

450.01	General	450.05	Building Permits
450.02	References	450.06	WSF Architectural Guidelines
450.03	Design Considerations	450.07	LEED® Certification
450.04	Building Code Requirements	450.08	Public Art Requirements

450.01 General

This chapter identifies architectural considerations associated with the design of WSF terminal buildings. These include, but are not limited to: building code requirements, building permits, ADA requirements, WSF architectural guidelines, and LEED certification for any one buildings over 5,000 square feet.



Edmonds Ferry Terminal Building
Exhibit 450-1

For additional information, see the following chapters:

Chapter	Subject
300	Accessibility
310	Security
320	Environmental Considerations
350	Buildings
460	Landscaping
470	Public Art Requirements
570	Signage and Wayfinding

450.02 References

Unless otherwise noted, any code, standard, or other publication referenced herein refers to the latest edition of said document.

(1) Federal/State Laws and Codes

ADA (28 CFR Part 35, as revised September 15, 2010)

International Building Code (IBC), [International Code Council](#)

International Fire Code (IFC)

[National Electric Code \(NEC\)](#)

National Fire Protection Agency (NFPA), [Life Safety Code \(NFPA-101\)](#)

[RCW 39.35D](#) *High-Performance Public Buildings*

[RCW 43.17.200](#) *Allocation of moneys for acquisition of works of art – Expenditures by arts commission - Conditions*

[International Mechanical Code \(IMC\)](#)

Uniform Plumbing Code (UPC)

[IECC/Washington State Energy Code](#)

(2) Design Guidance

Leadership in Energy and Environmental Design for New Construction (LEED-NC),
U.S. Green Building Council

Local Jurisdictions Historic Design Review Standards

Local Jurisdictions Waterfront Districts Standards

Local Jurisdictions Zoning Codes

450.03 Design Considerations

(1) Accessibility

Wherever pedestrian facilities are intended to be a part of a transportation facility, [28 CFR Part 35](#) requires that those pedestrian facilities meet ADA guidelines. Federal regulations require that all new construction, reconstruction, or alteration of existing transportation facilities be designed and constructed to be accessible and useable by those with disabilities and that existing facilities be retrofitted to be accessible. Design pedestrian facilities to accommodate all types of pedestrians, including children, adults, the elderly, and persons with mobility, sensory, or cognitive disabilities. Refer to [Chapter 300](#) for accessibility requirements.

(2) Security

[Chapter 310](#) includes a general discussion of the United States Coast Guard (USCG) three-tiered system of Maritime Security (MARSEC) levels, vessel security requirements, and additional information pertaining to building design. Below are links to relevant sections by topic. Coordinate with the WSF Company Security Officer (CSO) regarding design issues pertaining to security. In addition, coordinate with the USCG and Maritime Security for all terminals, the United States Customs and Border Protection (USCBP) for international terminals, and the Transportation Security Administration (TSA) for TWIC and SSI.

- MARSEC Levels: [310.04](#)
- Security Rooms: [310.07](#)
- Access Control/Restricted Areas/TWIC: [310.10](#)
- Closed Circuit Television: [310.11](#)
- Signage: [310.13](#)

(3) Environmental Considerations

Refer to [Chapter 320](#) for general environmental requirements and design guidance. Refer to the project NEPA/SEPA documentation for project-specific environmental impacts and mitigation.

(4) Buildings

Refer to [Chapter 350](#) for general building design criteria. Below are links to relevant sections by topic.

- Building Structures: [350.04](#)
- Building Foundations: [350.05](#)
- Building Utilities: [350.06](#)

(5) Proprietary Items

WSF uses competitively acquired products to fulfill the requirements of a contract wherever feasible to help achieve the lowest price, the best quality, and the most efficient use of resources. There are instances in which competitive bidding may not or cannot be provided and a specific proprietary product is allowed. Refer to [Section 220.07\(2\)](#) for limitations on the use of proprietary items.

(6) Signage and Wayfinding

Refer to Chapter 770 for requirements.

450.04 Building Code Requirements

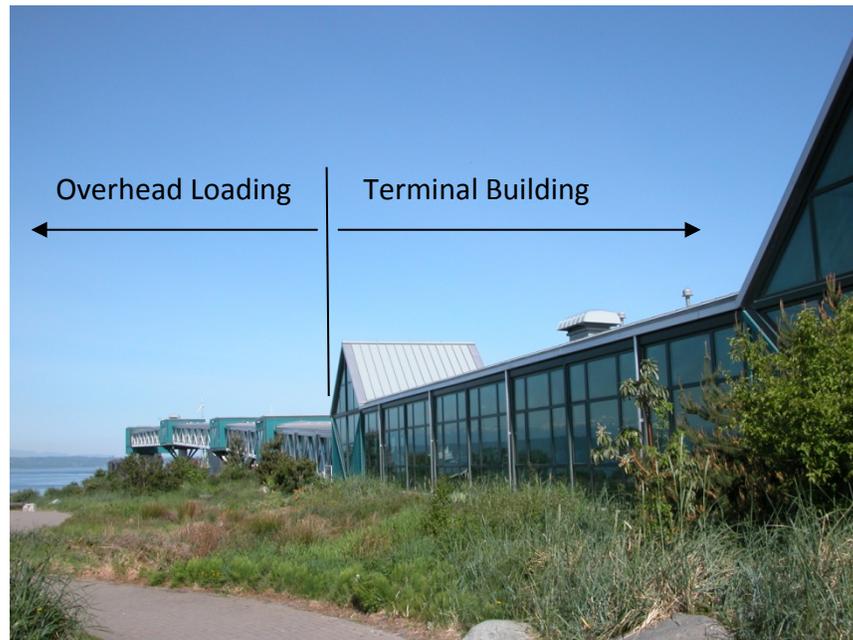
Design new buildings to comply with codes in place at the time of permit application including local jurisdiction building related codes, municipal codes, the *International Building Code* (IBC) and any state-wide amendments, *IECC/Washington State Energy Code*, and the current adopted editions of Mechanical, Plumbing, and Electrical Codes. If there is a conflict between the specific codes stated in this section and a local agency, provide documentation in the DDP and an explanation for which code was used. The IBC addresses issues including, but not limited to, occupancy and egress requirements, building limitations on area and height, construction type, and fire protection of various elements.

The finish floor elevation for buildings placed on docks shall comply with FEMA base flood elevations.

450.05 Building Permits

Building permits are required for the terminal buildings including passenger buildings, maintenance buildings, toll booths, and the terminal supervisor building. Building permits are obtained from the local jurisdictional authority.

Building permits are not required for the overhead loading (OHL) structure, unless passengers stage within the OHL. For permitting purposes, the OHL structure begins at the fixed walkway ramp and not the transfer span (see [Exhibit 450-2](#)).



Limits of Overhead Loading
Exhibit 450-2

Local zoning and jurisdictional requirements apply to new development of a terminal facility and may apply to retrofits and modifications to a facility. [Exhibit 450-3](#) identifies the governing jurisdiction and zoning designation for existing WSF terminals. Coordinate with the local jurisdictional authority for any permit requirements.

Terminal	Jurisdiction	Zoning Designation
Anacortes	City of Anacortes	Commercial Marine
Bainbridge Island	City of Bainbridge Island	Ferry Terminal District Overlay
Bremerton	City of Bremerton	Urban Renewal District
Clinton	Island County	State Highway ROW
Edmonds	City of Edmonds	Ferry ROW
Fauntleroy	City of Seattle	Single Family – 7500 sf
Friday Harbor	Town of Friday Harbor	Commercial
Coupeville	Island County	Park
Kingston	Kitsap County	Neighborhood Commercial
Lopez	San Juan County	Rural General
Mukilteo	City of Mukilteo	Downtown Business
Orcas	San Juan County	Village
Point Defiance	City of Tacoma	S-5
Port Townsend	City of Port Townsend	Historical Overlay
Seattle	City of Seattle	DH1/45
Shaw	San Juan County	Rural Farm Forest
Southworth	Kitsap County	RR/Residential Rural
Tahlequah	King County Dept of Development & Environmental Services	2.5 (RA)
Vashon	King County Dept of Development & Environmental Services	None (within ROW)

Terminal Jurisdiction and Zoning Designation
Exhibit 450-3

450.06 WSF Architectural Guidelines

(1) General

Design terminal buildings to integrate with the surrounding community. Incorporate low maintenance features, natural light, and views into the design. Develop building layouts with WSF Operations approval and incorporate building materials designed for a harsh marine environment conducive to heavy snow, wind, rain and corrosion. Provide slip resistant surfaces both inside and outside the buildings. Consider the use of recycled and renewable materials.

Comply with architectural requirements of jurisdictional authority which may include, but are not limited to: height restrictions, building orientation, period, style, theme, and color. Landscaping requirements may also apply (refer to [Chapter 460](#)).

(2) Building Envelope

Design the exterior envelope for all structures to ensure weather tightness, minimize maintenance, maximize building longevity, and be architecturally compatible with the surrounding environment. Minimize bird perch area and provide bird deterrence as necessary.

(a) Roofing

Provide a complete roofing system that is fully weatherproof. Where a low slope roof is required, provide roof parapets with roof drains and supplementary overflow drains or scuppers. Provide roof access through a roof access hatch, doorway or stairway. Provide screening for rooftop equipment. Provide fall restraint system as required for the roof access.

1. Single-ply roofing

- Slope all roof surfaces at a minimum grade of ¼ inch per horizontal foot.
- Design low slope roofs with single-ply membranes mechanically attached (wood and metal decks) or fully adhered (concrete decks) for waterfront exposure application.
- Install walking pads from roof access point to and around all equipment that requires servicing. Install walkways a minimum of 6 feet from the roof edges.
- Specify light gray roofing color unless required otherwise by local jurisdiction.
- Require minimum membrane thickness of 60 mil.

2. Metal roofing

Standing seam metal roofs are allowable for roof slopes over 3 inch of rise in 12 inch of run. Panels for lower slopes provide too much opening at the ends for bug and water intrusion. Metal roof panels are to be zinc-alum coated steel or aluminum with polyvinylidene fluoride (PVDF) coatings.

3. Warranties

Specify roofing manufacturer's warranty for all roofs. Single-ply will be 20 year warranties. Metal roofing will have a 20 year material and labor warranty.

(b) Walls

- Exterior finish systems (EFS) are not recommended.
- Provide curtain wall window systems where exposed to wind driven rain. Storefront is adequate for areas protected from rain.
- Provide masonry walls that are either double wythe or have a continuous moisture barrier behind the veneer.

(c) Sealants

- Only install two part sealants on horizontal surfaces exposed to weather.
- Use bond breaker tape on all mortar joints behind caulking.

(d) Doors and Hardware

- Limit door height to 7 feet. Over-height glass doors are too heavy for auto openers.
- Provide proximity reader controls on all perimeter doors. Locate proximity readers and automatic opener devices adjacent to one another.
- Provide panic hardware as required by the *International Building Code*, NFPA 101, or the most restrictive local jurisdiction. Do not use pairs of doors with exposed vertical rods. Rim devices with removable mullions are acceptable.

- Specify locks and locksets that are compatible with Best Locks cores. Keying will be done by the State.
- Equip accessible route with pairs of doors to allow disabled/emergency access. At a minimum specify that one door be automatic with button push assisted opening in the accessible route. Automatic slider type doors are to be single leaf. No double acting doors. Bi-parting is allowable.
- Design electronic fail system (EFS) doors to work with code required exits/alarms.
- Overhead closers are preferred. Provide all closers with adjustments for latch and closing speeds, and back-check control.

(e) Bird Control

Keep bird perch area to a minimum in building design. Bird deterrents include: wire, sharp and dull sticks, hot wire, steep slope roof, and sprinkler system that could be tripped as needed. Note that solar powered whirly birds are expensive and were not found effective in trials at the Edmonds Terminal.



Bird Deterrent
Exhibit 450-4

(3) Building Interiors

(a) General Design

- Provide building interiors with natural ventilation in accordance with the IBC or mechanical ventilation in accordance with the *Uniform Mechanical Code (UMC)*.
- Provide ceiling heights in compliance with the IBC.
- Design interior finishes in compliance with the IBC and the *WSF Terminal Design Manual* guidelines.
- Minimize bird perch area in building interior design for waiting areas.

(b) Floor Finish in Terminal Building

- Specify sealed concrete or terrazzo as the standard public area flooring. Concrete floors can be stained.
- Provide interior flush walk-off grate areas at entry doors. Connect grated area to sump drain.
- Provide an entry mat to collect tracked in water.

- Use vinyl composition tile (VCT) in staff offices, IT rooms, staff restrooms, and breakrooms.
- Light broom finished concrete on overhead walkways for both open-air and enclosed walkways.
- Use unglazed ceramic tile on public restrooms floors.

(c) Storage

- Separate janitor closets from electrical and mechanical rooms.
- Size janitor closets to store all cleaning supplies and equipment. This includes a floor cleaning machine.
- Provide dedicated storage areas for specialty equipment such as powered wheel chairs.

(d) Interior Doors and Hardware

- Verify hardware function with WSF Operations management. Specify commercial grade hardware.
- Provide office door hardware with lever handles. Provide all interior doors with closers. Specify stop and hold function with closers as requested by WSF Operations management.
- Provide accessible restroom doors with automatic openers with pushbuttons.
- Provide code restricted areas with warning knobs. Janitor rooms generally require 20 minute rating. To facilitate their closing, but discourage propping open, provide all janitor door closers with 180 degree hold open.
- Specify all doors on required exit corridors be rated 20 minute with self-closing devices and latching hardware.

(e) Exit Signage

- Use Universal mount, metal housing, green LED with diffusing lens.
- 90 minute NiCad battery back-up

(f) Fire Extinguisher

Cabinets are preferred to be recessed mount. Provide general signage high enough above cabinets to be visible from general public areas in occupied building condition.

(4) Restrooms

Design circulation and access into and exiting restrooms based on terminal capacity. Smaller capacity restrooms require a door for privacy separation. Larger capacity restrooms may work more efficiently with a dog-leg open access in place of doors. Larger restrooms require an operational dividing wall to provide functional separated use for the convenience of the public and janitorial staff during cleaning. Equip separation wall opening with a coiling door. Alternatively, larger terminals may contain two separate restrooms for each sex to allow for cleaning without removal of service.

(a) General

- Provide at least the minimum number of plumbing fixtures set forth in the IBC. Include ADA stall in code requirement for minimum number of stalls calculation.
- Use lighter color schemes to provide for a cleaner look.
- Where possible, provide plumbing chase walls with access for all fixtures.
- Provide natural light where possible. Use of a vertical clerestory is preferred to horizontal skylights due to bird maintenance concerns.
- Consider family restrooms at major terminals.

(b) Walls

- Use full height ceramic wall tile and cove base on ¼-inch cementitious backer board on ½-inch plywood on all restroom walls.
- Do not use special order tile or imported tile that incurs significant additional cost over domestic tile.

(c) Ceilings

- Use hard rock ceilings.
- Use recessed lights if the ceiling is below 8 feet.
- Do not provide open lens for light fixtures above 8 feet (bug catchers).
- Locate light fixtures where they can be easily accessed for light bulb changes. Clerestory ceiling lights should be easy to change from an 8-foot ladder.
- Provide storage space for ladder and light bulbs in the passenger building or terminal maintenance building.

(d) Floors

- Use ceramic unglazed tile for the floors, bed set with slope to drain.
- For multi-fixture restrooms, locate floor drains below sinks and water closet rows. A single floor drain is acceptable for small or single occupant restrooms.

(e) Fixtures

- Provide floor mounted urinals when possible.
- Waterless urinals are not an allowable fixture.
- Use individual porcelain sinks.
- Use 3.5 gallon blow-out water closets with minimum 2⁵/₈ inch ball throat clearance. Wall mount is preferred. Wall needs to be designed structurally to support fixture.
- Provide hose bibs with lockable covers under lavatories in restrooms and in janitor closet.

(f) Countertops

- Use solid formed material for countertops.
- Do not use plastic laminate counter tops
- Provide one ADA compliant countertop per restroom

(g) Toilet Partitions

- Use embossed stainless steel partitions with honey-comb impregnated craft paper cores. The embossing deters vandalism.
- Floor mounting of toilet partitions is preferred. Ceiling hung units suffer misalignment from public abuse.

(h) Accessories

- Provide all public restrooms with a baby changing table.
- Use electric hand dryers. High output hand dryers, such as Excel Xlerator® are not acceptable due to noise. WSF discourages the use of paper towels due to disposal problems.
- Provide sanitary disposal bag dispensers at each female water closets.
- Provide a waste basket and a needle disposal receptacle in each restroom.
- Provide a Jumbo toilet paper dispenser typical at each water closet.
- Provide seat cover dispensers at each water closet.
- Provide coat hooks in each stall.
- Use wall mounted soap dispensers compatible with the type of soap currently available through state procurement contracts. No powder dispensers are allowed. Single unit reservoirs with multi point dispensers are not allowed (wrong product causes malfunctions of all units).

When infrared heating is used have occupant sensor turn heat on. Place supply air above door height.

450.07 LEED® Certification

All public buildings having an area greater than 5,000 square feet as defined under [RCW 39.59](#) are to be designed to incorporate the *U.S. Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System* (LEED-NC). LEED® is an internationally recognized green building certification system, providing third-party verification that a building or facility was designed and built using strategies intended to improve environmental performance. Buildings are required to be designed, constructed and certified to at least the LEED® Silver standard.

The LEED® system is a point based system that requires the project team to submit documentation to prove performance in a series of six different categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, and Innovation & Design Process. Prerequisites in each category receive no points and are mandatory for all projects. Example building and site features contributing to LEED accreditation and a sustainable design solution include the following:

- **Sustainable Sites:** alternative transportation, stormwater management, heat & light pollution reduction
- **Water Efficiency:** water use reduction, reuse of potable water and rainwater
- **Energy & Atmosphere:** use of renewable energy, high performance equipment
- **Materials & Resources:** use of recycled, regional, and rapidly renewable materials
- **Indoor Environmental Quality:** incorporation of views, daylighting, and natural ventilation
- **Innovation & Design Process:** educational programs, exceeding ADA requirements, exemplary performance for view, comprehensive master transportation plan, and use of LEED® accredited professional in design process.

Rehabilitation and remodel of existing facilities may qualify for the Washington State Quality Assurance Program if LEED silver rating is not attainable.

450.08 Public Art Requirements

[RCW 43.17.200](#) requires that all state agencies allocate out of moneys appropriated for the original construction of any public building, an amount of one-half of one percent of the appropriation to be expended by the Washington state arts commission for the acquisition of works of art. The works of art may be placed on public lands, integral to or attached to a public building or structure. Refer to [Chapter 470](#) for additional guidance and restrictions.

