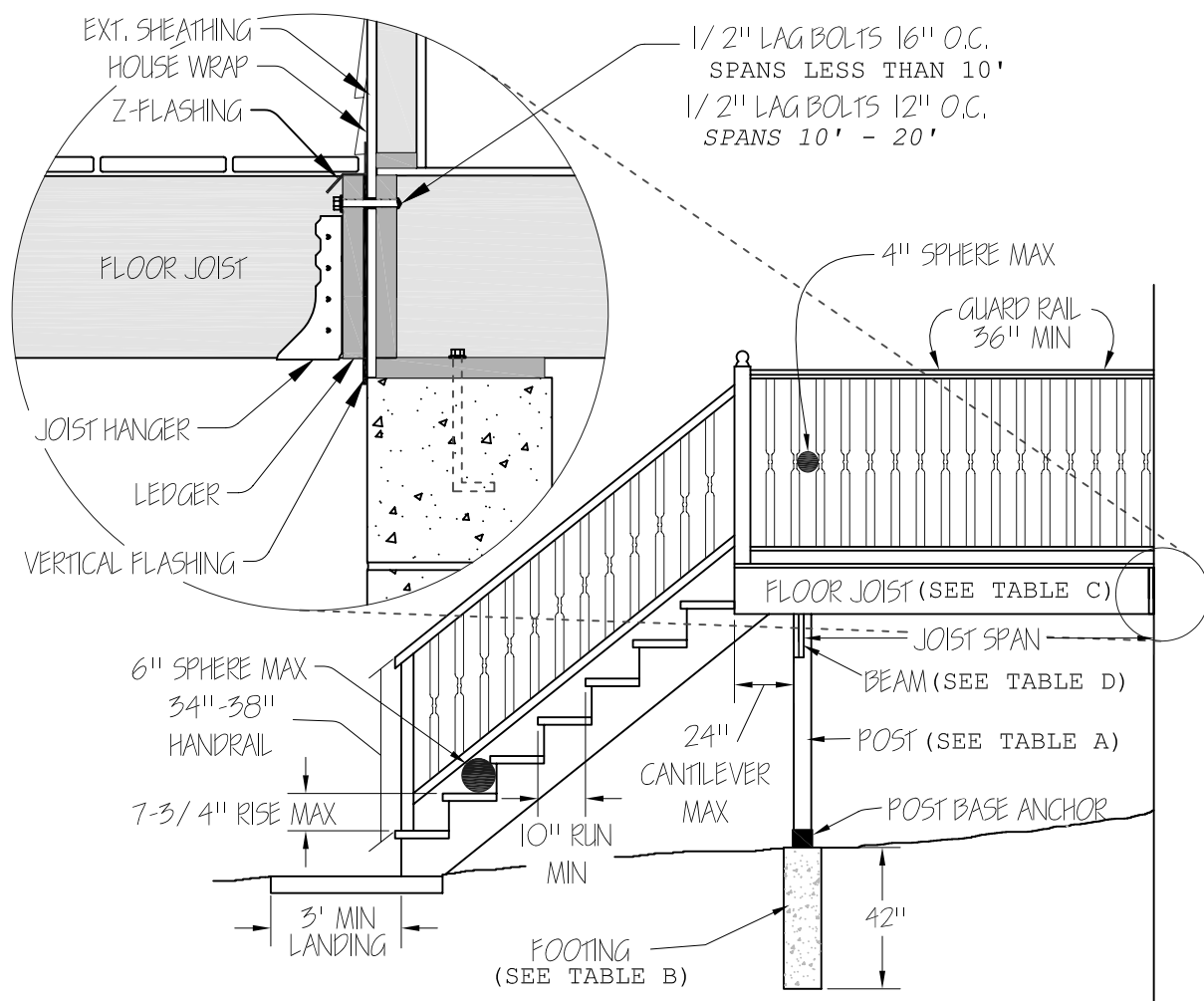


(TABLE C) MAX. FLOOR JOIST SPAN

| Size | Spacing | Redwood | SP CCA | Cedar |
|--------|----------|---------|---------|---------|
| 2 x 6 | 12" o.c. | 10-9" | 9'-11" | 10'-2" |
| | 16" o.c. | 9'-5" | 8'-7" | 8'-11" |
| | 24" o.c. | 7'-8" | 7'-0" | 7'-3" |
| 2 x 8 | 12" o.c. | 14'-2" | 12'-10" | 13'-0" |
| | 16" o.c. | 12'-11" | 11'-1" | 11'-3" |
| | 24" o.c. | 10'-7" | 9'-1" | 9'-2" |
| 2 x 10 | 12" o.c. | 18'-1" | 16'-7" | 15'-11" |
| | 16" o.c. | 15'-10" | 14'-4" | 13'-9" |
| | 24" o.c. | 12'-11" | 11'-9" | 11'-3" |
| 2 x 12 | 12" o.c. | 21'-2" | 19'-5" | 18'-5" |
| | 16" o.c. | 18'-4" | 16'-10" | 16'-0" |
| | 24" o.c. | 15'-0" | 13'-9" | 13'-0" |

Tables C, D are based off a 50lbs / sq.ft. -L/360 deflection rate from the American Wood Council. Variances in spans, spacing, or species of lumber, render these tables useless. Values derived thru averages, or interpolation do not apply.



(TABLE D) Beam Span (for Joist Framing from One Side Only)

| Species | Size | Joist Spans | | | | | | | |
|-----------------------------------|--------|-------------|--------|--------|--------|--------|--------|--------|--|
| | | 6' | 8' | 10' | 12' | 14' | 16' | 18' | |
| Southern Pine | 2-2x6 | 7'-1" | 6'-2" | 5'-6" | 5'-0" | 4'-8" | 4'-4" | 4'-1" | |
| | 2-2x8 | 9'-2" | 7'-11" | 7'-1" | 6'-6" | 6'-0" | 5'-7" | 5'-3" | |
| | 2-2x10 | 11'-10" | 10'-3" | 9'-2" | 8'-5" | 7'-9" | 7'-3" | 6'-10" | |
| | 2-2x12 | 13'-11" | 12'-0" | 10'-9" | 9'-10" | 9'-1" | 8'-6" | 8'-0" | |
| | 3-2x12 | 17'-5" | 15'-1" | 13'-6" | 12'-4" | 11'-5" | 10'-8" | 10'-1" | |
| Douglas Fir-, Western Cedars, SPF | 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" | |
| | 3-2x12 | 13'-11" | 12'-1" | 10'-9" | 9'-10" | 9'-1" | 8'-6" | 8'-1" | |
| | 4x10 | 9'-11" | 8'-7" | 7'-8" | 7'-0" | 6'-6" | 6'-1" | 5'-8" | |
| 4x12 | 11'-5" | 9'-11" | 8'-10" | 8'-1" | 7'-6" | 7'-0" | 6'-7" | | |

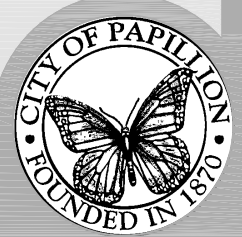
How To Design A **DECK**

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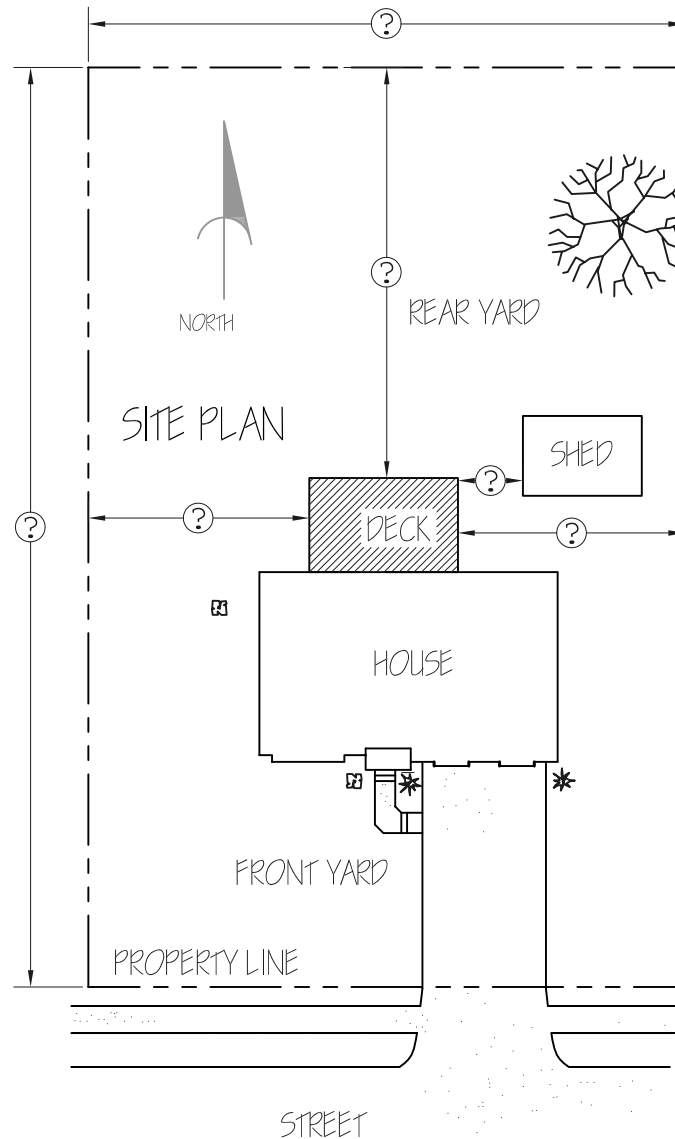
JUN 2011

General requirements for decks:

- Decks more than 30" above finish grade are required to have a guardrail not less than 36".
- Stair railing, handrails, and landings are required with 4 or more risers. Handrails need to be 34"-38" measured vertically off the nosing of the treads. Handrails shall have returns.
- Handrails cannot be less than 1-1/4", or more than 2" if circular. If not circular, the perimeter dimension will have a min of 4" and a max of 6 1/4".
- No place in the deck's guardrail will allow the passage of a 4" sphere. Other than the triangular opening formed by the riser, tread, and bottom rail of guard shall allow a 6" sphere.
- Deck risers can't exceed 7-3/4" and must not have more than 3/8" variance between any two risers. Stair treads must be a minimum of 10". There may not be more than 3/8" variance between tread depth.
- Deck stairs are required to be a minimum of 36" wide. Where the stairs have two or more risers they will be served by a landing extending past the last tread nosing a min. of 36" for the width of the stairs.
- Supporting posts must rest on top and be connected to the footing. Posts are not permitted to be buried in the ground or footing.
- Cantilevers for beams may not exceed 12". Cantilevers for floor joist may not exceed 24".
- Deck Footing shall be dug to a depth of 42" and sized from **Table B**.
- Flashing is required to separate the deck from the house.

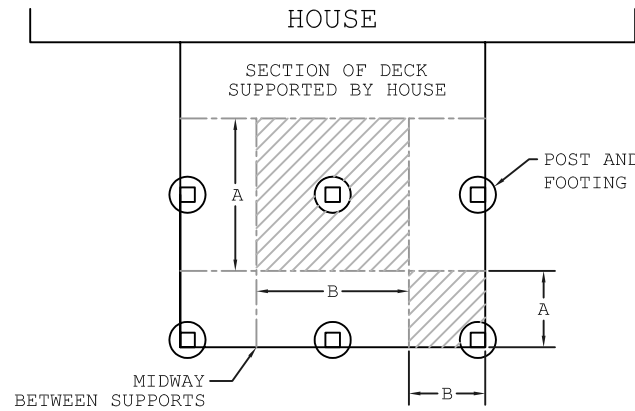
Distances required On Site plan

Distance minimums are dependant on the zoning. Additional neighborhood covenants and easements are the responsibility of the builder or homeowner.



All question mark symbols (?) (seen in site plan above) are required for plan submittal.

POST AND FOOTING SIZES



Determining Post height and Footing Sizes

- First determine the square footage of the area being supported by each post/footing. This is done by determining the mid points between supports (as seen above).

$$(A) \times (B) = \text{Load Area}$$

(This gives you the load area in square feet.)

- Take this load area and go to (**Table A**) to find the maximum post height.
- To calculate footing sizes, use the same load area and multiply it by the load of your deck. **Taken from below**

$$(\text{Load Area}) \times (\text{Deck Load}) = \text{Total Load}$$

- Take the Total Load calculated above and go to (**Table B**) to find footing size.

- Continue with Beam and Joist sizing on Back (**Tables C & D**).

Deck = 50 lbs/ square foot
 Deck w/ roof = 70 lbs/ square foot
 Deck w/ roof & ceiling = 85 lbs/ square foot
 Deck w/ a hot tub = 90 lbs/ square foot
 (Values for roofs with slopes over 4/12)

(TABLE A) MAX HEIGHT OF POST

| Load Area | 4 x 4 | 4 x 6 | 6 x 6 |
|------------|-------|-------|-------|
| 36 sq.ft. | 10' | 14 | 17 |
| 48 sq.ft. | 10 | 12 | 17 |
| 60 sq.ft. | 9 | 11 | 17 |
| 72 sq.ft. | 8 | 10 | 17 |
| 84 sq.ft. | 7 | 9 | 17 |
| 96 sq.ft. | 7 | 9 | 17 |
| 108 sq.ft. | 6 | 8 | 17 |
| 120 sq.ft. | 6 | 8 | 17 |
| 132 sq.ft. | 5 | 7 | 16 |
| 144 sq.ft. | 5 | 7 | 15 |
| 156 sq.ft. | 5 | 7 | 14 |
| 168 sq.ft. | - | 6 | 14 |
| 180 sq.ft. | - | 6 | 13 |
| 192 sq.ft. | - | 6 | 13 |
| 204 sq.ft. | - | 5 | 12 |

(TABLE B) FOOTING SIZES

| TOTAL LOAD (LB.) | HOLE DEPTH | ROUND Diameter (in.) | SQUARE Length (in.) |
|------------------|------------|----------------------|---------------------|
| 500 | 42" | 8 | 8 |
| 1000 | 42" | 12 | 10 |
| 1500 | 42" | 14 | 12 |
| 2000 | 42" | 16 | 14 |
| 2500 | 42" | 18 | 16 |
| 3000 | 42" | 20 | 18 |
| 3500 | 42" | 22 | 19 |
| 4000 | 42" | 23 | 20 |
| 4500 | 42" | 24 | 21 |
| 5000 | 42" | 25 | 22 |
| 5500 | 42" | 26 | 23 |
| 6000 | 42" | 28 | 24 |
| 6500 | 42" | 29 | 25 |
| 7000 | 42" | 30 | 26 |
| 7500 | 42" | 31 | 27 |
| 8000 | 42" | 32 | 28 |
| 8500 | 42" | 33 | 29 |
| 9000 | 42" | 34 | 30 |
| 9500 | 42" | 35 | 31 |
| 10000 | 42" | 35 | 32 |

Based on soil capacity of 1500 lbs/ft²