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CONSTRUCTION OBSERERVATION REPORT

Project: Webster University - ISB
Location: Webster Groves, Missouri
WES No.: 607
Visit Date: May 10, 2017
Report Date: May 11, 2017
Report No.: 3
Report By: Mike Whitworth and Rannae Lowery
Copies To: Patrick Garner, P.E., CPD, Wm. Tao & Associates
WES file

OBSERERVATION AND COMMENTS

Items noted in this report reflect conditions noted at the time of this survey. Prior to final acceptance, the noted items are required to be completed. Deficiencies or uncompleted work not noted or not listed does not relieve the contractor's responsibility for a complete working system, in full accordance with the construction documents.

Level 2 Above Ceiling

1. **Plumbing:**
 1. **Corridor C270 (outside Lab Storage-272B):**
 - a. Unable to locate domestic water shut-off valves, hard ceiling in place.
 2. **Tissue Culture B- 289B:**
 - a. Unable to locate domestic water shut-off valves serving sink.
2. **Laboratory Air and Vacuum Systems:**
 1. No comments.
3. **DI / RO Process Water:**
 1. **Corridor C280 (outside Physics Lab 284):**
 - a. Piping crossing corridor between Lab 283 and Lab 284 is not fire wrapped. Refer to Photo 2-1.
 2. **Corridor C280 (near Corridor C270):**
 - a. Unable to locate valves and controls for system.
4. **Fire Suppression:**
 1. No comments.

Level 3 Above Ceiling

1. Plumbing:
 1. Physiology Lab 391:
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-1.
 2. Biology Prep Room West 389::
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-2.
 3. Cell Biology and Biochemistry Lab 383:
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-3.
 4. Biology Autoclave Room 372B:
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-4.
 5. Ginny Harrison Organismal Biology Lab 378:
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-5.
 - b. Domestic hot water pipe elbow serving Level 4 lab sinks not insulated. Refer to Photo 3-6
 6. Biology Research Lab (Neurobiology) 374A:
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-7.
 - b. Piping not insulated. Refer to Photo 3-8 and Photo 3-9.
 7. Biology Prep Room East 386:
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-10
 8. Microbiology and Genetics Lab 388:
 - a. Missing thermometer gauge on TMV. Refer to Photo 3-11.
 9. Corridor C380 (near elevator):
 - a. Unable to locate floor isolation valve on main domestic hot water supply.
2. Laboratory Air and Vacuum Systems:
 1. Bio. Fac. Research 374A:
 - a. Unable to locate shut-off valve to hood.
 2. Physiology Lab 391:
 - a. Entry to room prohibited, unable to verify shut-off valves on north side of room from corridor view.
3. DI / RO Process Water:
 1. Corridor C380 (outside Bio. Lab Prep. B-386):
 - a. Piping crossing corridor between Lab 383 and Lab 386 is not fire wrapped. Refer to Photo 12.
4. Fire suppression:
 1. Cold Room 376:
 - a. Unable to locate dry-type sprinkler head.

Level 2 Photos



Photo 2-1
Corridor C280 – Di / RO piping not wrapped where crossing in corridor.

Level 3 Photos

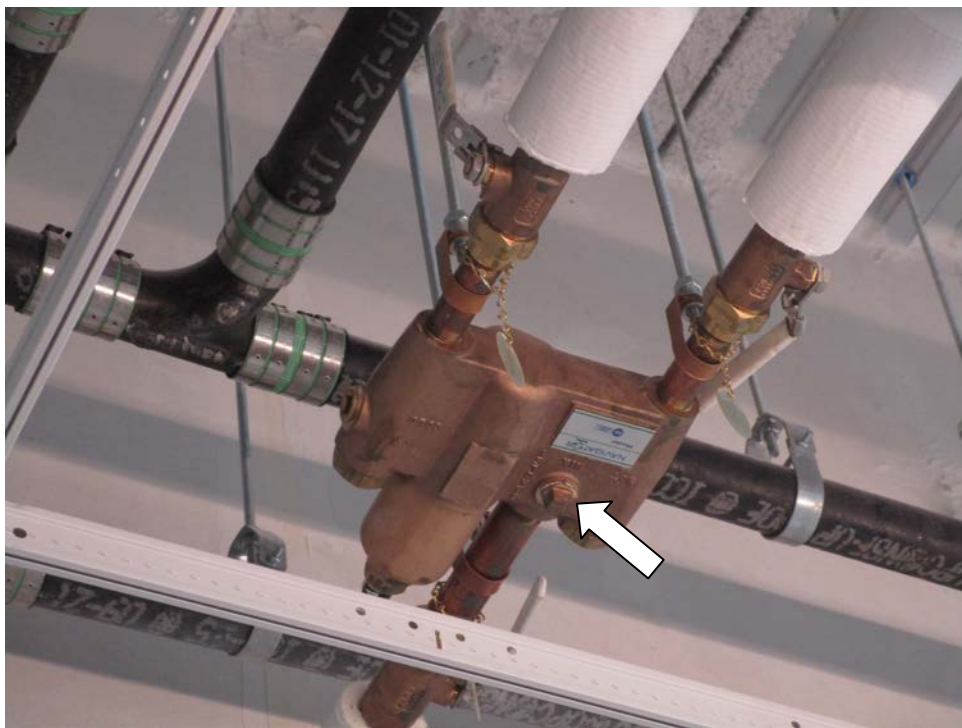


Photo 3-1
Physiology Lab 391 – Missing thermometer gauge on TMV

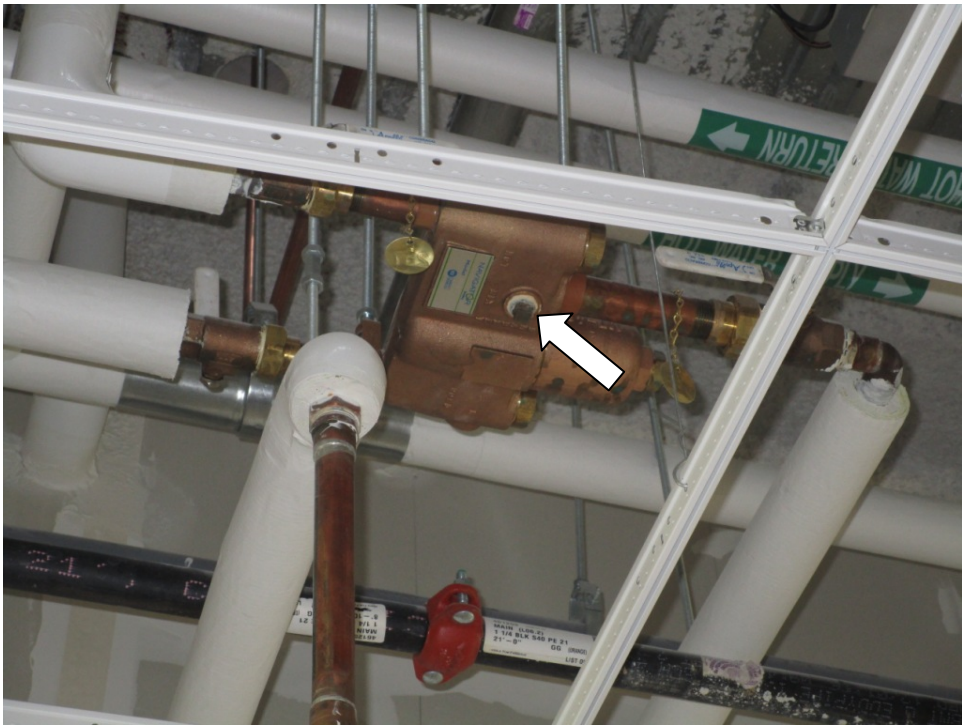


Photo 3-2
Biology Prep Room West 389 – Missing thermometer gauge on TMV.

Level 3 Photos

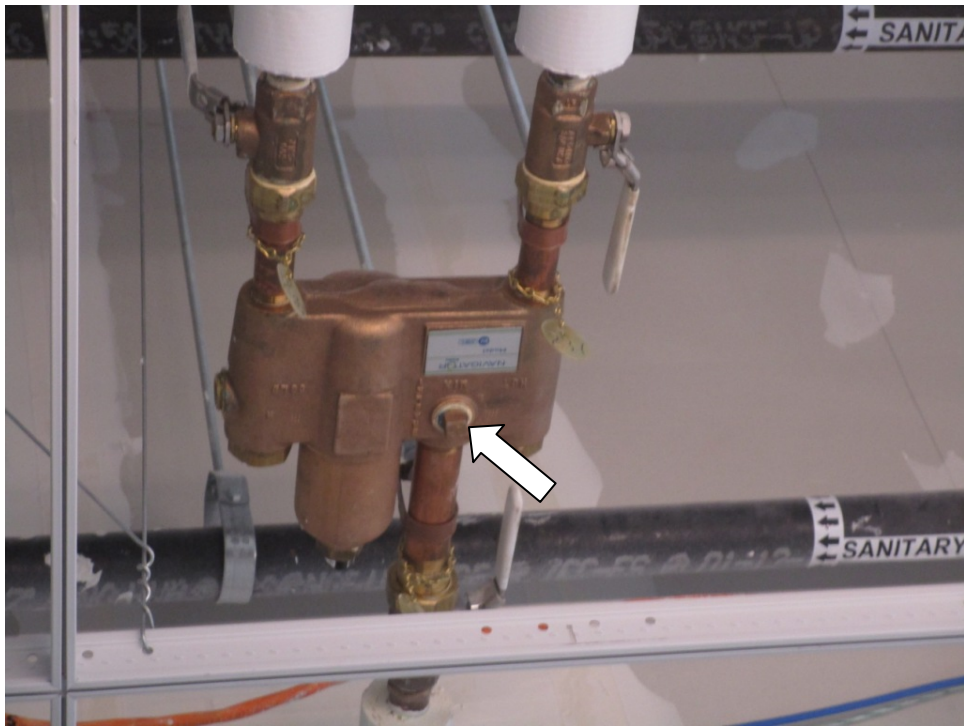


Photo 3.3
Cell Biology and Biochemistry Lab 383 – Missing thermometer gauge on TMV.



Photo 3-4
Biology Autoclave Room 372B – Missing thermometer gauge on TMV

Level 3 Photos



Photo 3-5
Ginny Harrison Organismal Biology Lab 378 – Missing thermometer gauge on TMV.

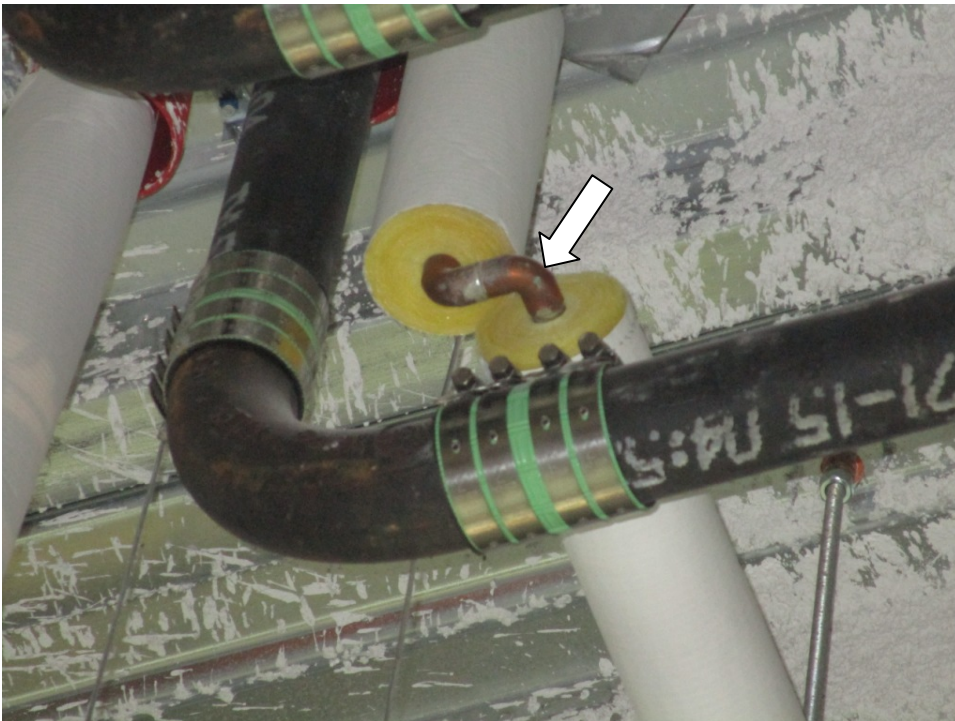


Photo 3-6
Ginny Harrison Organismal Biology Lab 378 – Missing pipe insulation.

Level 3 Photos



Photo 3-7
Biology Research Lab (Neurobiology) 374A – Missing thermometer gauge on TMV



Photo 3-8
Biology Research Lab (Neurobiology) 374A – Missing pipe insulation

Level 3 Photos

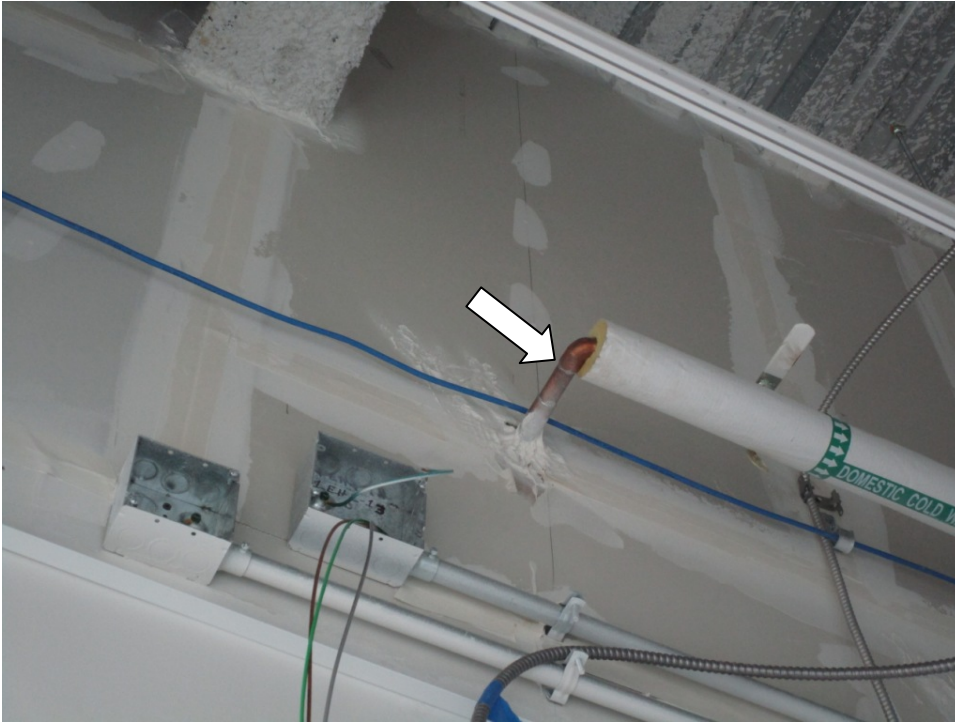


Photo 3-9
Biology Research Lab (Neurobiology) 374A – Missing pipe insulation



Photo 3-10
Biology Prep Room East 386 – Missing thermometer gauge on TMV

Level 3 Photos

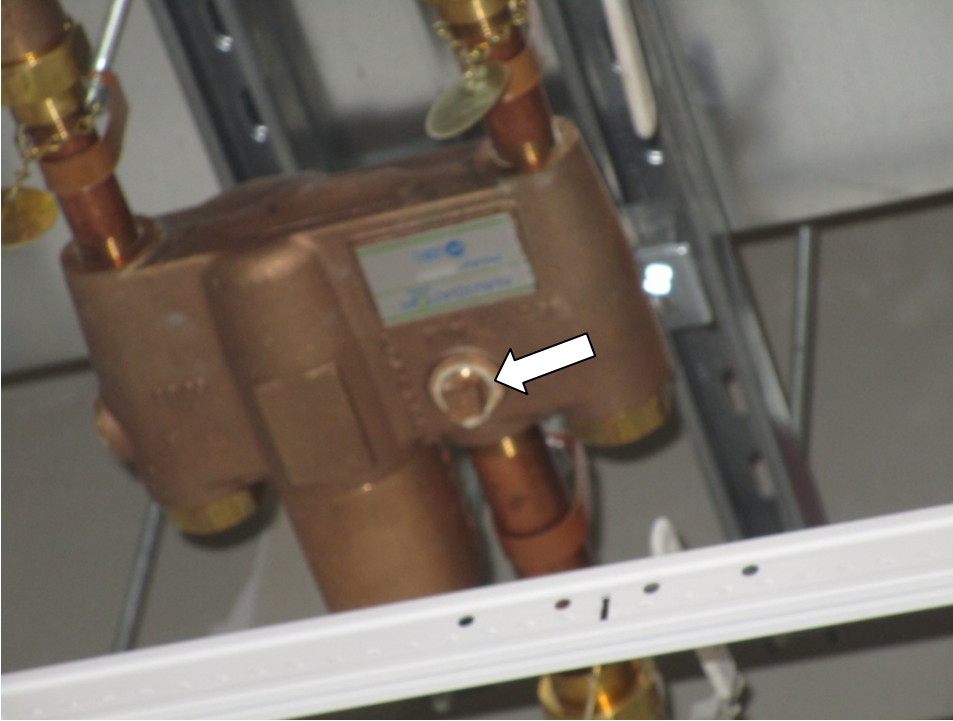


Photo 3-11
Microbiology and Genetics Lab 388 – Missing thermometer gauge on TMV.

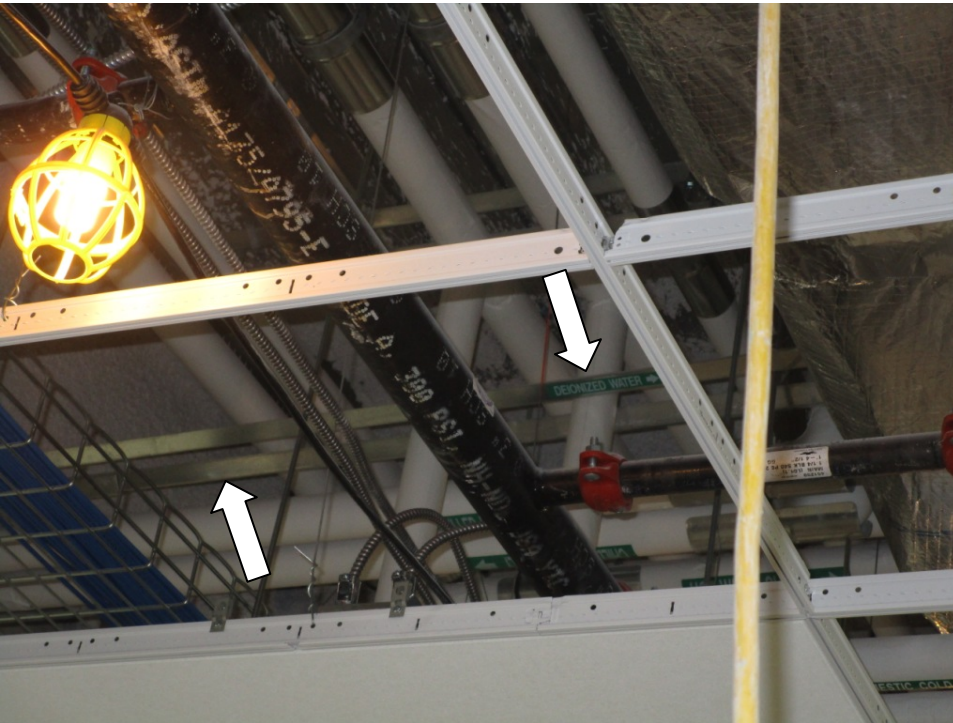


Photo 3-12
Corridor C380 – Di / RO piping not wrapped where crossing in corridor.

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CONSTRUCTION OBSERVATION REPORT

Project: Webster University - ISB
Location: Webster Groves, Missouri
WES No.: 607
Visit Date: May 19, 2017
Report Date: May 22, 2017
Report No.: 4
Report By: Mike Whitworth and Ran'nae Lowery
Copies To: Patrick Garner, P.E., CPD, Wm. Tao & Associates
WES file

OBSERVATION AND COMMENTS

Items noted in this report reflect conditions noted at the time of this survey. Prior to final acceptance, the noted items are required to be completed. Deficiencies or uncompleted work not noted or not listed does not relieve the contractor's responsibility for a complete working system, in full accordance with the construction documents.

Level 1 Above Ceiling

1. Plumbing:
 1. Corridor C180 (outside Mechanical Room 178):
 - a. Domestic cold water piping serving single Toilet Room 180/182 is not insulated. Refer to Photo 1-1.
 2. Cadaver Lab 191:
 - a. Floor sink serving Level 2 is supported by single underfloor brace, others are supported by two braces. Refer to Photo 1-2.
 - b. Emergency shower piping is not insulated, on other floors piping is insulated. Refer to Photo 1-3.
 3. Teaching Kitchen 174:
 - a. Trap primer piping is not insulated. Refer to Photo 1-4.
 4. Loading Dock 172:
 - a. Unable to locate trap primer serving floor drain for this area. Refer to Photo 1-5.
2. Laboratory Air and Vacuum Systems:
 1. No comments.
3. DI / RO Process Water:
 1. No Comments.

4. Fire Suppression:
 1. Cylinder Room 187:
 - a. Room locked, no entry.
 2. Elevator Machine Room 176:
 - a. Room located, no entry.
 3. Loading Dock 172:
 - a. Sprinkler head covered with protective cap. Refer to Photo 1-6.
 4. EAB Connector 150:
 - a. Work not complete. Refer to Photo 1-7.

Level 4 Above Ceiling

Access to Level 4 was restricted due to floor finishing.

Level 1 Photos



Photo 1-1
Corridor C180 (outside Mechanical Room 178) – Piping not insulated.



Photo 1-2
Cadaver Lab 191 – Floor sink supported by single underfloor brace.

Level 1 Photos



Photo 1-3
Cadaver Lab 191 – Emergency shower discharge piping not insulated.

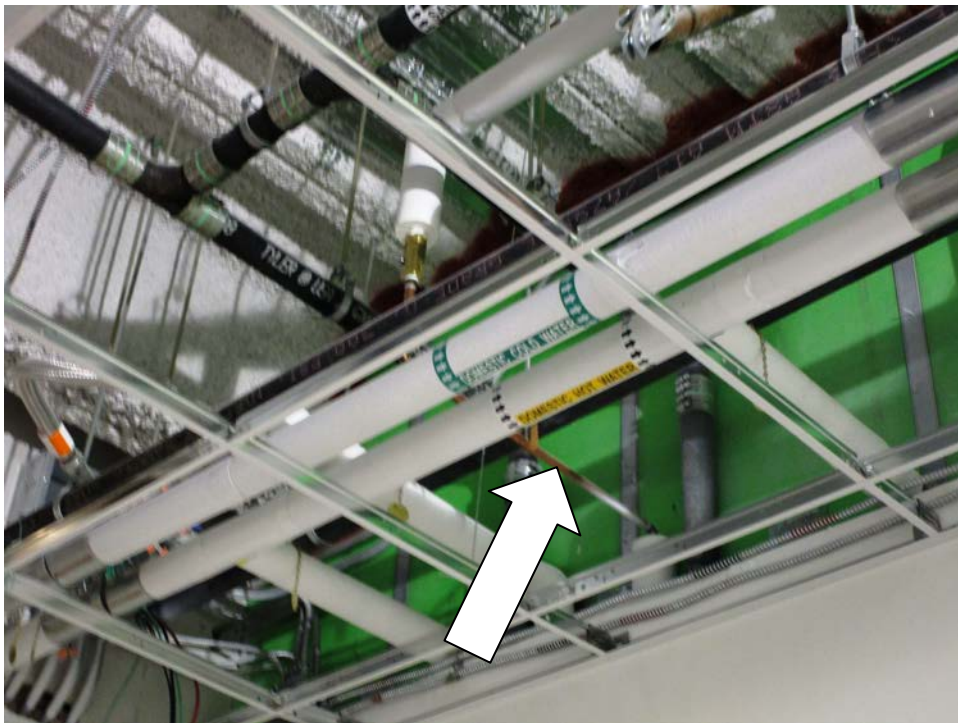


Photo 1-4
Teaching Kitchen 174 – Trap primer piping not insulated.

Level 1 Photos

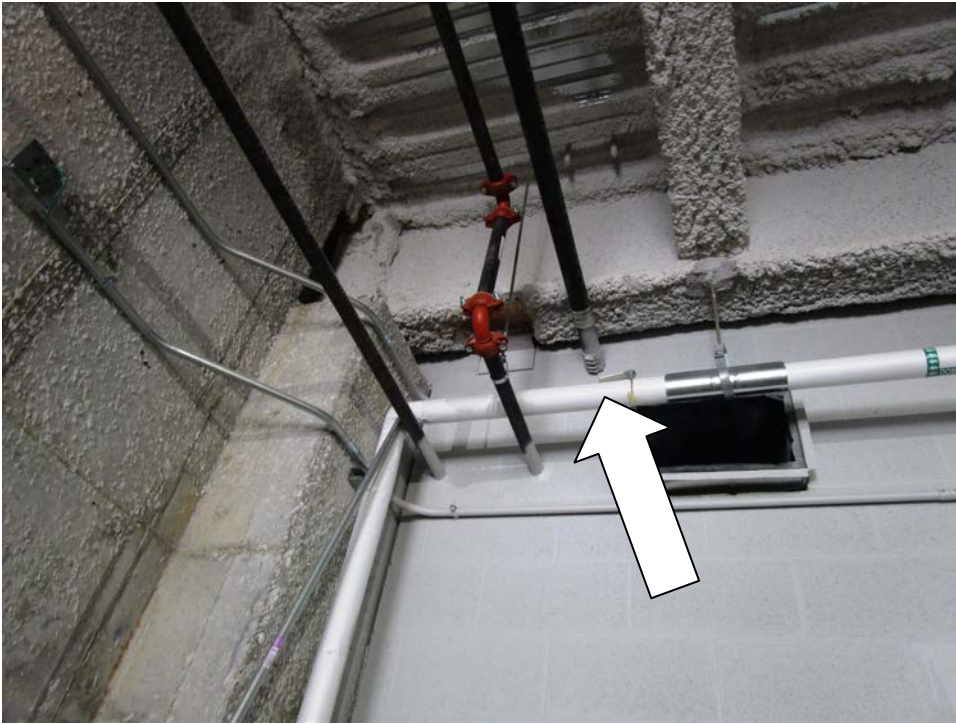


Photo 1-5
Loading Dock 172 – Unable to locate trap primer.

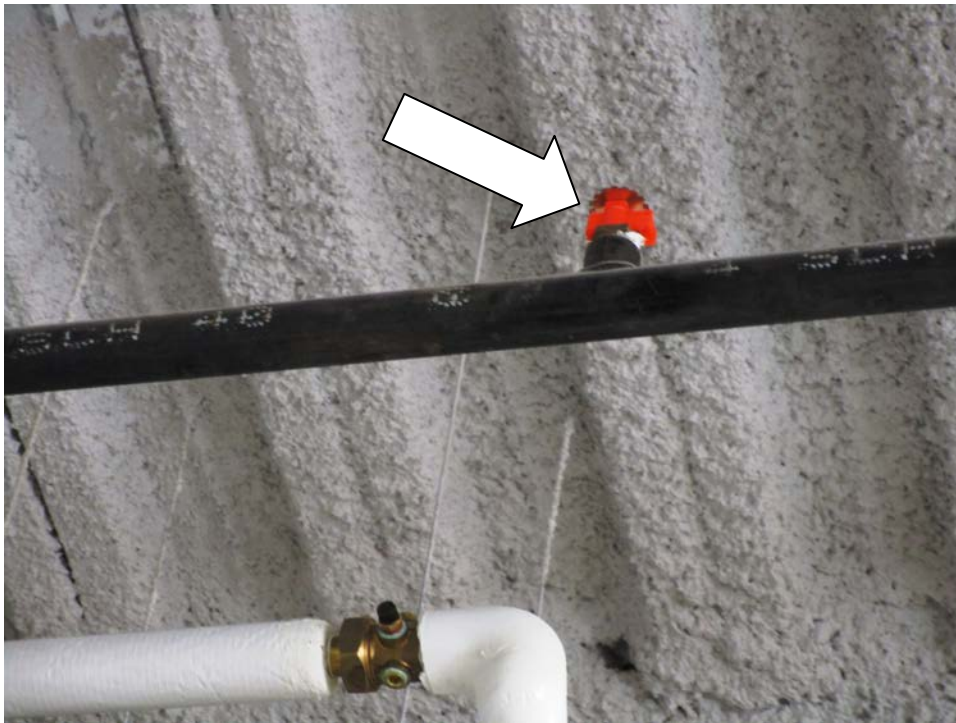


Photo 1-6
Loading Dock 172 – Sprinkler head covered.

Level 1 Photos



Photo 1-7
EAB Connector – New sprinkler work not completed.

END OF REPORT



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CONSTRUCTION OBSERVATION REPORT

Project: Webster University - ISB
Location: Webster Groves, Missouri
WES No.: 607
Visit Date: January 25, 2017
Report Date: January 30, 2017
Report No.: 1
Report By: Mike Whitworth
Copies To: Patrick Garner, P.E., CPD, Wm. Tao & Associates
WES file

OBSERVATION AND COMMENTS

Items noted in this report reflect conditions noted at the time of this survey. Prior to final acceptance, the noted items are required to be completed. Deficiencies or uncompleted work not noted or not listed does not relieve the contractor's responsibility for a complete working system, in full accordance with the construction documents.

1. Plumbing:

Level 00:

1. Sanitary waste and vent piping appear to be near completion.
2. Sump pumps (three) have not been installed.
3. Electronic floor drain primer control cabinet has not been installed.
4. Domestic water piping has not been installed.
5. Floor drains are covered.

Level 01:

1. Domestic water service has not been extended into building.
2. Unable to locate wall sleeve for domestic water service.
3. Domestic water piping, main and branch, has not been installed.
4. Domestic hot water heaters have not been installed.
5. Toilet room(s) wet wall piping has been assembled, not yet set in place.
6. Roof drain and overflow drain piping has been routed / installed.
7. Piping stub-ups are in place.
8. Floor Drains are covered.
9. Piping stub-ups are capped.
10. Branch water piping in wet wall of Toilet Rooms 180 / 182 appears to be made with a 'brazed tap', rather than a standard pipe fitting. All changes in direction and branch connections are to be made with fittings. Refer to specification section 22 11 16, Part 3, paragraph 3.2, line 'O'. This method appears to be similar elsewhere. Refer to Photo 1.

11. Water hammer arresters (piston style) being installed were rejected in the shop drawing review process for not complying with the specifications, 22 11 19, part 2, paragraph 2.12 and plumbing drawing P0601. Refer to shop drawing review report dated 11 June 2016. CP's indicate Wade model 4480 is being provided. Refer to Photo 2.

Level 02:

1. Toilet room wet wall piping is being assembled, not yet set in place.
2. Does not appear all waste and vent risers have been installed.
3. Domestic water piping mains appear to be installed.
4. Domestic water risers have not yet been installed.
5. Domestic water piping branches are in progress of being installed.
6. Appears some room isolation valves on the branch piping are missing / not yet installed.
7. Domestic water piping has not yet been insulated.

Level 03:

Conditions similar to those listed for Level 02.

Level 04:

A limited amount of plumbing work has been started.

2. Medical Gas Systems:

Level 00:

There is no work on this level.

Level 01:

1. Central Vacuum unit has not been installed.
2. Central Air Compressor has not been installed.
3. Respective has not been installed.

Level 02:

1. A limited amount of compressed air piping has been installed.
2. A limited amount of vacuum piping has been installed.

Level 03:

Conditions similar to those listed for Level 02.

Level 04:

Conditions similar to those listed for Level 02.

3. DI / RO Process Water:

Level 00:

1. DI / RO Water equipment / system have not been installed.
2. A limited amount of DI / RO piping has been installed.

Level 01:

1. DI / RO piping has not yet been installed.

Level 02:

1. A limited amount of DI / RO piping has been installed.
2. Pipe wrapping, where required, has not yet been done.

Level 03:

Conditions similar to those listed for Level 02.

Level 04:

Conditions similar to those listed for Level 02.

4. Fire Suppression:

Level 00:

1. Sprinkler piping and sprinkler head installation appears to be complete.

Level 01:

1. Fire Pump has not yet been installed.
2. Bulk mains appear to be installed.
3. A limited number of branch piping runs are installed.
4. A limited number of sprinkler heads have been installed.
5. A limited number of flex hose connectors have been installed, without the sprinkler head.

Level 02:

1. Mains appear to be installed.
2. A limited number of branch piping runs are installed.
3. A limited number of sprinkler heads have been installed.
4. A limited number of flex hose connectors have been installed, without the sprinkler head.

Level 03:

Conditions similar to those listed for Level 02.

Level 04:

Conditions similar to those listed for Level 02.



Photo 1
Brazed pipe tap



Photo 2
Piston type water hammer arrester

End of Report

CONSTRUCTION OBSERVATION REPORT

Project: Webster University - ISB
Location: Webster Groves, Missouri
WES No.: 607
Visit Date: March 23, 2017
Report Date: March 30, 2017
Report No.: 2
Report By: Mike Whitworth
Copies To: Patrick Garner, P.E., CPD, Wm. Tao & Associates
WES file

OBSERVATION AND COMMENTS

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1. Plumbing:

Level 00:

1. Sanitary waste and vent piping appear to be completed.
2. Sump pumps (three) have not been installed. Refer to Photo 01.
3. Electronic floor drain primer control cabinet has been installed.
4. Domestic water piping has been installed.
5. Domestic water piping has not been insulated. Refer to Photo 02.
6. Floor drains are covered.
7. Elevator sump pumps are being installed.

Level 01:

1. Wall opening for domestic water service in north wall is in place. Refer to Photo 03
2. Domestic water service has not been extended into building, interior galvanized 8 inch main piping is hung in place and extended to Fire Pump Room and Mechanical Room. Refer to Photo 04.
3. Domestic water piping, main and branch, has been installed.
4. Domestic hot water heaters have been installed and piped. Refer to Photo 05.
5. Not all floor drains are covered. Drains in Mechanical Room are exposed.
6. Main thermostatic mixing valve (TMV) has not been installed.
7. Hot water circulating pump has not been installed.
8. Domestic water service backflow preventer and PRV station has been installed. Refer to Photo 06.
9. Domestic water piping insulation has not been completed .
10. Toilet room chase water piping, pulled Tee's have been replaced with pipe and fittings.

Level 02:

1. Waste and vent risers have been installed.
2. Domestic water piping mains appear to be installed.
3. Domestic water piping branches have been installed.
4. Domestic water piping insulation has not been completed.

Level 03:

1. Conditions similar to those listed for Level 02.
2. Domestic water piping insulation has not been completed. Refer to Photo 07.

Level 04:

1. Conditions similar to those listed for Level 02.
2. Roof drain, overflow drain piping and drain bodies does appear to be insulated. Verify.

2. Medical Gas Systems:

Level 00:

There is no work on this level.

Level 01:

1. Central Vacuum unit has been installed. Piping to/from unit not yet complete. Refer to Photo 08.
2. Central Air Compressor has been installed. Piping to/from not yet complete. Refer to Photo 09
3. Wall inlets/outlets in Area B Sim Lab. To be cleaned and covered to protect from dust.
Refer to Photo 10

Level 02:

1. Compressed air piping has been installed.
2. Vacuum piping has been installed.
3. Final extension and connection to service fittings pending installation of casework, hoods and cabinets for both services.

Level 03:

1. Conditions similar to those listed for Level 02.

Level 04:

1. Conditions similar to those listed for Level 02.

3. DI / RO Process Water:

Level 00:

1. DI / RO Water equipment / system have not been installed.
2. Domestic water supply BFP to serve DI/RO system has been installed. Refer to Photo 11.

Level 01:

1. Piping wrapping where exposed/required in plenum spaces has not yet been done.

Level 02:

1. Pipe wrapping where exposed/required in plenum spaces has not yet been done.
Refer to Photo 12.

Level 03:

1. Pipe wrapping where exposed/required in plenum spaces has not yet been done.

Level 04:

1. Piping installation has been partially completed.
2. Pipe wrapping where exposed/required in plenum spaces has not yet been done.

4. Fire Suppression:

Level 00:

1. Sprinkler piping and sprinkler head installation appears to be complete.

Level 01:

1. Fire Pump has not yet been installed.
2. Bulk mains appear to be installed.
3. Branch piping runs are installed.
4. A limited number of sprinkler heads have been installed.
5. A limited number of flex hose connectors have been installed, without the sprinkler head.
6. Pre-Action control cabinet for Sim Lab has not been installed.
7. Area B, in or about Corridor C140 – Verify sprinkler head and recessed luminaire are not in conflict with clearance requirements. Refer to Photo 13.

Level 02:

1. Mains appear to be installed.
2. Branch piping runs are installed.
3. A limited number of sprinkler heads have been installed.
4. A limited number of flex hose connectors have been installed, without the sprinkler head.

Level 03:

1. Conditions similar to those listed for Level 02.

Level 04:

1. Conditions similar to those listed for Level 02.



Photo 01
Level 0 – Sump pumps not yet installed.



Photo 02
Level 0 – Domestic water piping not yet insulated.

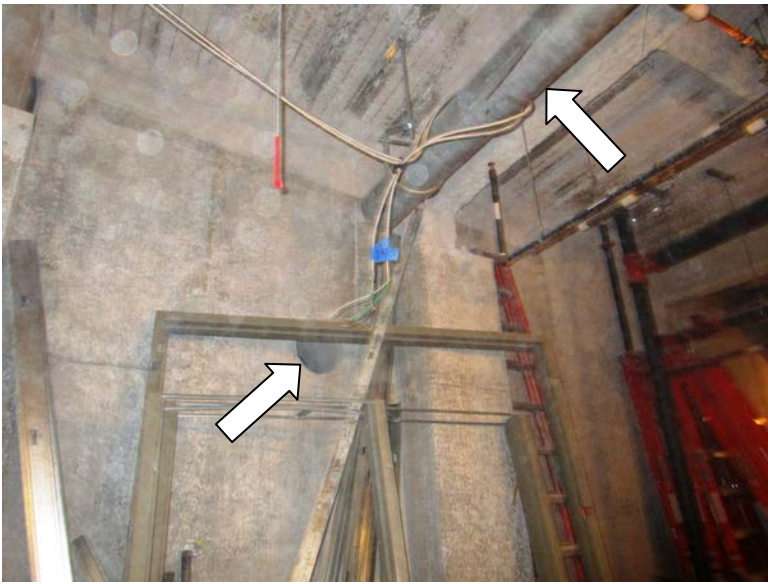


Photo 03
Level 01 – Combination domestic and fire service building entry.
8" galvanized pipe and wall opening.



Photo 04
Level 01 – Domestic water service and fire service piping split.



Photo 05
Level 01 – Domestic hot water heaters, installed and piped.



Photo 06
Level 01 – Domestic water service backflow preventer and PRV station.



Photo 07

Level 03 – Domestic water piping insulation has not been completed. Primarily fittings and valves, some small sections of piping. This condition is typical through-out.



Photo 08

Level 01 – Vacuum unit set in place.



Photo 09
Level 01 – Air compressor unit set in place.



Photo 10
Level 01 Sim Lab - Med Gas wall inlets and outlets to be cleaned and covered to protect from dust.

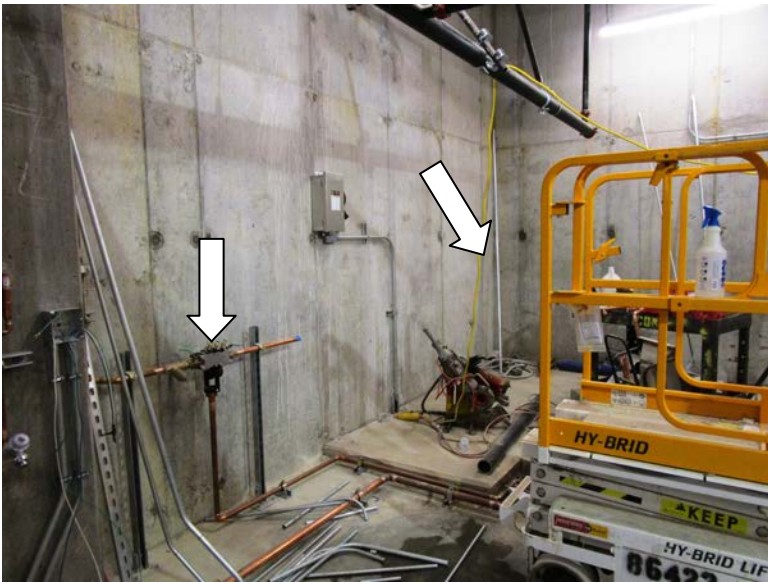


Photo 11
Level 0 – DI/RO make-up water BFP and location for equipment.

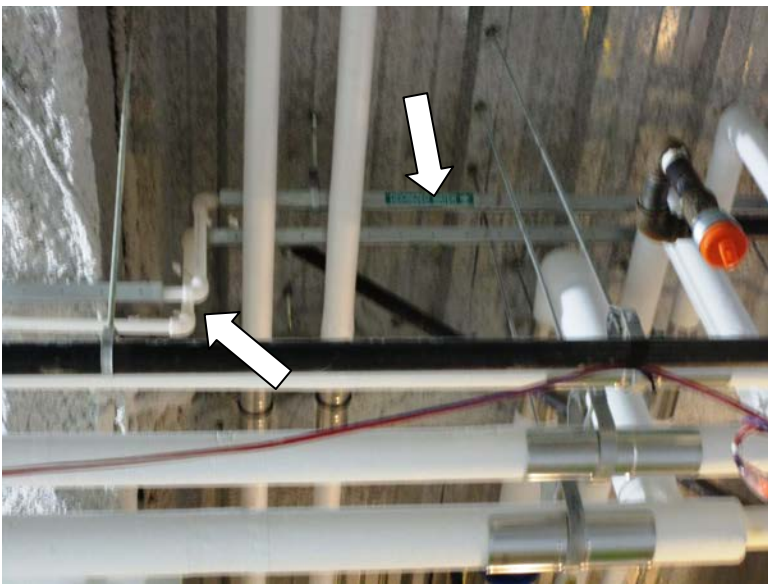


Photo 12
Level 02 – DI/RO pipe wrapping where exposed/required in plenum spaces has not yet been done.
This condition is typical on all levels.

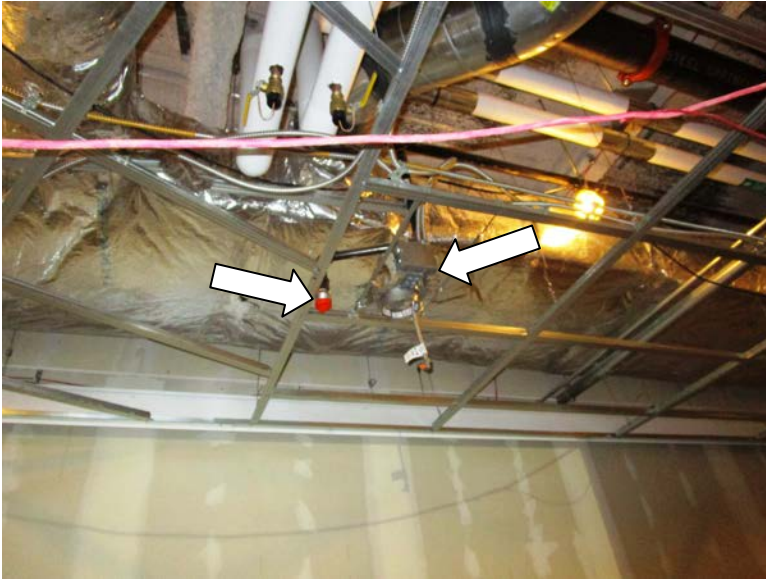


Photo 13

Level 01- Area B, in or about Corridor C140 – Verify sprinkler head and recessed luminaire are not in conflict with clearance requirements.

End of Report

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