

	<p><i>Village of Carol Stream</i></p> <p>500 N. Gary Avenue, Carol Stream, Illinois 60188</p>			
	Phone: (630) 871-6230	Fax: (630) 665-1064	Website: www. carolstream.org	E-mail: communitydevelopment@ carolstream.org

Permit Submittal Checklist and Process Deck

Note to applicants:

This handout is intended to assist applicants through the deck permit process. All items listed under “items needed for a complete permit application” must be submitted. The applicant should review the “helpful tips” for common project requirements. Please note that incomplete applications can cause processing delays.

Items needed for a complete permit application:

- A completed Residential Permit Application (or apply online: carolstream.org).
- One copy of the Plat of Survey, drawn to scale, showing the location and dimensions of the proposed deck, distances from property lines, and the location and dimensions of all existing accessory structures (sheds, pools, patios, gazebos, etc.) on the property.
- Construction detail drawings – Drawings must be legible and to scale.
- The deck permit fee of \$96, payable when application is submitted.

Helpful tips:

- Decks cannot be located in an easement. Please check the Plat of Survey to identify easement locations on the property.
- Decks that are attached to or directly adjacent to the house must comply with the same setback from side lot lines as is required for the house. In most cases, the required side setback is 7.5 feet, but there are exceptions. Community Development staff can help you determine the required setback in your neighborhood. Decks that are not attached to the house must be set back a minimum of five feet from the side and rear lot lines. For corner lots, decks may be located within a side yard adjacent to the street, not less than 15 feet from the lot line adjacent to the street, if the yard is enclosed with an allowable solid fence that is at least four feet in height.

***Permit Submittal Checklist and Process
Deck***

- Decks are only allowed in the rear yard, with one exception: in cases in which patio doors are located on the side of the home, a deck may be built in the interior side yard provided that the deck does not extend more than four feet into the interior side yard setback.
- The area of the deck is included in the calculation of allowable lot coverage for the property. Most properties are allowed to have 30% lot coverage, excluding the driveway and any sidewalk four feet or less in width. Provided that the ground below the deck will be permeable, the area of the deck (only) may increase lot coverage to a maximum of 35%. The Plat of Survey needs to identify the location and dimensions of all existing structures on your property so that the proposed lot coverage can be calculated.

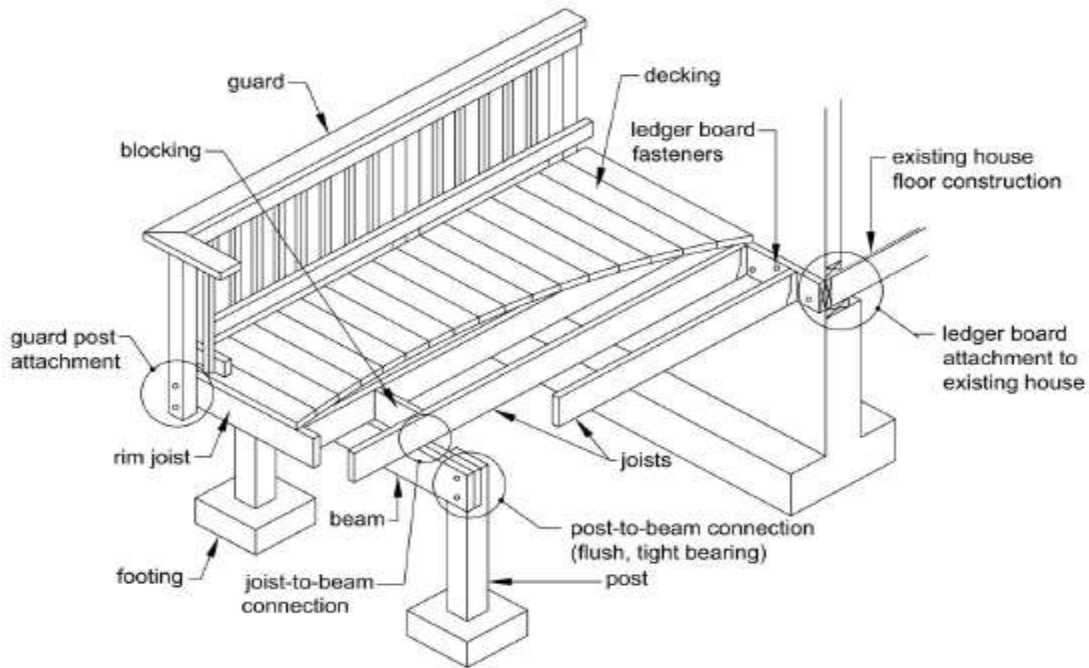
Inspections (24-hour advance notice required for inspection scheduling):

- Pier Holes – Once holes are prepared, the applicant or contractor must call the Community Development Department for an inspection before the concrete is poured.
- Ledger Board – ledger board bolting and flashing inspection can be done with pier holes or with framing inspection.
- Framing – After the deck framing is built and before deck boards are installed, the applicant or contractor must call the Community Development Department for a framing inspection.
- Final – Once the deck is complete, including all stairs, handrails and balusters, the applicant or contractor should call the Community Development Department as soon as possible for a final inspection.

**Contact the Community Development
Department at (630) 871-6230 if you have any questions
regarding the building permit or inspection process.**



Permit Submittal Checklist and Process Deck



Deck design permit submittal requirements:

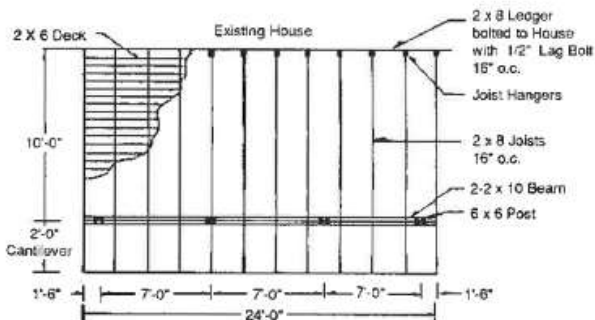
(Note: joists must meet 40 psf. live load, 10 psf. dead load, grade #2 or better, wet service conditions)

All items below must be filled out and included on the plan drawings (circle item if specified or fill in the blank).

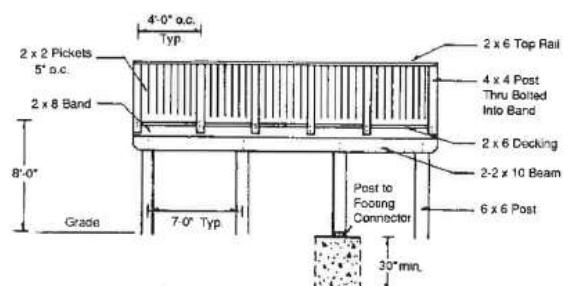
- Plat of survey: (Deck must be drawn to scale on Plat of survey, preferably in Red)
 - o Distance to side yard property line:
 - o Distance to rear property line:
 - o Size of Deck:
 - o Are all accessory structures shown on the Plat of Survey: **Yes/ No**
 - o Is the deck within 3' of a swimming pool: **Yes/ No/ NA**

- Deck Framing:
 - o Overall deck length:
 - o Overall deck width:
 - o Height of deck from grade below:
 - o Specify deck board materials: **1-1/4" thick wood, 2" thick wood, plastic composite, other**

■ PLAN VIEW
SAMPLE



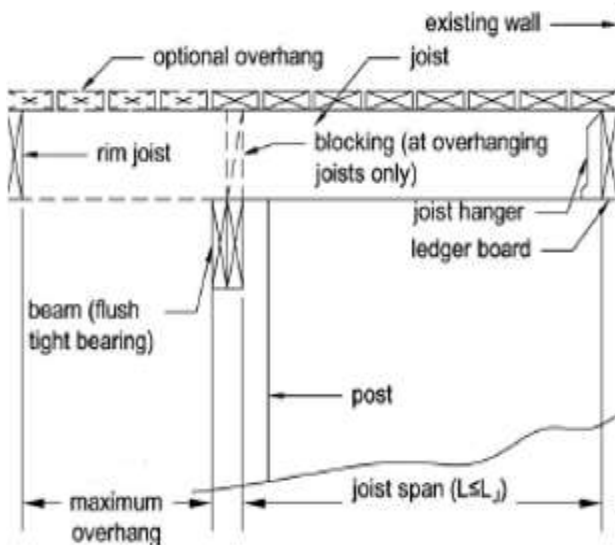
■ ELEVATION VIEW
SAMPLE



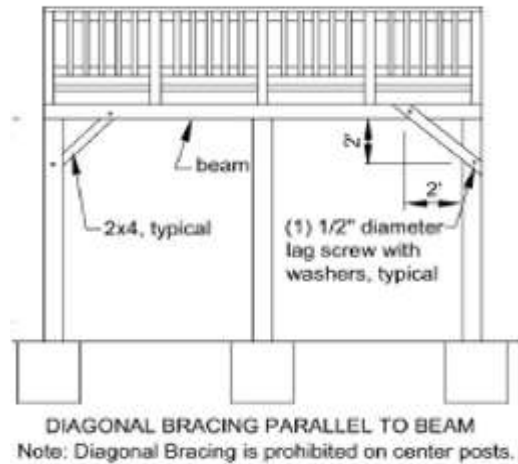
Permit Submittal Checklist and Process Deck

- Deck Joist size: 2"x [redacted]" spacing: [redacted] inches on center.
- Maximum Joist span from chart below: [redacted]
- Joist overhang past deck beams cannot exceed 24"

Maximum Joist Spans							
		Joist spacing – on center					
		12"	16"	24"	12"	16"	24"
Species	Size	Allowable Span			Allowable overhang		
Douglas-Fir; Hem-Fir; Spruce- Pine-Fir	2x6	9'-6"	8'-8"	7'-2"	1'-2"	1'-3"	1'-5"
	2x8	12'-6"	11'-1"	9'-1"	1'-11"	2'-0"	2'-0"
	2x10	15'-8"	13'-7"	11'-1"	2'-0"	2'-0"	2'-0"
	2x12	18'-0"	15'-9"	12'-10"	2'-0"	2'-0"	2'-0"



Joist Span



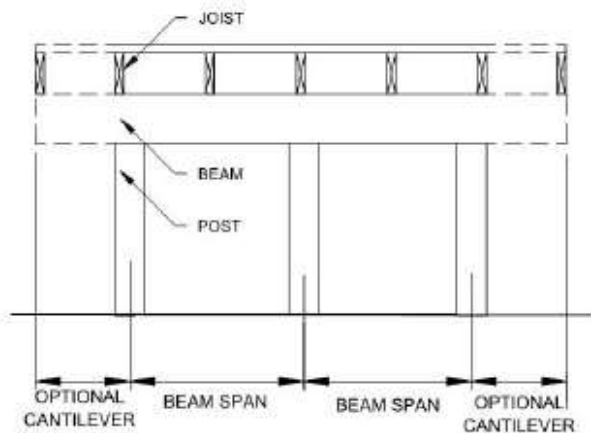
Diagonal Bracing

- Deck Beam size: (circle one) **single, double or triple**: 2" x [redacted]"
- Beam spacing between support posts: [redacted] feet [redacted] inches
- Beam support post size: [redacted]"x[redacted]" (minimum 6x6 required)
- Beam Cantilever length: [redacted]" (beam cantilever are limited to the adjacent beams span divided by 4)

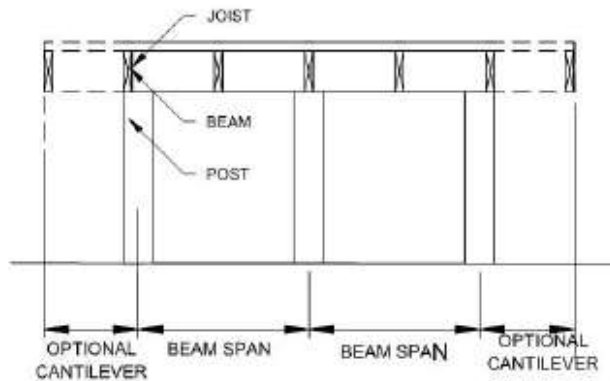
Example: Deck is 14' wide x 11' long; if the length of the joist from ledger to the center of the beam is 10', and you decide to use 2-2x8 as a beam; the spacing between the beam posts is 5'-1" or less; and the cantilever is 15" (5'1"/4). Since the deck is 14' wide and the maximum distance from the edge of the beam to the post is 15" at each end, you will need 4 posts (3 posts covers 10'1" of the beam and each cantilever is a maximum of 15", you will need one additional post).

Permit Submittal Checklist and Process Deck

Deck Beam Span (maximum spacing allowed between support posts)								
		Joists Spans (Less than or equal to) – from ledger to beam/beam to						
Species	Beam size	6'	8'	10'	12'	14'	16'	18'
Douglas-Fir; Hem-Fir; Spruce-Pine-Fir	2-2x6	5'-5"	4'-8"	4'-2"	3'-10"	3'-6"	3'-1"	2'-9"
	2-2x8	6'-10"	5'-11"	5'-4"	4'-10"	4'-6"	4'-1"	3'-8"
	2-2x10	8'-4"	7'-3"	6'-6"	5'-11"	5'-6"	5'-1"	4'-8"
	2-2x12	9'-8"	8'-5"	7'-6"	6'-10"	6'-4"	5'-11"	5'-7"
	3-2x6	7'-4"	6'-8"	6'-0"	5'-6"	5'-1"	4'-9"	4'-6"
	3-2x8	9'-8"	8'-6"	7'-7"	6'-11"	6'-5"	6'-0"	5'-8"
	3-2x10	12'-0"	10'-5"	9'-4"	8'-6"	7'-10"	7'-4"	6'-11"
	3-2x12	13'-11"	12'-1"	10'-9"	9'-10"	9'-1"	8'-6"	8'-1"

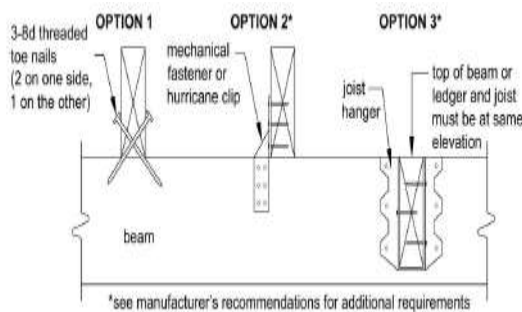


DROPPED BEAM



FLUSH BEAM

- Deck joist hangers must be listed for joist size. Joist hanger nails or screws must be listed for use with the joist hangers in accordance with the manufacturer's installation instructions.



*see manufacturer's recommendations for additional requirements

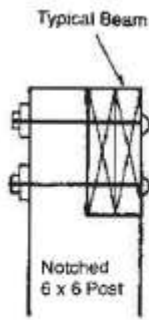
Maximum Joist Spacing For Decking		
Decking Material, Type and Nominal Size	Maximum on-center joist spacing	
	Decking perpendicular to joist	Decking diagonal to joist ^a
1-1/4 inch thick wood	16 inches	12 inches
2 inch thick wood	24 inches	16 inches
Plastic composite	See manufacturer's requirements	

a. Maximum angle of 45 degrees from perpendicular for wood deck boards.

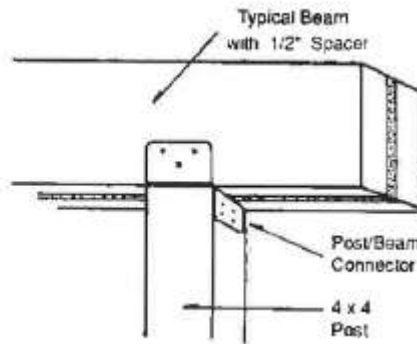
- Posts are required to be connected to the footing with a mechanical fastener.
- Specify type of connection from post to beam: **Notched or Mechanical Fastener** (Beams are not permitted to be attached to the sides of the posts; beams only permitted to be notched into post or mechanically fastened).

Permit Submittal Checklist and Process

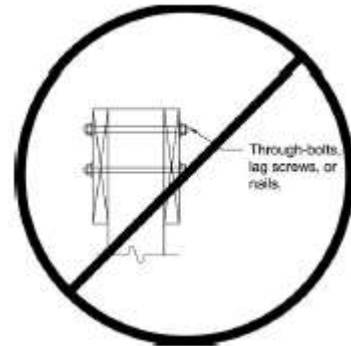
Deck



Post to Beam Attachment

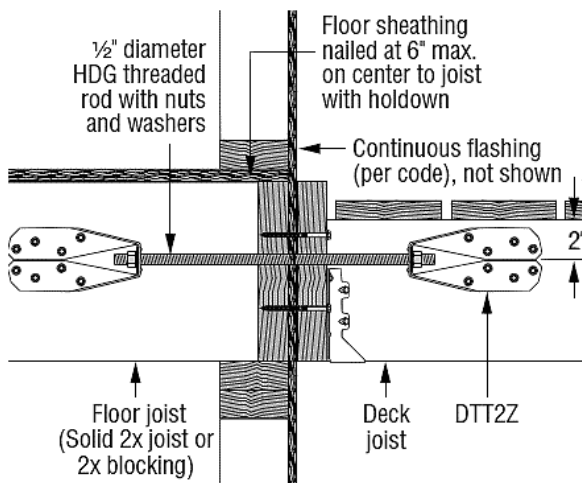


Alternate Post to Beam Attachment

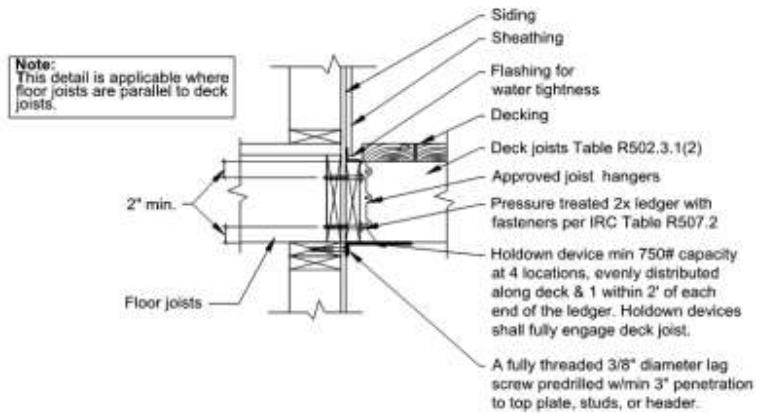


Prohibited Post to Beam Attachment
Support of beams by fasteners only is prohibited

- Provide manufacturer specifications for lateral load devices being installed. Specify which type of lateral load attachment will be installed: **type 1 or type 2**



Lateral Load Device Attachment Type 1
Minimum 2 required within 24" from each end



Lateral Load Attachment Type 2
minimum 4 required per deck

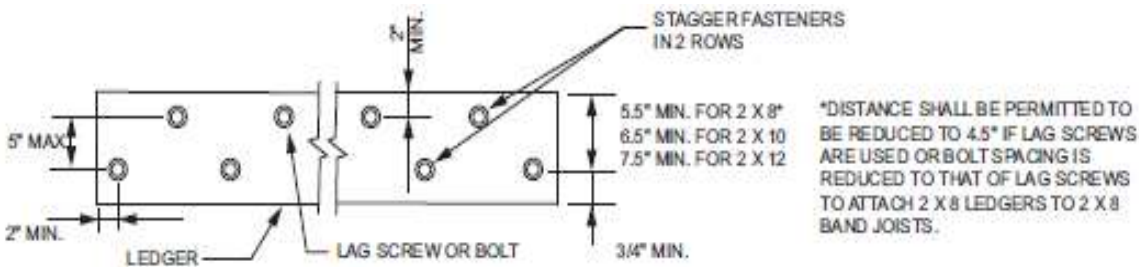
- Ledger Board size: 2"x [redacted]" (Note: minimum size of joists)
- Ledger Board connectors: 1/2" lag bolts/lag screws/ or concrete anchors @ [redacted]" on center – or – indicate type and spacing [redacted] (provide manufacturer's requirements)
- **Ledger boards and deck framing are not permitted to be attached to cantilevers, over siding, or to brick veneer.**
- Ledger boards must have a solid connection to the structural framing of the building.
- Drip flashing is required and must be installed over all ledger boards.

Permit Submittal Checklist and Process Deck

Deck Ledger Connections to Band Joist ^{a, b}							
(Deck live load = 40 psf., deck dead load = 10 psf., snow load < or = 40psf.)							
Connection Details	Joist Span						
	6' and less	6'1" to 8'	8'1"-10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
On-center spacing of fasteners							
½ inch diameter lag screw with ½ inch maximum sheathing ^{c, d}	30	23	18	15	13	11	10
½ inch diameter bolts with ½ inch maximum sheathing ^d	36	36	34	29	24	21	19
½ inch diameter bolt with 1 inch maximum sheathing ^e	36	36	29	24	21	18	16

- a. Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the band joist.
- b. Snow load shall not be assumed to act concurrently with live load.
- c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- d. Sheathing shall be wood structural panel or solid sawn lumber.
- e. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber, or foam sheathing. Up to ½ inch thickness of stacked washers shall be permitted to substitute for up to ½ inch of allowable thickness where combined with wood structural panel or lumber sheathing.

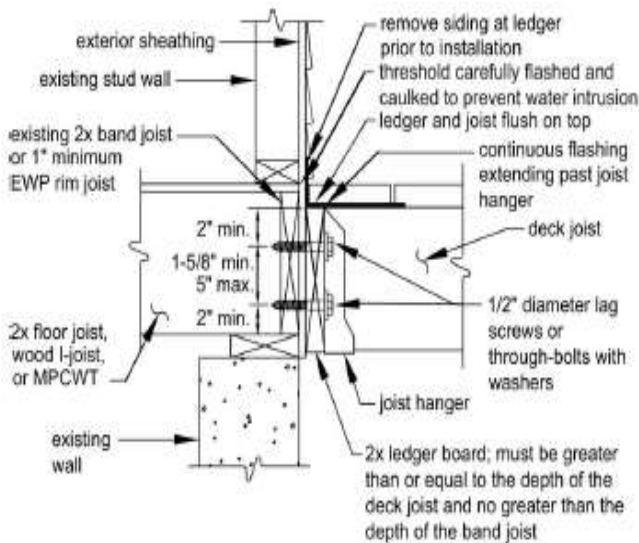
Table 507.9.1.3(1)



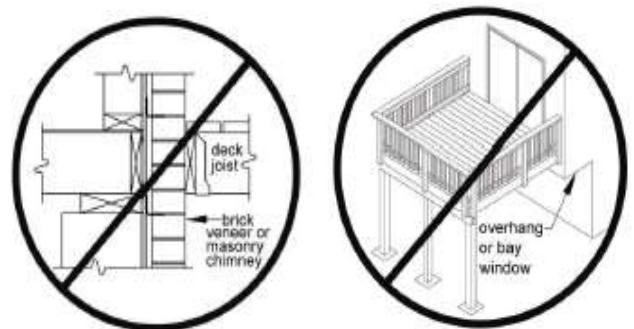
Placement of lag screws and bolts in deck ledgers and band joists				
Minimum end and edge distances and spacing between rows				
	Top Edge	Bottom Edge	Ends	Row Spacing
Ledger ^a	2 inches ^d	¾ inch	2 inches ^b	1 5/8 inches ^b
Band Joist ^c	¾ inch	2 inches	2 inches ^b	1 5/8 inches ^b

- a. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.9.1.3(1).
- b. Maximum 5 inches
- c. For engineered rim joists, the manufacturer's recommendation shall govern.
- d. The minimum distance from the bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure R507.9.1.3(1)

Table 507.9.1.3(2)



Ledger Board Attachment



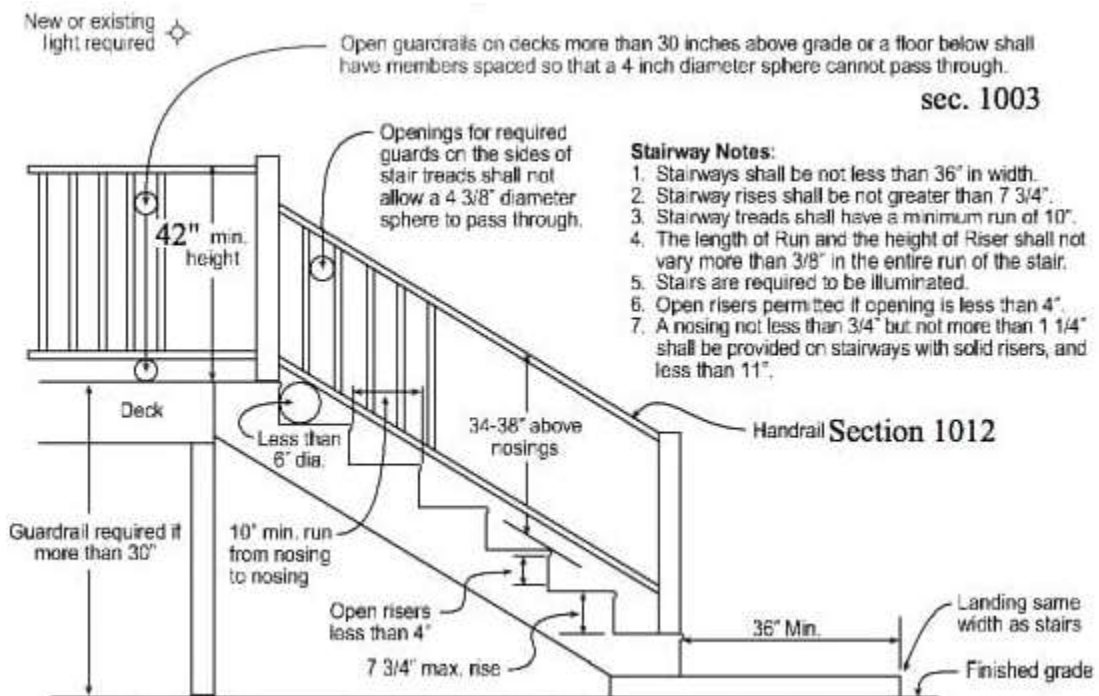
Prohibited Ledger Board Attachments

Permit Submittal Checklist and Process

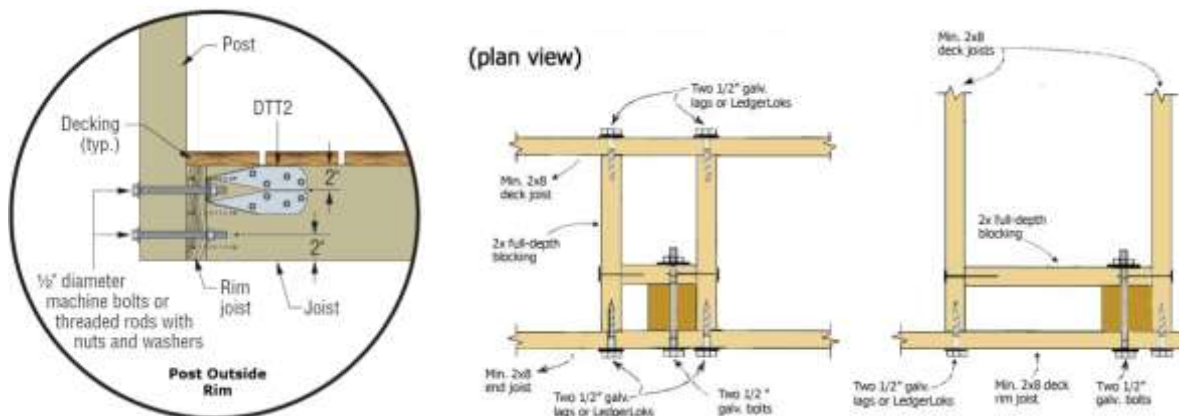
Deck

Attached to brick veneer or overhang of structure

- Deck Railing Construction:
 - Guard rails are required to be installed on any deck with a height of 30" or more from the grade level below to the deck floor.
 - Railing height: "
 - Spacing between railing posts: " (Maximum 6' on center)
 - Spacing between balusters must be less than 4"
 - Spacing from deck to bottom of railing must be less than 4"
 - Specify method used to attach guardrail posts to deck
(If mechanical fasteners – provide manufacturer's specifications)
 - Guardrails for stairways must have balusters installed so that a 4-3/8" sphere cannot pass through.
 - The space between the guardrail over stairs and the steps cannot allow a 6" sphere to pass through.



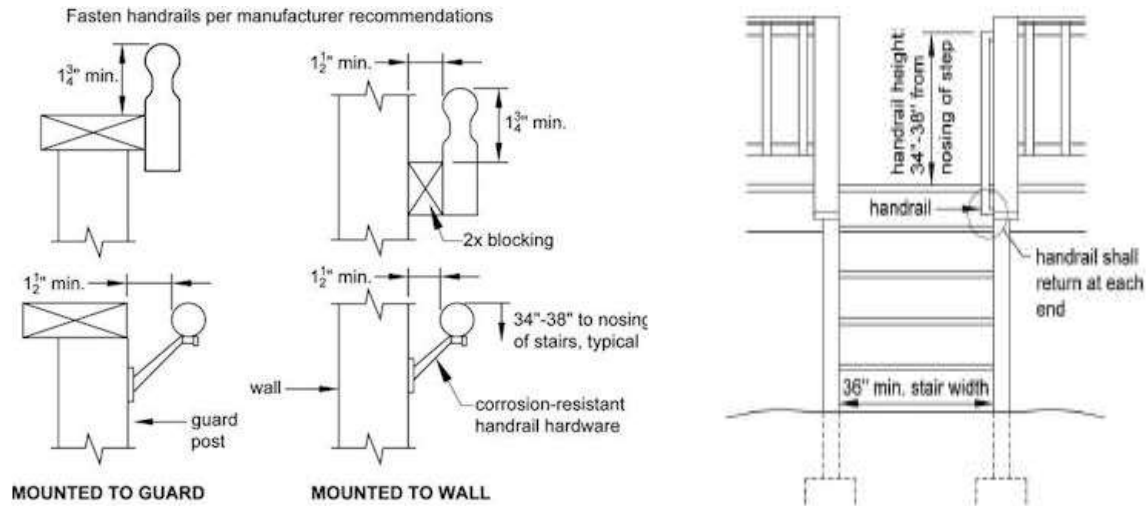
Guardrail and Stair Detail Requirements



Permit Submittal Checklist and Process Deck

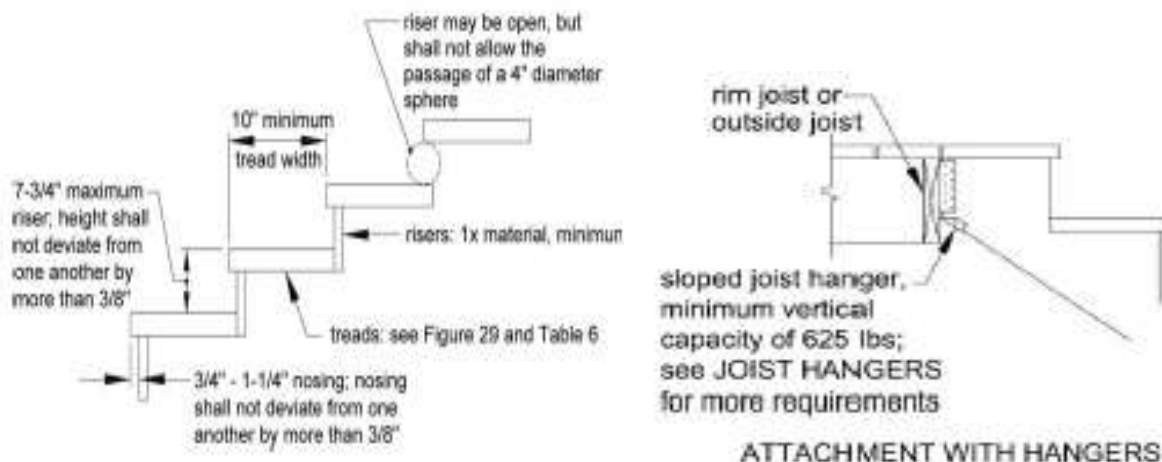
Guard Post Attachment Examples

- A graspable handrail must be installed on any set of stairs with 4 or more risers. The handrail must return at both ends. Graspable handrail provided: **Yes/No**



Deck Stair Construction:

- The width of each set of stairs cannot be less than 36".
- Each set of stairs must have a landing at the top and bottom. The landing cannot be less than the width of the stairway and must be at least 36" in the direction of travel.
- The maximum riser height for each step is 7-3/4". All risers must be the same height or within 3/8" from the largest riser height to the smallest riser height, within a flight of stairs. The flight of stairs is from the grade level to the finished deck height or from one deck level to the next.
- The minimum tread depth is 10" from the nose of the tread to the nose of the tread above. All treads must be the same depth or within 3/8" from the smallest depth to the largest depth, within a flight of stairs.
- Indicate the method used to connect the stair stringers to the deck framing.

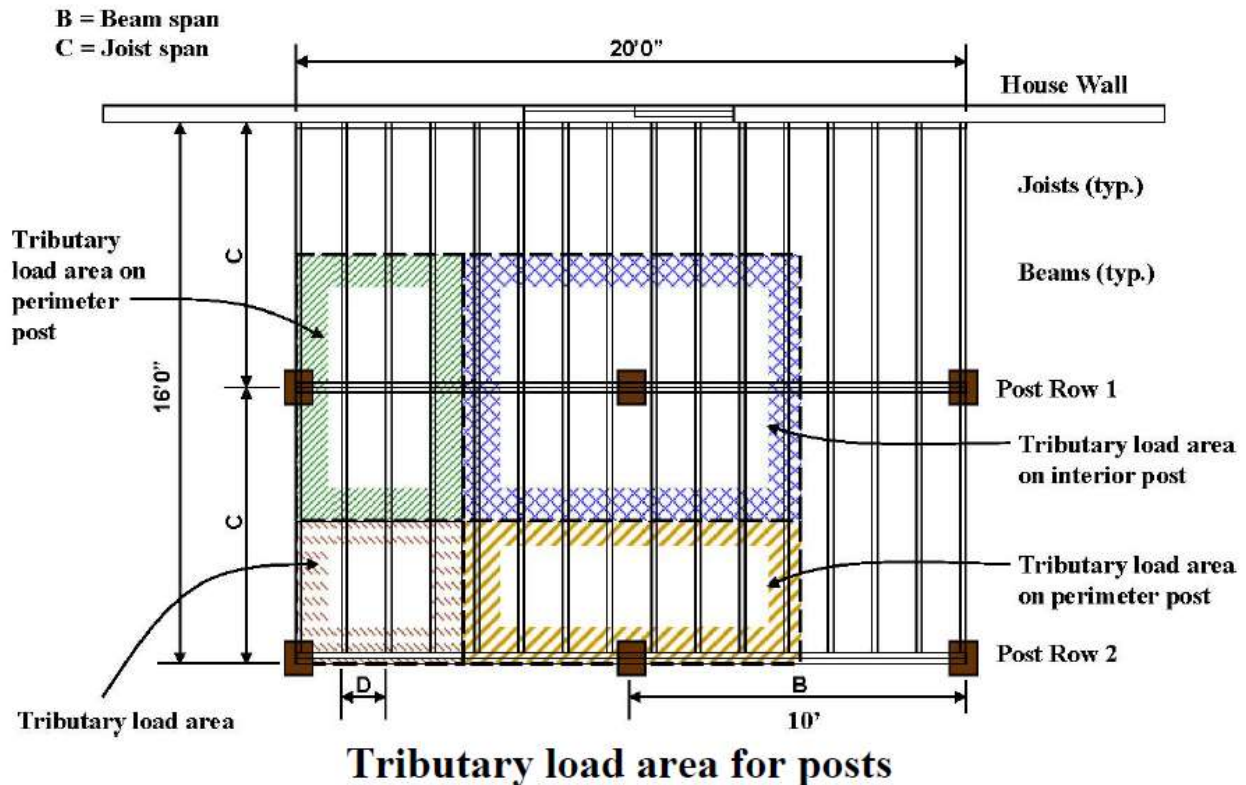


Tread and Riser Detail

Stair Stringer Attachment Sample

Permit Submittal Checklist and Process Deck

- Pier Details and Requirements:
 - All piers are required to be a minimum 42" deep.
 - All piers are required to be a minimum 6" above grade.
 - Diameter of Piers: Center piers: "; Perimeter piers: "; Corner piers: "
 - **All piers must be sized in accordance with the requirements below:**
 -



Tributary Load Area (in square feet)	Diameter of Concrete Pier (in inches)
Up to 37 sf.	10"
37 – 50 sf	12"
51 – 67 sf	14"
68 – 86 sf	16"
87 sf and over	18"

The size of the concrete piers that are required to support a deck is based on the square footage of the deck being supported by that column and pier the tributary load area. The tributary load area is the area of the deck that is halfway to the next support in any direction. The ledger along the house is considered a support for the deck. In the example above, the deck is 16' deep (length of deck joists) by 20' wide (length of deck beams). The joist span from the ledger board to post row 1 is C (8'). The beam span from one post to the other is B (10'). The first post row supports half of the distance from the ledger board ($1/2 \times 8' = 4'$) and half the distance to post row 2 ($1/2 \times C = 4'$). Likewise each post also supports half the distance to the next post along each beam ($1/2 \times B = 5'$). The center post has an area of $(4'+4') \times (5'+5') = 8 \times 10 = 80$ square feet. The perimeter posts each have an area of 40 square feet. And the corner posts each have an area of 20 square feet. The 80 sf center post will need a 16" diameter pier, the 40 sf perimeter posts will each need a 12" pier and the 20 sf corner posts will each need a 10" pier.

***Permit Submittal Checklist and Process
Deck***

A large grid of graph paper, consisting of 20 columns and 30 rows of small squares. The grid is intended for drawing or calculations. A dashed horizontal line is located at the bottom of the grid, approximately 10 rows above the bottom edge of the page.

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