review.

5. Coordination

5.1. Coordination of design is critical to a successful building project. During the design phase of a project, promptly notify architect, structural, civil and electrical engineers of changes which affect their work. Coordination should include, but is not limited to the following:

5.2. Architect shall
- 5.2.1. Provide the layout of roof drainage points, restrooms, kitchen, locker room, electric water coolers, janitors closets etc. to the engineer.
- 5.2.2. Indicate the ceiling heights where piping must be concealed.
- 5.2.3. Comply with ADAAG requirements.

5.3. Civil/Structural shall:
- 5.3.1. Provide the site plan with locations of sanitary, storm and water distribution systems and connection points including piping inverts of sanitary and storm.

5.4. Plumbing engineer shall
- 5.4.1. Provide information to the electrical engineer of electrical requirements of pumps, water heaters, and electric water coolers.
- 5.4.2. Shall select all plumbing fixtures and coordinate aesthetics with architect.
- 5.4.3. Shall relate to the architect and structural engineer chase locations and access door requirements.

6. Backflow Prevention

6.1. All building service shall be provided with back flow preventers at the point of building entry. No metering devices, taps, or other fittings will be located upstream of the backflow preventer. However, if a common supply serves both the domestic water system and the fire protection system, it is preferred the two systems split immediately upon entering the building. Install the backflow preventer for each system at this point.

6.2. As directed by the Project Manager, install two (2) backflow preventers each at 60% capacity.

6.3. Additional backflow preventers are required by IPC code on the following systems:
- 6.3.1. Non Potable water distribution for use in laboratories
- 6.3.2. Animal watering systems
- 6.3.3. Hydronic hot water or chilled water systems
- 6.3.4. Etc. where needed

6.4. The presence of a backflow preventer will prevent hot water from expanding into the water supply. Provide a properly designed expansion tank to address thermal expansion in hot water plumbing systems.

6.5. All backflow preventers shall be located and configured to allow ready accessibility for maintenance and testing. Minimum clearance is 24” in all directions.

6.6. No backflow preventers will be located more than 4’ above the floor level.

6.7. Vertical backflow preventers will not be allowed unless approved by the project manager.

6.8. Pit installations of backflow preventers will not be allowed.

6.9. Drainage from backflow preventers shall be gravity drained to a floor sink of sufficient size to handle flow.

14.3. Where a portion of the building drainage system is below the exterior sanitary sewer flowline elevations, the flow from that portion shall flow to a tightly covered and vented sump. A sump pump shall lift and discharge the effluent into the building gravity drainage system.

14.4. The connection point for pumped flow SHALL BE into the nearest manhole. Pumped flow shall not be connected into the building gravity flow unless approved by the Project Manager.

14.5. All sump pump stations shall be duplex.

14.5.1. Exception: A simplex pump is acceptable for non- critical, clean water locations such as a condensate pump pit.

14.6. If the Project Manager approves tying the pumped flow into the gravity drain, the building drain shall be sized to accept full pump flow to avoid backing up into the gravity system. One (1) gpm of sump pump flow will count as 2 Fixture Units for drainage calculation purposes.

14.6.1. While the basement fixture determines the sump pump sizing, the actual pump flow and head will determine the Fixture Units used for the final building drain sizing calculation.

15. Lab waste drainage

15.1. Follow generally accepted practices found in IPC, ASPE resources.

15.2. Provide serviceable (easily removable) P-traps at all lab sinks. Refer to Acid resistant piping per 221000 Plumbing Piping and Specialties.

15.3. Acid Dilution Tanks are prohibited. Note: It is policy that users may be permitted to neutralize small amounts of mild corrosives prior to drain disposal. Even if that happens, the point is to neutralize the materials before drain disposal, negating the need for an acid dilution tank. Acid resistant piping is still required up to the main riser should the user fail to properly neutralize the material.

16. Storm water drainage

16.1. Follow generally accepted practices found in IPC, ASPE resources.

16.2. Roof Drainage

16.2.1. Architectural considerations typically dictate roof design and thus the roof drainage system. In as much as it is possible, the intent of these guidelines should be used in the design of the roof drainage system.

16.2.2. Interior storm drainage piping is required unless another method is approved by the Project Manager. Exterior downspouts are not acceptable.

16.2.3.

installation. This does not apply to u/g utilities such as steam chases or electrical vaults. See 220100 Sump Pump Electrical Detail_MU.pdf.

22.2. Each pump system requires the following electrical service to the control panel:
22.2.1. Separate power for each sump pump. Electrical service to be determined.
22.2.2. 120 volt control power circuit
22.2.3. Alarm System

22.3. All float switches shall be mounted above the sump.

22.4. Floats shall be stainless steel.

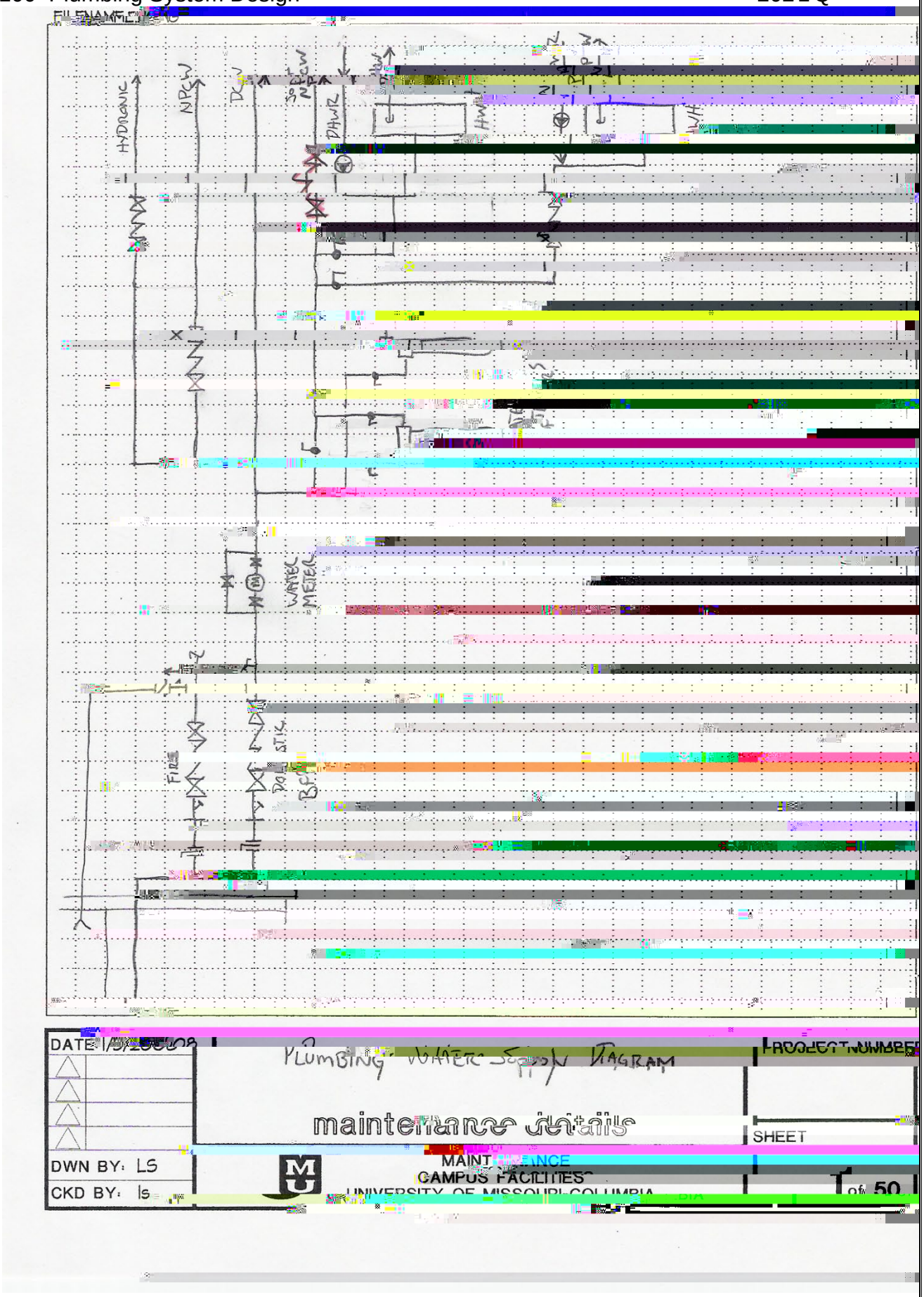
REFERENCES

Drawings attached:

Plumbing Water Supply Diagram

Drawings on UM FPD webpage for Consultant Procedures and Design Guidelines

220100 Sump Pump Electrical Detail_MU.pdf
220100 Mechanical Room Floor Drain Detail.pdf
220100 Mechanical Room Floor Drain Typical Locations.pdf
220100 Rain Leader Detail.pdf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