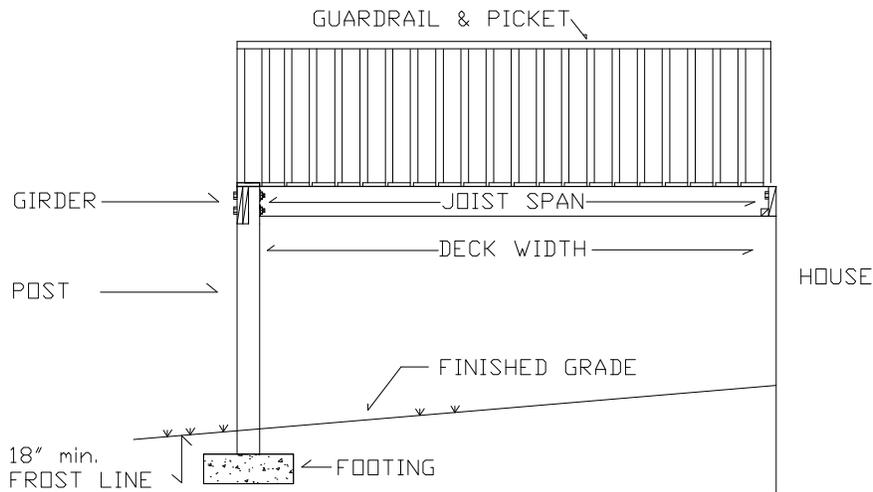




City of Asheville

Are You Ready To Get All Decked Out?



What YOU need to know before building an Attached or Free-Standing Deck to your home.

If you have any questions about these specifications, the use of other materials, standards or the Code requirements for your deck, please do not hesitate to call the Building Inspector in your area.

INSPECTOR	AREA	CELL #
Jodie Campbell	1	778-0767
Brandon Riddle	2	778-0752
Anne Graham	3	777-5719
Garrett Gates	4	775-4684
Eric Evans	5	778-0773
Terry Melton	6	778-0754

First Things First...

Everyone dreams of the “perfect deck”...

But getting from Point A- “the dream deck” – to Point B – planning and constructing it – is not always easy. This brochure will help you construct a safe, code-compliant “dream deck”.

Plan, Build & Inspect for Safety

But, First Things First...

Be sure to obtain a building and zoning permit for the deck before you build it. For information on how and where to obtain your permits, call or visit the Development Service Center in A-101 at the Public Works Building, 161 S. Charlotte Street or simply call us at 828-259-5846. Office hours are Monday through Friday from 8:00 AM to 4:30 PM.

Why are permit and inspections required?

To ensure that your deck will comply with the City’s zoning regulations and with the NC State Building Code. The zoning regulations establish minimum setbacks that must be maintained from property lines. The Building Code governs the method of construction, materials, means of support, attachment and requires safety features such as guardrails and handrails.

Some Things To Think About...

All material to construct your deck must be decay resistant. Typically this is PT (pressure treated) lumber.

Deck Supporting Hot Tub or Spa: Standard deck design of 40 lb. Live Load and 10 lb. Dead Load is not adequate support and cannot use this hand out.

1. How will your deck be supported?

Will your deck be attached to the house for support or will it be a “free-standing” deck?

Attached Deck: The deck band is connected to the house band and the deck is supported partially by the foundation of the house.

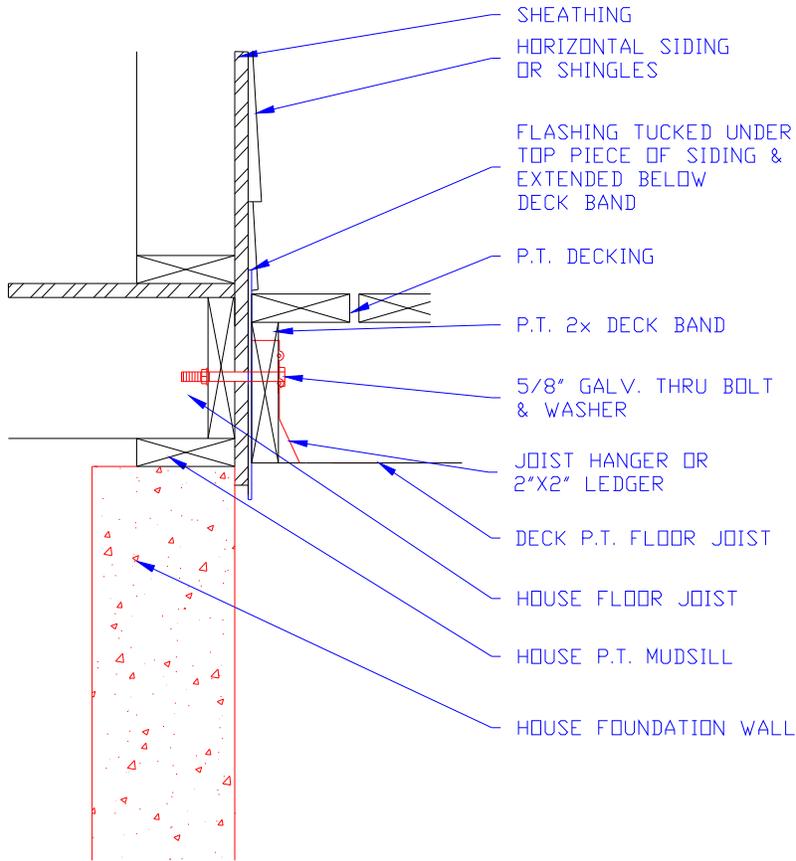
Attached decks are connected to the band or rim joist of the house by 5/8-inch galvanized through bolts. The existing siding (except brick) which covers the house band must be removed so that the deck band makes full contact with the house band. Flashing must be installed between the house and deck band to prevent water from rotting the house band.

All Structures except Brick Veneer		
Fasteners	8' Max. Joist Span	16' Max. Joist Span
5/8" Hot Dipped Galv. Bolts with Washers* and 12d Common Hot Dipped Galv. Nails**	1 @ 3'6" OC and 2 @ 8" OC	1 @ 1'8" OC and 3 @ 6" OC
Brick Veneer Structures		
Fasteners	8' Max. Joist Span	16' Max. Joist Span
5/8" Hot Dipped Galv. Bolts with Washers*	1 @ 2'4" OC	1 @ 1'4" OC

*Minimum edge distance for bolts is 2½-inches.

**Nails must penetrate the supporting structure band a minimum of 1½- inches

OC – On Center



DECK TO HOUSE BAND
 1ST FLOOR: HORIZONTAL SIDING OR SHINGLES

Aluminum Flashing shall not be used.

2. What distance will the floor joist span between supports?

Your floor joists must be sized to carry a minimum 40 lb. per sq. ft. live load. In some instances, a center girder is used to help meet this design criteria and to allow the use of smaller floor joist.

Span Tables from the Building Code for #2 SP and a 40 lb. Live Load:

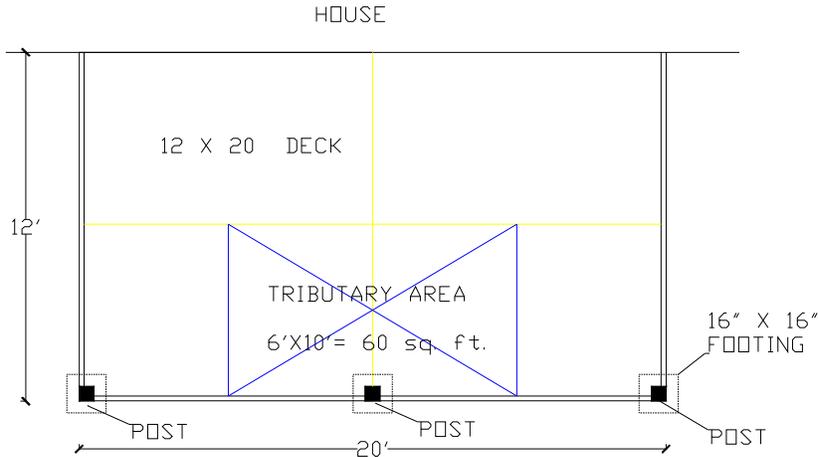
Joist Size	Spaced @	Span	Joist Size	Spaced @	Span
2x6	12" OC	10'4"	2x10	12' OC	17'5"
	16" OC	9'5"		16" OC	15'10"
	24" OC	7'10"		24" OC	13'1"
2x8	12" OC	13'8"	2x12	12" OC	21'2"
	16" OC	12'5"		16" OC	18'10"
	24" OC	10'2"		24" OC	15'5"

SP – Southern Pine (typical pressure treated lumber)
 OC – On Center

3. How deep and how large must the footings be?

Each deck support post must be supported by concrete footings. The size of each footing is determined by the tributary load imposed on it. See the diagram below for an explanation of tributary load. Each footing must be dug down into undisturbed soil and the minimum depth of **18-inches (frost line)** below finished grade.

Deck Footing are required to be inspected prior to placing the concrete, call the Building Inspector for a Footing Inspection.



FOOTING SIZE (minimum)				
SIZE (inches)		TRIBUTARY AREA* (square feet)	THICKNESS (inches)	
Precast Footing (CAP BLOCK)	Poured in Place Footing		Precast Footing (CAP BLOCK)	Poured in Place Footing
8 X 16	8 X 16	36	4	6
12 X 12	12 X 12	40	4	6
16 X 16	16 X 16	70	8	8
	16 X 24	100	NP	8
	24 X 24	150	NP	8

* Round up to next larger size when exact area is exceeded.
NP – Not Permitted

4. How high off the ground will the floor of your deck be?

If the walking surface of the deck is 30-inches off the ground, your deck must be surrounded by guardrails which are a minimum of 36-inches in height. The steps for the deck must also have guard/ handrail on both sides if there are 4 or more individual risers (spaces between steps). If the steps have a total rise of 30-inches or more above ground level, guard rails/hand rails must also be provided on open sides of the steps.

POST SIZE (minimum)	
Post Size (inches)	Post Height
4 X 4	8'0"
6 X 6	20'0"

Girder Span Tables from the Code for #2 SP and a 40 lb. Live Load:

Girder Size	Tributary Load Width** (feet)								
	4'	5'	6'	7'	8'	9'	10'	11'	12'
(2) 2x6	7'	6'							
(2) 2x8	9'	8'	7'	7'	6'	6'			
(2) 2x10	11'	10'	9'	8'	8'	7'	7'	6'	6'
(3) 2x8	12'	11'	10'	9'	8'	8'	7'	7'	7'
(2) 2x12	13'	12'	10'	10'	9'	8'	8'	7'	7'
(3) 2x10	15'	13'	12'	11'	10'	10'	9'	9'	8'
(3) 2x12	16'	15'	14'	13'	12'	11'	11'	10'	10'

* Spans are distances in feet between posts or supports.

** Tributary Load Width is typically half the distance from the house to the outside band of the deck and shall include the distance of any deck overhang. If the deck has multiple support beams, then the tributary load width is equal to the spacing between the beams.

SP – Southern Pine (typical pressure treated lumber)

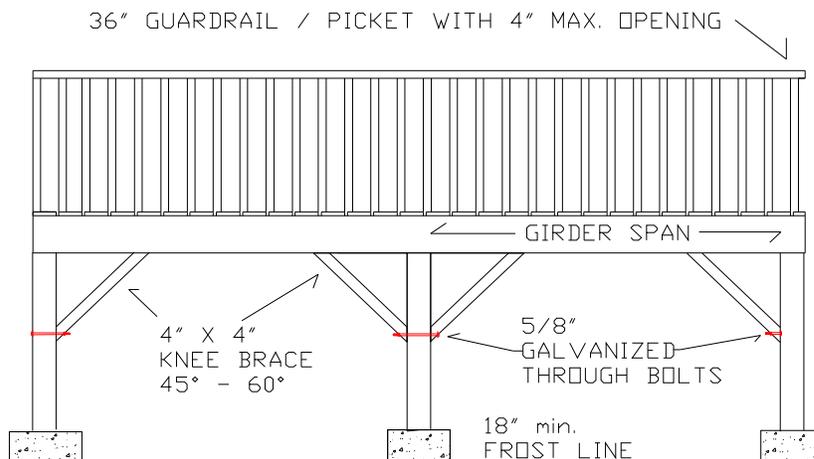
5. Bracing your deck for lateral support.

For attached deck and over 4-feet above the ground, bracing for lateral support is required. Freestanding decks greater than 30-inches high require bracing. Several methods of bracing are acceptable.

The most common method is pressure treated 4" x 4" knee braces, provided on each column in both directions. The knee braces shall attach to each post at a point not less than 1/3 of the post length from the top of the post, and the braces shall be angled between 45° and 60° from the horizontal. Knee braces shall be bolted to the post and the girder with one 5/8" diameter hot dipped galvanized bolt at each end. See example with Knee Braces for typical deck.

6. Will my deck need a Guardrail.

Decks located more than 30-inches above ground shall have not less than 36-inch high guardrail. Horizontal spacing between the vertical pickets in guardrails shall be a maximum of 4-inches between members.



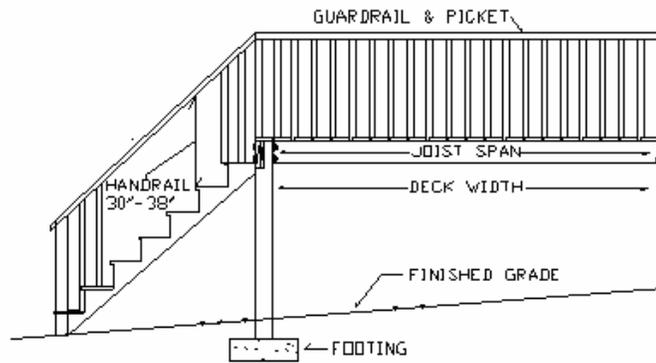
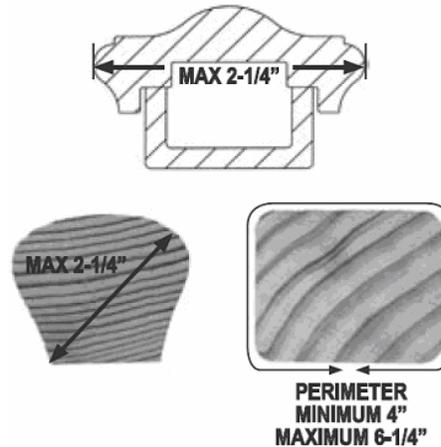
7. Will your deck have stairs to ground?

The maximum stair riser height is 8¼-inches and the minimum stair tread depth is 11-inches without nosing. Stair tread and riser shall be of uniform height and width. Exception the bottom riser of an exterior stair adjoins an exterior walk, driveway, or finished grade, the height of the riser may be less than the height of the adjacent risers.

When the total rise of the stairs is greater than 30-inches, open risers are not permitted by Code. Open riser is defined as permitting the passage of a 4-inch-diameter sphere.

Handrail shall be provided on at least one side of stair with four or more risers. Handrail shall be minimum 30-inch to 38-inch maximum above stairs. Handrail shall be continuous the full length of the stairs from a point directly above the top riser of a flight to a point directly above the lowest riser of the flight. Handrails shall be returned to a wall or floor, or terminate in a newel post or in some type of end that will not catch clothing or limbs.

Approved Non-Circular Hand Rails



Call the Building Inspector for a Framing & Final Inspection when deck is completed.

Decks with post heights over 20'-0" or decks with special loads such as Hot Tubs shall be designed and sealed by a NC Professional Engineer or Architect.

Decks designed with material other than wood require special approval from Building Inspector before installation.