City of Germantown
One North Plum Street
Germantown, Ohio 45327

ZONING PERMIT APPLICATION

zoning@germantown.oh.us
Phone (937) 855-7255

Residential □ Commercial □

Date:_____ Parcel ID Number:_____

Property Address:_____ Cell/Business Number_____

Property Owner:_____ Home Phone Number:_____

Applicant:_____ Home Phone Number:_____

Applicant Address:_____ Cell/Business Number _____

Applicant Email:_____

Fence ($15.00) □ Pool ($15.00) □ Shed/Barn ($15.00) □

Single Family Dwelling ($25.00) □ Addition (residential $15.00/Commercial $50.00) □

Sign ($15.00) □ Other:_____

Existing Use:_____ Proposed Use:_____

Provide three (3) sets of a detailed diagram or plot plan and narrative of project showing/explaining all dimensions of the lot, location of existing buildings and location of proposed construction. Show distances from all lot lines to existing buildings and proposed buildings. A scaled diagram may be required along with additional information as the City Manager or designee deems necessary. The property owner understands that the application, diagram and other information presented for the above construction and/or use shall be located entirely upon the property location indicated above and further understands that the property owner shall be liable for substituting same. Any omitting of required information may delay the application process. **The property owner and/or applicant further understands that a Certificate of Zoning Compliance is required BEFORE the commencement of any use or occupation of any building or construction within the space. This permit will expire within one (1) year of issuance if construction has not commenced.**

I have read the above information and have included the required drawings

_____ _____

Signature of Property Owner Signature of Applicant

Office Use Only

Date Received:_____ Date Reviewed:_____ Zoning District:_____

Permit Number:_____ Zoning Fee:_____ Date Paid:_____

Approved □ Disapproved □

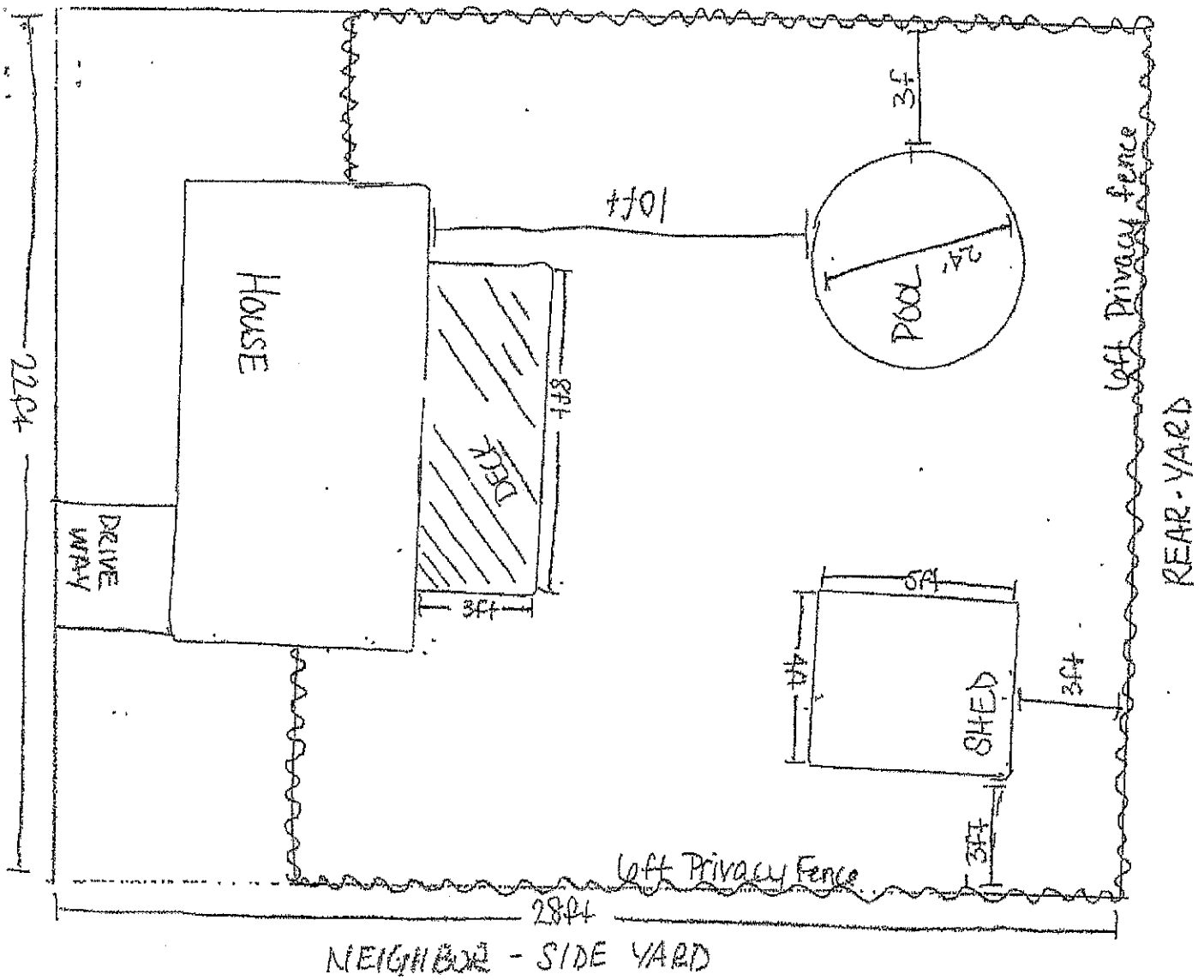
Comments:_____

_____

_____

Signature of Zoning Officer

2023 October



– EXAMPLE OF LOT PLAN –

- POOL
- SHED
- DECK
- FENCE

City of Germantown
1 North Plum Street, Germantown, Ohio 45327
Phone (937) 855-7255 Fax (937)855-3215
http://www.germantown.oh.us

BUILDING/ELECTRICAL PERMIT APPLICATION

FOR INFORMATION CALL: (888) 433-4642

(CHECK ONE) RESIDENTIAL ___ COMMERCIAL ___ SUBMIT 2 RESIDENTIAL/3 COMMERCIAL BUILDING PLANS

PLEASE PRINT	NAME	STREET ADDRESS	CITY, STATE, ZIP	PHONE NUMBER & EMAIL
PROPERTY OWNER				
APPLICANT				
PLANS BY				
CONTRACTOR				

SITE ADDRESS _____ TENANT _____

PARCEL ID # _____ AFFECTED CONSTRUCTION AREA SQ. FT. _____

PROJECT DESCRIPTION _____ PROJECT COST _____

---COMMERCIAL ONLY--- USE GROUP _____ CONSTRUCTION TYPE _____ OCCUPANT LOAD _____

REVIEW REQUETED: CHECK ALL THAT APPLY

- ☐ New Building
- ☐ Addition
- ☐ Alteration
- ☐ Deck _____ Sq. Ft.
- ☐ Shed _____ Sq. Ft.
- ☐ Garage
- ☐ HVAC
- ☐ Electrical
- ☐ Gas Line
- ☐ Fence
- ☐ Fire Alarm
- ☐ Fire Suppression
- ☐ Hood Suppression
- ☐ Hood Exhaust
- ☐ Cert. of Occupancy
- ☐ Change of Use
- ☐ Signage
- ☐ Pool (In Ground)
- ☐ Pool (Above Ground)
- ☐ Roofing
- ☐ Electrical Service Size _____ Line Drawing Required over 400 AMP
- ☐ Other (Specify) _____

Is property located in a Floodplain? Yes / No

All information contained in this application is true, accurate, and complete to the best of my knowledge and I do hereby agree to complete the project in compliance with all relevant building codes.

OWNER/OWNER REP. (Please Print) _____ EMAIL _____

OWNER/OWNER REP. (Signature) _____ APPLICATION DATE _____

Auditor Information: # Bedrooms _____ # Baths _____ # Stories _____ Livable Sq. Ft. _____ Finished Basement Sq. Ft. _____

**********OFFICE USE ONLY**********

DEPOSIT $ _____ RECEIVED BY _____ PAYMENT: CASH CREDIT CHECK # _____

Is property located in a Floodplain? Yes / No _____ PERMIT # _____

ZONING APPROVED _____ DATE _____

BUILDING APPROVED _____ DATE _____

National Inspection Corporation

Building Department Questions

Phone: 937-433-4642

E-mail: Plans@Natinspect.com

DECK PLAN SUBMITTAL CHECKLIST

A. Site Plan

1. Property lines
2. All existing and proposed structures
3. Distance to property lines for proposed structures

B. Construction Details

1. ***Pier and Beam Plan*** – show size and depth of piers along with the size and spans of beams.
2. ***Floor Plan***
   a. Show floor joist sizes/spans including species, direction and spacing.
   b. Show all steps
   c. Provide handrail/guardrail details
   d. Provide engineering specifications on any engineered lumber, beams, joist, etc.
3. ***Cross-Section***
   a. Show all components of the deck from pier footing to top of guardrail
   b. Maximum deck floor height above grade

All drawings shall be legible, and have details to adequately describe the work, location and use.

Drawings shall distinguish between existing and proposed work

Link to American Wood Council DCA6 Prescriptive Residential Deck Construction Guideline is *http://awc.org/codes/dcaindex.html*

Current Residential Codes include:
2019 Residential Code of Ohio
2017 National Electric Code

Please call the Building Department at 1-937-433-4642 with any questions.

311.7.8 Handrails. Handrails shall be provided on not less than one side of each flight of stairs with four or more risers.

311.7.8.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm)

Exceptions:

1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.
2. Where handrail fittings or bendings are used to provide continuous transition between flights, transitions at winder treads, the transition from handrail to guard, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed 38 inches (956 mm).

311.7.8.2 Handrail projection. Handrails shall not project more than $4^1/_2$ inches (114 mm) on either side of the stairway.

Exception: Where nosings of landings, floors or passing flights project into the stairway reducing the clearance at passing handrails, handrails shall project not more than $6^1/_2$ inches (165 mm) into the stairway, provided that the stair width and handrail clearance are not reduced to less than that required.

311.7.8.3 Handrail clearance. Handrails adjacent to a wall shall have a space of not less than $1^1/_2$ inches (38 mm) between the wall and the handrails.

311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals.

Exceptions:

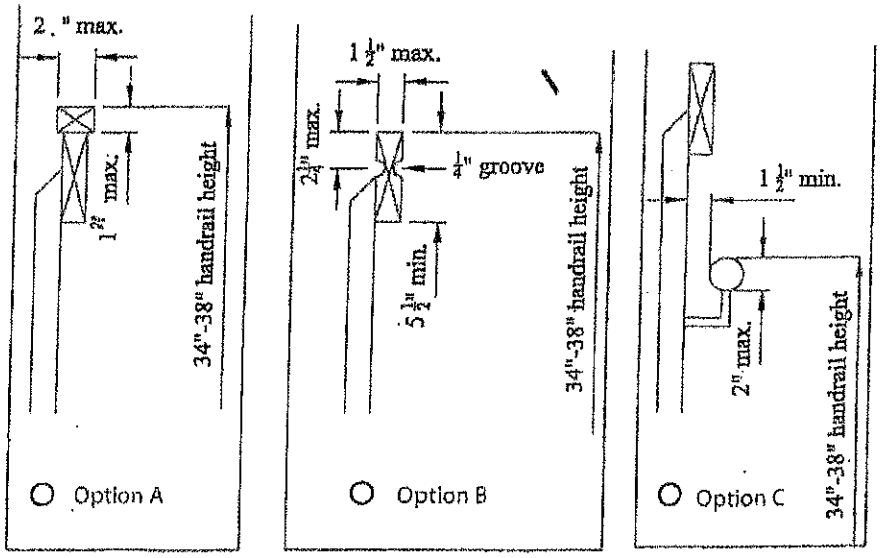
1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread.
3. *Two or more separate rails shall be considered continuous if the termination of the rails occurs over a single tread and positioned within 4 inches of each other. If the transition occurs between a wall mounted handrail and handrail/guardrail combination, the wall mounted handrail shall return into the wall.*

311.7.8.5 Grip size. Required handrails shall be of one of the following types or provide equivalent graspability.

1. **Type I.** Handrails with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) and a cross section of not more than $2^1/_4$ inches (57 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).
2. **Type II.** Handrails with a perimeter greater than $6^1/_4$ inches (160 mm) shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within $^3/_4$ inch (19 mm) measured vertically from the tallest portion of the profile and have a depth of not less than $^5/_{16}$ inch (8 mm) within $^7/_8$ inch (22 mm) below the widest portion of the profile. This required depth shall continue for not less than $^3/_8$ inch (10 mm) to a level that is not less than $1^3/_4$ inches (45 mm) below the tallest portion of the profile. The width of the handrail above the recess shall be not less than $1^1/_4$ inches (32 mm) and not more than $2^3/_4$ inches (70 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).

311.7.8.6 Exterior plastic composite handrails. Plastic composite exterior handrails shall comply with the requirements of Section 507.2.2.

Handrail Sections



SECTION 506
CONCRETE FLOORS (ON GROUND)

506.1 General. Concrete slab-on-ground floors shall be designed and constructed in accordance with the provisions of this section or ACI 332. Floors shall be a minimum $3^1/_2$-inches (89 mm) thick (for expansive soils, see Section 403.1.8). The specified compressive strength of concrete shall be as set forth in Section 402.2.

506.2 Site preparation. The area within the foundation walls shall have all vegetation, top soil and foreign material removed.

506.2.1 Fill. Fill material shall be free of vegetation and foreign material. The fill shall be compacted to ensure uniform support of the slab, and except where approved, the fill depths shall not exceed 24 inches (610 mm) for clean sand or gravel and 8 inches (203 mm) for earth.

Exception: Fills constructed of controlled low-strength material (CLSM) need not be compacted.

506.2.2 Base. A 4-inch-thick (102 mm) base course consisting of clean graded sand, gravel, crushed stone, crushed concrete or crushed blast-furnace slag passing a 2-inch (51 mm) sieve shall be placed on the prepared subgrade where the slab is below grade.

Exception: A base course is not required where the concrete slab is installed on well-drained or sand-gravel mixture soils classified as Group I according to the United Soil Classification System in accordance with Table 405.1.

506.2.3 Vapor retarder. A 6-mil (0.006 inch; 152 μm) polyethylene or approved vapor retarder with joints lapped not less than 6 inches (152 mm) shall be placed between the concrete floor slab and the base course or the prepared subgrade where a base course does not exist.

Exception: The vapor retarder is not required for the following:

1. *Detached garages*, utility buildings and other unheated accessory structures.
2. For unheated storage rooms having an area of less than 70 square feet (6.5 m^2) and carports.
3. Driveways, walks, patios and other flatwork not likely to be enclosed and heated at a later date.
4. Where approved by the building official, based on local site conditions.

506.2.4 Reinforcement support. Where provided in slabs-on-ground, reinforcement shall be supported to remain in place from the center to upper one-third of the slab for the duration of the concrete placement.

SECTION 507
EXTERIOR DECKS

507.1 Decks. Wood-framed decks shall be in accordance with this section. For decks using materials and conditions not prescribed in this section, refer to Section 301.

507.2 Materials. Materials used for the construction of decks shall comply with this section.

507.2.1 Wood materials. Wood materials shall be No. 2 grade or better lumber, preservative-treated in accordance with Section 317, or approved, naturally durable lumber, and termite protected where required in accordance with Section 318. Where design in accordance with Section 301 is provided, wood structural members shall be designed using the wet service factor defined in AWC NDS. Cuts, notches and drilled holes of preservative-treated wood members shall be treated in accordance with Section 317.1.1. All preservative-treated wood products in contact with the ground shall be labeled for such usage.

507.2.1.1 Engineered wood products. Engineered wood products shall be in accordance with Section 502.

507.2.2 Plastic composite deck boards, stair treads, guards, or handrails. Plastic composite exterior deck boards, stair treads, guards and handrails shall comply with the requirements of ASTM D7032 and this section.

507.2.2.1 Labeling. Plastic composite deck boards and stair treads, or their packaging, shall bear a label that indicates compliance with ASTM D7032 and includes the allowable load and maximum allowable span determined in accordance with ASTM D7032. Plastic or composite handrails and guards, or their packaging, shall bear a label that indicates compliance with ASTM D7032 and includes the maximum allowable span determined in accordance with ASTM D7032.

507.2.2.2 Flame spread index. Plastic composite deck boards, stair treads, guards, and handrails shall exhibit a flame spread index not exceeding 200 when tested in accordance with ASTM E84 or UL 723 with the test specimen remaining in place during the test.

Exception: Plastic composites determined to be noncombustible.

507.2.2.3 Decay resistance. Plastic composite deck boards, stair treads, guards and handrails containing wood, cellulosic or other biodegradable materials shall be decay resistant in accordance with ASTM D7032.

507.2.2.4 Termite resistance. Where required by Section 318, plastic composite deck boards, stair treads, guards and handrails containing wood, cellulosic or other biodegradable materials shall be termite resistant in accordance with ASTM D7032.

507.2.2.5 Installation of plastic composites. Plastic composite deck boards, stair treads, guards and handrails shall be installed in accordance with this code and the manufacturer's instructions.

507.2.3 Fasteners and connectors. Metal fasteners and connectors used for all decks shall be in accordance with Section 317.3 and Table 507.2.3.

507.2.4 Flashing. Flashing shall be corrosion-resistant metal of nominal thickness not less than 0.019 inch (0.48 mm) or approved nonmetallic material that is compatible with the substrate of the structure and the decking materials.

TABLE 507.2.3
FASTENER AND CONNECTOR SPECIFICATIONS FOR DECKS [a, b]

ITEM	MATERIAL	MINIMUM FINISH/COATING	ALTERNATE FINISH/COATING [e]
Nails and timber rivets	In accordance with ASTM F1667	Hot-dipped galvanized per ASTM A153	Stainless steel, silicon bronze or copper
Bolts[c] Lag screws[d] (including nuts and washers)	In accordance with ASTM A307 (bolts), ASTM A563 (nuts), ASTM F844 (washers)	Hot-dipped galvanized per ASTM A153, Class C (Class D for $^3/_8$ -inch diameter and less) or mechanically galvanized per ASTM B695, Class 55 or 410 stainless steel	Stainless steel, silicon bronze or copper
Metal connectors	Per manufacturer's specification	ASTM A653 type G185 zinc coated galvanized steel or post hot-dipped galvanized per ASTM A123 providing a minimum average coating weight of 2.0 oz./ft^2 (total both sides)	Stainless steel

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

a. Equivalent materials, coatings and finishes shall be permitted.

b. Fasteners and connectors exposed to salt water or located within 300 feet of a salt water shoreline shall be stainless steel.

c. Holes for bolts shall be drilled a minimum $^1/_{32}$ -inch and a maximum $^1/_{16}$ -inch larger than the bolt.

d. Lag screws $^1/_2$- inch and larger shall be predrilled to avoid wood splitting per the National Design Specification (NDS) for Wood Construction.

e. Stainless-steel-driven fasteners shall be in accordance with ASTM F1667.

507.2.5 Alternate materials. Alternative materials, including glass and metals, shall be permitted.

507.3 Footings. Decks shall be supported on concrete footings or other approved structural systems designed to accommodate all loads in accordance with Section 301. Deck footings shall be sized to carry the imposed loads from the deck structure to the ground as shown in Figure 507.3. The footing depth shall be in accordance with Section 403.1.4.

Exception: Free-standing decks consisting of joists directly supported on grade over their entire length.

507.3.1 Minimum size. The minimum size of concrete footings shall be in accordance with Table 507.3.1, based on the tributary area and allowable soil-bearing pressure in accordance with Table 401.4.1.

507.3.2 Minimum depth. Deck footings shall extend below the frost line specified in Table 301.2(1) in accordance with Section 403.1.4.1.

Exceptions:

1. Free-standing decks that meet all of the following criteria:
   1.1. The joists bear directly on precast concrete pier blocks at grade without support by beams or posts.
   1.2. The area of the deck does not exceed 200 square feet (18.9 m^2).
   1.3. The walking surface is not more than 20 inches (616 mm) above grade at any point within 36 inches (914 mm) measured horizontally from the edge.
2. Free-standing decks need not be provided with footings that extend below the frost line.

507.4 Deck posts. For single-level wood-framed decks with beams sized in accordance with Table 507.5, deck post size shall be in accordance with Table 507.4.

TABLE 507.4
DECK POST HEIGHT [a]

DECK POST SIZE	MAXIMUM HEIGHT [a, b] (feet-inches)
4 × 4	6-9 [c]
4 × 6	8
6 × 6	14
8 × 8	14

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

a. Measured to the underside of the beam.

b. Based on 40 psf live load.

c. The maximum permitted height is 8 feet for one-ply and two-ply beams. The maximum permitted height for three-ply beams on post cap is 6 feet 9 inches.

507.4.1 Deck post to deck footing connection. Where posts bear on concrete footings in accordance with Section 403 and Figure 507.4.1, lateral restraint shall be provided by manufactured connectors or a minimum post embedment of 12 inches (305 mm) in surrounding soils or concrete piers. Other footing systems shall be permitted.

Exception: Where expansive, compressible, shifting or other questionable soils are present, surrounding soils shall not be relied on for lateral support.

507.5 Deck Beams. Maximum allowable spans for wood deck beams, as shown in Figure 507.5, shall be in accordance with Table 507.5. Beam plies shall be fastened with two rows of 10d (3-inch x 0.128-inch) nails minimum at 16 inches (406 mm) on center along each edge. Beams shall be permitted to cantilever at each end up to one-fourth of the allowable beam span. Deck beams of other materials shall be permitted where designed in accordance with accepted engineering practices.

507.5.1 Deck beam bearing. The ends of beams shall have not less than 1$^1/_2$-inches (38 mm) of bearing on wood or metal and not less than 3-inches (76 mm) of bearing on concrete or masonry for the entire width of the beam. Where multiple-span beams bear on intermediate posts, each ply must have full bearing on the post in accordance with Figures 507.5.1(1) and 507.5.1(2).

507.5.2 Deck beam connection to supports. Deck beams shall be attached to supports in a manner capable of transferring vertical loads and resisting horizontal displacement. Deck beam connections to wood posts shall be in accordance with Figures 507.5.1(1) and 507.5.1(2). Manufactured post-to-beam connectors shall be sized for the post and beam sizes. Bolts shall have washers under the head and nut.

507.6 Deck joists. Maximum allowable spans for wood deck joists, as shown in Figure 507.6, shall be in accordance with Table 507.6. The maximum joist spacing shall be limited by the decking materials in accordance with Table 507.7. The maximum joist cantilever shall be limited to one-fourth of the joist span or the maximum cantilever length specified in Table 507.6, whichever is less.

507.6.1 Deck joist bearing. The ends of joists shall have not less than $1^1/_2$-inches (38 mm) of bearing on wood or metal and not less than 3 -inches (76 mm) of bearing on concrete or masonry over its entire width. Joists bearing on top of a multiple-ply beam or ledger shall be fastened in accordance with Table 602.3(1). Joists bearing on top of a single-ply beam or ledger shall be attached by a mechanical connector. Joist framing into the side of a beam or ledger board shall be supported by approved joist hangers.

507.6.2 Deck joist lateral restraint. Joist ends and bearing locations shall be provided with lateral resistance to prevent rotation. Where lateral restraint is provided by joist hangers or blocking between joists, their depth shall equal not less than 60 percent of the joist depth. Where lateral restraint is provided by rim joists, they shall be secured to the end of each joist with not fewer than three 10d (3-inch by 0.128-inch) (76 mm by 3.3 mm) nails or three No. 10 x 3-inch (76 mm) long wood screws.

507.7 Decking. Maximum allowable spacing for joists supporting decking shall be in accordance with Table 507.7. Wood decking shall be attached to each supporting member with not less than two 8d threaded nails or two No. 8 wood screws. Other approved decking or fastener systems shall be installed in accordance with the manufacturer's installation requirements.

507.8 Vertical and lateral supports. Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal. For decks with cantilevered framing members, connection to exterior walls or other framing members shall be designed and constructed to resist uplift resulting from the full live load specified in Table 301.5 acting on the cantilevered portion of the deck. Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting.

507.9 Vertical and lateral supports at band joist. Vertical and lateral supports for decks shall comply with this section.

507.9.1 Vertical supports. Vertical loads shall be transferred to band joists with ledgers in accordance with this section.

507.9.1.1 Ledger details. Deck ledgers shall be a minimum 2-inch by 8-inch (51 mm by 203 mm) nominal, pressure-preservative-treated Southern pine, incised pressure-preservative-treated hem-fir, or approved, naturally durable, No. 2 grade or better lumber. Deck ledgers shall not support concentrated loads from beams or girders. Deck ledgers shall not be supported on stone or masonry veneer.

507.9.1.2 Band joist details. Band joists supporting a ledger shall be a minimum 2-inch-nominal (51 mm), solid-sawn, spruce-pine-fir or better lumber or a minimum 1-inch by $9^1/_2$-inch (25 mm by 241 mm) dimensional, Douglas fir or better, laminated veneer lumber. Band joists shall bear fully on the primary structure capable of supporting all required loads.

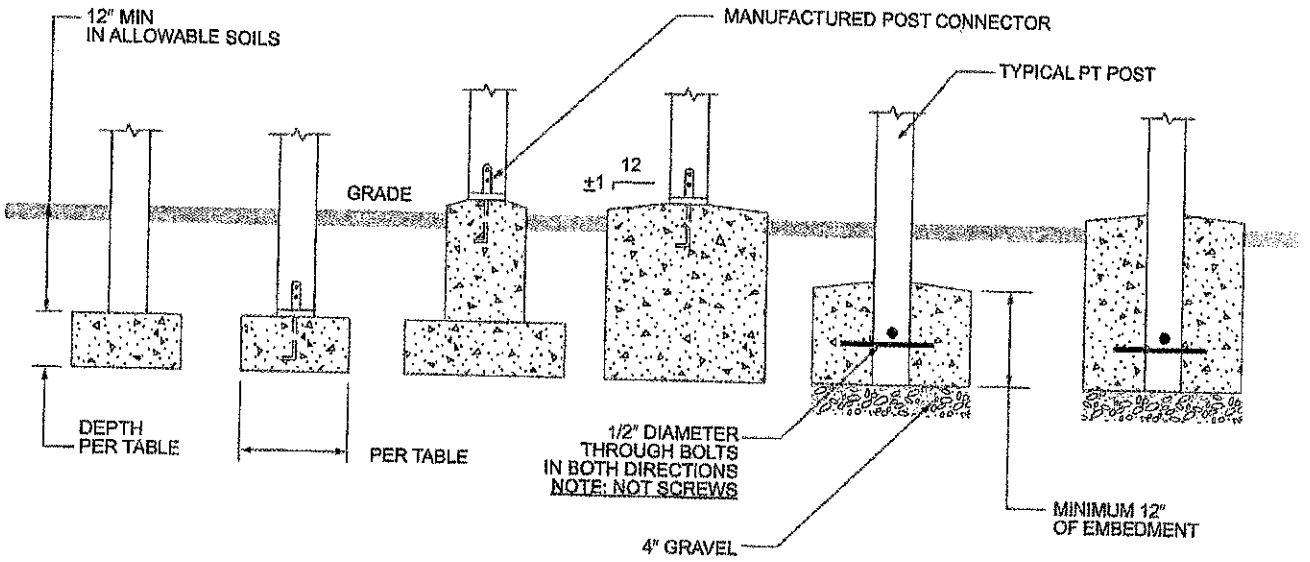
507.9.1.3 Ledger to band joist details. Fasteners used in deck ledger connections in accordance with Table 507.9.1.3(1) shall be hot-dipped galvanized or stainless steel and shall be installed in accordance with Table 507.9.1.3(2) and Figures 507.9.1.3(1) and 507.9.1.3(2).

507.9.1.4 Alternate ledger details. Alternate framing configurations supporting a ledger constructed to meet the load requirements of Section 301.5 shall be permitted.

507.9.2 Lateral Connection. *Deleted.*

Figure 507.9.2(1). *Deleted.*

Figure 507.9.2(2). *Deleted.*



For SI: 1 inch = 25.4 mm.

FIGURE 507.3
DECK POSTS TO DECK FOOTING CONNECTION

TABLE 507.3.1
MINIMUM FOOTING SIZE FOR DECKS

LIVE OR GROUND SNOW LOAD [b] (psf)	TRIBUTARY AREA (sq. ft.)	LOAD BEARING VALUE OF SOILS [a, c, d] (psf)											
		1500 [a]			2000 [a]			2500 [a]			≥ 3000 [a]		
		Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)	Side of a square footing (inches)	Diameter of a round footing (inches)	Thickness (inches)
40	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	14	16	6	12	14	6	12	14	6	12	14	6
	60	17	19	6	15	17	6	13	15	6	12	14	6
	80	20	22	7	17	19	6	15	17	6	14	16	6
	100	22	25	8	19	21	6	17	19	6	15	17	6
	120	24	27	9	21	23	7	19	21	6	17	19	6
	140	26	29	10	22	25	8	20	23	7	18	21	6
	160	28	31	11	24	27	9	21	24	8	20	22	7
50	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	15	17	6	13	15	6	12	14	6	12	14	6
	60	19	21	6	16	18	6	14	16	6	13	15	6
	80	21	24	8	19	21	6	17	19	6	15	17	6
	100	24	27	9	21	23	7	19	21	6	17	19	6
	120	26	30	10	23	26	8	20	23	7	19	21	6
	140	28	32	11	25	28	9	22	25	8	20	23	7
	160	30	34	12	26	30	10	24	27	9	21	24	8
60	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	16	19	6	14	16	6	13	14	6	12	14	6
	60	20	23	7	17	20	6	16	18	6	14	16	6
	80	23	26	9	20	23	7	18	20	6	16	19	6
	100	26	29	10	22	25	8	20	23	7	18	21	6
	120	28	32	11	25	28	9	22	25	8	20	23	7
	140	31	35	12	27	30	10	24	27	9	22	24	8
	160	33	37	13	28	32	11	25	29	10	23	26	9
70	20	12	14	6	12	14	6	12	14	6	12	14	6
	40	18	20	6	15	17	6	14	15	6	12	14	6
	60	21	24	8	19	21	6	17	19	6	15	17	6
	80	25	28	9	21	24	8	19	22	7	18	20	6
	100	28	31	11	24	27	9	21	24	8	20	22	7
	120	30	34	12	26	30	10	24	27	9	21	24	8
	140	33	37	13	28	32	11	25	29	10	23	26	9
	160	35	40	15	30	34	12	27	31	11	25	28	9

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m^2, 1 pound per square foot = 0.0479 kPa.

a. Interpolation permitted, extrapolation not permitted.

b. Based on highest load case: Dead + Live or Dead + Snow.

c. Assumes minimum square footing to be 12 inches x 12 inches x 6 inches for 6 x 6 post.

d. If the support is a brick or CMU pier, the footing shall have a minimum 2-inch projection on all sides.

e. Area, in square feet, of deck surface supported by post and footings.

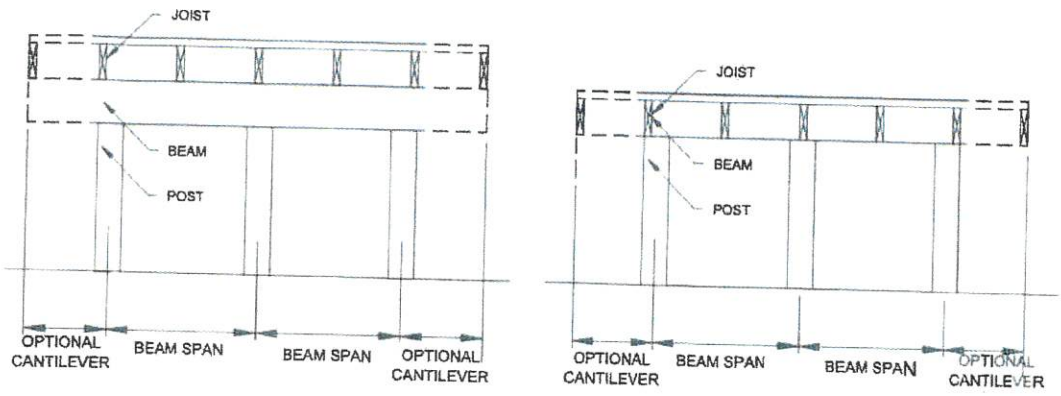


FIGURE 507.5
TYPICAL DECK JOIST SPANS

TABLE 507.5
DECK BEAM SPAN LENGTHS [a, b, g] (feet - inches)

SPECIES[c]	SIZE[d]	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	1 – 2×6	4-11	4-0	3-7	3-3	3-0	2-10	2-8
	1 – 2×8	5-11	5-1	4-7	4-2	2-10	3-7	3-5
	1 – 2×10	7-0	6-0	5-5	4-11	4-7	4-3	4-0
	1 – 2×12	8-3	7-1	6-4	5-10	5-5	5-0	4-9
	2 – 2×6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 – 2×8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 – 2×10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 – 2×12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 – 2×6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3 – 2×8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 – 2×10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 – 2×12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir-larch [e], hem-fir [e], spruce-pine-fir [e], redwood, western cedars, ponderosa pine [f], red pine [f]	3×6 or 2 – 2×6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	3×8 or 2 – 2×8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3×10 or 2 – 2×10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3×12 or 2 – 2×12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4×6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4×8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4×10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4×12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3 – 2×6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3 – 2×8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3 – 2×10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3 – 2×12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. Ground snow load, live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$ at main span, $L/\Delta = 180$ at cantilever with a 220-pound point load applied at the end.

b. Beams supporting deck joists from one side only.

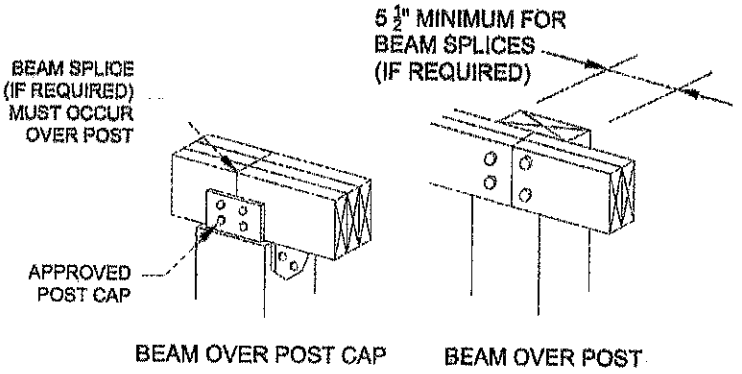
c. No. 2 grade, wet service factor.

d. Beam depth shall be greater than or equal to depth of joists with a flush beam condition.

e. Includes incising factor.

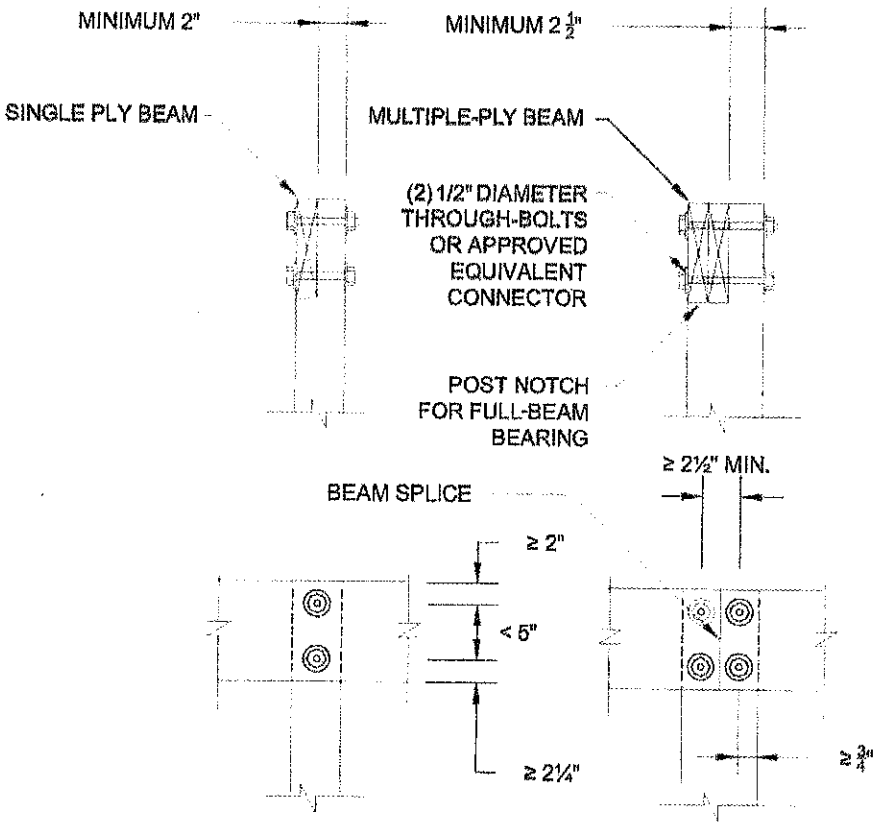
f. Northern species. Incising factor not included.

g. Beam cantilevers are limited to the adjacent beam's span divided by 4.



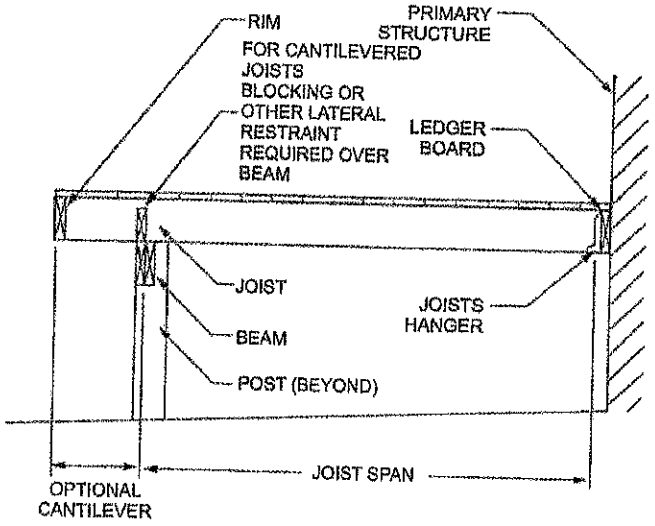
For SI: 1 inch = 25.4 mm.

FIGURE 507.5.1(1)
DECK BEAM TO DECK POST

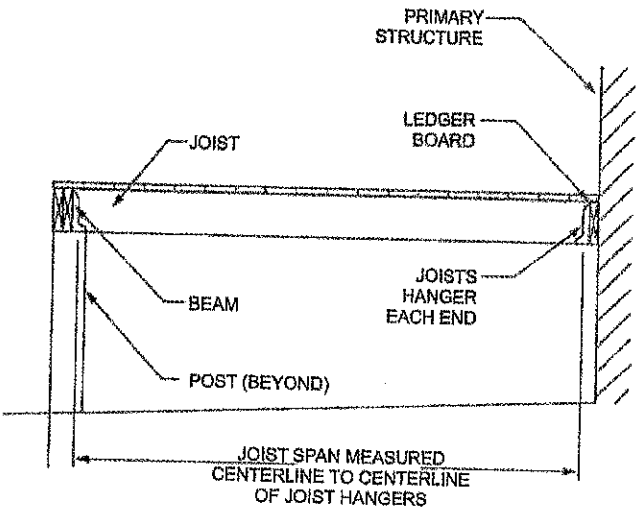


For SI: 1 inch = 25.4 mm.

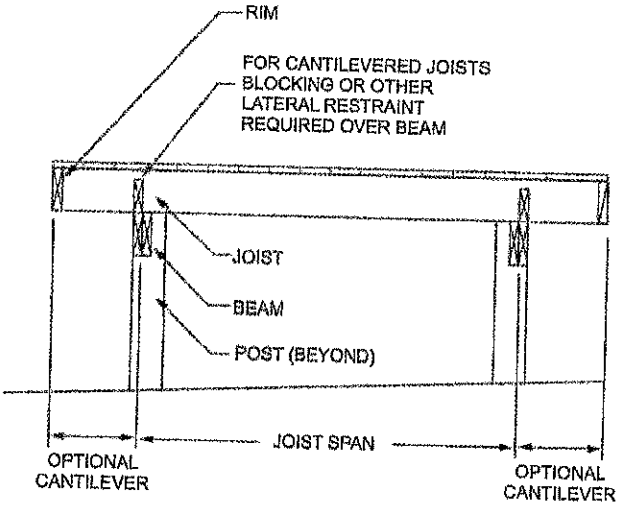
FIGURE 507.5.1(2)
NOTCHED POST-TO-BEAM CONNECTION



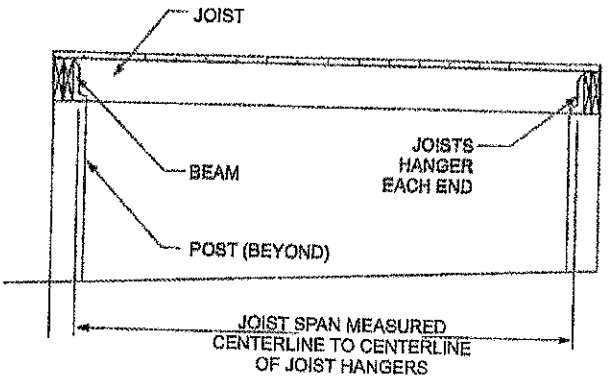
CANTILEVERED JOISTS WITH DROPPED BEAM



JOISTS WITH FLUSH BEAM



JOISTS ON FREE-STANDING DECK WITH DROPPED BEAM



JOISTS ON FREE-STANDING DECK WITH FLUSH BEAM

FIGURE 507.6
TYPICAL DECK JOIST SPANS

TABLE 507.6
DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft. - in.)

SPECIES[a]	SIZE	ALLOWABLE JOIST SPAN[b]			MAXIMUM CANTILEVER[c,f]		
		SPACING OF DECK JOISTS (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS[c] (inches)		
		12	16	24	12	16	24
Southern pine	2×6	9-11	9-0	7-7	1-3	1-4	1-6
	2×8	13-1	11-10	9-8	2-1	2-3	2-5
	2×10	16-2	14-0	11-5	3-4	3-6	2-10
	2×12	18-0	16-6	13-6	4-6	4-2	3-4
Douglas fir-larch[d], hem-fir[d] spruce-pine-fir[d],	2×6	9-6	8-8	7-2	1-2	1-3	1-5
	2×8	12-6	11-1	9-1	1-11	2-1	2-3
	2×10	15-8	13-7	11-1	3-1	3-5	2-9
	2×12	18-0	15-9	12-10	4-6	3-11	3-3
Redwood, western cedars, ponderosa pine[e], red pine[e]	2×6	8-10	8-0	7-0	1-0	1-1	1-2
	2×8	11-8	10-7	8-8	1-8	1-10	2-0
	2×10	14-11	13-0	10-7	2-8	2-10	2-8
	2×12	17-5	15-1	12-4	3-10	3-9	3-1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. No. 2 grade with wet service factor.

b. Ground snow load, live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$.

c. Ground snow load, live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$ at main span, $L/\Delta = 180$ at cantilever with a 220-pound point load applied to end.

d. Includes incising factor.

e. Northern species with no incising factor.

f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

TABLE 507.7
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]
$1^1/_2$ -inch-thick wood	16 inches	12 inches
2-inch-thick wood	24 inches	16 inches
Plastic composite	In accordance with Section 507.2	In accordance with Section 507.2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad.

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

TABLE 507.9.1.3(1)
DECK LEDGER CONNECTION TO BAND JOIST[a, b]
(Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

CONNECTION DETAILS	JOIST SPAN						
	6′ and less	6′1″ to 8′	8′1″ to 10′	10′1″ to 12′	12′1″ to 14′	14′1″ to 16′	16′1″ to 18′
	On-center spacing of fasteners						
1/2-inch diameter lag screw with 1/2-inch maximum sheathing[c, d]	30	23	18	15	13	11	10
1/2-inch diameter bolt with 1/2-inch maximum sheathing[d]	36	36	34	29	24	21	19
1/2-inch diameter bolt with 1-inch maximum sheathing[e]	36	36	29	24	21	18	16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa.

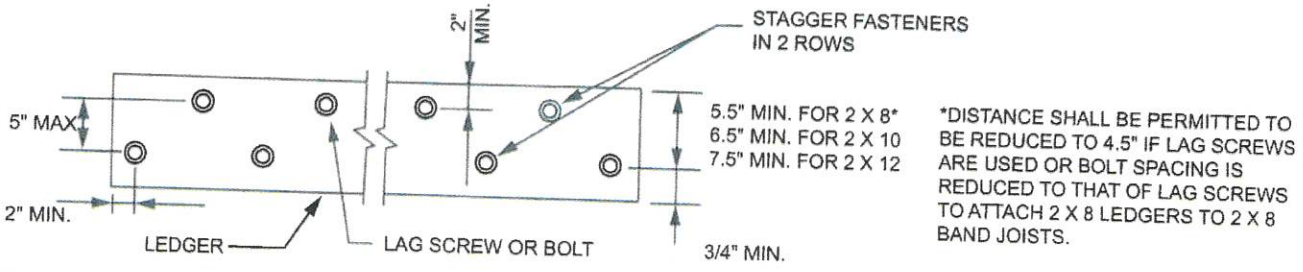
a. Ledgers shall be flashed in accordance with Section 703.4 to prevent water from contacting the house band joist.
b. Snow load shall not be assumed to act concurrently with live load.
c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
d. Sheathing shall be wood 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 1/2-inch thickness of stacked washers shall be permitted to substitute for up to 1/2 inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

TABLE 507.9.1.3(2)
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]	3/4 inch	2 inches[b]	1 5/8 inches[b]
Band Joist[c]	3/4 inch	2 inches	2 inches[b]	1 5/8 inches[b]

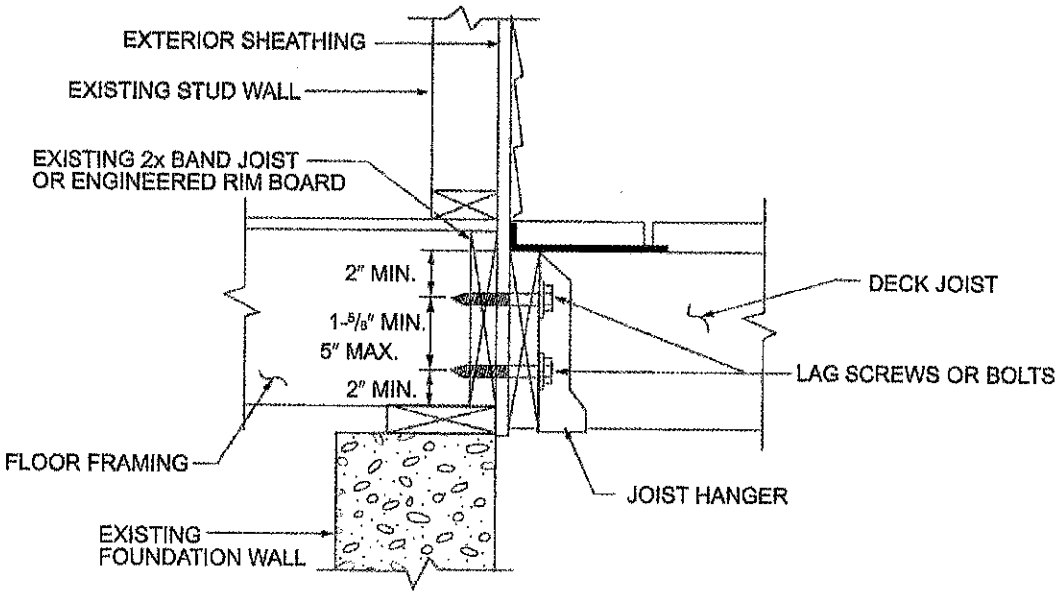
For SI: 1 inch = 25.4 mm.

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 507.9.1.3(1).
b. Maximum 5 inches.
c. For engineered rim joists, the manufacturer's recommendations shall govern.
d. The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure 507.9.1.3(1).



For SI: 1 inch = 25.4 mm.

FIGURE 507.9.1.3(1)
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS



For SI: 1 inch = 25.4 mm.

FIGURE 507.9.1.3(2)
PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS

311.7.8 Handrails. Handrails shall be provided on not less than one side of each flight of stairs with four or more risers.

311.7.8.1 Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm)

Exceptions:

1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.
2. Where handrail fittings or bendings are used to provide continuous transition between flights, transitions at winder treads, the transition from handrail to guard, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed 38 inches (956 mm).

311.7.8.2 Handrail projection. Handrails shall not project more than $4^1/_2$ inches (114 mm) on either side of the stairway.

Exception: Where nosings of landings, floors or passing flights project into the stairway reducing the clearance at passing handrails, handrails shall project not more than $6^1/_2$ inches (165 mm) into the stairway, provided that the stair width and handrail clearance are not reduced to less than that required.

311.7.8.3 Handrail clearance. Handrails adjacent to a wall shall have a space of not less than $1^1/_2$ inches (38 mm) between the wall and the handrails.

311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals.

Exceptions:

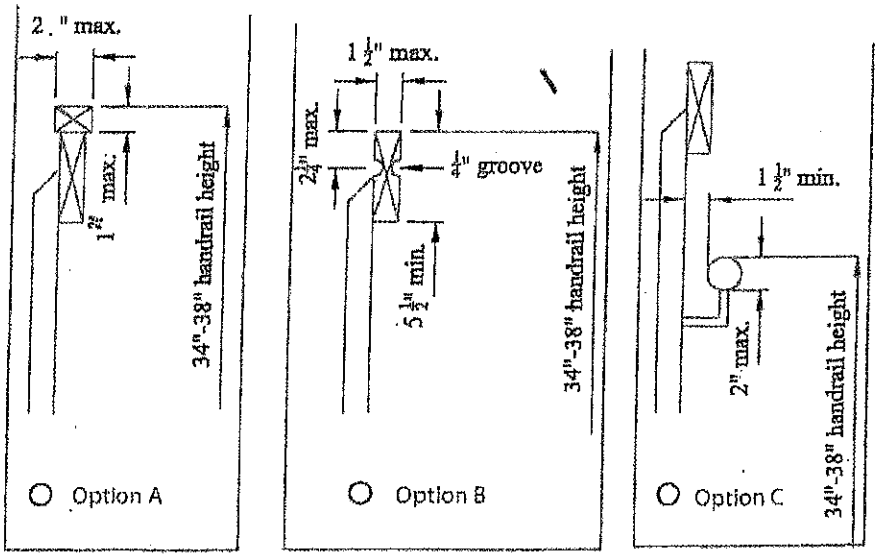
1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread.
3. *Two or more separate rails shall be considered continuous if the termination of the rails occurs over a single tread and positioned within 4 inches of each other. If the transition occurs between a wall mounted handrail and handrail/guardrail combination, the wall mounted handrail shall return into the wall.*

311.7.8.5 Grip size. Required handrails shall be of one of the following types or provide equivalent graspability.

1. **Type I.** Handrails with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) and a cross section of not more than $2^1/_4$ inches (57 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).
2. **Type II.** Handrails with a perimeter greater than $6^1/_4$ inches (160 mm) shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within $^3/_4$ inch (19 mm) measured vertically from the tallest portion of the profile and have a depth of not less than $^5/_{16}$ inch (8 mm) within $^7/_8$ inch (22 mm) below the widest portion of the profile. This required depth shall continue for not less than $^3/_8$ inch (10 mm) to a level that is not less than $1^3/_4$ inches (45 mm) below the tallest portion of the profile. The width of the handrail above the recess shall be not less than $1^1/_4$ inches (32 mm) and not more than $2^3/_4$ inches (70 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).

311.7.8.6 Exterior plastic composite handrails. Plastic composite exterior handrails shall comply with the requirements of Section 507.2.2.

Handrail Sections



BVLZ Brick Veneer Ledger Connector

On This Page

Product Details

The BVLZ brick veneer ledger connector provides a new code-compliant, tested solution for safely adding a deck to an existing house with brick veneer exterior. It attaches a wood ledger to the framing through the veneer. This patent-pending connector kit provides a viable alternative to building a free-standing deck, and it installs without having to remove or replace large sections of brick veneer.

The BVLZ brick veneer ledger connector kit includes a steel ledger plate, a compression strut, installation guide, two 14" Strong-Drive® SDWH Timber-Hex HDG tension screws and six Strong-Drive SD Connector shear screws. It's designed so the two tension screws pass through the mortar into the structural framing, and the compression strut transfers compression forces from the ledger plate to the rim joist. The system enables the ledger to hang freely without bearing on the brick veneer.

Key Features

- Allows for drilling through the mortar joints
- Enables inspection/approval by building departments in a retrofit construction application
- Accommodates a wide range of air gaps and brick sizes
- Minimizes penetrations through existing exterior water barriers

Material

- 12 gauge

Finish

- Connectors — ZMAX® coating; fasteners — SDWH27, Class 55 HDG; SD9 double-barrier coating

Installation

- Use all specified fasteners. All fasteners supplied with connector.
- Complete installation instructions provided with each kit.
- Measure where each ledger plate will be positioned on the veneer.
- At first location, align the center hole of installation guide with the mortar joint in the brick veneer. Drill through the center hole using a hammer drill and a 1 1/8" masonry drill bit.
- Drill two 40° upward-angled holes using the guide and 1 1/8"-diameter drill bit. Repeat for each plate location.
- Mark the placement of each plate on the ledger board. Using installation guide, drill 1 1/8"-diamete horizontally through the center hole and ma

National Inspection Corporation

Building Department Questions

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4/12/2021

What are the roof sheathing code requirements?

The 2019 Residential Code of Ohio Section 803.2.1 Wood structural panel sheathing identification and grade refers to Table 503.2.1.1(1). This table shows what the maximum span is for the sheathing based on the span rating of the sheathing and whether there is edge-support or not.

TABLE 503.2.1.1(1)
ALLOWABLE SPANS AND LOADS FOR WOOD STRUCTURAL PANELS FOR ROOF AND SUBFLOOR SHEATHING AND COMBINATION SUBFLOOR UNDERLAYMENT [a, b, c]

SPAN RATING	MINIMUM NOMINAL PANEL THICKNESS (inch)	ALLOWABLE LIVE LOAD (psf)[b, l]		MAXIMUM SPAN (inches)		LOAD (pounds per square foot, at maximum span)		MAXIMUM SPAN (inches)
		SPAN @ 16" o.c.	SPAN @ 24" o.c.	With edge supportd	Withoutedge support	Total load	Live load	
Sheathing [e]				Roof [f]				Subfloor [j]
16/0	3/8	30	—	16	16	40	30	0
20/0	3/8	50	—	20	20	40	30	0
24/0	3/8	100	30	24	20[g]	40	30	0
24/16	7/16	100	40	24	24	50	40	16
32/16	15/32, 1/2	180	70	32	28	40	30	16[h]
40/20	19/32, 5/8	305	130	40	32	40	30	20[h, i]
48/24	23/32, 3/4	—	175	48	36	45	35	24
60/32	7/8	—	305	60	48	45	35	32
Underlayment, C-C plugged, single floor [e]				Roof [f]				Combination subfloor underlayment[k]
16 o.c.	19/32, 5/8	100	40	24	24	50	40	16[i]
20 o.c.	19/32, 5/8	150	60	32	32	40	30	20[i, j]
24 o.c.	23/32, 3/4	240	100	48	36	35	25	24
32 o.c.	7/8	—	185	48	40	50	40	32
48 o.c.	1-3/32, 1-1/8	—	290	60	48	50	40	48

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

a. The allowable total loads were determined using a dead load of 10 psf. If the dead load exceeds 10 psf, then the live load shall be reduced accordingly.

b. Panels continuous over two or more spans with long dimension (strength axis) perpendicular to supports. Spans shall be limited to values shown because of possible effect of concentrated loads.

c. Applies to panels 24 inches or wider.

d. Lumber blocking, panel edge clips (one midway between each support, except two equally spaced between supports where span is 48 inches), tongue-and-groove panel edges, or other approved type of edge support.

e. Includes Structural I panels in these grades.

f. Uniform load deflection limitation: 1/180 of span under live load plus dead load, 1/360 of span under live load only.

g. Maximum span 24 inches for 15/32 - and 1/2 -inch panels.

h. Maximum span 24 inches where 3/4 -inch wood finish flooring is installed at right angles to joists.

i. Maximum span 24 inches where 1.5 inches of lightweight concrete or approved cellular concrete is placed over the subfloor.

j. Unsupported edges shall have tongue-and-groove joints or shall be supported with blocking unless minimum nominal 1/4 -inch-thick wood panel-type underlayment, fiber-cement underlayment with end and edge joints offset not less than 2 inches or 1 1/2 inches of lightweight concrete or approved cellular concrete is placed over the subfloor, or 3/4 -inch wood finish flooring is installed at right angles to the supports. Fiber-cement underlayment shall comply with ASTM C1288 or ISO 8336 Category C. Allowable uniform live load at maximum span, based on deflection of 1/360 of span, is 100 psf.

k. Unsupported edges shall have tongue-and-groove joints or shall be supported by blocking unless nominal 1/4 -inch-thick wood panel-type underlayment, fiber-cement underlayment with end and edge joints offset not less than 2 inches or 3/4 -inch wood finish flooring is installed at right angles to the supports. Fiber-cement underlayment shall comply with ASTM C1288 or ISO 8336 Category C. Allowable uniform live load at maximum span, based on deflection of 1/360 of span, is 100 psf, except panels with a span rating of 48 on center are limited to 65 psf total uniform load at maximum span.

l. Allowable live load values at spans of 16 inches on center and 24 inches on center taken from reference standard APA E30, APA Engineered Wood Construction Guide. Refer to reference standard for allowable spans not listed in the table.

Is ice barrier required?

Yes, Table 301.2(1) states that ice barrier is required. And note h states that in accordance with Sections 905.1.2, 905.4.3.1, 905.5.3.1, 905.6.3.1, 905.7.3.1 and 905.8.3.1, all jurisdictions in Ohio have a history of local damage from the effects of ice damming.

Is drip-edge required?

Section 905.2.8.5 Drip edge references Sections 903.1 and 905.1. These both call for the roof coverings to be installed in accordance with this code and the approved manufacturers' installation instructions. So, whether drip edge is required will be dependent on the manufacturers instructions of the product being installed.