

Typical Residential Deck Construction Details

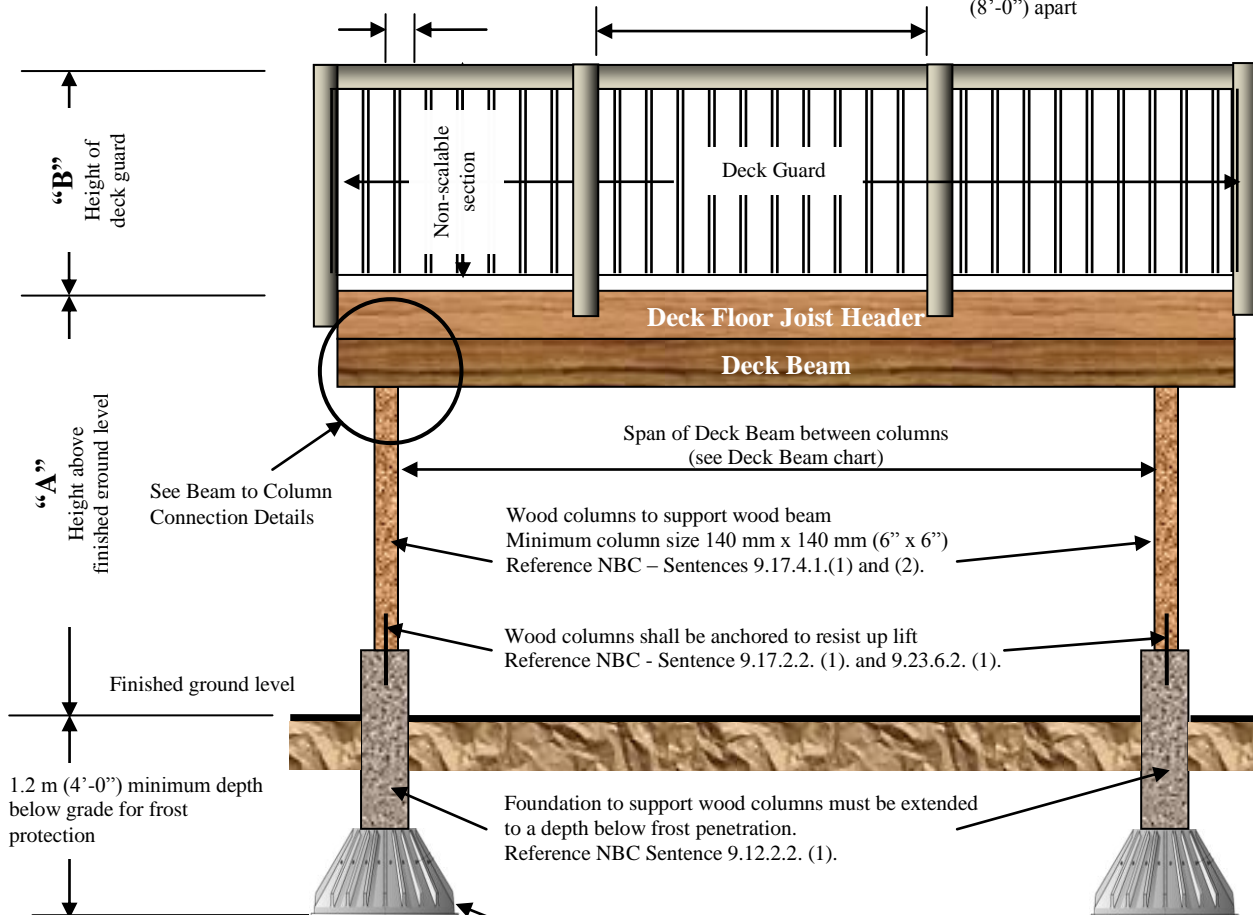
Frequently Asked Questions

How high does the railing around my deck have to be?		Can my deck railing have any horizontal parts incorporated in the design?	Is a Foundation required?	Can a "surface foundation" be used to support the deck? (see note #1)	What is the required depth for the foundation?
"A" Height above finished ground level	"B" Height of deck guard				
Greater than 1.8 m (6'-0")	1070 mm (3'-6")	Not Permitted between 140 mm (5 1/2") and 900 mm (3'-0") above deck surface	Yes	No	1.2 m (4'-0") minimum below ground level
Less than 1.8 m (6'-0")	900 mm (3'-0")	Not Permitted between 140 mm (5 1/2") and 900 mm (3'-0") above deck surface	Yes	No	1.2 m (4'-0") minimum below ground level
Less than 600 mm (2'-0")	Not applicable (see note #1)	Not applicable (see note #1)	No (see note #1)	Yes (see note #1)	Not Applicable (see note #1)

Note #1: A deck that is connected to or attached to a dwelling or building will require a foundation extended below frost level, consult your local building official for clarification of your design prior to construction.

100 mm (4") maximum size of any opening in the deck guard
Reference NBC – Sentence 9.8.8.5. (1).

Deck Guard posts shall be spaced not more than 2.4 m (8'-0") apart

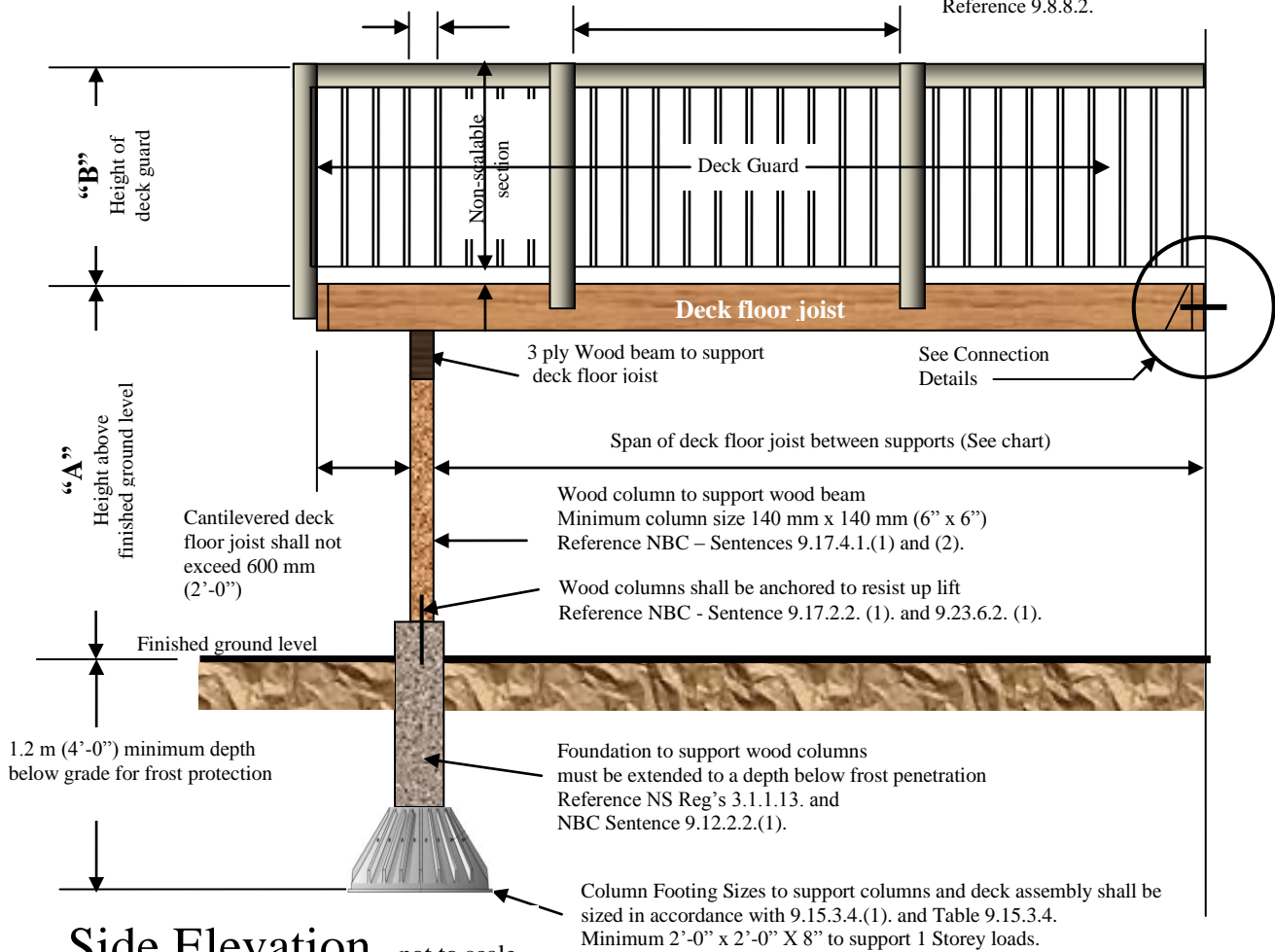


Front Elevation – not to scale

Column Footing Sizes to support columns and deck assembly shall be sized in accordance with 9.15.3.4.(1), and Table 9.15.3.4. Minimum 2'-0" x 2'-0" X 8" to support 1 Storey loads.

100 mm (4") maximum size of any opening in the deck guard
Reference NBC – Sentence 9.8.8.4. (1).

Deck Guard posts shall be spaced not more than 2.4 m (8'-0") apart
Reference 9.8.8.2.



Side Elevation – not to scale

What Size “Deck Floor Joist” do I need to have?

Lumber Size	Spacing of Joists (on Centre)	Maximum Span between supports	Spacing of Joists (on Centre)	Maximum Span between supports	Spacing of Joists (on Centre)	Maximum Span between supports
2" x 6" (38 x 140 mm)	12" (300 mm)	10' (3.08 m)	16" (400 mm)	9' (2.80 m)	24" (600 mm)	7'-9" (2.37 m)
2" x 8" (38 mm x 184 mm)	12" (300 mm)	13'-4" (4.05 m)	16" (400 mm)	12' (3.68 m)	24" (600 mm)	9'-6" (2.89 m)
2" x 10" (38 mm x 235 mm)	12" (300 mm)	17' (5.18 m)	16" (400 mm)	15'-4" (4.70 m)	24" (600 mm)	11'-7" (3.53 m)
2" x 12" (38 mm x 286 mm)	12" (300 mm)	20'-8" (6.30 m)	16" (400 mm)	18'-10" (5.73 m)	24" (600 mm)	13'-6" (4.10 m)

The information in this table is derived from the National Building Code 2005, Maximum Spans for Roof Joists - Table A-4, Lumber Type: S-P-F (Spruce-Pine-Fir), Lumber Grade : No. 2 with a Specified Snow Load of 2.0 kPa – refer to the Climatic Data Table in the Nova Scotia Regulations for Snow Loading in your area.

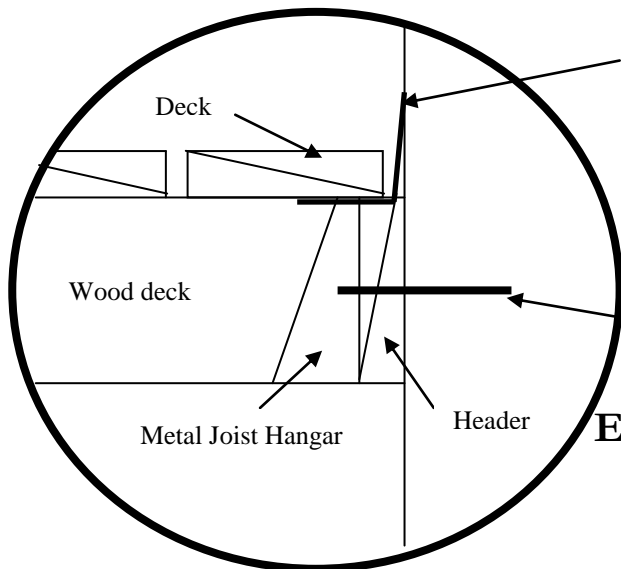
The joist span shown in the tables are based on wood decking nailed to the top side of the joists, with a row of wood blocking at the mid point of the span of the wood joists and the lumber is pressure treated wood with a lumber grade stamp equivalent to No. 2.

Refer to Sentence 9.4.2.3. - Platforms Subject to Snow and Occupancy Loads, loading shall not be less than 1.9 kPa or the Ground Snow Load based on the Climatic Data for your area or region, whichever is greater.

What Size “Deck Beam” do I need to have?

Wood Beam Size	Supported Joist length of Wood Deck Joists				
	“Supported Joist” length means ½ the sum of the joist spans on both side of the beam”				
	8’-0” (2.4 m)	10’-0” (3.0 m)	12’-0” (3.6 m)	14’-0” (4.2 m)	16’-0” (4.8 m)
Maximum Span of Wood Beam between Columns					
3 – 2” x 8” (3 - 38 mm x 184 mm)	10’ (3.07 m)	9’-4” (2.85 m)	8’-7” (2.63 m)	8’ (2.44 m)	7’-6” (2.28 m)
4 – 2” x 8” (4 - 38 mm x 184 mm)	10’-2” (3.38 m)	10’ (3.14 m)	9’-8” (2.95 m)	9’-2” (2.8 m)	8’-7” (2.63 m)
3 – 2” x 10” (3 - 38 mm x 235 mm)	12’-10” (3.92 m)	11’-6” (3.52 m)	10’-6” (3.22 m)	9’-9” (2.98 m)	9’-2” (2.79 m)
4 – 2” x 10” (4 - 38 mm x 235 mm)	14’-2” (4.32 m)	13’-2” (4.01 m)	12’-2” (3.71 m)	11’-4” (3.44 m)	10’-7” (3.22 m)
3 – 2” x 12” (3-38 mm x 286 mm)	15’ (4.57 m)	13’-4” (4.09 m)	12’-4” (3.73 m)	11’-4” (3.46 m)	10’-6” (3.23 m)
4 – 2” x 12” (4-38 mm x 286 mm)	17’-4” (5.25 m)	15’-6” (4.72 m)	14’-2” (4.31 m)	13’ (3.99 m)	12’-3” (3.73 m)

The information in this table is derived from the National Building Code 2005, “Maximum Spans for Built Up Wood Beams Supporting not more than One Floor – Table A-8” and Lumber Type: S-P-F (Spruce-Pine-Fir), Lumber Grade : No. 2



Where exterior cladding consists of vinyl siding (or equivalent), measures must be taken to ensure flashing is installed to address rain penetration into the existing building at this connection, consult your local building official for permitted practices.

Recommended practice:
½” diameter or larger “through bolt” with nuts and washers spaced at not more than 18” o.c., consult with your local building official prior to installing.

Example of a Connection to a Dwelling

Private Stairs

2015 National Building Code of Canada

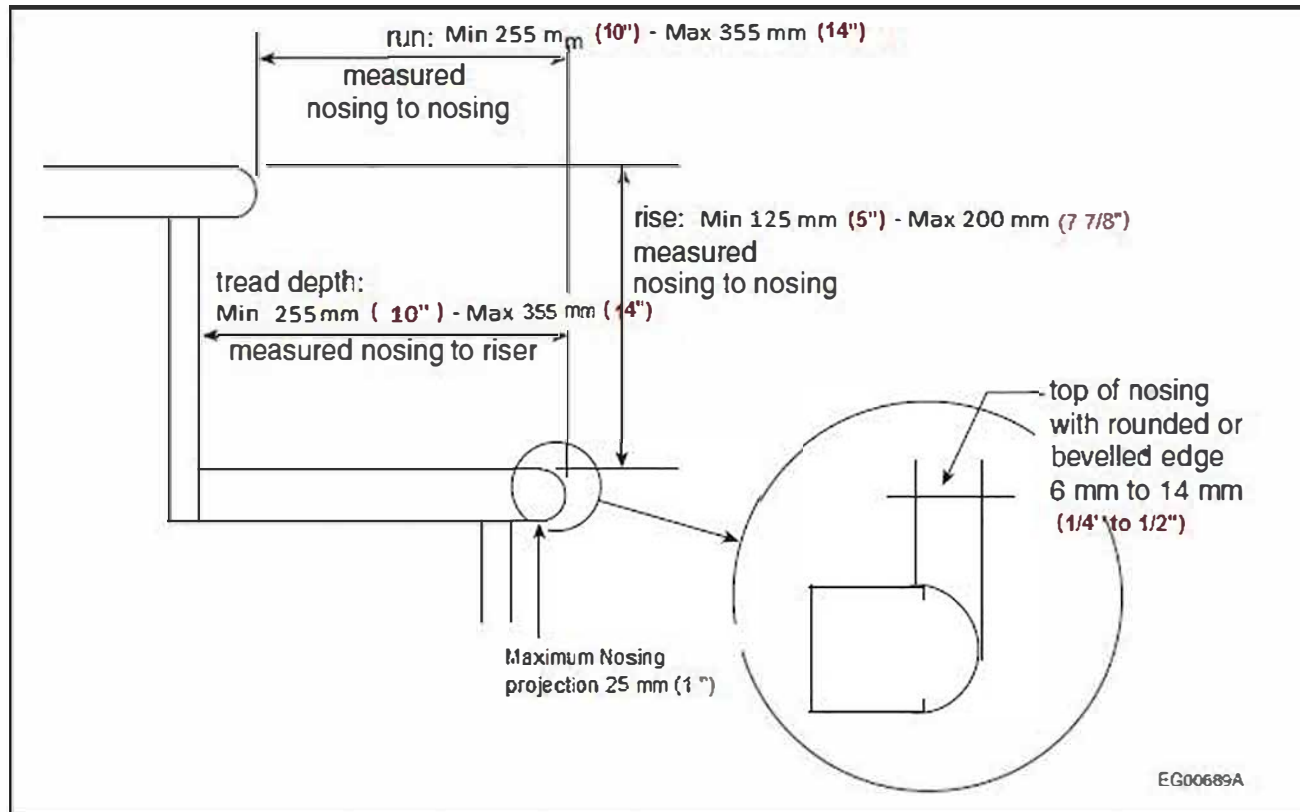
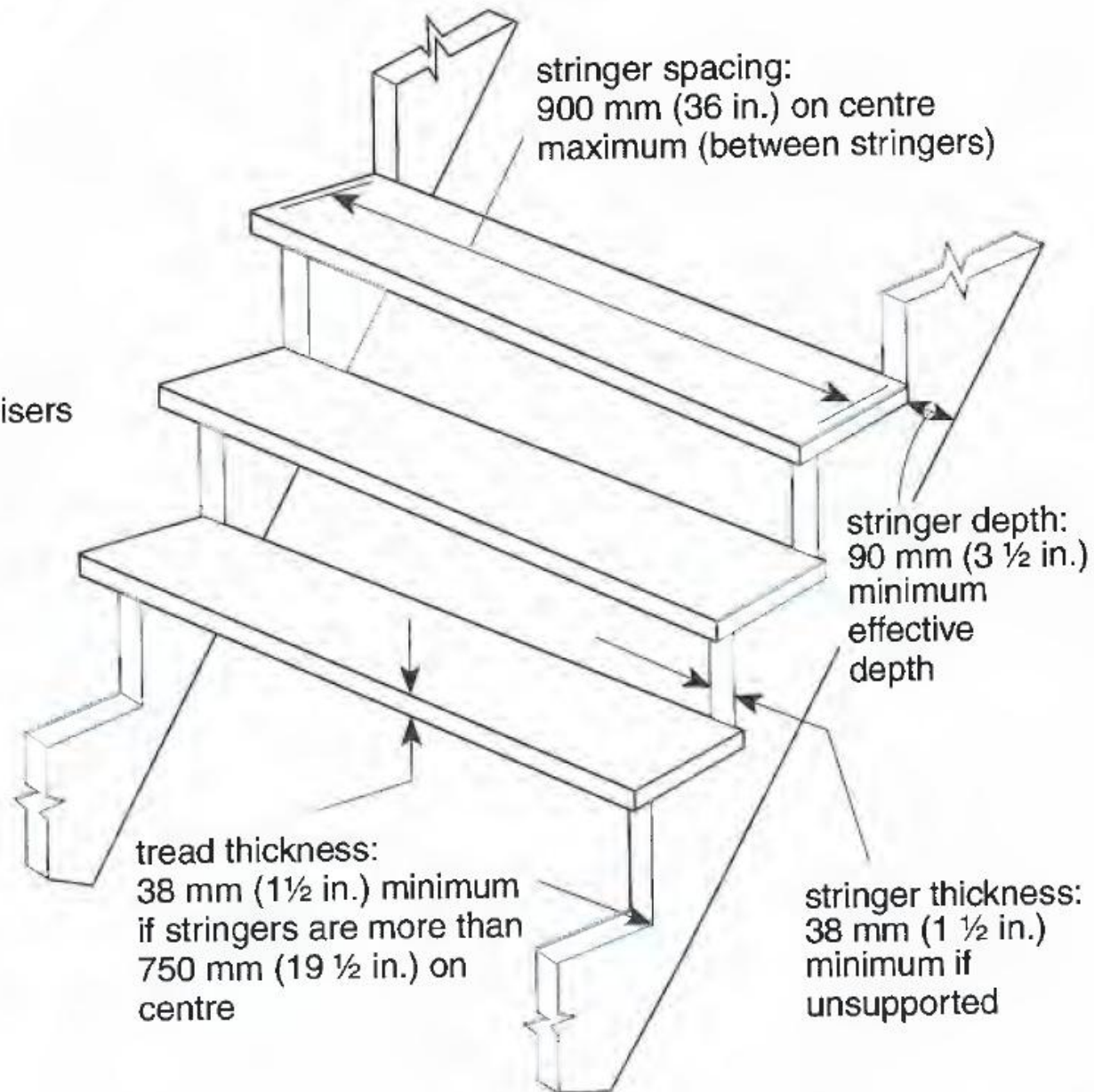


Figure A-9.8.4.-B Measurements shown are interior or exterior stairs serving (a) single dwelling units (b) houses with a secondary suite or garages serving a or b
Elements of steps and their measurement

Risers and Treads shall be of uniform height and run in any one flight, with a maximum tolerance of 5 mm between adjacent treads or landings and 10 mm between the tallest and shortest risers and deepest and shallowest treads in a flight.

(b) Open risers



Handrail

A-9.8.7.5.(2) Handrail Sections. Handrails are intended to provide guidance and support to stair users. To fulfil this intent, handrails must be “graspable.” Acceptable handrail sections include, but are not limited to, those shown below.

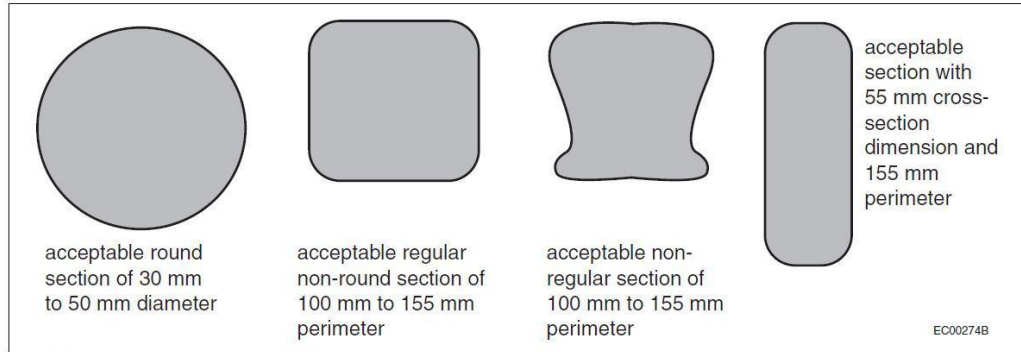
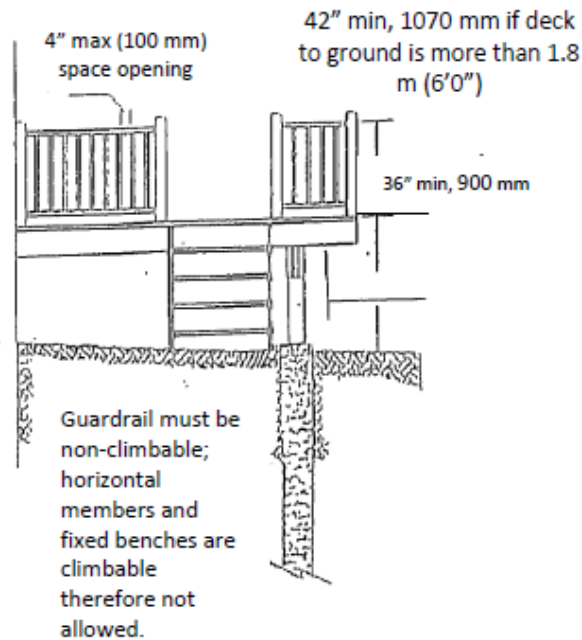
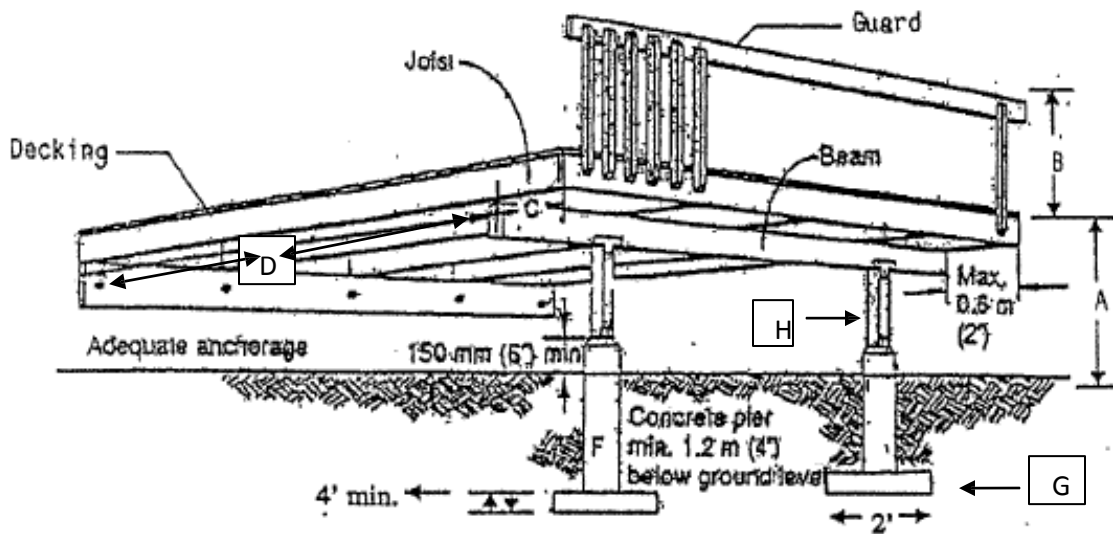


Figure A-9.8.7.5.(2)
Handrail sections

Guards



Exterior Deck Elevation Drawing



Please fill in the appropriate spaces that apply to your new deck and return with your application. Please use a blank piece of paper to draw what the deck will look like from a plan view include location and direction of beam(s). Built up beams shall be a minimum of 3 ply 2 x 8 unless otherwise designed by calculations.

Height of deck above grade (A) _____ Guard height above the deck (B) _____

Handrail height _____ (Must be graspable, see reference sheet attached to deck guidelines.)

Rise of Stairs _____ Run of Stairs _____ Stair Rise Maximum 7 7/8" (200 mm)
Stair Tread Minimum 10" (255 mm)

Supporting foundation for the deck: (Deck Blocks or Concrete Piers)

Concrete pier size (F) _____ Footing size (G) _____ Spacing _____

Deck block (with patio block as footing) spacing _____ (Only applicable for decks less than 2 feet from ground AND not attached to building.)

Supporting beam size _____ Supporting beam length _____ Beam cantilever _____
[Maximum Deck beam cantilever 16" for 3 ply 2x8 or 24" for 3 ply 2x10]

Supporting post size (H) _____ (Minimum 6 x 6 unless otherwise designed)

Joist size _____ Joist Spacing _____ Joist Span (D) _____ Bridging or Blocking? _____

Method of joist connection: Joist hangers Nailed with ledger strip

Joist cantilever (If applicable) (C) _____ [Maximum to cantilever is 16" for x 2 x 8 joist or 24" for 2x10 joist]

Method of deck attachment to building _____ Spacing of fasteners at building _____
(Example: Ledger board, flashing and 1/2 inch lag bolts spaced 16" on centre)

The span tables included in the FAQ are minimum building code requirements for residential (single dwelling) and not meant for more than 40 pounds per square foot (1.9 kPa). Please keep this in mind when planning your project.

Signature _____

Date _____