**What is the difference between guardrails and handrails**?
Guardrails are intended to prevent persons from falling off the edge of stairs or a raised floor area, therefore, they must be able to withstand the pressure of a human body and be non-climbable. Guardrails are needed for any deck that is more than 600mm (2ft) above the finished ground level. If the deck is more than 600mm (2ft) but less than 1.8m (6ft) the guardrails must be 900mm (35in) high. Any deck more than 1.8m (6ft) above the finished ground level the guardrails must be 1070mm (42in) in height.

Regardless of the height of the guardrail, the spacing between rails remains the same, a maximum opening of 100mm (4in) non-climbable. Stairs which have more than three risers (steps) or which exceed 600mm (2ft) above the finished ground level require guardrails as well.

Handrails are required to assist persons using the stairs. If any outside stair has more than three risers (steps) a handrail is required on both sides of the stairway.

**Are there any requirements for stairs**?
The Building Code requires that treads and risers have uniform rise and run in any flight with riser heights not exceeding 200mm (7 7/8in). As well, the minimum run of each tread must be 210mm (8 ¼in) and the minimum tread width to be 235mm (9 ¼in). Contact a building inspector for more specific information regarding stairs

**How do I deal with overhead power lines or gas and hydro meters**?
If you plan to build a deck beneath overhead power supply conductors, a clearance of 3.5m (11ft 6in) must be maintained between the deck surface and the conductors. If the deck is to be installed beneath a hydro meter, it may be necessary to relocate the meter to maintain the proper meter height. For more information contact Manitoba Hydro/Centra Gas at 727-1486 and/or MTS at 611. Gas meter and/or gas shut off cannot be located under a deck.

## Contact Us


**City of Brandon**
**Planning &**
**Building Safety**
**421 - 9th Street**
**Brandon MB R7A 4A9**
**Phone: 204 729 2110**
**Fax: 204 728 2406**
**Email: planning@brandon.ca**


Office Hours
Monday to Friday 8:30 am to 5:00 pm

Please call between 8:30 am and 9:30 am to book inspections.

**Building Inspector**

Pete Garbutt 204-729-2175

May 2013

City of BRANDON

# Planning & Building Safety

# Building a Deck

**Do I require a building permit for building a deck**?
Yes, a building permit is required when building a deck or replacing all or a portion of an existing deck. The building permit may be applied for at the planning office (421-9th Street).

**What if the deck is not attached to my house**?
A building permit is required to be obtained whether the deck is attached or free standing. A deck is a raised unenclosed platform usually
supported on a foundation of surface pads or piles.

**What information do I have to bring with me when applying for a building permit**?
- A well-drawn site plan (see "What is a Site Plan") which can be drawn on a copy of a surveyor's Building Location Certificate; and
- Construction and elevation plans complete with a cut through of the finished deck is sufficient (see "What is a Cut Through")

**What is a Site Plan?**
A site plan is a drawing, no larger than 11x17, showing where you plan your project in relation to lot line and other structures on site. The site plan should be drawn to scale and should include the following:
- Property lines and dimensions
- Distance to existing buildings
- Placement of proposed structure
- Length, width, and height of new structure
- Distance from property lines for existing buildings
- Distance from property lines for proposed structure
- All adjacent streets and lanes
- Location of utilities, ie overhead lines, shut-offs
- North arrow
- Address and/or legal description

**Where can I build my deck**?
Assuming that you are building your deck on an interior lot (an interior lot has lots on both sides) in a single-family area, the following outlines where a deck may be built and the space requirements for doing so:

| | |
|---|---|
| Front Yard | Terraces must be at least 0.6m (2ft) from property line<br>Decks are not permitted |
| Side yard | Terraces and decks must be at least 0.6m (2ft) from property line |
| Rear Yard | Terraces and decks must be at least 0.6m (2ft) from property line |

**What is a cut through**?
A cut through is a picture of what the structure would look like if one took a chain saw and cut the structure in half so that you could see exactly what building materials were used in the
construction.

**What do the construction and elevation plans indicate**?
Construction plans must show:
- Size of the deck
- Size and spacing of the beams, posts, and floor joists
- Species and grade of material being used
- Foundation you have chosen to support the deck
- Location of any stairs leading to or from the deck

Elevation plans must show:
- Height of the deck floor above finished ground level (highest point)
- Height and type of guardrail being used

**What types of foundations are normally used for wood decks (free standing or fastened to rim joist)**?
In general, the foundation chosen for a wood deck consists of either surface pads or concrete piles or piers.

Surface pads – Decks are permitted to be supported on concrete deck blocks if all of the following criteria has been satisfied:
-The deck is not over 1.2m (4ft) in height above grade
-The deck is not over 55sq.m. (592 sq.ft) in area
-The deck does not support a roof
-The guard rail must remain 50mm (2") clear of the structure

Concrete piles or piers – Piles or piers are required to be used when the conditions for surface pads are exceeded or they may be used at any time as an alternative to surface pads.

**What size posts should I use to support my deck and how should they be anchored**?
Posts, if used, should be at least the width of the beam, centered on the pad, pile, or pier, and securely fastened to the beam by means of toe-nailing, wood gussets, angle brackets, or other equivalent method. Where the deck is more than 1.8m (6ft) above finished grade a 6"x6" post is required to be used. Where posts exceed 1.8m (6ft) in length, they should be braced to each other or up to the beam and floor or, alternatively, they should be anchored to the pad, pile, or pier in order to prevent them from shifting at the bottom.

***What do the construction and elevation plans have to indicate***?

The construction plans must show the overall size of the deck, the size, and spacing of the beams, posts, and deck joists, the species and grade of the wood material being used, (e.g. SPF #2; species – spruce, grade - #2) the type of foundation you have chosen to support the deck and the location of any stairs leading to or from the deck. See FIGURE 2.

The elevation plan must show the height of the deck floor above the finished ground level at its highest point and the height and type of guardrail being used around the perimeter of the deck. See FIGURE 3.

**FIGURE 2 - Typical Construction Plan**

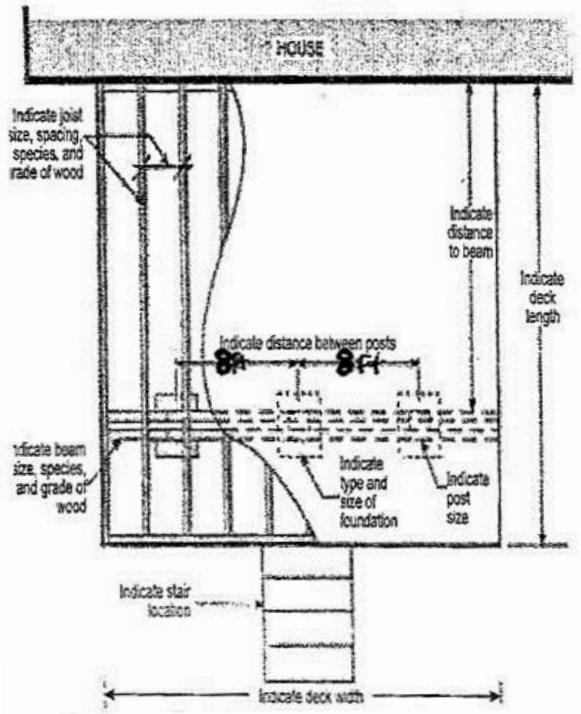
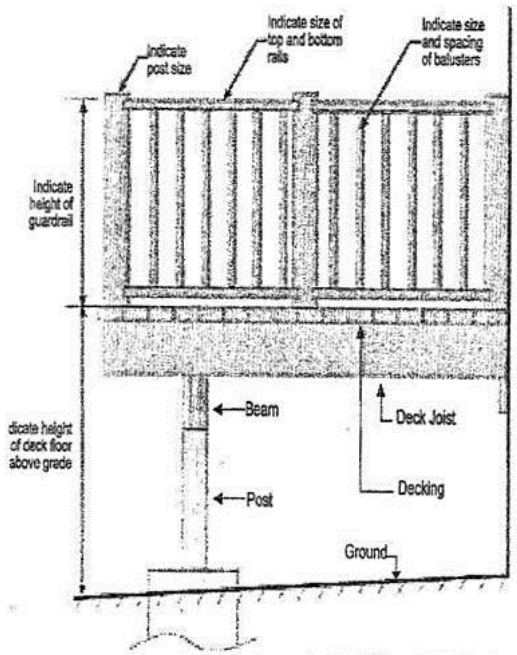



**FIGURE 3 - Typical Deck Elevation Plan**

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Pete Garbutt 204-729-2175

May 2013

City of BRANDON

# Planning & Building Safety

# Construction Detail Deck

### *What size of beams do I need*?

The beam table (TABLE 2) is intended for single beam decks and multiple beam decks that are supported at 2.44m (8 ft.) intervals along the beam. See also FIGURE 8.

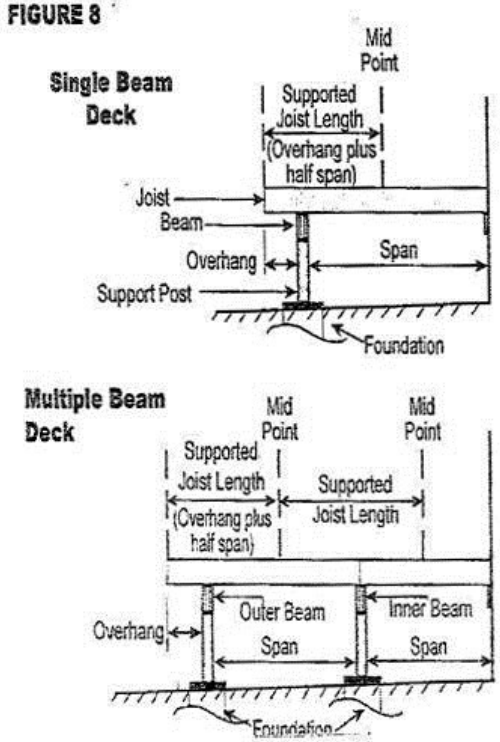
**TABLE 2 - Deck Beam Sizes[1]**
**- Design Floor Live Loads for 1.9 kPa (40 psf)**

| Max. Supported Joist Length [2] | Beam Size [3] |
|---|---|
| 1.82 m (6 ft.) | 2 - 38 x 140 mm (2 - 2 x 6) |
| 2.44 m (8 ft.) | 3 - 38 x 140 mm (3 - 2 x 6) or 2 - 38 x 184 mm (2 - 2 x 8) |
| 3.05 m (10 ft.) | 4 - 38 x 140 mm (4 - 2 x 6) or 3 - 38 x 184 mm (3 - 2 x 8) |

*Notes to TABLE 2:*

1) *This table requires beams to be supported every 2.44 m (8 ft.) or less.*
2) *Supported joist length means half the span of joists supported by the beam plus the length of the overhang beyond the beam. (See FIGURE 8.)*
3) *This table is for use with Spruce-Pine-Fir lumber grades 1 and 2.*

**FIGURE 8**




### *What size of deck joists do I require*?

The size of the joists are governed by the distance they have to span and the spacing at which the joists are installed. TABLE 3 indicates some common species and sizes of wood and the acceptable span distances for wood decks. Joist spans are measured from face of support to face of support (in the case of a wood deck from face of beam to face of beam, or from face of beam to face of ledger).

Another item you should take into consideration when selecting the type, size, and spacing of your joists, is the type of material you intend to use as decking. Check with your lumber dealer to ensure that the decking you select will not sag significantly between the joists as a result of the joist spacing you have chosen.

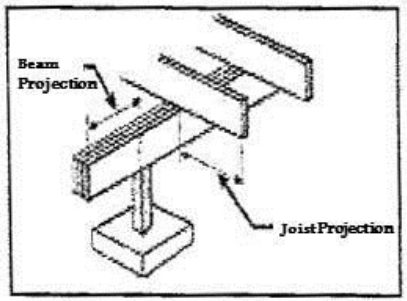
**TABLE 3 - Deck Joist Spans**
**- Design Live Loads for 1.9 kPa (40psf)**

| Commercial Designation | Grade | Joist Size (in) | Maximum Span (ft-in.) Joist Spacing 12 in | 16 in | 24 in | Joist Size (mm) | Maximum Span (m) Joist Spacing 300 mm | 400 mm | 600 mm |
|---|---|---|---|---|---|---|---|---|---|
| Douglas Fir - Larch | No. 1 and No. 2 | 2x4 | 7' 11" | 7' 2" | 6' 1" | 38 x 89 | 2.41 | 2.19 | 1.86 |
| | | 2x6 | 12' 4" | 10' 8" | 8' 9" | 38 x 140 | 3.76 | 3.26 | 2.66 |
| | | 2x8 | 15' 1" | 13' 0" | 10' 8" | 38 x 184 | 4.58 | 3.96 | 3.24 |
| | | 2x10 | 18' 5" | 15' 11" | 13' 0" | 38 x 235 | 5.6 | 4.85 | 3.96 |
| Spruce - Pine - Fir | No. 1 and No. 2 | 2x4 | 7' 6" | 6' 10" | 5' 11" | 38 x 89 | 2.29 | 2.08 | 1.82 |
| | | 2x6 | 11' 10" | 10' 9" | 9' 4" | 38 x 140 | 3.61 | 3.28 | 2.86 |
| | | 2x8 | 15' 7" | 14' 2" | 11' 7" | 38 x 184 | 4.74 | 4.31 | 3.52 |
| | | 2x10 | 19' 11" | 17' 4" | 14' 2" | 38 x 235 | 6.06 | 5.27 | 4.3 |
| Column 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

### *How far can I project the beam beyond the end support*?

The beam can project up to a maximum of 600 mm (2 ft.) beyond the end support. See FIGURE 10.

**FIGURE 10**




### *How far can the joists project beyond the face of the outside beam*?

If you are planning to eventually enclose all or a portion of the deck with a roofed structure which could carry snow, the Building Code states that the joists can only project 400 mm (16 in.) where 2x8 joists are used, and 600 mm (2 ft.) where 2x10 or larger joists are used. The projection of 2x4 or 2x6 joists would require engineering analysis to determine if the floor assembly would be sufficient to carry the superimposed roof loads. See FIGURE 10.

Note that even if you are not planning to enclose the deck in the future any projections beyond those indicated above would require engineering analysis.

**Required Deck Information**

☐ Attached Deck ☐ Detached Deck

**Deck Dimensions**:

Width _____

Length _____

Height _____

**Foundation**

☐ Concrete piers 12”diameter x 12ft deep _____

☐ Engineering ground screws _____

☐ Concrete deck blocks _____

☐ Other: specify _____

**Materials to be Used**

☐ Pressure Treated _____

☐ Cedartone _____

☐ Other: specify _____

**Posts**

☐ 4x4 No. Of _____

☐ 4x6 No. Of _____

☐ Other: specify _____

**Beam**(s) – Span maximum 8’; over 8’ must be certified by an engineer.

☐ 2x6 No. Of _____ Plys _____

☐ 2x8 No. Of _____ Plys _____

**Joists**

☐ 2x6 @ _____on centre

☐ 2x8 @ _____on centre

☐ 2x10 @ _____on centre

**Decking**

☐ 2x4

☐ 2x6

☐ Other: specify _____

**Guardrails** – Maximum spacing of balisters is 4”.

Height

☐ 36” (minimum)
☐ 42”

☐ Wood
☐ Metal

**Stairs**

Stringers

☐ 2x10
☐ Metal

Tread

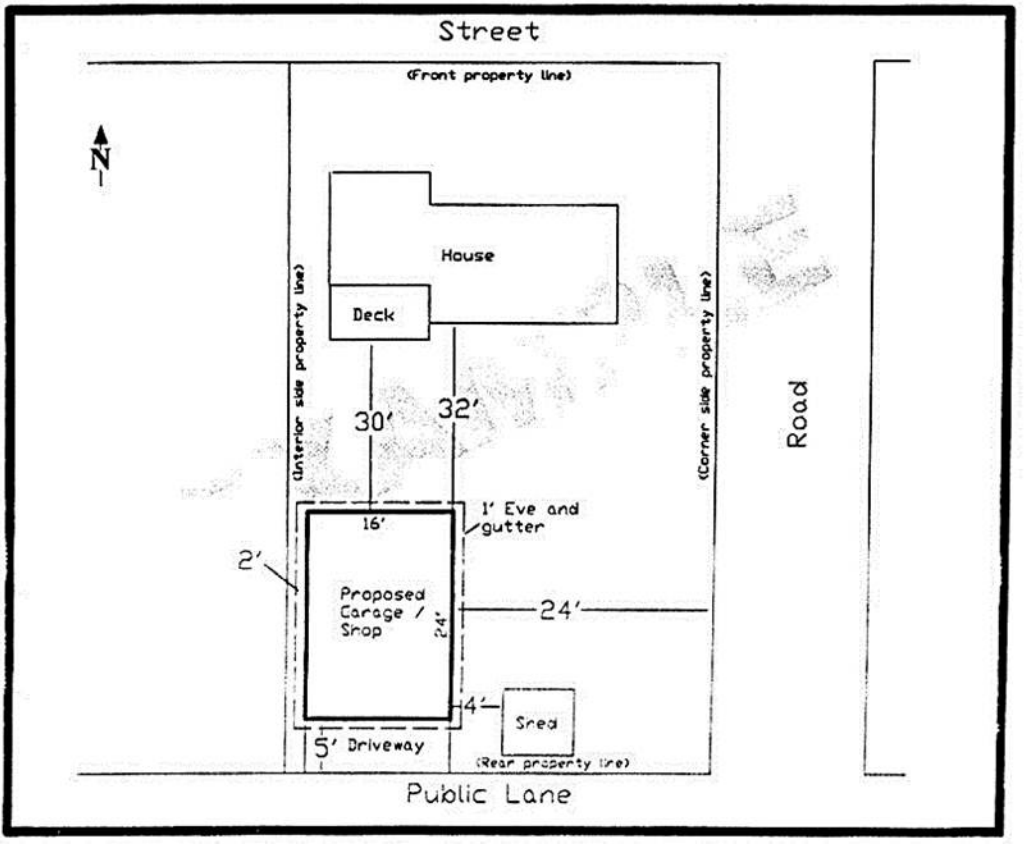
☐ 2x4
☐ 2x6
☐ 2x10
☐ Other: specify _____

Riser Height _____ (maximum height 8”)

# Required Site Plan Information

All building applications require a site plan. Site Plans must include the following information in order for the permit to be processed.

- ☑ Civic Address 763 London Avenue
- ☑ Type of Construction (what is being constructed?) Detached Garage
- ☑ North Arrow in correct direction
- ☑ Distance from new structure to all property lines (measured from wall)
- ☑ Distance from new to all existing structures (measured from wall to wall)
- ☑ All adjacent streets and lanes
- ☑ Width and lenth of driveway, if building a garage
- ☑ Width of all overhanging eves and gutters



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- ☐ Width and lenth of driveway, if building a garage
- ☐ Width of all overhanging eves and gutters