



City of Bothell™

Conceptual Smoke Control Submittal – Appendix A

The City may require additional information as needed. For preparation information, see Standards for Plans and Drawings. If you have any questions concerning your application, please contact the Permit Department at 425-806-6400.

Because of the complexity of smoke control systems, it is important that design documents incorporate the conceptual smoke control approach as early as possible during the design process.

Locations that may require smoke control systems include (IBC 2015 reference):

- Pressurized Shafts/Smokeproof Enclosures (1023.11)
- Building Atriums (404.5)
- Underground Buildings (405.5)
- Covered Mall Buildings (402.7.2)
- High-rise Buildings (403.5.4)
- Stages and Platforms (410.3.7.2)
- Assembly Seating (1029.6.2.1)

To apply for the building or TI permit where smoke control (including shaft pressurization only systems) is provided, documentation consisting of the following is required. **This submittal checklist must be completed and submitted with the application.**

- The Conceptual Smoke Control Design must be prepared by a Professional Engineer competent in the design of smoke control systems and accompanied by current architectural background drawings and Smoke Zone Plans.
- The Conceptual Smoke Control Design is the first submittal of the Smoke Control Permit (type FH) and must be submitted as a separate permit prior to the Building permit.
- The Conceptual Smoke Control Design must be approved prior to release of the building permit, or submittal of the detailed design (Appendix B)

The submittal must include:

- Summary Event Matrix** (sequence of operations) for the smoke control system.
- Smoke Zone Plans** at a legible scale (these may be part of the drawing set) identifying smoke zone boundaries and smoke barrier locations. Depict (cross hatching, coloring, etc.) the smoke control approach for each space, such as active (indicate mechanical supply and/or exhaust capability), passive (indicate if vents are provided), or sub-zones (spaces not constructed as a smoke compartment and not provided with smoke control).
- A Life Safety Report** must be submitted as part of the conceptual design. This report must include a project description of the building, life safety systems and the smoke control system. Calculations/computer modeling analysis need not be provided with the conceptual design.
- Life Safety Systems.** This report must include a description of the building, occupancies and various life safety features of the project (sprinkler systems, fire pumps, reservoirs, standpipe

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systems, fire detection/alarm/communication system, Fire Command Center requirements, emergency power systems, in-building radio system, etc.) and how they will interface with each other.

- Emergency Evacuation Plan** outlining how evacuation will occur, to include phased evacuation, areas of rescue assistance, defend-in-place strategies and use of elevators etc.

- The Smoke Control Narrative** must detail how the code requirements of IBC 909 will be addressed including the design constraints and limits. It must also clearly describe each space identified on the Smoke Zone Plans, in sufficient detail to describe the smoke control method for each space and how it would be initiated. In particular:
 - System performance goals and design objectives, including general testing criteria.
 - Specific performance criteria to be evaluated for each zone.
 - Location of fire-fighter's smoke control panel.
 - Description of the firefighter smoke control panel features.
 - Description of the 2-hour protection of pressurization fan wiring, equipment and ductwork.
 - Location of pressurization fans.
 - Identified design constraints.
 - Identification of spaces where computer modeling is planned.
 - Design basis fire(s) and locations.
 - Tenability criteria.

Conceptual design documents need not include calculations or detailed control diagrams, but must generally identify every smoke zone in the building and the smoke control approach for each zone.

Approval of the Conceptual Design Submittal **does not** constitute approval of the smoke control system. Once the conceptual design submittal has been approved, the Detailed Design shall be submitted as a revision to the original smoke control (FH) permit.

Remodeling or tenant improvement (TI) projects that affect the performance of an **existing** smoke control system, or require the addition of a smoke control system, must satisfy the conditions described in this Appendix Chapter A

Where a **New** smoke control system is required, see Appendix Chapter B. **Revisions to an Existing** smoke control system, see Appendix Chapter C. **Shaft Pressurization Only** systems, see Appendix Chapter D.

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