DIVISION 21 00 00 FIRE SUPPRESSION

The UVU Standards are provided in CSI format for ease of locating requirements from UVU. These requirements are in addition to the State of Utah Division of Facilities and Construction Management (DFCM) Design Requirements. In the event of any discrepancy between the DFCM Design and UVU Standards requirements, the Architectural/Engineering Team shall use the UVU Standards over the DFCM Design Requirements.

Items below are not intended to specify all the requirements needed for the completion of a project. The Engineer of Record shall provide their expertise for full completion. Items below that UVU does currently give direction on, are left to the discretion of the Engineer of Record.

SECTIONS

SECTION 21 00 00 FIRE SUPPRESSION

1. GENERAL

1.1. Campus Fire Protection Description

1.1.1 The fire protection system shall be fed by the site culinary water. There shall be a dedicated fire service line into the building that is separate from the domestic water feed into the building.

1.2. Workmanship

1.2.1 Fire Protection work performed for Utah Valley University must be executed in a professional manner. Careful consideration should be taken to minimize the disruption of campus operations while performing work during normal operating hours.

1.3. Deviations for Standards

1.3.1 Any deviation from these standards can be allowed if written permission is obtained from ALL of the following individuals:
- (A) UVU Construction Project Manager – Changes per Project
- (B) UVU Fire Marshall
- (C) State Fire Marshal - Chris Hendrickson
  - (i) 385-302-5411 or cahendrickson@utah.gov

1.4. Materials and Equipment

1.4.1 All Fire Protection materials and equipment (flow switches, valves, etc.) must be NEW. Re-furbished or re-purposed materials and equipment of any kind is not acceptable. Utilization of existing, unused materials and equipment must be approved by the deviation of standards team.

1.5. Applicable Codes and Standards

1.5.1 The most recent of any code adopted by the state of Utah shall be followed. The most recent handbook of the standards referenced here-in shall be followed.
- (A) NFPA 72 – National Fire Alarm and Signaling Code
- (B) NFPA 13 – Standards for the Installation of Sprinkler Systems
- (C) IBC – International Building Code
- (D) International Fire Code
- (E) NFPA 14 – Standpipe Systems
- (F) NFPA 20 – Fire Pumps
- (G) NFPA 22 – Water Tanks of Private Fire Service
- (H) NFPA 25 – Water-based Fire Suppression Systems

1.6. Interruption of Fire Suppression Service

1.6.1 Do not interrupt life safety systems service to facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated.

1.6.2 Notify the owner no fewer than 40 working days' in advance for outages involving two or more buildings, 20 working days' in advance for outages involving one building, and 10 days' in advance for outages involving a portion of one building in advance of proposed interruption of the Fire Suppression system.

1.6.3 Do not proceed with any interruption of fire suppression service without the owner's written permission.

1.6.4 To gain permission please provide the following to the UVU Construction Project Manager, and UVU Fire Marshall (contact information is outlined under Deviation of Standards):

(A) Date and time of the interruption
(B) Duration of the interruption
(C) Equipment associated with the interruption
(D) Fire Watch Plan

1.6.5 Interruptions shall only be approved for Sundays and during the week between 10:00 PM and 6:00 AM. M-F during normal hours is allowed if the interruption only affects small areas and with approval.

2. PRODUCTS

2.1. None

3. EXECUTION

3.1. None

SECTION 21 01 00 OPERATIONS AND MAINTENANCE OF FIRE SUPPRESSION

1. GENERAL

    1.1. Provide Operations and Maintenance Manual per most current edition of NFPA 25.

2. PRODUCTS

    2.1. None

3. EXECUTION

    3.1. None

SECTION 21 10 00 WATER-BASED FIRE-SUPPRESSION SYSTEMS

1. GENERAL

1.1. Follow FM Global Requirements

1.2. Water Supply Analysis

1.2.1 The design team must provide a fire flow test for new buildings.

2. PRODUCTS

2.1. Freeze Potential Applications: Glycol Systems are preferred over an air system in areas subject to freezing.

2.2. Piping

2.2.1 Black Steel - Schedule 40 piping.

2.3. Valves

2.3.1 Post Indicator Valves are not allowed.
2.3.2 Do not use Victaulic Valves in fire suppression systems.

3. EXECUTION

3.1. Floor Isolation

3.1.1 Every floor shall contain an isolation valve.
3.1.2 Floor isolation valves shall be made at the lowest connection in the entirety of the floor fire protection system.
(A) Provide a drain on the leaving side of the floor isolation valve.

3.2. Traps

3.2.1 Traps shall not be allowed unless it will only trap 5 gallons of water.

3.3. Main Riser

3.3.1 The main riser into the building shall be located as follows:
(A) In an isolated closet with 18” of clear access around the entire pipe.
(B) In a mechanical room with 24” of clear access around the entire pipe.

3.4. Auxiliary Drains

3.4.1 All auxiliary drains shall be piped to the outside and in accordance with the following:
(A) Auxiliary drains should not be on pedestrian pathways.
(B) Concrete pathways shall be used to the nearest drain outside. Do not consider landscaping splashpads as an alternative method for a pathway.

(C) Exterior discharge shall be no higher than 18” from the floor.

SECTION 21 20 00 FIRE-EXTINGUISHING SYSTEMS

1. GENERAL

    1.1. Fire Extinguishing systems shall be considered for areas where water-based fire suppression systems or pre-action systems would cause considerable damage such as Data Centers.

2. PRODUCTS

    2.1. Clean Agent Fire Suppression System, FM200 or equivalent.

3. EXECUTION

    3.1. None

SECTION 21 30 00 FIRE PUMPS

1. GENERAL

    1.1. All fire pump rooms shall have readily accessible (as defined per NEC) means to all valves and around equipment. A clear pathway shall be shown to all interior areas of a fire pump room.

2. PRODUCTS

    2.1. None

3. EXECUTION

    3.1. None

SECTION 21 40 00 FIRE-SUPPRESSION WATER STORAGE

1. GENERAL

    1.1. None

2. PRODUCTS

    2.1. None

3. EXECUTION

    3.1. None