

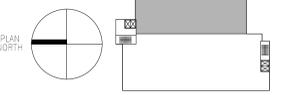
PLUMBING GENERAL NOTES

1. COORDINATE ROUTING AND ELEVATIONS OF PLUMBING PIPING WITH EXISTING STRUCTURE, EXISTING MEP SYSTEMS AND NEW WORK OF OTHER TRADES.

BASEMENT PLUMBING KEY NOTES

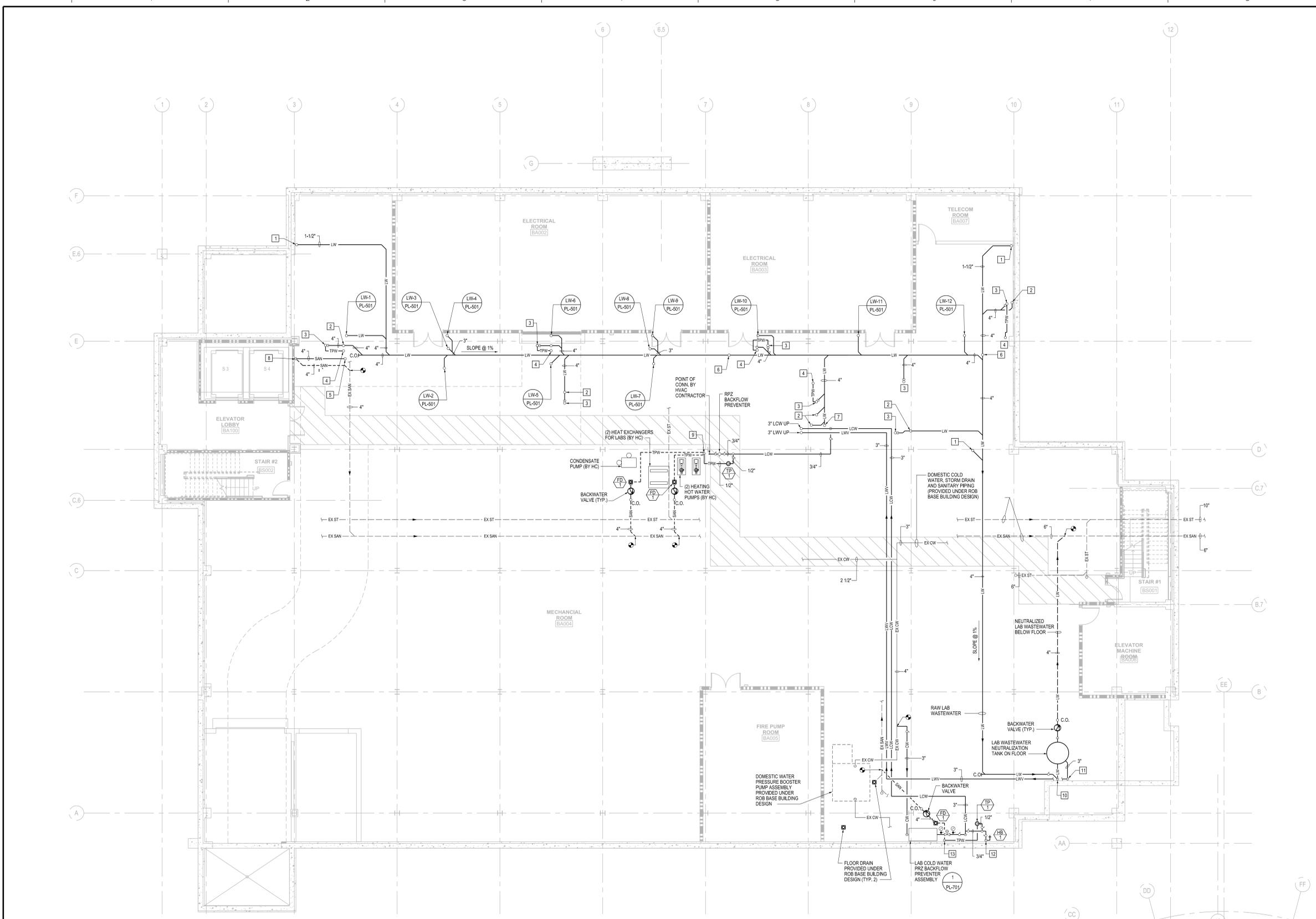
- 1 1-1/2" LAB WASTE FROM CUP SINK IN FUME HOOD ABOVE.
- 2 2" LAB WASTE FROM ABOVE.
- 3 4" LAB WASTE FROM LAB FLOOR DRAIN ABOVE.
- 4 1/2" TRAP PRIMER WATER FROM ABOVE.
- 5 4" SANITARY FROM ABOVE.
- 6 4" SANITARY UP TO FLOOR CLEANOUT ABOVE.
- 7 2" LAB WASTE UP TO FLOOR CLEANOUT ABOVE.
- 8 4" SANITARY DOWN TO BELOW FLOOR.
- 9 (2) 1/2" TRAP PRIMER WATER DOWN TO BELOW FLOOR.
- 10 4" LAB WASTE FROM WET LABS DOWN.
- 11 3" LAB WASTE UP.
- 12 3/4" LAB COLD WATER DOWN TO HOSE BIBB.
- 13 1/2" TRAP PRIMER WATER DOWN TO BELOW FLOOR.

1 PLUMBING PLAN - BASEMENT
1/8"=1'-0"



KEY PLAN
BID DOCUMENTS
FULLY SPRINKLERED

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot
one sixteenth inch = one foot



CONSULTANTS:  Stantec Architecture and Engineering LLC 400 Morgan Center 101 E. Diamond Street Butler, PA 16011		ARCHITECT/ENGINEERS:  5700 Fowl Grove Dr. Suite 100 Midlothian, Virginia 23112 (804) 282-2403 advetect.com A certified Service Disabled Veteran Owned Small Business (SDVOSE)		Approved VAPHB Director Approved Associate Director Approved ACOS/R&D	Approved V.P. Facility Manager Approved Manager Project Section Approved Project Engineer	Drawing Title PLUMBING PLAN - BASEMENT Scale: 1/8" = 1'-0" Building Number: 30 Drawn By: Checked By:	Project Title UNIVERSITY DRIVE RESEARCH OFFICE BUILDING WET LABS Location University Drive, Pittsburgh, PA 15240 Date 4/30/2013 AutoCAD File Number	Project Number 646-10-100 Contract Number VA244-P-1827 Drawing Number PL-10B Dwg. of	Office of Construction and Facilities Management  Department of Veterans Affairs
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PLUMBING GENERAL NOTES

1. COORDINATE MOUNTING HEIGHTS OF PLUMBING PIPING WITH HVAC WORK. REFER TO COORDINATION SECTIONS ON HVAC DRAWING MH-206.

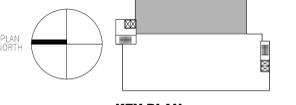
GROUND FLOOR PLUMBING KEY NOTES

- 1 1/2" LAB AIR, AND 3/4" LAB VACUUM DOWN. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO CEILING UTILITY PANEL. (TYP. FOR ALL CEILING UTILITY PANELS OVER EACH ISLAND LAB BENCH).
- 2 1/2" NATURAL GAS, 1/2" LAB AIR AND 3/4" LAB VACUUM DOWN. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO CEILING UTILITY PANEL. (TYP. FOR ALL CEILING UTILITY PANELS OVER EACH PENINSULA LAB BENCH).
- 3 1/2" NITROGEN GAS UP TO ABOVE CEILING.
- 4 1/2" NATURAL GAS, 1/2" LAB AIR AND 3/4" LAB VACUUM, CAPPED (FOR FUTURE).
- 5 1/2" TRAP PRIMER WATER FROM ABOVE.
- 6 1/2" LAB COLD WATER DOWN TO FILTER ASSEMBLY. PROVIDE FILTERED WATER EXTENSION, APPURTENANCES AND FINAL CONNECTION TO ICE MACHINE. PROVIDE INDIRECT WASTE PIPING FROM ICE MACHINE TO FLOOR DRAIN LFD-1 (REFER TO DETAIL 10 ON DRAWING PL-701).
- 7 2" LAB WASTE VENT FROM BELOW FLOOR, AND UP.
- 8 1-1/2" LAB WASTE FROM CUP SINK IN FUME HOOD ABOVE.
- 9 1/2" TRAP PRIMER WATER DOWN TO BELOW FLOOR.
- 10 4" LAB WASTE FORM LAB FLOOR DRAIN ABOVE.
- 11 1-1/2" EMERGENCY TEPID WATER DOWN TO EMERGENCY SHOWER/ EYE - FACEWASH COMBINATION. 2" LAB WASTE DOWN TO BELOW FLOOR. 2" LAB WASTE VENT UP TO ABOVE CEILING. 2" LAB WASTE FROM ABOVE. 1-1/2" TRAP PRIMER WATER DOWN TO BELOW FLOOR. 1/2" TRAP PRIMER WATER FROM ABOVE.
- 12 2" LAB WASTE FROM ABOVE.
- 13 1" LAB COLD WATER AND 1/2" LAB HOT WATER DOWN. PROVIDE PIPING, APPURTENANCES, ROUGH-IN, AND FINAL CONNECTIONS TO STERILIZER. PROVIDE INDIRECT WASTE FROM STERILIZER TO FLOOR DRAIN. COORDINATE WORK WITH STERILIZER INSTALLER.
- 14 1" RO-WATER SUPPLY, 1" LAB COLD WATER AND 1" LAB HOT WATER DOWN. PROVIDE PIPING, APPURTENANCES, ROUGH-IN AND FINAL CONNECTIONS TO GLASSWARE WASHER. PROVIDE INDIRECT WASTE FROM GLASSWARE WASHER TO FLOOR DRAIN. COORDINATE WORK WITH GLASSWARE WASHER INSTALLER.
- 15 1-1/2" LAB WASTE VENT UP TO ABOVE CEILING.
- 16 1/2" HYDROGEN GAS DOWN, TERMINATE AT 48" ABOVE FINISHED FLOOR, WITH SHUT-OFF VALVE AND PRESSURE REGULATOR.
- 17 1/2" HYDROGEN GAS FROM HYDROGEN CYLINDER STORAGE CABINET (PROVIDED BY OTHERS) UP TO ABOVE CEILING. PROVIDE PIPING, VALVES, PIPING COMPONENTS AND APPURTENANCES REQUIRED FOR A COMPLETE SYSTEM. INSTALLATION AND TESTING IN COMPLIANCE WITH 2019 INTERNATIONAL FUEL GAS CODE, CHAPTER 7 - GASEOUS HYDROGEN SYSTEMS.
- 18 1/2" NATURAL GAS, 3/4" LAB VACUUM AND 1/2" LAB ARDOWN. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO RESPECTIVE SYSTEMS OUTLETS AT 48" ABOVE FINISHED FLOOR. VERIFY EXACT LOCATIONS OF OUTLETS WITH ARCHITECTURAL DRAWINGS. COORDINATE WORK WITH ELECTRICAL CONTRACTOR.
- 19 1-1/2" LAB WASTE FROM EYE-FACE WASH. 2" LAB WASTE DOWN TO BELOW FLOOR. 2" LAB WASTE VENT UP TO ABOVE CEILING. 2" LAB WASTE FROM ABOVE. 1-1/2" EMERGENCY TEPID WATER DOWN TO EMERGENCY SHOWER/ EYE-FACE WASH COMBINATION.
- 20 4" SANITARY FORM ABOVE, AND DOWN TO BASEMENT.
- 21 PROVIDE NATURAL GAS EMERGENCY SHUT-OFF CONTROLLER. ALL APPURTENANCES AND WIRING TO SOLENOID VALVE, AS REQUIRED FOR A COMPLETE ASSEMBLY. REFER TO SPECS 21124 - 2.4 FOR ADDITIONAL INFORMATION.
- 22 CONNECT TO EXISTING NATURAL GAS STUBOUT (PROVIDED UNDER ROB BASE BUILDING DESIGN). SET REGULATOR AT BUILDING WALL @ 7" W.C. MIN.
- 23 1-1/2" LAB WASTE FROM CUP SINK IN FUME HOOD DOWN TO BELOW FLOOR. 1-1/2" LAB WASTE VENT UP TO BELOW COUNTERTOP.
- 24 1-1/2" LAB WASTE FROM EYE-FACE WASH. 2" LAB WASTE DOWN TO BELOW FLOOR. 2" LAB WASTE VENT UP. 1-1/2" EMERGENCY TEPID WATER DOWN TO EMERGENCY SHOWER/ EYE-FACE WASH COMBINATION.
- 25 PROVIDE DISCHARGE OF HYDROGEN SYSTEM PURGING GASES AT 6 FT (MINIMUM) ABOVE ADJACENT GROUND LEVEL. VENT TERMINAL SHALL BE LOCATED AT 5 FT MINIMUM AWAY FROM BUILDING OPENINGS AND MUST NOT BE OBSTRUCTED BY BUILDING FEATURES OR OTHER ELEMENTS.

1 PLUMBING PLAN - GROUND FLOOR
1/8"=1'-0"

GROUND FLOOR PIPE GROUP SIZING SCHEDULE

TAG	LCW	LHW	LHR	LW	LWW	ROS	ROR	EW	NG	LA	LV	N	TAG	LCW	LHW	LHR	LW	LWW	ROS	ROR	EW	NG	LA	LV	N
A										1/2"	1/2"		N	1/2"			1-1/2"					1/2"	1/2"	3/4"	1/2"
B										1/2"	1/2"	3/4"	O	2"	2"	1/2"									
C										1/2"	1/2"	1"	P						1"	1"			1-1/2"	1"	2"
D										3/4"	3/4"	1"	R	1"	(2) 1-1/2"				(2) 1"		1-1/2"	1/2"	3/4"	1"	
E	1/2"	(2) 2"							1-1/2"	1/2"	3/4"	1"	S	1"	(2) 1-1/2"			2"	(2) 1"		1/2"	1/2"	1/2"	3/4"	
F	1-1/2"	1-1/2"							1-1/2"				T	1/2"	1/2"		1-1/2"	1-1/2"				1/2"		3/4"	
G	1/2"			1-1/2"						1/2"	1/2"	3/4"													
H	1-1/2"	(2) 2"			(2) 1"			1-1/2"	1-1/4"	3/4"	1-1/4"														
I	1-1/2"	(2) 2"			(2) 1"			1-1/2"	1-1/2"	3/4"	1-1/4"														
J	1/2"	1/2"			(2) 1"				1/2"	1/2"	3/4"														
K	2"	(2) 2"			(2) 1"			1-1/2"	1-1/2"	3/4"	1-1/2"														
L	1"	2"	1/2"		(2) 1"			1-1/2"	1-1/2"	1"	2"														
M	1"	2"	1/2"		1"	1"	1-1/2"	1"	3/4"	1-1/4"															



Office of Construction and Facilities Management
Department of Veterans Affairs

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Approved VAPHB Director
 Approved V.P. Facility Manager
 Approved Associate Director
 Approved Manager Project Section
 Approved ACOS/R&D
 Approved Project Engineer

Drawing Title
 PLUMBING PLAN - GROUND FLOOR
Scale:
 1/8" = 1'-0"
Drawn By:
Checked By:

Project Title
 UNIVERSITY DRIVE RESEARCH OFFICE BUILDING WET LABS
Location
 University Drive, Pittsburgh, PA 15240
Date
 4/30/2013
AutoCAD File Number

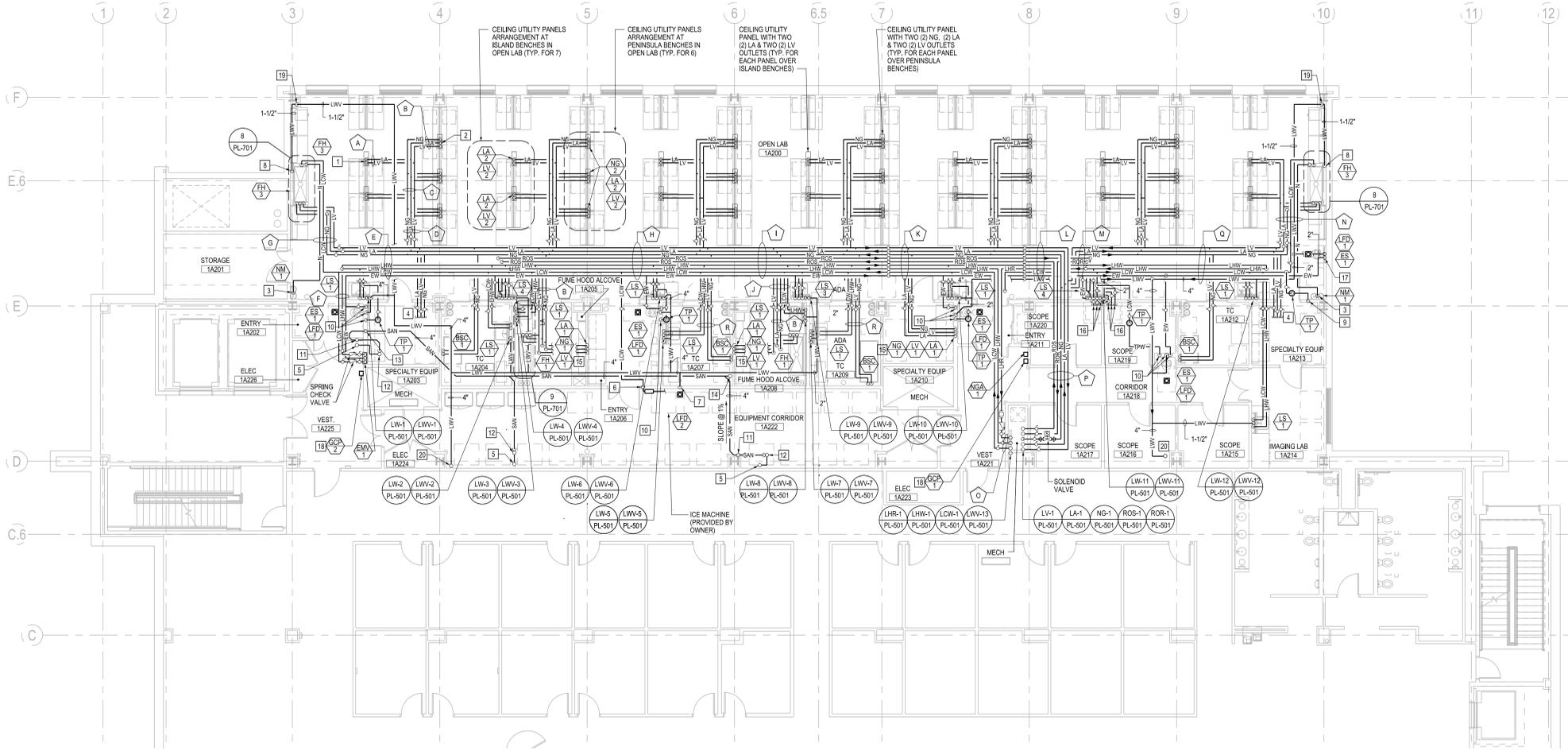
Project Number
 646-10-100
Contract Number
 VA244-P-1827
Drawing Number
 PL-10G
Dwg. of

PLUMBING GENERAL NOTES

1. COORDINATE MOUNTING HEIGHTS OF PLUMBING PIPING WITH HVAC WORK. REFER TO COORDINATION SECTIONS ON HVAC DRAWING MH-201.

FIRST FLOOR PLUMBING KEY NOTES

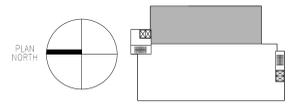
- 1 1/2" LAB AIR, AND 3/4" LAB VACUUM DOWN. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO CEILING UTILITY PANEL. (TYP. FOR ALL CEILING UTILITY PANELS OVER EACH ISLAND LAB BENCH).
- 2 1/2" NATURAL GAS, 1/2" LAB AIR AND 3/4" LAB VACUUM DOWN. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO CEILING UTILITY PANEL. (TYP. FOR ALL CEILING UTILITY PANELS OVER EACH PENINSULA LAB BENCH).
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- 5 1/2" TRAP PRIMER WATER FROM ABOVE.
- 6 1/2" LAB COLD WATER DOWN TO FILTER ASSEMBLY. PROVIDE FILTERED WATER EXTENSION, APPURTENANCES AND FINAL CONNECTION TO ICE MACHINE. PROVIDE INDIRECT WASTE PIPING FROM ICE MACHINE TO FLOOR DRAIN LFD-1 (REFER TO DETAIL 10 ON DRAWING PL-701).
- 7 2" LAB WASTE VENT FROM BELOW FLOOR, AND UP.
- 8 1-1/2" LAB WASTE FROM CUP SINK IN FUME HOOD DOWN TO BELOW FLOOR. 1-1/2" LAB WASTE VENT UP TO BELOW COUNTERTOP.
- 9 1/2" TRAP PRIMER WATER DOWN TO BELOW FLOOR.
- 10 1-1/2" EMERGENCY TEPID WATER DOWN TO EMERGENCY SHOWER/ EYE-FACE WASH COMBINATION. 1-1/2" LAB WASTE FROM EYE-FACE WASH. 2" LAB WASTE DOWN TO BELOW FLOOR. 2" LAB WASTE VENT UP TO ABOVE CEILING. 1/2" TRAP PRIMER WATER DOWN TO BELOW FLOOR.
- 11 2" VENT UP.
- 12 4" SANITARY FROM FLOOR DRAIN ABOVE.
- 13 4" SANITARY DOWN TO BELOW FLOOR.
- 14 4" SANITARY UP TO FLOOR CLEANOUT.
- 15 1/2" NATURAL GAS, 3/4" LAB VACUUM AND 1/2" LAB AIR DOWN. PROVIDE ROUGH-IN AND FINAL CONNECTIONS TO RESPECTIVE SYSTEMS' OUTLETS AT 48" ABOVE FINISHED FLOOR. VERIFY EXACT LOCATIONS OF OUTLETS WITH ARCHITECTURAL DRAWINGS. COORDINATE WORK WITH ELECTRICAL CONTRACTOR.
- 16 1/2" LAB HOT WATER, 1/2" LAB COLD WATER AND 1-1/2" LAB WASTE - CAP AT IN FRONT OF WALL (FOR FUTURE SINK).
- 17 1-1/2" EMERGENCY TEPID WATER DOWN TO EMERGENCY SHOWER/ EYE-FACE WASH COMBINATION. 1-1/2" LAB WASTE FROM EYE-FACE WASH. 2" LAB WASTE DOWN TO BELOW FLOOR. 2" LAB WASTE VENT UP TO ABOVE CEILING.
- 18 PROVIDE NATURAL GAS EMERGENCY SHUT-OFF CONTROLLER. ALL APPURTENANCES AND WIRING TO SOLENOID VALVE, AS REQUIRED FOR A COMPLETE ASSEMBLY. REFER TO SPECS 221124 - 2.4 FOR ADDITIONAL INFORMATION.
- 19 1-1/2" LAB WASTE VENT FROM BELOW FLOOR, AND UP TO ABOVE CEILING.
- 20 4" LAB WASTE VENT UP.



1 PLUMBING PLAN - FIRST FLOOR
1/8"=1'-0"

FIRST FLOOR PIPE GROUP SIZING SCHEDULE

TAG	LCW	LHW	LHR	LW	LWV	ROS	ROR	EW	NG	LA	LV	N	TAG	LCW	LHW	LHR	LW	LWV	ROS	ROR	EW	NG	LA	LV	N
A	—	—	—	—	—	—	—	—	—	1/2"	1/2"	—	N	1/2"	—	—	—	1-1/2"	—	—	—	1/2"	1/2"	3/4"	1/2"
B	—	—	—	—	—	—	—	—	—	1/2"	1/2"	3/4"	—	O	2"	2"	1/2"	—	—	—	—	—	—	—	—
C	—	—	—	—	—	—	—	—	—	1/2"	1/2"	1"	—	P	—	—	—	—	1"	1"	—	—	1-1/2"	1"	2"
D	—	—	—	—	—	—	—	—	—	3/4"	3/4"	1"	—	Q	1"	(2) 1-1/2"	—	2"	—	—	—	1-1/2"	3/4"	3/4"	1"
E	1/2"	(2) 2"	—	—	—	—	—	1-1/2"	1/2"	3/4"	3/4"	1"	—	R	1/2"	1/2"	—	1-1/2"	1-1/2"	—	—	—	1/2"	—	3/4"
F	1-1/2"	1-1/2"	—	—	—	—	—	1-1/2"	—	—	—	—	—												
G	1/2"	—	—	1-1/2"	—	—	—	—	1/2"	1/2"	3/4"	1/2"	—												
H	1-1/2"	(2) 2"	—	—	—	(2) 1"	—	1-1/2"	1-1/4"	3/4"	1-1/4"	—	—												
I	1-1/2"	(2) 2"	—	—	—	(2) 1"	—	1-1/2"	1-1/2"	3/4"	1-1/4"	—	—												
J	1/2"	1/2"	—	—	—	(2) 1"	—	—	1/2"	1/2"	3/4"	—	—												
K	2"	(2) 2"	—	—	—	(2) 1"	—	1-1/2"	1-1/2"	3/4"	1-1/2"	—	—												
L	1"	2"	1/2"	—	4"	(2) 1"	—	1-1/2"	1-1/2"	1"	2"	—	—												
M	1"	2"	1/2"	—	—	1"	1"	1-1/2"	1"	3/4"	1-1/4"	—	—												



KEY PLAN
BID DOCUMENTS FULLY SPRINKLERED

CONSULTANTS:

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Approved VAPHB Director
Approved V.P. Facility Manager
Approved Associate Director
Approved Manager Project Section
Approved ACOS/R&D
Approved Project Engineer

Drawing Title
PLUMBING PLAN - FIRST FLOOR

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

Building Number: 30

Project Title
UNIVERSITY DRIVE RESEARCH OFFICE BUILDING WET LABS

Location: University Drive, Pittsburgh, PA 15240

Date: 4/30/2013

Project Number
646-10-100

Contract Number
VA244-P-1827

Drawing Number
PL-101

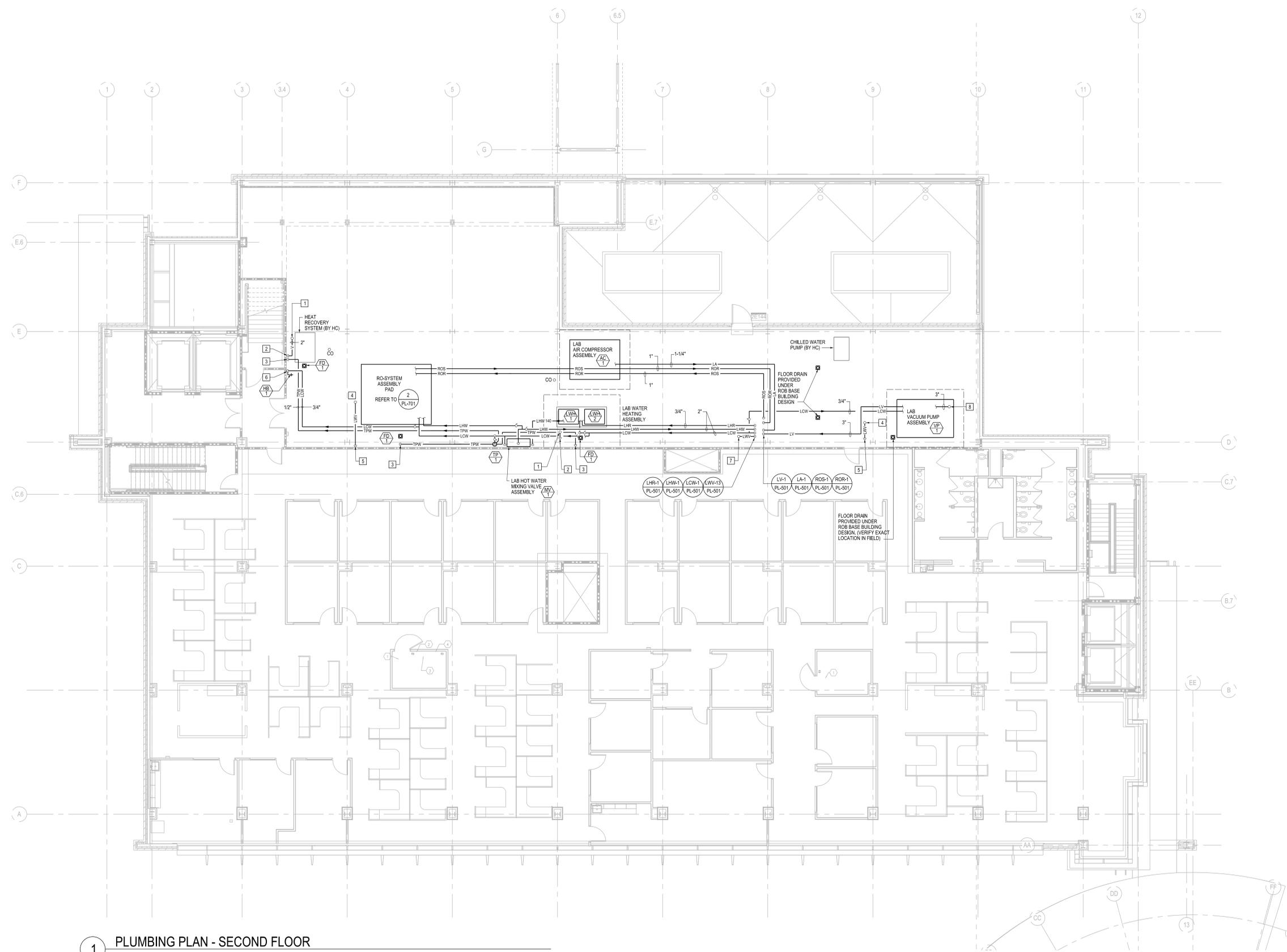
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Office of Construction and Facilities Management

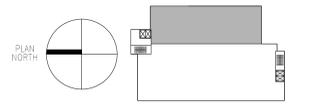
2ND FLOOR PLUMBING KEY NOTES

- 1 2" VENT UP, 3" VENT UP THROUGH ROOF.
- 2 2" VENT FROM BELOW FLOOR, AND UP.
- 3 1/2" TRAP PRIMER WATER DOWN TO BELOW FLOOR.
- 4 4" LAB WASTE VENT UP THROUGH ROOF.
- 5 4" LAB WASTE VENT FROM BELOW FLOOR, AND UP.
- 6 3/4" LAB COLD WATER DOWN TO HOSE BIBB.
- 7 3" LAB WASTE VENT UP THROUGH ROOF.
- 8 3" VACUUM EXHAUST UP THROUGH ROOF. TERMINATE WITH GOOSENECK TURNED DOWN, AT 3 FT ABOVE ROOF. PROVIDE VERMIN SCREEN AT TERMINAL.

three inches = one foot
 one and one half inches = one foot
 one inch = one foot
 three quarters inch = one foot
 one half inch = one foot
 three eighths inch = one foot
 one quarter inch = one foot
 one eighth inch = one foot
 one sixteenth inch = one foot



1 PLUMBING PLAN - SECOND FLOOR
 1/8"=1'-0"



KEY PLAN
 BID DOCUMENTS
 FULLY SPRINKLERED

Revisions	Date

CONSULTANTS:



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Approved Associate Director	Approved Manager Project Section
Approved ACOS/R&D	Approved Project Engineer

Drawing Title PLUMBING PLAN - SECOND FLOOR	
Scale: 1/8" = 1' - 0"	Building Number: 30
Drawn By:	Checked By:

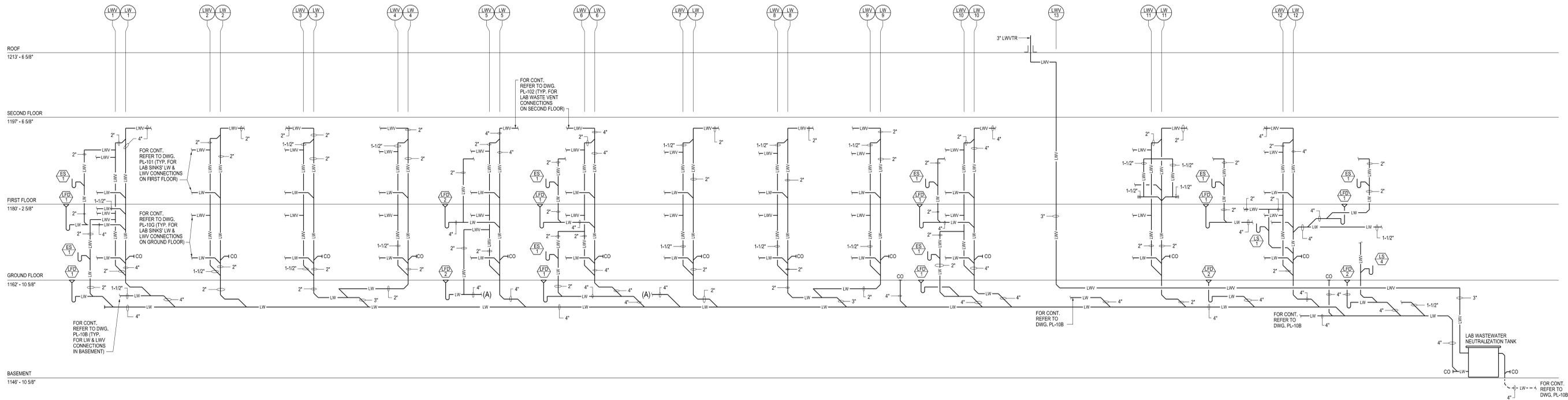
Project Title UNIVERSITY DRIVE RESEARCH OFFICE BUILDING WET LABS	
Location University Drive, Pittsburgh, PA 15240	
Date 4/30/2013	AutoCAD File Number

Project Number 646-10-100
Contract Number VA244-P-1827
Drawing Number PL-102
Dwg. of

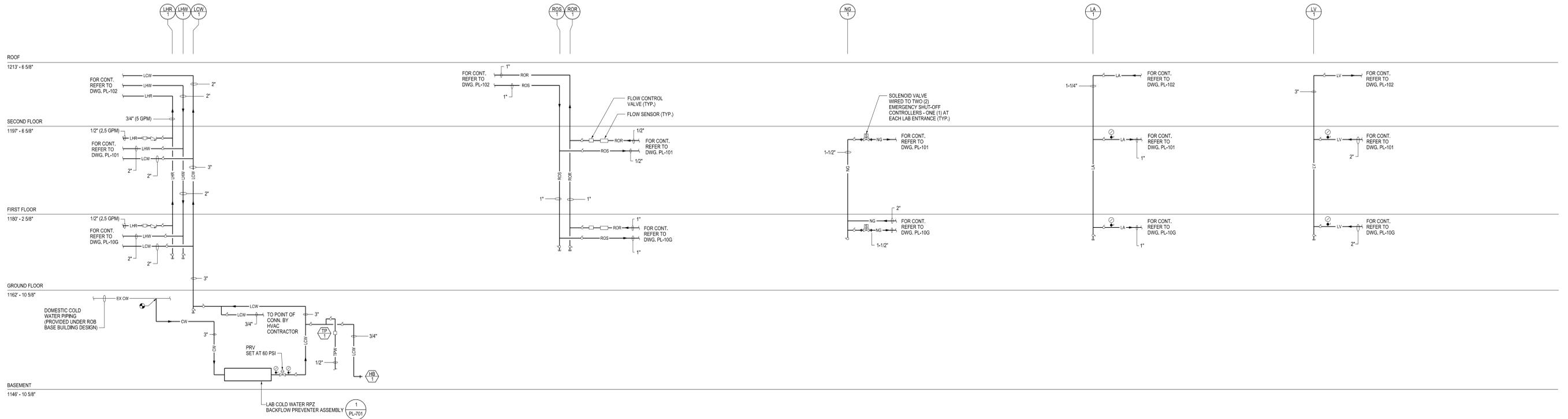
Office of Construction and Facilities Management



Department of Veterans Affairs



1 LAB WASTE AND LAB WASTE VENT SYSTEM RISER DIAGRAM
NOT TO SCALE



2 LAB COLD WATER, LAB HOT WATER AND LAB HOT WATER RETURN SYSTEM RISER DIAGRAMS
NOT TO SCALE

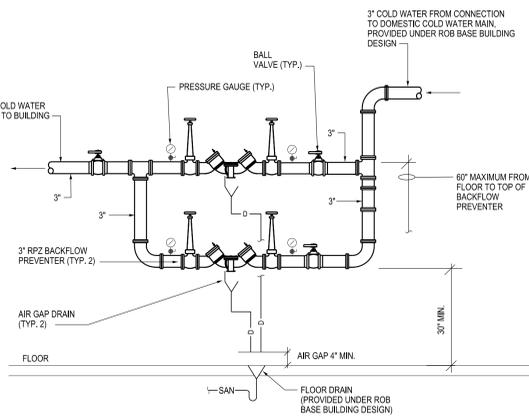
3 RO-WATER SUPPLY & RO-WATER RETURN SYSTEM RISER DIAGRAM
NOT TO SCALE

4 NATURAL GAS SYSTEM RISER DIAGRAM
NOT TO SCALE

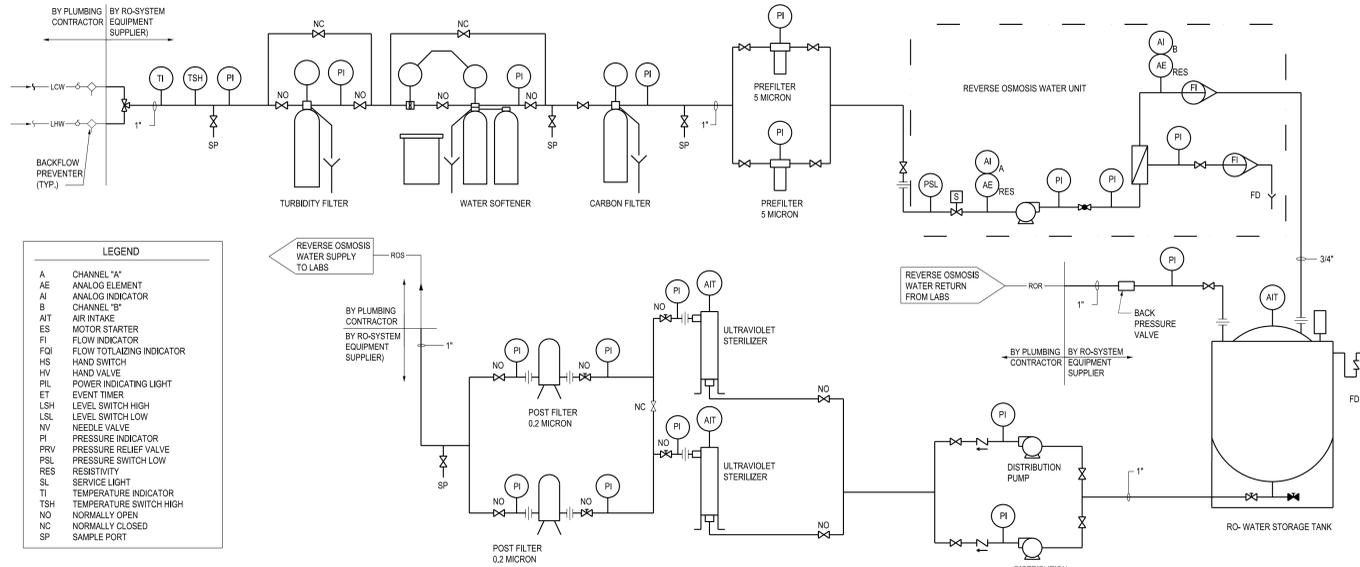
5 LAB COMPRESSED AIR SYSTEM RISER DIAGRAM
NOT TO SCALE

6 LAB VACUUM SYSTEM RISER DIAGRAM
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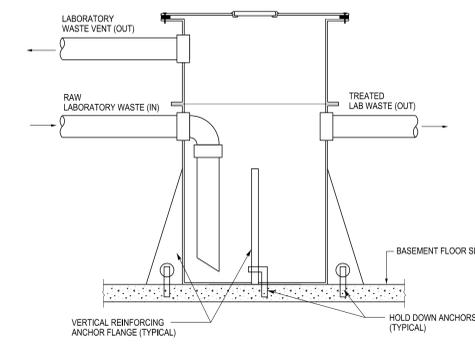
CONSULTANTS:  Stantec Architecture and Engineering LLC 400 Morgan Center 101 E. Diamond Street Butler, PA 16011		ARCHITECT/ENGINEERS:  5700 Fowl Grove Dr. Suite 100 Midlothian, Virginia 23112 (804) 282-2403 advetect.com A certified Service Disabled Veteran Owned Small Business (SDVOSE)		Approved VAPHB Director Approved Associate Director Approved ACOS/R&D	Approved V.P. Facility Manager Approved Manager Project Section Approved Project Engineer	Drawing Title PLUMBING RISER DIAGRAMS Scale: NTS Building Number: 30 Drawn By: Checked By:	Project Title UNIVERSITY DRIVE RESEARCH OFFICE BUILDING WET LABS Location University Drive, Pittsburgh, PA 15240 Date 4/30/2013 AutoCAD File Number	Project Number 646-10-100 Contract Number VA244-P-1827 Drawing Number PL-501 Dwg. of	BID DOCUMENTS FULLY SPRINKLERED Office of Construction and Facilities Management 
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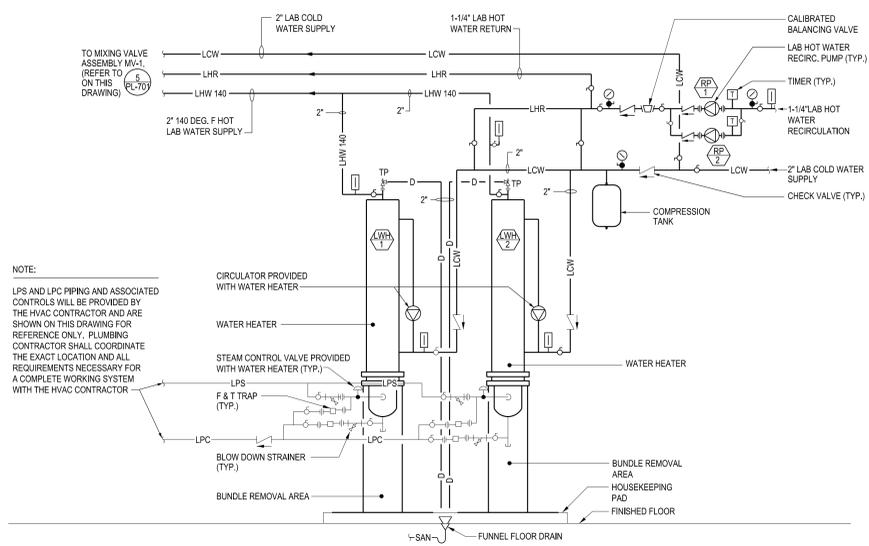
1 LAB WATER SERVICE ASSEMBLY SCHEMATIC
NOT TO SCALE



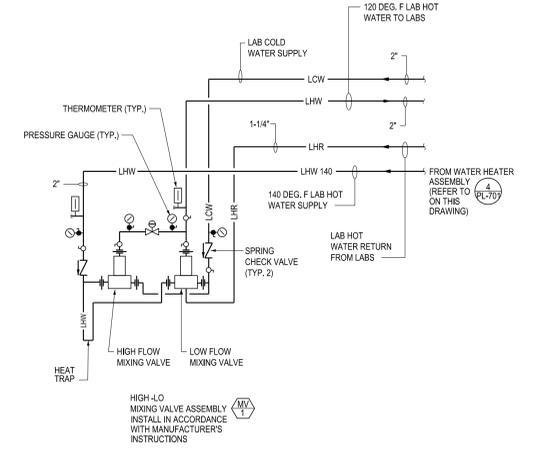
2 REVERSE OSMOSIS WATER SYSTEM ASSEMBLY SCHEMATIC
NOT TO SCALE



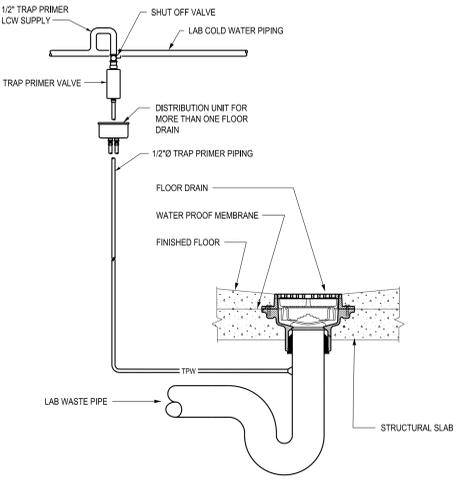
3 ACID NEUTRALIZATION TANK SCHEMATIC
NOT TO SCALE



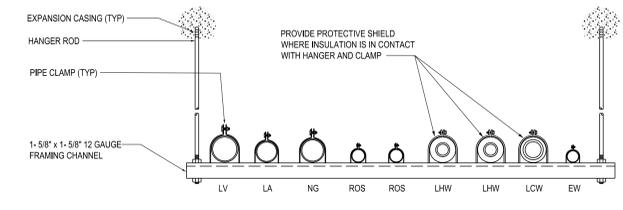
4 INSTANTANEOUS STEAM WATER HEATER ASSEMBLY INSTALLATION SCHEMATIC
NOT TO SCALE



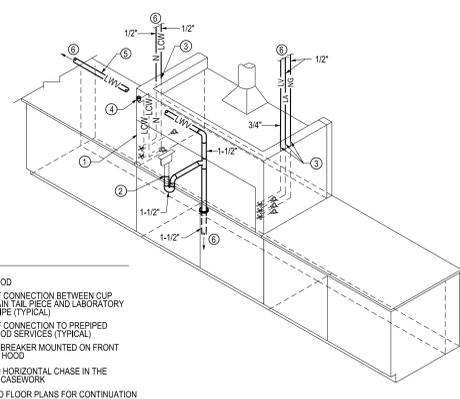
5 MIXING VALVE ASSEMBLY SCHEMATIC
NOT TO SCALE



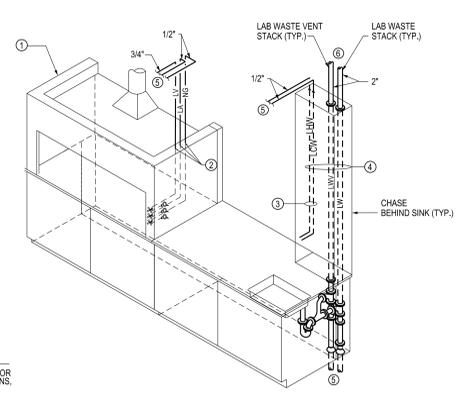
6 TRAP PRIMER PIPING SCHEMATIC
NOT TO SCALE



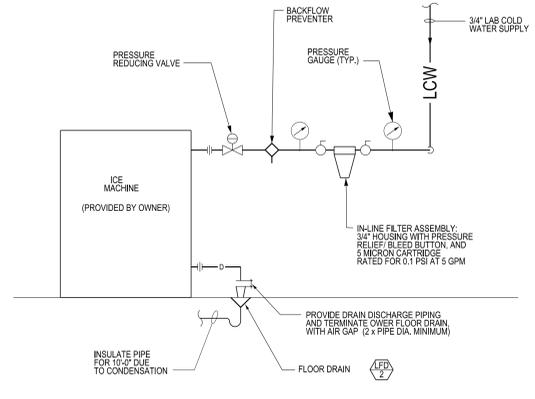
7 TYPICAL TRAPEZE HANGER
NOT TO SCALE



8 FUME HOOD IN OPEN LAB PIPING SCHEMATIC
NOT TO SCALE



9 TYP. FUME HOOD AND CASEWORK WITH SINK PIPING SCHEMATIC
NOT TO SCALE



10 ICE MAKER WATER FILTER ASSEMBLY PIPING SCHEMATIC
NOT TO SCALE

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Approved VAPHB Director
Approved V.P. Facility Manager
Approved Associate Director
Approved Manager Project Section
Approved ACOS/R&D
Approved Project Engineer

Drawing Title
PLUMBING DETAILS

Scale: NTS
Building Number: 30
Drawn By:
Checked By:

Project Title
UNIVERSITY DRIVE RESEARCH
OFFICE BUILDING
WET LABS

Location
University Drive, Pittsburgh, PA 15240

Date
4/30/2013

AutoCAD File Number

Project Number
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Contract Number
VA244-P-1827

Drawing Number
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