



PIPING TEST REPORT

System to be Tested

[illegible]

Test Witnessed and Approved by:

icon (REP)

OWNER (REP)

Third Party

NAME _____

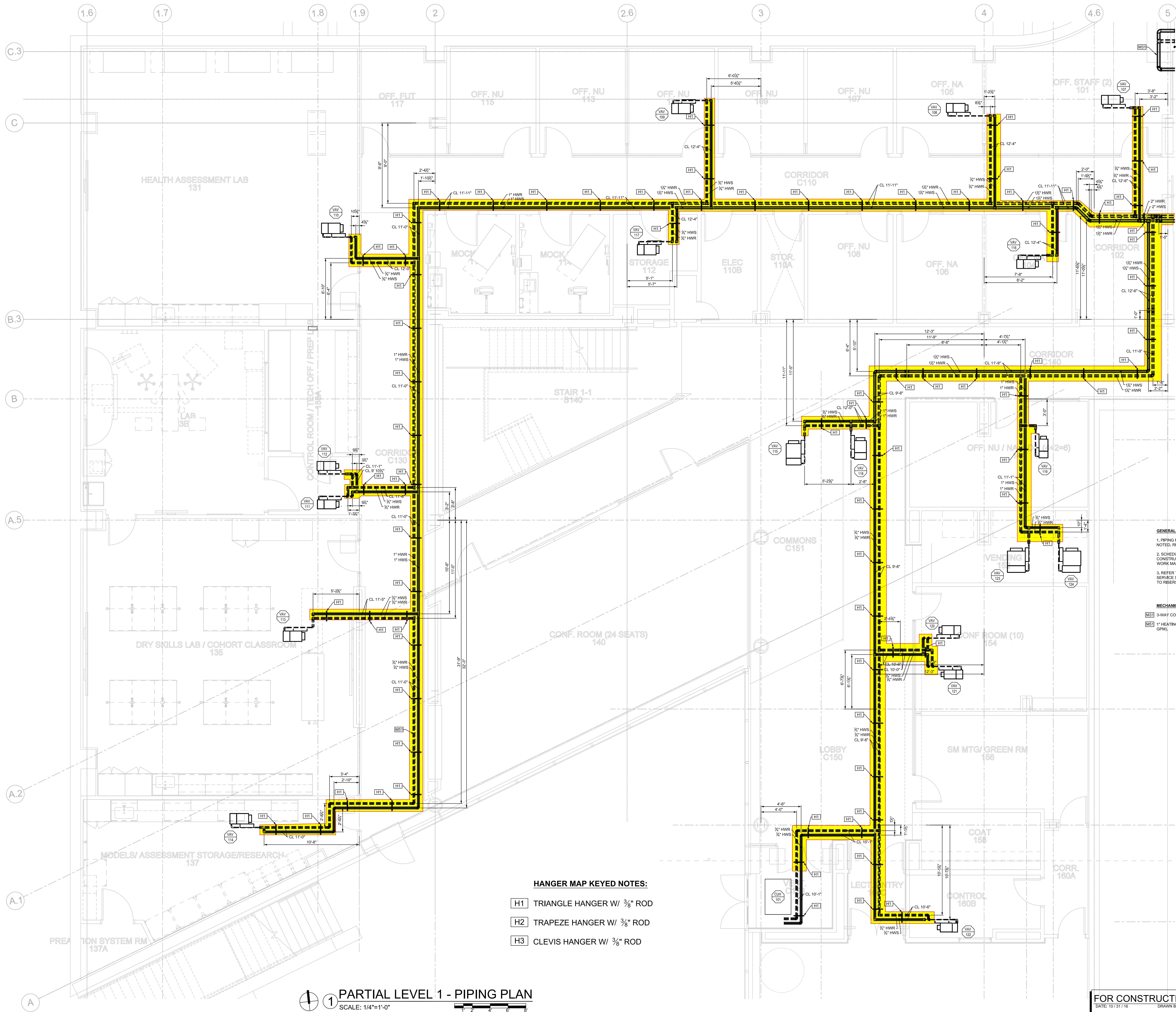
DATE _____

STEVE RAY

1-19-17

1/19/17

DATE: 10/01/2016 FILE PATH: N:\Engineering\CAD\2016\JRS\575758 - Webster ISB\Design\Mechanical\ISB\575758\MP101B1 PARTIAL LEVEL 1 - PIPING PLAN.dwg
PLOT BY: JRS



HANGER MAP KEYED NOTES:

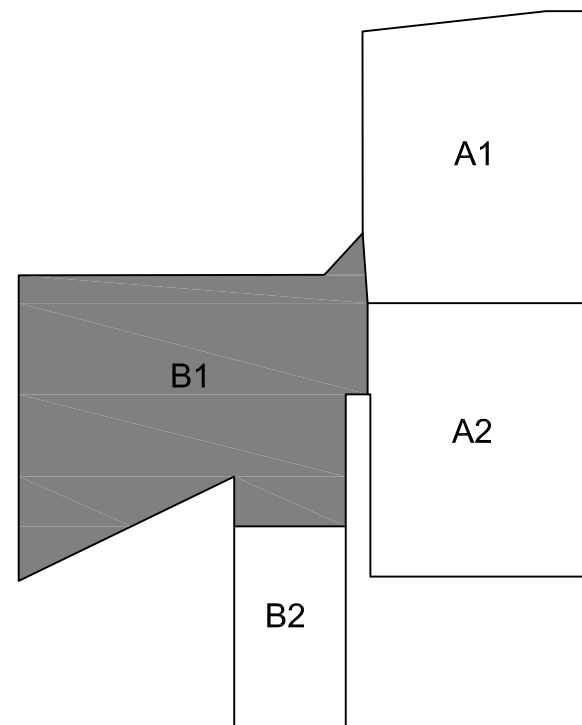
- H1 TRIANGLE HANGER W/ 3/8" ROD
H2 TRAPEZE HANGER W/ 3/8" ROD
H3 CLEVIS HANGER W/ 3/8" ROD

GENERAL NOTES:

1. PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 3/4" UNLESS OTHERWISE NOTED. REFER TO REHEAT BOX SCHEDULE.
2. SCHEDULE SYSTEMS OR EQUIPMENT SHUT DOWNS REQUIRED FOR NEW CONSTRUCTION WITH OWNER TWO WEEKS IN ADVANCE. SOME PREMIUM TIME WORK MAY BE REQUIRED.
3. REFER TO PIPING DETAILS FOR FINAL CONNECTIONS TO EQUIPMENT. PROVIDE SERVICE SHUT-OFF VALVES IN MAJOR PIPING BRANCH LINES. ALL CONNECTIONS TO RISERS AND EACH BUILDING WINGS A & S

MECHANICAL PIPING KEYED NOTES: (THIS SHEET ONLY)

- MS3 3-WAY CONTROL VALVE, SEE CHILLED WATER PIPING DIAGRAM.
MS1 1" HEATING HOT WATER BYPASS WITH BACKPRESSURE CONTROL VALVE (5 GPM).



FOR CONSTRUCTION
DATE: 10/31/16 DRAWN BY: JRS
ISSUE: FOR CONSTRUCTION CHECKED: XXX

KEY PLAN

WEBSTER UNIVERSITY - ISB
WEBSTER GROVES, MISSOURI
ICON MECHANICAL CONTRACTORS AND ENGINEERS

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Revision:	
Issue Date	10 / 31 / 16
Sheet Title	MP101B1
Project Number	5768
Sheet Number	1 of 1



Mechanical

1616 Cleveland Boulevard Granite City, Illinois 62040

PIPING TEST REPORT

System to be Tested

[illegible]

Test Witnessed and Approved by:

NAME _____

DATE _____

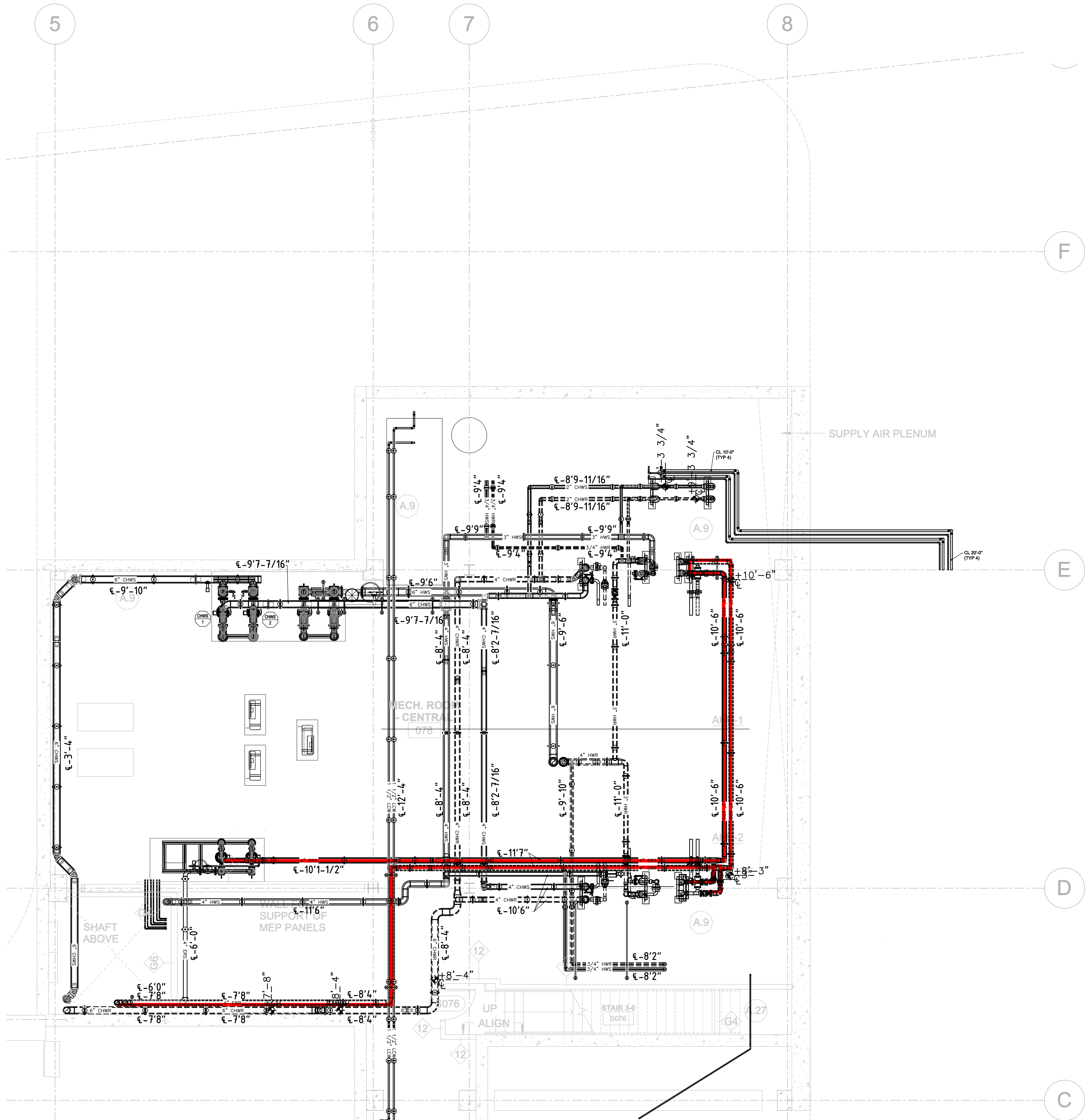
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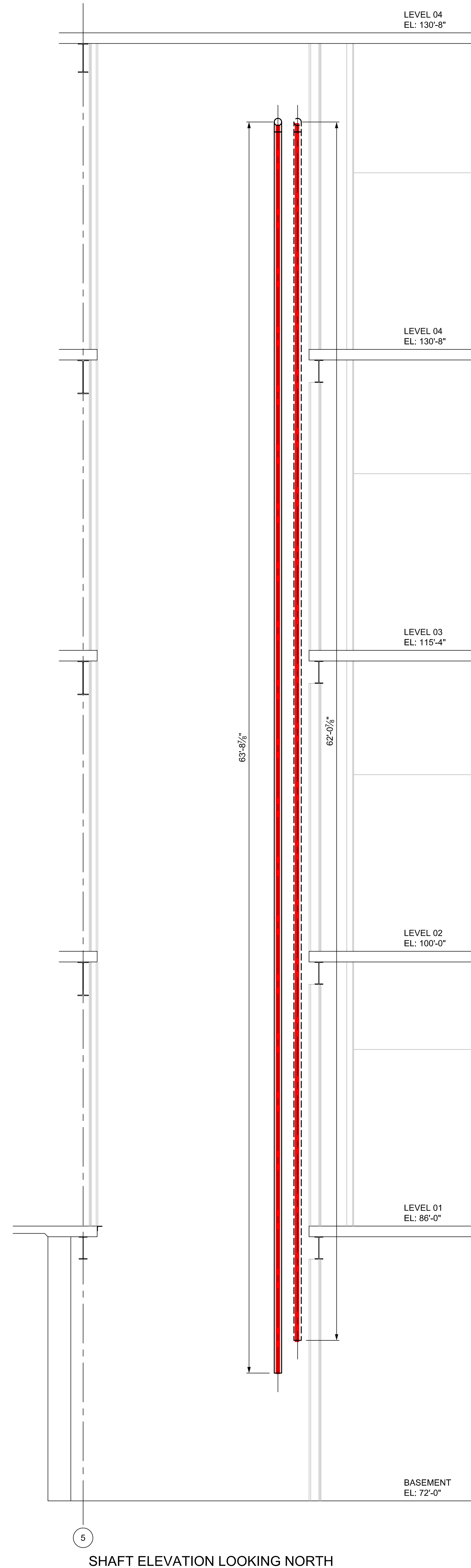
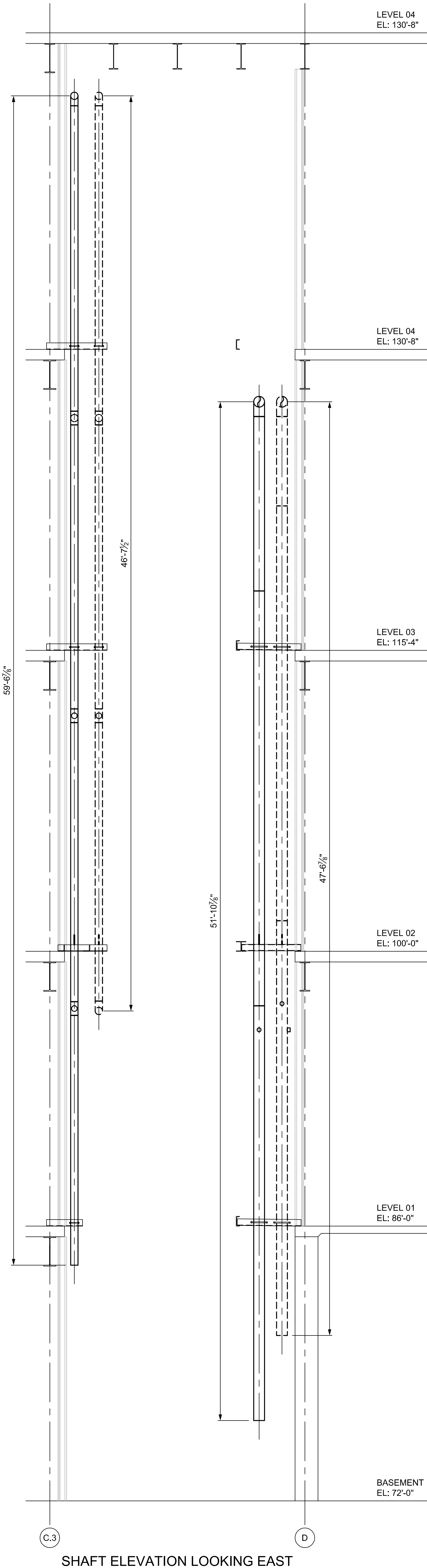
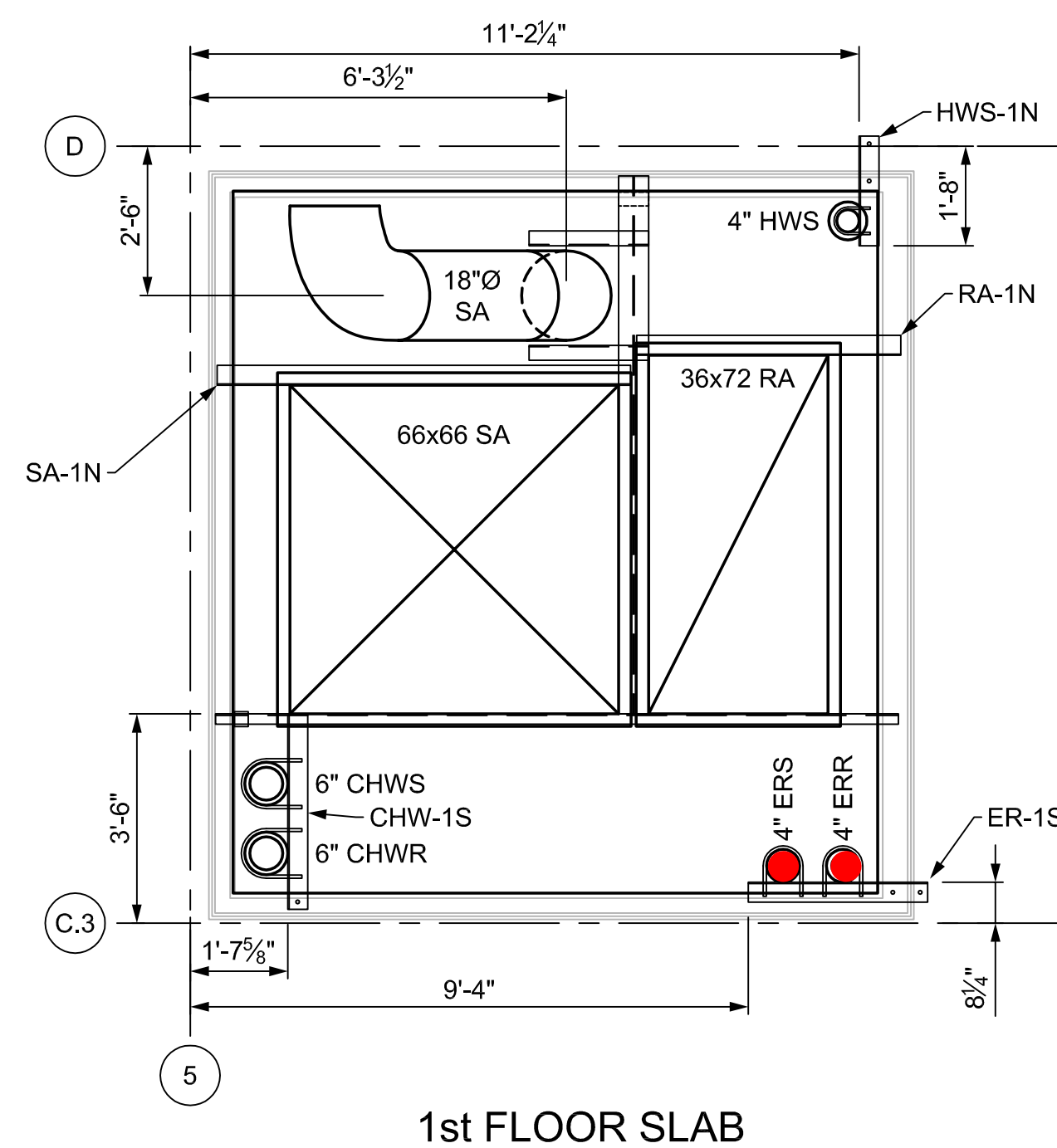
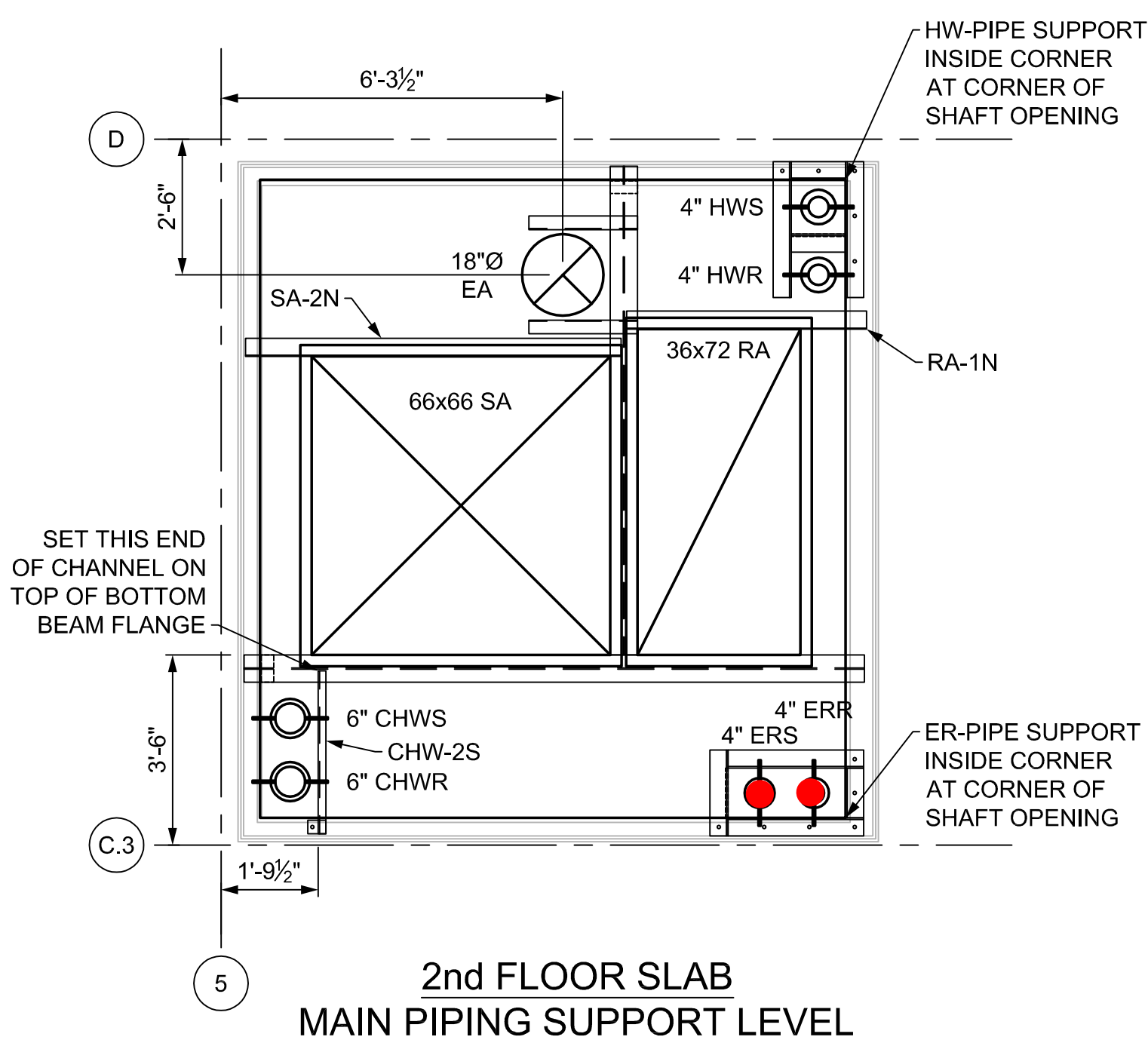
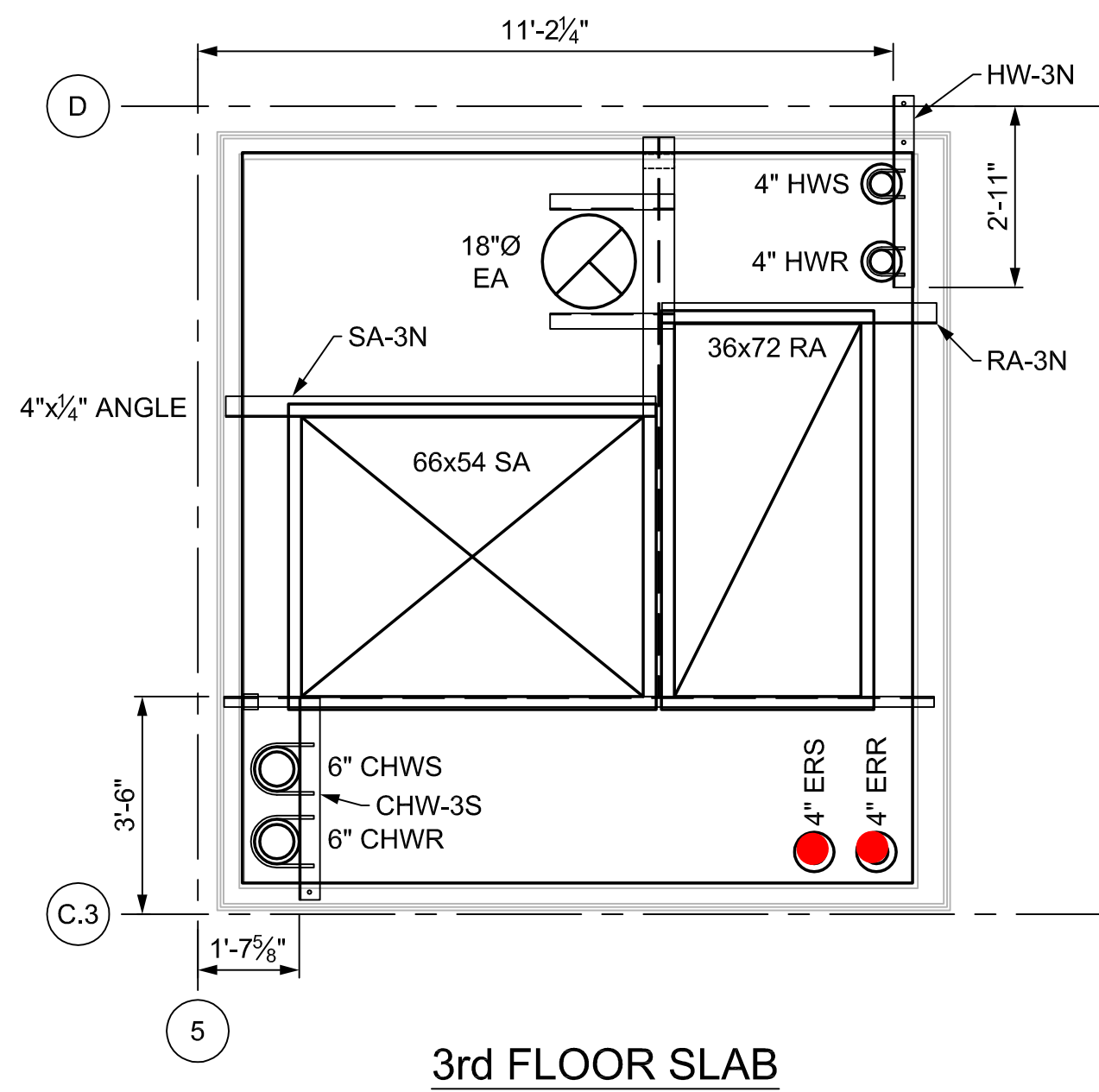
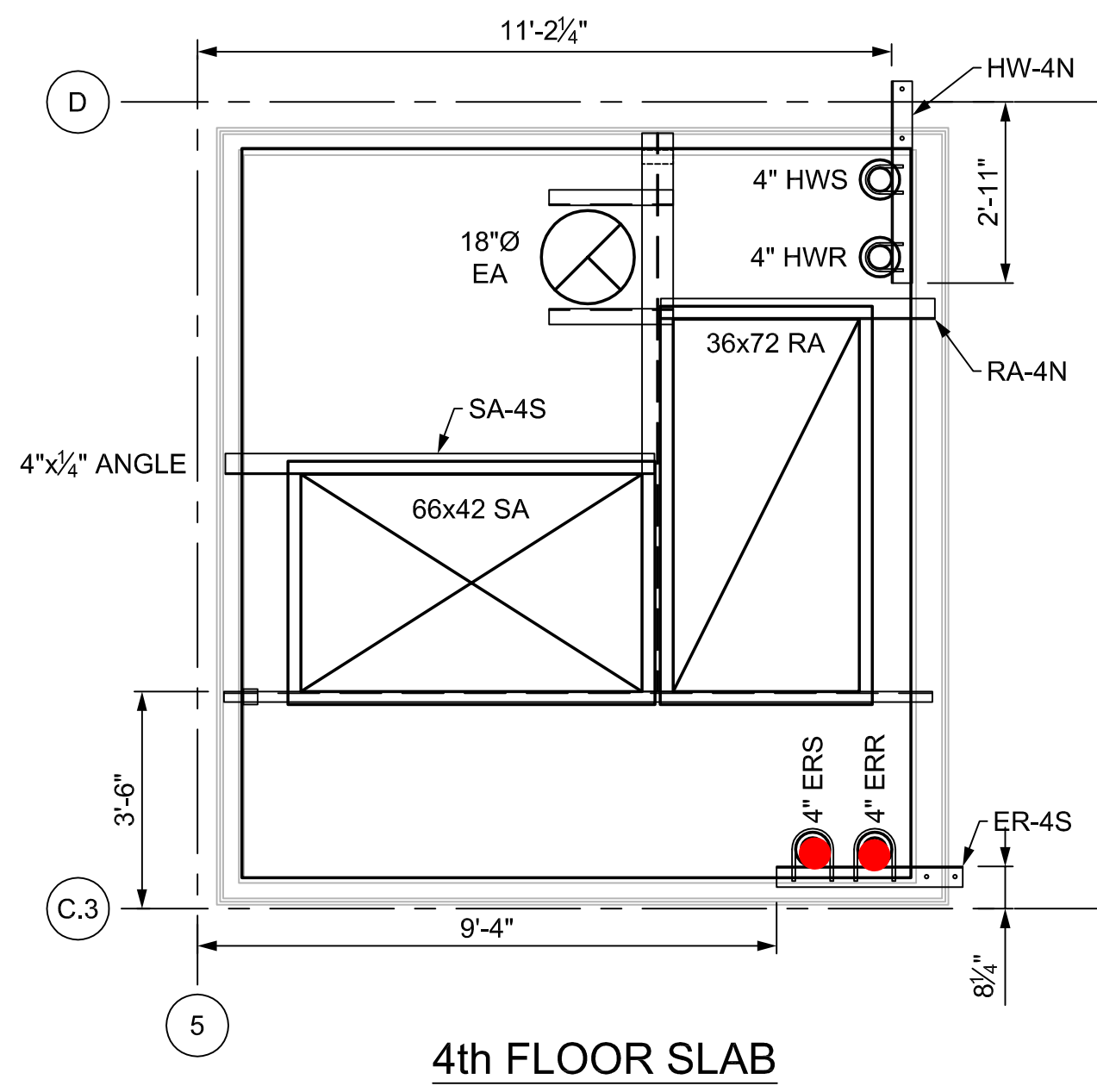
OWNER (REP)

Third Party

	NAME	DATE
icon (REP)	<i>[Signature]</i>	
OWNER (REP)	<i>[Signature]</i> Heidi A. Buchanan	2/7/2017
Third Party	<i>[Signature]</i> Mike Sweeten <i>PRG</i>	2/7/2017

DATE: 10/25/2016 FILEPATH: N:\Engineering\CAD\2016\JES\5758 - Webster ISB\Design\Mechanical\ISB\5758\MP100A LEVEL 0 - PIPING PLAN.dwg
PLOTTER: HP DesignJet 500 Plotter







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PIPING TEST REPORT

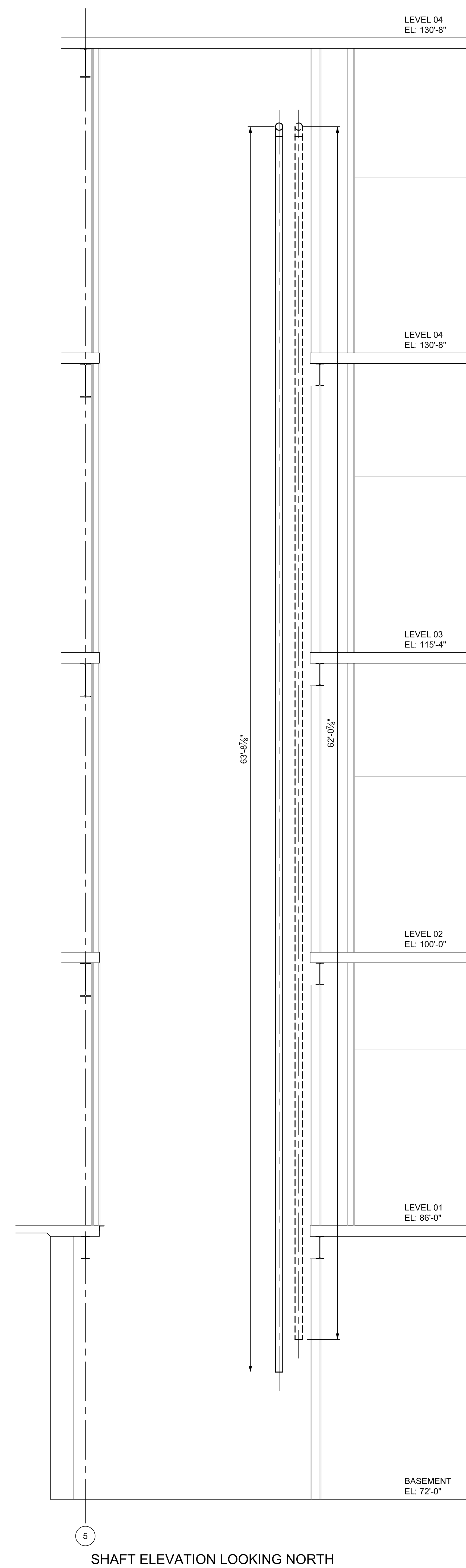
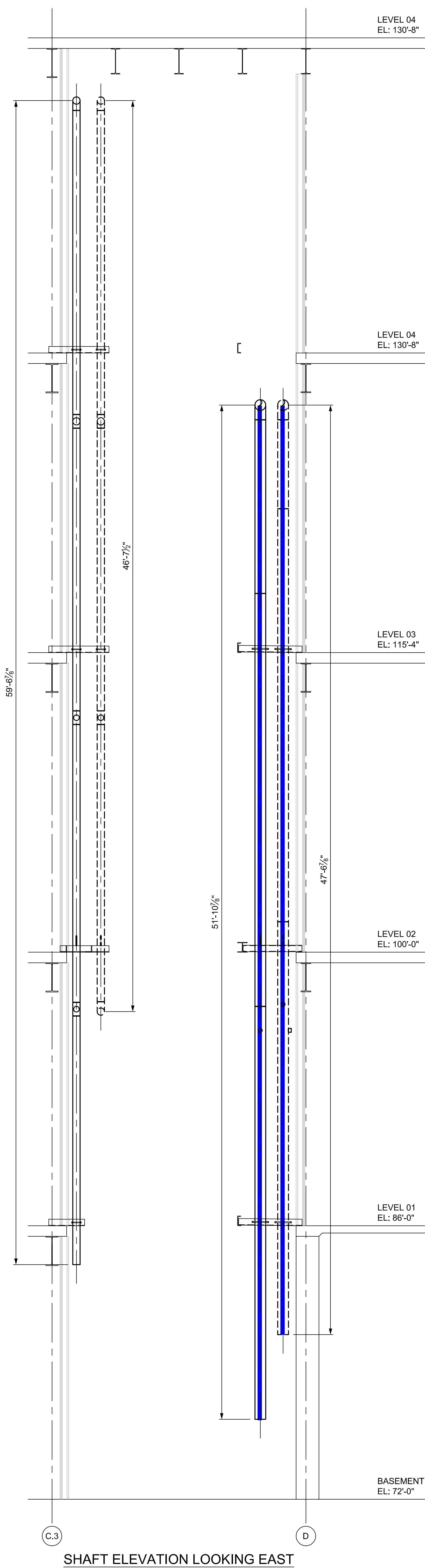
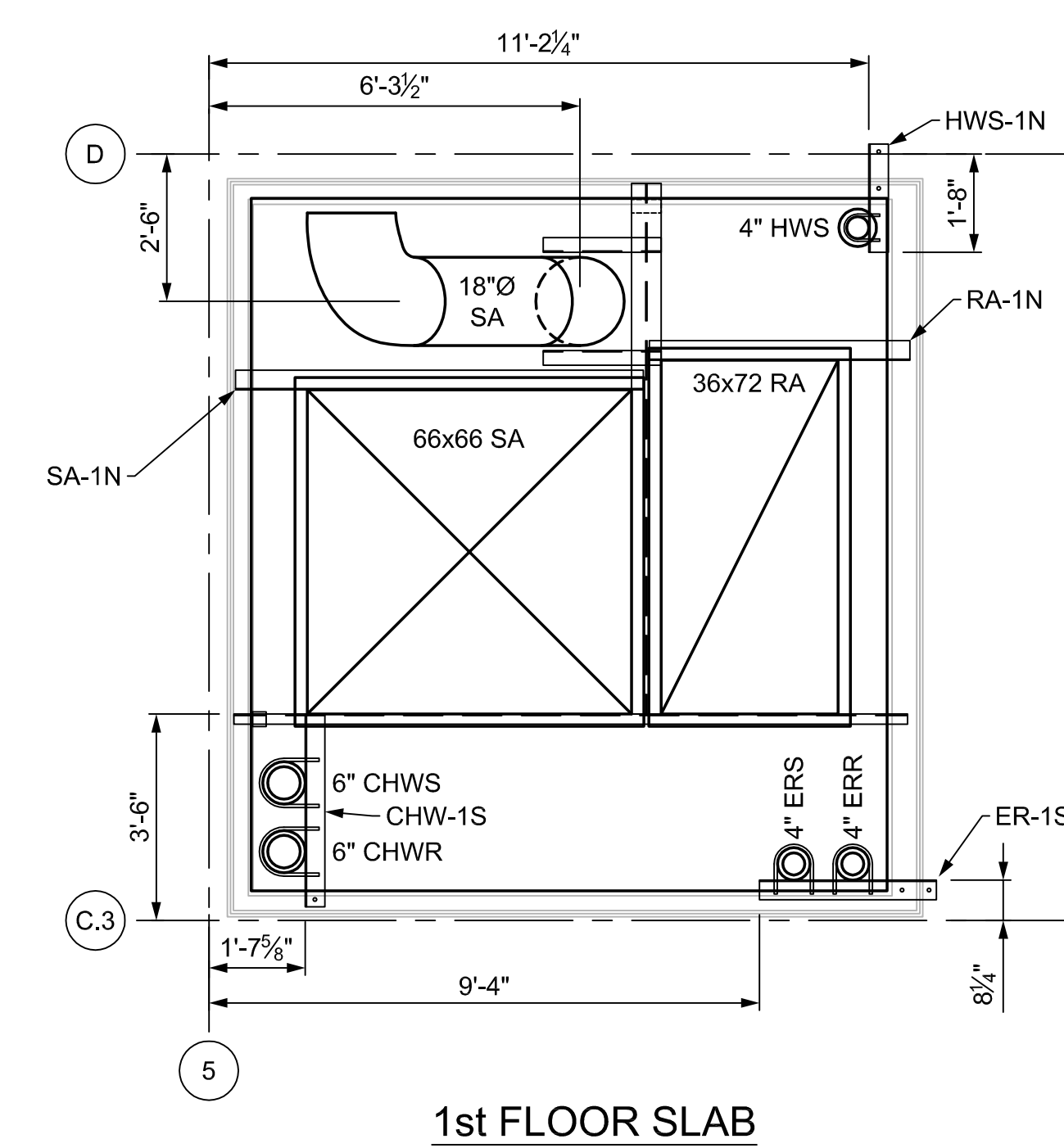
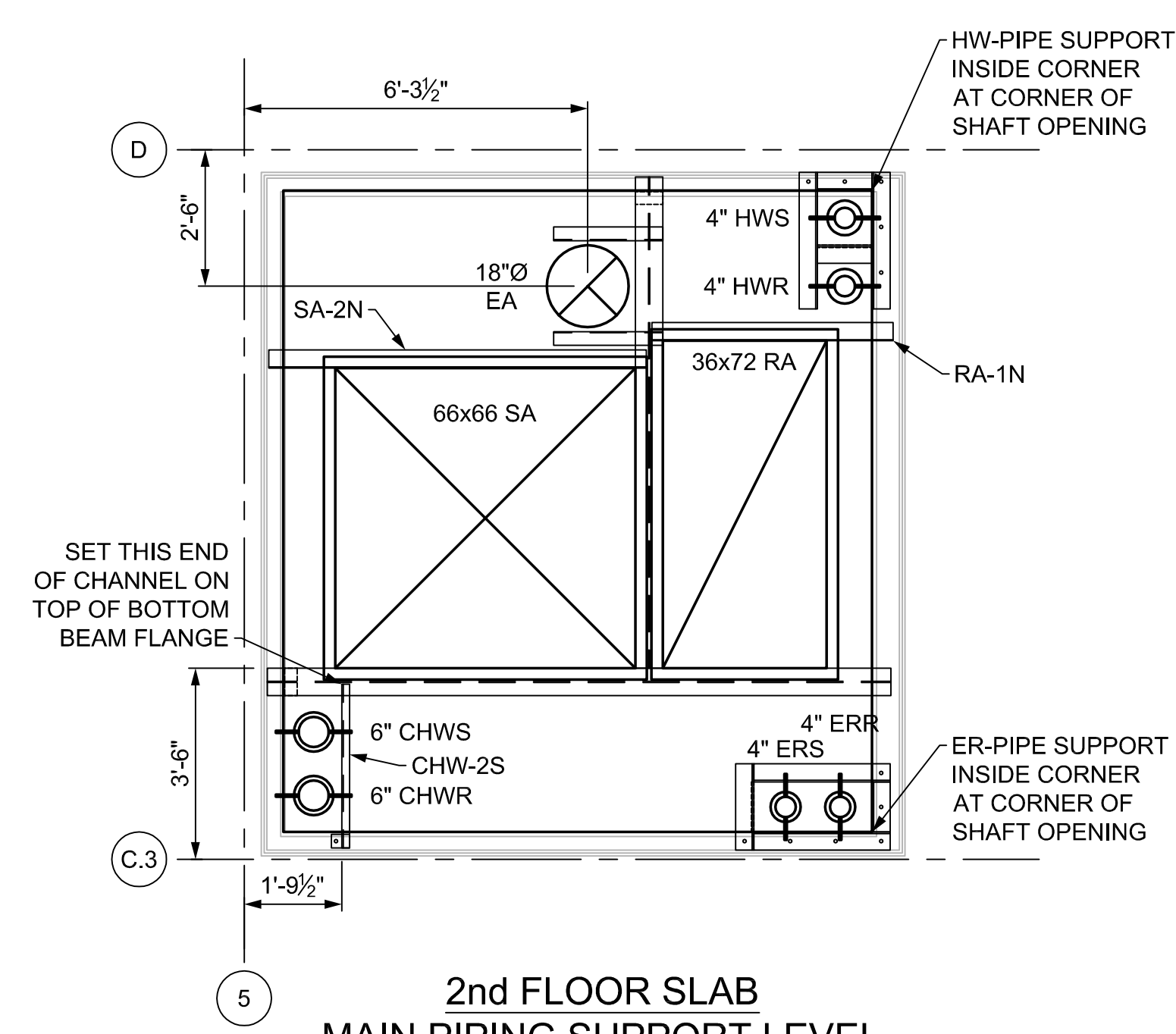
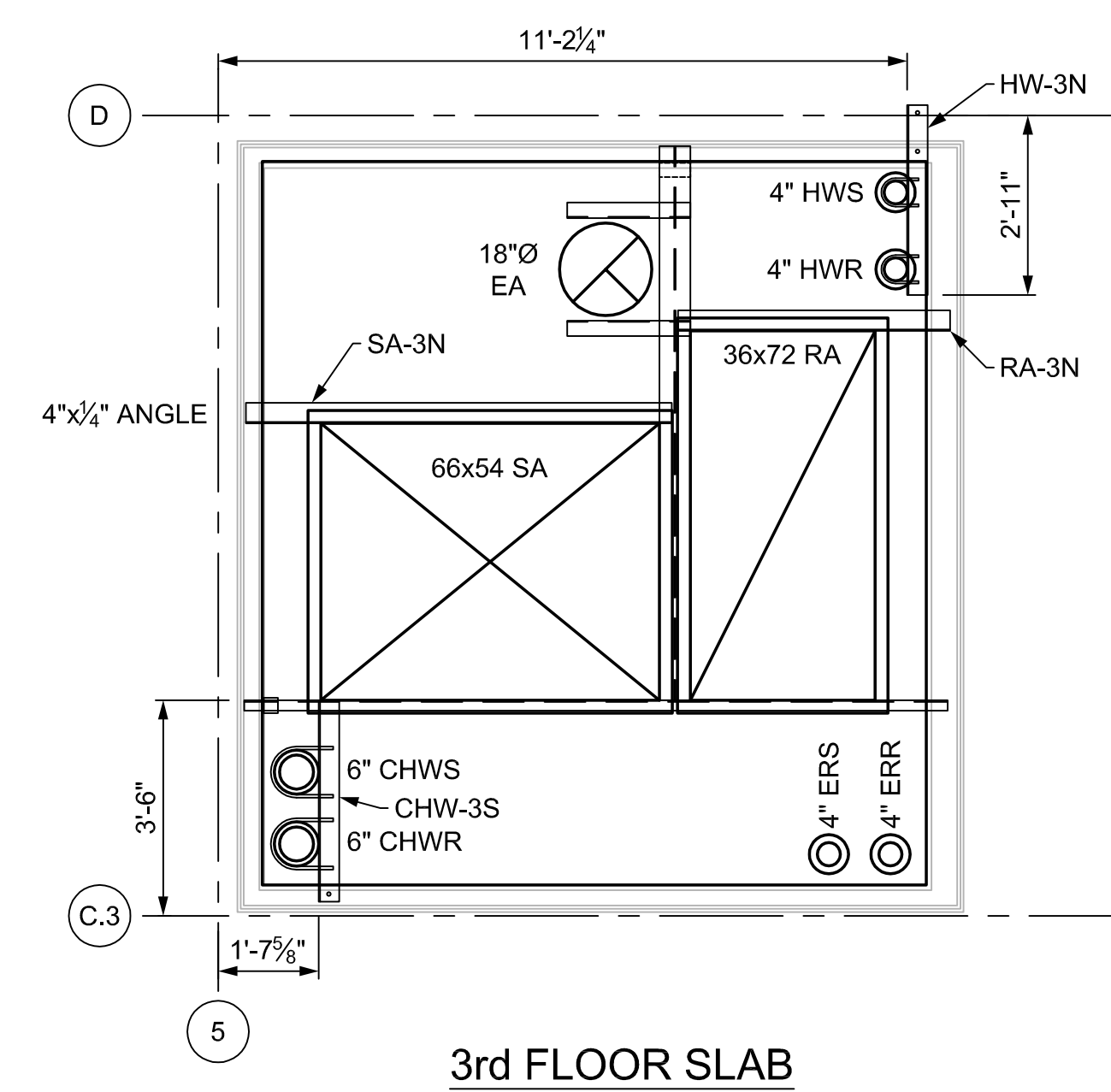
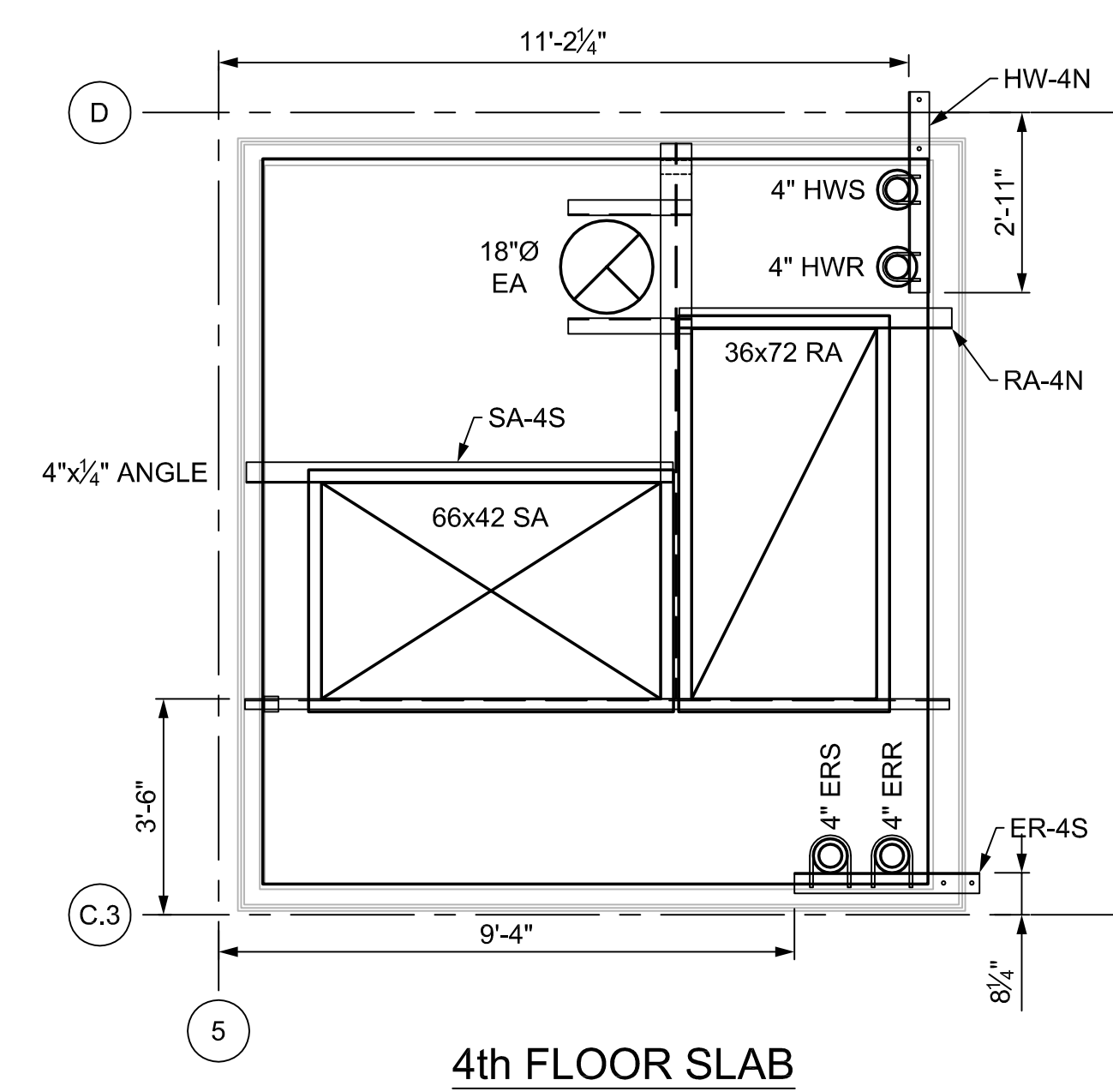
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DATE: 10 / 03 / 2016 DRAWN BY: ZPL

ISSUE: FAB MED PRESS SUP





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PIPING TEST REPORT

System to be Tested

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Test Witnessed and Approved by:

NAME _____

DATE _____

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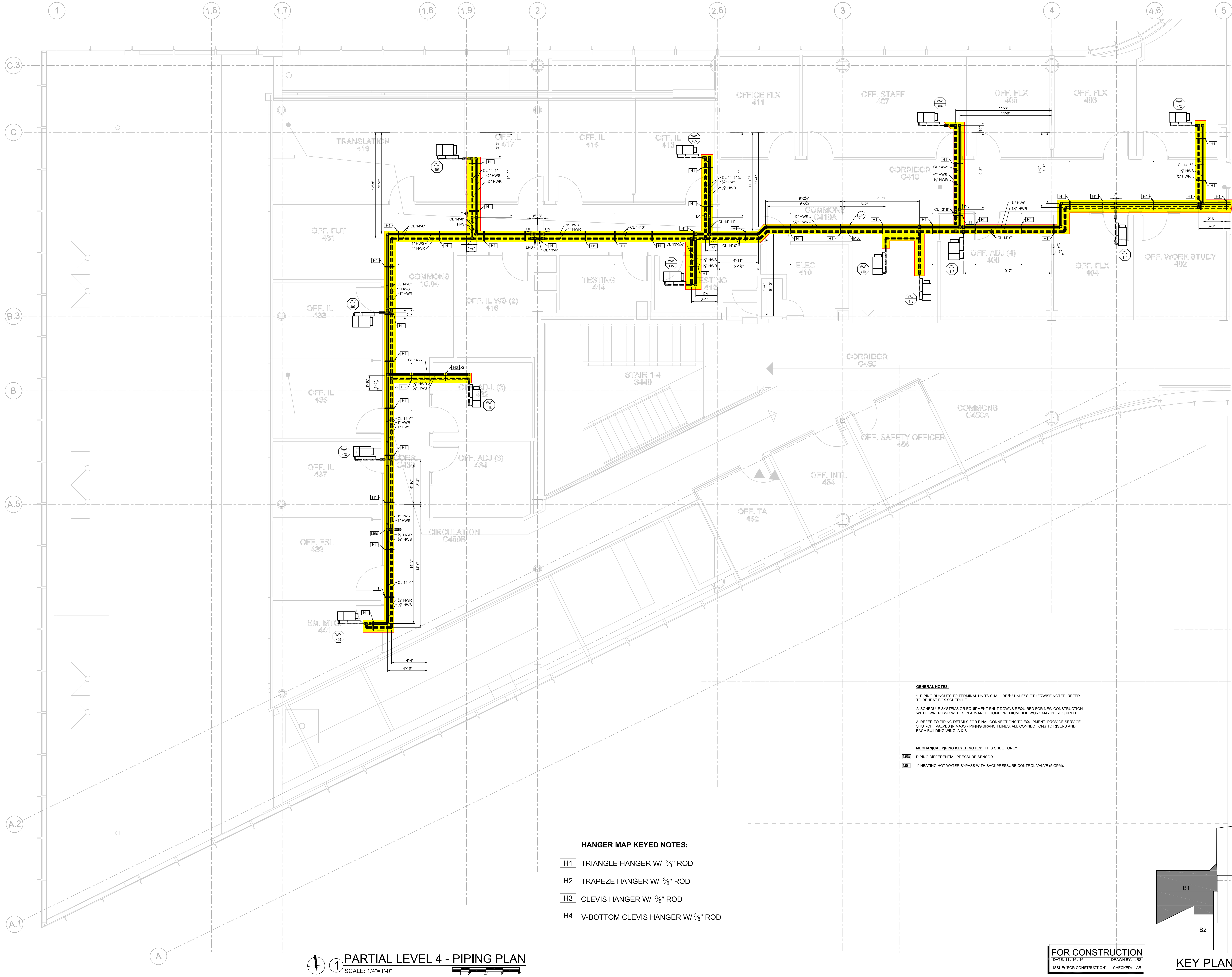
OWNER (REP.)

Third Party

2/9/2017

2/9/2017

DATE: 10/10/2016 FILEPATH: N:\Engineering\CAD\2016 Jobs\5758 - Webster ISB Design\Mechanical\ISB\Mechanical\PARTIAL LEVEL 4 - PIPING PLAN.dwg
PLOT BY: J. J. Smith



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Revision:	1	2	3	4
Issue Date	11 / 16 / 16			
Sheet Title	MP104B1			
Project Number	5768			
Sheet Number	1 of 1			

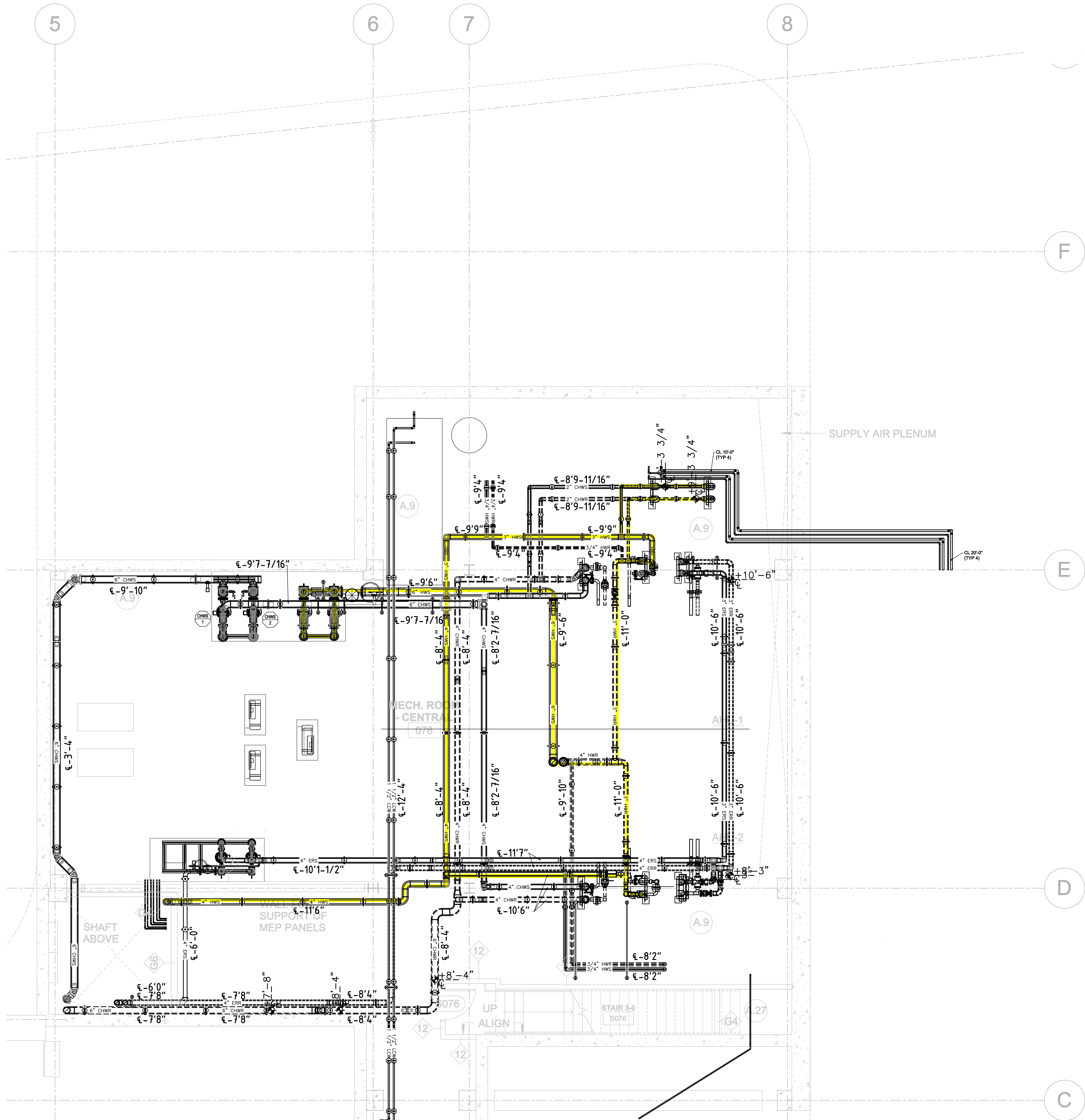


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System to be Tested

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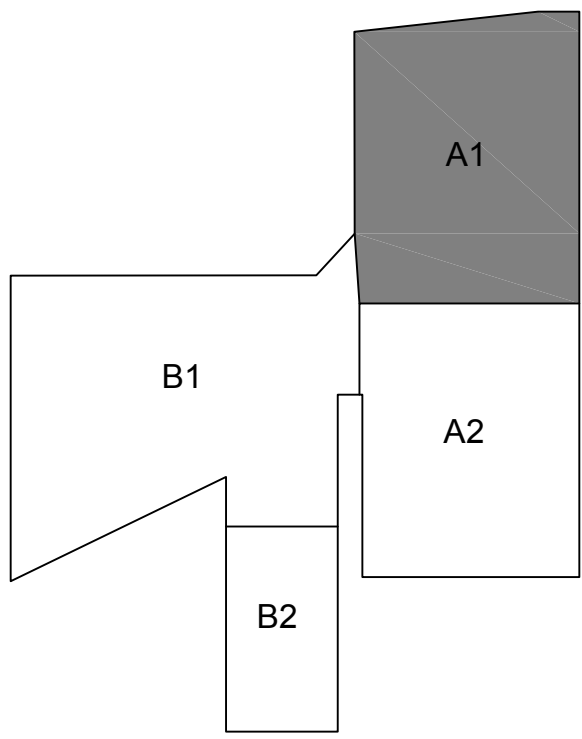
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PLOT BY: C:\Users\jgordon\OneDrive\Documents\jgordon.dwg



1 LEVEL 0 - PIPING PLAN
SCALE: 1/4"=1'-0"

FOR CONSTRUCTION
DATE: 10/12/2016
ISSUE: FAB MED PRESS SUP

DRAWN BY: ZPL



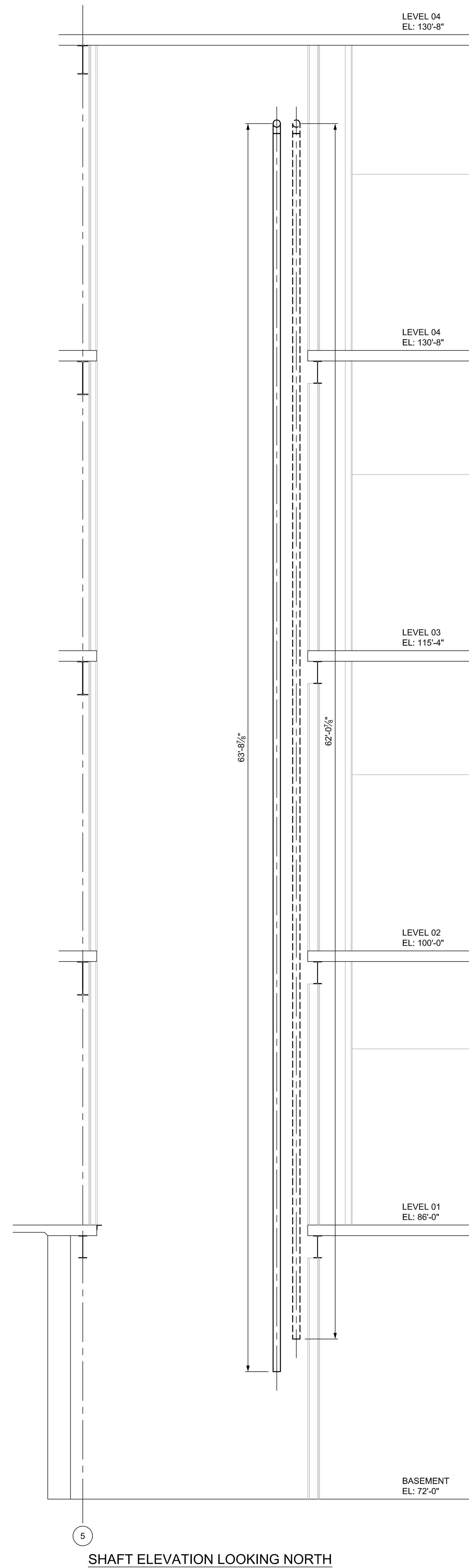
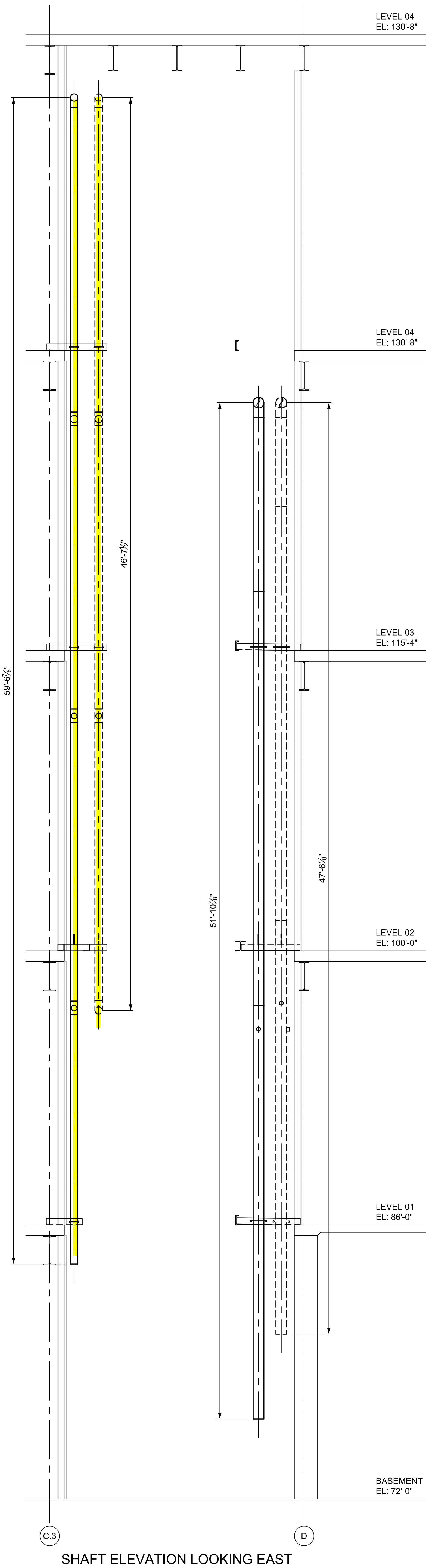
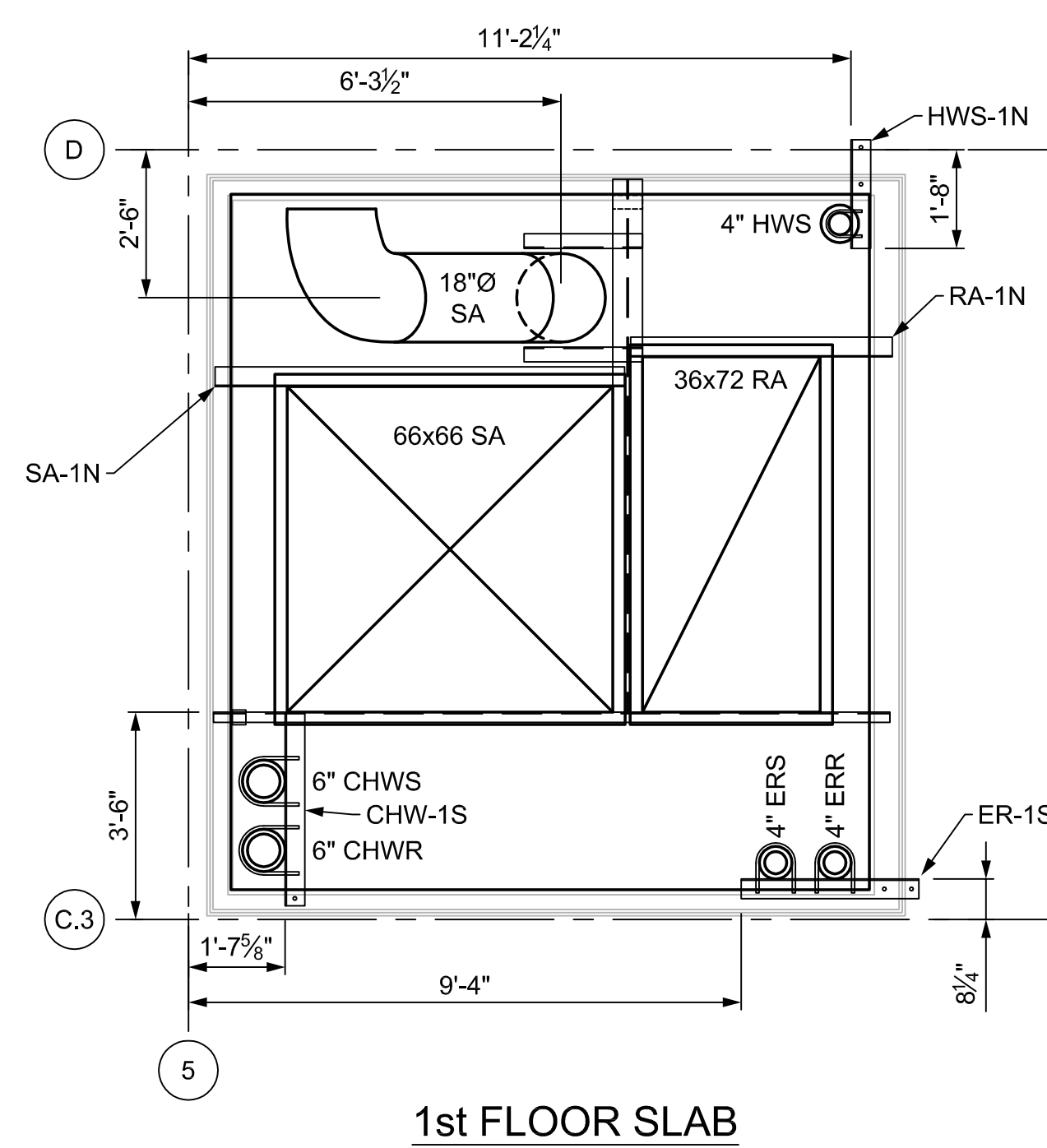
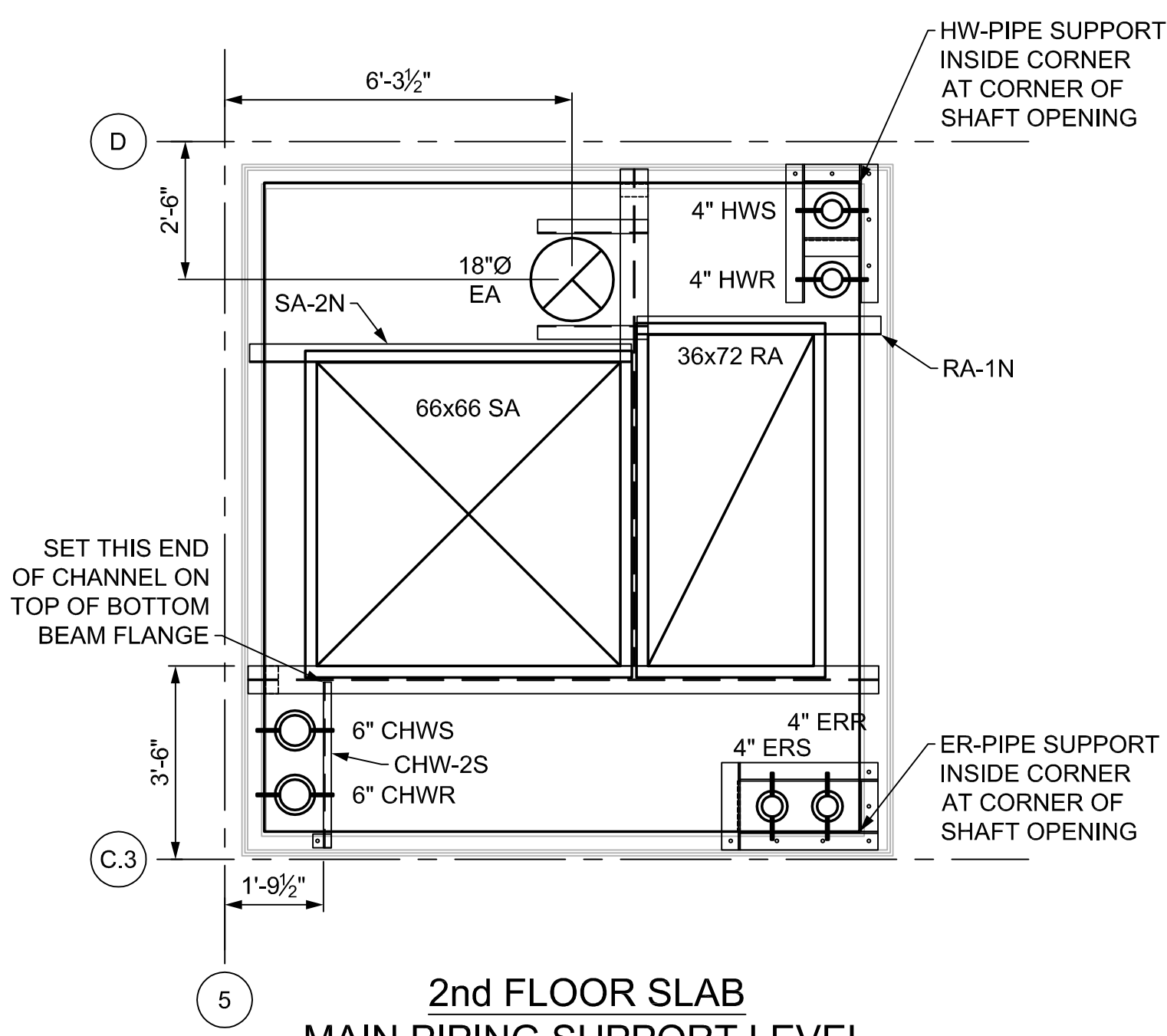
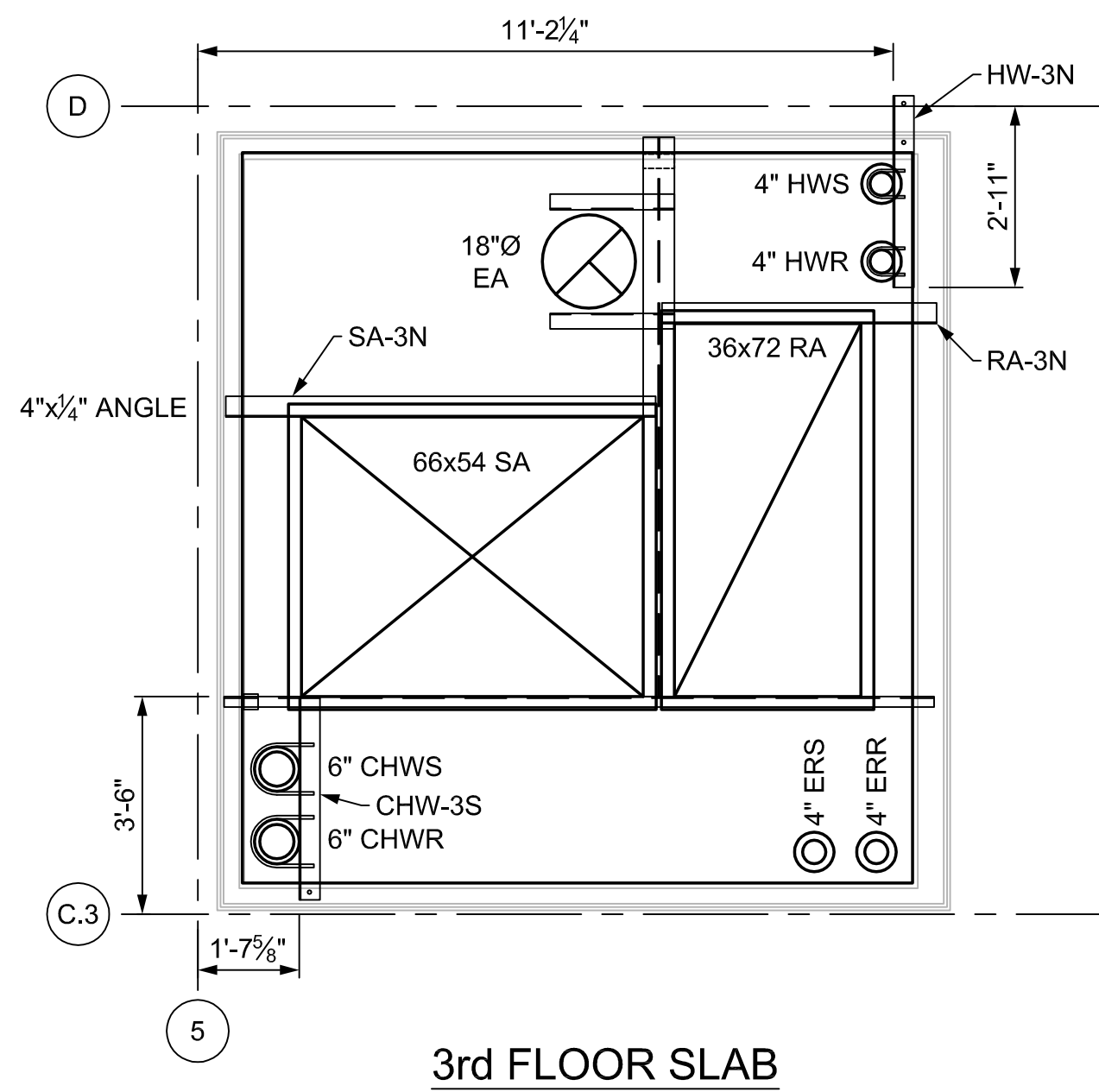
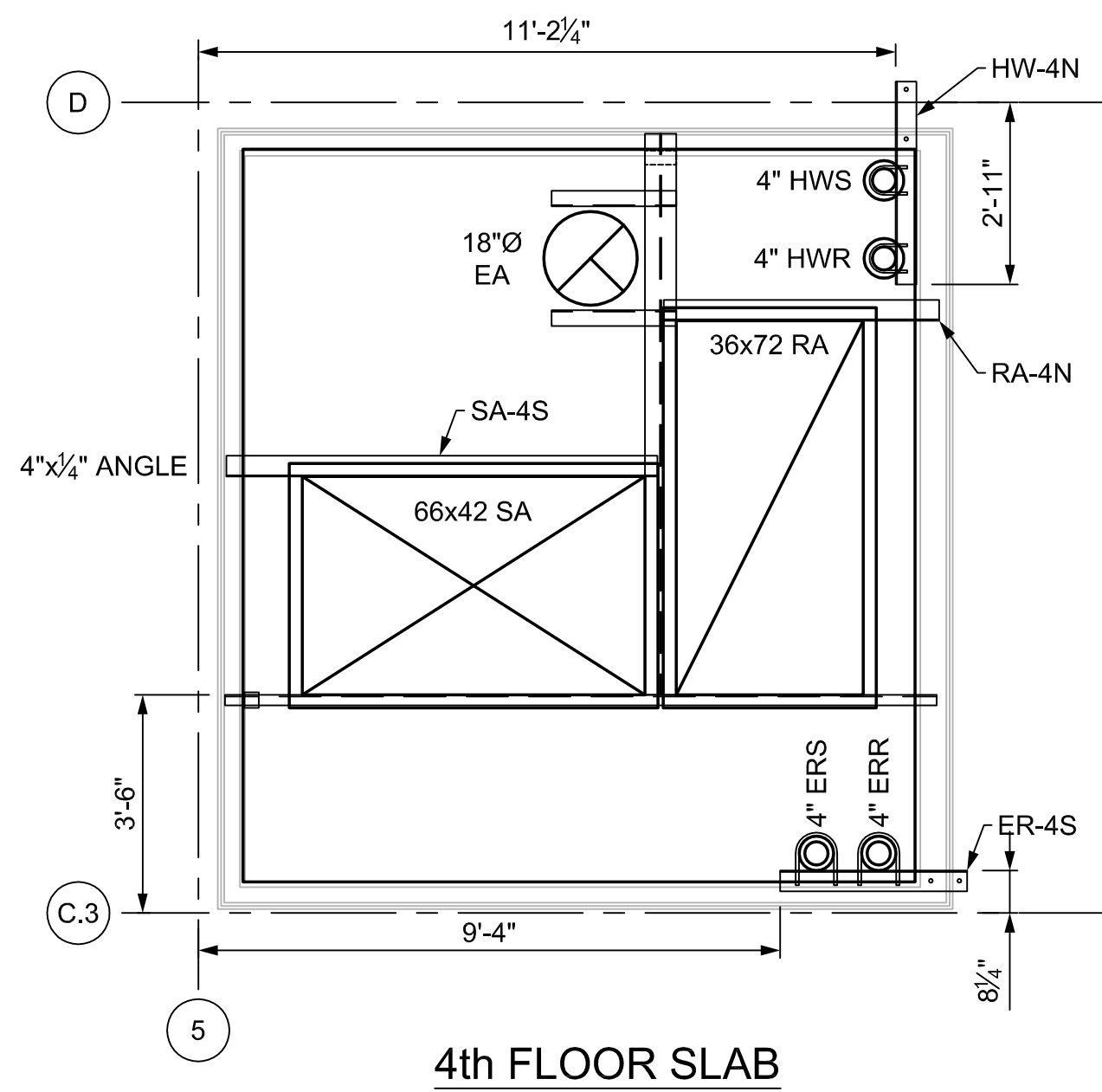
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Issue Date	XX / XX / XX
Sheet Title	
Project Number	MP100A
Sheet Number	5768
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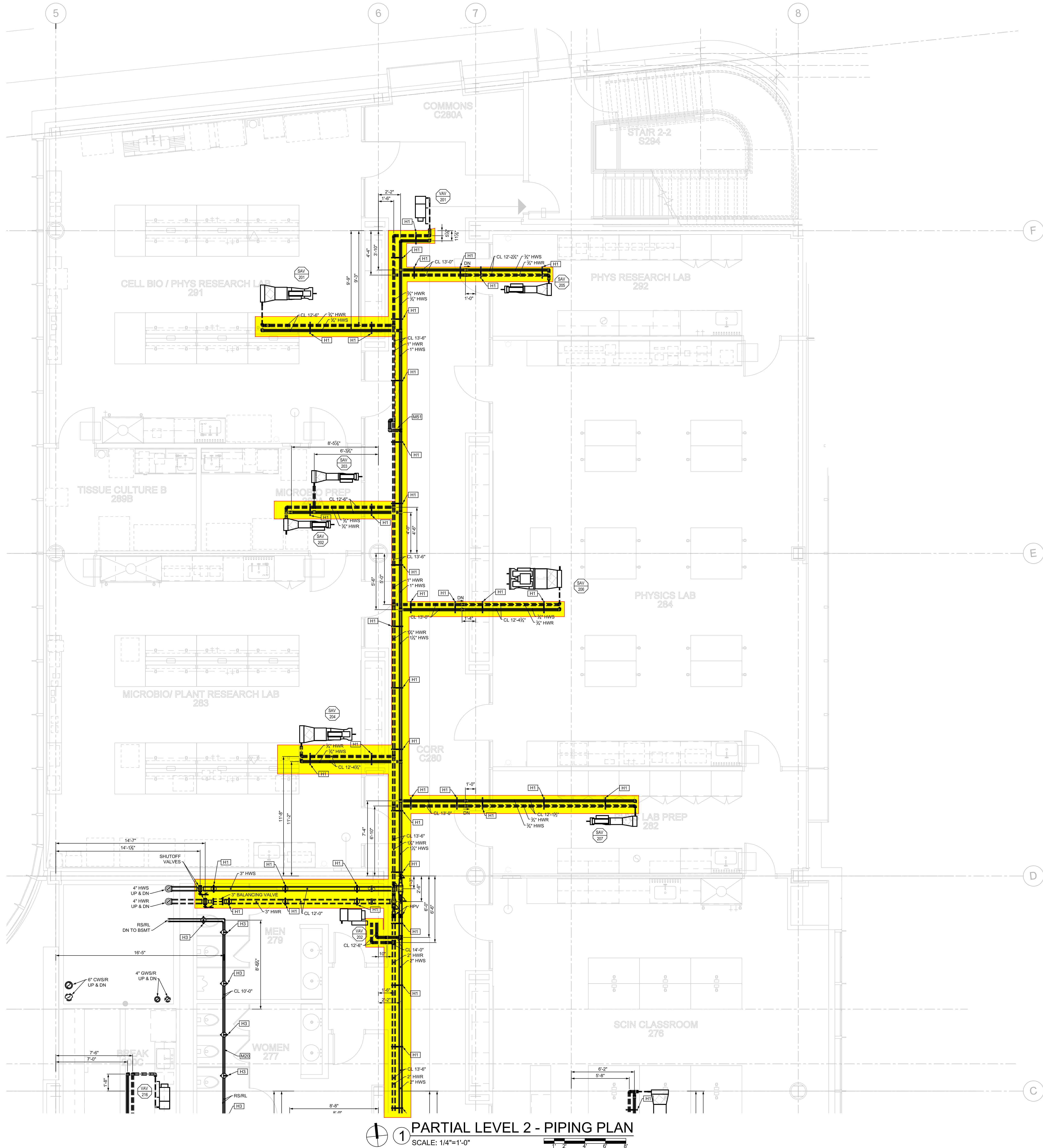
1816 Cleveland Boulevard Granite City, Illinois 62041

PIPING TEST REPORT

System to be Tested

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DATE: 01/11/2017 FILE PATH: N:\Engineering\CAD\2016_AREAS\2016 - Webster ISB\Design\1 Webster ISB\Sheet\MP102A1 PARTIAL LEVEL 2 - PIPING PLAN.dwg
DESIGNED BY: JRS
DRAWN BY: JRS



GENERAL NOTES:

1. PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 1/2" UNLESS OTHERWISE NOTED. REFER TO REHEAT BOX SCHEDULE.
2. SCHEDULE SYSTEMS OR EQUIPMENT SHUT DOWNS REQUIRED FOR NEW CONSTRUCTION WITH OWNER TWO WEEKS IN ADVANCE. SOME PREMIUM TIME WORK MAY BE REQUIRED.
3. REFER TO PIPING DETAILS FOR FINAL CONNECTIONS TO EQUIPMENT. PROVIDE SERVICE SHUT-OFF VALVES IN MAJOR PIPING BRANCH LINES. ALL CONNECTIONS TO RISERS AND EACH BUILDING WING: A & B.

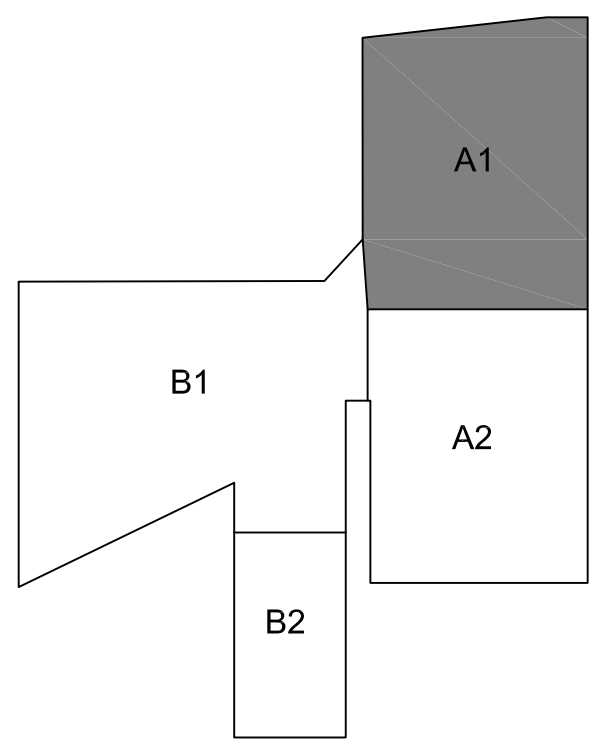
MECHANICAL PIPING KEYED NOTES: (THIS SHEET ONLY)

- [M20]** REFRIGERANT LIQUID AND SUCTION PIPING BETWEEN DX COOLING COILS AND CONDENSING UNITS. COORDINATE PIPE SIZES WITH MANUFACTURER.
- [M51]** 1" HEATING HOT WATER BYPASS WITH BACKPRESSURE CONTROL VALVE (5 GPM).

HANGER MAP KEYED NOTES:

- [H1]** TRIANGLE HANGER W/ 3/8" ROD
- [H2]** TRAPEZE HANGER W/ 3/8" ROD
- [H3]** CLEVIS HANGER W/ 3/8" ROD
- [H4]** V-BOTTOM CLEVIS HANGER W/ 3/8" ROD

FOR CONSTRUCTION
DATE: 11/23/16
ISSUE: FOR CONSTRUCTION
DRAWN BY: JRS
CHECKED: AR



KEY PLAN

Revision:	
Issue Date	11 / 23 / 16
Sheet Title	MP102A1
Project Number	5768
Sheet Number	1 of 1

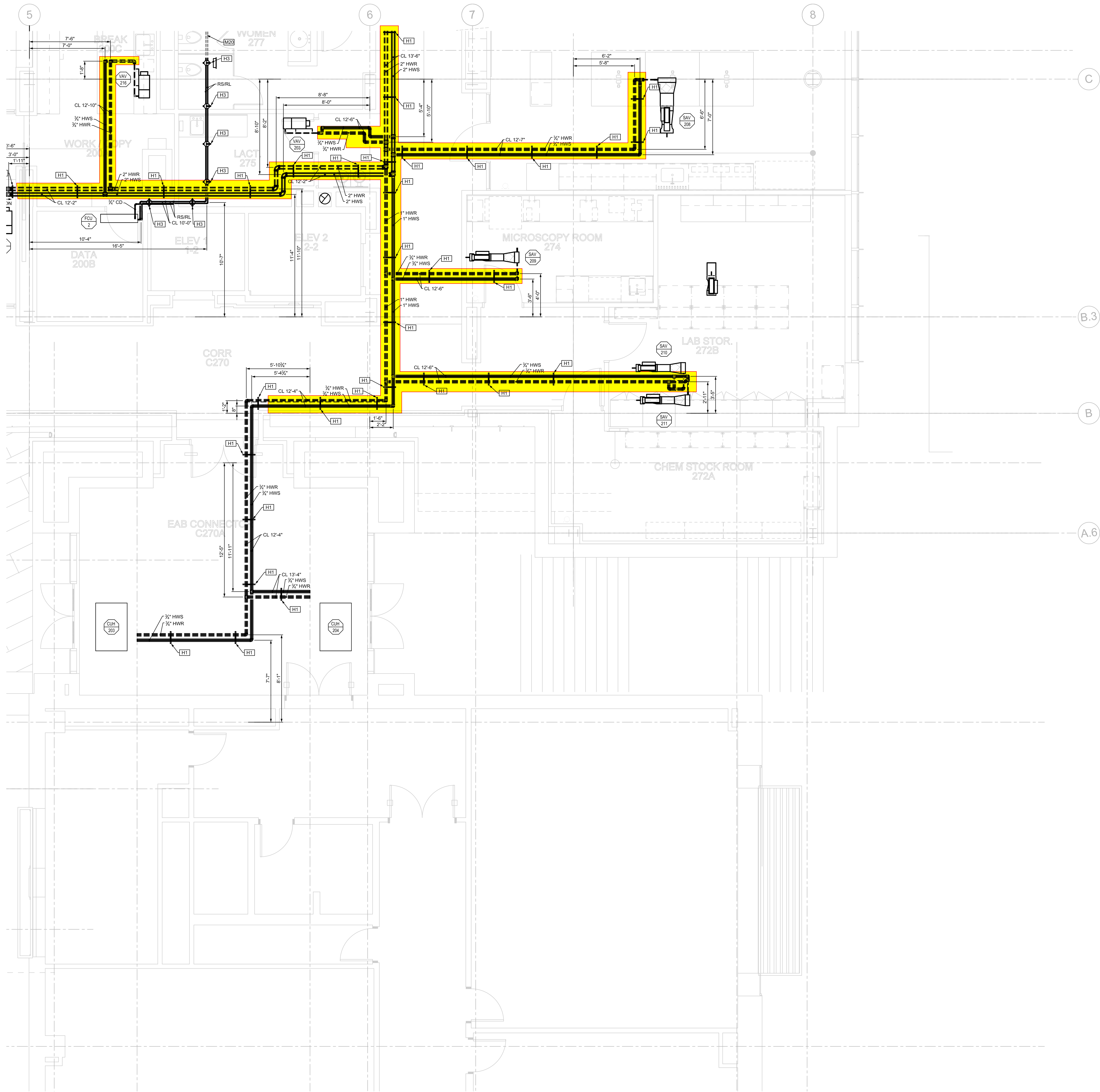
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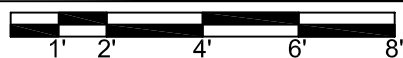
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PLOT BY: J. J. Spence



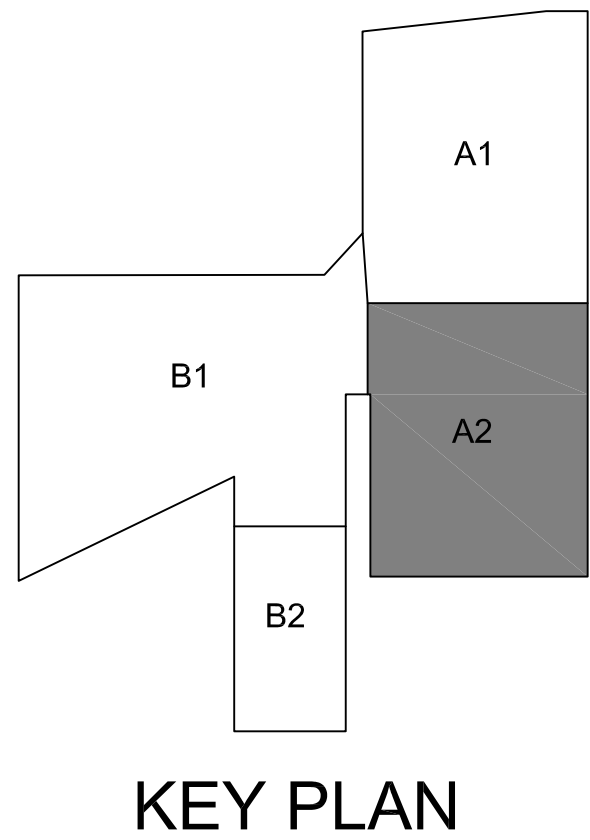
- GENERAL NOTES:**
1. PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 3/4" UNLESS OTHERWISE NOTED. REFER TO REHEAT BOX SCHEDULE
 2. SCHEDULE SYSTEMS OR EQUIPMENT SHUT DOWNS REQUIRED FOR NEW CONSTRUCTION WITH OWNER TWO WEEKS IN ADVANCE. SOME PREMIUM TIME WORK MAY BE REQUIRED.
 3. REFER TO PIPING DETAILS FOR FINAL CONNECTIONS TO EQUIPMENT. PROVIDE SERVICE SHUT-OFF VALVES IN MAJOR PIPING BRANCH LINES. ALL CONNECTIONS TO RISERS AND EACH BUILDING WING: A & B
- MECHANICAL PIPING KEYED NOTES:** (THIS SHEET ONLY)
- N200** REFRIGERANT LIQUID AND SUCTION PIPING BETWEEN DX COOLING COILS AND CONDENSING UNITS. COORDINATE PIPE SIZES WITH MANUFACTURER.
- N201** 1" HEATING HOT WATER BYPASS WITH BACKPRESSURE CONTROL VALVE (5 GPM).

- HANGER MAP KEYED NOTES:**
- H1** TRIANGLE HANGER W/ 3/8" ROD
- H2** TRAPEZE HANGER W/ 3/8" ROD
- H3** CLEVIS HANGER W/ 3/8" ROD
- H4** V-BOTTOM CLEVIS HANGER W/ 3/8" ROD

1 PARTIAL LEVEL 2 - PIPING PLAN
SCALE: 1/4"=1'-0"



FOR CONSTRUCTION
DATE: 11/23/16 DRAWN BY: JRS
ISSUE: FOR CONSTRUCTION CHECKED: AR



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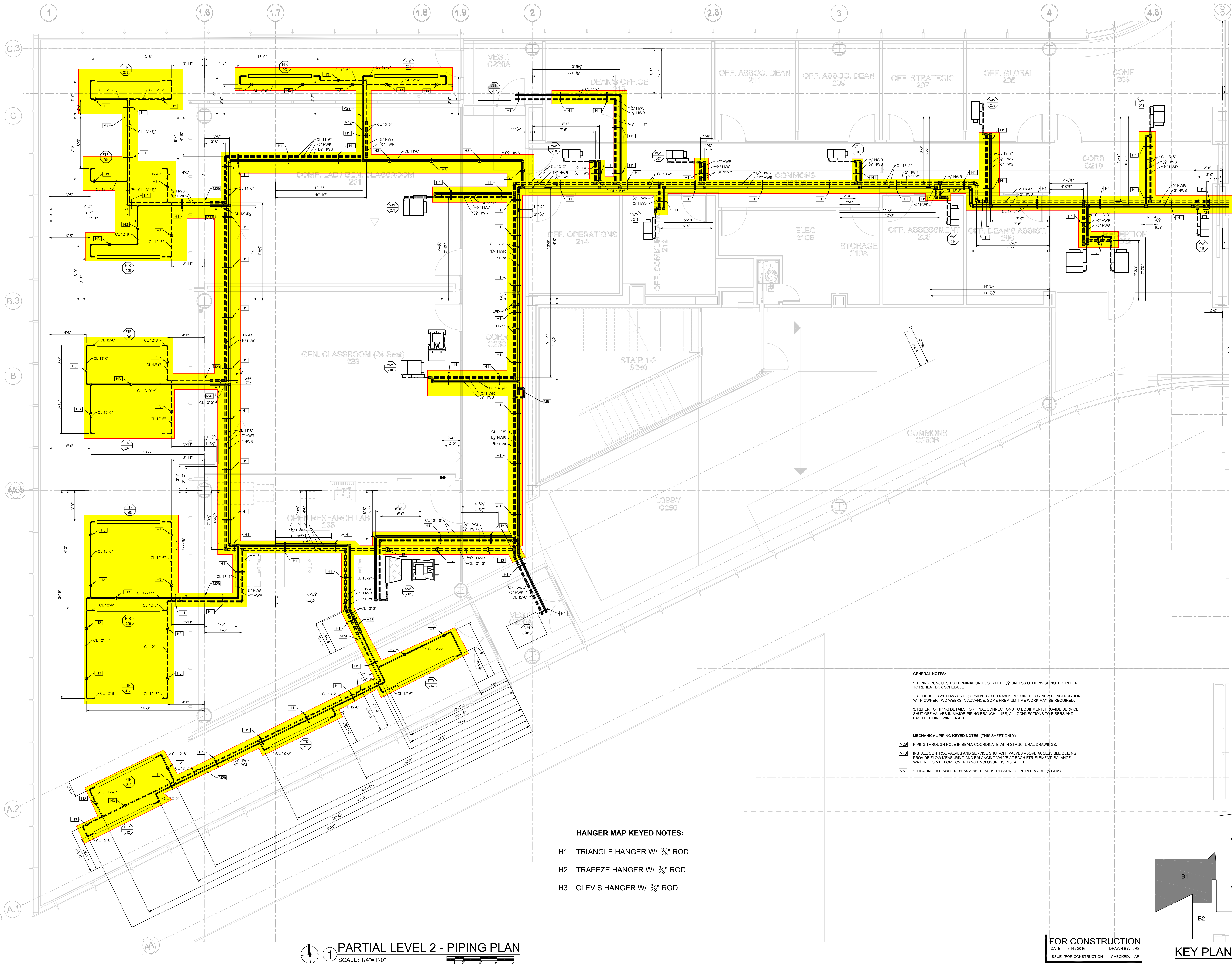
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Revision:	
Issue Date	11 / 23 / 16
Sheet Title	MP102A2
Project Number	5768
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DATE: 01/22/2017 FILE PATH: N:\Engineering\CAD\2016_Webster\ISB\Design\MP102B1 PARTIAL LEVEL 2 - PIPING PLAN.dwg
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HANGER MAP KEYED NOTES:

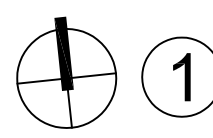
- H1 TRIANGLE HANGER W/ 3/8" ROD
- H2 TRAPEZE HANGER W/ 3/8" ROD
- H3 CLEVIS HANGER W/ 3/8" ROD

GENERAL NOTES:

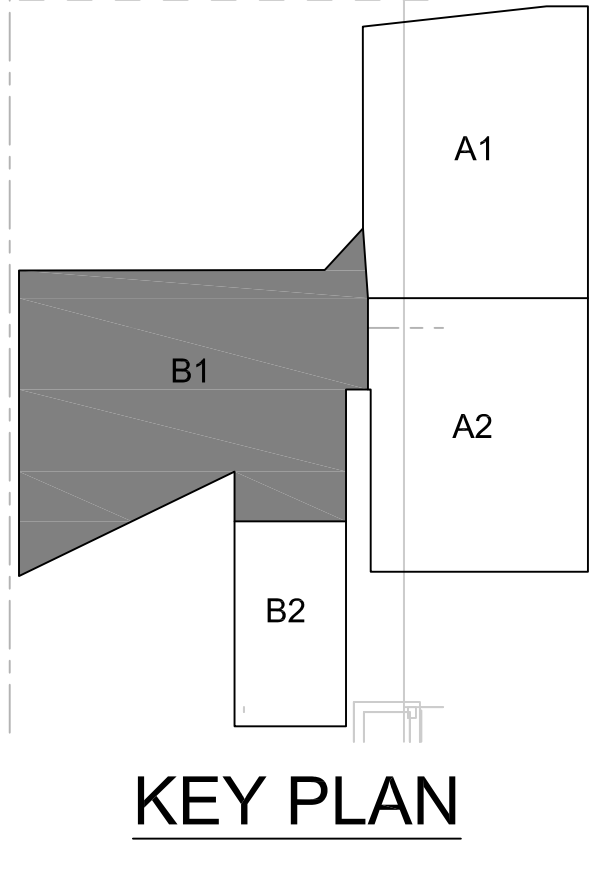
1. PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 1/2" UNLESS OTHERWISE NOTED. REFER TO REHEAT BOX SCHEDULE.
2. SCHEDULE SYSTEMS OR EQUIPMENT SHUT DOWNS REQUIRED FOR NEW CONSTRUCTION WITH OWNER TWO WEEKS IN ADVANCE. SOME PREMIUM TIME WORK MAY BE REQUIRED.
3. REFER TO PIPING DETAILS FOR FINAL CONNECTIONS TO EQUIPMENT. PROVIDE SERVICE SHUT-OFF VALVES IN MAJOR PIPING BRANCH LINES. ALL CONNECTIONS TO RISERS AND EACH BUILDING WING A & B.

MECHANICAL PIPING KEYED NOTES: (THIS SHEET ONLY)

- M29 PIPING THROUGH HOLE IN BEAM, COORDINATE WITH STRUCTURAL DRAWINGS.
- M43 INSTALL CONTROL VALVES AND SERVICE SHUT-OFF VALVES ABOVE ACCESSIBLE CEILING. PROVIDE FLOW MEASURING AND BALANCING VALVE AT EACH FTR ELEMENT. BALANCE WATER FLOW BEFORE OVERHANG ENCLOSURE IS INSTALLED.
- M45 1" HEATING HOT WATER BYPASS WITH BACKPRESSURE CONTROL VALVE (5 GPM).



PARTIAL LEVEL 2 - PIPING PLAN
SCALE: 1/4"=1'-0"



FOR CONSTRUCTION
DATE: 11/14/2016 DRAWN BY: JRS
ISSUE: FOR CONSTRUCTION CHECKED: AR

Revision:	
Issue Date	11 / 02 / 16
Sheet Title	MP102B1
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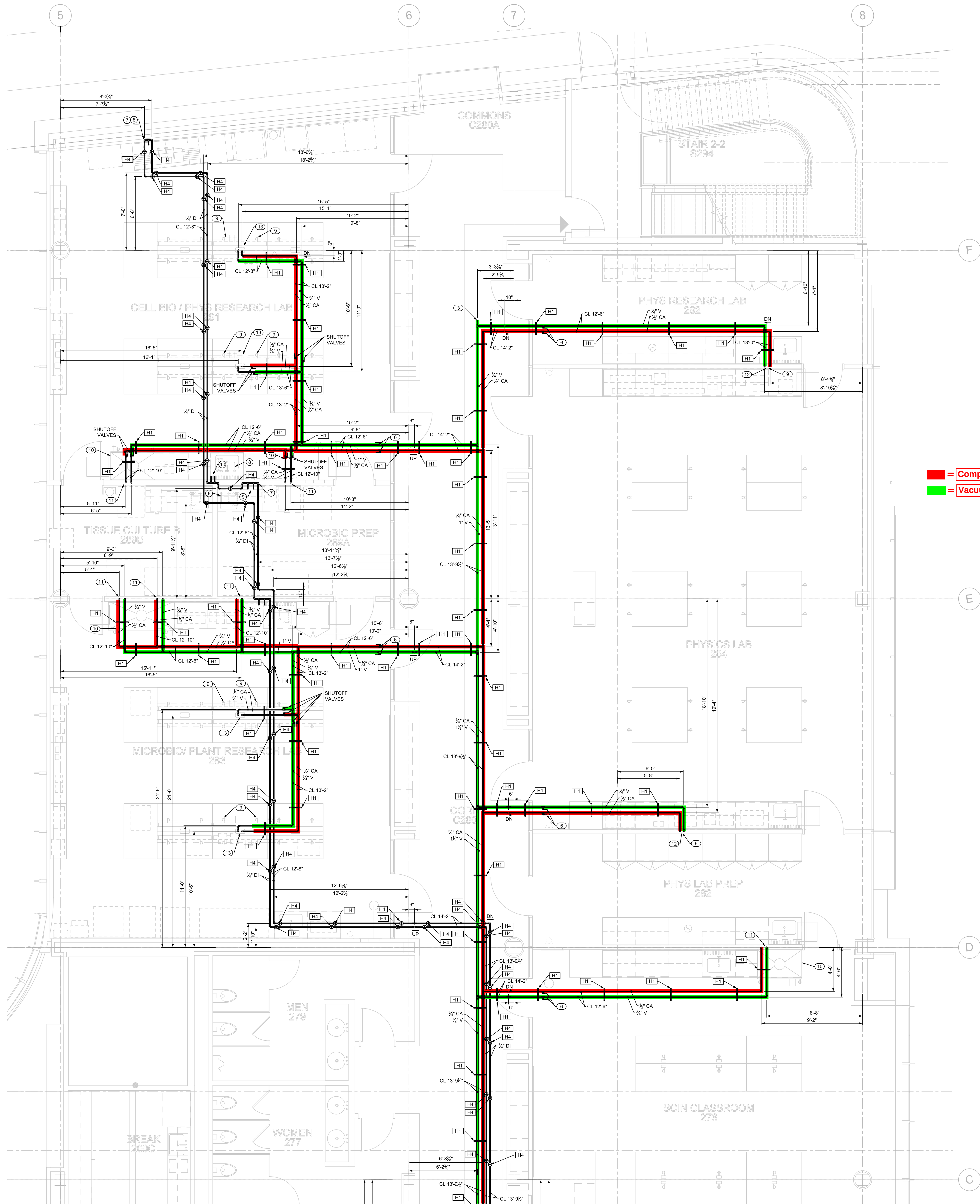
1616 Cleveland Boulevard Granite City, Illinois 62040

PIPING TEST REPORT

System to be Tested

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DATE: 10/02/2016 FILE PATH: N:\Engineering\CAD\2016\JBS\251786 - Webster ISB\Design\Webster ISB\251786-LP102A PARTIAL LEVEL 2 - LAB GAS PIPING PLAN.dwg
PLOT BY: JBS
PLOT DATE: 10/02/2016



1 PARTIAL LEVEL 2 - LAB GAS PIPING PLAN
SCALE: 1/4"=1'-0"

LAB GAS KEYED NOTES: (THIS SHEET ONLY)

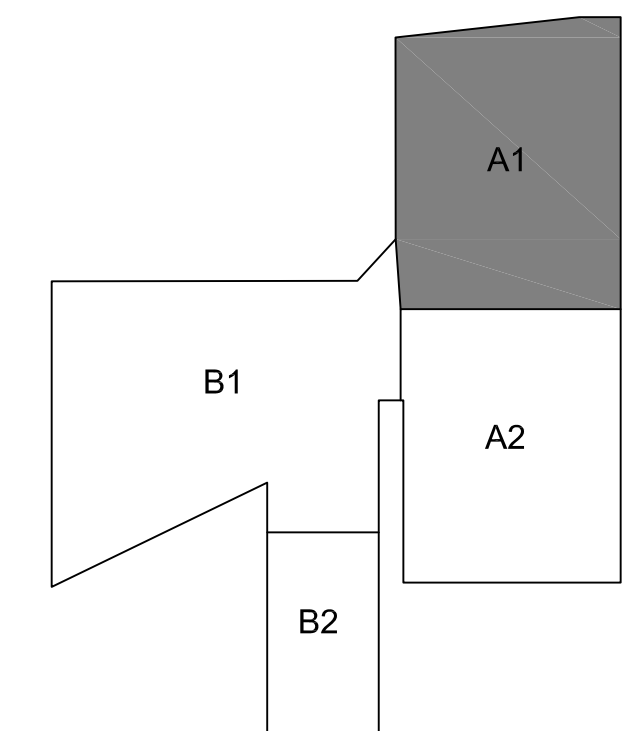
- BUILDING SERVICE RISERS FOR LABORATORY COMPRESSED AIR AND VACUUM. COORDINATE INSTALLATION WITH BUILDING STRUCTURE AND OTHER SERVICES WITHIN CHASE.
- PROVIDE FLOOR ISOLATION VALVES AT EACH FLOOR LEVEL. LOCATE VALVES IN ACCESSIBLE CEILING OR PROVIDE ACCESS PANEL AS REQUIRED.
- PROVIDE CLEANOUTS PLUG IN PIPING.
- NOT USED
- NOT USED
- PROVIDE SHUT-OFF VALVES AT THE ENTRY TO EACH ROOM.
- NOT USED
- INSTALL SINGLE STAGE IN-LINE AIR PRESSURE REGULATOR, BEACONMEADES MODEL 9-12102-01, 75 INCH INLET AND OUTLET, ADJUSTABLE FROM 40 TO 110 PSIG DELIVERY RANGE. PROVIDE WITH MODEL 9-13115-00P 0 TO 300 PRESSURE GAUGE. MOUNT ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. POSITION FOR FULL ACCESS TO THE ADJUSTMENT NUT AND GAUGE. SET TO 50 PSIG.
- LABORATORY COMPRESSED AIR OUTLET AND VACUUM INLET SERVICE FITTING.
- LABORATORY FUME HOOD OR BIO SAFETY CABINET. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE TYPE.
- EXTEND 3/4" COMPRESSED AIR AND 1/2" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY FUME HOOD OR BIO SAFETY CABINET SERVICE FITTINGS. VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED. PIPING TO BE CONCEALED AS MUCH AS POSSIBLE BEHIND THE EQUIPMENT OR BELOW THE COUNTERTOPS.
- EXTEND 3/4" COMPRESSED AIR AND 1/2" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY SERVICE FITTINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND TYPE. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED.
- EXTEND 3/4" COMPRESSED AIR AND 1/2" VACUUM DOWN INTO LABORATORY BENCH CASEWORK SERVICE CARRIER. ROUTE PIPING DOWN TO CASEWORK UTILITY CHASE AND CONNECT TO BENCH-TOP LABORATORY SERVICE FITTINGS. REFER TO THE ARCHITECTURAL PLAN FOR THE ENTRY POINT OF THE OVERHEAD SERVICE CARRIER AND SERVICE FITTINGS. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS. COORDINATE INSTALL AND ROUTING OF PIPING WITH OTHER TRADES UTILIZING THE UTILITY CHASE.

LAB DEIONIZED WATER KEYED NOTES: (THIS SHEET ONLY)

- BUILDING SERVICE RISER FOR DEIONIZED WATER SUPPLY AND RETURN. COORDINATE INSTALLATION AND ROUTING WITH OTHER UTILITIES IN THE CHASE.
- PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514), PRESSURE REDUCING VALVE (GF PIPING SYSTEMS TYPE 582) AND GAGE GUARD/ISOLATOR (GF PIPING SYSTEMS TYPE T53) IN SUPPLY PIPING. LOCATE ASSEMBLY IN AN ACCESSIBLE AREA ABOVE THE CEILING, OR PROVIDE AN ACCESS PANEL AS REQUIRED.
- PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514) IN RETURN PIPING.
- NOT USED
- NOT USED
- NOT USED
- EXTEND PIPING LOOP DOWN WITHIN WALL TO SERVE DEIONIZED WATER FAUCETS, FIXTURES AND APPLIANCES. EXTEND HORIZONTAL IN WALL TO SERVE EACH OUTLET.
- PROVIDE BALL VALVE CONNECTION BELOW THE COUNTERTOP FOR THE FAUCET. MAKE FINAL CONNECTION BETWEEN THE VALVE AND FAUCET WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502/2 FOR MORE INFORMATION.
- COUNTERTOP POINT-OF-USE DI WATER POLISHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502/2 FOR MORE INFORMATION.
- UNDER COUNTER GLASS WASHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502/2 FOR MORE INFORMATION.

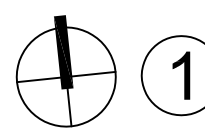
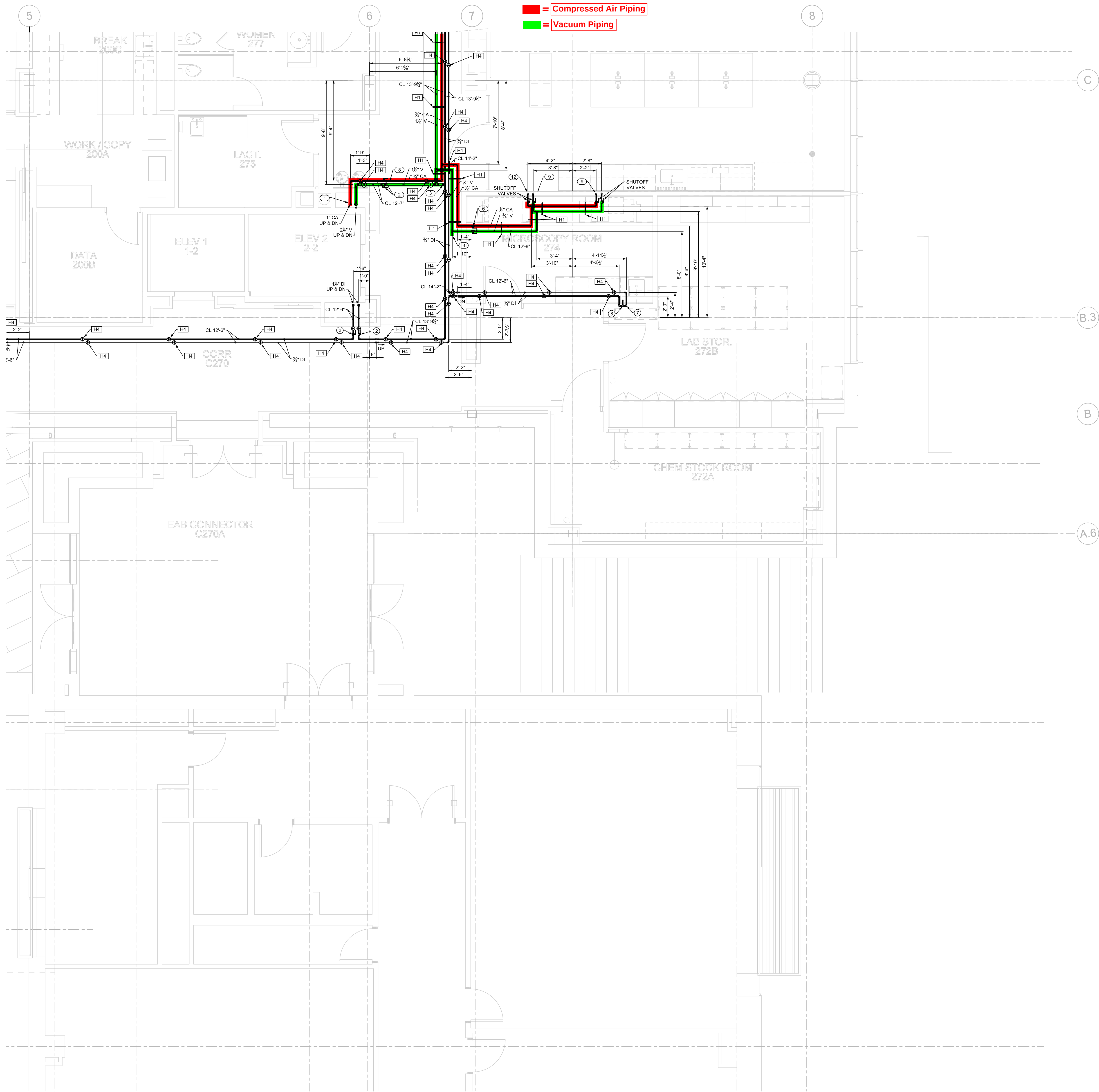
HANGER MAP KEYED NOTES:

- H1 TRIANGLE HANGER W/ 3/8" ROD
H2 TRAPEZE HANGER W/ 3/8" ROD
H3 CLEVIS HANGER W/ 3/8" ROD
H4 V-BOTTOM CLEVIS HANGER W/ 3/8" ROD



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DATE: 10/01/16
ISSUE: FOR REVIEW
DRAWN BY: JBS

DATE: 10/02/2016 FILE PATH: N:\Engineering\CAD\2016 Jobs\575756 - Webster ISB\Design\Webster ISB\Sheet\LP102A PARTIAL LEVEL 2 - LAB GAS PIPING PLAN.dwg
PLOT BY: JTB



1 PARTIAL LEVEL 2 - LAB GAS PIPING PLAN
SCALE: 1/4"=1'-0"

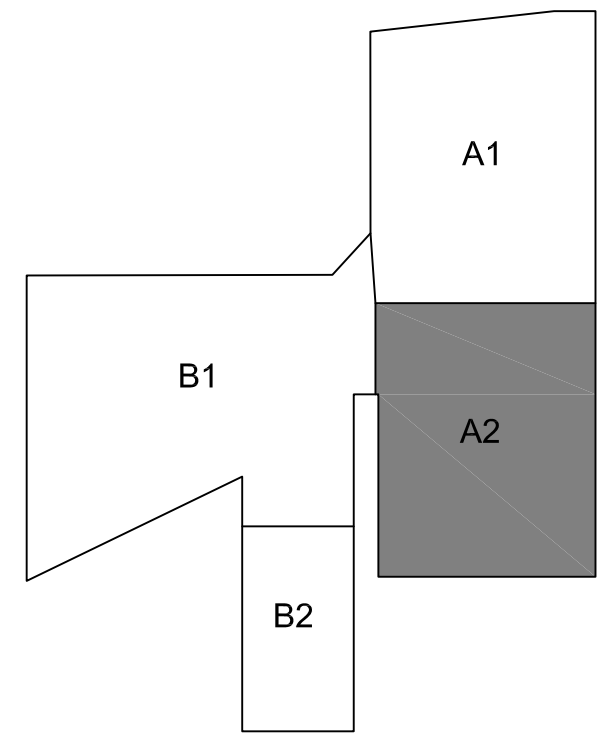


- LAB GAS KEYED NOTES:** (THIS SHEET ONLY)
- BUILDING SERVICE RISERS FOR LABORATORY COMPRESSED AIR AND VACUUM. COORDINATE INSTALLATION WITH BUILDING STRUCTURE AND OTHER SERVICES WITHIN CHASE.
 - PROVIDE FLOOR ISOLATION VALVES AT EACH FLOOR LEVEL. LOCATE VALVES IN ACCESSIBLE CEILING OR PROVIDE ACCESS PANELS AS REQUIRED.
 - PROVIDE CLEANOUTS PLUG IN PIPING.
 - NOT USED
 - NOT USED
 - PROVIDE SHUT-OFF VALVES AT THE ENTRY TO EACH ROOM.
 - NOT USED
 - INSTALL SINGLE STAGE IN-LINE AIR PRESSURE REGULATOR, BEACONMEADES MODEL 9-122192-01, 75 INCH INLET AND OUTLET, ADJUSTABLE FROM 40 TO 110 PSIG DELIVERY RANGE. PROVIDE WITH MODEL 9-13115100P-3 TO 300 PRESSURE GAUGE. MOUNT ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. POSITION FOR FULL ACCESS TO THE ADJUSTMENT NUT AND GAUGE. SET TO 50 PSIG.
 - LABORATORY COMPRESSED AIR OUTLET AND VACUUM INLET SERVICE FITTING.
 - LABORATORY FUME HOOD OR BIO SAFETY CABINET. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE TYPE.
 - EXTEND 3/4" COMPRESSED AIR AND 3/4" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY FUME HOOD OR BIO SAFETY CABINET SERVICE FITTINGS. VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED. PIPING TO BE CONCEALED AS MUCH AS POSSIBLE BEHIND THE EQUIPMENT OR BELOW THE COUNTERTOPS.
 - EXTEND 3/4" COMPRESSED AIR AND 3/4" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY SERVICE FITTINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND TYPE. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED.
 - EXTEND 3/4" COMPRESSED AIR AND 3/4" VACUUM DOWN INTO LABORATORY BENCH CASEWORK SERVICE CARRIER. ROUTE PIPING DOWN TO CASEWORK UTILITY CHASE AND CONNECT TO BENCH-TOP LABORATORY SERVICE FITTINGS. REFER TO THE ARCHITECTURAL PLAN FOR THE ENTRY POINT OF THE OVERHEAD SERVICE CARRIER AND SERVICE FITTINGS. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS. COORDINATE INSTALL AND ROUTING OF PIPING WITH OTHER TRADES UTILIZING THE UTILITY CHASE.

- LAB DEIONIZED WATER KEYED NOTES:** (THIS SHEET ONLY)
- BUILDING SERVICE RISER FOR DEIONIZED WATER SUPPLY AND RETURN. COORDINATE INSTALLATION AND ROUTING WITH OTHER UTILITIES IN THE CHASE.
 - PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514), PRESSURE REDUCING VALVE (GF PIPING SYSTEMS TYPE 562) AND GAGE GUARD/ISOLATOR (GF PIPING SYSTEMS TYPE TS3) IN SUPPLY PIPING. LOCATE ASSEMBLY IN AN ACCESSIBLE AREA ABOVE THE CEILING, OR PROVIDE AN ACCESS PANEL AS REQUIRED.
 - PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514) IN RETURN PIPING.
 - NOT USED
 - NOT USED
 - NOT USED
 - EXTEND PIPING LOOP DOWN WITHIN WALL TO SERVE DEIONIZED WATER FAUCETS, FIXTURES AND APPLIANCES. EXTEND HORIZONTAL IN WALL TO SERVE EACH OUTLET.
 - PROVIDE BALL VALVE CONNECTION BELOW THE COUNTERTOP FOR THE FAUCET. MAKE FINAL CONNECTION BETWEEN THE VALVE AND FAUCET WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502/2 FOR MORE INFORMATION.
 - COUNTERTOP POINT-OF-USE DI WATER POLISHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502/2 FOR MORE INFORMATION.
 - UNDER COUNTER GLASS WASHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502/2 FOR MORE INFORMATION.

HANGER MAP KEYED NOTES:

- H1 TRIANGLE HANGER W/ 3/8" ROD
H2 TRAPEZE HANGER W/ 3/8" ROD
H3 CLEVIS HANGER W/ 3/8" ROD
H4 V-BOTTOM CLEVIS HANGER W/ 3/8" ROD



FOR REVIEW ONLY
DATE: 12/01/16 DRAWN BY: JRS
ISSUE: FOR REVIEW

Revision:	
Issue Date	XX / XX / XX
Sheet Title	LP102A2
Project Number	5768
Sheet Number	1 of 1

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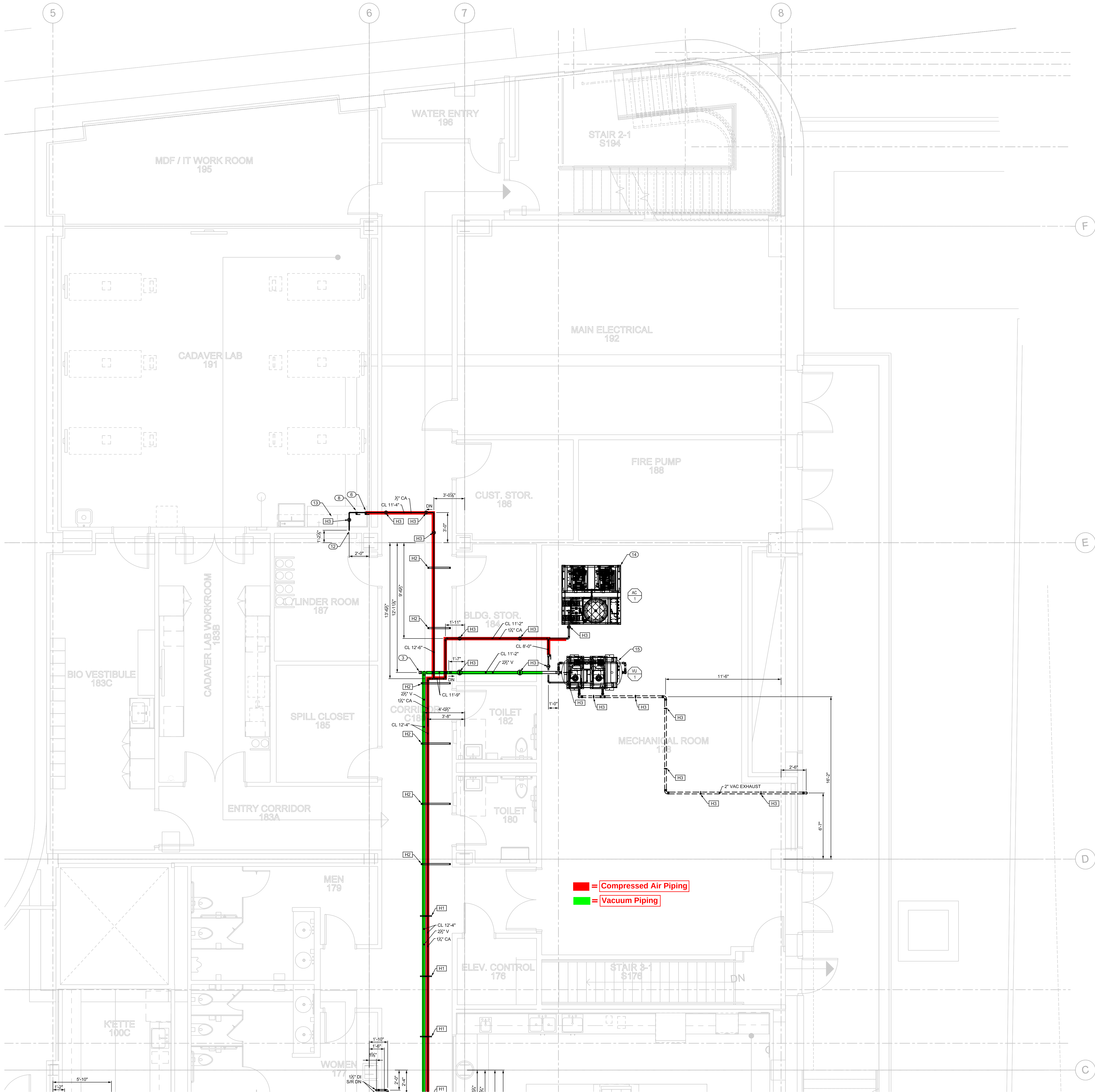
1816 Cleveland Boulevard Granite City, Illinois 62040

PIPING TEST REPORT

System to be Tested

[illegible]

DATE: 11/28/2016 FILEPATH: N:\Engineering\CAD\2016 Jobs\5768 - Webster ISB\Design\Mechanical\ISB\Sheet\LP101A1 PARTIAL LEVEL 1 - LAB GAS PIPING PLAN.dwg
PLOTTED BY: JRS

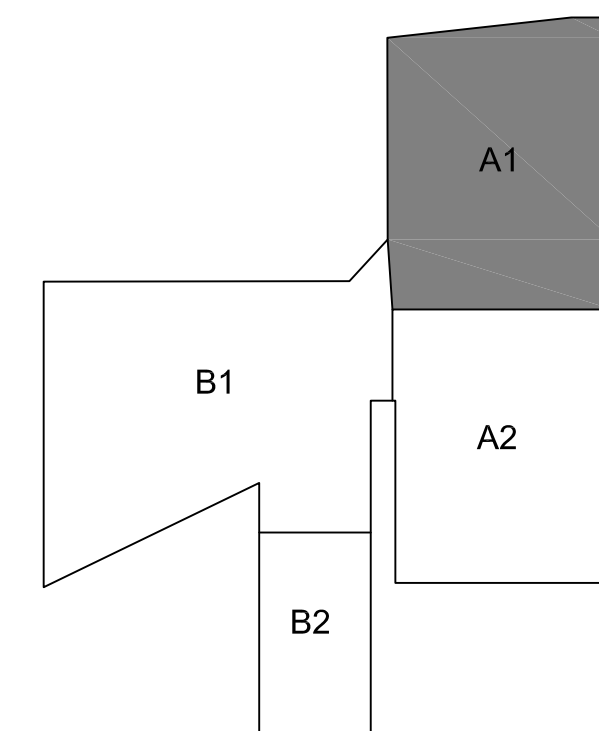


1 PARTIAL LEVEL 1 - LAB GAS PIPING PLAN
SCALE: 1/4"=1'-0"

- LAB GAS KEYED NOTES:** (THIS SHEET ONLY)
- 1 BUILDING SERVICE RISER FOR LABORATORY COMPRESSED AIR AND VACUUM. COORDINATE INSTALLATION WITH BUILDING STRUCTURE AND OTHER SERVICES WITHIN CHASE.
 - 2 PROVIDE RISER ISOLATION VALVES AT EACH FLOOR LEVEL. LOCATE VALVES IN ACCESSIBLE CEILING OR PROVIDE ACCESS PANEL AS REQUIRED.
 - 3 PROVIDE CLEANOUT PLUG IN PIPING.
 - 4 NOT USED
 - 5 NOT USED
 - 6 PROVIDE SHUT-OFF VALVES AT THE ENTRY TO EACH ROOM.
 - 7 NOT USED
 - 8 INSTALL SINGLE STAGE IN-LINE AIR PRESSURE REGULATOR, BEACONMEDAES MODEL 9-122101-007, 5 INCH INLET AND OUTLET, ADJUSTABLE FROM 5 TO 55 PSI DELIVERY RANGE. PROVIDE WITH MODEL 9-1300115-007, 0 TO 100 PSI PRESSURE GAUGE. MOUNT ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. POSITION FOR FULL ACCESS TO THE ADJUSTMENT NUT AND GAUGE.
 - 9 CENTRAL VACUUM UNIT EXHAUST TO BE 2-INCH TYPE 1, COPPER, RUN PIPING AS HIGH AS POSSIBLE. VERIFY EXACT SIZE WITH EQUIPMENT MANUFACTURER.
 - 10 CENTRAL VACUUM EXHAUST TO TERMINATE THROUGH EXTERIOR WALL. COORDINATE WALL PENETRATION WITH THE GENERAL CONTRACTOR. PROVIDE SCREENED ELBOW TURNED DOWN. VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
 - 11 PLUMBING, FIRE SUPPRESSION AND MECHANICAL EQUIPMENT SHOWN FOR REFERENCE AND COORDINATION.
 - 12 EXTEND 1/2" COMPRESSED AIR DOWN WITHIN WALL TO SERVE LABORATORY SERVICE FITTING. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND TYPE. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED.
 - 13 LABORATORY COMPRESSED AIR OUTLET SERVICE FITTING.
 - 14 BASE MOUNTED, FACTORY ASSEMBLED PACKAGED OIL-LESS SCROLL TRIPLEX LABORATORY CENTRAL AIR COMPRESSOR UNIT WITH SINGLE POINT SERVICE CONNECTIONS. POSITION UNIT ON 4" HIGH CONCRETE HOUSEKEEPING PAD, WITH ELASTOMERIC ISOLATION PADS. MAINTAIN MANUFACTURERS REQUIRED SERVICE CLEARANCES ON ALL SIDES. ALL PIPING CONNECTION TO BE MADE WITH FLEXIBLE CONNECTORS. CONNECT AND EXTEND COPPER DRAIN PIPING TO FLOOR SINK. REFER TO SPECIFICATION SECTION 220119, COMPRESSED-AIR EQUIPMENT FOR LABORATORY FACILITIES, AND EQUIPMENT SCHEDULE ON DRAWING P0802.
 - 15 TANK MOUNTED, FACTORY ASSEMBLED PACKAGED DRY-RUNNING DUPLEX ROTARY CLAW LABORATORY CENTRAL VACUUM UNIT WITH SINGLE POINT SERVICE CONNECTIONS. POSITION UNIT ON 4" HIGH CONCRETE HOUSEKEEPING PAD, WITH ELASTOMERIC ISOLATION PADS. MAINTAIN MANUFACTURERS REQUIRED SERVICE CLEARANCES ON ALL SIDES. ALL PIPING TO BE MADE WITH FLEXIBLE CONNECTORS. CONNECT AND EXTEND DRAIN PIPING TO FLOOR SINK. REFER TO SPECIFICATION SECTION 220219, VACUUM EQUIPMENT FOR LABORATORY FACILITIES, AND EQUIPMENT SCHEDULE ON DRAWING P0802.

HANGER MAP KEYED NOTES:

- H1 TRIANGLE HANGER W/ 3/8" ROD
H2 TRAPEZE HANGER W/ 3/8" ROD
H3 CLEVIS HANGER W/ 3/8" ROD
H4 V-BOTTOM CLEVIS HANGER W/ 3/8" ROD



FOR REVIEW
DATE: 11/28/16 DRAWN BY: JRS
ISSUE: HANGER MAPS - NOT FOR CONSTRUCTION

KEY PLAN

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Revision:
Issue Date
XX / XX / XX
Sheet Title
LP101A1
Project Number
5768
Sheet Number
1 of 1

DATE: 1/26/2016 FILEPATH: N:\Engineering\CAD\2016_ARCH\5768 - Webster ISB\Design\17101A2 PARTIAL LEVEL 1 - LAB GAS PIPING PLAN.dwg
PLOTTER: HP DesignJet 5000 PS

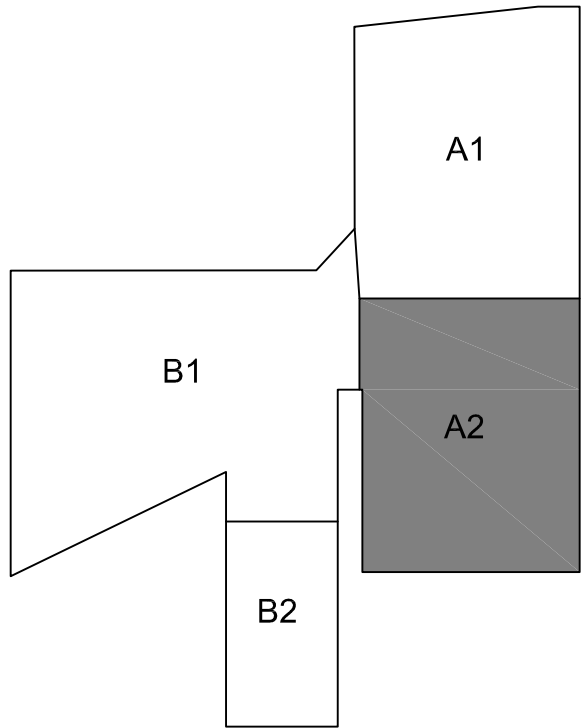


LAB GAS KEYED NOTES: (THIS SHEET ONLY)

- BUILDING SERVICE RISER FOR LABORATORY COMPRESSED AIR AND VACUUM. COORDINATE INSTALLATION WITH BUILDING STRUCTURE AND OTHER SERVICES WITHIN CHASE.
- PROVIDE RISER ISOLATION VALVES AT EACH FLOOR LEVEL. LOCATE VALVES IN ACCESSIBLE CEILING OR PROVIDE ACCESS PANEL AS REQUIRED.
- PROVIDE CLEANOUT PLUG IN PIPING.
- NOT USED
- NOT USED
- PROVIDE SHUT-OFF VALVES AT THE ENTRY TO EACH ROOM.
- NOT USED
- INSTALL SINGLE STAGE IN-LINE AIR PRESSURE REGULATOR, BEACONMEDAES MODEL 6-122101-00, .5 INCH INLET AND OUTLET, ADJUSTABLE FROM 5 TO 55 PSI DELIVERY RANGE, PROVIDE WITH MODEL 6-1300115-00, 0 TO 100 PSI PRESSURE GAUGE, MOUNT ABOVE THE CEILING IN AN ACCESSIBLE LOCATION, POSITION FOR FULL ACCESS TO THE ADJUSTMENT NUT AND GAUGE.
- CENTRAL VACUUM UNIT EXHAUST TO BE 2-INCH TYPE 1" COPPER, RUN PIPING AS HIGH AS POSSIBLE, VERIFY EXACT SIZE WITH EQUIPMENT MANUFACTURER.
- CENTRAL VACUUM EXHAUST TO TERMINATE THROUGH EXTERIOR WALL, COORDINATE WALL PENETRATION WITH THE GENERAL CONTRACTOR, PROVIDE SCREENED ELBOW TURNED DOWN, VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
- PLUMBING, FIRE SUPPRESSION AND MECHANICAL EQUIPMENT SHOWN FOR REFERENCE AND COORDINATION.
- EXTEND 1/2" COMPRESSED AIR DOWN WITHIN WALL TO SERVE LABORATORY. SERVICE FITTING, REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND TYPE. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED.
- LABORATORY COMPRESSED AIR OUTLET SERVICE FITTING.
- BASE MOUNTED, FACTORY ASSEMBLED PACKAGED OIL-LESS SCROLL, TRIPLEX LABORATORY CENTRAL AIR COMPRESSOR UNIT WITH SINGLE POINT SERVICE CONNECTIONS, POSITION UNIT ON 4" HIGH CONCRETE HOUSEKEEPING PAD WITH ELASTOMERIC ISOLATION PADS, MAINTAIN MANUFACTURERS REQUIRED SERVICE CLEARANCES ON ALL SIDES. ALL PIPING CONNECTION TO BE MADE WITH FLEXIBLE CONNECTORS. CONNECT AND EXTEND COPPER DRAIN PIPING TO FLOOR SINK, REFER TO SPECIFICATION SECTION 226119 "COMPRESSED-AIR EQUIPMENT FOR LABORATORY FACILITIES, AND EQUIPMENT SCHEDULE ON DRAWING P0602.
- TANK MOUNTED, FACTORY ASSEMBLED PACKAGED DRY-RUNNING DUPLEX ROTARY CLAW LABORATORY CENTRAL VACUUM UNIT WITH SINGLE POINT SERVICE CONNECTIONS, POSITION UNIT ON 4" HIGH CONCRETE HOUSEKEEPING PAD WITH ELASTOMERIC ISOLATION PADS, MAINTAIN MANUFACTURERS REQUIRED SERVICE CLEARANCES ON ALL SIDES. ALL PIPING CONNECTION TO BE MADE WITH FLEXIBLE CONNECTORS. CONNECT AND EXTEND DRAIN PIPING TO FLOOR SINK, REFER TO SPECIFICATION SECTION 226219 "VACUUM EQUIPMENT FOR LABORATORY FACILITIES, AND EQUIPMENT SCHEDULE ON DRAWING P0602.

HANGER MAP KEYED NOTES:

- H1 TRIANGLE HANGER W/ 3/8" ROD
- H2 TRAPEZE HANGER W/ 3/8" ROD
- H3 CLEVIS HANGER W/ 3/8" ROD
- H4 V-BOTTOM CLEVIS HANGER W/ 3/8" ROD



FOR REVIEW
DATE: 11/23/15 DRAWN BY: JRS
ISSUE: HANGER MAPS - NOT FOR CONSTRUCTION



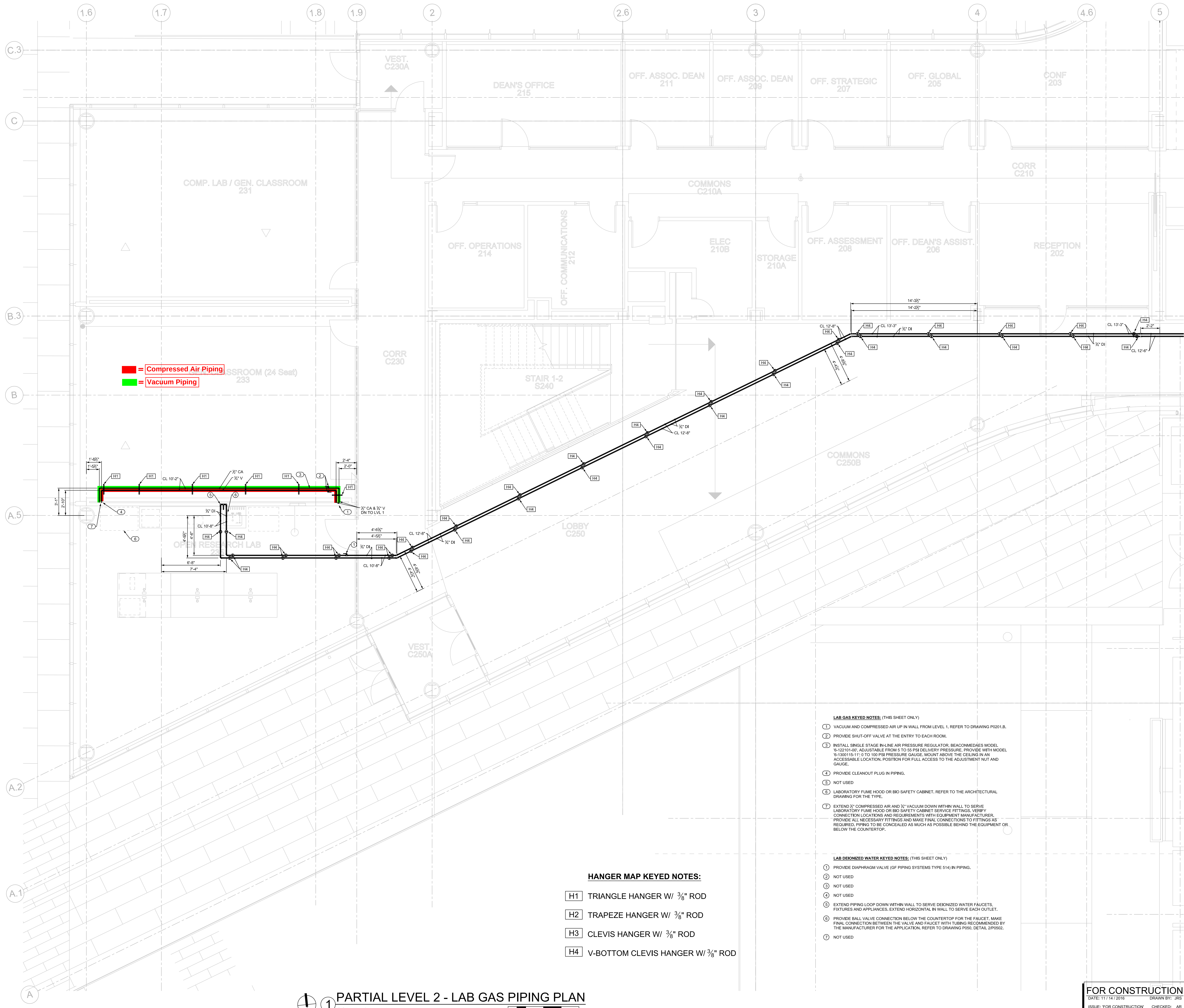
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Revision:	
Issue Date	XX / XX / XX
Sheet Title	LP101A2
Project Number	5768
Sheet Number	1 of 1

DATE: 11/14/2016 FILEPATH: N:\Engineering\CAD\2016\JDS\25106 - Webster ISB\Design\Mechanical\ISB\25106\LP102B1 PARTIAL LEVEL 2 - LAB GAS PIPING PLAN.dwg
PLOT BY: JDS



HANGER MAP KEYED NOTES:

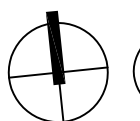
- H1 TRIANGLE HANGER W/ $\frac{3}{8}$ " ROD
H2 TRAPEZE HANGER W/ $\frac{3}{8}$ " ROD
H3 CLEVIS HANGER W/ $\frac{3}{8}$ " ROD
H4 V-BOTTOM CLEVIS HANGER W/ $\frac{3}{8}$ " ROD

LAB GAS KEYED NOTES: (THIS SHEET ONLY)

- 1 VACUUM AND COMPRESSED AIR UP IN WALL FROM LEVEL 1. REFER TO DRAWING P0201.B.
2 PROVIDE SHUT-OFF VALVE AT THE ENTRY TO EACH ROOM.
3 INSTALL SINGLE STAGE IN-LINE AIR PRESSURE REGULATOR, BEACONMEADES MODEL 16-12211-07, ADJUSTABLE FROM 5 TO 55 PSIG DELIVERY PRESSURE. PROVIDE WITH MODEL 16-1300115-11 15 TO 100 PSIG PRESSURE GAUGE. MOUNT ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. POSITION FOR FULL ACCESS TO THE ADJUSTMENT NUT AND GAUGE.
4 PROVIDE CLEANOUT PLUG IN PIPING.
5 NOT USED
6 LABORATORY FUME HOOD OR BIO SAFETY CABINET. REFER TO THE ARCHITECTURAL DRAWING FOR THE TYPE.
7 EXTEND 3" COMPRESSED AIR AND 3" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY FUME HOOD OR BIO SAFETY CABINET SERVICE FITTINGS. VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED. PIPING TO BE CONCEALED AS MUCH AS POSSIBLE BEHIND THE EQUIPMENT OR BELOW THE COUNTERTOP.

LAB DEIONIZED WATER KEYED NOTES: (THIS SHEET ONLY)

- 1 PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514) IN PIPING.
2 NOT USED
3 NOT USED
4 NOT USED
5 EXTEND PIPING LOOP DOWN WITHIN WALL TO SERVE DEIONIZED WATER FAUCETS, FIXTURES AND APPLIANCES. EXTEND HORIZONTAL IN WALL TO SERVE EACH OUTLET.
6 PROVIDE BALL VALVE CONNECTION BELOW THE COUNTERTOP FOR THE FAUCET. MAKE FINAL CONNECTION BETWEEN THE VALVE AND FAUCET WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P050, DETAIL 2/P0502.
7 NOT USED

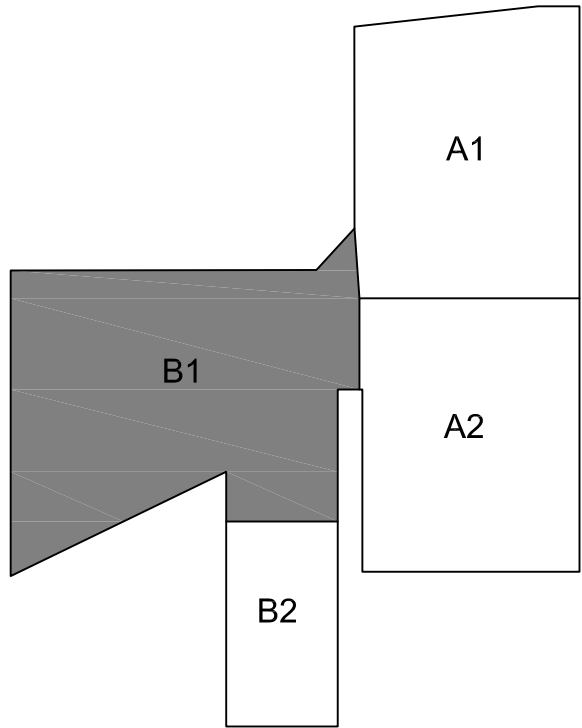


PARTIAL LEVEL 2 - LAB GAS PIPING PLAN

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



FOR CONSTRUCTION
DATE: 11/14/2016 DRAWN BY: JRS
ISSUE: FOR CONSTRUCTION CHECKED: AR



KEY PLAN

Revision:	
Issue Date	11 / 02 / 16
Sheet Title	LP102B1
Project Number	5768
Sheet Number	1 of 1

WEBSTER UNIVERSITY - ISB

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Mechanical

1414 Cleveland Boulevard Granite City, Illinois 62040

PIPING TEST REPORT

System to be Tested

[illegible]

Test Witnessed and Approved by:

icon (REP)

OWNER (REP)

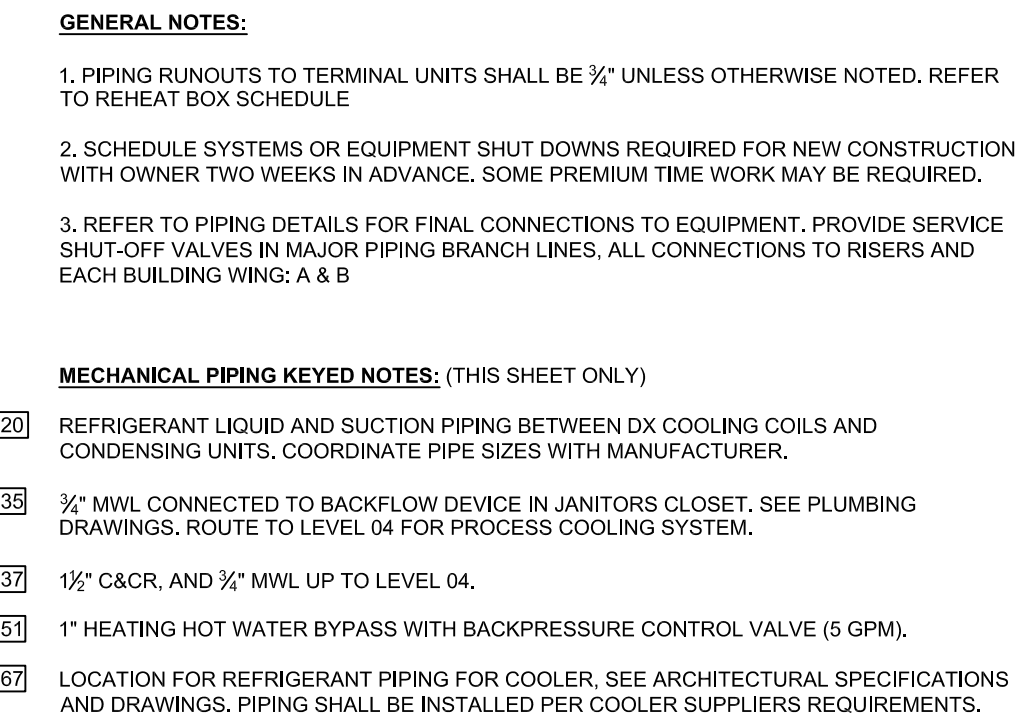
Third Party

NAME

DATE _____

2-28-17

Comp 2/28/17

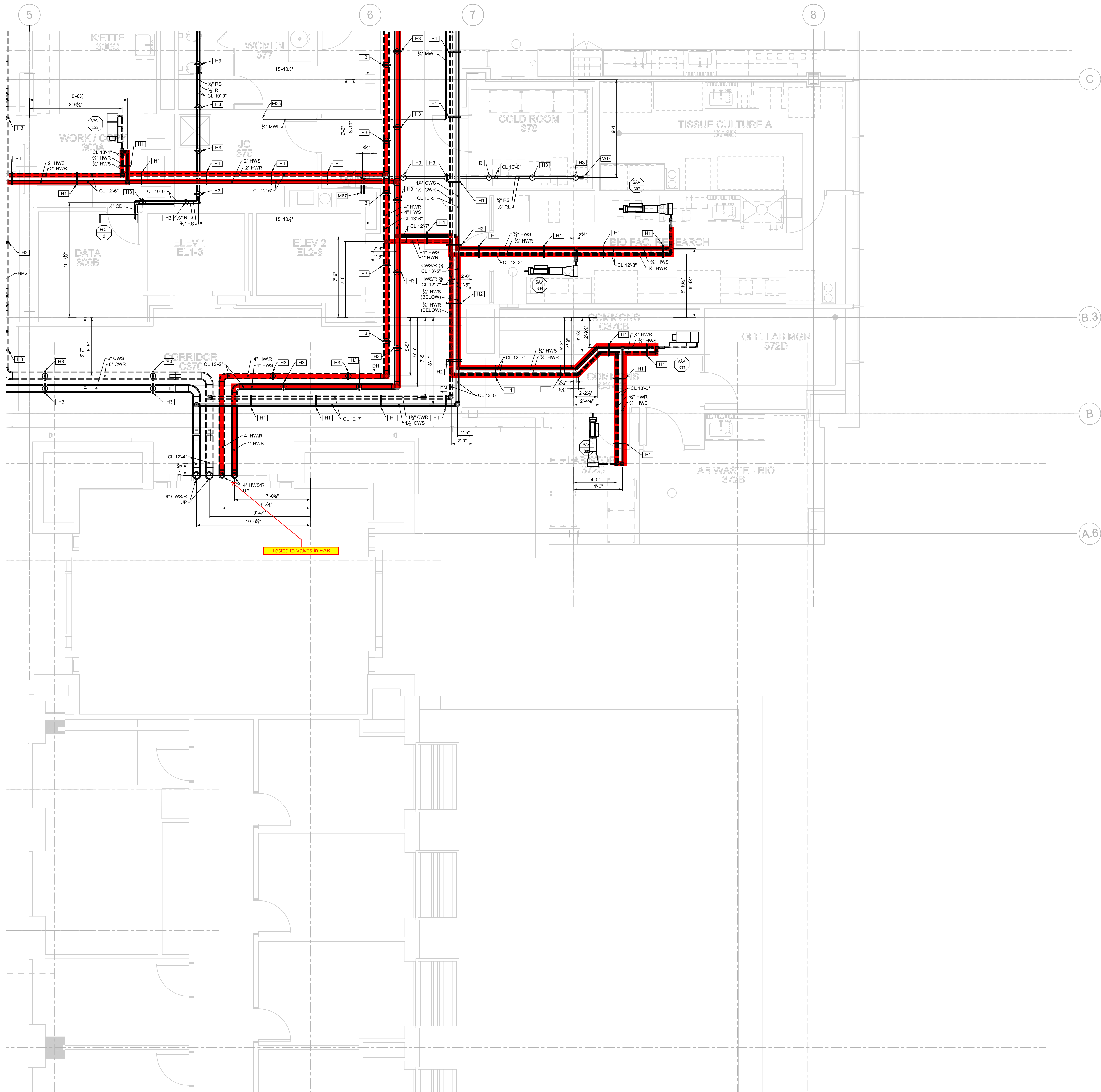


H1	TRIANGLE HANGER W/ 3/8" ROD
H2	TRAPEZE HANGER W/ 3/8" ROD
H3	CLEVIS HANGER W/ 3/8" ROD
H4	V-BOTTOM CLEVIS HANGER W/ 3/8" ROD

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DATE: 12 / 09 / 16 DRAWN BY: JRS
ISSUE: 'FOR REVIEW'



DATE: 10/30/2016 FILEPATH: N:\Engineering\CAD\2016\JRS\5768 - Webster ISB\Design\Mechanical\ISB\Sheet\MP103A2 PARTIAL LEVEL 3 - PIPING PLAN.dwg
PLOTTED BY: JRS



GENERAL NOTES:

1. PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 1/2" UNLESS OTHERWISE NOTED. REFER TO REHEAT BOX SCHEDULE.
2. SCHEDULE SYSTEMS OR EQUIPMENT SHUT DOWNS REQUIRED FOR NEW CONSTRUCTION WITH OWNER TWO WEEKS IN ADVANCE. SOME PREMIUM TIME WORK MAY BE REQUIRED.
3. REFER TO PIPING DETAILS FOR FINAL CONNECTIONS TO EQUIPMENT. PROVIDE SERVICE SHUT-OFF VALVES IN MAJOR PIPING BRANCH LINES. ALL CONNECTIONS TO RISERS AND EACH BUILDING WING: A & B.

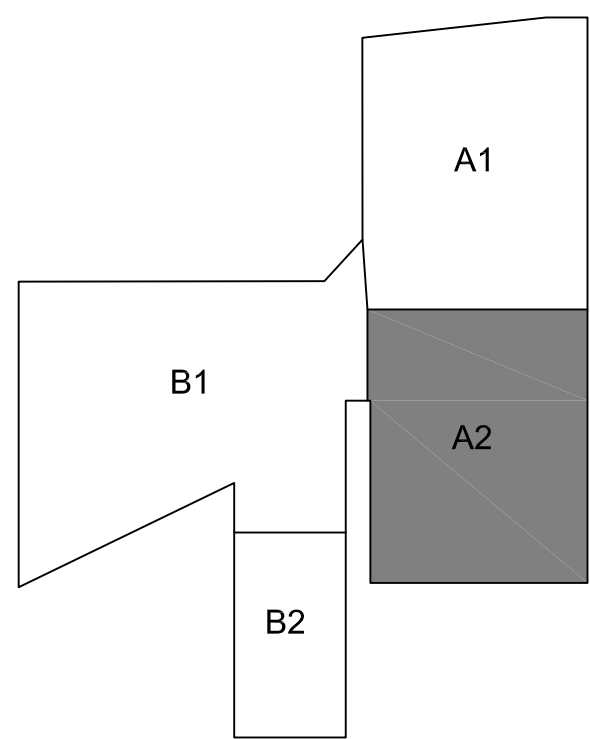
MECHANICAL PIPING KEYED NOTES: (THIS SHEET ONLY)

- M20** REFRIGERANT LIQUID AND SUCTION PIPING BETWEEN DX COOLING COILS AND CONDENSING UNITS. COORDINATE PIPE SIZES WITH MANUFACTURER.
- M35** 3/4" MVL CONNECTED TO BACKFLOW DEVICE IN JANITORS CLOSET. SEE PLUMBING DRAWINGS. ROUTE TO LEVEL 04 FOR PROCESS COOLING SYSTEM.
- M57** 1/2" C&CR, AND 3/4" MVL UP TO LEVEL 04.
- M51** 1" HEATING HOT WATER BYPASS WITH BACKPRESSURE CONTROL VALVE (5 GPM).
- M67** LOCATION FOR REFRIGERANT PIPING FOR COOLER. SEE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS. PIPING SHALL BE INSTALLED PER COOLER SUPPLIER'S REQUIREMENTS.

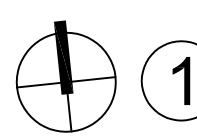
HANGER MAP KEYED NOTES:

- H1** TRIANGLE HANGER W/ 3/8" ROD
- H2** TRAPEZE HANGER W/ 3/8" ROD
- H3** CLEVIS HANGER W/ 3/8" ROD

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DATE: 12/07/16 DRAWN BY: JRS
ISSUE: 'FOR REVIEW'

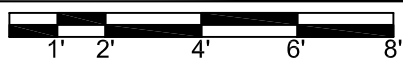


KEY PLAN



1 PARTIAL LEVEL 3 - PIPING PLAN

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





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Revision:     

Issue Date
11 / 9 / 16

Sheet Title
MP103B1

Project Number
5768

Sheet Number
1 of 1

KEY PLAN



Mechanical

1916 Cleveland Boulevard Granite City, Illinois 62040

PIPING TEST REPORT

System to be Tested

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DATE: 12/12/2016 FILE PATH: N:\Engineering\CAD\2016\JRS\551786 - Webster ISB\Design\Mechanical\ISB\551786-LP103A1 PARTIAL LEVEL 3 - LAB GAS PIPING PLAN.dwg
PLOT: 12/12/2016 10:10:10 AM PLOTTER: HP DesignJet T1100e



1 PARTIAL LEVEL 3 - LAB GAS PIPING PLAN
SCALE: 1/4"=1'-0"

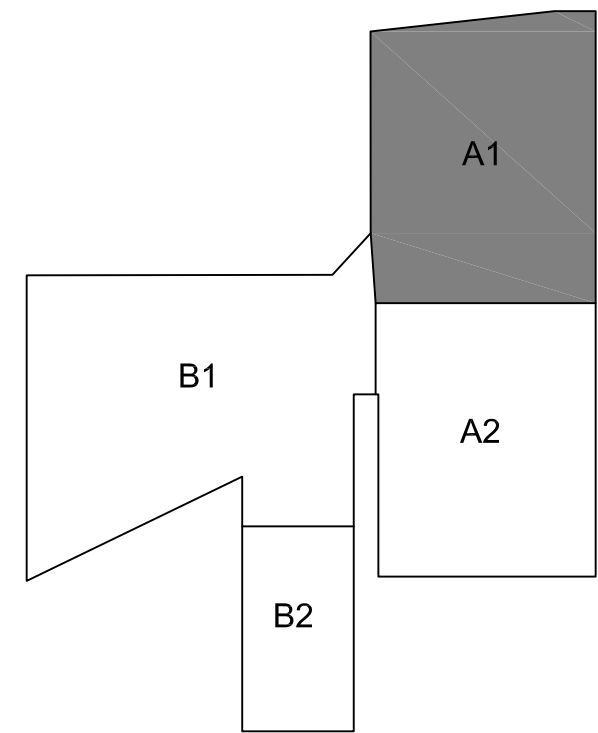
- LAB GAS KEYED NOTES:** (THIS SHEET ONLY)
- 1 BUILDING SERVICE RISERS FOR LABORATORY COMPRESSED AIR AND VACUUM. COORDINATE INSTALLATION WITH BUILDING STRUCTURE AND OTHER SERVICES WITHIN CHASE.
 - 2 PROVIDE FLOOR ISOLATION VALVES AT EACH FLOOR LEVEL. LOCATE VALVES IN ACCESSIBLE CEILING OR PROVIDE ACCESS PANEL AS REQUIRED.
 - 3 PROVIDE CLEANOUTS PLUG IN PIPING.
 - 4 NOT USED
 - 5 NOT USED
 - 6 PROVIDE SHUT-OFF VALVES AT THE ENTRY TO EACH ROOM.
 - 7 NOT USED
 - 8 INSTALL SINGLE STAGE IN-LINE AIR PRESSURE REGULATOR, BEACONMEADES MODEL 9-12102-01, 75 INCH INLET AND OUTLET, ADJUSTABLE FROM 40 TO 110 PSIG DELIVERY RANGE. PROVIDE WITH MODEL 9-10116-07 0 TO 300 PRESSURE GAUGE. MOUNT ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. POSITION FOR FULL ACCESS TO THE ADJUSTMENT NUT AND GAUGE. SET TO 50 PSIG.
 - 9 LABORATORY COMPRESSED AIR OUTLET AND VACUUM INLET SERVICE FITTING.
 - 10 LABORATORY FUME HOOD OR BIO SAFETY CABINET. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE TYPE.
 - 11 EXTEND 3/4" COMPRESSED AIR AND 1/2" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY FUME HOOD OR BIO SAFETY CABINET SERVICE FITTINGS. VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED. PIPING TO BE CONCEALED AS MUCH AS POSSIBLE BEHIND THE EQUIPMENT OR BELOW THE COUNTERTOPS.
 - 12 PROVIDE EQUIPMENT ISOLATION VALVES IN AN ACCESSIBLE LOCATION ABOVE THE CEILING.
 - 13 EXTEND 3/4" COMPRESSED AIR AND 1/2" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY SERVICE FITTINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND TYPE. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS.

- LAB DEIONIZED WATER KEYED NOTES:** (THIS SHEET ONLY)
- 1 BUILDING SERVICE RISER FOR DEIONIZED WATER SUPPLY AND RETURN. COORDINATE INSTALLATION AND ROUTING WITH OTHER UTILITIES IN THE CHASE.
 - 2 PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514) PRESSURE REDUCING VALVE (GF PIPING SYSTEMS TYPE 602) AND GAGE GUARD/ISOLATOR (GF PIPING SYSTEMS TYPE T53) IN SUPPLY PIPING. LOCATE ASSEMBLY IN AN ACCESSIBLE AREA ABOVE THE CEILING, OR PROVIDE AN ACCESS PANEL AS REQUIRED.
 - 3 PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514) IN RETURN PIPING.
 - 4 NOT USED
 - 5 NOT USED
 - 6 NOT USED
 - 7 EXTEND PIPING LOOP DOWN WITHIN WALL TO SERVE DEIONIZED WATER FAUCETS, FIXTURES AND APPLIANCES. EXTEND HORIZONTAL IN WALL TO SERVE EACH OUTLET.
 - 8 PROVIDE BALL VALVE CONNECTION BELOW THE COUNTERTOP FOR THE FAUCET. MAKE FINAL CONNECTION BETWEEN THE VALVE AND FAUCET WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502Z FOR MORE INFORMATION.
 - 9 COUNTERTOP POINT-OF-USE DI WATER POLISHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502Z FOR MORE INFORMATION.
 - 10 UNDER COUNTER GLASS WASHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502Z FOR MORE INFORMATION.

HANGER MAP KEYED NOTES:

- H1 TRIANGLE HANGER W/ 3/8" ROD
H2 TRAPEZE HANGER W/ 3/8" ROD
H3 CLEVIS HANGER W/ 3/8" ROD
H4 V-BOTTOM CLEVIS HANGER W/ 3/8" ROD

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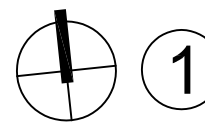


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DATE: 12/12/2016 FILE PATH: N:\Engineering\CAD\2016 Jobs\5768 - Webster ISB\Design\Webster ISB\Sheet\LP103A2 PARTIAL LEVEL 3 - LAB GAS PIPING PLAN.dwg
PLOT FILE: 5768 - Webster ISB.dwg



1 PARTIAL LEVEL 3 - LAB GAS PIPING PLAN
SCALE: 1/4"=1'-0"

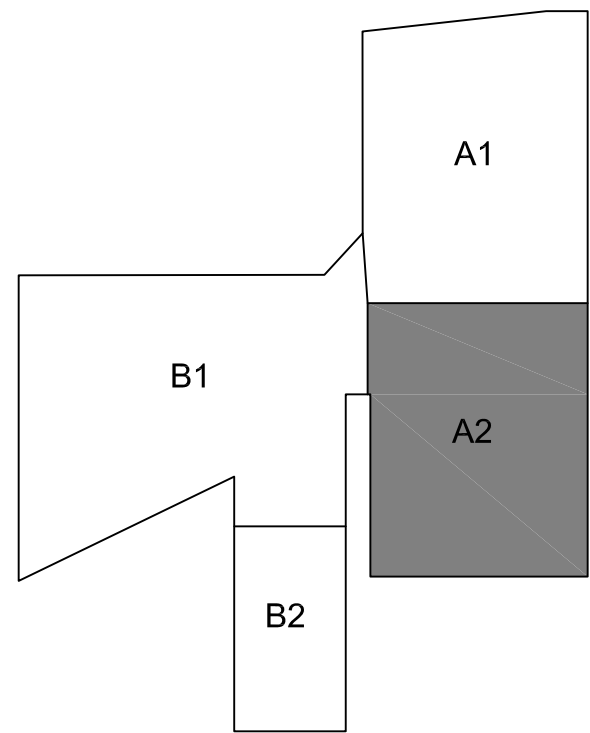
- LAB GAS KEYED NOTES:** (THIS SHEET ONLY)
- 1 BUILDING SERVICE RISERS FOR LABORATORY COMPRESSED AIR AND VACUUM. COORDINATE INSTALLATION WITH BUILDING STRUCTURE AND OTHER SERVICES WITHIN CHASE.
 - 2 PROVIDE FLOOR ISOLATION VALVES AT EACH FLOOR LEVEL. LOCATE VALVES IN ACCESSIBLE CEILING OR PROVIDE ACCESS PANEL AS REQUIRED.
 - 3 PROVIDE CLEANOUTS PLUG IN PIPING.
 - 4 NOT USED
 - 5 NOT USED
 - 6 PROVIDE SHUT-OFF VALVES AT THE ENTRY TO EACH ROOM.
 - 7 NOT USED
 - 8 INSTALL SINGLE STAGE IN-LINE AIR PRESSURE REGULATOR, BEACONMEDAES MODEL 9-1210241, .75 INCH INLET AND OUTLET, ADJUSTABLE FROM 40 TO 110 PSIG DELIVERY RANGE. PROVIDE WITH MODEL 9-130116-07 0 TO 300 PRESSURE GAUGE. MOUNT ABOVE THE CEILING IN AN ACCESSIBLE LOCATION. POSITION FOR FULL ACCESS TO THE ADJUSTMENT NUT AND GAUGE. SET TO 50 PSIG.
 - 9 LABORATORY COMPRESSED AIR OUTLET AND VACUUM INLET SERVICE FITTING.
 - 10 LABORATORY FUME HOOD OR BIO SAFETY CABINET. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE TYPE.
 - 11 EXTEND 3/2" COMPRESSED AIR AND 3/2" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY FUME HOOD OR BIO SAFETY CABINET SERVICE FITTINGS. VERIFY CONNECTION LOCATIONS AND REQUIREMENTS WITH EQUIPMENT MANUFACTURER. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS TO FITTINGS AS REQUIRED. PIPING TO BE CONCEALED AS MUCH AS POSSIBLE BEHIND THE EQUIPMENT OR BELOW THE COUNTERTOPS.
 - 12 PROVIDE EQUIPMENT ISOLATION VALVES IN AN ACCESSIBLE LOCATION ABOVE THE CEILING.
 - 13 EXTEND 3/2" COMPRESSED AIR AND 3/2" VACUUM DOWN WITHIN WALL TO SERVE LABORATORY SERVICE FITTINGS. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND TYPE. PROVIDE ALL NECESSARY FITTINGS AND MAKE FINAL CONNECTIONS.

- LAB DEIONIZED WATER KEYED NOTES:** (THIS SHEET ONLY)
- 1 BUILDING SERVICE RISER FOR DEIONIZED WATER SUPPLY AND RETURN. COORDINATE INSTALLATION AND ROUTING WITH OTHER UTILITIES IN THE CHASE.
 - 2 PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514), PRESSURE REDUCING VALVE (GF PIPING SYSTEMS TYPE 602) AND GAUGE GUARD/ISOLATOR (GF PIPING SYSTEMS TYPE T63) IN SUPPLY PIPING. LOCATE ASSEMBLY IN AN ACCESSIBLE AREA ABOVE THE CEILING, OR PROVIDE AN ACCESS PANEL AS REQUIRED.
 - 3 PROVIDE DIAPHRAGM VALVE (GF PIPING SYSTEMS TYPE 514) IN RETURN PIPING.
 - 4 NOT USED
 - 5 NOT USED
 - 6 NOT USED
 - 7 EXTEND PIPING LOOP DOWN WITHIN WALL TO SERVE DEIONIZED WATER FAUCETS, FIXTURES AND APPLIANCES. EXTEND HORIZONTAL IN WALL TO SERVE EACH OUTLET.
 - 8 PROVIDE BALL VALVE CONNECTION BELOW THE COUNTERTOP FOR THE FAUCET. MAKE FINAL CONNECTION BETWEEN THE VALVE AND FAUCET WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502Z FOR MORE INFORMATION.
 - 9 COUNTERTOP POINT-OF-USE DI WATER POLISHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502Z FOR MORE INFORMATION.
 - 10 UNDER COUNTER GLASS WASHER. PROVIDE VALVE CONNECTION BELOW THE COUNTERTOP. MAKE FINAL CONNECTION BETWEEN THE VALVE AND POLISHER WITH TUBING RECOMMENDED BY THE MANUFACTURER FOR THE APPLICATION. REFER TO DRAWING P0502, DETAIL P0502Z FOR MORE INFORMATION.

HANGER MAP KEYED NOTES:

- H1 TRIANGLE HANGER W/ 3/8" ROD
H2 TRAPEZE HANGER W/ 3/8" ROD
H3 CLEVIS HANGER W/ 3/8" ROD
H4 V-BOTTOM CLEVIS HANGER W/ 3/8" ROD

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PIPING TEST REPORT

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Test Witnessed and Approved by:

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DATE _____

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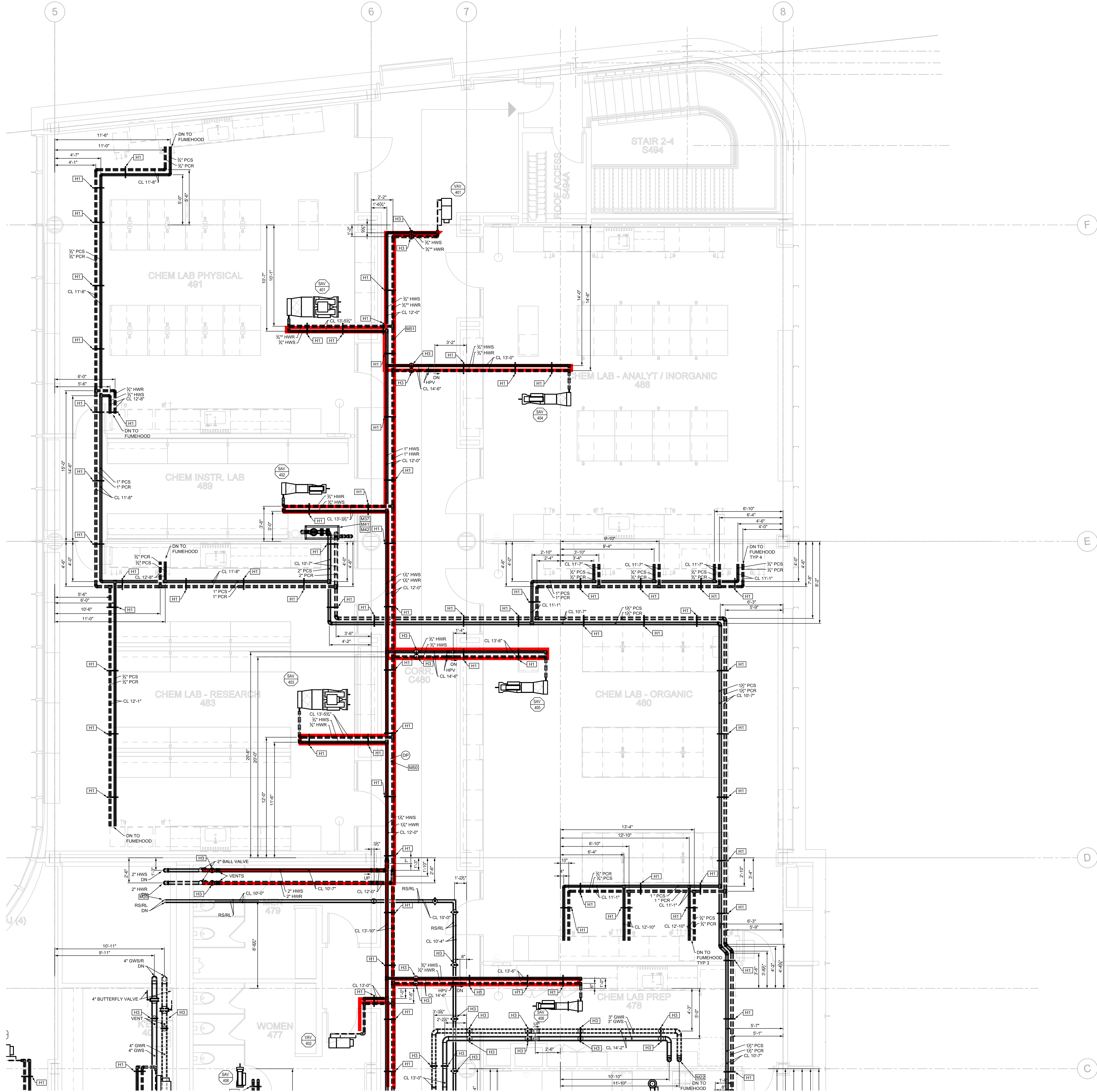
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DATE: 01/11/2017 FILE PATH: N:\Engineering\CAD\2016 Jobs\57575 - Webster ISB Design\Mechanical\ISB\57575-MP104A1 PARTIAL LEVEL 4 - PIPING PLAN.dwg
PLOTTED BY: JAH-Sparks



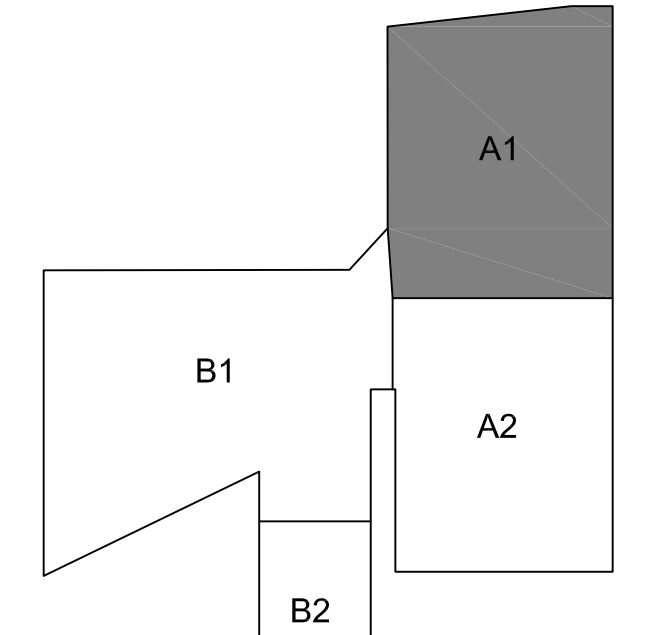
1 PARTIAL LEVEL 4 - PIPING PLAN
SCALE: 1/4"=1'-0"

- GENERAL NOTES:**
1. PIPING RUNOUTS TO TERMINAL UNITS SHALL BE 1/2" UNLESS OTHERWISE NOTED. REFER TO REHEAT BOX SCHEDULE.
 2. SCHEDULE SYSTEMS OR EQUIPMENT SHUT DOWNS REQUIRED FOR NEW CONSTRUCTION WITH OWNER TWO WEEKS IN ADVANCE. SOME PREMIUM TIME WORK MAY BE REQUIRED.
 3. REFER TO PIPING DETAILS FOR FINAL CONNECTIONS TO EQUIPMENT. PROVIDE SERVICE SHUT-OFF VALVES IN MAJOR PIPING BRANCH LINES. ALL CONNECTIONS TO RISERS AND EACH BUILDING WING: A & B.

- MECHANICAL PIPING KEYED NOTES: (THIS SHEET ONLY)**
- M20 REFRIGERANT LIQUID AND SUCTION PIPING BETWEEN DX COOLING COILS AND CONDENSING UNITS. COORDINATE PIPE SIZES WITH MANUFACTURER.
 - M22 GLYCOL WATER SUPPLY AND RETURN PIPING UP THROUGH ROOF TO HEAT RECOVERY COILS. PROVIDE ROOF PENETRATION CURB/SEAL.
 - M37 1/2" C&CR, AND 3/4" MVL DOWN TO LEVEL 03.
 - M39 1" BACKPRESSURE REGULATING VALVE (5 GPM) FOR PROCESS CHILLED WATER MINIMUM PUMP FLOW.
 - M41 2" AIR SEPARATOR. SEE PIPING DIAGRAM.
 - M42 DIAPHRAGM EXPANSION TANK. SEE PIPING DIAGRAM AND SCHEDULE.
 - M50 PIPING DIFFERENTIAL PRESSURE SENSOR.
 - M51 1" HEATING HOT WATER BYPASS WITH BACKPRESSURE CONTROL VALVE (5 GPM).
 - M67 LOCATION FOR REFRIGERANT PIPING FOR COOLER. SEE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS. PIPING SHALL BE INSTALLED PER COOLER SUPPLIERS REQUIREMENTS.

HANGER MAP KEYED NOTES:

- H1 TRIANGLE HANGER W/ 3/8" ROD
- H2 TRAPEZE HANGER W/ 3/8" ROD
- H3 CLEVIS HANGER W/ 3/8" ROD
- H4 V-BOTTOM CLEVIS HANGER W/ 3/8" ROD



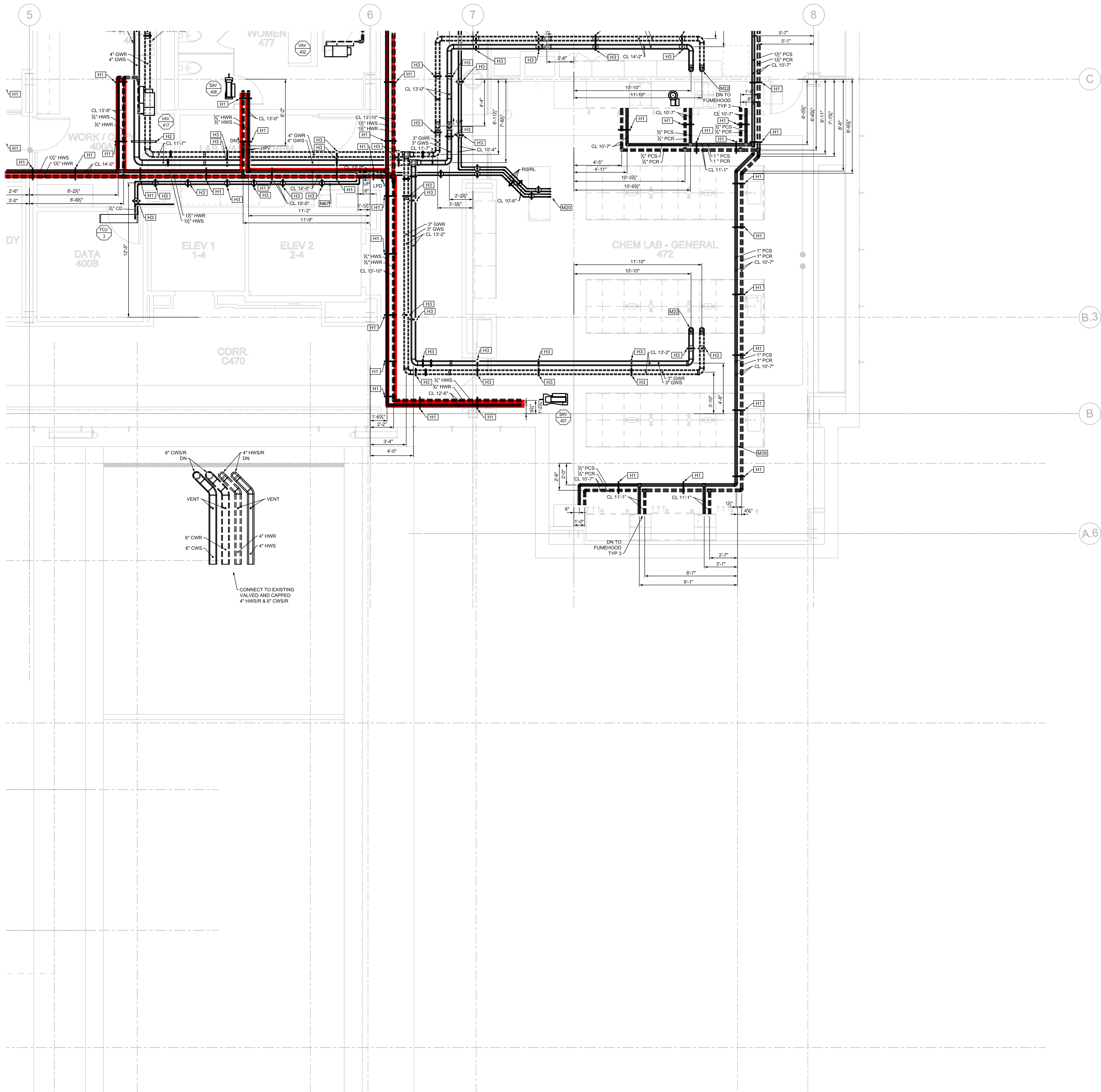
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PLOTTER: HP DesignJet 500 Plotter

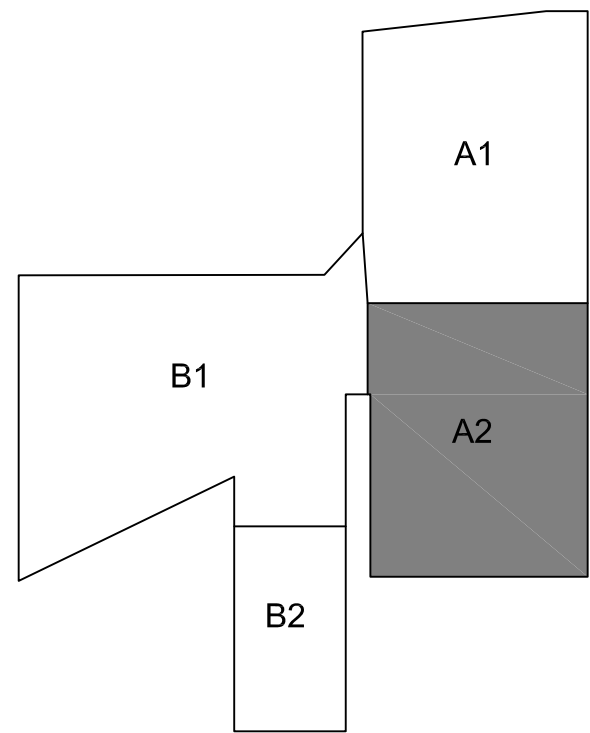


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 2. SCHEDULE SYSTEMS OR EQUIPMENT SHUT DOWNS REQUIRED FOR NEW CONSTRUCTION WITH OWNER TWO WEEKS IN ADVANCE. SOME PREMIUM TIME WORK MAY BE REQUIRED.
 3. REFER TO PIPING DETAILS FOR FINAL CONNECTIONS TO EQUIPMENT. PROVIDE SERVICE SHUT-OFF VALVES IN MAJOR PIPING BRANCH LINES. ALL CONNECTIONS TO RISERS AND EACH BUILDING WING: A & B.

- MECHANICAL PIPING KEYED NOTES: (THIS SHEET ONLY)**
- [M20] REFRIGERANT LIQUID AND SUCTION PIPING BETWEEN DX COOLING COILS AND CONDENSING UNITS. COORDINATE PIPE SIZES WITH MANUFACTURER.
 - [M22] GLYCOL WATER SUPPLY AND RETURN PIPING UP THROUGH ROOF TO HEAT RECOVERY COILS. PROVIDE ROOF PENETRATION CURB/SEAL.
 - [M37] 1/2" C&CR, AND 1/2" MNL DOWN TO LEVEL 03.
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 - [M42] DIAPHRAGM EXPANSION TANK. SEE PIPING DIAGRAM AND SCHEDULE.
 - [M50] PIPING DIFFERENTIAL PRESSURE SENSOR.
 - [M51] 1" HEATING HOT WATER BYPASS WITH BACKPRESSURE CONTROL VALVE (5 GPM).
 - [M67] LOCATION FOR REFRIGERANT PIPING FOR COOLER. SEE ARCHITECTURAL SPECIFICATIONS AND DRAWINGS. PIPING SHALL BE INSTALLED PER COOLER SUPPLIERS REQUIREMENTS.

HANGER MAP KEYED NOTES:

- [H1] TRIANGLE HANGER W/ 3/8" ROD
- [H2] TRAPEZE HANGER W/ 3/8" ROD
- [H3] CLEVIS HANGER W/ 3/8" ROD
- [H4] V-BOTTOM CLEVIS HANGER W/ 3/8" ROD



1 PARTIAL LEVEL 4 - PIPING PLAN
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