City of Battle Ground

Community Development Department
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AUTOMATIC FIRE SPRINKLER SYSTEM SUBMITTALS.

This guideline covers fire sprinkler system design submittals for typical commercial facilities. A review permit is required for any installation involving 5 heads or more and all installations installing new valves. Underground fire main installation requires a separate permit.

At the time of permit application, submit the following for review: 2 sets of plans drawn to no less than a 1/8-inch scale, associated hydraulic calculations, seismic calculations, and equipment data sheets. A separate permit is required for each separate building.

When plans have been reviewed, the applicant will be notified that either a revision is required or the permit is ready for issuance.

Verify that working plans are submitted in accordance with NFPA 13 by ensuring the following checklist is complete.

WORKING PLANS (See NFPA 13, *Plans and Calculations,* for full requirements)

- ☐ The **General Notes** must include the following:
  - ☐ Owner's name, address, telephone, and e-mail.
  - ☐ Project location, including street address.
  - ☐ General description of **building use** and associated **occupancy classification per IBC.** Storage occupancies must note the proposed storage height, storage configuration, and commodity in the general notes and on the hydraulic calculation placard detail.
  - ☐ A **sprinkler legend** that includes the model, I.D. number, response type (QR, Standard), coverage style (standard or extended), sprinkler orientation, temperature rating, orifice size, k-factor, and quantity of each sprinkler head to be installed.
  - ☐ Manufacturer, schedule, and type of **all piping and fittings used.**
  - ☐ Method of **freeze protection** (building heated, dry system, anti-freeze system, etc)
  - ☐ **Type of construction** (combustible, non-combustible, obstructed).
  - ☐ NFPA or IFC standard and Edition indicated on the plans used for design
- ☐ Drawings must be sealed by a fire protection engineer or a designer holding required Washington State NICET-level certification.
- ☐ Provide a **site plan** depicting the underground supply to the building. The site plan must include:

o all fronting roads	o fire access lanes	o public water mains
o building outline	o riser location	o hydrant locations
o post indicator valve	o FDC	o backflow devices

- ☐ **Compass** direction with North Arrow and clearly marked scale must be provided.

 Water supply results must be provided and include static pressure, flow, residual pressure, and elevation and how water flow information was obtained. Test date shall be within the last 5 years.

 Piping plan must show pipe layout, pipe dimensions, attachments, braces, hangers, sprinkler outlets, hydraulic nodes, etc. on a minimum 1/8-inch scale. All walls and doors need to be shown, and each room must be labeled according to use.

 Provide a **section view or full height cross-section** as necessary to reflect sprinkler and piping locations in relation to obstructions. *A minimum of one view is required*, although additional views may be necessary to determine compliance with NFPA 13. The section view must be drawn to a common, legible architectural scale.

 A **Riser Diagram** must be provided and indicate all components.

 Hydraulically Remote Area(s) must be indicated on the plan by shading area or otherwise delineating the remote area boundary.

 Seismic braces must be clearly depicted on drawings and attached to primary structural members.

 Hangers must be clearly depicted on drawings and hanger assembly details provided.

 All control valves, check valves, drains, test connections, and FDCs must be shown. Elevation views are required for all wall-mounted equipment and must identify openings/glass within 10 feet.

 Total area protected by each system on each floor and capacity in gallons of each dry system.

 When a fire pump is used, the location, make, model, rating, and shop curves for each pump.

 Fire department hose connection location, size, type including PRV calculations must be provided.

 Backflow prevention device location, type, and size must be shown.

 PIV Details.

 Areas where cable trays or rings are utilized must be identified.

DOCUMENTATION

 Manufacturer's cut sheets for all equipment.

 Computer Generated Hydraulic Reports in accordance with NFPA 13 requirements, including:

 Summary Sheet

- o Date
- o Location
- o Name of owner and occupant
- o Building address and Suite Number if applicable
- o Description of hazard
- o System design density and area
- o Water supply information
- o Base of Riser demand flow and pressure (including hose streams)

 Graph Sheet. A graphic representation of the complete hydraulic calculation.

 Supply Analysis. Information summarized from the graph sheet in accordance with NFPA 13.

 Node Analysis. Organized information regarding each node tag to the supply connection.

 Detailed Worksheets. In accordance with NFPA 13 requirements.

 Seismic Bracing Calculations must comply with the current edition of NFPA 13. Required information must be documented in accordance with NFPA 13 and must include:

- Zone of Influence
- Sprinkler System Load Calculations
- Horizontal Seismic Force
- Brace Information

- Fastener Information
- Brace Attachment

- **Brace Details** in section view are required to be shown on plans and include:
  - **Brace** type, diameter, and length
  - **Angle** of brace from **vertical**, 0° to 90°.
  - **Fastener** type, diameter, length of embedment, and method of attachment