Mason County Community Services
APPLICATION REQUIREMENTS FOR
NEW OR REPLACEMENT DECKS (uncovered)

THE FOLLOWING ITEMS INCLUDED IN THIS PACKET ARE REQUIRED AT SUBMITTAL:

Incomplete applications will not be accepted

Decks 30" or less from walking surface to grade (at all locations), uncovered and self-supporting and are not at the main egress door are exempt from Building Permit process

****Exempt decks must meet all codes including Planning regulations for shoreline development. Shoreline permitting may be required ****

1. **Building Permit Application**. Fill out the application completely. Use only blue or black ink. You can locate your tax parcel number on the Mason County Assessor's office. https://property.co.mason.wa.us/taxsifter

2. **Site Plan**. Your site plan must be no larger than 11"x 17" plain white paper. It must be drawn to scale, include all existing structures on the property and structures on either side of your property if your property is along a shoreline. If the deck is new or expanding within a shoreline environment such as: lake, creek, saltwater, pond, or wetland, you should contact the Planning Department prior to application. A Planner can be reached at 360.427.9670 Ext 193. Site plan must include location of septic tank and drainfield and include setback from deck footings to both the tank and drainfield.

3. **Construction Drawings and Details.** The construction specifications on **Deck *Plan Specification Sheet*** must be complete. All details must to complete details, code requirements can be found in the Deck, Stair, and Landings and Guard Handout. Incomplete Permit/document will not be accepted. https://www.co.mason.wa.us/forms/Community_Dev/deck.pdf

4. **Submittal Fee's.** Building Permit fees are dependent on contractors written bid or cost of material. You can get a quote on permit fees by contacting a Permit Specialist at permits@co.mason.wa.us. Amount of bid or cost must be provided to get a quote. will provide amount due and submittal.

Contact your area Planner HERE. You can get a Planner to call you back by leaving a message at (360) 427-9670 ext. 193.

For assistance you can reach the Permit Center at: permits@co.mason.wa.us or call 360.427.9670 ext.352 for assistance.

MASON COUNTY COMMUNITY DEVELOPMENT

Permit Assistance Center, Building, Planning

Permit No:_____

BUILDING PERMIT APPLICATION

PROPERTY OWNER INFORMATION:

NAME:_____
MAILING ADDRESS:_____
CITY:_____ STATE:_____ ZIP:_____
PHONE #1:_____
PHONE #2:_____
EMAIL:_____

CONTRACTOR INFORMATION:

NAME:_____
MAILING ADDRESS:_____
CITY:_____ STATE:_____ ZIP:_____
PHONE:_____ CELL: _____
EMAIL :_____
L&I REG #_____ EXP. ___/___/___

PRIMARY CONTACT: **OWNER** ☐ **CONTRACTOR** ☐ **OTHER** ☐

NAME _____ EMAIL _____
MAILING ADDRESS _____ CITY _____ STATE _____ ZIP_____
PHONE _____ CELL _____

PARCEL INFORMATION:

PARCEL NUMBER (12 Digit Number) _____ ZONING_____
LEGAL DESCRIPTION (Abbreviated) _____ FIRE DISTRICT_____
SITE ADDRESS_____CITY_____
DIRECTIONS TO SITE ADDRESS _____
_____

IS THE PROJECT WITHIN 300 FT OF SLOPE(S) **GREATER THAN 14%:** YES☐ NO ☐ **SNOW LOAD:**____psf
IS PROPERTY WITHIN 200 FT OF THE FOLLOWING: *(Check all that apply)*:
SALTWATER ☐ LAKE ☐ RIVER/CREEK ☐ POND ☐ WETLAND ☐ SEASONAL RUNOFF ☐ STREAM ☐

TYPE OF WORK: NEW ☐ ADDITION ☐ ALTERATION ☐ REPAIR ☐ OTHER ☐_____

USE OF STRUCTURE *(Residence, Garage, Commercial Bldg, Etc.)*_____
IS USE: PRIMARY ☐ SEASONAL ☐ NUMBER OF BEDROOMS_____ NUMBER OF BATHROOMS_____
HEATED STRUCTURE? YES *(Whole Bldg)* ☐ YES *(Part[s] of Bldg)* ☐ NO ☐
DESCRIBE WORK_____

SQUARE FOOTAGE: *(proposed)*

1ST FLOOR_____ sq. ft. 2ND FLOOR_____ sq. ft. 3RD FLOOR_____ sq. ft. BASEMENT_____ sq. ft.
DECK_____ sq. ft. COVERED DECK_____ sq. ft. STORAGE_____ sq. ft. OTHER_____ sq. ft.
GARAGE_____ sq. ft. *Attached* ☐ *Detached* ☐ CARPORT_____ sq. ft. *Attached* ☐ *Detached* ☐

MANUFACTURED HOME INFORMATION: ***4 COPIES OF THE FLOOR PLAN REQUIRED***

MAKE_____ MODEL_____ YEAR_____ LENGTH_____
WIDTH_____ BEDROOMS_____ BATHS_____ SERIAL NUMBER_____

ENVIRONMENTAL HEALTH:

SEWAGE/SEWER SOURCE: SEPTIC ☐ SEWER ☐ / NEW ☐ EXISTING ☐
PLUMBING IN STRUCTURE? YES ☐ NO ☐ *If yes, attach completed Water Adequacy Form*
PERIMETER/FOUNDATION DRAINS PROPOSED? YES ☐ NO☐ EXISTING SQ. FT. _____
EXISTING BEDROOMS _____ PROPOSED BEDROOMS _____ TOTAL BEDROOMS _____

OWNER acknowledges that submission of inaccurate information may result in a stop work order or permit revocation. Acknowledgement of such is by signature below. I declare that I am the owner and I further declare that I am entitled to receive this permit and to do the work as proposed. I have obtained permission from all the necessary parties, including any easement holder or parties of interest regarding this project. The owner or legal representative, represents that the information provided is accurate and grants employees of Mason County access to the above described property and structure(s) for review and inspection. This permit/application becomes null & void if work or authorized construction is not commenced within 180 days or if construction work is suspended for a period of 180 days.

PROOF OF CONTINUATION OF WORK ON THIS PERMIT IS BY MEANS OF INSPECTION. INACTIVITY OF THIS PERMIT APPLICATION OF 180 DAYS OF MORE WILL CAUSE THE APPLICATION TO BE EXPIRED. (MASON COUNTY CODE 14.08.42)

X_____ _____
Signature of **OWNER** (**Must be signed by the OWNER**) Date

DEPARTMENTAL REVIEW	APPROVED	DATE	DENIED	DATE	TAGS/NOTES/CONDITIONS
BUILDING DEPARTMENT					
PLANNING DEPARTMENT					
FIRE MARSHAL					
PUBLIC HEALTH					

MASON COUNTY DEPARTMENT OF COMMUNITY SERVICES

www.co.mason.wa.us

SITE PLAN INSTRUCTIONS

A complete, accurate, and detailed site plan is important to avoid delays in the review and approval of your project. A sample site plan and topography are located on the inside of this form. An easy to use grid, which can be used to draw your site plan on, is also located inside. The following items will be required, if applicable, to complete the building permit application package. Additional information may be needed depending upon individual site conditions. For more information see submittal standards and instructions on the back of this form.

Submittal Requirements	Septic Approval	Site Built Home	Manufactured Home	Man. Home Replacement	Addition or Remodel	Garage, Barn or Carport	Retaining Wall, Deck	Bulkhead or Dock, ●	Demolition of Structure	Mechanical or Plumbing	Re-Roof Structure	Commercial Projects
Building Permit Application Form		✔	✔	✔	✔	✔	✔	✔	✔		✔	✔
Site Plan		1	1	1	1	1	1	1	1			4
Septic Records		✔	✔	✔	✔	✔	✔					✔
Septic Permit Application & Septic Design	3											
Water Adequacy Form		✔	✔									✔
Construction Plans ☒		3			3	3	3	3				3
Energy Code Application Form		✔			✔	If Heated						✔
Septic Pumpers Report Existing systems older than 3 years.		✕	✕	✕	✕	✕						✕
Property Lines Flagged	✔	✔	✔	✔	✔	✔	✔	✔	✔			✔
Geotechnical Study ◆ See instructions on back		3	3	3	3	3	3	3				3
Plumbing/Mechanical Application Form		✔			✔	✔				✔		✔
Engineered Calculations ◆ ☒		2			2	2	2	2				2
Floor Plan			✔	✔	✔	✔						
SEPA ◆								✔				✔
Road Access Permit	✔	✔	✔			✔	◆	◆				✔
Fire Apparatus Access Road		✔	✔									✔
Small Parcel Stormwater Application/Worksheet		✔	✔	✔	✔	✔	✔					✔

The number in the table indicates the number of copies required if applicable.

✔ Required for submittal of a complete application.

✕ A pumpers report may be required when a septic system is existing and has been installed for three or more years. The report, dated within the last three years, shall include the size and condition of both tank and baffles.

● Additional information and permits may be required by the Planning Dept. call extension 352 for information.

◆ If applicable, needed when site conditions require additional information.

☒ Engineered plans shall have design information & details transferred onto plans. One copy of the plans and calculations shall be wet-stamped.

Revised 09/04/2013

SITE PLAN REQUIREMENTS:

A complete, accurate and detailed site plan is important to avoid delays in the review and approval of your project. Use the checklist below as a tool to help you complete the site plan.

q **1. Scale**: A scale of 1”=20’, is typical but other scales such as 1”=10’ or 1”-40’ are also acceptable. Do not exceed 1”=60.

q **2. North arrow**

q **3. Property line location and dimensions**.

q **4. Label abutting streets**

q **5. Shoreline/Surface water:** Indicate creeks, streams, lakes, ponds, wetlands and other bodies of water within 300 ft of the proposed project.

q **6. Wetlands and Seasonal Drainage:** Show setback distances from wetlands or seasonal drainage.

q **7. Easements:** Indicate location and size of road, utility, and private easements.

q **8. Show All Existing Development:** Identify existing and proposed structures. Include porches, decks, roof overhangs, cantilevers, and structures that will be demolished.

q **9. Proposed Building Footprint:** Use scale to show distances to property lines, existing structures, septic tank and drainfield. **Stake or flag footprint of proposed structure.**

q **10. Sewage Disposal System:** Identify septic tank location and drainfield.

q **11. Existing and proposed Buffers:** Include open space, fences, sidewalks and parking areas.

q **12. Retaining walls:** Proposed and existing.

q **13. Slopes/Site contours (Topography):** Identify any slopes greater than 15%, fills or cuts greater than 4ft. that are located within 300ft. of the proposed project. Use Contour lines or arrows to show the direction of the slope.

q **14. Wells:** Show existing and proposed, **need to include all wells located within 100 ft of property.**

q **15. Waterfront projects:** Show all structures on adjacent property.

q **16. Driveway/ Site Access**

SUBMITTAL STANDARD INSTRUCTIONS/INFORMATION

A. Site Plan: Site plans must be drawn to scale . On at least 8 ½" x 11" paper. A checklist indicating information required on the site plan is listed in the site plan application. Incomplete site plans will not be accepted.

B. Construction Plans: Plans must be drawn to scale, preferably ¼" = 1'. Dimensions must be noted on the plans. A complete set of plans shall include foundation plan, framing plans, floor plans, cross sections, and elevations. A complete building plan will give the building department enough information on how your project will be constructed. If you plan to construct a log home, pole building greater than 864 square feet, or a metal structure, calculations stamped by a Washington State licensed engineer or architect, will be required. Also, masonry or concrete structures, may require an engineered design. The building official may require additional drawings, details, sections, or stamped-engineered calculations and/or details.

C. Directions to Site: Provide ***accurate*** directions to your project site. This information will be used by staff when they review the project and by building inspectors.

D. Structural Engineered Calculations: Will be required if the proposed structure does not meet conventional construction standards. Include 2 sets with your building permit application.

E. Road Access Permit: May be required if accessing a public road or right of way. Contact Mason County Public Works for county maintained roads at (360) 427-9670, ext. 450 for more information. For state highways contact Washington State Department of Transportation at (360) 874-3050.

F. Washington State Energy Code and Ventilation & Indoor Air Quality Code (WSEC & VIAQ): Refers to energy envelope calculations and air quality code compliance.

G. Existing On-Site Septic System: Documentation of an approved on-site sewage system will be required. An existing system must have records and a **pumpers report**, dated within the last three years, per Mason County Health Services Policies. These policies are case/job specific if you have any questions please contact Environmental Health at (360) 427-9670 ext. 352.

H. Septic Approval or Sewer Permit: A Septic design application must be approved by the Mason County Environmental Health Department prior to permit issuance for all single family developments using septic systems. If sewer is available, sewer permits can be obtained by calling Mason County Utilities at (360) 427-9670 ext. 296.

I. Water Availability: The local water purveyor must complete a water availability application if the project will be connected to a public water system. Private well systems require a water well report, or capacity test, and bacteriological test dated within the previous 12 month period.

J. Site Pre-Inspection: Resource lands and critical areas checklist. Includes a site visit by a planner to identify critical areas on a site.

K. Aquifer Recharge Areas: Areas where water infiltrates the soil to the groundwater table. Call Planning Department, extension 352.

L. Critical Area: Critical areas include shorelines, flood plains, streams, wetlands, important wildlife habitat areas and landslide hazard areas (such as steep slopes and marine bluffs). The planner may need to visit your site to decide whether a buffer zone is required between the critical area and the proposed structures. Please mark the corners of proposed structure(s) with flags or stakes.

M. Geotechnical Study: A geotechnical assessment or report will be required if the parcel is located within a Landslide/ Erosion Hazard Area.

N. Wetland: Areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, under normal circumstances, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

O. Buffer: An area of land or designated for the purpose of insulating or separating a structure or land use from a critical area or resource land in such a manner as to reduce or mitigate any adverse impacts of the developed area.

P. Parcel Number: a 12-digit tax assessment number assigned to each parcel by the Assessor's Office.

Q. Legal Description: This describes the parcel of land identified by the 12-digit tax identification number. It is acceptable to submit a brief legal description of the parcel as it appears on record at the Assessor's office. Legal descriptions are used to check the dimensions of a parcel and any underlying restrictions such as setbacks from property lines or easements, lot coverage, or height of buildings.

R. Address: Site addresses are assigned through the Mason County Department of Community Development, for more information (360)427-9670 ext. 291.

S. Contractor Registration Number: Contractors must be licensed with the state. The contractor license number can be obtained from the general contractor that will be performing the work or through the Labor & Industries website at: www.lni.wa.gov/contractors.

An owner can be an owner-contractor when building on his or her own property.

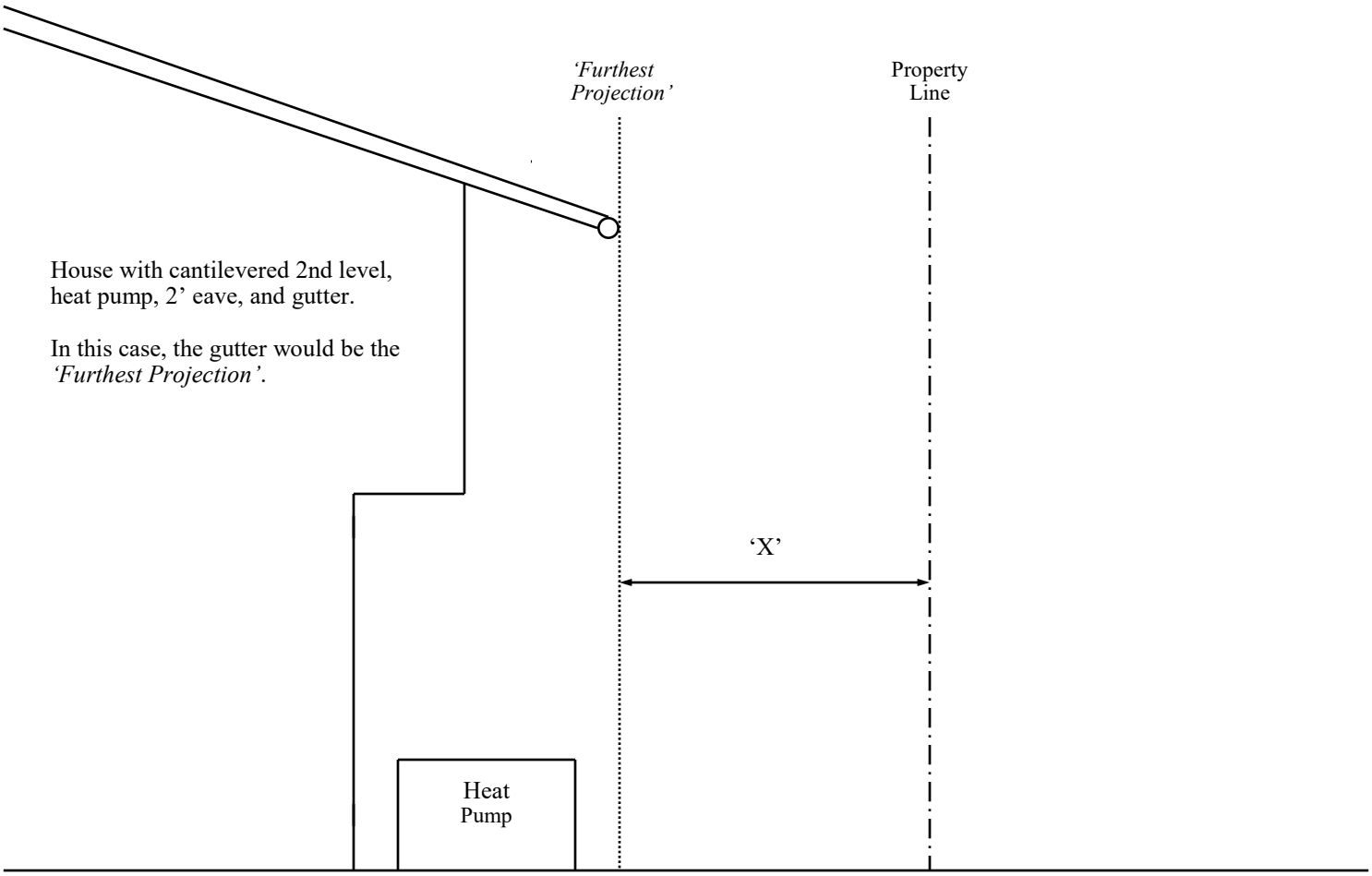
T. SEPA: The State Environmental Policy Act, RCW 43.21C and implementing State and County administrative rules.

U. Fire Apparatus Access Road: Mason County Standards require a fire apparatus access road for every facility, building, or portion of a building that is more than 150 feet from an existing approved access road. When the new fire apparatus road is installed, it is to extend to within 150 feet of any portion of the exterior walls of any building. Fire apparatus Access Roads Ordinance and details are available. To request a copy call (360) 427-9670 ext. 352

Setback Instructions

Distances from property lines should be measured from the *'Furthest Projection '*

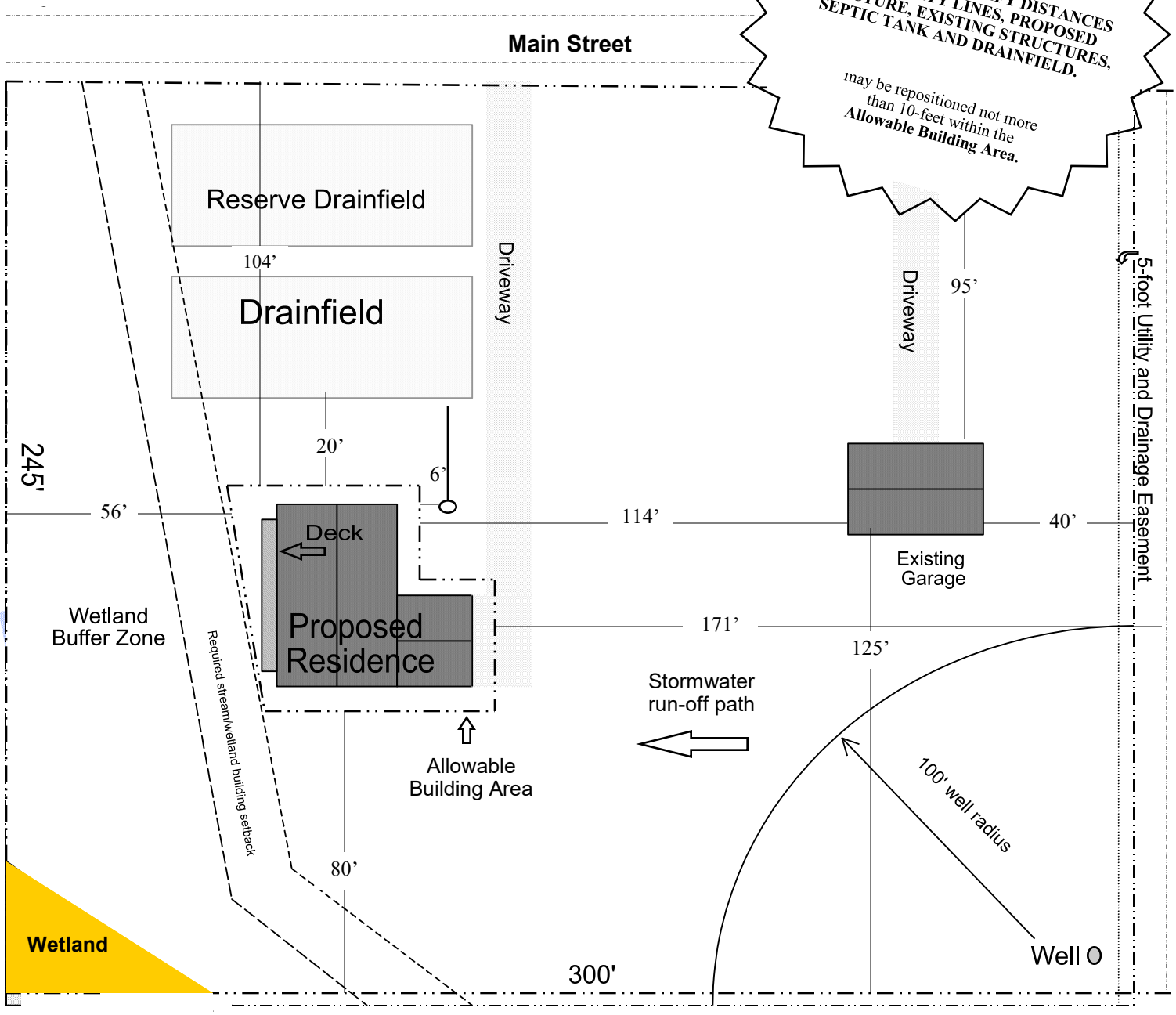
The *'Furthest Projection'* may be an eave, gutter, land, 2nd level deck, heat pump, or propane tank.
X = distance or **setback** (in feet) between property line and *'Furthest Projection'*.
Contact a Permit Technician if you have questions or require clarification.

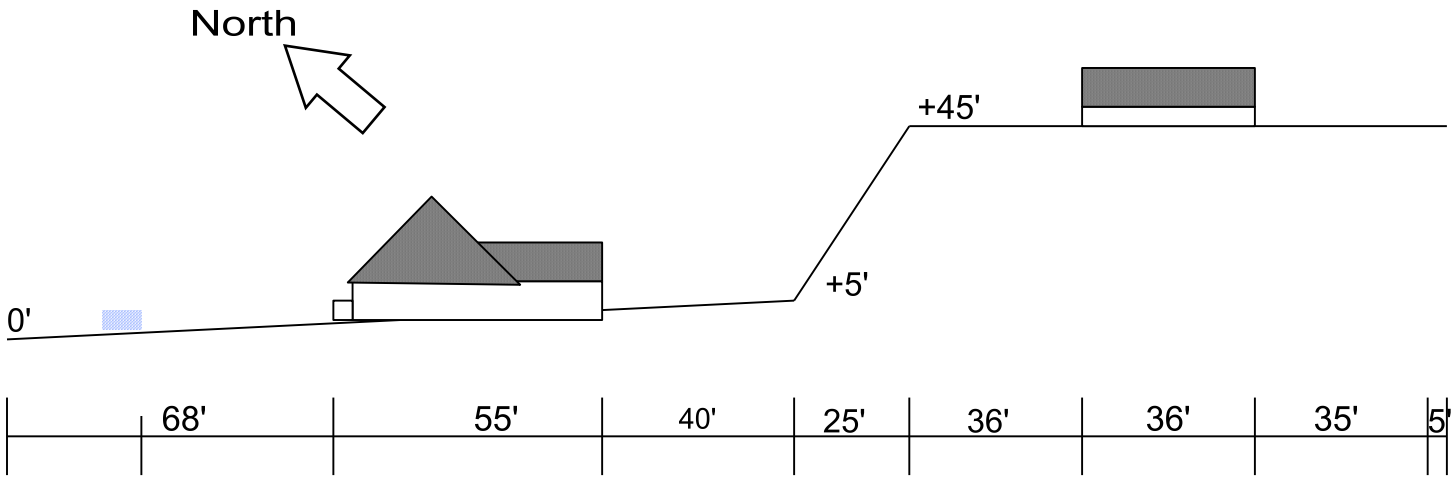


Sample Site Plan and Topography

Scale: 1” = 40’

Use the site plan requirements checklist to make sure all required information is identified on your site plan. The proposed structure location **BE SURE TO INDENTIFY DISTANCES TO PROPERTY LINES, PROPOSED STRUCTURE, EXISTING STRUCTURES, SEPTIC TANK AND DRAINFIELD.** may be repositioned not more than 10-feet within the **Allowable Building Area.**





DECK PLAN SPECIFICTIONS

Owners Name:_____ Permit Number:_____

Site address:_____ Parcel Number:_____

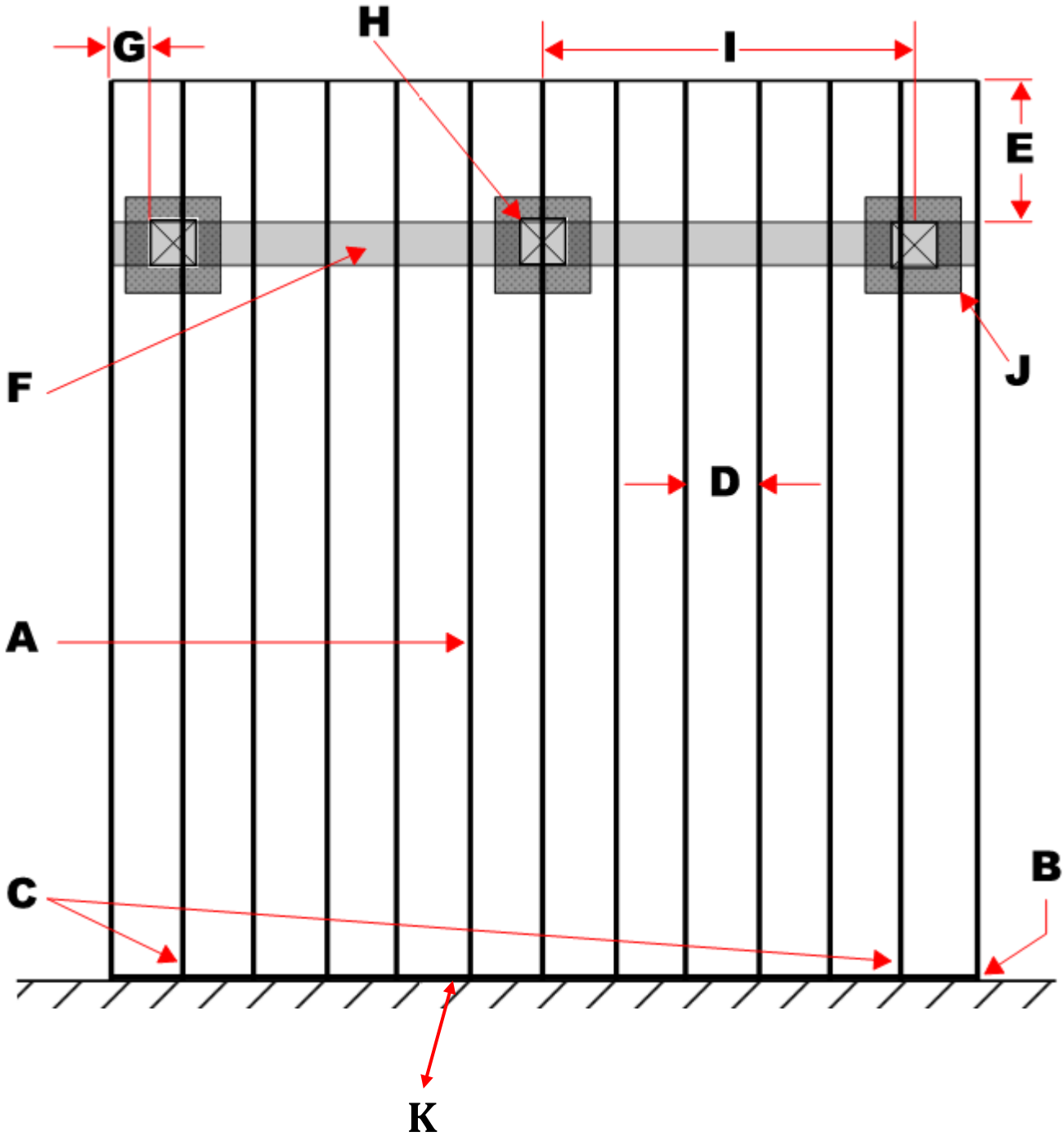
Submittal Requirements:

1. **Building Permit Application**
2. **Site Plan must show all structures, septic, slopes, driveway, and shoreline.**
1. **Complete all items in form below. Incomplete submittal will be returned. 2018 IRC Section 507 Deck.**

DESCRIPTION	EXAMPLE	YOUR DECK	
1. Overall Deck Size	*10' wide x 12' long*		1.
2. Decking Surface	*Cedar or Trex*		2.
3. Height Above Grade	*48" at highest point*		3.
A. Joist Length & Size	*12' and 2"x10"*		A.
B. Ledger Size	*2"x10"*		B.
C. Lateral Tension Device	R507.9.2(1) & R507.2(2) *2 locations x 1500 LBS or 4 locations x 750 LBS*		C.
D. Spacing of Joist	*16" O.C. or 24" O.C.*		D.
E. Joist Overhang/ Cantilever (Max allowed 25% of Joist Span)	*See Table 507.6*		E.
F. Beam Size	*6"x10*		F.
G. Beam Overhang (Max allowed 25% of beam Span)	*See Table R507.5(2)*		G.
H. Post Size	*6"x 6" - 10' tall*		H.
I. Post Spacing	*48" Center - Center*		I.
J. Footing Size	*Square 18"x 18" - 12" thick. See table 507.3.1*		J.
K. Ledger	*½" lag Screws @ 13"*		K.
SEE PAGE TWO FOR DETAIL LOCATION			

The Mason County Deck, stair and landing detail provides guidance.
https://www.co.mason.wa.us/forms/Community_Dev/deck.pdf

- **Lumber used for construction, including ledgers, shall be of naturally durable or preservative treated wood.**
- **Hardware and fasteners must be hot-dipped galvanized or stainless steel.**
- **The included design criteria will not support a hot tub, jacuzzi or pool.**
- **Decks using this design will be limited to a single joist span and a single beam span per the included tables.**
- **The deck cannot be supported by a mobile or manufactured home.**

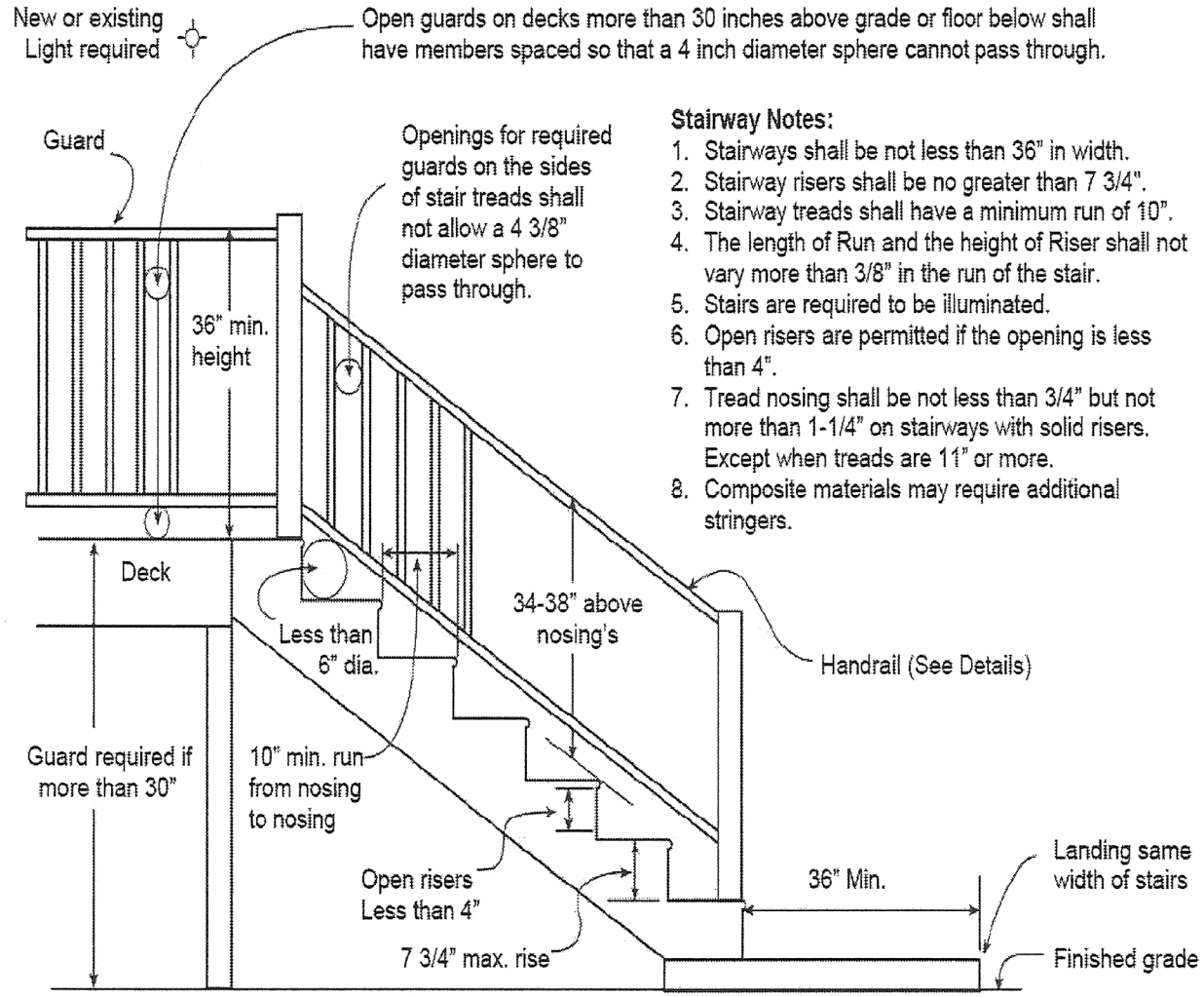

G
H
I
E
F
J
D
A
C
B
K

MASON COUNTY COMMUNITY DEVELOPMENT

Permit Assistance Center, Building, Planning

2018 International Residential Code for single-story decks.

The 2018 International Residential Code Section R507 contains additional information and details specific to deck construction.



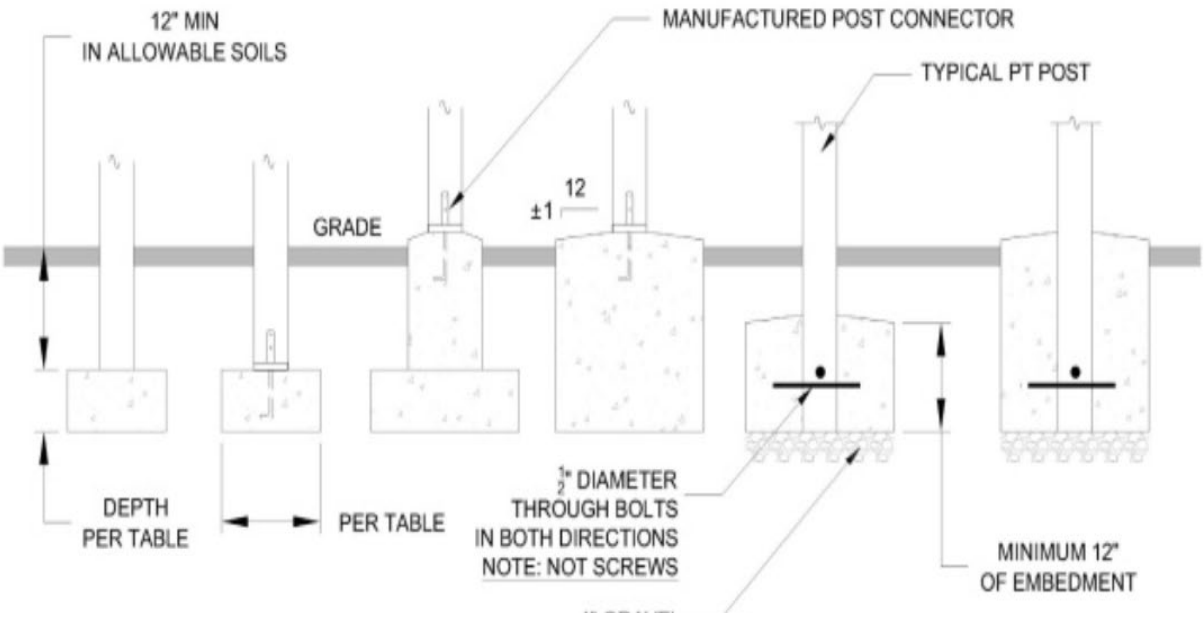
Stairway Notes:

1. Stairways shall be not less than 36" in width.
2. Stairway risers shall be no greater than 7 3/4".
3. Stairway treads shall have a minimum run of 10".
4. The length of Run and the height of Riser shall not vary more than 3/8" in the run of the stair.
5. Stairs are required to be illuminated.
6. Open risers are permitted if the opening is less than 4".
7. Tread nosing shall be not less than 3/4" but not more than 1-1/4" on stairways with solid risers. Except when treads are 11" or more.
8. Composite materials may require additional stringers.

Deck Footing Size Requirements
Table R507.3.1

Live or Ground Snow Load (psf)	Tributary Area (sq. ft.)	Soil bearing Capacity		
		1500 psf		
		Side of a square footing (Inches)	Diameter of a round footing (inches)	Thickness (Inches)
60 Live or 70 Ground Snow Load	5	7	8	6
	20	12	14	6
	40	18	20	6
	60	21	24	8
	80	25	28	9
	100	28	31	11
	120	30	34	12
	140	33	37	13
	160	35	40	15

a. Interpolation permitted, extrapolation not permitted.
b. Reserved.
c. Footing dimensions shall allow complete bearing of the 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.
f. Minimum thickness shall only apply to plain concrete footings,



Code Requirement	Code Reference
All wood must be pressure treated or of natural resistance to decay.	IRC R317.1
Fasteners, hangers, nails, etc., must be stainless steel, hot-dipped galvanized, or as specifically required for the specified wood preservative used.	IRC R317.3.1
Lateral connection is required to resist overturning	IRC R507.5.1
Ledger boards must be attached with structural wood screws to the building and all connections between the deck and dwelling must be flashed with metal flashing. Hold-down tension ties shall be installed in not less than 2 locations.	IRC R507.2 IRC R507.2.4
Joists are of appropriate size to support imposed loads. The span of a joist is measured from the centerline of bearing at one end of the joist to the centerline of bearing at the other end of the joist and does not include length of the overhangs. Use Table 1 to determine joist span based on lumber size and joist spacing.	IRC R507.5
All decks, balconies or porches, open sides of landings and stairs which are more than 30" above grade or a floor below must be protected by a guardrail not less than 36" high (42" for commercial or common areas of multi-family dwellings). Open guardrails and stair railings require intermediate rails or an ornamental pattern such that a ball 4" in diameter cannot pass through.	IRC R312
Footings are of appropriate size to support imposed loads and extend a minimum of 12" below grade. See Table 1 for footing sizes.	IRC 403.1.4
Columns and posts exposed to the weather or to water splash must be supported by and connected to concrete piers or metal pedestals projecting above grade. Columns and posts in contact with the ground or embedded in concrete or masonry must be of special pressure treated wood approved for ground contact.	IRC R317.1.2 IRC R317.1.4
Positive connections required to secure posts to beams.	IRC R507.7.1
Decks should not overhang beams by more than ¼ the actual adjacent span, nor should beams overhang posts by more than ¼ the actual beam span at the ends unless a specific design is calculated. Floor joist spacing at 24" on center requires 2x decking, and floor joist spacing at 16" on center requires 1 ¼ actual thickness.	IRC R507.5 IRC R507.6 IRC R507.4
Deck stairs (exterior stairways) shall be provided with a source of illumination at the top landing, controlled from within the dwelling or by automatic means.	IRC R303.8

Typical Handrail Elevation- IRC Section 311.7.8

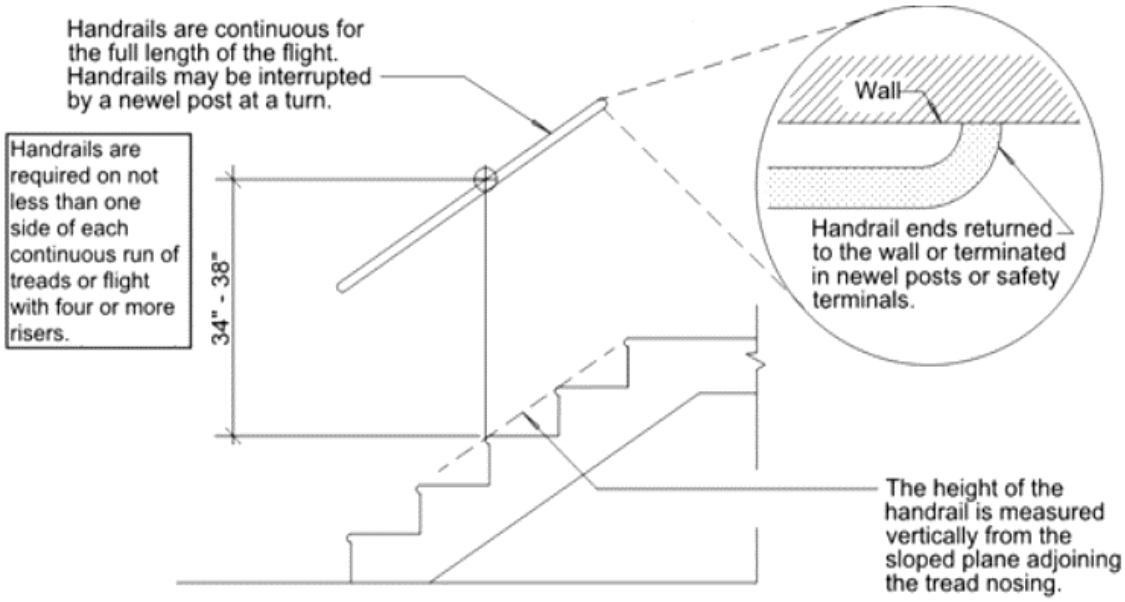


TABLE R507.4 DECK POST HEIGHT

Loads[b] (psf)	Post Species[c]	Post Size[d]	Maximum Deck Post Height[a] (feet-inches)							
			Tributary Area[g,h] (sq. ft.)							
			20	40	60	80	100	120	140	160
60 Live Load, ≤60 Ground Snow Load	Douglas Fir[e], Hem-fir[e], SPF[e]	4 x 4	14-0	10-10	8-7	7-0	5-8	4-1	NP	NP
		4 x 6	14-0	13-10	11-1	9-5	8-2	7-3	6-4	5-4
		6 x 6	14-0	14-0	14-0	14-0	14-0	13-3	10-9	6-11
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0
	Redwood[f], Western Cedars[f], Ponderosa Pine[f], Red Pine[f]	4 x 4	14-0	10-3	7-0	NP	NP	NP	NP	NP
		4 x 6	14-0	13-6	10-6	8-4	5-10	NP	NP	NP
		6 x 6	14-0	14-0	14-0	14-0	11-11	NP	NP	NP
		8 x 8	14-0	14-0	14-0	14-0	14-0	14-0	14-0	14-0

For SI: 1 inch = 25.4 mm, 1 square foot = 0.0929 m^2, 1 pound per square foot = 0.0479 kPa, NP = Not permitted.

a. Measured from the underside of the beam to top of footing or pier.
b. 10 psf dead load. Snow load not assumed to be concurrent with live load.
c. No. 2 grade, wet service factor included.
d. Notched deck posts shall be sized to accommodate beam size per in accordance with Section R507.5.2.
e. Includes incising factor.
f. Incising factor not included.
g. Area, in square feet, of deck surface supported by post and footing.
h. Interpolation permitted. Extrapolation not permitted.

Deck Ledger Attachment Details & Specifications

- ❑ Lag screws and bolts shall be staggered per diagram below.
- ❑ Lag screw tips shall extend beyond the inside face of the band/rim joist.
- ❑ Maximum gap between band/rim joist and ledger shall be ½" with spacer(s)
- ❑ Flashing shall be installed to prevent water intrusion at structural attachment.
- ❑ Deck Ledger shall be minimum 2"x 8" pressure preservative treated, No. 2 grade lumber. (IRC Section R507.9.1.1)
- ❑ Deck ledger shall not be supported on stone or masonry veneer.

TABLE R507.9.1.3(1) DECK LEDGER CONNECTION TO BAND JOIST

Load[c] (psf)	Joist Span[a] (feet)	On-Center Spacing of Fasteners[b] (inches)		
		1/2-inch diameter lag screw with 1/2-inch maximum sheathing[d,e]	1/2-inch diameter bolt with 1/2-inch maximum sheathing[e]	1/2-inch diameter bolt with 1-inch maximum sheathing[f]
60 Live Load or 70 Ground Snow Load	6	22	36	35
	8	16	31	26
	10	13	25	21
	12	11	20	17
	14	9	17	15
	16	8	15	13
	18	7	13	11

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

a. Interpolation permitted. Extrapolation is not permitted.

b. Ledgers shall be flashed in accordance with Section R703.4 to prevent water from contacting the house band joist.
c. Dead load = 10 psf. Snow load shall not be assumed to act concurrently with live load.
d. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
e. Sheathing shall be wood structural panel or solid sawn lumber.
f. 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 R507.9.1.3(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]	¾ inch	2 inches[b]	1 5/8 inches[b]
Band Joist[c]	¾ inch	2 inches[e]	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 R507.9.1.3(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 to the top edge of the ledger shall be in accordance with Figure R507.9.1.3(1).
e. The 2 inches may be reduced to ¾ inch when the band joist is directly supported by a mudsill, a header or by double top wall plates.

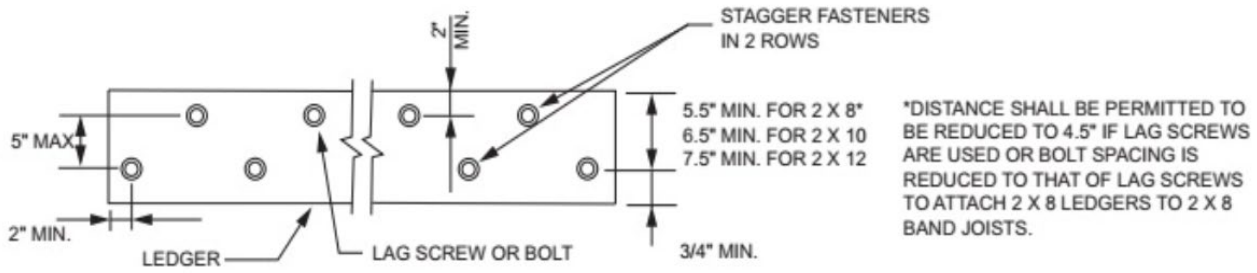
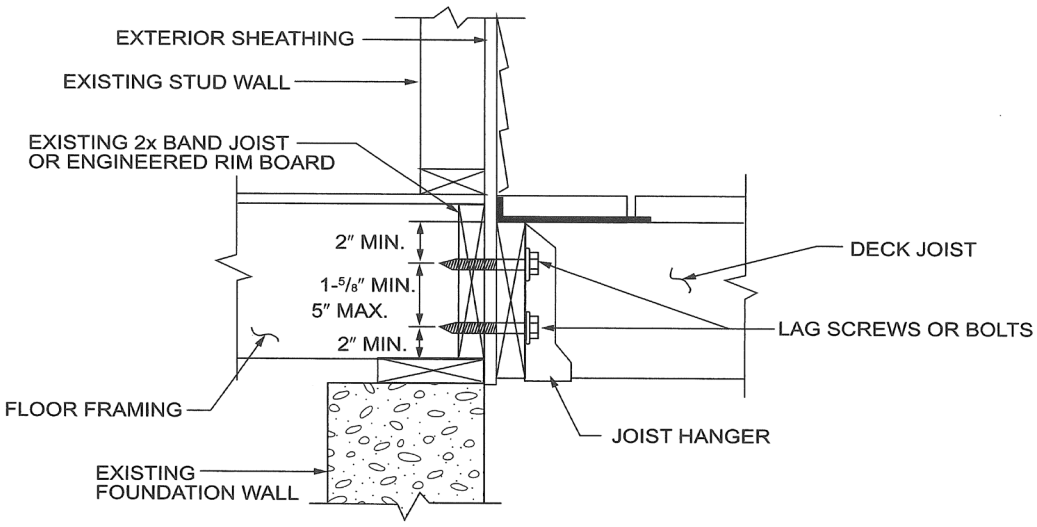
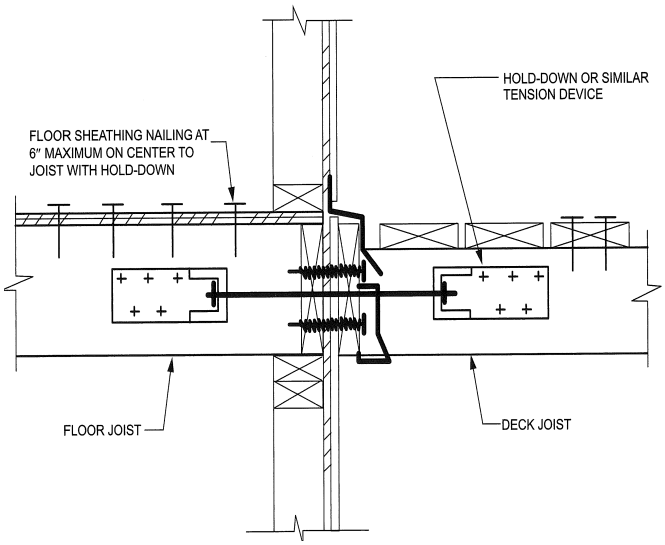


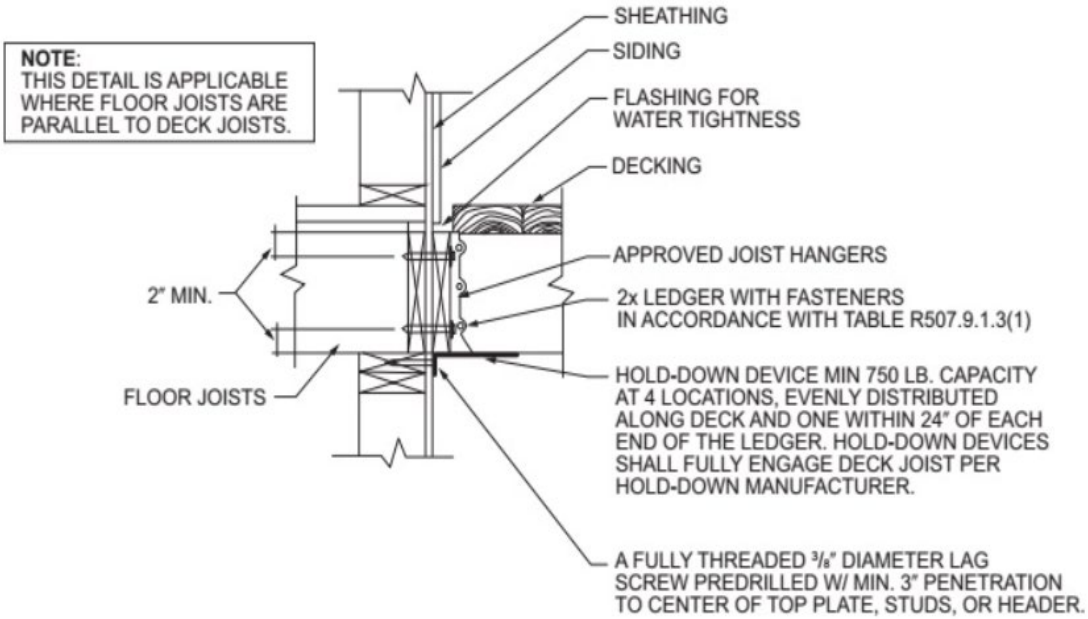
FIGURE R507.9.1.3(1)PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS



Deck Attachment for Lateral Loads
FIGURE R507.9.2(1) and FIGURE R507.9.2(2)



Hold down tension devices shall be installed in not less than two locations per deck, within 24 inches of end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 pounds.



R507.9.2 Deck lateral load connections. Lateral loads shall be transferred to the ground or to a structure capable of transmitting them to the ground. Where the lateral load connection is provided in accordance with Figure R507.9.2(1), hold-down tension devices shall be installed in not less than two locations per deck, within 24 inches of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1500 pounds (6672 N). Where the lateral load connections are provided in accordance with Figure R507.9.2(2), the hold-down tension devices shall be installed in not less than four locations per deck, and each device shall have an allowable stress design capacity of not less than 750 pounds (3336 N).

Exception: Decks not more than 30 inches above grade at any point may be unattached.

TABLE R507.5(2)
MAXIMUM DECK BEAM SPAN
60 PSF LIVE LOAD c

Beam Species[d]	Beam Size[e]	Deck Joist Span[a,i] (feet)						
		6	8	10	12	14	16	18
		Maximum Beam Span[a,b,f] (feet-inches)						
Douglas fir-larch[g], Spruce-pine-fir[g]	1-2×6	3-8	3-1	2-8	2-4	2-2	2-0	1-10
	1-2×8	5-0	4-1	3-6	3-1	2-10	2-7	2-5
	1-2×10	6-1	5-2	4-6	4-0	3-7	3-4	3-2
	1-2×12	7-1	6-1	5-5	4-10	4-5	4-1	3-10
	2-2×6	5-6	4-9	4-3	3-10	3-5	3-1	2-10
	2-2×8	7-5	6-5	5-9	5-0	4-6	4-1	3-9
	2-2×10	9-0	7-10	7-0	6-4	5-9	5-2	4-10
	2-2×12	10-6	9-1	8-1	7-5	6-10	6-4	5-10
	3-2×6	6-11	6-0	5-4	4-11	4-6	4-2	3-10
	3-2×8	9-3	8-0	7-2	6-6	6-1	5-6	5-0
	3-2×10	11-4	9-10	8-9	8-0	7-5	6-11	6-5
	3-2×12	13-2	11-5	10-2	9-4	8-7	8-1	7-7
Redwood[h], Western Cedars[h], Ponderosa Pine[h], Red Pine[h]	1-2×6	6-9	3-2	2-9	2-5	2-2	2-0	1-11
	1-2×8	4-10	4-2	3-7	3-2	2-11	2-8	2-6
	1-2×10	5-10	5-1	4-6	4-1	3-8	3-5	3-3
	1-2×12	6-10	5-11	5-3	4-10	4-5	4-2	3-11
	2-2×6	5-7	4-10	4-4	3-11	3-6	3-2	2-11
	2-2×8	7-1	6-2	5-6	5-0	4-7	4-2	3-10
	2-2×10	8-8	7-6	6-9	6-2	5-8	5-4	4-11
	2-2×12	10-1	8-9	7-10	7-2	6-7	6-2	5-10
	3-2×6	6-8	6-1	5-5	5-0	4-7	4-3	3-11
	3-2×8	8-9	7-9	6-11	6-4	5-10	5-5	5-2
	3-2×10	10-11	9-5	8-5	7-8	7-2	6-8	6-3
	3-2×12	12-8	10-11	9-9	8-11	8-3	7-9	7-3

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. Interpolation permitted. Extrapolation not permitted.

b. Beams supporting a single span of joists with or without cantilever.

c. Dead load = 10 psf, L/Δ = 360 at main span, L/Δ = 180 at cantilever. Snow load not assumed to be concurrent with live load.

d. No. 2 grade, wet service factor included.

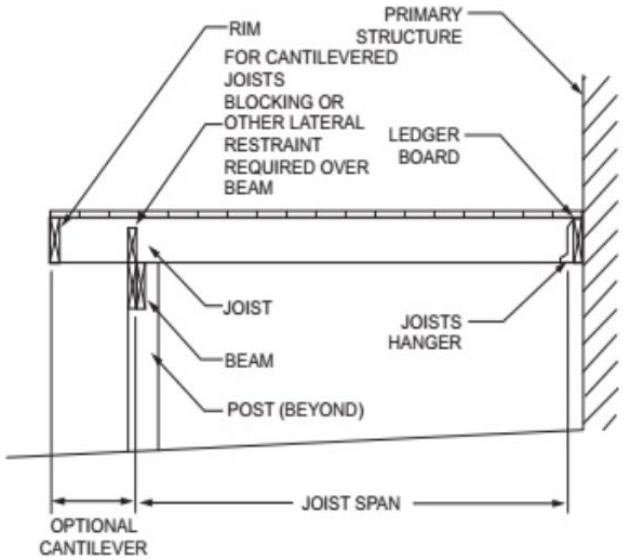
e. Beam depth shall be equal to or greater than the depth intersecting joist for a flush beam connection.

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

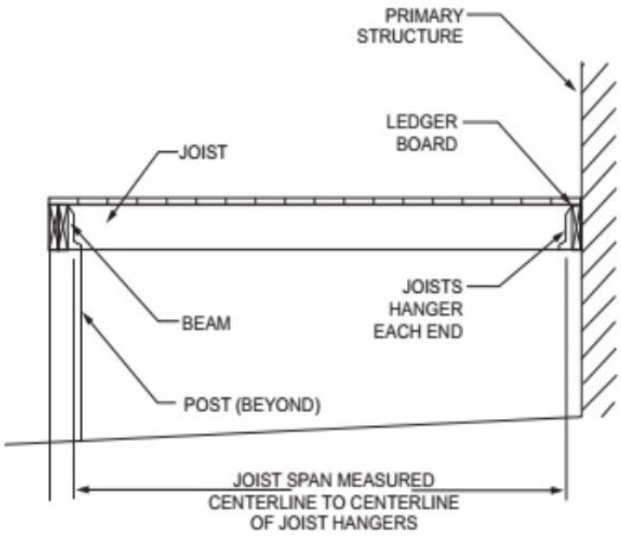
g. Includes incising factor.

h. Incising factor not included.

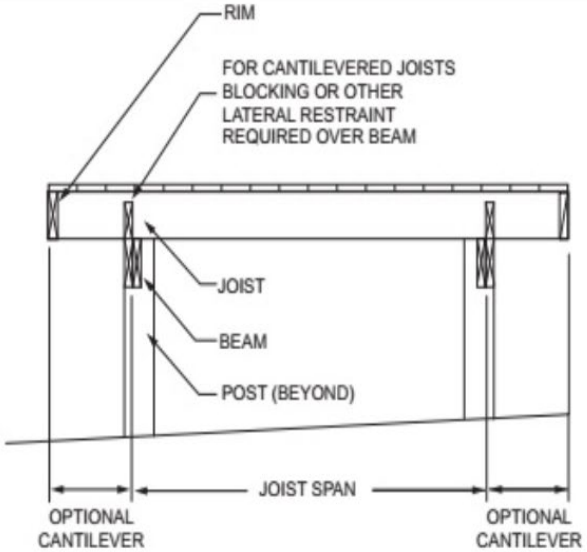
i. Deck joist span as shown in Figure R507.5.



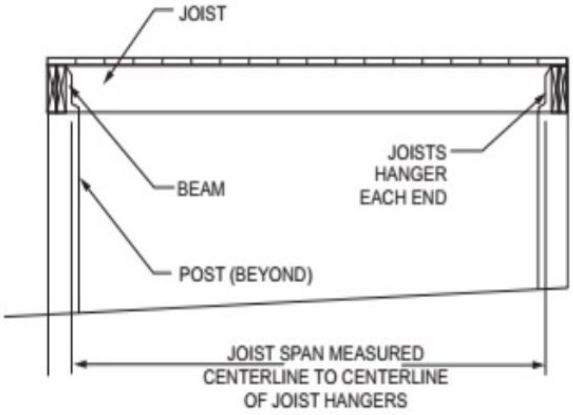
CANTILEVERED JOISTS WITH DROPPED BEAM



JOISTS WITH FLUSH BEAM



JOISTS ON FREE-STANDING DECK WITH DROPPED BEAM



JOISTS ON FREE-STANDING DECK WITH FLUSH BEAM

DECKING MATERIAL TYPE AND NOMINAL SIZE	MAXIMUM ON-CENTER SPACING	
	Decking perpendicular to joist	Decking diagonal to joist(a)
1 ¼- inch-thick wood	16 inches	12 inches
2-inch-thick wood	24 inches	16 inches
Plastic composite	In accordance with Section R507.2	In accordance with Section R507.2

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

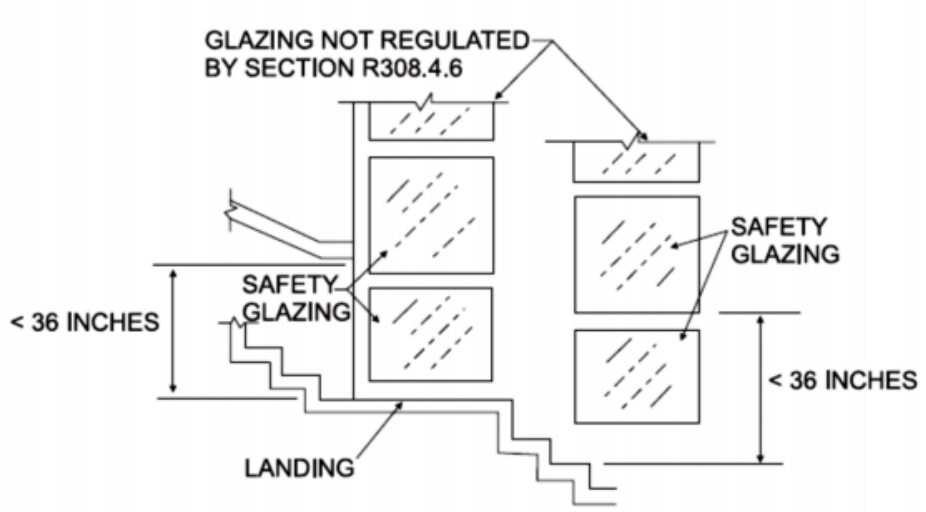
TABLE R507.6
MAXIMUM DECK JOIST SPANS

Load[a] (psf)	Joist Species[b]	Joist Size	Allowable Joist Span[b,c] (feet-inches)			Maximum Cantilever[f,g] (feet-inches)							
			Joist Spacing (inches)			Adjacent Joist Back Span[g] (feet)							
			12	16	24	4	6	8	10	12	14	16	18
60 Live Load or 70 Ground Snow Load	Douglas fir-larch[e], Hem-fir[e], Spruce-pine-fir[e]	2×6	7-11	7-1	5-9	1-0	1-6	NP	NP	NP	NP	NP	NP
		2×8	10-5	9-5	7-8	1-0	1-6	2-0	2-1	NP	NP	NP	NP
		2×10	13-3	11-6	9-5	1-0	1-6	2-0	2-6	2-8	NP	NP	NP
		2×12	15-5	13-4	10-11	1-0	1-6	2-0	2-6	3-0	3-3	NP	NP
	Redwood[f], Western Cedars[f], Ponderosa Pine[f], Red Pine[f]	2×6	7-4	6-8	5-10	1-0	1-4	NP	NP	NP	NP	NP	NP
		2×8	9-8	8-10	7-4	1-0	1-6	1-11	NP	NP	NP	NP	NP
		2×10	12-4	11-0	9-0	1-0	1-6	2-0	2-6	2-6	NP	NP	NP
		2×12	14-9	12-9	10-5	1-0	1-6	2-0	2-6	3-0	3-0	NP	NP

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, NP = Not permitted.

a. Dead load = 10 psf dead load. Snow load not assumed to be concurrent with live load.
b. No. 2 grade, wet service factor included.
c. L/Δ = 360 at main span.
d. L/Δ = 180 at cantilever with 220-pound point load applied to end.
e. Includes incising factor.
f. Incising factr not included.
g. Interpolation permitted. Extrapolation not permitted.

SAFETY GLAZING:

Glazing where the bottom exposed edge of the glazing is less than 36 inches above the plane of the adjacent walking surface of stairways, landings between flights of stairs and ramps shall be considered a hazardous location. [IRC R308.4.6]

Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within a 60 inch arc measured from the bottom tread shall be considered a hazardous location. [IRC R308.4.7]