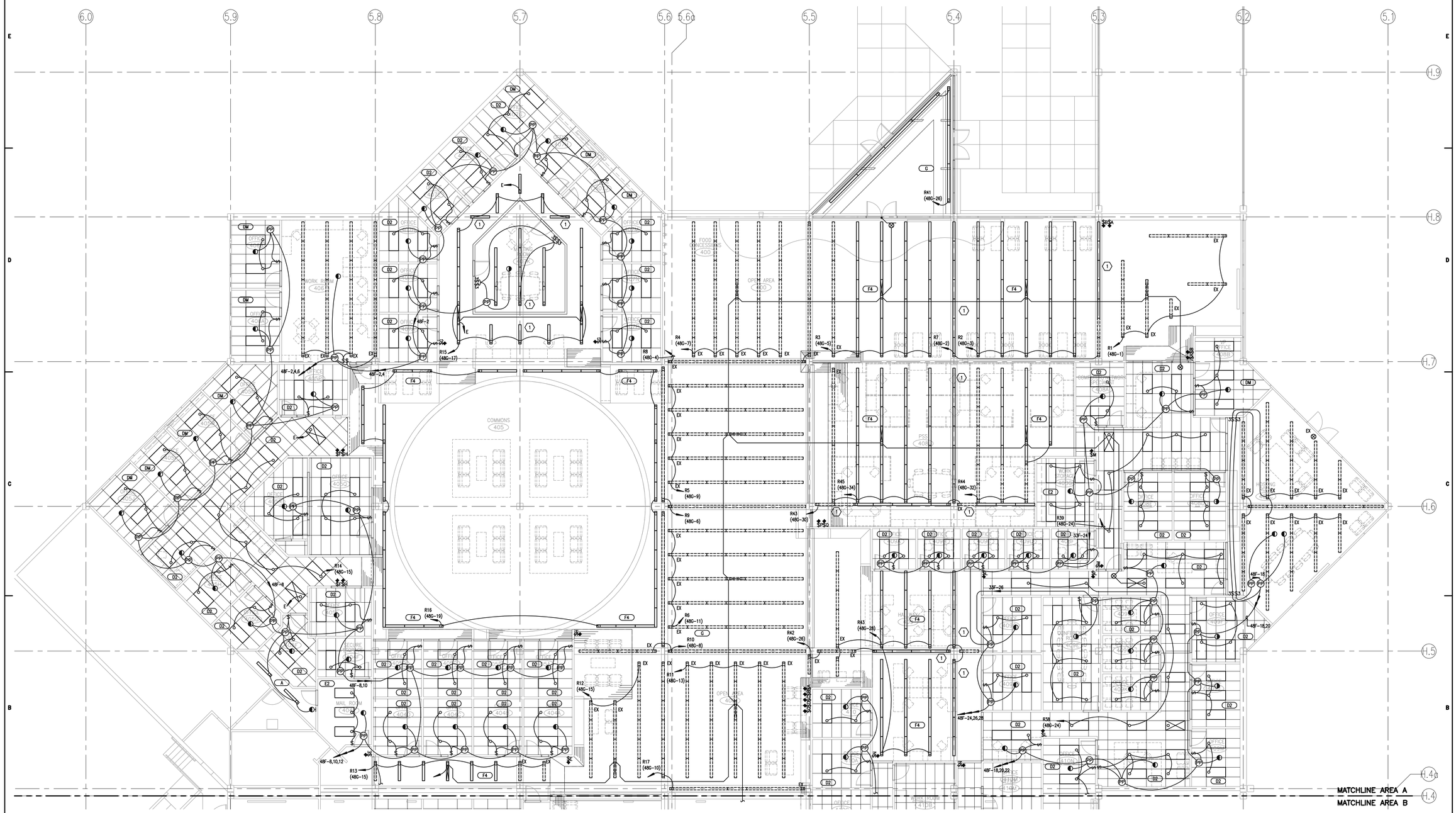
SHEET KEYNOTES

1. RELOCATE EXISTING STRIP LIGHTS FROM DEMOLISHED WOOD SOFFITS.

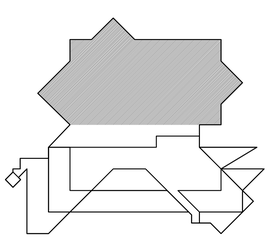


PLAN NORTH

LEVEL 4
LIGHTING PLAN (A)
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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Date	07-16-2008
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LEVEL 4
LIGHTING PLAN

EL104A

By: doug; Jul 15, 2008 – 8:16am
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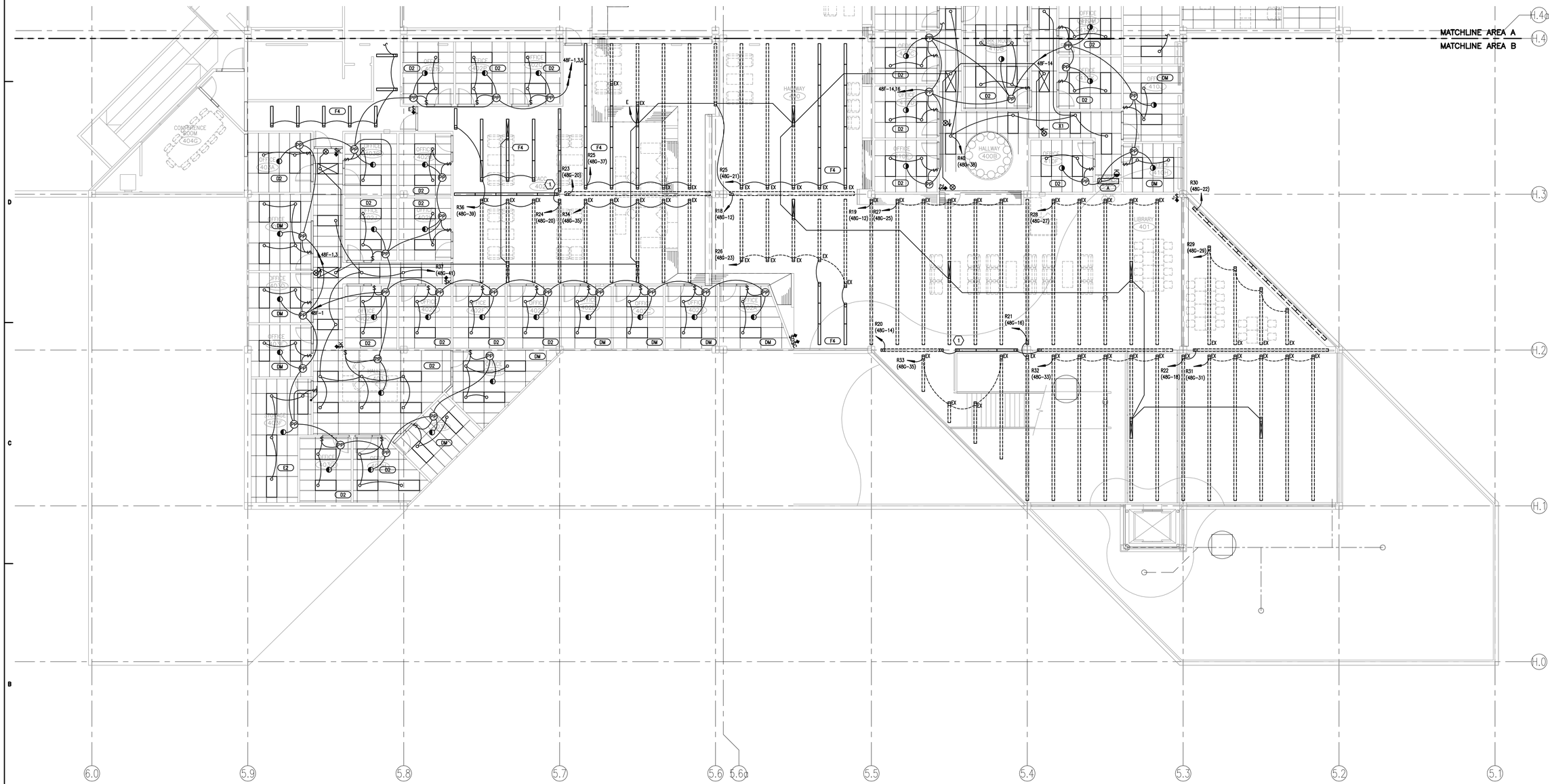
SHEET KEYNOTES

1. RELOCATE EXISTING STRIP LIGHTS FROM DEMOLISHED WOOD SOFFIT.

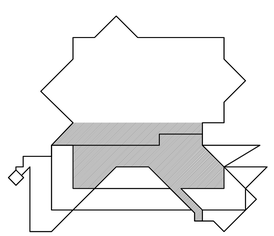


PLAN NORTH

LEVEL 4
LIGHTING PLAN (B)
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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LEVEL 4
LIGHTING PLAN (B)

EL104B

By: doug; Jul 15, 2008 – 8:17am
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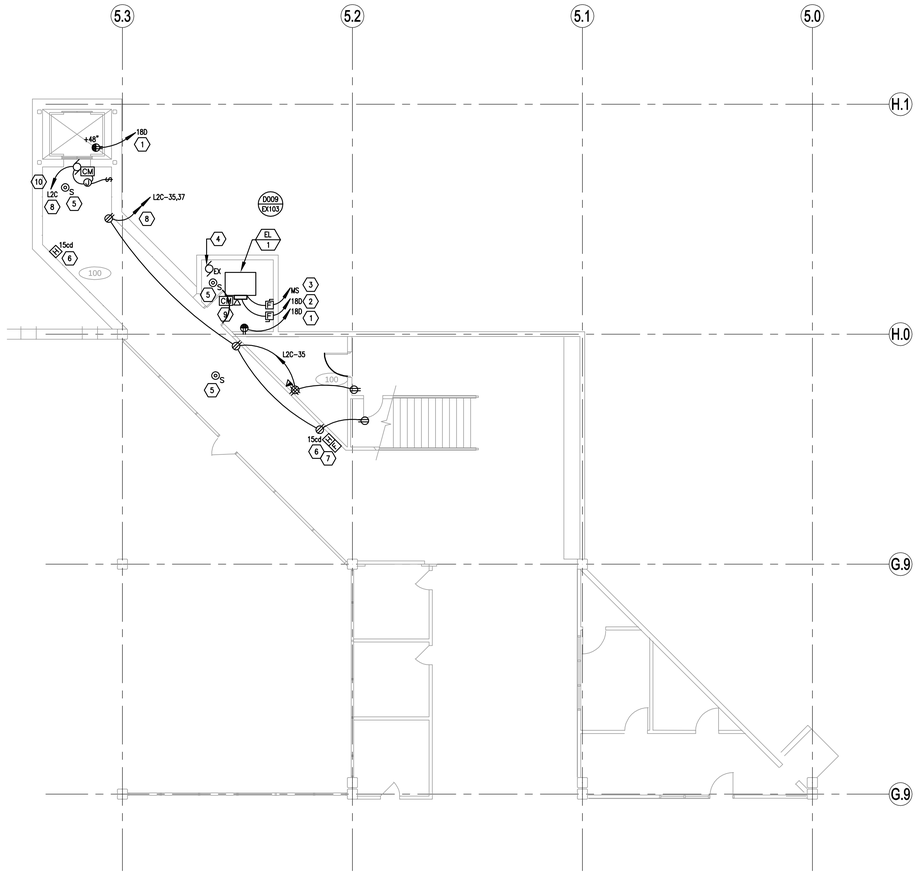
SHEET KEYNOTES

1. CONNECT OUTLET TO SAME DEDICATED CIRCUIT BREAKER, FEEDING LIGHT FIXTURE IN THIS ROOM.
2. CIRCUIT ELEVATOR CONTROLS TO A DEDICATED 20 AMP 1 POLE CIRCUIT BREAKER IN EXISTING PANEL 18D.
3. CIRCUIT ELEVATOR TO A NEW CIRCUIT BREAKER IN EXISTING MAIN PANEL MS ON LEVEL 3 PER EQUIPMENT SCHEDULE.
4. EXISTING EXHAUST FAN SHALL REMAIN IN SERVICE.
5. CONNECT NEW SMOKE DETECTORS INTO EXISTING FIRE ALARM INITIATING LOOP.
6. CONNECT NEW HORN/STROBE INTO EXISTING FIRE ALARM INITIATING LOOP.
7. RELOCATED FIRE ALARM PULL STATION.
8. CIRCUIT TO NEW 20 AMP 1 POLE CIRCUIT BREAKERS IN EXISTING PANEL.
9. PROVIDE FIRE ALARM CONTROL MODULES AS REQUIRED FOR ELEVATOR RECALL.
10. WIRE SMOKE CURTAIN PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE FIRE ALARM CONTROL MODULE AND TIE INTO EXISTING FIRE ALARM SYSTEM.



PLAN NORTH

LEVEL 1
POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'

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LEVEL 1
POWER PLAN

EP101

By: doug; Jul 15, 2008 – 8:17am
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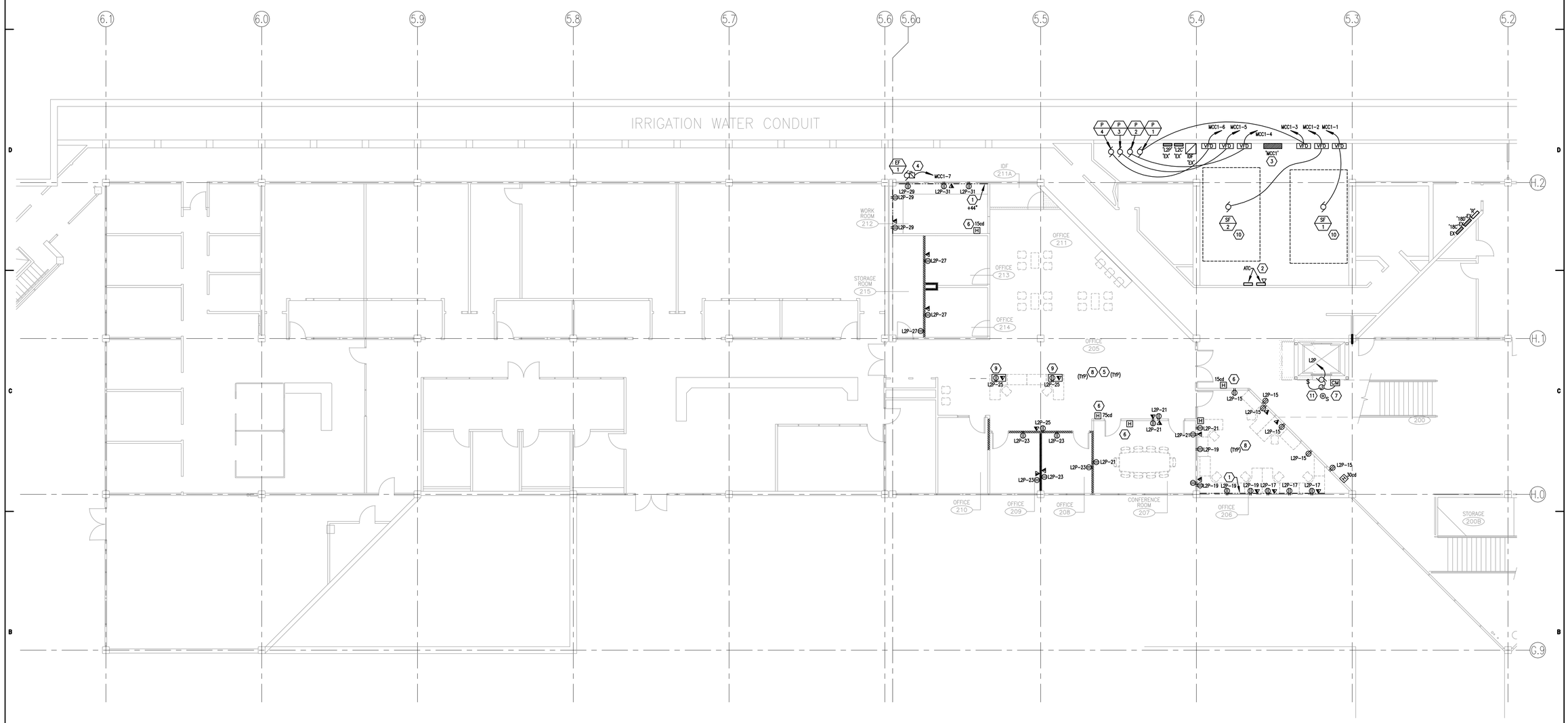
SHEET KEYNOTES

1. PROVIDE WIREMOLD 5400 SERIES DIVIDED RACEWAY, ALONG WALL AND UP TO ACCESSIBLE CEILING. PROVIDE ALL ACCESSORIES AS REQUIRED FOR COMPLETE INSTALLATION.
2. CONNECT NEW ATC PANELS TO EXISTING CIRCUITS PREVIOUSLY FEEDING DEMOLISHED ATC PANELS.
3. REMOVE EXISTING MOTOR CONTROL CENTER AND REPLACE WITH NEW I LINE PANEL. EXTEND EXISTING FEEDER TO NEW PANEL.
4. PROVIDE NEW STARTER/DISCONNECT AT EXISTING EXHAUST FAN AND EXTEND EXISTING CONTROL WIRES FROM MCC1 TO NEW STARTER.
5. TERMINATE NEW TELEPHONE AND DATA CABLES ON NEW PATCH PANEL AT EXISTING IDF AT GRIDS 5.5 AND H.2.
6. CONNECT NEW HORN/STROBES INTO EXISTING FIRE ALARM INDICATING LOOP.
7. CONNECT NEW SMOKE DETECTORS INTO EXISTING FIRE ALARM INITIATING LOOP.
8. CIRCUIT TO NEW 20 AMP 1POLE CIRCUIT BREAKERS IN EXISTING PANEL INDICATED.
9. CORE DRILL FLOOR AS REQUIRED TO INSTALL NEW POKE THRU OUTLETS. COORDINATE EXACT LOCATION WITH THE ARCHITECT.
10. RELOCATE EXISTING DUCT SMOKE DETECTORS & FAN SHUT DOWN WIRING, TO NEW AIR HANDLER.
11. WIRE SMOKE CURTAIN PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE FIRE ALARM CONTROL MODULE AND TIE INTO EXISTING FIRE ALARM SYSTEM.

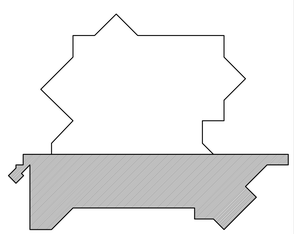


PLAN NORTH

LEVEL 2
POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



By: doug, Jul 15, 2008 - 8:17am
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352 SOUTH DENVER STREET SALT LAKE CITY UTAH 84111 P 355-3003 F 355-0113

LICENSED PROFESSIONAL ENGINEER
B. ELAINE FAWSON
No. 295587
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision #	Date

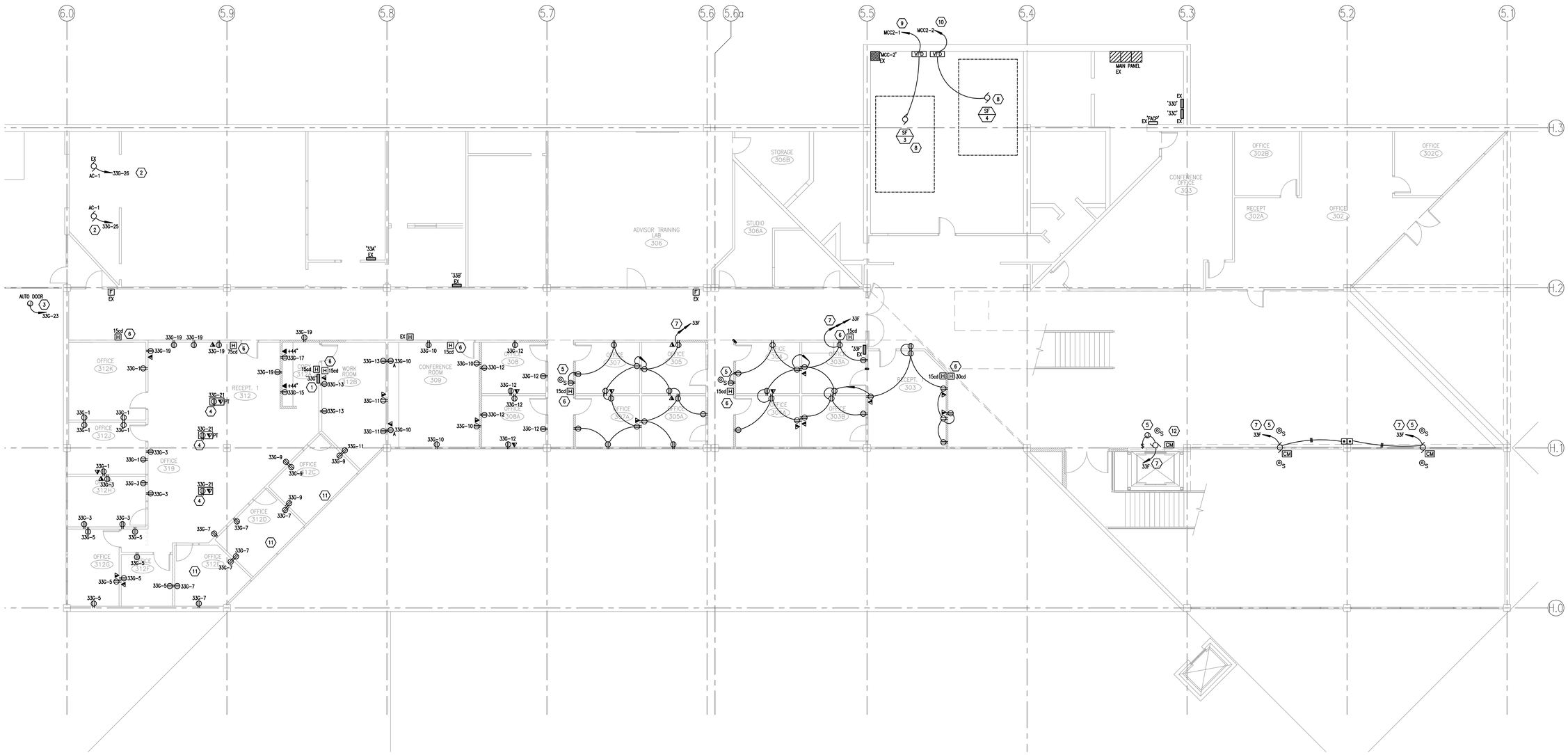
Axis Job #	0719
BNA Job #	08110A
Owner #	DFCM
Date	07-16-2008
Drawn	BNA
Checked	EF

LEVEL 2
POWER PLAN

EP102

SHEET KEYNOTES

1. RELOCATED PANEL 33G. PROVIDE NEW FLUSH MOUNTED PANEL PER PANEL SCHEDULE AND NEW FEEDER. EXTEND EXISTING BRANCH CIRCUITS TO NEW LOCATION.
2. EXTEND EXISTING 3Ø CIRCUITS TO NEW PANEL 33G.
3. EXTEND EXISTING 1Ø CIRCUIT TO NEW PANEL 33G. FIELD VERIFY EXACT LOCATION OF AUTOMATIC DOOR.
4. CORE DRILL FLOOR AS REQUIRED TO INSTALL NEW POKE THRU OUTLETS. COORDINATE EXACT LOCATION WITH THE ARCHITECTS.
5. TIE NEW SMOKE DETECTORS INTO EXISTING FIRE ALARM INITIATING LOOP.
6. TIE NEW HORN/STROBES INTO EXISTING FIRE ALARM INDICATING LOOP.
7. CIRCUIT TO NEW 20 AMP 1 POLE CIRCUIT BREAKERS IN EXISTING PANEL.
8. RELOCATE EXISTING DUCT SMOKE DETECTORS AND FAN SHUT DOWN WIRING TO NEW AIR HANDLERS.
9. CHANGE CIRCUIT BREAKER IN MCC-2 PREVIOUSLY FEEDING AH-3 FROM 125AMP TO A NEW 100 AMP 3 POLE CIRCUIT BREAKER & CIRCUIT PER EQUIPMENT SCHEDULE. REMOVE EXISTING STARTER.
10. CIRCUIT TO EXISTING 100 AMP 3 POLE CIRCUIT BREAKER PREVIOUSLY FEEDING AH-4, REMOVE EXISTING STARTER.
11. EXISTING TELEPHONE/DATA JACKS SHALL REMAIN IN SERVICE.
12. WIRE SMOKE CURTAIN PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE FIRE ALARM CONTROL MODULE AND TIE INTO EXISTING FIRE ALARM SYSTEM.

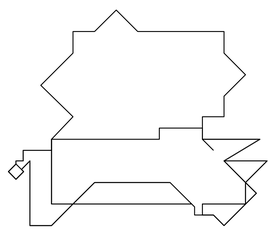


PLAN NORTH

LEVEL 3
POWER PLAN
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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LICENSED PROFESSIONAL ENGINEER
B. ELAINE FAWSON
No. 295587
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision # Date

Axis Job #	0719
BNA Job #	08110A
Owner #	OFCM
Date	07-16-2008
Drawn	BNA
Checked	EF

LEVEL 3
POWER PLAN

EP103

By: doug, Jul 15, 2008 - 8:17am
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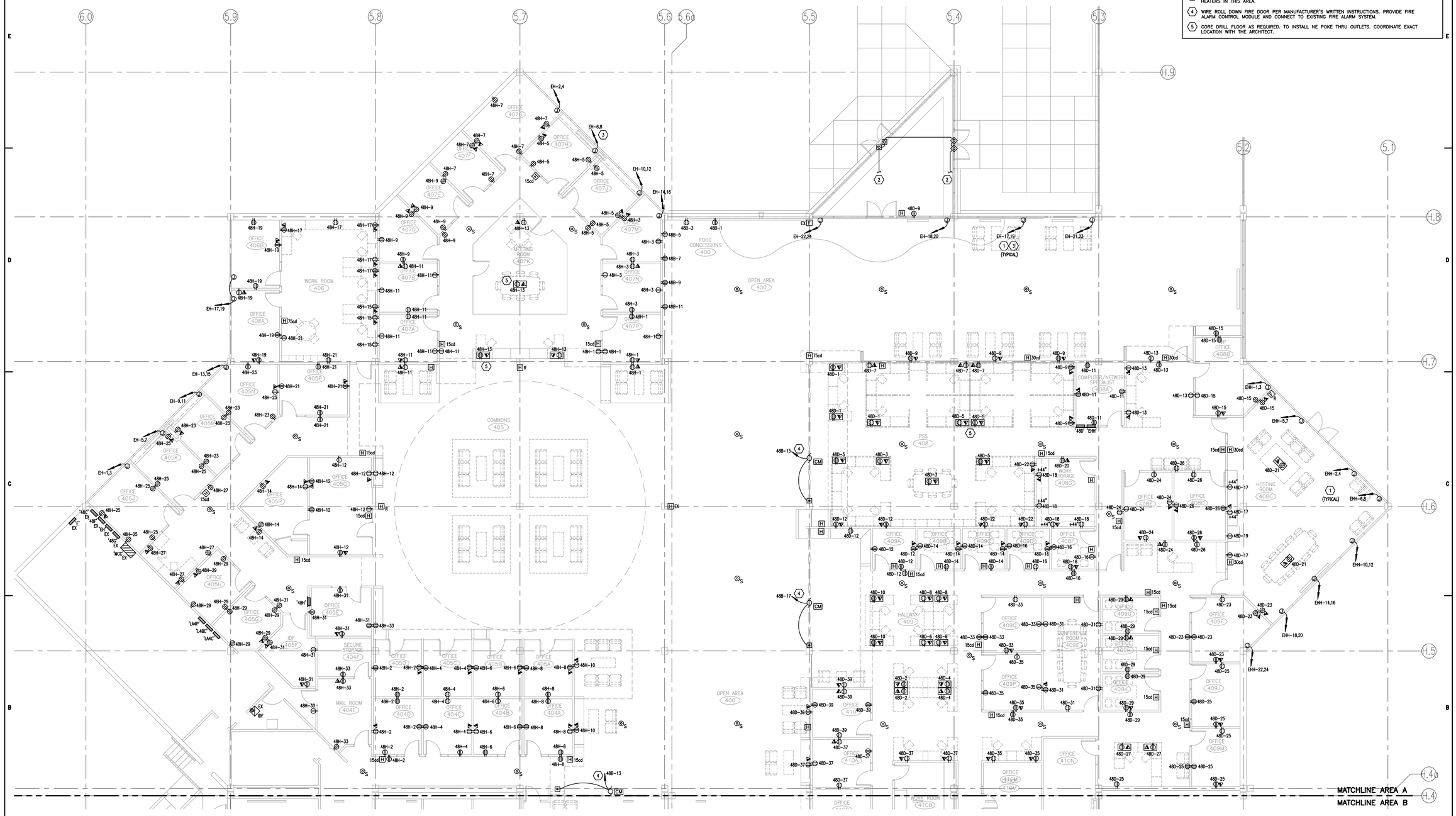
SHEET KEYNOTES

1. VERIFY LOCATION OF RELOCATED FIN TUBE HEATERS WITH MECHANICAL INSTALLER PRIOR TO ROUGH-IN.
2. PROVIDE 2 #18 IN 3/4" CONDUIT AND TIE INTO EXISTING SECURITY SYSTEM CIRCUIT PREVIOUSLY FEEDING DOOR CONTACTS AT EXISTING DOOR AT GRIDS 5.5 AND H.8.
3. CIRCUIT TO EXISTING 20 AMP 2 POLE CIRCUIT BREAKERS PREVIOUSLY FEEDING FIN TUBE HEATERS IN THIS AREA.
4. WIRE ROLL DOWN FIRE DOOR PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE FIRE ALARM CONTROL MODULE AND CONNECT TO EXISTING FIRE ALARM SYSTEM.
5. CORE DRILL FLOOR AS REQUIRED. TO INSTALL NE POKE THRU OUTLETS. COORDINATE EXACT LOCATION WITH THE ARCHITECT.

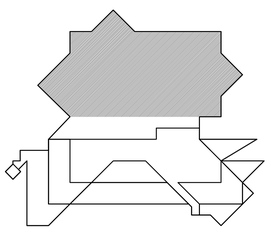


PLAN NORTH

LEVEL 4
POWER PLAN (A)
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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Orem, Utah

Revision # Date

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BNA Job #	08110A
Owner #	DFCM
Date	07-16-2008
Drawn	BNA
Checked	EF

LEVEL 4
POWER PLAN

EP104A

By: doug; Jul 15, 2008 - 8:18am
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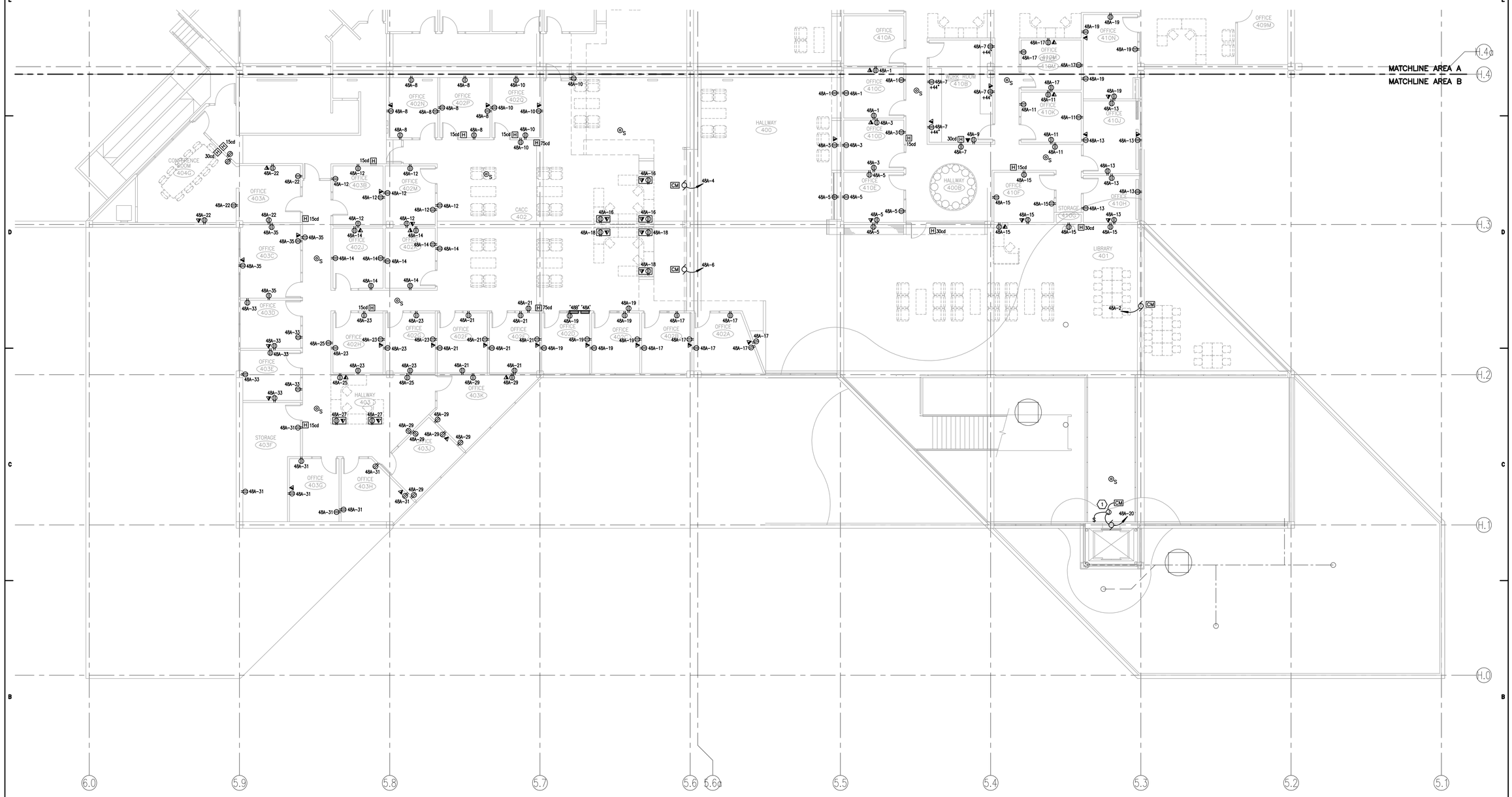
SHEET KEYNOTES

1. WIRE SMOKE CURTAIN PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE FIRE ALARM CONTROL MODULE AND TIE INTO EXISTING FIRE ALARM SYSTEM.

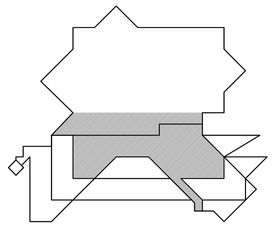


PLAN NORTH

LEVEL 4
POWER PLAN (B)
1/8" = 1'-0"

0 4' 8' 16'

KEY PLAN



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Losee Center Remodel
Orem, Utah

Revision #	Date

Axis Job #	0719
BNA Job #	08110A
Owner #	DFCM
Date	07-16-2008
Drawn	BNA
Checked	EF

LEVEL 4
POWER PLAN (B)

EP104B

By: doug; Jul 15, 2008 – 8:18am
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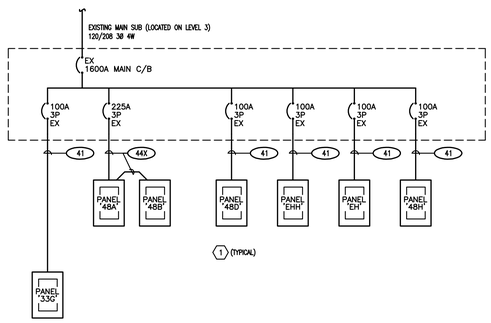
COPPER CONDUCTOR & O.C. PROT. FOR TRANSFORMER PRIMARY				COPPER CONDUCTOR & O.C. PROT. FOR TRANSFORMER SECONDARY △480/208/120Y							
TRANS KVA	O.C. PROT.	TYPE COND.*	GND. COND.	O.C. PROT.	TYPE COND.	COND. AMPS	SETS	CONDUCTOR QUAN.	CONDUCTOR SIZE	CONDUIT SIZE	EQ. GND COND.
30	50	38	8	100	142-1	104	1	4	2	1-1/4"	8
45	70	34	4	175	143X-1	180	1	4	3/0	2"	6
75	125	31	2	225	1425-1	232	1	4	250	2-1/2"	4
112.5	175	32X	1/0	400	1441-2	416	2	4	4/0	2-1/2"	3
150	300	335	2/0	600	1440-2	608	2	4	400	3"	1
225	400	350	2/0	800	1435-3	840	3	4	350	3"	1/0
300	600	325-2	3/0	1200	1440-4	1216	4	4	400	3"	3/0
500	800	350-2	3/0	1600	1450-5	1720	5	4	500	4"	4/0
750	1500	335-5	3/0	3000	1450-9	3096	9	4	500	4"	400

COPPER CONDUCTOR & O.C. PROT. FOR TRANSFORMER PRIMARY				COPPER CONDUCTOR & O.C. PROT. FOR TRANSFORMER SECONDARY (200% NEUTRAL) △480/208/120Y							
TRANS KVA	O.C. PROT.	TYPE COND.*	GND. COND.	O.C. PROT.	TYPE COND.	COND. AMPS	SETS	CONDUCTOR QUAN.	CONDUCTOR SIZE	CONDUIT SIZE	EQ. GND COND.
30	50	38	8	100	152-1	104	1	5	2	1-1/2"	8
45	70	34	4	175	153X-1	180	1	5	3/0	2-1/2"	6
75	125	31	2	225	1525-1	232	1	5	250	3"	4
112.5	175	32X	1/0	400	1541-2	416	2	5	4/0	2-1/2"	3
150	300	335	2/0	600	1540-2	608	2	5	400	3-1/2"	1
225	400	350	2/0	800	1535-3	840	3	5	350	3"	1/0
300	600	325-2	3/0	1200	1540-4	1216	4	5	400	3"	3/0
500	800	350-2	3/0	1600	1550-5	1720	5	5	500	4"	4/0
750	1500	335-5	3/0	3000	1550-9	3096	9	5	500	4"	400

* SEE SCHEDULE FOR CONDUIT AND WIRE SIZE

SHEET KEYNOTES

1. PROVIDE NEW FEEDERS AND CONNECT NEW PANELS TO EXISTING CIRCUIT BREAKERS PREVIOUSLY FEEDING DEMOLISHED PANELS.



1 ONE-LINE DIAGRAM
NO SCALE

COPPER CONDUCTOR & CONDUIT SCHEDULE

TYPE	AMP.	COND. SIZE	CONDUCTOR QUAN.	CONDUCTOR SIZE	INSULATION	EQ. GND. COND.
20	30	3/4"	2	10	THHN THWN	10
30	30	3/4"	3	10	THHN THWN	10
40	30	3/4"	4	10	THHN THWN	10
28	40	3/4"	2	8	THHN THWN	10
38	40	3/4"	3	8	THHN THWN	10
48	40	3/4"	4	8	THHN THWN	10
26	55	3/4"	2	6	THHN THWN	8
36	55	3/4"	3	6	THHN THWN	8
46	55	1"	4	6	THHN THWN	8
24	70	3/4"	2	4	THHN THWN	8
34	70	1"	3	4	THHN THWN	8
44	70	1-1/4"	4	4	THHN THWN	8
23	85	1"	2	3	THHN THWN	8
33	85	1"	3	3	THHN THWN	8
43	85	1-1/4"	4	3	THHN THWN	8
32	95	1-1/4"	3	2	THHN THWN	6
42	95	1-1/4"	4	2	THHN THWN	6
31	110	1-1/4"	3	1	THHN THWN	6
41	110	1-1/2"	4	1	THHN THWN	6
51	110	2"	5	1	THHN THWN	6
31X	150	1-1/2"	3	1/0	THHN THWN	6
41X	150	1-1/2"	4	1/0	THHN THWN	6
51X	150	2"	5	1/0	THHN THWN	6
32X	175	1-1/2"	3	2/0	THHN THWN	6
42X	175	2"	4	2/0	THHN THWN	6
52X	175	2"	5 *	2/0	THHN THWN	6
33X	200	2"	3	3/0	THHN THWN	6
43X	200	2"	4	3/0	THHN THWN	6
53X	200	2-1/2"	5	3/0	THHN THWN	6
34X	230	2"	3	4/0	THHN THWN	4
44X	230	2-1/2"	4	4/0	THHN THWN	4
54X	230	2-1/2"	5	4/0	THHN THWN	4
325	255	2"	3	250	THHN THWN	4
425	255	2-1/2"	4	250	THHN THWN	4
525	255	2-1/2"	5	250	THHN THWN	4
335	310	2-1/2"	3	350	THHN THWN	3
435	310	3"	4	350	THHN THWN	3
535	310	3"	5	350	THHN THWN	3
340	335	3"	3	400	THHN THWN	3
440	335	3"	4	400	THHN THWN	3
540	335	3"	5	400	THHN THWN	3
350	380	3-1/2"	3	500	XHHW	3
450	380	3-1/2"	4	500	XHHW	3
550	380	3-1/2"	5	500	XHHW	3

COPPER CONDUCTOR & CONDUIT SCHEDULE FOR PARALLEL RUNS

TYPE	MAX. O.C. PROT.	COND. AMPS	SETS	CONDUCTOR QUAN.	CONDUCTOR SIZE	CONDUIT SIZE	EQ. GND. COND.
325-2	600	510	2	3	250	2-1/2"	1
425-2	600	510	2	4	250	2-1/2"	1
525-2	600	510	2	5	250	2-1/2"	1
435-2	700	620	2	4	350	3"	1/0
440-2	700	670	2	4	400	3"	1/0
350-2	800	760	2	3	500	3"	1/0
450-2	800	760	2	4	500	4"	1/0
550-2	800	760	2	5	500	4"	1/0
460-2	800	840	2	4	600	4"	1/0
335-3	900	930	3	3	350	3"	2/0
435-3	900	930	3	4	350	3"	2/0
535-3	900	930	3	5 *	350	3"	2/0
340-3	1000	1005	3	3	400	3"	2/0
440-3	1000	1005	3	4	400	3"	2/0
540-3	1000	1005	3	5	400	3"	2/0
435-4	1200	1240	4	4	350	3"	3/0
535-4	1200	1240	4	5	350	3"	3/0
460-3	1200	1260	3	4	600	4"	3/0
335-5	1500	1550	5	3	350	3"	4/0
440-5	1600	1675	5	4	400	3"	4/0
540-5	1600	1675	5	5	400	3"	4/0
460-4	1600	1680	4	4	600	4"	4/0
440-6	2000	2010	6	4	400	3"	250
460-6	2500	2520	6	4	600	4"	350
450-8	3000	3040	8	4	500	4"	400
450-11	4000	4180	11	4	500	4"	500

NOTES
IN PARALLEL RUNS SIZE GND. COND. IN ACCORDANCE WITH NEC PARA. 250-122.

GND. CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS

* 200% NEUTRAL

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Revision # Date

Axis Job # 0719
BNA Job # 08110A
Owner # OFCM
Date 07-16-2008
Drawn BNA
Checked EF

ONE=LINE DIAGRAM

EX101

By: doug, Jul 15, 2008 - 8:18am
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PANELBOARD SCHEDULE

PANEL: MCC1 — TYPE: I-LINE — 120/208 VOLTS — 3 PH — 4 W

MAINS: X LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: FLUSH; X SURFACE

DIMENSIONS: 42 W (MAXIMUM); 12 D (in.); H

LOCATION: MECHANICAL RM LEV. 2 — AMP: 400

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
SF-1	90	3	4	1	5544			5544			2	90	3	4	SF-2
						5544			5544						
							5544			5544					
P-1	30	3	12	3	2004			2004			4	30	3	12	P-2
						2004			2004						
							2004			2004					
P-3	50	3	8	5	2904			2904			6	50	3	8	P-4
						2904			2904						
							2904			2904					
EXIST EF-1	20	3	12	7	420						8	100	3		SPARE
						420									
							420								
					10872	10872	10872	10452	10452	10452					
					21324	21324	21324	TOTAL							
					178	178	178	AMPS/PHASE							

CONNECTED LOAD TOTAL: 63972 VA

EQUIP RATING: 22,000 AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48H — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: x LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: x FLUSH; SURFACE

DIMENSIONS: 20 W; 6 D (in.); H

LOCATION: — AMP: 125

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
RECEPTACLES	20	1	12	1	1080						2	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	3		1260					4	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	5			1260				6	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	7	1080						8	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	9		1080					10	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	11			1800				12	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	13	720						14	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	15		540					16	20	1		SPARE
RECEPTACLES	20	1	12	17			720				18	20	1		SPARE
RECEPTACLES	20	1	12	19	1080						20	20	1		SPARE
RECEPTACLES	20	1	12	21		1260					22	20	1		SPARE
RECEPTACLES	20	1	12	23			1440				24	20	1		SPARE
RECEPTACLES	20	1	12	25	1440						26	20	1		SPARE
RECEPTACLES	20	1	12	27		540					28	20	1		SPARE
RECEPTACLES	20	1	12	29			1440				30	20	1		SPARE
RECEPTACLES	20	1	12	31	1260						32	20	1		SPARE
RECEPTACLES	20	1	12	33		540					34	20	1		SPARE
SPARE	20	1		35							36	20	1		SPARE
SPARE	20	1		37							38	20	1		SPARE
SPARE	20	1		39							40	20	1		SPARE
SPARE	20	1		41							42	20	1		SPARE
					6660	5220	6660	0	0	0					
					6660	5220	6660	TOTAL							
					56	44	56	AMPS/PHASE							

CONNECTED LOAD TOTAL: 18540 VA

EQUIP RATING: 10,000 AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48G EX — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: x LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: FLUSH; x SURFACE

DIMENSIONS: W; D (in.); H

LOCATION: — AMP: 225

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
R1	20	1	10	1	910			980			2	20	1	10	R7
R2	20	1	10	3		1190			980		4	20	1	10	R8
R3	20	1	10	5			1190			980	6	20	1	10	R9
R4	20	1	10	7	1190			1260			8	20	1	10	R10
R5	20	1	10	9		1190			910		10	20	1	10	R17
R6	20	1	10	11			1190			1190	12	20	1	10	R18.19
R11	20	1	10	13	1190			980			14	20	1	10	R20
R12,13,14	20	1	10	15		1225			980		16	20	1	10	R21
R15	20	1	10	17			805			980	18	20	1	10	R22
R16	20	1	10	19	1435			1400			20	20	1	10	R23,24
R25	20	1	10	21		1190			675		22	20	1	10	R30
R26	20	1	10	23			700			1190	24	20	1	10	R38,39,40
R27	20	1	10	25	1190			770			26	20	1	10	R41
R28	20	1	10	27		1190			1155		28	20	1	10	R42
R29	20	1	10	29			490			1260	30	20	1	10	R43
R31	20	1	10	31	1190			840			32	20	1	10	R44
R32	20	1	10	33		1190			1190		34	20	1	10	R45
R33,34	20	1	10	35			1365				36	20	1		SPACE ONLY
R35	20	1	10	37	1190						38	20	1		SPACE ONLY
R36	20	1	10	39		700					40	20	1		SPACE ONLY
R37	20	1	10	41			280				42	20	1		SPACE ONLY
					8295	7875	6020	6230	5890	5600					
					14525	13765	11620	TOTAL							
					121	115	97	AMPS/PHASE							

CONNECTED LOAD TOTAL: 39910 VA

EQUIP RATING: AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48F EX — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: X LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: FLUSH; SURFACE

DIMENSIONS: W; D (in.); H

LOCATION: — AMP: 225

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
LIGHTING	20	1	10	1	1540			1330			2	20	1	12	LIGHTING
LIGHTING	20	1	10	3		1330			770		4				LIGHTING
LIGHTING	20	1	10	5			1400			1225	6				LIGHTING
SPACE ONLY				7				1260			8				LIGHTING
SPACE ONLY				9					1140		10				LIGHTING
SPACE ONLY				11						1330	12				LIGHTING
SPACE ONLY				13				770			14				LIGHTING
SPACE ONLY				15					980		16				LIGHTING
SPACE ONLY				17						1050	18				LIGHTING
SPACE ONLY				19				980			20				LIGHTING
SPACE ONLY				21					1260		22				LIGHTING
SPACE ONLY				23						1190	24				LIGHTING
SPACE ONLY				25				1190			26				LIGHTING
SPACE ONLY				27							28				SPACE ONLY
SPACE ONLY				29							30				SPACE ONLY
SPACE ONLY				31							32				SPACE ONLY
SPACE ONLY				33							34				SPACE ONLY
SPACE ONLY				35							36				SPACE ONLY
SPACE ONLY				37							38				SPACE ONLY
SPACE ONLY				39							40				SPACE ONLY
SPACE ONLY				41							42				SPACE ONLY
					1540	1330	1400	5530	4150	4795					
					7070	5480	6195	TOTAL							
					59	46	52	AMPS/PHASE							

CONNECTED LOAD TOTAL: 18745 VA

EQUIP RATING: AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48EHH — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: X LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: FLUSH; X SURFACE

DIMENSIONS: 20 W; 6 D (in.); H

LOCATION: — AMP: 125

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
FIN TUBE HTR	20	2		1							2	20	2		FIN TUBE HTR
				3							4				
FIN TUBE HTR	20	2		5							6	20	2		FIN TUBE HTR
				7							8				
SPACE ONLY				9							10	20	2		FIN TUBE HTR
SPACE ONLY				11							12				
SPACE ONLY				13							14	20	2		FIN TUBE HTR
SPACE ONLY				15							16				
SPACE ONLY				17							18	20	2		FIN TUBE HTR
SPACE ONLY				19							20				
SPACE ONLY				21							22	20	2		FIN TUB E HTR
SPACE ONLY				23							24				
SPACE ONLY				25							26				SPACE ONLY
SPACE ONLY				27							28				SPACE ONLY
SPACE ONLY				29							30				SPACE ONLY
								TOTAL							
								AMPS/PHASE							

CONNECTED LOAD TOTAL:

EQUIP RATING: 10,000 AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48D — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: X LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: X FLUSH; SURFACE

DIMENSIONS: 20 W; 6 D (in.); H

LOCATION: — AMP: 125

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
RECEPTACLES	20	1	12	1	540			360			2	20	1	12	FLOOR BOX RECEPT.
RECEPTACLES	20	1	12	3		540			360		4	20	1	12	FLOOR BOX RECEPT.
RECEPTACLES	20	1	12	5			540			360	6	20	1	12	FLOOR BOX RECEPT.
RECEPTACLES	20	1	12	7	540			360			8	20	1	12	FLOOR BOX RECEPT.
RECEPTACLES	20	1	12	9		900			360		10	20	1	12	FLOOR BOX RECEPT.
RECEPTACLES	20	1	12	11			720			1260	12	20	1	12	FLOOR BOX RECEPT.
RECEPTACLES	20	1	12	13	720			1080			14	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	15		1080			1260		16	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	17			540			720	18	20	1	12	RECEPTACLES
REFRIGERATOR	20	1	12	19	1260			500			20	20	1	12	COPY MACHINE
RECEPTACLES	20	1	12	21		360			540		22	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	23			1080			1080	24	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	25	1260						26	20	1		SPARE
RECEPTACLES	20	1	12	27		360					28	20	1		SPARE
RECEPTACLES	20	1	12	29			1080				30	20	1		SPARE
RECEPTACLES	20	1	12	31	900						32	20	1		SPARE
RECEPTACLES	20	1	12	33		900					34	20	1		SPARE
RECEPTACLES	20	1	12	35			1260				36	20	1		SPARE
RECEPTACLES	20	1	12	37	1260						38	20	1		SPARE
RECEPTACLES	20	1	12	39		1080					40	20	1		SPARE
RECEPTACLES	20	1	12	41							42	20	1		SPARE
					6480	5220	5220	2300	2520	3420					
					8780	7740	8640	TOTAL							
					73	65	72	AMPS/PHASE							

CONNECTED LOAD TOTAL: 25160 VA

EQUIP RATING: 10,000 AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48B — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: X LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: X FLUSH; SURFACE

DIMENSIONS: 20 W; 6 D (in.); H

LOCATION: — AMP: 225

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
VENDING RECEPT	20	1	10	1	500						2	20	1		SPARE
VENDING RECEPT	20	1	10	3		500					4	20	1		SPARE
VENDING RECEPT	20	1	10	5			500				6	20	1		SPARE
VENDING RECEPT	20	1	10	7	500						8	20	1		SPARE
VENDING RECEPT	20	1	10	9		500					10	20	1		SPARE
VENDING RECEPT	20	1	10	11			500				12	20	1		SPARE
SMOKE GRILL	20	1	10	13	100						14	20	1		SPARE
SMOKE GRILL	20	1	10	15		100					16	20	1		SPARE
SMOKE GRILL	20	1	10	17			100				18	20	1		SPARE
SPARE	20	1		19							20	20	1		SPARE
SPARE	20	1		21							22	20	1		SPARE
SPARE	20	1		23							24	20	1		SPARE
SPACE ONLY				25							26				SPACE ONLY
SPACE ONLY				27							28				SPACE ONLY
SPACE ONLY				29							30				SPACE ONLY
SPACE ONLY				31							32				SPACE ONLY
SPACE ONLY				33							34				SPACE ONLY
SPACE ONLY				35							36				SPACE ONLY
SPACE ONLY				37							38				SPACE ONLY
SPACE ONLY				39							40				SPACE ONLY
SPACE ONLY				41							42				SPACE ONLY
					1100	1100	1100	0	0	0					
					1100	1100	1100	TOTAL							
					9	9	9	AMPS/PHASE							

CONNECTED LOAD TOTAL: 3300 VA

EQUIP RATING: 10,000 AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48A — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: X LUGS; BREAKER; X SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: X FLUSH; SURFACE

DIMENSIONS: 20 W; 6 D (in.); H

LOCATION: — AMP: 225

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
RECEPTACLES	20	1	12	1	900			200			2	20	1	12	ROLL DOWN DOOR
RECEPTACLES	20	1	12	3		900			200		4	20	1	12	ROLL DOWN DOOR
RECEPTACLES	20	1	12	5			1080			200	6	20	1	12	ROLL DOWN DOOR
RECEPTACLES	20	1	12	7	900			1440			8	20	1	12	RECEPTACLES
COPY MACHINE	20	1	12	9		500			900		10	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	11			900			1620	12	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	13	1260			1620			14	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	15		1440			540		16	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	17			1260			540	18	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	19	1260			200			20	20	1	12	SMOKE DOOR
RECEPTACLES	20	1	12	21		1620			1260		22	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	23			1440				24	20			SPARE
RECEPTACLES	20	1	12	25	540						26	20			SPARE
RECEPTACLES	20	1	12	27		360					28	20			SPARE
RECEPTACLES	20	1	12	29			1440				30	20			SPARE
RECEPTACLES	20	1	12	31	1260						32	20			SPARE
RECEPTACLES	20	1	12	33		1260					34	20			SPARE
RECEPTACLES	20	1	12	35			900				36	20			SPARE
SPARE	20	1		37							38	20			SPARE
SPARE	20	1		39							40	20			SPARE
SPARE	20	1		41							42	20			SPARE
					6120	6080	7020	3460	2900	2360					
					9580	8980	9380	TOTAL							
					80	75	78	AMPS/PHASE							

CONNECTED LOAD TOTAL: 27940 VA

EQUIP RATING: 10,000 AMPS RMS SYM.

JOB NAME:

CONTROL RELAY SCHEDULE

Panel Name: R

Location:

Transformer Voltage:

Control Circuit:

Relay #	Description	Panel & Circuit	Load	Low Voltage Switch
1	HALL LIGHTING	48G-1	910	LV SW A
2	HALL LIGHTING	48G-3	1190	LV SW A
3	HALL LIGHTING	48G-5	1190	LV SW A
4	HALL LIGHTING	48G-7	1190	LV SW A
5	HALL LIGHTING	48G-9	1190	LV SW A
6	HALL LIGHTING	48G-11	1190	LV SW A
7	SOFFIT LIGHTING	48G-2	980	LV SW B
8	SOFFIT LIGHTING	48G-4	980	LV SW B
9	SOFFIT LIGHTING	48G-6	980	LV SW B
10	SOFFIT LIGHTING	48G-8	1260	LV SW B
11	HALL LIGHTING	48G-13	1190	LV SW C
12	HALL LIGHTING	48G-15	455	LV SW C
13	HALL LIGHTING	48G-15	350	LV SW E
14	HALL LIGHTING	48G-15	420	LV SW F
15	HALL LIGHTING	48G-17	805	LV SW G
16	COMMONS LIGHTING	48G-19	1435	LV SW H
17	SOFFIT LIGHTING	48G-10	910	LV SW D
18	SOFFIT LIGHTING	48G-12	700	LV SW D
19	SOFFIT LIGHTING	48G-12	490	LV SW D
20	SOFFIT LIGHTING	48G-14	980	LV SW D
21	SOFFIT LIGHTING	48G-16	980	LV SW D
22	SOFFIT LIGHTING	48G-18	980	LV SW D
23	SOFFIT LIGHTING	48G-20	490	LV SW D
24	SOFFIT LIGHTING	48G-20	910	LV SW D
25	HALL LIGHTING	48G-21	1190	LV SW C
26	HALL LIGHTING	48G-23	700	LV SW C
27	HALL LIGHTING	48G-25	1190	LV SW C
28	HALL LIGHTING	48G-27	1190	LV SW C
29	HALL LIGHTING	48G-29	490	LV SW C
30	CASE LIGHTING	48G-22	675	LV SW J
31	HALL LIGHTING	48G-31	1190	LV SW C
32	HALL LIGHTING	48G-33	1190	LV SW C
33	HALL LIGHTING	48G-35	700	LV SW C
34	HALL LIGHTING	48G-35	665	LV SW C
35	HALL LIGHTING	48G-37	1190	LV SW C
36	HALL LIGHTING	48G-39	700	LV SW C
37	HALL LIGHTING	48G-41	280	LV SW K
38	HALL LIGHTING	48G-24	420	LV SW L
39	HALL LIGHTING	48G-24	350	LV SW M
40	HALL LIGHTING	48G-24	420	LV SW N
41	VESTIBULE LIGHTING	48G-26	770	TIMECLOCK
42	SOFFIT LIGHTING	48G-28	1155	LV SW O
43	SOFFIT LIGHTING	48G-30	1260	LV SW P
44	OPEN OFFICE LIGHTING	48G-32	840	LV SW Q
45	OPEN OFFICE LIGHTING	48G-34	1190	LV SW Q
46	SPARE RELAY			
47	SPARE RELAY			
48	SPARE RELAY			

PANELBOARD SCHEDULE

PANEL: 48G EX — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: x LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: FLUSH; x SURFACE

DIMENSIONS: W; D (in.); H

LOCATION: — AMP: 225

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
R1	20	1	10	1	910			980			2	20	1	10	R7
R2	20	1	10	3		1190			980		4	20	1	10	R8
R3	20	1	10	5			1190			980	6	20	1	10	R9
R4	20	1	10	7	1190			1260			8	20	1	10	R10
R5	20	1	10	9		1190			910		10	20	1	10	R17
R6	20	1	10	11			1190			1190	12	20	1	10	R18.19
R11	20	1	10	13	1190			980			14	20	1	10	R20
R12,13,14	20	1	10	15		1225			980		16	20	1	10	R21
R15	20	1	10	17			805			980	18	20	1	10	R22
R16	20	1	10	19	1435			1400			20	20	1	10	R23,24
R25	20	1	10	21		1190			675		22	20	1	10	R30
R26	20	1	10	23			700			1190	24	20	1	10	R38,39,40
R27	20	1	10	25	1190			770			26	20	1	10	R41
R28	20	1	10	27		1190			1155		28	20	1	10	R42
R29	20	1	10	29			490			1260	30	20	1	10	R43
R31	20	1	10	31	1190			840			32	20	1	10	R44
R32	20	1	10	33		1190			1190		34	20	1	10	R45
R33,34	20	1	10	35			1365				36	20	1		SPACE ONLY
R35	20	1	10	37	1190						38	20	1		SPACE ONLY
R36	20	1	10	39		700					40	20	1		SPACE ONLY
R37	20	1	10	41			280				42	20	1		SPACE ONLY
					8295	7875	6020	6230	5890	5600					
					14525	13765	11620	TOTAL							
					121	115	97	AMPS/PHASE							

CONNECTED LOAD TOTAL: 39910 VA

EQUIP RATING: AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 48F EX — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: X LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: FLUSH; SURFACE

DIMENSIONS: W; D (in.); H

LOCATION: — AMP: 225

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
LIGHTING	20	1	10	1	1540			1330			2	20	1	12	LIGHTING
LIGHTING	20	1	10	3		1330			770		4				LIGHTING
LIGHTING	20	1	10	5			1400			1225	6				LIGHTING
SPACE ONLY				7				1260			8				LIGHTING
SPACE ONLY				9					1140		10				LIGHTING
SPACE ONLY				11						1330	12				LIGHTING
SPACE ONLY				13				770			14				LIGHTING
SPACE ONLY				15					980		16				LIGHTING
SPACE ONLY				17						1050	18				LIGHTING
SPACE ONLY				19				980			20				LIGHTING
SPACE ONLY				21					1260		22				LIGHTING
SPACE ONLY				23						1190	24				LIGHTING
SPACE ONLY				25				1190			26				LIGHTING
SPACE ONLY				27							28				SPACE ONLY
SPACE ONLY				29							30				SPACE ONLY
SPACE ONLY				31							32				SPACE ONLY
SPACE ONLY				33							34				SPACE ONLY
SPACE ONLY				35							36				SPACE ONLY
SPACE ONLY				37							38				SPACE ONLY
SPACE ONLY				39							40				SPACE ONLY
SPACE ONLY				41							42				SPACE ONLY
					1540	1330	1400	5530	4150	4795					
					7070	5480	6195	TOTAL							
					59	46	52	AMPS/PHASE							

CONNECTED LOAD TOTAL: 18745 VA

EQUIP RATING: AMPS RMS SYM.

JOB NAME:

PANELBOARD SCHEDULE

PANEL: 33G — TYPE: NQOD — 120/208 VOLTS — 3 PH — 4 W

MAINS: x LUGS; BREAKER; SUBFEED LUGS; ISO GROUND; 200% NEUTRAL

MOUNTING: x FLUSH; SURFACE

DIMENSIONS: 20 W; 6 D (in.); H

LOCATION: WORK RM. — AMP: 125

BRANCH BREAKERS

ITEM	AMPS	POLE	WIRE SIZE	CIR. NO.	LEFT PHASE LOAD A	B	C	RIGHT PHASE LOAD A	B	C	CIR. NO.	AMPS	POLE	WIRE SIZE	ITEM
RECEPTACLES	20	1	12	1	1260			423			2	20	1	12	LIGHTING
RECEPTACLES	20	1	12	3		900			625		4	20	1	12	LIGHTING
RECEPTACLES	20	1	12	5			1260			564	6	20	1	12	LIGHTING
RECEPTACLES	20	1	12	7	1260			611			8	20	1	12	LIGHTING
RECEPTACLES	20	1	12	9		720			1260		10	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	11			540			1440	12	20	1	12	RECEPTACLES
RECEPTACLES	20	1	12	13	540						14	20	1		SPARE
RECEPTACLES	20	1	12	15		180					16	20	1		SPARE
RECEPTACLES	20	1	12	17			180				18	20	1		SPARE
RECEPTACLES	20	1	12	19	1080						20	20	1		SPARE
RECEPTACLES	20	1	12	21		540					22	20	1		SPARE
EXISTING DOORS	20	1	12	23			50				24	20	1		SPARE
EXISTING LOAD	20	3	12	25	475			475			26	20	3	12	EXISTING LOAD
				27		475			475		28				
				29			475			475	30				
EXISTING LOAD	20	3	12	31	475			375			32	20	3	12	EXISTING LOAD
				33		475			375		34				
				35			475			375	36				
EXISTING LOAD	20	3	12	37	475			375			38	20	3	12	EXISTING LOAD
				39		475			375		40				
				41			475			375	42				
					5565	3765	3455	2259	3110	3229					
					7824	6875	6684	TOTAL							
					65	57	56	AMPS/PHASE							

CONNECTED LOAD TOTAL: 21383 VA

EQUIP RATING: 10,000 AMPS RMS SYM.

JOB NAME:

Axis Architects

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LICENSED PROFESSIONAL ENGINEER B. ELAINE FAWSON No. 295587 STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision # Date

Axis Job # 0719
BNA Job # 08110A
Owner # DFCM
Date 07-16-2008
Drawn BNA
Checked EF

PANELBOARD SCHEDULES

EX102

By: doug; Jul 15, 2008 – 8:19am
F:\2008\110A\DRAW\s110A-EX102.dwg

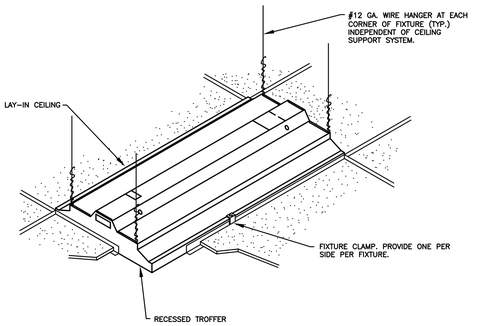


DIAGRAM A001 TYP. RECESSED FIXTURE MOUNTING
NTS

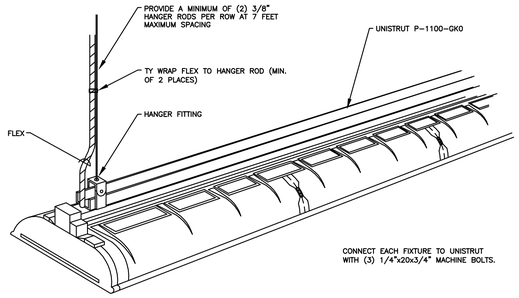


DIAGRAM A010 FIXTURE MOUNTING
NTS

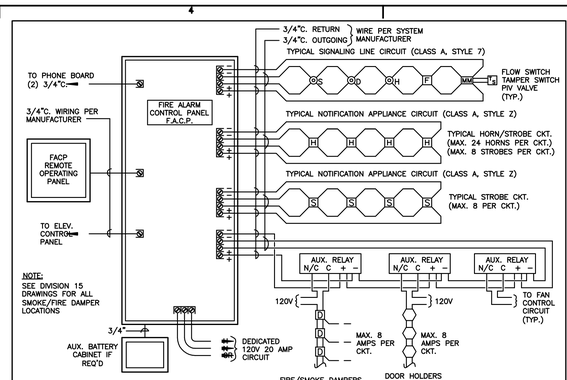


DIAGRAM D002 TYPICAL FIRE ALARM RISER
NTS

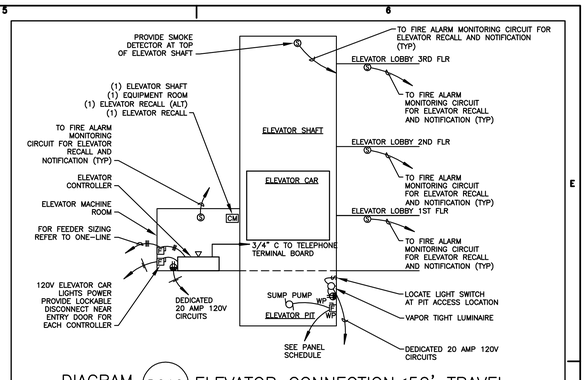


DIAGRAM D010 ELEVATOR CONNECTION<50' TRAVEL
NTS

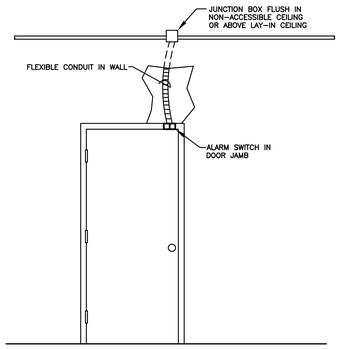


DIAGRAM E001 SECURITY SYSTEM DOOR SWITCH
NTS

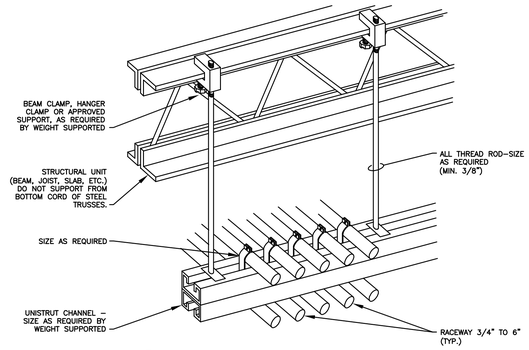


DIAGRAM H001 TYPICAL TRAPEZE CONDUIT RACK
NTS

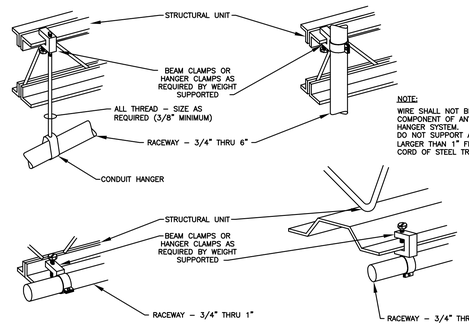
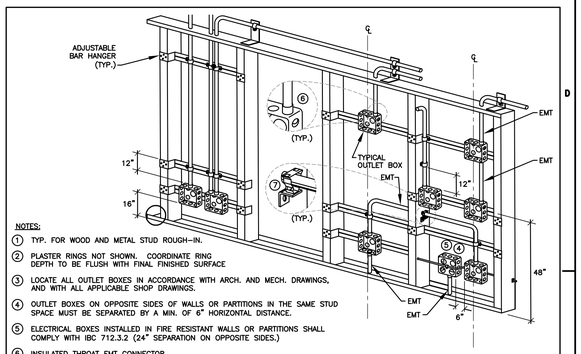
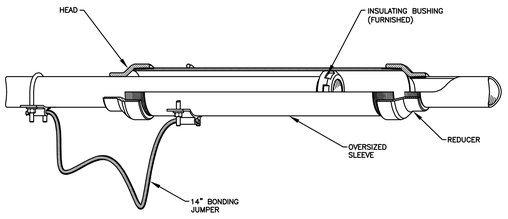


DIAGRAM H003 TYPICAL RACEWAY SUPPORT METHODS
NTS



NOTES:
1. TYP. FOR WOOD AND METAL STUD ROUGH-IN.
2. PLASTER RINGS NOT SHOWN. COORDINATE RING DEPTH TO BE FLUSH WITH FINAL FINISHED SURFACE
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCH. AND MECH. DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. OUTLET BOXES ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 6" HORIZONTAL DISTANCE.
5. ELECTRICAL BOXES INSTALLED IN FIRE RESISTANT WALLS OR PARTITIONS SHALL COMPLY WITH IBC 712.3.2 (24" SEPARATION ON OPPOSITE SIDES.)
6. INSULATED THROAT EMT CONNECTOR.
7. CADDY FASTENER, THROUGH STUD CABLE/CONDUIT SUPPORT "FB12P".

DIAGRAM H004 TYPICAL ROUGH IN REQUIREMENTS
NTS



NOTE:
INSTALL CONDUIT TO ALLOW FOR 2" MOVEMENT IN EITHER DIRECTION FOR A TOTAL MOVEMENT OF 4".

O-Z/GEDNEY 'TYPE EXPB'

DIAGRAM H009 EXPANSION & PULL BOX FITTING
NTS

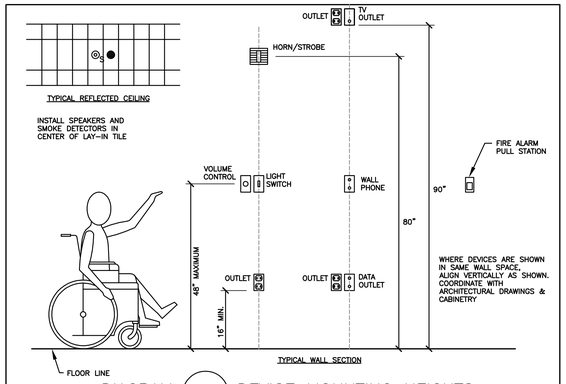


DIAGRAM R001 DEVICE MOUNTING HEIGHTS
NTS

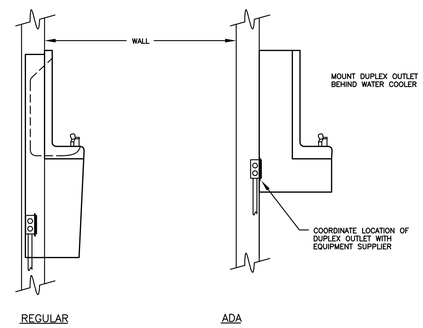


DIAGRAM R002 ELECTRIC WATER COOLER (EWC)
NTS

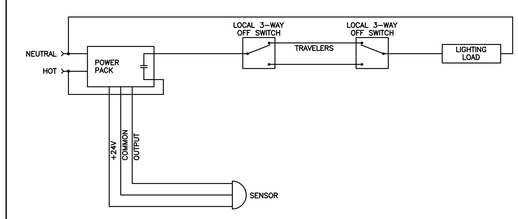


DIAGRAM S011 SENSOR WITH 3-WAY SWITCHING
NTS

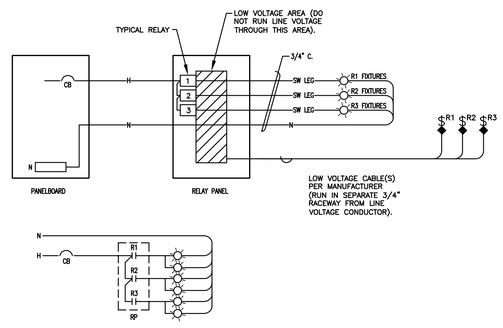


DIAGRAM S021 MULTIPLE RELAYS FED FROM ONE CIRCUIT
NTS

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LICENSED PROFESSIONAL ENGINEER
B. ELAINE FAWSON
No. 295587
STATE OF UTAH

UTAH VALLEY UNIVERSITY
Losee Center Remodel
Orem, Utah

Revision #	Date

Axis Job #	0719
BNA Job #	08110A
Owner #	DFCM
Date	07-16-2008
Drawn	BNA
Checked	EF

ELECTRICAL DIAGRAMS

EX103

By: doug; Jul 15, 2008 – 8:19am
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