Decks, Fences and Arbors for Single Family Homes in Seattle

Updated October 23, 2014

This Tip addresses the questions most commonly asked by homeowners wishing to construct decks, fences and arbors. This information applies to single-family homes on single-family and lowrise multifamily zoned properties.

Decks vary widely in the scope of their construction; you will need to get a permit for some. You generally do not need a permit to build a fence, but you need to follow our regulations. You generally need a permit to build arbors.

Decks
What type of permit do I need to build a deck?

Most decks on single-family zoned properties only require a subject-to-field-inspection (STFI) permit. We issue STFI permits over the counter, usually on the day you apply. You can apply at the DPD Applicant Services Center (ASC), located on the 20th floor of Seattle Municipal Tower, 700 Fifth Ave., (206) 684-8850. For more information about STFI permits, visit our website www.seattle.gov/dpd/permits/permit-types/constructionstfi/.

You need a construction permit to build a deck that is more than 18 inches above the ground or that is a roof deck (built on top of part of the building). (Seattle Residential Code R105.2 Item 7). You may need a permit if your building site contains environmentally critical areas (ECAs). For more information about construction permit requirements, visit our website www.seattle.gov/dpd/permits/permit-types/constructionaddalt.

What information will I need to apply for a deck permit?

For most decks, you will need:

- A site plan
  A scaled site plan that shows all structures on your site, including the proposed deck. Your site plan dimensions must show that your deck meets our land use requirements for location and lot area coverage. (See Tip 103, Site Plan Requirements)

- An elevation drawing
  A scaled elevation drawing that shows the height of the proposed deck (height above existing or final grade, whichever is lower), including any guardrails and stairs. Your elevation drawings must offer side views of structures, from the ground to the top of the structure. (See Tip 303, Applicant Responsibilities and Plan Requirements for Single Family and Two-Unit Dwellings)

- Construction notes
  Your notes on your drawings should call out the size and type of posts proposed (e.g., pressure treated wood), the method of support for the posts (e.g., poured concrete footings), joist size, span and spacing, and the method of attaching the deck to the house (e.g., joist hangers). (See Tip 303A, Common Seattle Residential Code Requirements)

- A field inspection application form
  You may fill this out at the ASC when you apply. You will need the assessor's parcel number and legal description for your property.

  Please note that homeowners may do their own drawings. A professional stamp is rarely required on these plans.

What are the land use requirements for decks?

- Lot coverage
  If your deck is more than 36 inches above the ground, your deck counts toward the percentage of your property on which you can build (called lot coverage). For most single-family zoned lots, the total coverage is limited to 35 percent of the lot (on lots...
5,000 square feet or larger) or 1,000 square feet plus 15 percent of the lot area (on lots smaller than 5,000 square feet). We do not limit the size of decks that are less than 36 inches above the ground, unless you plan to build a deck in or near an ECA. For more information on these exceptions, see the Seattle Land Use Code 23.44.010D for Single Family zones.

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Figure 1. Typical Interior Single Family Lot in Seattle

- Location
  
  Single Family Zones. As shown in the illustration of a typical single-family interior lot in Seattle (see Figure 1), there are portions of your lot in the front, sides, and back, known as “yards,” in which decks more than 18 inches above grade are not allowed. Note that this 18” limit is measured to existing or final grade, whichever is lower. Generally, you cannot build a deck taller than 18 inches in the front 20 feet of your lot, the side 5 feet, and the rear 25 feet (or the rear 20 percent of the lot depth, whichever is less). (The minimum required depth of a rear yard is 10 feet.)) Tip 220 explains yard limitations in single-family zones in greater detail. Please discuss specific conditions, including corner and through lots, with our staff in the ASC.

  Important exception to rear yard provisions:
  Covered, attached decks may project into the required rear yard as long as the deck is no closer than 12 feet to the rear property line, and the deck cover is no taller than 12 feet above the existing or finished grade, whichever is lower.

  We generally prohibit roof decks on garages and carports located in required yards. In locations where a roof deck is not allowed, there are exceptions that allow a safety guardrail only (without a roof deck). Decks are permitted on garages that meet our standards for terraced garages; see the Land Use Code section 23.44.016D.9.b. Roof decks on houses must meet the general location standards for houses; see Tip 220, Lot Coverage, Height and Yard Standards for Homes in Single Family Zones. You are allowed to have an open railing four feet above the maximum allowed height for houses.

  Residential Small Lot Zones. If you are building a deck on a residential small lot, please come in to the ASC to discuss your project with our staff.

  Lowrise 1, 2 and 3 Zones. If you want to build a deck addition to a single-family residence in these multifamily zones, please discuss your project with ASC staff.

What are the main Building Code requirements for my deck?

- Structural
  
  Your deck design must provide sufficient structural support and attachments to meet safety standards. The minimum live load design that we require is 40 pounds per square foot. You should talk to a permit specialist in the ASC if you have questions about our structural requirements.

- Ledger connection
  
  If your deck is supported at the house by a ledger, the ledger must be connected to your house so that it will not pull away during an earthquake. See page 6 for pre-approved standards for connecting ledger to your house (called a prescriptive connection). You can also hire an engineer to design the ledger connection and the guardrail.

- Guardrail (guards)
  
  We require guardrails if your deck is more than 30 inches above adjacent surfaces, such as the ground or a lower roof. Your guardrail must be at least 36 inches tall with rail openings that are no more than 4 inches. See page 7 for pre-approved connection details.

  We have special requirements for glass guardrails. See Seattle Residential Code sections 1013.2.1 and 2407.1. You may need to have a structural engineer design your glass guardrail.
**Stairs**
If your deck will have stairs, they must have a rise of no more than 7-3/4 inches, a run that is at least 10 inches, and a width of at least 36 inches. We require handrail for stairs with four or more risers. The handrail must be 34 to 38 inches above the nosing of treads and landings and the hand grip must be 1-1/4 to 2 inches in dimension.

**Decks over windows of habitable space**
If you want to build a deck above windows in habitable rooms, your deck must be at least 7 feet above the ground. The longer side of the deck must be open and unobstructed for at least 65 percent of its length.

**Treated Lumber/Wood**
You must use treated wood or wood that naturally resists decay for all wood that will be in contact with concrete that is close to earth.

**Fences**

**When do I need a building permit for a fence?**
We do not require permits for fences that do not exceed 8 feet in height, and with no masonry or concrete elements over 6 feet high. (Seattle Residential Code R105.2 Item 4)

**What are the land use requirements for fences?**

- **Lot coverage**
  Fences do not count in lot coverage.

- **Height**
  **Single Family Lots.** For single-family residences, you can have a fence in the required yards if it is no more than 6 feet above existing or finished grade, whichever is lower. If your lot slopes, you may calculate your fence height based on the average of each six foot segment, with no portion being any higher than 8 feet. (See Figure 2).

  You may add architectural features, such as trellises, to the top of a 6 foot fence, up to 8 feet above grade, but without averaging. The space above the six-foot fence must be predominantly open. (See Figure 3). Talk to ASC staff about specific standards for these features.

  If you wish to place a fence above a retaining wall used to raise the grade of your property, the combined height of the retaining wall and fence is limited to 9.5 feet. If the retaining wall is built in order to lower the grade of your property, the normal height limitations apply to the fence, as long as the fence is set back three feet from the retaining wall (on the side where the grade is higher). Regardless of the height of this retaining wall, you can place an open guardrail on top of the wall. This guard rail is limited to 42” in height.

  **Multifamily Zones.** You may have a fence no taller than 6 feet in most required setbacks or separations from the property line or other buildings. However, there are some locations on a site where fences in multifamily zones cannot be taller than 4 feet. See Land Use Code section 23.45.518.J.7 for more detail. If your fence is located on top of a bulkhead or retaining wall, it cannot be taller than 4 feet. If your fence is on top of a new bulkhead or retaining wall used to raise grade, the maximum combined height is limited to 9.5 feet.

  We allow up to 2 feet of additional height for architectural features, such as arbors or trellises, on the top of a fence. The architectural features must be mostly open.

  You may average the fence height along sloping grades for each 6-foot-long segment of the fence. Your fence must never exceed 8 feet (when the allowed height is 6 feet) or 6 feet (when the allowed height is 4 feet) as per Seattle Municipal Code subsection 23.45.518.J.7.a.

- **Location**
  As long as your fence does not exceed the height limits, you can have a fence anywhere on your property.

- **Fence sides**
  Our codes do not regulate which side of the fence faces your property.

**Arbors**

Seattle's Land Use Code defines arbors as landscape structures that consist of an open frame with horizontal and/or vertical latticework. Arbors can be free-standing or attached to another structure.

**When do I need a permit for an arbor?**
You do not need a permit if your arbor is 120 square feet or less. (Seattle Residential Code 105.2 Item 5)

**How do I obtain an arbor permit?**
For most arbors, a Subject-to-Field-Inspection permit is issued at the ASC.

**What information do I need to apply for an arbor permit?**
For most arbors, you will need:

- **A site plan**
  A scaled site plan that shows all structures on your site, including the proposed arbor. Your site plan
Figure 2. Averaging Fence Height for Sloping Lot Conditions

Figure 3. Height Requirements for Fences with Trellises
dimensions must show that your arbor meets our land use requirements for location and lot area coverage. (See Tip 103, Site Plan Requirements)

- **An elevation drawing**
  A scaled elevation drawing that shows the height of the proposed arbor (height above existing or final grade, whichever is lower). Your elevation drawings must offer side views of structures, from the ground to the top of the structure. (See Tip 303, Applicant Responsibilities and Plan Requirements for Single Family and Two-Unit Dwellings)

- **Construction notes**
  Your notes on your drawings should call out the size and type of posts proposed (e.g., pressure treated wood) and the method of support for the posts (e.g., poured concrete footings). (See Tip 303A, Common Seattle Residential Code Requirements)

- **A field inspection application form**
  You may fill this out at the ASC when you apply. You will need the assessor’s parcel number and legal description for your property.

  Please note that homeowners may do their own drawings. A professional stamp is rarely required on these plans.

**What are the land use requirements for arbors?**

- **Lot coverage**
  In Single-Family zones, arbors are not exempt from lot coverage requirements. For most single-family zoned lots, the total coverage is limited to 35 percent of the lot (on lots 5,000 square feet or larger) or 1,000 square feet plus 15 percent of the lot area (on lots smaller than 5,000 square feet). Lot coverage limits do not apply in Lowrise zones.

- **Location**
  **Single Family and Multifamily Lots.** We allow arbors in required yards and setbacks or separations from buildings and property lines if they meet the following provisions:
  
  - In any required yard or setback, you may build an arbor up to 8 feet tall with a footprint of no more than a forty square feet, including eaves.
  
  - In any required yard or setback abutting a street, you can have an arbor with a footprint no greater than 30 square feet is allowed over your private pedestrian walkway.
  
  - Your arbor’s sides and the roof must be at least 50 percent open, or, if latticework is used, there must be a minimum opening of 2 inches between crosspieces.

**Questions?**

For further information please contact a permit specialist in the ASC, located on the 20th floor of Seattle Municipal Tower, 700 Fifth Ave., or call (206) 684-8850.

**Access to Information**

Links to electronic versions of DPD Tips, Director’s Rules, and the Seattle Municipal Code are available on the “Tools & Resources” page of our website at [www.seattle.gov/dpd](http://www.seattle.gov/dpd). Paper copies of these documents, as well as additional regulations mentioned in this Tip, are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave. in downtown Seattle, (206) 684-8467.

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**Excerpt from 2012 Seattle Residential Code**

**TABLE 507.2.1**

<table>
<thead>
<tr>
<th>Placement of Lag Screws and Bolts in Deck Ledgers and Band Joists</th>
</tr>
</thead>
<tbody>
<tr>
<td>For SI: 1 inch = 25.4 mm.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Lag screws or bolts shall be staggered</td>
<td>5&quot; MIN. FOR 2 X 8&quot;</td>
</tr>
<tr>
<td></td>
<td>6.5&quot; MIN. FOR 2 X 10</td>
</tr>
<tr>
<td></td>
<td>7.5&quot; MIN. FOR 2 X 12</td>
</tr>
<tr>
<td></td>
<td>1/2&quot; MIN.</td>
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<tr>
<td></td>
<td>3/4&quot; MIN.</td>
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<tr>
<td>b. Maximum 5 inches</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>c. For engineered rim joists, the manufacturer's</td>
<td></td>
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<tr>
<td>recommendations shall govern.</td>
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<tr>
<td>d. The minimum distance from bottom row of lag</td>
<td></td>
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<tr>
<td>screws (or bolts) to the top edge of the ledger</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>e. The 2 inches may be reduced to 3/4 inch when</td>
<td></td>
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<tr>
<td>the band joist is directly supported by a mudsill</td>
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<td></td>
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</tbody>
</table>

**TABLE R507.2**

**Fastener Spacing for a Southern Pine or Hem-Fir Deck Ledger and a 2-Inch-Nominal Solid-Sawn Spruce-Pine-Fir Band Joist**

<table>
<thead>
<tr>
<th>Deck Live Load (psf)</th>
<th>Deck Dead Load (psf)</th>
<th>Fastener Spacing</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm. 1 pound per square foot = 0.0479 kPa.

**a.** The tip of the lag screw shall fully extend beyond the inside face of the band joist.

**b.** The maximum gap between the face of the ledger board and face of the wall sheathing shall be 1/2 inch.

**c.** Ledgers shall be flashed to prevent water from contacting the house band joist.

**d.** Lag screws and bolts shall be staggered in accordance with Section R507.2.1.

**e.** Deck ledger shall be minimum 2 × 8 pressure-preservative-treated No. 2 grade lumber, or other approved materials as established by standard engineering practice.

**f.** When solid-sawn pressure-preservative-treated deck ledgers are attached to a minimum 1-inch-thick engineered wood product (structural composite lumber, laminated veneer lumber or wood structural panel band joist), the ledger attachment shall be designed in accordance with accepted engineering practice.

**g.** A minimum 1 × 9 1/2 Douglas Fir laminated veneer lumber rimboard shall be permitted in lieu of the 2-inch nominal band joist.

**h.** Wood structural panel sheathing, gypsum board sheathing or foam sheathing not exceeding 1 inch in thickness shall be permitted. The maximum distance between the face of the ledger board and the face of the band joist shall be 1 inch.

**FIGURE R507.2.1(1)**

Placement of Lag Screws and Bolts in Ledgers

**FIGURE R507.2.1(2)**

Placement of Lag Screws and Bolts in Band Joists

**FIGURE 507.2.3**

Deck Attachment for Lateral Loads
Excerpt from Prescriptive Residential Wood Deck Construction Guide

**GUARD REQUIREMENTS**

All decks greater than 30" above grade are required to have a guard (R312.1) - one example is shown in Figure 24. Other methods and materials may be used for guard construction when approved by the authority having jurisdiction.

**GUARD POST ATTACHMENTS FOR REQUIRED GUARDS**

Deck guard posts for required guards shall be a minimum 4x4 (nominal) with an adjusted bending design value not less than 1,100 psi. Outside-joists and rim joists to which guard posts are attached shall be a minimum of 2x8 (nominal).

Guard posts for required guards which run parallel to the deck joists shall be attached to the outside joist per Figure 25. Guard posts for required guards that run perpendicular to the deck joists shall be attached to the rim joist in accordance with Figure 26. Only hold-down anchor models meeting these minimum requirements shall be used. Hold-down anchors shall have a minimum allowable tension load of 1,800 pounds for a 36” maximum guard height and be installed in accordance with the manufacturer’s instructions.

**STAIR REQUIREMENTS**

Stairs, stair stringers, and stair guards shall meet the requirements shown in Figure 27 through Figure 34 and Table 6 except where amended by the local jurisdiction. All stringers shall be a minimum of 2x12. Stair stringers shall not span more than the dimensions shown in Figure 28. If the stringer span exceeds these dimensions, then a 4x4 post may be provided to support the stringer and shorten its span length. The 4x4 post shall be notched and bolted to the stringer with (2) ½” diameter through-bolts per Figure 8A. The post shall be centered on a 12” diameter or 10” square, 6” thick footing. The footing shall be constructed as shown in Figure 34 and attached to the post as shown in Figure 12. An intermediate landing may also be provided to shorten the stringer span (see provisions below). If the total vertical height of a stairway exceeds 12'-0”, then an intermediate landing shall be required. All intermediate stair landings must be designed and constructed as a non-ledger deck using the details in this document. Stairs shall be a minimum of 36” in width as shown in Figure 33 (R311.7). If only cut stringers are used, a minimum of three are required. For stairs greater than 36” in width, a combination of cut and solid stringers can be used, but shall be placed at a maximum spacing of 18” on center (see Figure 29). The width of each landing shall not be less than the width of the stairway served. Every rectangular landing shall have a minimum dimension of 36" measured in the direction of travel and no less than the width of the stairway served (R311.7).

**Figure 24. Example Guard Detail.**

**Figure 25. Guard Post to Outside-Joist Example.**

**Figure 26. Guard Post to Rim Joist Example.**

Courtesy of the American Wood Council, Leesburg, VA, USA

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