



FIRE CONSTRUCTION PERMIT SUBMITTAL CHECKLIST

SERVING THE CITIES OF LAKE STEVENS, MONROE AND SULTAN

HIGH PILED COMBUSTIBLE STORAGE

PROJECT INFORMATION

Site address:	Associated Permits:
Project Name / Tenant:	Property Owner:

Electronic file standards

File naming standard: Electronic plans and documents shall be named as specified in bold type under “permitting requirements”. For example, the seating plan must be named “Seating Plan”.

Acceptable file types: Plans, calculations, specifications and supporting documents shall be uploaded as a PDF file.

Document Orientation: All plans must be uploaded in “Landscape” format in the horizontal position. All other documents can be in “Portrait” format.

CODE EDITIONS

- 2021 Washington State Fire and Building Code and as applicable - Lake Stevens Municipal Code 14.84, Monroe Municipal code 15.04.110 and Sultan Municipal Code 15.05.

PERMITTING REQUIREMENTS

A Fire Construction Permit is required to ***Install or modify a structure exceeding 500 square feet, including aisles, for high piled combustible storage*** required by Section 105.6.13 of the 2021 Washington State Fire Code and local code amendments. **The following information is required at time of application for the Fire Construction Permit. NOTE – a separate building permit is required for the installation of the racking. Also, an additional permit may be required for any fire sprinkler system modification needed.**

- Completed Fire Construction permit submittal application
- Completed “High Piled Combustible Storage – submittal checklist”
- Plans

PLANS

The following is a list of information required on all plan submittals for review of an “High Piled Combustible Storage” permit application. The plan shall be drawn to 1/8”=1’-0” minimum scale. The applicant is required to submit all of this information so an accurate and timely review may be done:

Construction Document requirements:

- Floor plan of the building showing locations and dimensions of high-piled storage areas.
Indicate the method of storage (solid piles, racks w/solid shelves, racks, bin box, wood pallets, plastic pallets, encapsulated)
- Usable storage height for each storage area.
- Number of tiers within each rack, if applicable.
- Commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
- Aisle dimensions between each storage array.
- Maximum pile volume for each storage array.
- Location and classification of commodities in accordance with Section 3203.
- Location of commodities that are banded or encapsulated.
- Location of required fire department access doors.
- Type of fire suppression and fire detection systems.
- Location of valves controlling the water supply of ceiling and in-rack sprinklers.
- Type, location and specifications of smoke removal and curtain board systems.
- Dimension and location of transverse and longitudinal flue spaces.
- Site plan showing the fire apparatus access roadways, location of high piled storage, fire suppression system location, location of required fire department access doors.
- Location and size of portable fire extinguishers.
- Indicate the type of rack shelving to be installed – solid shelving or mesh, grated, slatted or similar shelves
- Additional information regarding required design features, commodities, storage arrangement and fire protection features within the high piled storage area shall be provided at the time of permit.
- A separate permit shall be submitted for any automatic fire-suppression system modifications, in rack sprinklers
 - A building permit is required for the installation of racking 6 feet or higher
 - Racking 6-8 feet - Seismic connection details are required to be submitted
 - Racking over 8 feet high – plans and calculations are required to be stamped by a Washington State registered design professional.
- Indicate the NFPA 13 Table that is being referenced for fire sprinkler compliance in high piled storage area – including in rack sprinklers.**

FLOOR PLAN REQUIREMENTS

A FLOOR PLAN shall of legible size, shall be provided, mounted on the wall in an approved location and be protected from damage and show the following: (This to be inspected at time of final inspection)

- Locations, dimensions and rack layout of high-piled storage areas.
- Design storage height for each storage area.
- Types of commodities.
- commodity clearance between top of storage and the sprinkler deflector for each storage arrangement.
- Aisle dimensions between each storage array.
- For palletized and solid-pile storage, the maximum pile volume for each storage array.
- Location and classification of commodities in accordance with Section 3203.
- Location of required fire department access doors.
- Location of valves controlling the water supply of ceiling and in-rack sprinklers.

A FIRE SAFETY AND EVACUATION PLAN shall be submitted at time of permit application for review and approval, and when approved the plan shall be maintained on the premises in an approved location. This plan is required for the following occupancies:

- The high-piled storage area exceeds 500,000 square feet for Class I-IV commodities
- The high-piled storage area exceeds 300,000 square feet for high-hazard commodities
- The high-piled storage is located in a Group H occupancy.
- The high-piled storage is located in a Group F occupancy with an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
- The high-piled storage is located in a Group M occupancy with an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
- Where required by the fire code official for other high-piled storage areas.

COMMODITY CLASSIFICATIONS

Classification of Commodities:

Commodities shall be classified as Class I, II, III, IV, or high-hazard. The materials listed within each of these commodity classifications are assumed to be unmodified for improved combustibility characteristics. The use of flame-retarding modifiers, or the physical form of the material could change the classifications.

Class I Commodities:

Class I commodities are essentially noncombustible products on wooden or nonexpendable polyethylene solid deck pallets, in ordinary corrugated cartons with or without single-thickness dividers, or in ordinary paper wrappings with or without pallets. Class I commodities are allowed to contain a limited amount of Group A plastics in accordance with the Fire Code. Examples of Class I commodities include, but are not limited to, the following.

- Alcoholic beverages not exceeding 20% alcohol
- Appliances-noncombustible, electrical
- Cement in bags
- Ceramics
- Dairy products in non-wax coated containers (excluding bottles)
- Dry insecticides
- Foods in noncombustible containers
- Fresh fruits and vegetables in non-plastic trays or containers
- Frozen foods
- Glass
- Glycol in metal cans
- Gypsum board
- Inert materials, bagged
- Insulation, noncombustible
- Non-combustible liquids in plastic containers having less than a 5-gallon capacity
- Non-combustible metal products

Class II Commodities:

Class II commodities are Class I products in slatted wooden crates, solid wooden boxes, multiple thickness paperboard cartons or equivalent combustible packaging material with or without pallets. Class II commodities are allowed to contain a limited amount of Group A plastics in

accordance with the Fire Code. Examples of Class II commodities include, but are not limited too the following:

- Alcoholic beverages not exceeding 20% alcohol, in combustible containers
- Foods I combustible containers
- Incandescent or fluorescent light bulbs in cartons
- Thinly coated fine fire on reels or in cartons

Class III Commodities:

Class III Commodities are commodities of wood, paper, natural fiber cloth, or Group C plastics or products thereof, with or without pallets. Products are allowed to contain limited amounts of Group A or B plastics, such as metal bicycles with plastic handles, pedals, seats, and tires. Group A plastics shall be limited in accordance with the Fire Code. Examples of Class III commodities include, but are not limited to, the following:

- Aerosol Level 1 (See Chapter 28 of Fire Code)
- Combustible fiberboard
- Cork, baled
- Feed, bagged
- Food in plastic containers
- Furniture: wood, natural fiber, upholstered, non-plastic, wood or metal with plastic padded and covered arm rests
- Glycol in combustible containers not exceeding 25%
- Lubricated or hydraulic fluid in metal cans
- Lumber
- Mattresses, excluding foam rubber and foamed plastics
- Non-combustible liquids in plastic containers having a capacity of more than 5 gallons
- Paints, oil base, in metal cans
- Paper and pulp, horizontal storage
- Paper, waster, baled
- Paper and pulp, horizontal storage, or vertical storage that is banded or protected with approved wrap
- Paper in cardboard boxes
- Pillows, excluding foamed rubber and foamed plastics
- Plastic-coated paper food containers
- Plywood
- Rags, baled
- Rugs, without foamed backing
- Sugar, bagged
- Wood, baled

- Wood doors, frames and cabinets
- Yarns of natural fiber and viscose

Class IV Commodities:

Class IV commodities are Class I, II, III products containing Group A plastics in ordinary corrugated cartons and Classes I, II, III products, with Group A plastic packaging, with or without pallets. Group B plastics and free-flowing Group A plastics are also included in this class. The total amount of non- free flowing Group A plastics shall be in accordance with the Fire Code. Examples of Class IV commodities include, but are not limited to, the following:

- Aerosol, Level 2 (see Chapter 28 of the Fire Code)
- Alcoholic beverages, exceeding 20% but less than 80% alcohol, in cans or bottles in cartons
- Clothing, synthetic or non-viscous
- Combustible metal products (solid)
- Furniture, plastic upholstered
- Furniture, wood or metal with plastic covering and padding
- Glycol in combustible containers (greater than 25% and less than 50%)
- Linoleum products
- Paints, oil base in combustible containers
- Pharmaceuticals, alcoholic elixirs, tonics, etc.
- Rugs, foamed back
- Shingles, asphalt
- Thread or yarn, synthetic or non-viscous

High-hazard – Commodities:

High-hazard commodities are high-hazard products presenting special fire hazards beyond those of Class I, II, III, or IV. Group A plastics not otherwise classified are included in this class. Examples of high-hazard commodities include, but are not limited to, the following:

- Aerosol, Level 3 (see Chapter 28 of the Fire Code)
- Alcoholic beverages, exceeding 80% alcohol, in bottles in cartons
- Commodities of any class in plastic containers in carousel storage
- Flammable solids (except solid combustible metals)
- Glycol in combustible containers (50% or greater)
- Mattresses, foamed rubber or foamed plastic
- Pallets and flats which are idle combustible
- Paper, asphalt, rolled, horizontal storage
- Paper, asphalt, rolled, vertical storage

- Paper and pulp, rolled, in vertical storage which is un-banded or not protected with approved wrap
- Pillows, foamed rubber and foamed plastics
- Pyroxylin
- Rubber tires
- Vegetable oil and butter in plastic containers