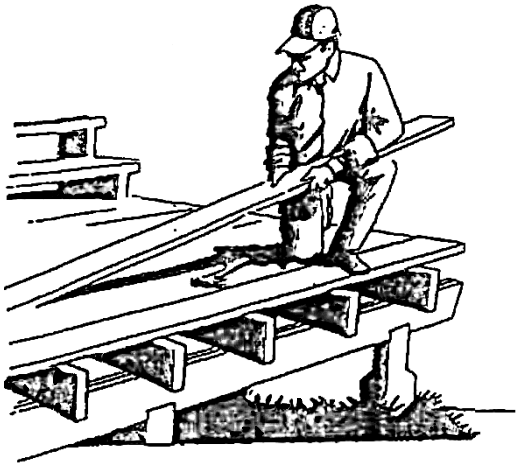
Charter Township of Garfield
Grand Traverse County
3848 VETERANS DRIVE
TRAVERSE CITY, MICHIGAN 49684
PH: (231) 941-1620 • FAX: (231) 941-1588

RESIDENTIAL DECK REQUIREMENTS



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The Charter Township of Garfield has prepared this manual to assist you in the process of building a deck within our township. This manual contains important information that will help you understand the building permit and construction process from application to completion. We have included details for areas that have generated confusion or delays in the past. The information is presented in a start to finish sequence to guide you as you progress through your project.

Do I need a permit?

Zoning Department Requirements Pertaining to Decks:

1. Any deck over 100 sq. ft. requires a land use permit from the zoning department.
2. Decks above grade whether attached or detached to a residence, cannot be located within a front, side, or rear yard setback.
3. Decks that are at ground level do not require a land use permit and can be placed in a front, side or rear yard setback.
4. Zoning requires a site plan showing the location of the building or structure with dimensions in relation to lot lines, streets, and other buildings. See enclosed attachments for example.
5. In some cases, a soil and erosion permit is required. Check with Grand Traverse County at 231-995-6042. They are located at 2650 LaFranier Rd.

Building Department Requirements Pertaining to Decks:

1. All decks require building permits with the exception of:
   a. Decks not exceeding 200 square feet (18.58mm) in area, that are not more than 30'' (762mm) above grade at any point as prescribed by Section R312.1.1, are not attached to a dwelling or structures, are not within 36'' (914mm) of a dwelling or its accessory structures, and do not serve any ingress or egress door of the dwelling or it's accessory structures.
2. Submitted plans are required to show footing and foundation details, and also beam and joint sizes. See enclosed attachments for example.
3. Applications for building and land use permits can be picked up at the building or zoning departments, or on the web at www.garfield-twp.com.

Miscellaneous Code Requirements Pertaining to Decks:

1. **Foundation:** Post must rest on concrete footings at least 42'' below grade unless in sandy soils, where 24'' below grade is allowed.
2. **Ledger Board:** This is the board attached to the house used to support floor joist and decking. See the enclosed attachments for the importance of this ledger board and the required bolting schedule.
3. **Posts:** Minimum size is 4"x 4". A larger post may be required depending on the height of the deck. See attachments for proper post spacing.
4. **Framing Material:** All wood in contact with the ground shall be approved pressure-treated wood suitable for ground contact use. All other wood not in contact with the ground such as beams, floor joists, decking, guardrails, and handrails must be an approved naturally durable or pressure-treated wood. Example: Redwood, Cedar, or other approved material.
5. **Framing Fasteners:** All nails, brackets, and fasteners shall be hot-dipped galvanized steel, stainless steel, or silicon bronze.
6. **Beams and Floor Joists:** Beams must be properly connected and supported at posts. See enclosed attachments for proper beam and floor joist sizes, including joist spacing.
7. **Guardrails:** Guardrails at least 36'' in height are required when the deck walking surface is more than 30'' above grade. Guardrails are required on stairways that have a total rise of more than 30'' above floor or grade. Stairway guardrails must be at least 34'' high measured vertically from nosing of the tread. Guardrails shall not have any openings that will allow the passage of an object 4'' or more in diameter. See enclosed sample details.
8. **Handrails:** Handrails are required on all stairways with four or more risers. Handrails must be continuous the full length of the stairs and must be returned or terminated into a post. Handrails must be "graspable". Handrails must be 34-38'' measured vertically from nosing. See sample details.
9. **Stairways:** Stairways shall be at least 36'' wide. The stair riser height shall not exceed 8¼''. Stair tread width shall not be less than 9'' measured nose to nose. The difference between the largest and the smallest riser height and tread depth shall not exceed ⅜''. Stairs with solid risers must have a nosing that projects between ¾'' and 1¼''. Open risers are not allowed for any stairway over 30''.
10. **Township Code Booklet:** Our Township Code Booklet contains other information that may be applicable to your project. If you would like a copy of it, feel free to ask.
11. **Inspections Required:** 1) Foundation: Inspection of the holes prior to backfill. 2) Framing and 3) Final: Prior to use or occupancy of the structure. Once final approval is given, we will issue a certificate of occupancy.
12. **Attachments:** The following attachments are to aid you in your deck project. If you have any questions, feel free to contact the Garfield Township Building and Zoning Departments.

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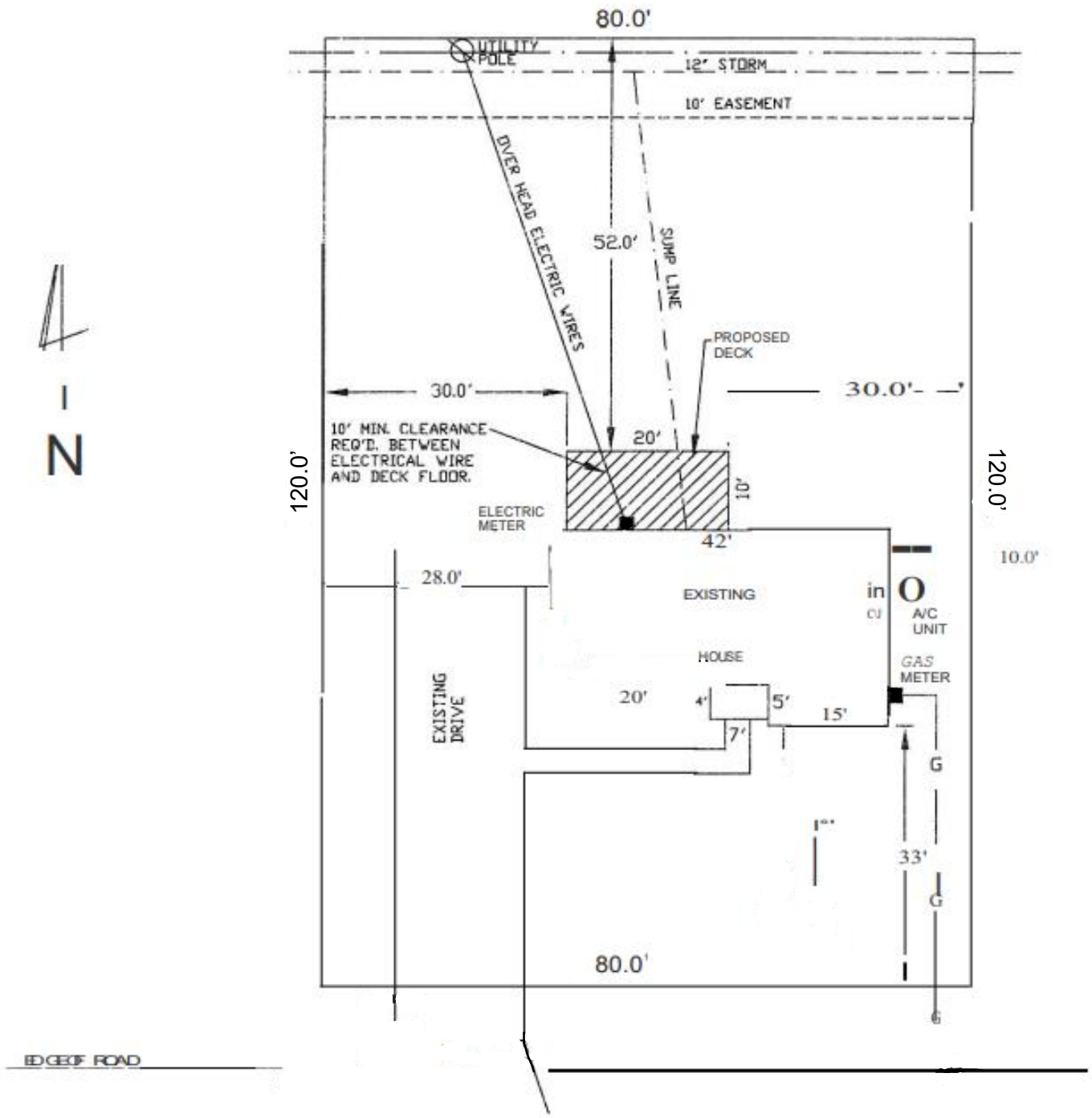


SAMPLE PLOT PLAN

BUILDER: XYZ CONST.
ADDRESS XXX PHONE XXX
OWNER: RESIDENT
ADDRESS XXX PHONE XXX

SHOW THE UTILITY LOCATIONS BOTH ABOVE AND BELOW GROUND.
SHOW THE LOCATION OF THE ELECTRIC METER, GAS METER AND A/C UNIT.
SHOW THE LOCATION OF WATER, SANITARY, AND SUMP LINES

Researchers at Virginia Tech University and Washington State University have tested simulated deck-ledger to house-band-joist connections in their respective laboratories. A practical range of pressure-preservative-treated (PPT) deck ledger lumber (incised Hem-fir and Southern pine) was attached to a simulated Spruce-pine-fir band joist by ½ inch (12.7 mm) lag screws or bolts with washers. The ledger connection tests did not include carriage bolts; therefore, an engineered design of the ledger connection is required if carriage bolts are used. The deck ledger was separated from the house band joist by placing a piece of 15/32 inch wall sheathing in the connection, and in another test case for bolts only, a ½ inch (12.7 mm) stack of washers was inserted into the connection to produce a drainage plane. The specimens were tested to failure and the average test results were divided by a factor of 3.0, intended to provide an adequate in-service safety factor, and further divided by 1.6 to convert from a "test duration" to a ''normal duration" of 10 years recognized by the NDS and IBC as the proper duration for an occupancy live load.

The test was made with two different band joists, a 2 inch (51 mm) nominal Spruce-pine-fir and a 1 inch by 9 ½ inch Douglas fir-laminated (DFL) veneer. Section R507.2.2 permits the DFL band joist in lieu of the 2 inch (51 mm) nominal. Due to the limited investigation into the performance of composite-type band joists (only DFL was evaluated) and the possibility of band joists entering the market being a lower quality than what was tested at Washington State University, engineered wood band joists are not included in the scope of the fastener spacing table. Instead, the attachment must be designed in accordance with accepted engineering practice where an engineered wood product is used as the band joist. The maximum distance between the face of the band joist and the deck ledger must not exceed 1 inch (25 mm). Note e of Table R507.2 will permit ½ inch thickness of stacked washers to substitute for 112 inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing if the 1 inch distance is not exceeded.

Penetration of moisture at the interface of the deck and the exterior of the house can be detrimental to the connectors. For this reason, Section R502.2.3 requires the connectors to be hot-dipped galvanized or stainless steel.

The on-center spacing of the fasteners as shown in Table R507.2.1 and Figures R507.2.1(1) and R507.2.1(2) is the closest spacing for the two cases of deck ledger lumber tested. In deck construction, a joist hanger or angle connector is commonly installed at the end of the ledger board to support the deck rim joist. Often these members are double 2x members (3-inch (76 mm) nominal width). The spacing of 2 inches to 5 inches (51 mm to 127 mm) from the ends will allow the installer flexibility to locate the lag screw or bolt so that it does not interfere with the installation of the joist hanger or structural connector. Five inches (127 mm) will accommodate an inverted flange double 2x joist hanger.

TABLE R507.2
DECK LEDGER CONNECTION TO BAND JOIST [a] [b]
(Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psi)

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						
½ inch diameter lag screw with ½ inch maximum sheathing [c] [d]	30	23	18	15	13	11	10
½ inch diameter bolt with ½ inch maximum sheathing [d]	36	36	34	29	24	21	19
½ inch diameter bolt with 1 inch maximum sheathing [e]	36	36	29	24	21	18	16

For S1: 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 R703.8 to prevent water from contacting the house band joist.
b. Snow load shall not be assumed to act concurrently with live load.
c. The lip of the lag screw shall fully extend beyond the inside face oft-he band joist.
d. Sheathing shall be wood structural pane) or solid sawn lumber.
e. Sheathing shall be permitted to be wood structural pane), gypsum board, fiberboard. lumber or foam sheathing. Up to ½ inch thickness of stacked washers shall be permitted to substitute for up to ½ inch of sheathing thickness where combined with wood structural panel or lumber sheathing.

* See the commentary to Sections R507.2 and R507.2.1.

MINIMUM END AND EDGE DISTANCE AND SPACING BETWEEN ROWS				
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
Ledger[a]	2 inches[d]	¾ inch	2 inches[b]	1 ⅝ inches[b]
Band Joist[c]	¾ inch	2 inches	2 inches[b]	1 ⅝ inches[b]

For SI: 1 inch = 25.4 mm.

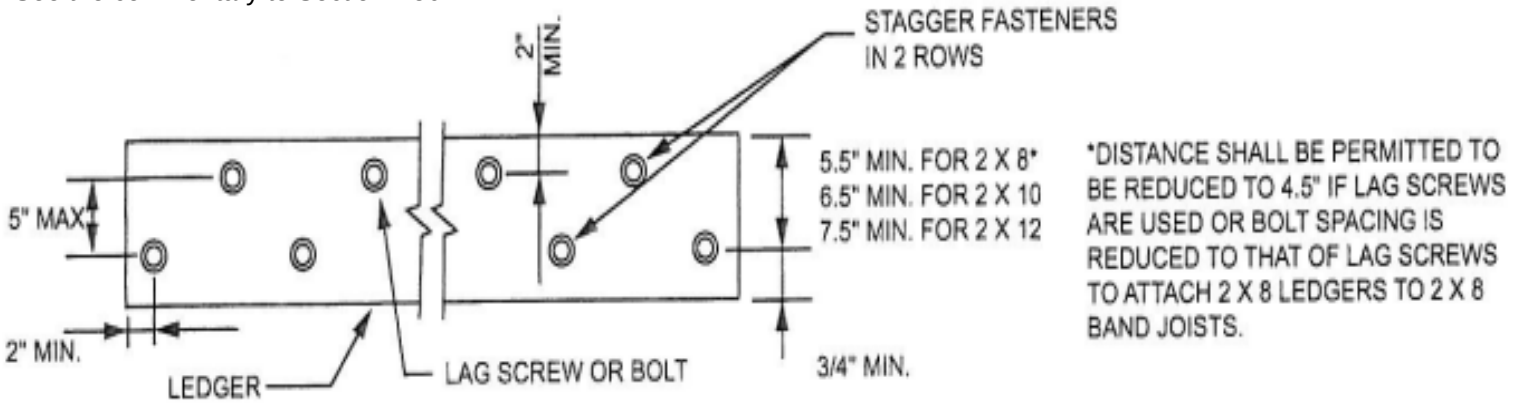
a. Lag screws or bolts shall be staggered from the top of the bottom along the horizontal run of the deck ledger in accordance with Figure R507.2.1(1).

b. Maximum 5 inches.

c. For engineered rim joist, the manufacturer's recommendations shall govern.

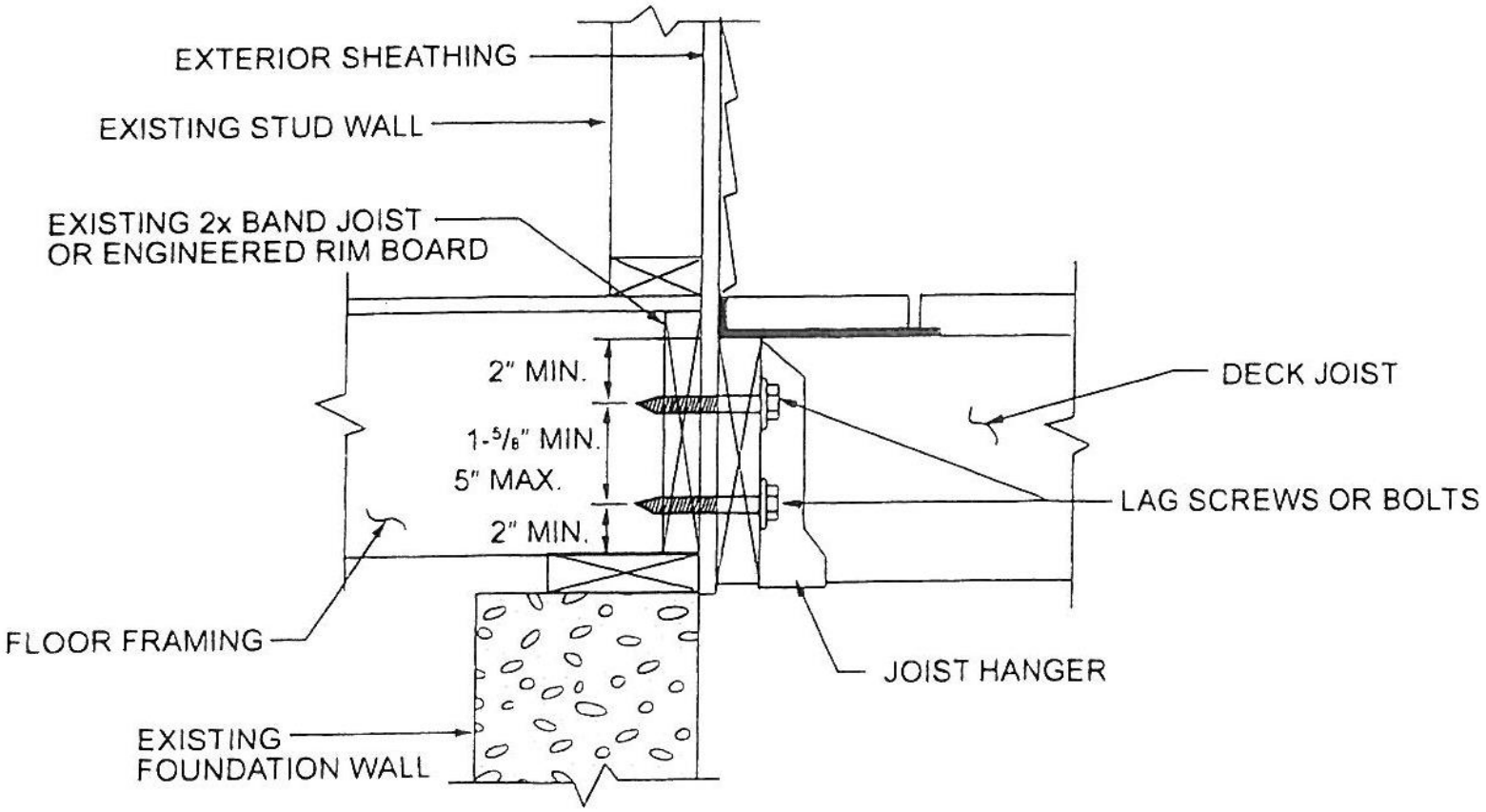
d. The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure R507.2.1(1).

*See the commentary to Section R507.2.1.



For SI: 1 inch = 25.4 mm

FIGURE R507.2.1(1)
PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS

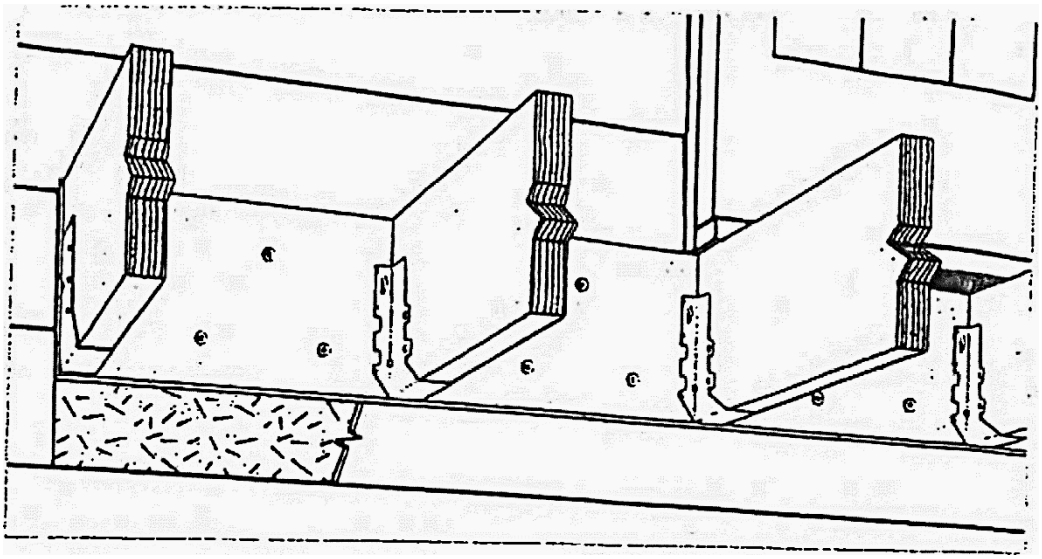


For SI: 1 inch = 25.4 mm

FIGURE R507.2.1(2)
PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOIST

*See the commentary to Section R507.2

Ledger Attachment



Code Requirements

☑ 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.

IRC 2009 section R502.2.2
IRC 2072 Section R507.1
IBC 2009/2012 Section 1604.8.3

☑ For decks supporting a total design load of 50 pounds per square foot (40 pounds per square foot live load plus 10 pounds per square foot dead load), the connection between a deck ledger of pressure preservative-treated Southern Pine, incised pressure preservative-treated Hem-Fir or approved decay-resistant species, and a 2 inch nominal lumber band joist bearing on a sill plate or wall plate shall be constructed with ½ inch lag screws or bolts with washers in accordance with Table R502.2.2.1. (IRC 2012 Table R507.2).

IRC 2009 Section R502.2.2.1
2012 Section R507.2

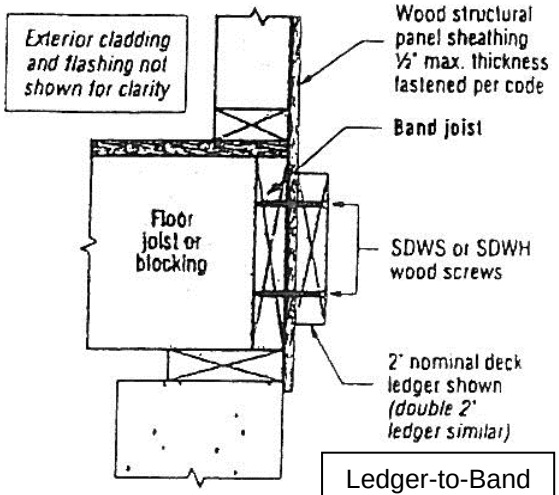
☑ Deck ledger connections not conforming to Table R502.2.2.1 (IRC 2012 Table R507.2) shall be in accordance with accepted engineering practice. Girders supporting deck joists shall not be supported on deck ledgers or band joists. Deck ledgers shall not be supported on stone or masonry veneer.

IRC 2009 Section R502.2.2.2.
IRC 2012 R507.2.2

Selection of products based upon performance and/or suitability for a specific application should be made by a qualified professional. Simpson Strong-Tie recommends that deck designs be approved by the local building department before construction begins.

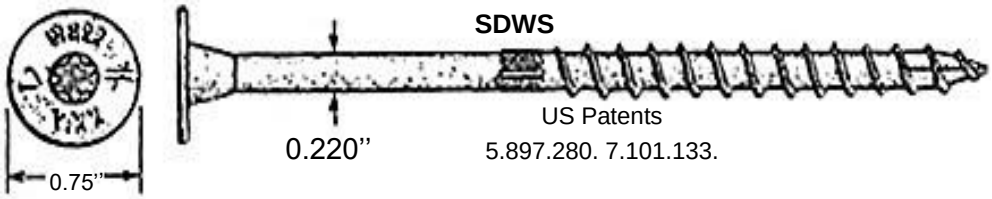
One of the most common causes for deck failure is ledgers that pull away from the primary structure, resulting complete collapse.

The Simpson Strong-Tie Strong-Drive SDWS and SDWH structural wood screws provide an easy-to-install, high-strength alternative to lag screws and through-bolts. They are ideal for securely attaching ledgers to structural wood members, are easier to rive than comparable fasteners, and are coated for many exterior and preservative-treated wood applications.



Ledger-to-Band Joist Assembly

Strong-Drive© Structural Screw

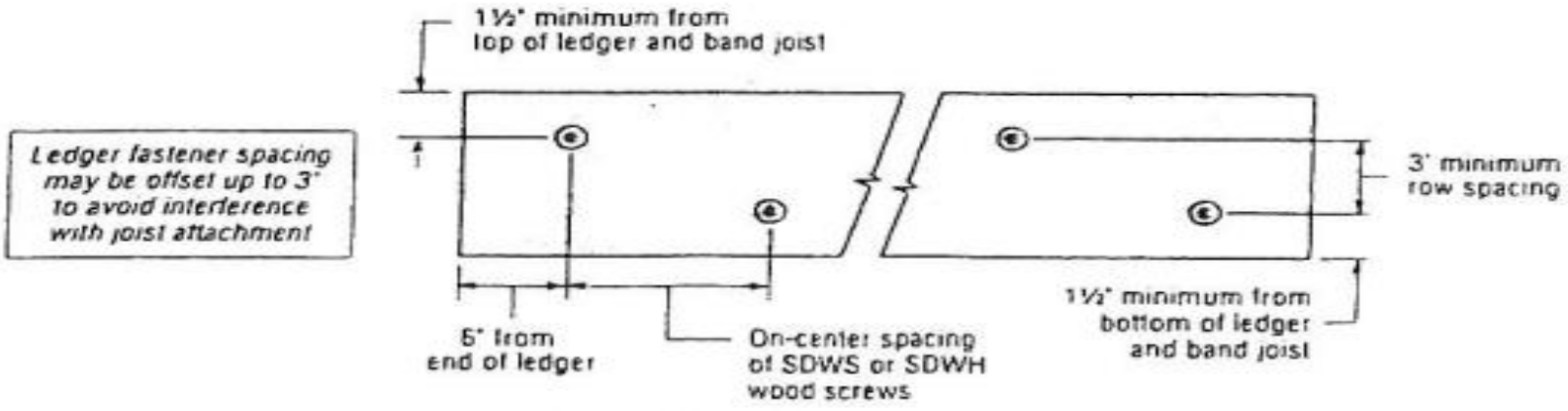


US Patents
5.897.280. 7.101.133.

- 4CUT™ tip, serrated thread, and knurled shank reduce installation torque
- Identification on all screw heads
- Low-profile washer head provides excellent bearing area and a clean look

Code listed per IAPMO UES ER-192.

For stainless-steel ledger fastening, use the Strong-Drive SDS structural wood screws



SDWS/SDWH Screw Spacing Detail

For more information on ledger attachment see Fasting Systems catalog C-FS and flier F-SDWSSDWH.

TABLE R507.5
DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft - in)

SPECIES[a]	SIZE	SPACING OF DECK JOIST WITH NO CANTILEVER[b] (inches)			SPACING OF DECK JOIST WITH CANTILEVERS[c] (inches)		
		12	16	24	12	16	24
Southern Pine	2 x 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 x 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 x 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 x 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas Fir-Larch[d], Hem-Fir[d], Spruce-Pine-Fir[d]	2 x 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 x 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 x 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 x 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, Western Cedars, Ponderosa Pine[e], Red Pine[e]	2 x 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 x 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 x 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 x 12	17-5	15-1	12-4	16-5	15-1	12-4

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.

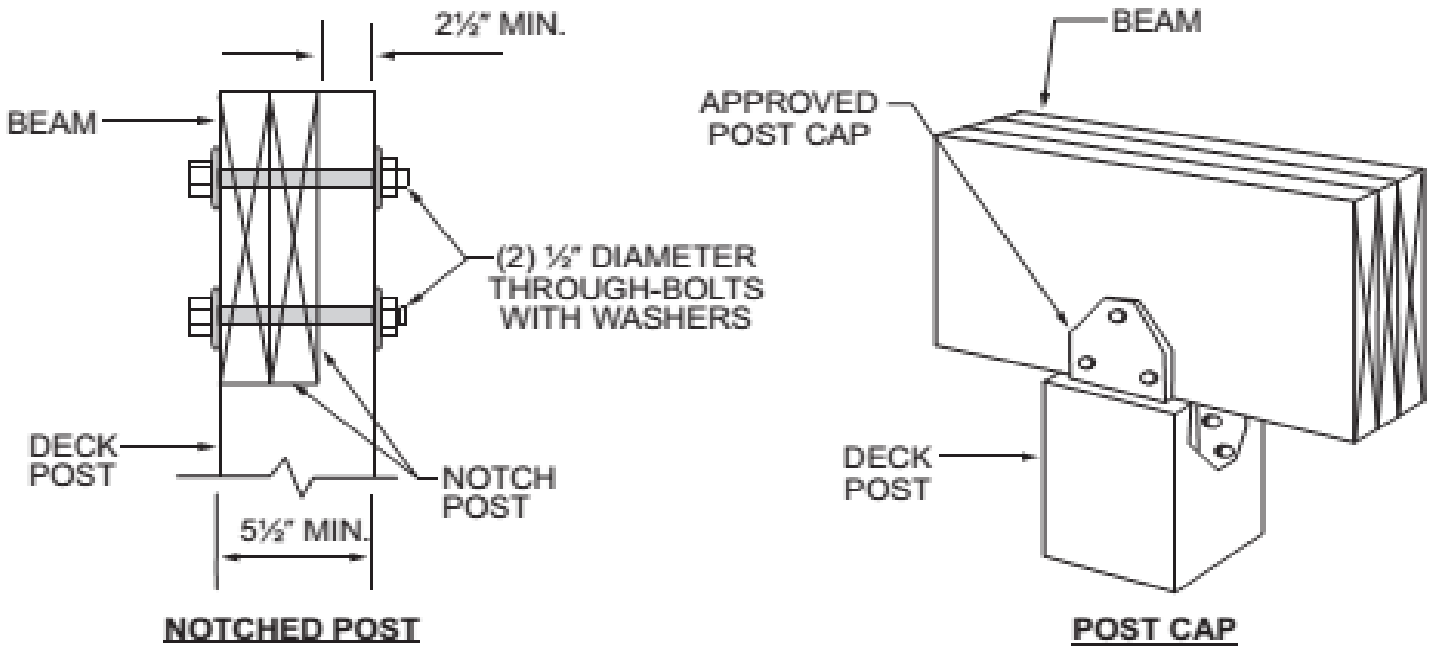
a. No. 2 grade with wet service fact.
b. Ground snow load, live load = 40 psf, dead load = 10 psf. L/△ = 360.
c. Ground snow load, live load = 40 psf, dead load = 10, L/△ = 360 at main span. L/△ = 180 at cantilever with a 220-pound point load applied to end.
d. Includes incising factor.
e. Northern species with no incising factor.
f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

TABLE R507.6
DECK BEAM SPAN LENGTHS[a] [b] (ft. - in.)

SPECIES[c]	SIZE[d]	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern Pine	2 - 2 x 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 - 2 x 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 - 2 x 10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 - 2 x 12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 - 2 x 6	8-2	7-5	6-8	6-7	5-8	5-3	5-0
	3 - 2 x 8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 - 2 x 10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 - 2 x 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 x 6 or 2 - 2 x 6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	3 x 8 or 2 - 2 x 8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3 x 10 or 2 - 2 x 10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3 x 12 or 2 - 2 x 12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4 x 6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4 x 8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4 x 10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4 x 12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3 - 2 x 6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3 - 2 x 8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3 - 2 x 10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3 - 2 x 12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

For SI: 1 inch = 25.4mm. 1 foot = 304.8mm. 1 pound per square foot = 0.479 kPa. 1 pound = 0.454 kg.

a. Ground snow load, live load = 40 psf. Dead load = 10 psf. **L/△** = 360 at main span. **L/△** = 180 at cantilever with a 220 pound point load applied at the end.
b. Beams supporting deck joist from one side only.
c. No. 2 grade, wet service factor.
d. Beam depth shall be greater than or equal to depth of joist with a flush beam condition.
e. Includes incising factor.
f. Northern species. Incising factor not included.



For SI: 1 inch = 25.4 mm.

FIGURE R507.7.1DECK BEAM TO DECK POST

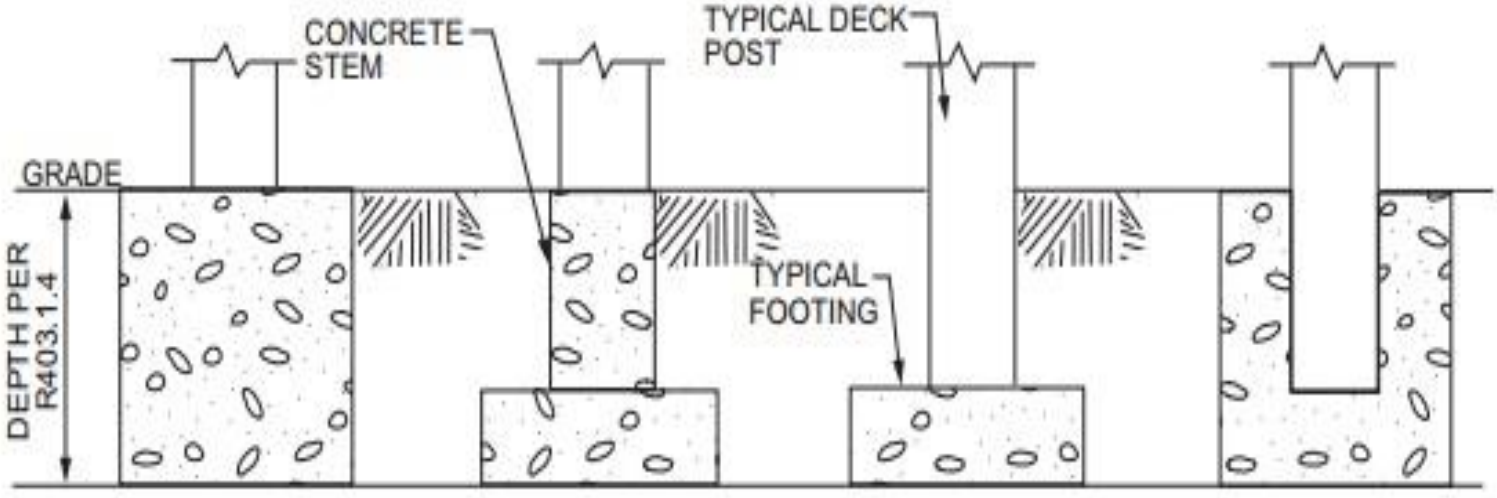


FIGURE R507.3

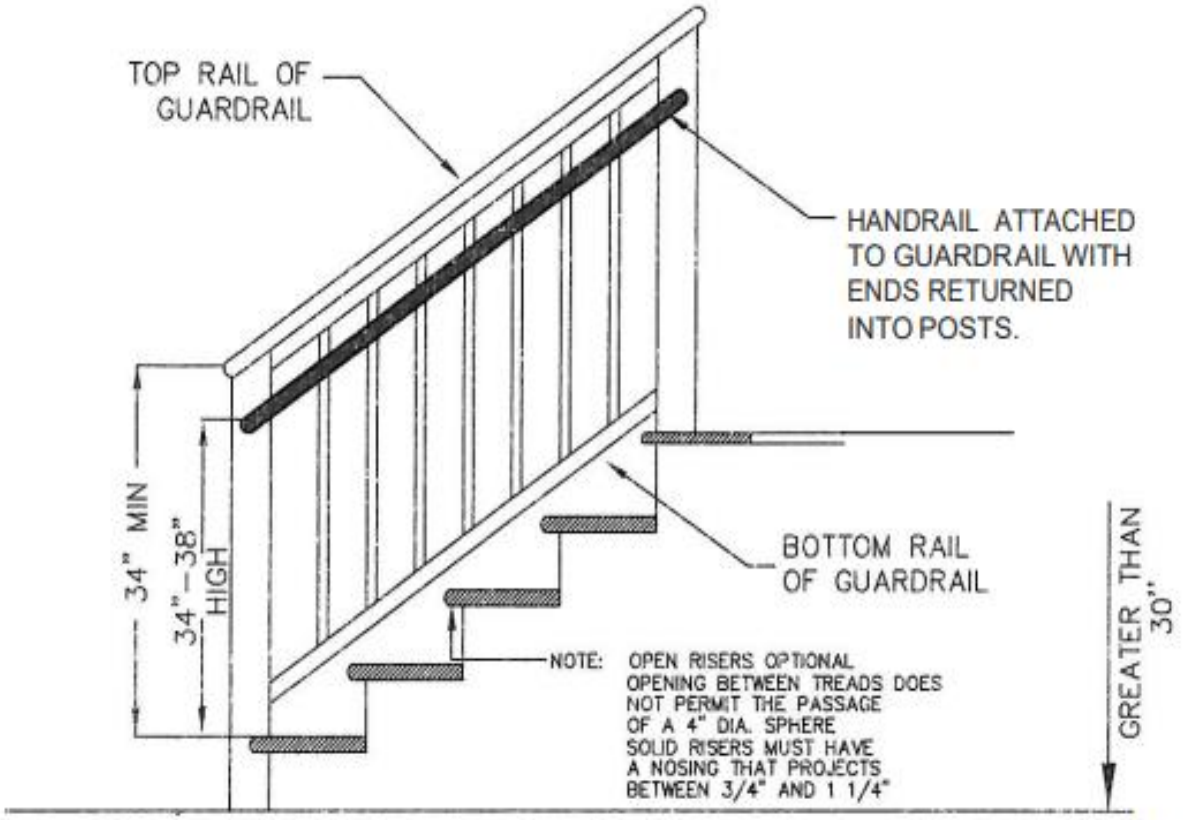
R507.2.1 Ledger details. Deck ledgers installed in accordance with Section R507.2 shall be a minimum 2-inch by 8-inch (51mm by 203mm) nominal, pressure-preservative-treated southern pine, incised pressure-preservative-treated Hem-fir or approved, naturally durable, No. 2 grade or better lumber. Deck ledgers installed in accordance with Section R507.2 shall not support concentrated loads from beams or girders. Deck Ledgers shall not be supported on stone or masonry veneer.
See the commentary to section R507.2.

R507.2.2 Band joist details. Band joists attached by a ledger in accordance with Section R507.2 shall be a minimum 2-inch-nominal (51mm), solid-sawn, spruce-pine-fir lumber or a minimum 1-inch by 9½ inch (25mm x 241mm) dimensional, Douglas fir, Laminated veneer lumber. Band joists attached by a ledger in accordance with Section R507.2 shall be fully supported by a wall or sill plate below.
See the commentary to Section R507.2.

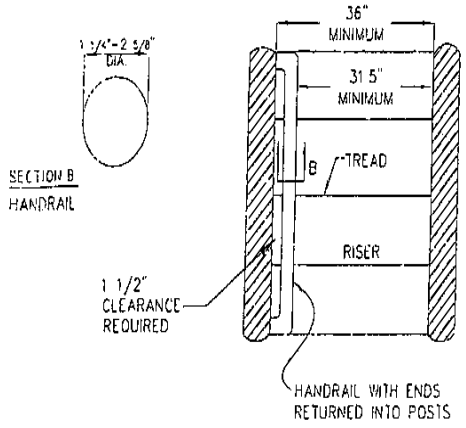
R507.2.3 Ledger to band joist fastener details. Fasteners used in deck ledger connections in accordance with Table R507.2 shall be hot-dipped galvanized or stainless steel and shall be installed in accordance with Table R507.2.1 and Figures R507.2.1(1) and R507.2.1(2).

R507.3 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 the requirements of Section 507.3. Plastic composite, as defined in Section R202.2 is a generic designation that refers to wood/plastic composites and plastic lumber. Plastic composite (PC) materials, commonly used in exterior deck boards, guards and handrails, must be rated for appropriate performance criteria. These materials have a widespread acceptance for residential construction, and labeling requirements for PCs allow the safe application of these materials in exterior deck systems. The referenced standard, ASTM D7032, includes performance evaluations, such as flexural tests, ultraviolet-resistance tests, freeze-thaw-resistance tests, biodegradation tests, fire-performance tests, creep-recovery tests, mechanical fastener holding tests and slip-resistance tests. The standard also includes considerations of the effects of temperature and moisture: concentrated loads and fire propagation tests.

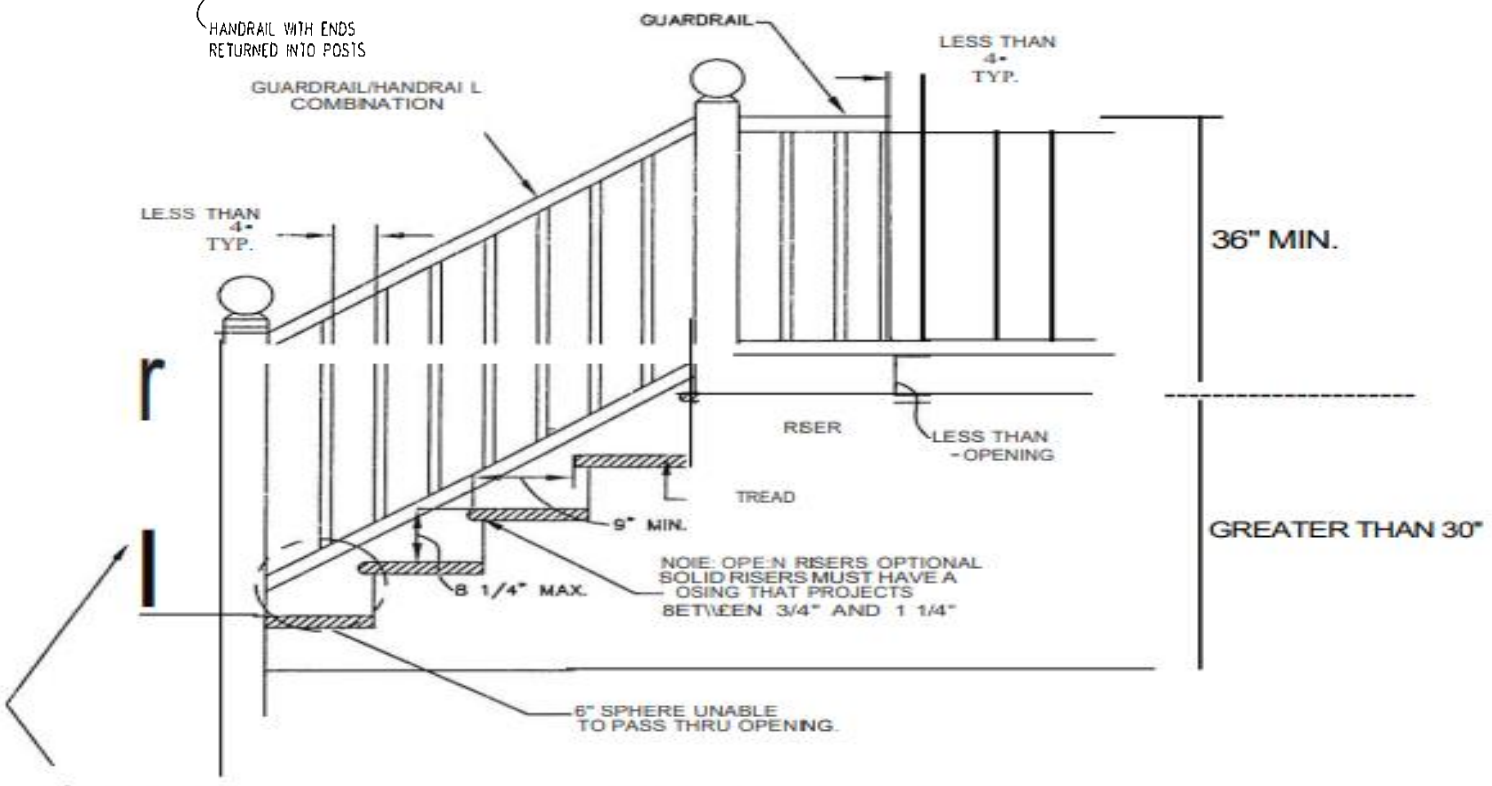
Section R507.3.1 clarifies mandatory labeling requirements for plastic composites. Each deck board and stair tread, similar to pressure-preservative-treated wood, is required to have a label. The required label would be applied on an end or on a face (side) of each board. Product labels will show verification of compliance with ASTM D70323 and provide the appropriate performance information. For example, deck board labels would identify the allowable load and span (e.g., 40 psf load on a 16-inch (406 mm) span would be expressed as "16/40"). Handrails and guardrail systems, which are more often supplied as "kits" in packages, require labels on the items or on the packaging. The maximum span (maximum vertical post spacing) is required to be on the label, as is verifying compliance with ASTM D7032.



NOTE: GUARDRAIL OMITTED FROM NEAR SIDE OF STAIR FOR CLARITY.



STAIR DETAIL WITH SEPARATE GUARDRAIL AND HANDRAIL



STAIR SECTION WITH GUARDRAIL/HANDRAIL COMBINATION

Charter Township of Garfield

Grand Traverse County

3848 VETERANS DRIVE
TRAVERSE CITY, MICHIGAN 49684
PH: (231) 941-1620 • FAX: (231) 941-1588

HANDRAILS vs GUARDRAILS

Based on the 2015 Michigan Residential Code

The building code defines a HANDRAIL as follows:

"A horizontal or sloping rail intended for grasping by the hand for guidance or support A."

In other words, a handrail is provided to help support a person requiring something to hold on to as they use steps or a ramp.

Code sections 1012.1 of the MBC (Michigan Building Code) and sections R311.7.8 and R311.8.3 f=of the MRC (Michigan Residential Code) contain the requirements for where a handrail is required on stairs and ramps. Handrails are required on all stains and ramps in projects under the MBC, on both sides. Handrails in projects under the MRC are required when there are 4 or more risers. There is an exception to this on stairs serving a residence, which allows the handrails to be provided on only one side. Ramps require handrails on both sides, with the exception of a residence, where handrails are required if the slope of the ramp exceeds one unit vertical in 12 inches horizontal. Other information on ramps can be found in section 1010 of the MBC and section R311.8 of the MRC. Handrails must also be graspable and be positioned so that they protrude out from the wall, providing a clear space of at least 1½ inches. Handrails graspability is addressed on the opposite side of the sheet, with more information available in section 1012.3 of the MBC and R311.7.8.3 of the MRC. Handrails are required to be mounted between 34 inches and 38 inches measured vertically from the nose of the tread. The handrail in residential construction is required to begin at the bottom riser and run continuously to the top stair riser. Handrails are required to return to the wall or newel posts at the ends. Handrails in commercial construction must extend horizontally for 12 inches beyond the top riser and extend at least 1 tread depth beyond the bottom riser.

The building code defines GUARDRAIL system as follows:

"A system of building components located near the open sides of elevated walking surfaces for the purpose of minimizing the possibility of an accidental fall from the walking surface to the lower level."

In other words, the guardrail system is provided to prevent people from injuring themselves if they were to fall on a walking surface. The guardrail would prevent them from falling to a lower level below. Walking surfaces include decks, steps, ramps, porches, etc.

A guardrail is required as per code section 1013 of the MBC and section R312 of the MRC. These code sections also list the requirements for guardrail systems. Guards are required along open sided walking surfaces that are located more than 30 inches above a floor or grade below. There are some exceptions to this rule though. These exceptions are for loading docks and stages such as those found in auditoriums. The minimum height requirement in the MBC for guardrails is 42 inches measured vertically above the nose of the tread of the steps or from the finish floor surface in fat areas. The MRC allows the guardrail system to be 36 inches high in residential construction. A guardrail used in a residence along the open side of a stair system is allowed at a minimum of 34 inches high when measured vertically from the nose of the treads. Guardrails must be constructed in such a manner so that a 4 inch diameter sphere cannot pass thru any opening within the guardrail system. One exception to this rule allows an opening of 6 inches in the triangular opening formed by the riser and tread in an open-sided stair system. An exception in Residential Code allows the guardrail to be constructed along the slope of open sided stairs with an opening that a 4⅜ inch diameter sphere cannot pass through any openings in the guardrail system.

Should further information be needed regarding handrails and guardrails, contact the Building Dept.

Code information taken from the 2015 Michigan Building Code and the 2015 Michigan Residential Code.

HANDRAIL DESIGNS APPROVED FOR GRASP ABILITY

Section R311.7.8.3 contains the code requirements for the grip size of handrails. All required handrails shall be Type 1, Type 2 or provide equivalent graspability. Handrails are required on at least one side of all stairs with 4 or more risers.

Type 1: Handrails must have a circular cross section of at least 1¼ inches and not more than 2 inches. If the handrail is not circular it shall have a perimeter dimension of at least 4 inches and not greater than 6 inches with a maximum cross section dimension of 2¼ inches.

Type 2: For handrails with a perimeter dimension greater than a 6¼ inches, a graspable finger recess area must be provided on both sides of the profile. The finger recess must begin within a distance of ¾ inches, measured vertically from the tallest portion of the profile, and achieve a depth of at least 5/16 inches within ⅞ inches below the widest portion of the profile. The required depth of the finger recess shall continue for a minimum of ⅜ inches to a level that is not less than 1¾ inches below the tallest portion of the profile. The width of the handrail above the finger recess must be at least 1¼ inches and no more than 2¾ inches with the edges having a slight radius.

Shown below are several *handrail* designs that are considered graspable by the State of Michigan. Other designs that fall within the dimensions of the rails shown below may also be considered graspable but should be approved by the Building Dept. prior to installation. Consult the Building Dept. should you need any other information regarding *handrail graspability* or the *handrail* requirements for other than one and two family applications.