



Division 21 Fire Suppression

21 00 00 Fire Suppression

For campus projects that require a fire suppression system shut down in a campus facility, a Shut Down Procedure of Fire Safety System Sheet, which can be found at the end of this division, must be completed and filed seven days prior to activity, so that it can be reviewed, approved, and coordinated with FP&M.

In compliance with the City of Madison Fire Department, all interior stairway floor number signs must meet the requirements of the International Fire Code, 2018 Edition, Section 1023.9.1. It is suggested that a stair signage mockup is reviewed on-site with the City of Madison Fire Department prior to the submittal of the signage package.

21 05 00 Common Work Results for Fire Suppression

21 05 05 General Requirements for Fire Suppression

1. The fire suppression system design for all UW Madison facilities shall comply with all of the provisions of the latest version of the Division of Facilities Development & Management (DFDM) Plumbing and Fire Protection Design Guidelines, which is available from the DFDM website.
2. References within the DFDM Guidelines regarding the DFDM Project Manager shall apply to the UW-Madison Project Manager on UW-Madison Managed Projects.
3. Project Specifications shall use as their basis all appropriate sections of the latest edition of the DFDM Master Specifications.
4. Deviations from DFDM's Minimum Design Guidelines or the DFDM Master Specification sections shall be made only upon approval from the UW Project Manager.
5. The Guidelines for Planning and Design at UW-Madison shall take precedence over DFDM Guidelines, but the A/E shall discuss all conflicts within the guidelines and specifications with the UW-Madison Project Manager.
6. It shall be specified that the Operation and Maintenance manuals contain calculations and flow test specifications for fire pump and sprinkler systems and include user acceptance testing forms.
7. Owner training shall be included for all equipment and systems and training shall be scheduled and take place. Provide a copy of the original acceptance testing form to the UW-Madison Shops.
8. As-built record drawings shall be kept up to date on the job site, and turned over to the A/E prior to final pay requests. The drawings must be prepared by the A/E in a clear AutoCAD format and turned over to the UW-Madison Project Manager at Close Out.
9. Make all pre-action systems double interlock type, with one action being electric and the other action being pneumatic.



10. Determine with the architect if center-of-tile head placement shall be a requirement. If yes, specify and note on the fire protection drawings (in addition to notes on RCP's).
11. Whenever possible, a fire hose standpipe valve shall be installed on the roof of new buildings on the top of each fire hose standpipe, with a drain valve and isolation valve below the roof. The drain riser should be connected to this drain valve. This fire hose valve is used for NFPA acceptance testing and for NFPA required standpipe flow testing.
12. Assurances shall be made that drain receivers accepting discharge from fire system main drain valves and inspector's test stations can handle high flow discharge of fire systems with fire pumps running. Alternatively, the discharge can be piped to grade where this will not create a nuisance.
13. Coordination of the test drain locations to grade shall occur with the A/E to minimize rust staining on building facades and flatwork.

21 10 00 Water Based Fire Suppression Systems

1. Tee-drilling of water supply piping in building shall not be allowed.
2. Building water services shall terminate in building with a threaded flange on the ductile iron service pipe, bolt on or quick flanges shall not be allowed.
3. Buildings with dual water services for domestic and fire supply shall have additional valve installed on the water main between the dual services, so either service can supply the building sprinkler system in event of an interruption of water supply.
4. UW-Madison may consider adding valves to the water main on each side of the water service of smaller buildings, if the building requires non-interruptible water supply.
5. All drum drips in areas subject to freezing shall include a tee, 90, and plug just after the upper valve for the addition of antifreeze.
6. The University prefers Viking air maintenance devices on all dry pre-action systems.
7. The University prefers all fire pump circulation valves to be Cla-Val.
8. Ball valves 3" and smaller should be bronze body with stainless steel ball and stem.
9. Fire pump shall be horizontal split case that is 1800 RPMs or slower.

21 12 50 Fire Suppression in Parking Structures

1. All stairwells shall have at least one 1 ½ inch fire hose bib (coupling) and one floor drain-independent from #2 & #3 requirement listed below.
2. A 1 ½ inch hose bib (coupling) will be located every 50 feet around the exterior walls, inside of the facility.
3. Grading and inlets shall be designed according to a stormwater drainage plan and system that adequately evacuates all water from the floor of the structure or lot during heavy rainfall.
4. A sanitary sewer inlet shall be located in a convenient location near a source of water to accommodate the emptying and refilling of mobile floor washing equipment.



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5. The first operation of the wash down for each floor shall be completed by the primary contractor with the owner's selected representatives present for training.
 6. Sprinkler systems inside the parking structure shall follow City of Madison fire code standards.
 7. For structures built below the water table, drains shall have sump-pumps with an alarm system that will alert UW-Madison Physical Plant when the pump is malfunctioning.



Division 21 Detail 1

SHUT DOWN PROCEDURE OF FIRE PROTECTION SYSTEM

Building Contact Information

Building Number		
Building Address		
Facility Manager	Office Phone	Cell

System Out of Service

Date of Shut Down:
Time System Taken Out of Service:
Time System Put Back into Service:
Areas Affected by Shut Down:
Shut Down Coordinator:
Company Performing Work:

Pre-Planned Shut Down or Emergency Shut Down Procedures

Facility Manager Contacted	Yes / No	Initials:
UW Safety Department Contacted 262-8769	Yes / No	Initials:
UW Police and Security Contacted 262-2957	Yes / No	Initials:
Madison Fire Department non-emergency 911 Contacted 255-2345 and 266-4135 (CALL BOTH)	Yes / No	Initials:
Installed tags for all affected areas	Yes / No	Initials:
Verify all tools and material on hand	Yes / No	Initials:
Fire watch procedures have been implemented	Yes / No	Initials:

Restoring System to Normal

Facility Manager Contacted	Yes / No	Initials:
UW Safety Department Contacted 262-8769	Yes / No	Initials:
UW Police and Security Contacted 262-2957	Yes / No	Initials:
Madison Fire Department non-emergency 911 Contacted 255-2345 and 266-4135 (CALL BOTH NUMBERS)	Yes / No	Initials:
Verify all tags have been removed	Yes / No	Initials:
All necessary inspections / test are complete	Yes / No	Initials:
Fire watch forms have been collected; send to UW Safety	Yes / No	Signature:
Shut Down forms kept on site and a copy sent to UW Safety	Yes / No	Signature:

Reference

- NFPA 72 (2002) National Fire Alarm Code (Chapter 4 Impairments)
- NFPA 25 (2002) Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems (Chapter 14 Impairments)
- International Fire Code 2003 (IFC 901.7 through IFC 901.8.1)