

## Residential Deck Guide

### Contractor Licenses allowed to build decks:

A, B, C, C2, D, D2, MM (MM does not include 2 story decks).

**Homeowners Builders:** See homeowner affidavit.

### Required Inspections

1. Setbacks & Footings (pier hole)
2. Foundation (post connections)
3. Rough Frame (must be called in before decking is installed). Rough Electric (if electric work is being done, prior to being concealed by fixtures/outlets).
4. Final Inspection and Final electric (if applicable)

*Inspectors need to see all connections. Multiple rough frame inspections will need to be scheduled if using concealed connectors. Open pier hole needs to be inspected before pouring concrete into the hole.*

<https://www.fcgov.com/building/inspections.php>

Any deck more than 30" at any point above grade requires a permit.

Any deck attached to the house requires a permit.

Any deck/landing that serves the front door requires a permit.

Any Deck more than 200 sq. ft. requires a permit.

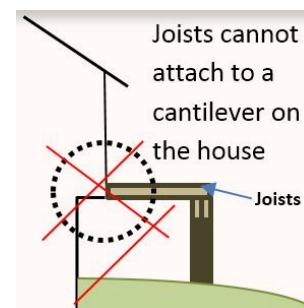
*Note: Repairs to any of the scenarios above also require a permit (i.e. replacement of beams/posts/joists, heavier decking material etc.*

### Submittal Checklist (all documents must be in PDF format)

- ☐ Permit Application: include square footage of the deck and note if electrical work is included (lights, outlets)  
Name PDF: *Apps – Address – v1.*
  - Homeowner Affidavit (for homeowner builders)
- ☐ Site Plan (Name PDF: *Site Plan – Address – v1*)
- ☐ Plans (Name PDF: *Plans – Address – v1*)
  - Floor Plan
  - Section/side view
  - Connection details
  - At least 1 *before* photo showing where the deck will be located.
  - Deck Guide filled out
- ☐ Plan check fee is due at submittal.
  - See step #6 <https://www.fcgov.com/building/exterior-permits>

### Engineered and stamped structural plans or letter are required to be submitted for any of the following conditions:

1. Multi-story / stacked decks
2. Beam supported by hangers
3. Deck is supported by a ledger attached to a cantilever/overhang on the existing house such as a bay window.
4. Decks attached to brick, masonry, or stone veneer.
5. Decks supporting a hot tub/pool.
6. Steel decks that do not conform to section R505, including the use of steel beams, or steel decks for at locations West of Overland Trail (>140 mph wind region)
7. Materials not addressed in code
8. Designs outside of those presented in code



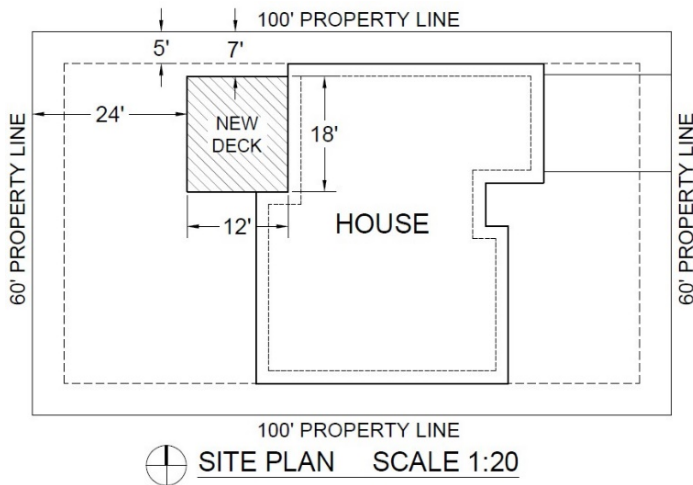
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Provide the following drawings. All plans must be to scale. (example : ¼ inch per foot). Can be hand-drawn, but PDF format

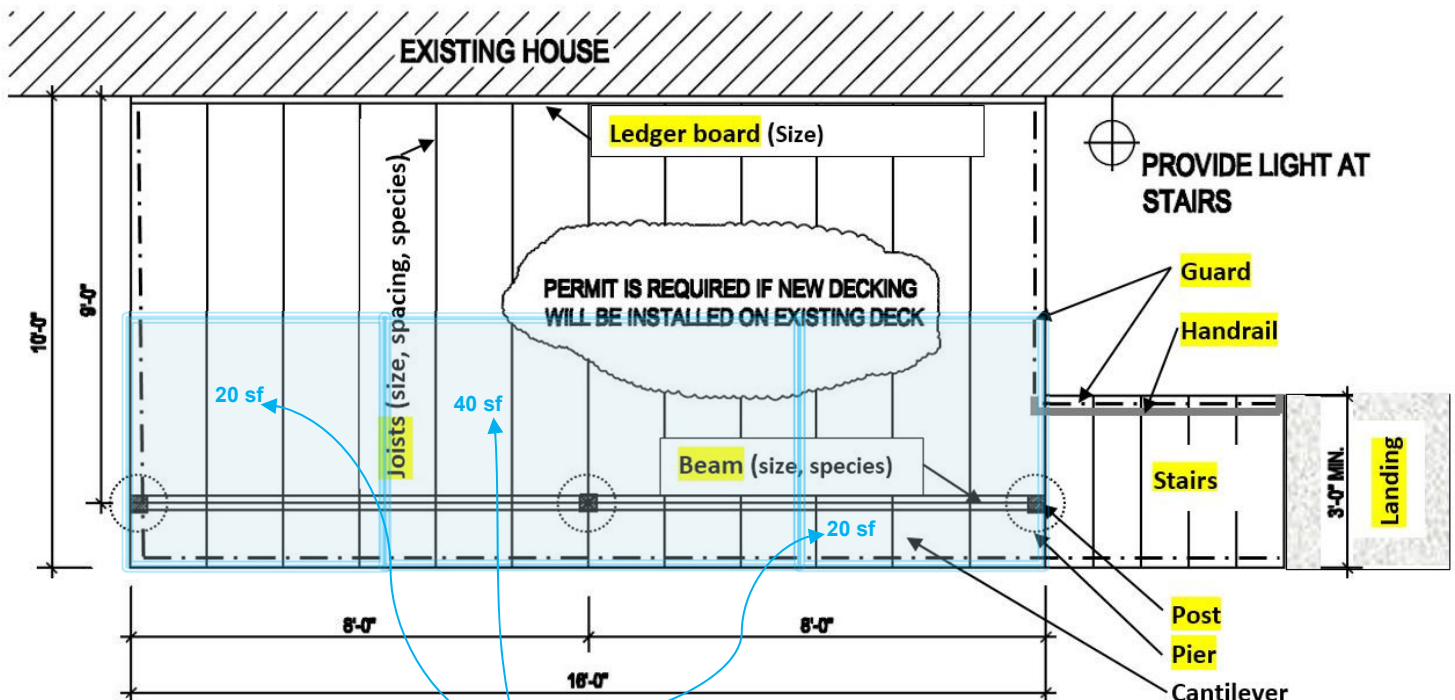
### Site Plan

#### Site Plan Requirements:

- ☐ Show location of the new deck in relation to the house
- ☐ Provide measurements from deck to property lines and other structures
- ☐ Show overall length and width of the new deck
- ☐ Newer homes may have an existing site plan available through public records, which can be used to create the NEW site plan. <https://records.fcgov.com/WebLink/>



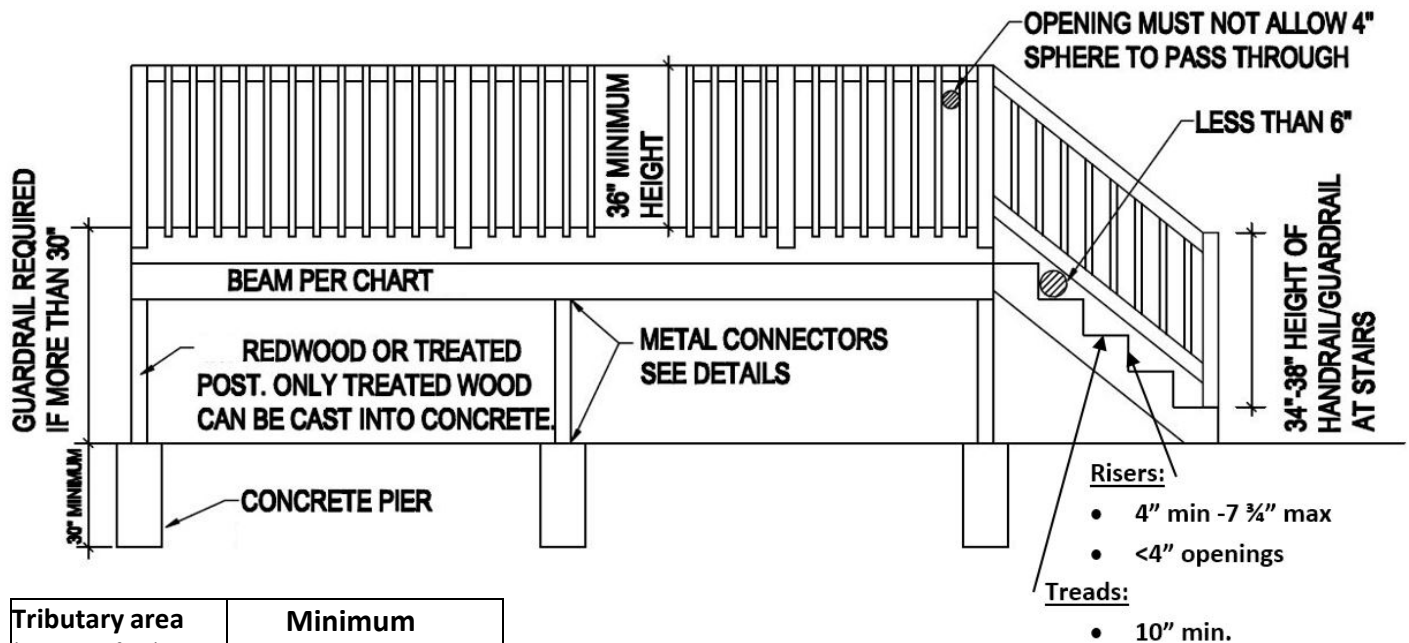
### Floor Plan



**Tributary area** is the area in square feet that each post\* and pier supports/carries. Tributary is used for sizing posts and piers in code.

## Residential Deck Guide

### Elevation (Side View)



Tributary area (In square feet) -See page 2 for example	Minimum Diameter of Round Pier (In inches)
5*	8*
20*	12*
40	16
60	19
80	22
100	25
120	27
140	29
160	31

See the link to code on page 5 for alternate pier/foundation types and sizes.  
*Based on tributary area and soil-bearing pressure of 1500 PSF and a live load of 40 PSF (Table R507.3.1)*

### Guards

Guards are required for fall protection where the deck is 30" or more above grade measured at a point 5 ft away from the deck edge (local amendment to definition of grade).

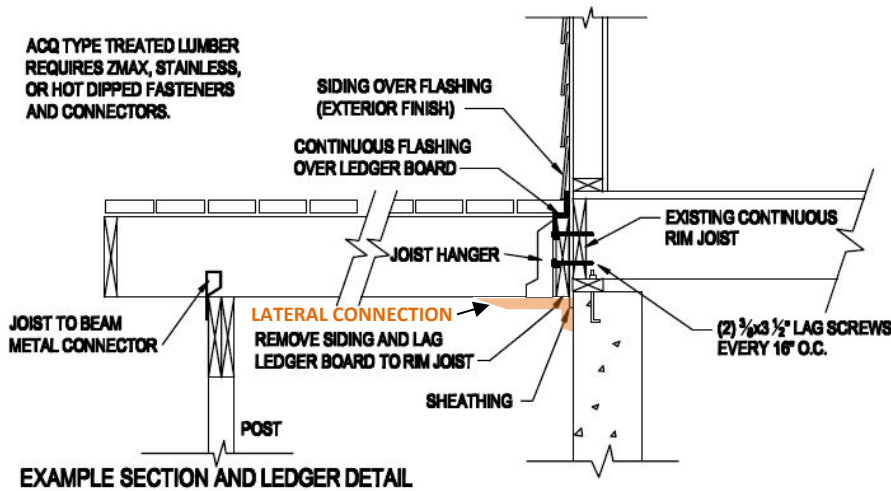
- ☐ Openings in guards cannot exceed 4 inches
- ☐ For cable railing use 3" max spacing and a maximum of 4ft on center support post spacing.

Exterior Guard attachment (R507.10)\*:

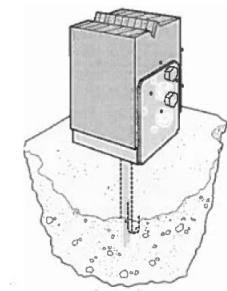
- Guards mounted on top of the deck shall be connected to the deck joists or beams or blocking to transfer load to the adjacent joists.
- Where guards are mounted on the side of a beam/joist shall be connected to the adjacent joist to prevent rotation. Fasteners shall not be installed in the end grain.

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### Details



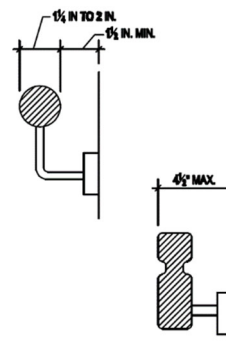
Example - Post Base Connector



### Handrails

Handrails are required on at least one side of the stairs where there are 4 or more risers in a flight (landing to landing). Handrails must be graspable.

**IRC Section: R311.7.8 – R311.7.8.6**



### Emergency Escape and Rescue Windows

Where decks are built over window wells that serve the required emergency escape and rescue opening (egress windows), a clear access height of 36" is required (measured from the top of the window well to the underside of the deck structure). **IRC R310.2.4**

Where a deck is adjacent to a window well, fall protection is required (window well cover or guardrail).

### Lighting

Exterior wet listed light is required at the top landing to illuminate stairs. **IRC Section R311.7.9**

### Landings

A solid level landing (i.e. flagstone, concrete or other improved surface) is required at the *top* and *bottom* of exterior deck stairs sized 36" min deep (in the path of travel) x 36" min wide (or width of stair) **IRC Section: R311.7.6**

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**Check one of the following:**

- ☐ The deck is professionally engineered and stamped. Any fields not provided on the plans have been filled out below.
- ☐ The porch/stairs are entirely concrete (fields below do not apply, but plans show height, stairs, guards, etc. per code)
- ☐ The deck is designed to minimum code. (Fill in the sections below and show on plans).

2021 International Residential Code & local amendments: <https://www.fcgov.com/building/codes.php>

1. Access the code: <https://codes.iccsafe.org/content/IRC2021P1/chapter-5-floors> 2. Go to section R507.

Code section	Deck components	Select/Fill in the blank
<b>Decking</b>		
R507.2 and R507.7	Decking Material	
	Orientation of decking to joists	
<b>Joists</b>		
Table 507.6 <i>(use 40 live load row)</i>  Figure R507.6	Wood Species <i>(Redwood, Cedar etc. are species, treated is not a species)</i>	
	Joist Size	
	Joist Spacing / Joist Span	
	Do the joists cantilever? How far?	
<b>Beams</b>		
Table R507.5 (1) <i>(40 PSF live load)</i>  Section R507.5	Wood Species <i>(Redwood, Cedar etc. are species, treated is not a species)</i>	
	Beam Size	
	Beam Span	
	Does the beam cantilever? How far?	
<b>Posts*</b>		
Table 507.4 <i>(use 40 live load row)</i>	Wood Species <i>(Redwood, Cedar etc. are species, treated is not a species)</i>	
	Size of Post	
	Post Height	
<b>Piers</b>		
Figure R507.3 Table 507.3.1 <i>(use 40 live load row, 1500 psf column)</i> R507.3	Type of footing/Piers	Show on plans
	Depth of Pier	<input type="checkbox"/> Freestanding deck = 12" min * <input type="checkbox"/> Attached Decks = 30" min frost depth
	Size of pier	Show on plans <input type="checkbox"/>
<b>Connection Details</b>		
R507.4.1 & R507.3	Footing/pier to Post Connection	Show on plans <input type="checkbox"/>
R507.5.1 & R507.5.2	Post to Beam Connection	Show on plans <input type="checkbox"/>
R507.6.1 & R602.3.1	Joist to Beam Connection	Show on plans <input type="checkbox"/>
Table R507.9.1 Tables R507.9.3(1 & 2); R507.9.1.1 Figure R507.9.1.3 (1 & 2)	Ledger Connection to house with flashing (2x8 min ledger size)	Show on plans <input type="checkbox"/>
R507.9.2 Figure R507.9.2 (1 or 2)	Lateral Connection	Show on plans <input type="checkbox"/>