City of New Hope Community Development
4401 Xylon Ave N • New Hope MN 55428 • Phone: 763-531-5127 • Fax: 763-531-5136 • newhopemn.gov

Residential Decks

Building permits are required for any deck attached to a structure or any detached deck more than 30 inches above grade. Supplemental information to submit along with the completed building permit application include a site plan showing setbacks and plans showing all proposed structure details.

Setbacks

Decks less than five feet above grade at any point may encroach 10 feet into the required front setback, 5 feet into the required side setback, and 20 feet into the required rear setback, provided that a front setback of at least 20 feet, a side setback of at least 5 feet, and a rear setback of at least 10 feet is maintained.

Decks higher than five feet above grade at any point may encroach 5 feet into the required front setback and 10 feet into the required rear setback, provided that a front setback of at least 25 feet and a rear setback of at least 20 feet is maintained. Such decks are permitted in the side yard if the setback of at least 10 feet is maintained. Encroachment into public easements of record requires written approval from the Public Works department.

Frost Footings/Foundations

Required for any deck attached to a dwelling, porch, or garage that has frost footings. The minimum depth to the base of the footing is 42 inches. Approved pin foundations are acceptable. Pin foundations are not permitted to support screen porches, 3-season porches, or other attached habitable spaces. *See Diagram 16*

Total Load

All decks shall be designed to support a live load of 50 pounds per square foot (40 pounds live load plus 10 pounds dead load).

Guardrails

Required on all decks or stairs more than 30 inches above grade. Exception: on an open stairway the triangular opening formed by the riser, tread, and bottom element of a guardrail must be sized so that a six inch sphere cannot pass through. The top rail must support a 200 pound lateral load. Infill area must withstand a horizontally applied normal load of 50 pounds on an area equal to one square foot. *See Diagrams 9, 10, 11, 12, 13*

Cantilevers: Overhanging Joists and Beams

Beams shall not overhang support posts by more than one foot unless a special design is approved. *See Diagrams 14, 15*

Framing Details

Header beams and joists that frame into ledgers or beams shall be supported by approved framing anchors such as joist hangers. *See Diagrams 1, 15, 16*

Flashing

All connections between deck and dwelling shall be weatherproofed. Cuts in exterior finish shall be flashed.

Nails and Screws

Use only stainless steel, high strength aluminum, or hot dipped galvanized. *See Diagrams 1, 2, 3*

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Wood Required

All exposed wood is required to be approved wood with natural resistance to decay (redwood, cedar, etc.) or approved treated wood. This includes posts, beams, joists, decking, and railings. Any composite or plastic decking materials must be approved prior to installation.

Stairs

Minimum width is 36 inches. Maximum rise is 7-3/4 inches, minimum rise is 4 inches. Minimum run is 10 inches. Largest tread width or riser height shall not exceed the smallest by more than 3/8 inch. Maximum 4 inch opening at risers greater than 30 inches above grade. *See Diagrams 4, 5, 6, 7, 8*

Illumination

All exterior stairways shall be illuminated at the landing to the stairway. Illumination shall be controlled from inside the dwelling or automatically activated.

Handrails

The top shall be placed 34 – 38 inches above the nosing of the treads. Stairways having four or more risers shall have at least one handrail with handrail ends returned or terminated in posts. Circular hand grips shall be between 1-1/4 inches to 2 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface.
See Diagrams 9, 10, 11, 12, 13

Inspections

Footings inspection is required before pouring concrete. Framing inspection required prior to decking if joists are less than 24 inches off the ground. Final inspection of completed work is required.

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Residential Decks - Diagrams

Nails and Screws

Placement of Lag Screws and Bolts in Band Joists

Diagram 1

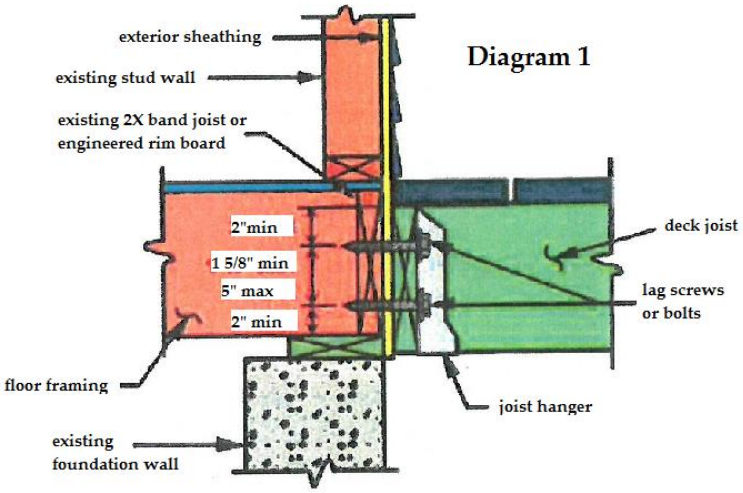


Diagram 2

1/2" Diameter Lag Screws Minimum

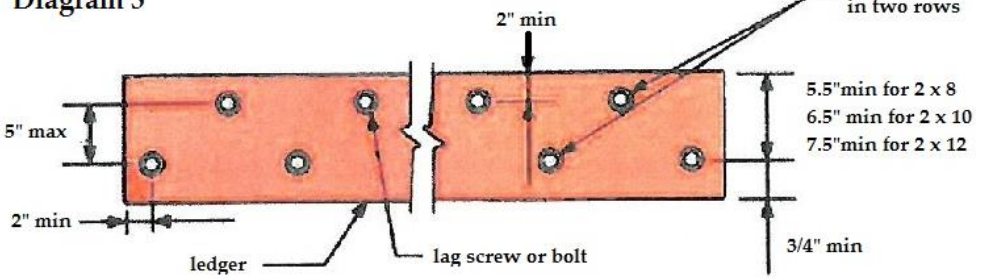
screw must penetrate beyond band board a minimum of 1/2"

1 1/2" shank no threads

length must extend through existing band joist 400 lb maximum load per lag

Placement of Lag Screws and Bolts in Ledger

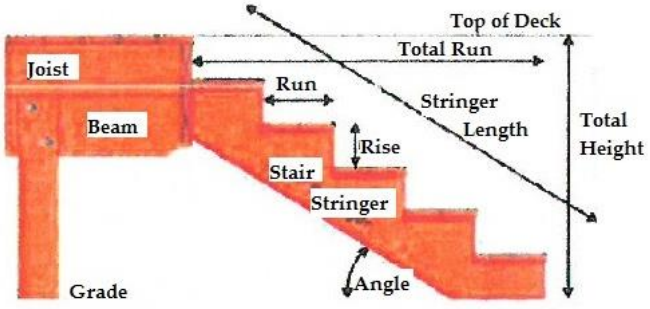
Diagram 3



Stairs

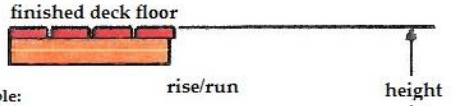
Diagram 4

Stair Terminology



Determining Rise/Run

Diagram 5



Example:
`Assume that height equals 37"
`Divide 37" by 7 3/4" = 4.8
`Rounding up to the next whole number gives the number of risers
`There will be 5 risers
`Divide 37 by 5 = 7.4" or about 7 3/8"
`Each riser will be 7 3/8"
`For 5 risers there will be 4 treads
`Since each tread must be at least 10", the length of the stair from the face of the deck to the face of the bottom riser will be at least 40" (10" x 4 treads = 40")

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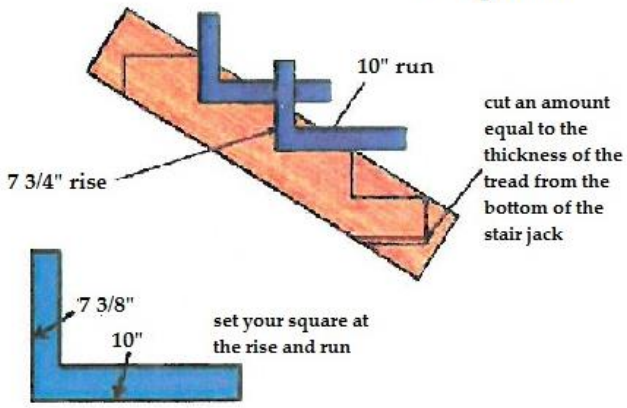
Residential Decks - Diagrams

Laying out Stair Jacks

Diagram 6



The Completed Stair

Diagram 7

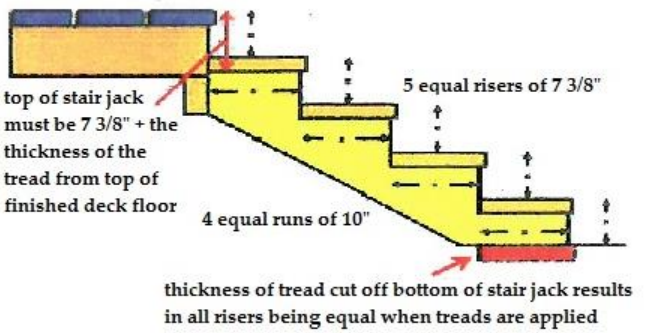
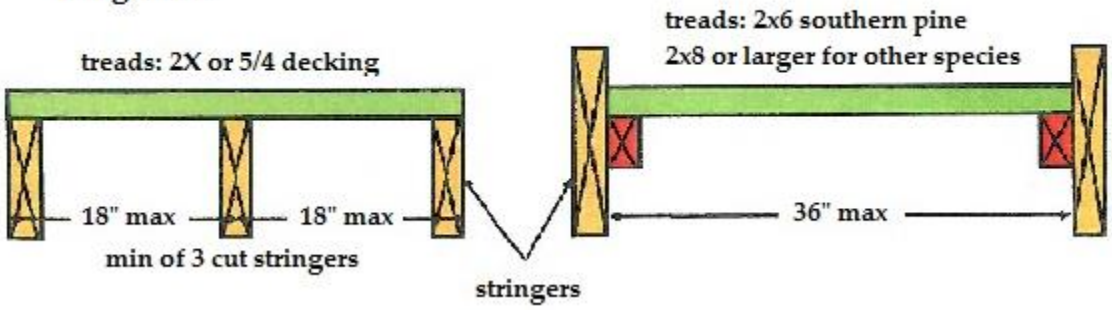
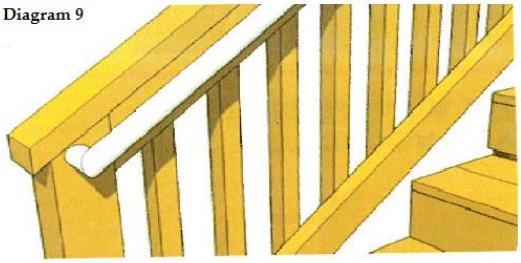


Diagram 8



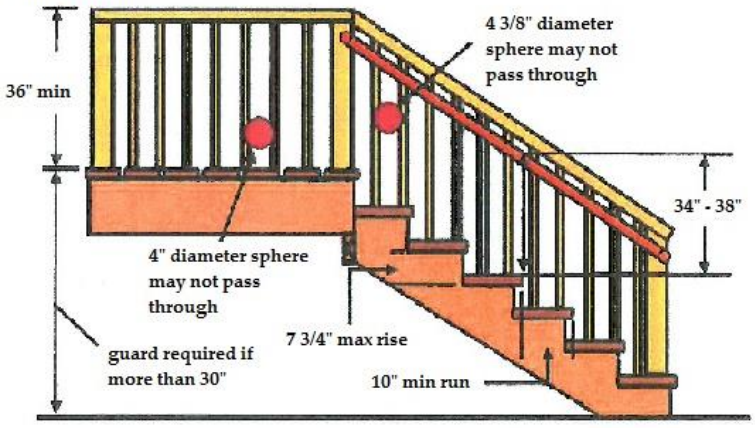
Guards and Handrails

Diagram 9



handrails must return to a newel post and be continuous without interruption for the length of the flight

Diagram 10



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Residential Decks - Diagrams

Diagram 11

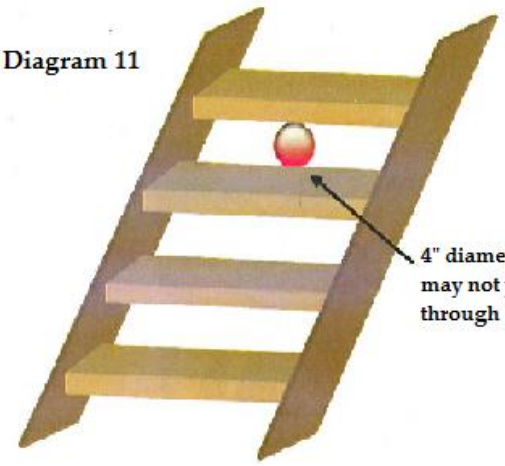


Diagram 12

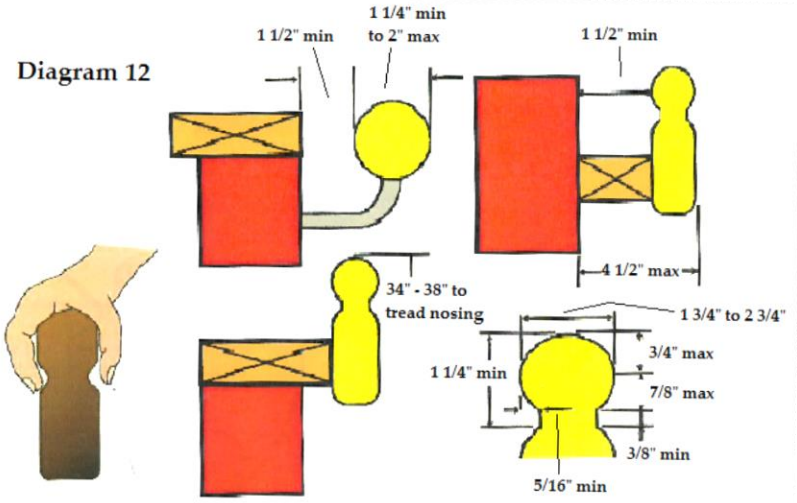


Diagram 13

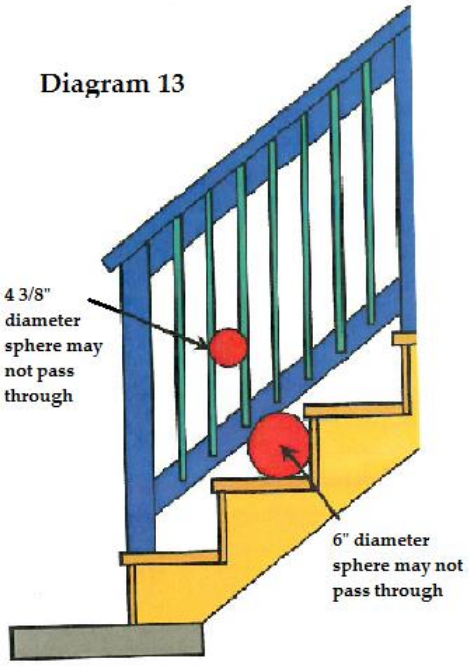
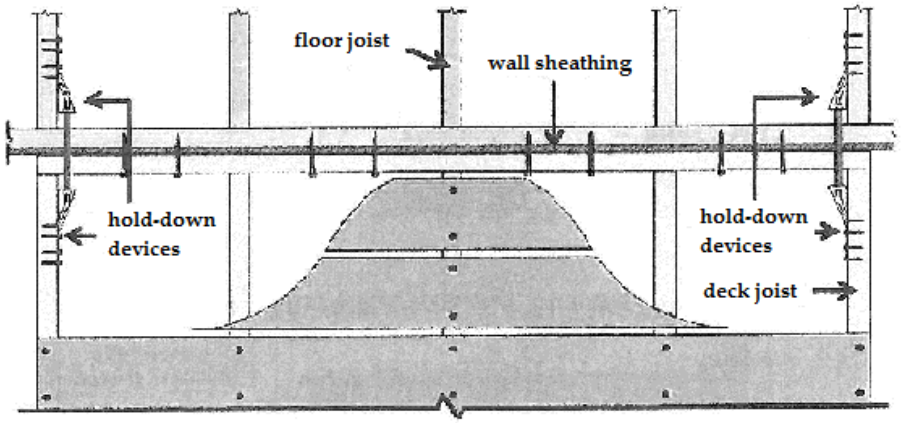


Diagram 14 Lateral Load Connections Two Minimum Per Deck



-Hold-down tension devices must be installed in a minimum of two locations per deck
-Each device must have an allowable stress design capacity of a minimum of 1500 pounds
-Floor sheathing in the dwelling must be nailed to the joists to which hold-downs are connected at 6" maximum on center
-Alternatively the deck may be designed to be self supporting or a design may be provided by a licensed design professional

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Residential Decks - Diagrams

Diagram 15

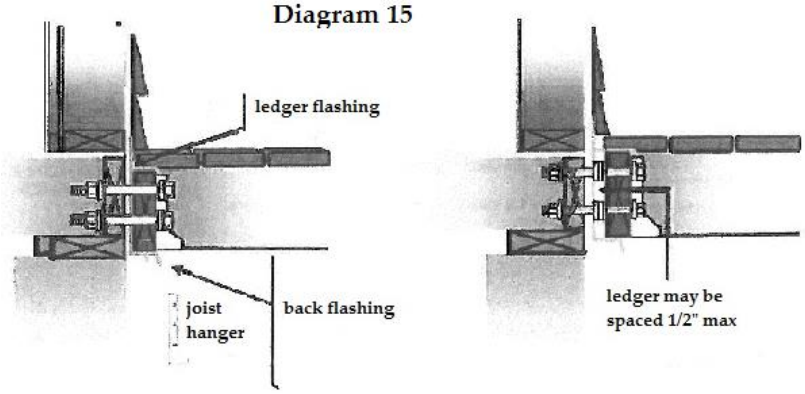
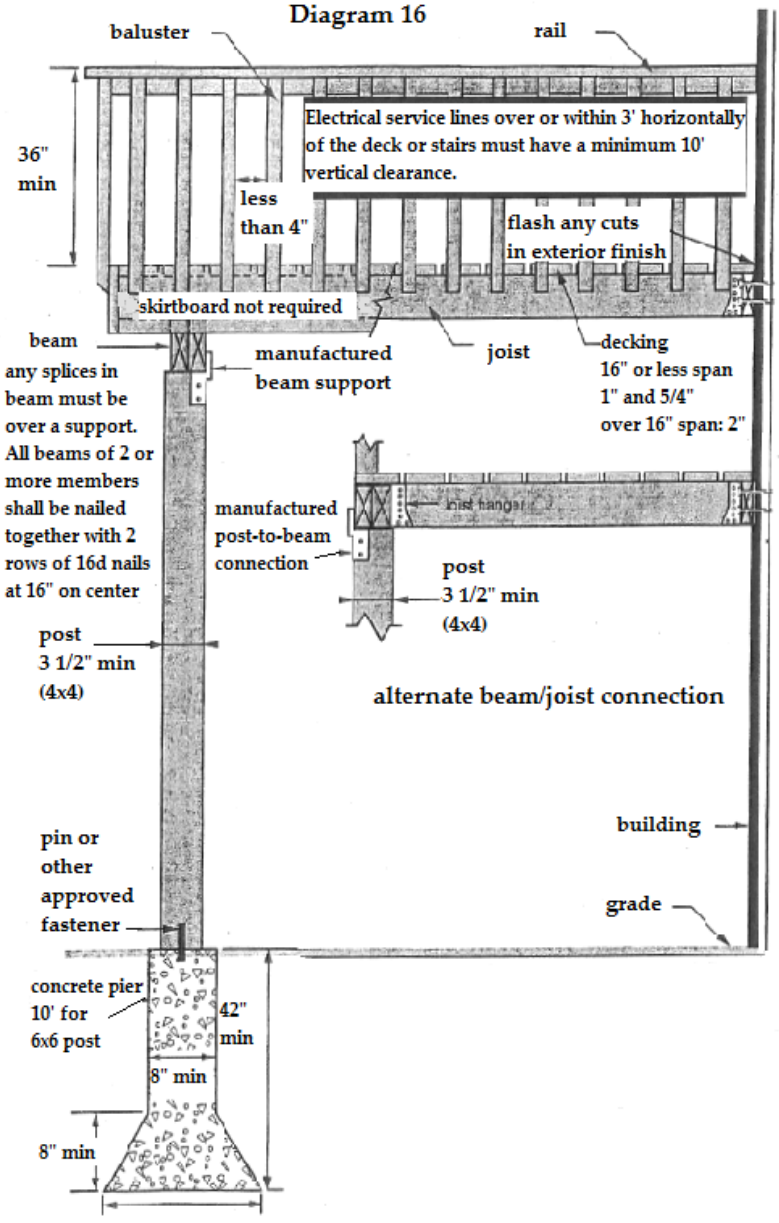


Diagram 16



Ledgers shall be the same size as the deck joists (min 2x6). Install lag screws that penetrate a minimum of 1 1/2" into rim joist or wall studs. (Minimum two 1/2" lag screws every 16". Drill 5/16" hole in rim joist and 1/2" hole in ledger.)

Note 1: Joist hangers must be correct size for joist size used. Fill all holes with appropriate joist hanger nails.

Note 2: Ledgers (decks) shall not be attached to brick, masonry, stone, hollow masonry, or cantilevered portions of building.

Note 3: Ledgers that are attached to I-Joists, floor trusses, or concreete block shall be reviewed and approved prior to permit issuance.

Note 4: Flashing shall be corrosion-resistant metal or approved non-metallic material.

Note 5: Lateral resistance devices shall be approved manufactured products.