



## Building Department

402813 Grey Road 4, Durham, ON N0G 1R0

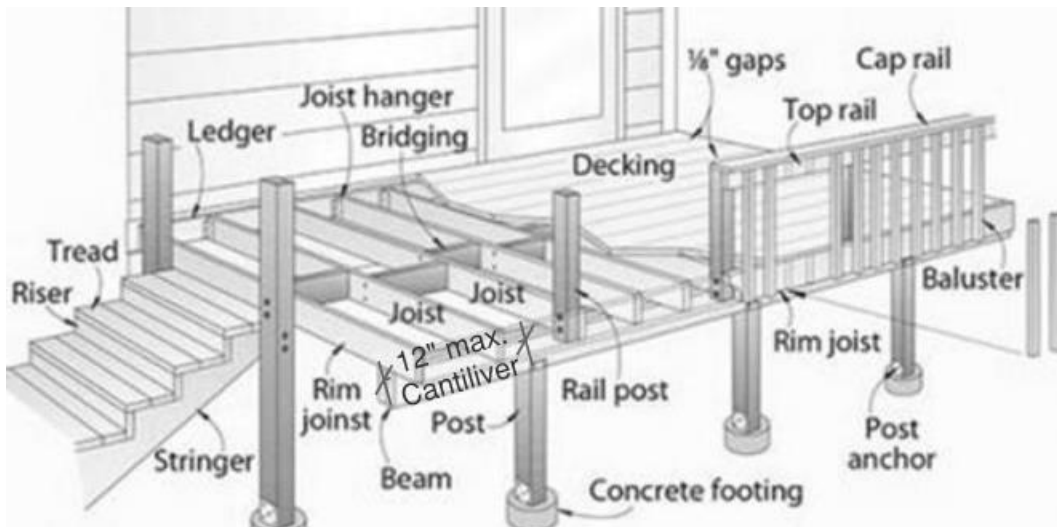
Phone: 519-369-2200

Monday to Friday 8:30am – 4:30pm

[www.westgrey.com](http://www.westgrey.com)

# DECK CONSTRUCTION GUIDE

For detached and semi-detached dwellings



## **General Requirements**

A Building Permit is required for all decks except where:

- The distance from the grade to the finished deck is not more than 24”,
- The deck is not supporting a roof or enclosed,
- The deck is no larger than 10 sqm (108 sqft) and
- The deck is not attached to another building/structure

Note: A deck must comply with the Ontario Building Code & zoning requirements.  
For more information, contact The Municipality of West Grey Building Department at 519-369-2200.

## **Designers Qualification and Registration Requirements:**

Homeowners submitting designs for their own residence are exempt from qualification and registration requirements. However, individuals and agencies providing design services to the public must meet the qualifications and registration requirements set out by the Ministry of Municipal Affairs and Housing. You can confirm the qualification and registration status of your designer by referring to the ministry’s online qualification and registration system (QuARTS) at [www.obc.mah.gov.on.ca](http://www.obc.mah.gov.on.ca)

## **Application Requirements:**

- Complete building permit application submitted on Cloudpermit
- Schedule 1 Design Form
- The most recent survey or detailed site plan for the property showing all existing buildings and structures, including the location of septic tanks and septic beds (if applicable). The proposed deck is to be plotted on the site plan and setback dimensions to all property lines are to be shown. (See attached sample site plan on page 5)
- Construction drawings including footings, posts, beams, joists, deck finishes, guards/handrails, and stairs drawn to scale. The attached template drawing and details could be used, providing all dimensions and information are shown on the “Deck Framing Plan” (page 4).
- The permit fee, payable after the permit is issued by cheque (payable to “Municipality of West Grey”) or cash.

## **Call before you dig:**

Note: It is the owner’s/contractor’s responsibility to call the utility companies to locate any underground utility lines within the construction zone to avoid damaging them during construction.

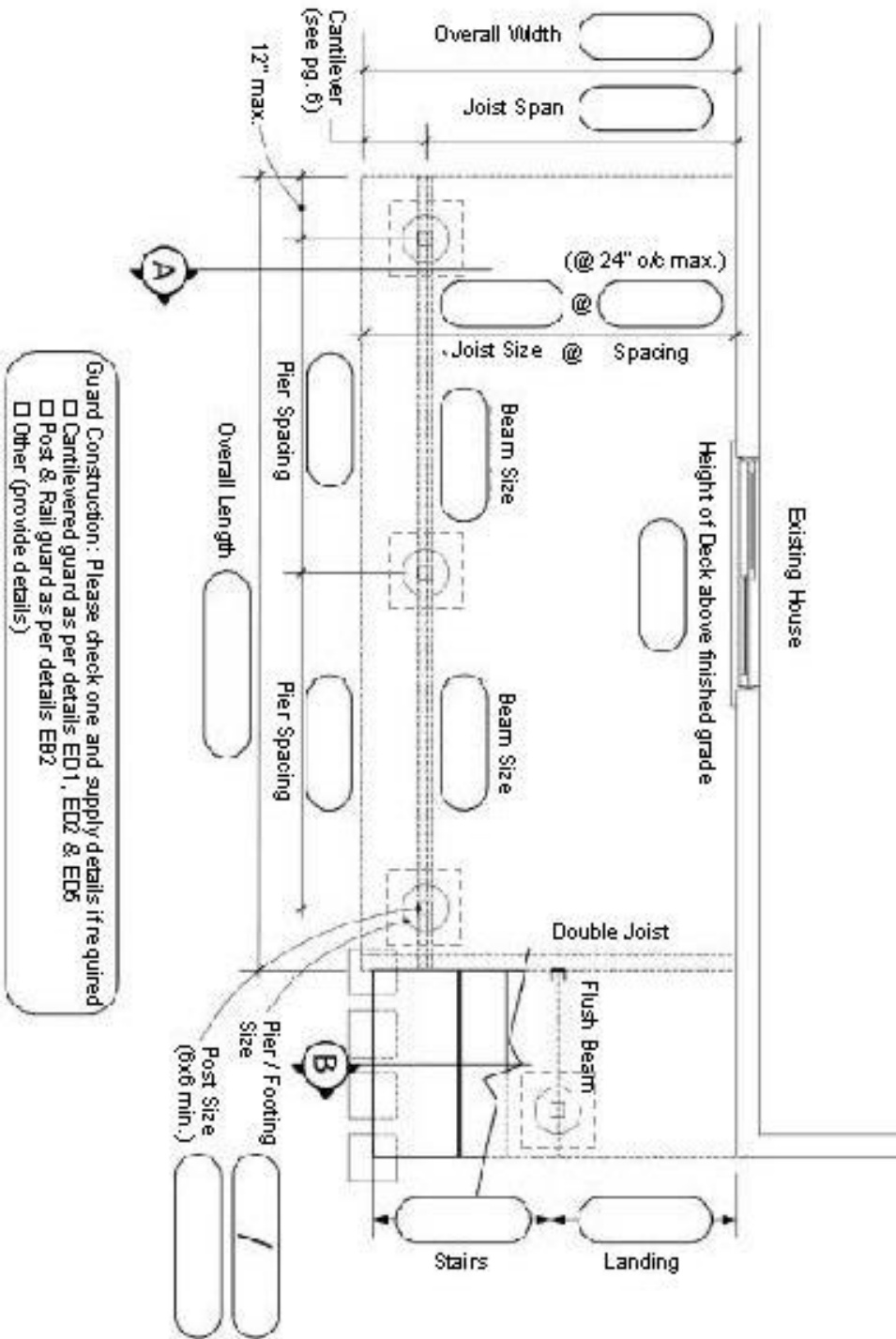
- ON1CALL Call before you dig **1-800-400-2255**

## Step by Step Instructions

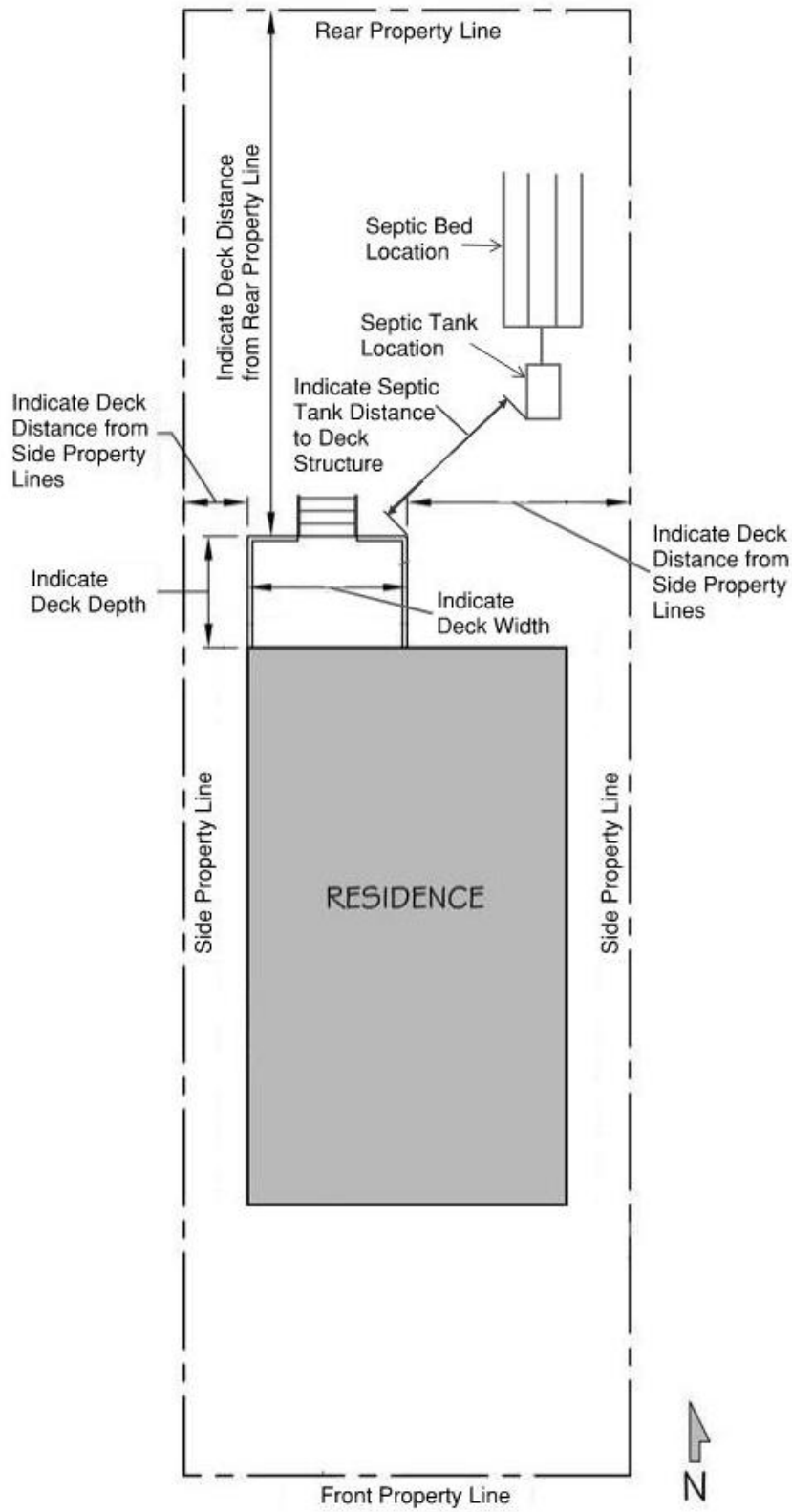
1. Start by filling in the following information on the blank area shown on “Deck Framing Plan” (pg.4). Overall length and width of deck, length of landing and stair, footing spacing, joist span and maximum height of the deck above grade.
2. Once you have your joist span, and footing spacing you can size each component of the deck using tables attached.
3. The **pier/footing size** is in the intersecting box of the row that corresponds with your joist span and the column that corresponds with your pier/footing spacing. See page 6.
4. The **beam size** is in the intersecting box of the row that corresponds with your joist span and the column that corresponds with your pier/footing spacing. See page 6.
5. The **joist size** is in the intersecting box of the row that corresponds with your joist span and the column labeled joist size. See page 6.
6. If you wish, fill out all the above information on the “Deck Framing Plan” on page 4 and submit this page as a “Drawing” on Cloudpermit with all attached applicable details with the rest of the documents required for your permit application.

Note: Please provide your own deck framing plan if your deck layout is different from what is shown in this package (Use the same concept and provide the same information). You will also need to provide your own details if the proposed construction methods differ than those provided. Please note, that any proposed prefabricated guard/railing system must have a set of stamped details provided by a Professional Engineer licensed with the Province of Ontario (a manufacturer or building supply store may be able to supply you with these details at your request).

# Deck Framing Plan



# Sample Site Plan



## Structural Requirements

### Footing Size / Pier Size

Note: This table is based on OBC min. 75kPa soil bearing capacity

Pier Spacing (Center to Center)	Minimum Footing Size
Up to 3m (9'-10") max.	24" x 24" x 10" deep footing c/w 10" pier (sonotube)
Between 3m (9'-10") and 3.65m (12'-0")	28" x 28" x 10" deep footing c/w 10" pier (sonotube)
Between 3.65m (12'-0") and 4.27m (14'-0")	30" x 30" x 10" deep footing c/w 10" pier (sonotube)

### Beam Sizing

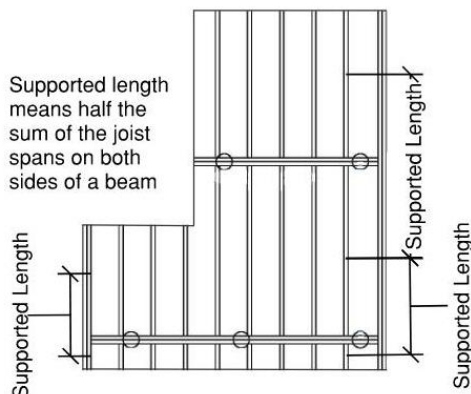
Joist Size	Supported Length	Pier Spacing			
		1.2m (4'-0")	1.8m (6'-0")	2.4m (8'-0")	3.0m (10'-0")
38 x 184 (2x8)	1.8m (6'-0)	2ply-38x184 (2ply - 2x8)	2ply-38x184 (2ply - 2x8)	2ply-38x235 (2ply - 2x10)	2ply-38x286 (2ply - 2x12)
	2.4m (8'-0")	2ply-38x184 (2ply - 2x8)	2ply-38x184 (2ply - 2x8)	2ply-38x235 (2ply - 2x10)	3ply-38x235 (3ply - 2x10)
	3.0m (10'-0")	2ply-38x184 (2ply - 2x8)	2ply-38x184 (2ply - 2x8)	3ply-38x235 (3ply - 2x10)	3ply-38x286 (3ply - 2x12)
38 x 235 (2x10)	3.6m (12'-0")	2ply-38x184 (2ply - 2x8)	2ply-38x235 (2ply - 2x10)	3ply-38x286 (3ply - 2x12)	4ply-38x286 (4ply - 2x12)

### Floor Joist Span

Joist Spacing (on center)	Joist Span			
	1.8m (6'-0)	2.4m (8'-0")	3.0m (10'-0")	3.6m (12'-0")
300mm (12")	38 x 184 (2x8)	38 x 184 (2x8)	38 x 184 (2x8)	38 x 184 (2x8)
400mm (16")	38 x 184 (2x8)	38 x 184 (2x8)	38 x 184 (2x8)	38 x 235(2x10)
600mm (24")	38 x 184 (2x8)	38 x 184 (2x8)	38 x 235(2x10)	38 x 235(2x10)

\*2x8 joists required for wood railing (guard) support as per SB-7 of the Ontario Building Code

### Supported Length



## Ledger Board Attachment

- Decks are usually supported on one side by a ledger attached to the house. This ledger attachment is critical to ensure the deck is safely and securely supported at this point. When the ledger is attached to the house, there are very specific requirements that must be met. Follow the diagrams closely for the proper attachment of the ledger.
- The deck ledger shall NOT be nailed to the house or brick veneer - it must be lagged or bolted to the structure of the house.

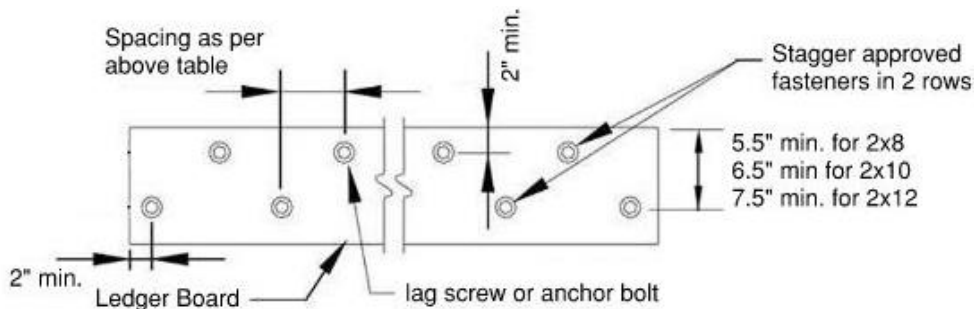
## Deck Ledger to House Attachment – Lag Bolt Spacing

Lag Bolt Size	Joist Span			
	Up to 1.8m (6'0")	2.4m (8'-0")	3.0m (10'-0")	3.6m (12'-0")
12.7mm (1/2")	812mm (32" o/c)	400mm (16" o/c)	400mm (16" o/c)	300mm (12" o/c)
Equivalent 16" o/c Joist Spacing	Every other Joist Space	Every Joist Space	Every Joist Space	Every Joist Space w/ 2 Every Other Space
9.5mm (3/8")	610mm (24" o/c)	300mm (12" o/c)	300mm (12" o/c)	200mm (8" o/c)
Equivalent 16" o/c Joist Spacing	2 Every Third Joist Space	Each Joist Space w/ 2 Every Other Space	Each Joist Space w/ 2 Every Other Space	2 Each Joist Space w/ 3 Every Other Space

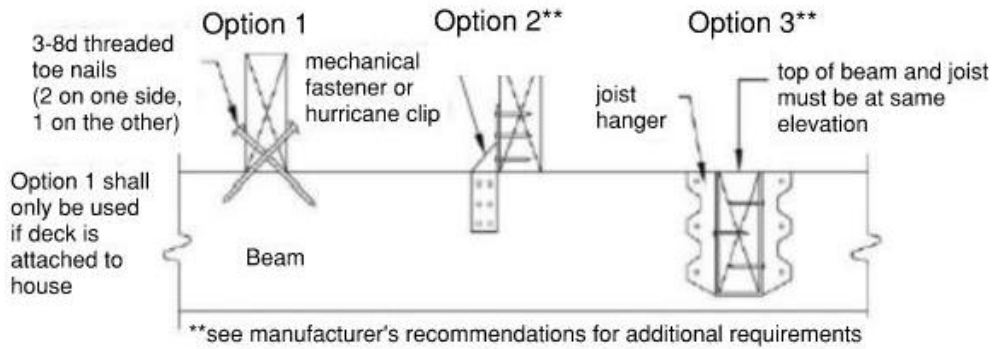
- Deck ledgers shall be minimum 2x8 pressure-preservative-treated No. 2 grade lumber or other approved materials as determined by good engineering practices. To be the same depth as the floor joists as a minimum.
- When solid-sawn pressure-preservative-treated deck ledgers are attached to engineered wood products (structural composite lumber rim board or laminated veneer lumber), the ledger board attachment shall be designed in accordance with the manufacturer's recommendations or good engineering practices.
- Pilot holes shall be pre-drilled with a size between 17/32" to 9/16".

## Lag Bolt Installation Pattern

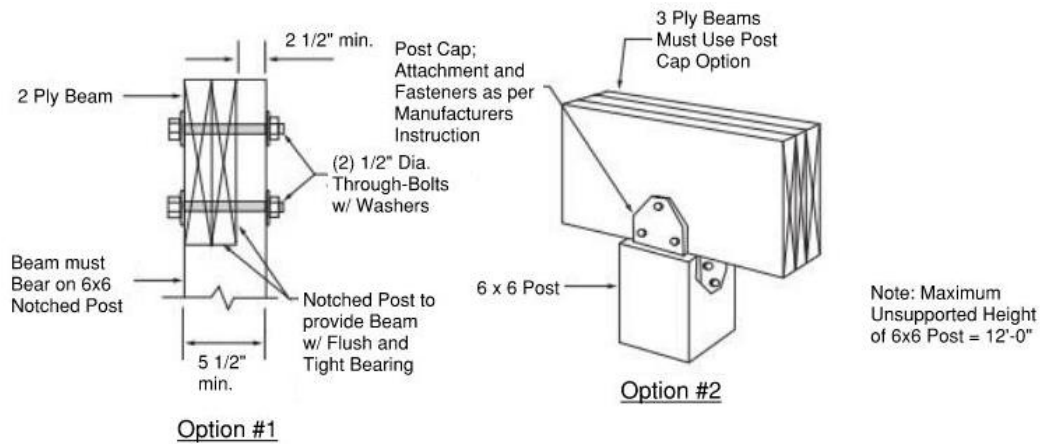
\*\* Refer to Lag Bolt Spacing Table Above



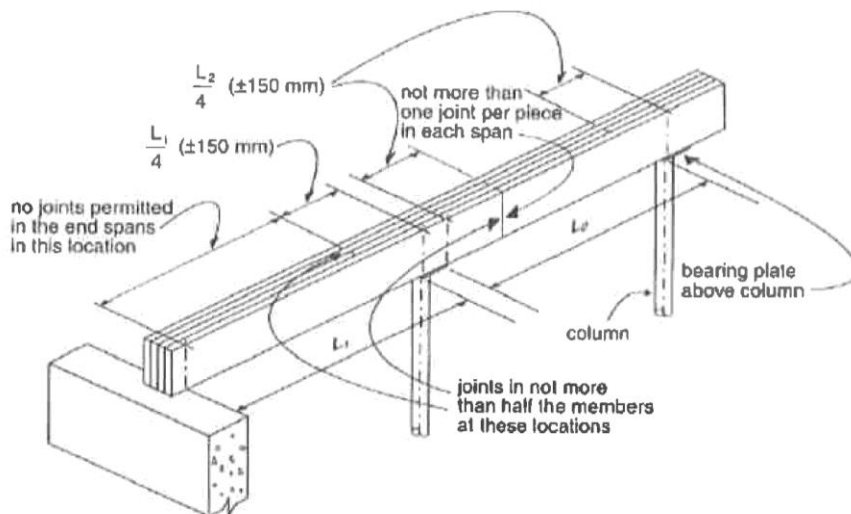
## Connection of Floor Joists to Beam Support



## Post to Beam Connections



## Joint Location in Built-Up Beams

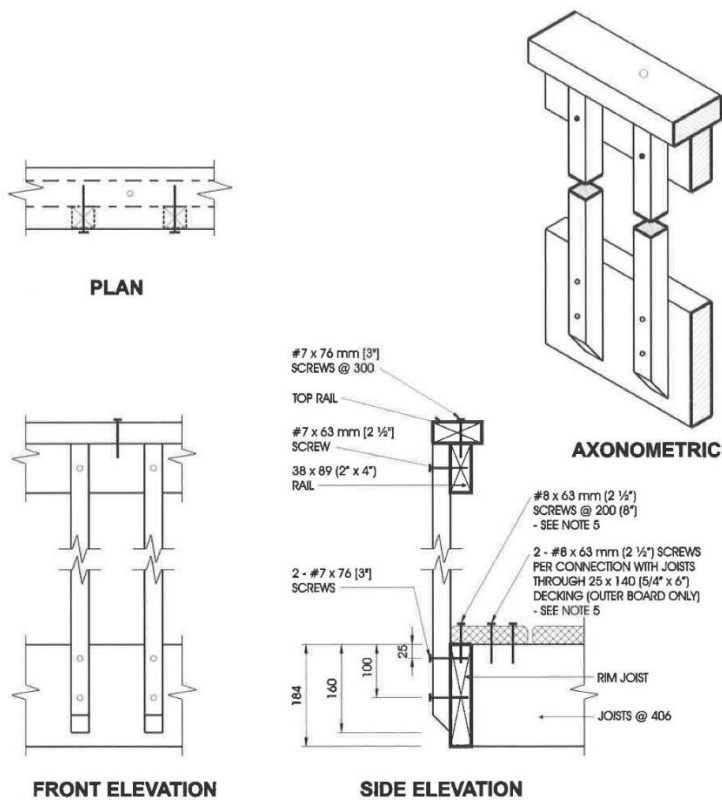




## Guard Requirements

- A guard is required where there is a difference in elevation of more than 600mm (24") between the walking surface and the adjacent surface.
- Exterior guards serving a house shall be not less than 900mm (36") high where the walking surface served by the guard is not more than 1800mm (70") above the finished ground level. And shall be not less than 1070mm (42") high where the guard is more than 1800mm (70") above the finished ground level, but less than 10m (32'-0")
- Exterior guards shall be designed so that no member, attachment or opening located between 140mm (5.5") and 900mm (36") above the walking surface will facilitate climbing.
- Openings through guards shall be of a size that prevents the passage of a spherical object having a diameter of 100mm (4")
- The guard shall meet the requirements of SB-7. See below for examples.

## SB-7 - Guard Construction – ED-1



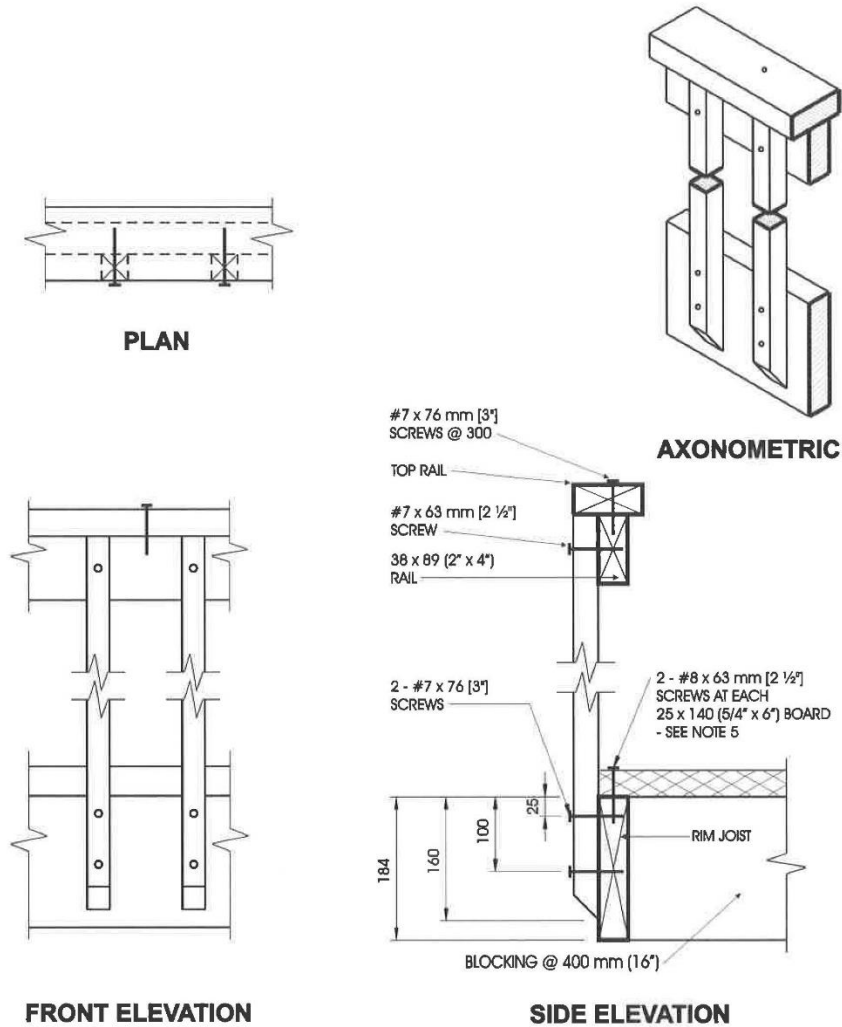
### Detail ED-1

#### Exterior Connection: Cantilevered Picket Screwed to Rim Joist

##### Notes:

1. Provide a suitable post, return, or solid support at each end of the guard.
2. Wood for cantilevered pickets shall be Douglas Fir-Larch, Spruce-Pine-Fir, or Hem-Fir Species.
3. Fasten rim joist to each floor joist with 3 - 82 mm (3 1/4") nails.
4. Dimensions shown are in mm unless otherwise specified.
5. The outer deck board shall not be less than 140 mm (6" nominal) wide. Where 38 mm (2" nominal) thick boards are used, the length of the wood screws shall be not less than 76 mm (3").

## SB-7 - Guard Construction – ED-2

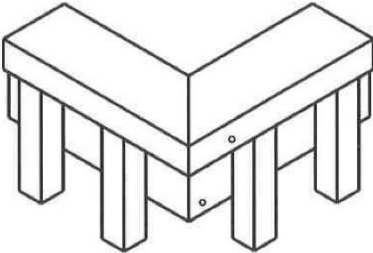
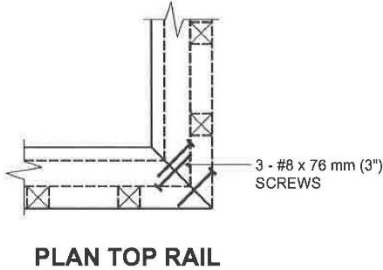


**Detail ED-2**  
**Exterior Connection: Cantilevered Picket Screwed to Rim Joist,**  
**Guard Parallel to Floor Joists**

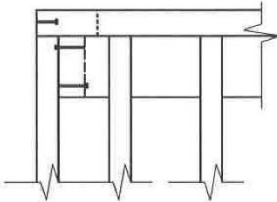
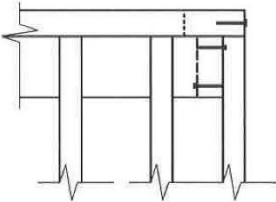
**Notes:**

1. Provide a suitable post, return, or solid support at each end of the guard.
2. Wood for cantilevered pickets shall be Douglas Fir-Larch, Spruce-Pine-Fir, or Hem-Fir Species.
3. Fasten rim joist to blocking with 3 - 82 mm (3<sup>1</sup>/<sub>4</sub>" ) nails.
4. Dimensions shown are in mm unless otherwise specified.
5. Where 38 mm (2" nominal) thick boards are used, the length of the wood screws shall be not less than 76 mm (3").

**SB-7 - Guard Construction – ED-5**



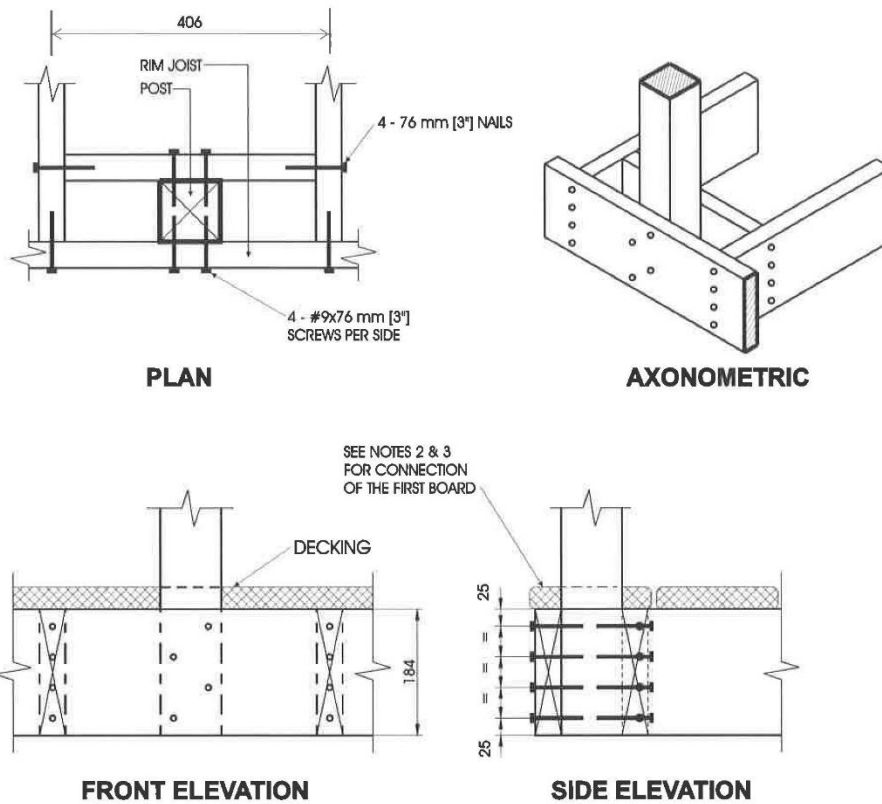
ONE FASTENER IN HORIZONTALLY ORIENTATED PORTION OF TOP RAIL  
AND TWO IN VERTICALLY ORIENTATED PORTION.



**Detail ED-5**  
**Exterior Connection: Corner Joint**

- Notes:**
1. Screws fastening pickets are omitted for clarity.
  2. Provide a minimum of 10 pickets beyond the return if end restraint of the guard is provided by this return detail only.

## SB-7 - Guard Construction – EB-2



### Detail EB-2

#### Exterior Connection: Post Screwed to Rim Joist

##### Notes:

1. Decking is omitted from the plan view and the axonometric view for clarity.
2. Fasten 25 mm x 140 mm (5/4" x 6" nominal) outer deck board to rim joist with 63 mm (2 1/2") nails at 300 mm (12").
3. Fasten 25 mm x 140 mm (5/4" x 6" nominal) outer deck board to floor joist with 1 - 63 mm (2 1/2") nail at each joist.
4. The post may be positioned anywhere between the joists.
5. #9 screws may be replaced by #8 screws if the maximum spacing between posts is not more than 1.20 m (3'-11").
6. Dimensions shown are in mm unless otherwise specified.

MAXIMUM SPAN OF RAIL BETWEEN POSTS	
Species	Maximum Span, m (ft-in)
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir	1.56 (5'-1")
Northern Species	1.20 (3'-11")
Column 1	2