



# GUIDELINE FOR BUILDING RESIDENTIAL DECKS

**BUILDING INSPECTIONS**  
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Please email completed applications to: [midwestinspectionsservicesnd@gmail.com](mailto:midwestinspectionsservicesnd@gmail.com)  
Incomplete applications will cause delays in the routing/review and permitting process.

This handout is a **guide** only and does not cover all of the Oxbow's Building Code requirements.

**Building Permits** are required for all decks regardless of size or if the deck is attached or unattached to a dwelling.

**Building Permit Fees** are based on the valuation of the construction project; this includes the materials and labor. If you will be doing the work yourself an estimate of labor cost shall be determined and included with the cost of materials.

Plan submittals shall be drawn to scale, neat and legible on suitable material (min. 11x17). The plan submittal shall be of sufficient clarity to indicate the location and extent of the work proposed.

Information required to be submitted along with your application for a building permit:

**SITE PLAN** – Drawing to scale shown lot dimensions, deck location and distances from property lines.

**PLAN VIEW** – Proposed deck size and location of stairs.

- Size, type and spacing of floor joists.

- Size and type of decking. (Plastic/composite decking must be approved before installing.)

**ELEVATIONS** – Size, type, location and spacing of posts, beams and headers.

- Height of structure from grade.

- Diameter and depth of footings.

- Joist hangers, flashing and fasteners.

- Guard height (if any) and spacing intermediate rails.

- Stair and handrail details.

## DECK CONSTRUCTION GUIDELINES

1. **Setbacks** – Check city ordinance for setback requirements in designated zones.
2. **Live Loads** – All deck floor systems must be designed to support a live load of 40 pounds per square foot.
3. **Footings** – Frost protected footings are not required but are recommended. Frost depth for the City of Oxbow is 54 inches. Consideration should be made if the deck is intended to be enclosed in the future, if so then a frost protected footings will be required and may need to be designed by a Registered Professional Structural Engineer.
4. **Wood Required** – All exposed wood used in the construction of decks are required of natural resistance to decay (heartwood of redwood, cedar or black locust) or approved treated wood. This includes posts, beams, joists, decking, guards, stairs and rails. All lumber must bear the quality mark of an approved inspection agency. Plastic/composite decking must be installed and supports spaced on center per manufactures specifications. A copy of these specs report must be made available for the installer and inspector.
5. **Flashing** – All connections between deck and dwelling must be flashed and weatherproof.
6. **Ledger Board** – Siding must be removed to allow this member to be properly fastened. Where supported by attachment to an exterior wall, decks shall be anchored to the structure and designed for

both vertical and lateral loads. Toenails or nails are not to be used for this purpose because they are subject to withdrawal. Where positive connection to the primary building structure cannot be verified during inspection, deck must be self supporting. Fasteners must be long enough to penetrate framing members. Decks shall not be supported by cantilevered floor framing without specific engineering.

7. **Joist/beams** – Attached are design guideline to assist in determining the minimum size and spacing for floor joists and supporting beams. Joist with cantilevers which exceed 3 times the nominal depth of the joist will require structural engineering. Beams cannot overhang posts by more than 12 inches unless designed by a structural engineer. Built-up beams (two or more members) are to be nailed, screwed or bolted together.
8. **Joist Hangers** – floor joists are to be supported by approved framing anchors and joist hangers.
9. **Fasteners** – All fasteners shall be non-corrosive. Joist hangers and other framing anchors are to be installed according to product manufacturer's instructions and their recommended fasteners.
10. **Guards** – All open side of decks which are more than 30 inches above the grade or floor below, must be protected by a guard rail not less 36 inches in height. Open side of stairs with a total rise of more than 30 inches above the grade or floor below shall have guards not less than 34 inches in height measured vertical from the nose of the tread. Required guards shall have intermediate rails or ornamental closures that do not allow passage of a sphere 4 inches in diameter. The triangular openings formed by the riser and the bottom rail of a guard at the open side of a stairway may be of such size that a sphere of 6 inches in diameter cannot pass through.
11. **Stairs** – Stairways shall be a minimum of 36 inches in width. The maximum riser height shall be 8" inches (3/8 inch maximum variation in riser height) and the minimum tread depth shall be 9" inches (3/8 inch maximum variation in tread depths). Open risers are permitted, provided that the opening between treads does not permit the passage of a 4 inch diameter sphere. For minimum width stairs, a minimum of three stringers is required. If 5/8 inch decking material is used for treads, stringers shall be spaced a maximum of 16 inches on center.
12. **Handrails** – A handrail shall be provided on at least one side of all stairways having 4 or more risers. Handrails shall be placed not less than 34 inches or more than 38 inches above the nosing of the treads and be continuous the full length of the stairs. Handrails projecting from a wall or guardrail must have space of not less than 1 ½ inches between the wall or guardrail and the handrail. The handgrip portion of handrails shall have a cross section of 1 ¼ inches minimum to 2 5/8 inches maximum in cross-sectional dimension and must have a smooth surface with no sharp corners.

## REQUIRED INSPECTIONS

1. **Framing/Final** – In most instances the framing can be inspected at the final inspection. If your deck is less than 3 feet above the ground, a separate framing inspection may be required. Please contact the Building Department to verify if a framing inspection is needed.

Use Site Plan handout to indicate dimensions of deck, location of beams, post spacing and elevations.

Cap Rail—Min. 36" above finished deck, typ.

Maximum 4" space between the balustrade and between the bottom rail board and the top of the deck.

Handrail required (not shown for clarity). Required height 34-38 inches above tread nosing.

Maximum 4 1/8" space between the balustrade.

Maximum 4" space between treads at the heel of the stair stringers, typ.

Stair Treads—2x4; 2x6; 2x8; 2x10; 2x12; 5/4 radius deck boards. (Circle One) #1

7-3/4" max.

10" min.

I agree to follow the building systems provided in this document.

Signature

Date

Deck Boards—2x4; 2x6; 5/4 Radius; Other (Circle One) #7  
Treated; Cedar; Redwood; Composite; Other (Circle One) #8

When using most deck boards or stair treads, keep in mind that many of these materials require a maximum joist spacing of 1'-0" to 1'-4".

Bridging required if 8'-0" or greater

Post—Wood, Metal, Composite; Other (Anchor with bolts and block as needed for stability and safety.) (Circle One) #2

Deck Balustrade—Wood, Metal, Composite, Other (When using tapered or decorative balusters, Remember the maximum distance is measured at the widest space.)

Guard Rail—Min. 36" above stair treads

Concrete, steel, Grade 60 wood (See chart on the back of this page for sizes)

Stair Stringers—2x10; 2x12; Other (Circle One) #5  
Treated; Redwood, Cedar; Other (Circle One) #6

Approved fasteners—galvanized or hot dipped, etc.

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Treated; Cedar; Redwood; Composite; Other (Circle One) #8

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Blocking for rail post

Consider post-to-beam angle bracing.

Support Post—4x4; 4x5; 4x6; 5x5; 5x6; 6x6; Other (Circle One) #3  
Treated, Redwood, Cedar, Other (Circle One) #4

Approved connection to foundation column required.

Concrete, steel, Grade 60 wood (See chart on the back of this page for sizes)

Stair Stringers—2x10; 2x12; Other (Circle One) #5  
Treated; Redwood, Cedar; Other (Circle One) #6

Approved fasteners—galvanized or hot dipped, etc.

Permit No. \_\_\_\_\_

Drainage plain is required on all walls (Building Paper, Tyvek, Typar, Other)

Wall Flashing—Galvanized, Painted, Aluminum, Steel, Other (Circle One) #9

Header Joist—2x6; 2x8; 2x10; 2x12 (Circle One) #10  
Treated, Redwood, Cedar (Circle One) #11

Min. 3/8" lag bolts or through bolts; Min. 2" from each edge or equivalent anchoring system. The maximum width 2'-0" apart, penetrating through the building header or rim joist.

Joist Hangers per joist size required. See manufacturer's fastener schedule for installation.

Common Joist—2x6; 2x8; 2x10; 2x12 (Circle One) #12  
Treated, Redwood, Cedar, Other (Circle One) #13  
(See chart on the back of this page for sizes)

Beam (Bolted to post and resting on a portion of the post. 3/8 inch bolt with washers minimum.) 2x6; 2x8; 2x10; 2x12 (Circle One) #14  
Treated, Redwood, Cedar, Other (Circle One) #15  
(See chart on the back of this page for sizes)

**EXAMPLE**—Footing Depth—60 inches below grade minimum, belled out at bottom. Or check with local jurisdiction.

Before submitting permit application, provide information as requested on numbered lines (1-15). A site plan is also required prior to permit issuance.



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