

**CLASS TITLE: INSPECTION METHOD, PROBLEMS AND
CORRECTIVE MEASURES**

PROGRAM APPROVAL NUMBER: CP-22-00114

**CLASS CATEGORY: ADMINISTRATION, SPECIALTY,
TECHNICAL**

REGISTRATION CATEGORY: BO/BI & PR

**HOURS APPROVED: 01 ADMINISTRATION, 01 SPECIALTY, 01
TECHNICAL**



Provide instruction and guidance to the code official on inspection methods, problem solving and corrective measures for code compliance.

CLASS PURPOSE

A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

The provisions of the Michigan residential code for 1- and 2-family dwellings shall apply to the construction, alteration, movement

, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition

of detached 1- and 2-family dwellings and townhouses not more than 3 stories above grade plane in height with a separate means of egress and their accessory structures.

R101.2 SCOPE. OF MRC

Exceptions:

1. Live/work units complying with the requirements of Section 419 of the Michigan building code may be built as 1- and 2-family dwellings or townhouses.

Fire suppression required by Section 419.5 of the Michigan building code when constructed under the Michigan residential code for 1- and 2-family dwellings shall conform to Section P2904.

R101.2 SCOPE.

SECTION P2904

DWELLING UNIT FIRE SPRINKLER SYSTEMS

LIVE/WORK UNIT. A dwelling unit or sleeping unit in which a significant portion of the space includes a nonresidential use that is operated by the tenant.

Definition came from the 2015 MICHIGAN BUILDING CODE

LIVE/WORK UNITS

Exceptions:

2. Owner-occupied bed and breakfast and board and room facilities may be constructed in accordance with sections 4b and 13c of the Stille-DeRossett-Hale single state construction code act, 1972 PA 230, MCL 125.1504b and MCL 125.1513c.

R101.2 SCOPE.

SECTION R104

DUTIES AND POWERS OF THE BUILDING OFFICIAL

R104.1 General. The building official is hereby authorized and directed to enforce the provisions of this code.

The building official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in conformance with the intent and purpose of this code.

SECTION R104

DUTIES AND POWERS OF THE BUILDING OFFICIAL

R104.4 Inspections. The building official shall make the required inspections, or the building official shall have the authority to accept reports of inspection by approved agencies or individuals.

Reports of such inspections shall be in writing and be certified by a responsible officer of such approved agency or by the responsible individual. The building official is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise, subject to the approval of the appointing authority.

SECTION R106

CONSTRUCTION DOCUMENTS

R106.1 Submittal documents. Construction documents, special inspection and structural program and other data shall be submitted in 1 or more sets with each application for a permit.

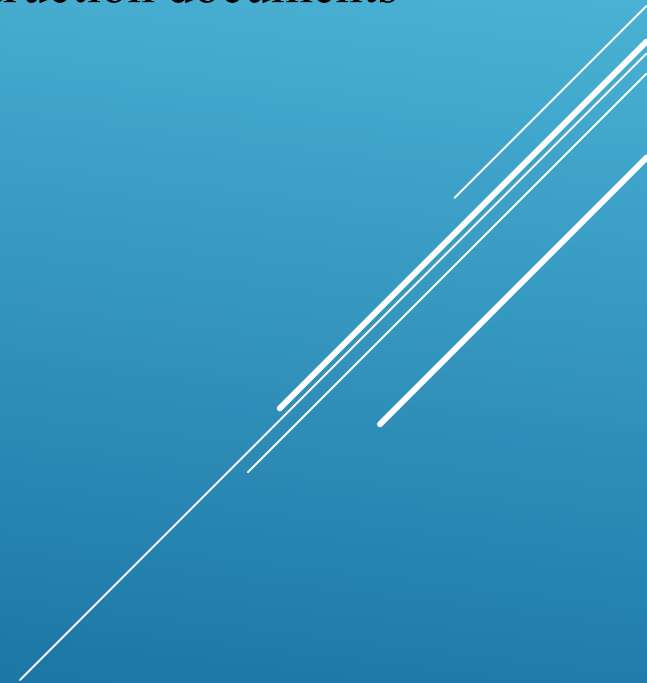
The construction documents shall be prepared by or under the direct supervision of a registered design professional when required by 1980 PA 299, MCL 339.101 to 339.2919, and known as the Michigan occupational code.

SECTION R106

CONSTRUCTION DOCUMENTS



Where special conditions exist, the building official may require additional construction documents to be prepared by a registered design professional.



The provisions of the code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by the code, if the alternative has been approved. An alternative material, design, or method of construction shall be approved where the building official finds that the proposed design is satisfactory and complies with the intent of the provisions of the code, and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed in the code. Compliance with the specific performance-based provisions of the Michigan building, R 408.30401 to R 408.30547, electrical, R 408.30801 to R 408.30880, mechanical, R 408.30901 to R 408.30998, and plumbing, R 408.30701 to R 408.30796, codes instead of specific requirements of the code shall also be permitted as an alternate.

R104.11 ALTERNATIVE MATERIALS, DESIGN AND METHODS OF CONSTRUCTION AND EQUIPMENT.

In the discharge of duties, the code official may enter any building, structure, or premises in the jurisdiction to enforce the provisions of the act and the code.

R104.6 RIGHT OF ENTRY

R109.1 Types of inspections.

For on-site construction, from time to time the building official, upon notification from the permit holder or his agent, shall make or cause to be made any necessary inspections and shall either approve that portion of the construction as completed or shall notify the permit holder or his or her agent wherein the same fails to comply with this code.

SECTION R109 INSPECTIONS

R109.1.1 Foundation inspection

Inspection of the foundation shall be made after poles or piers are set or trenches or basement areas are excavated and any required forms erected and any required reinforcing steel is in place and supported prior to the placing of concrete.

The foundation inspection shall include excavations for thickened slabs intended for the support of bearing walls, partitions, structural supports, or equipment and special requirements for wood foundations.

SECTION R109 INSPECTIONS

R109.1.2 Plumbing, mechanical, gas and electrical systems inspection.

Rough inspection of plumbing, mechanical, gas and electrical systems shall be made prior to covering or concealment, before fixtures or appliances are set or installed, and prior to framing inspection.

SECTION R109 INSPECTIONS

R109.1.4 Frame and masonry inspection.

Inspection of framing construction shall be made after the roof, all framing, fire-stopping, draftstopping, and bracing are in place and after the plumbing, mechanical, and electrical rough inspections are approved.

Masonry inspections shall be made after the completed installation of base course flashing as specified in Section R703.7.5 of the code and water-resistive barrier as specified in Section R703.2 of the code and after the masonry construction is completed.

SECTION R109 INSPECTIONS

R109.1.6 Final inspection

Final inspection shall be made after the permitted work is complete and prior to occupancy.

SECTION R109 INSPECTIONS

DEFINITIONS

R201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings indicated in this chapter.

R201.3 Terms defined in other codes. Where terms are not defined in this code such terms shall have the **meanings ascribed in other code publications of the International Code Council.**

R201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

Building. Not defined in the residential code

BUILDING. “Building” means a combination of materials, whether portable or fixed, forming a structure affording a facility or shelter for use or occupancy by persons, animals, or property. The term does not include a building incidental to the use for agricultural purposes of the land on which the building is located if it is not used in the business of retail trade. The term shall be construed as though followed by the words “or part or parts of the building and all equipment in the building” unless the context clearly requires a different meaning.

DEFINITIONS

2015 MICHIGAN BUILDING CODE

DEFINITIONS

BUILDING OFFICIAL. “Building official” means the person who is appointed and employed by a governmental subdivision, who is charged with the administration and enforcement of the state codes specified in R 408.30499, and who is registered in compliance with 1986 PA 54

EXTERIOR WALL. An above-grade wall that defines the exterior boundaries of a building. Includes between-floor spandrels, peripheral edges of floors, roof and basement knee walls, dormer walls, gable end walls, walls enclosing a mansard roof and basement walls with an average below-grade wall area that is less than 50 percent of the total opaque and nonopaque area of that enclosing side.

DEFINITIONS

DRAFT STOP. A material, device or construction installed to restrict the movement of air within open spaces of concealed areas of building components such as crawl spaces, floor-ceiling assemblies, roof-ceiling assemblies and attics.

FIREBLOCKING. Building materials or materials approved for use as fireblocking, installed to resist the free passage of flame to other areas of the building through concealed spaces.

DEFINITIONS

HABITABLE SPACE. A space in a building for living, sleeping, eating or cooking. Bathrooms, toilet rooms, closets, halls, storage or utility spaces and similar areas are not considered habitable spaces.

ROOF ASSEMBLY. A system designed to provide weather protection and resistance to design loads. The system consists of a roof covering and roof deck or a single component serving as both the roof covering and the roof deck. A roof assembly includes the roof deck, vapor retarder, substrate or thermal barrier, insulation, vapor retarder, and roof covering.

DEFINITIONS

ROUGH-IN. The installation of the parts of the plumbing system that must be completed prior to the installation of fixtures. This includes DWV, water supply and built-in fixture supports.

STAIRWAY. One or more flights of stairs, either interior or exterior, with the necessary landings and connecting platforms to form a continuous and uninterrupted passage from one level to another within or attached to a building, porch or deck.

DEFINITIONS

STANDARD TRUSS. Any construction that does not permit the roof-ceiling insulation to achieve the required Rvalue over the exterior walls.

STRUCTURE. “Structure” means that which is built or constructed, an edifice or building of any kind, or a piece of work artificially built up or composed of parts joined together in some definite manner.

Structure shall be construed as though followed by the words “or part or parts of the structure and all equipment in the structure,” unless the context clearly indicates otherwise.

DEFINITIONS

Structure does not include a structure incident to the use for agricultural purposes of the land on which the structure is located and does not include works of heavy civil construction, including without limitation, any of the following:

A highway. (b) A bridge. (c) A dam. (d) A reservoir.

(e) A lock. (f) A mine. (g) A harbor.

(h) A dockside port facility. (i) An airport landing facility.

(j) A facility for the generation, or transmission, or distribution of electricity.

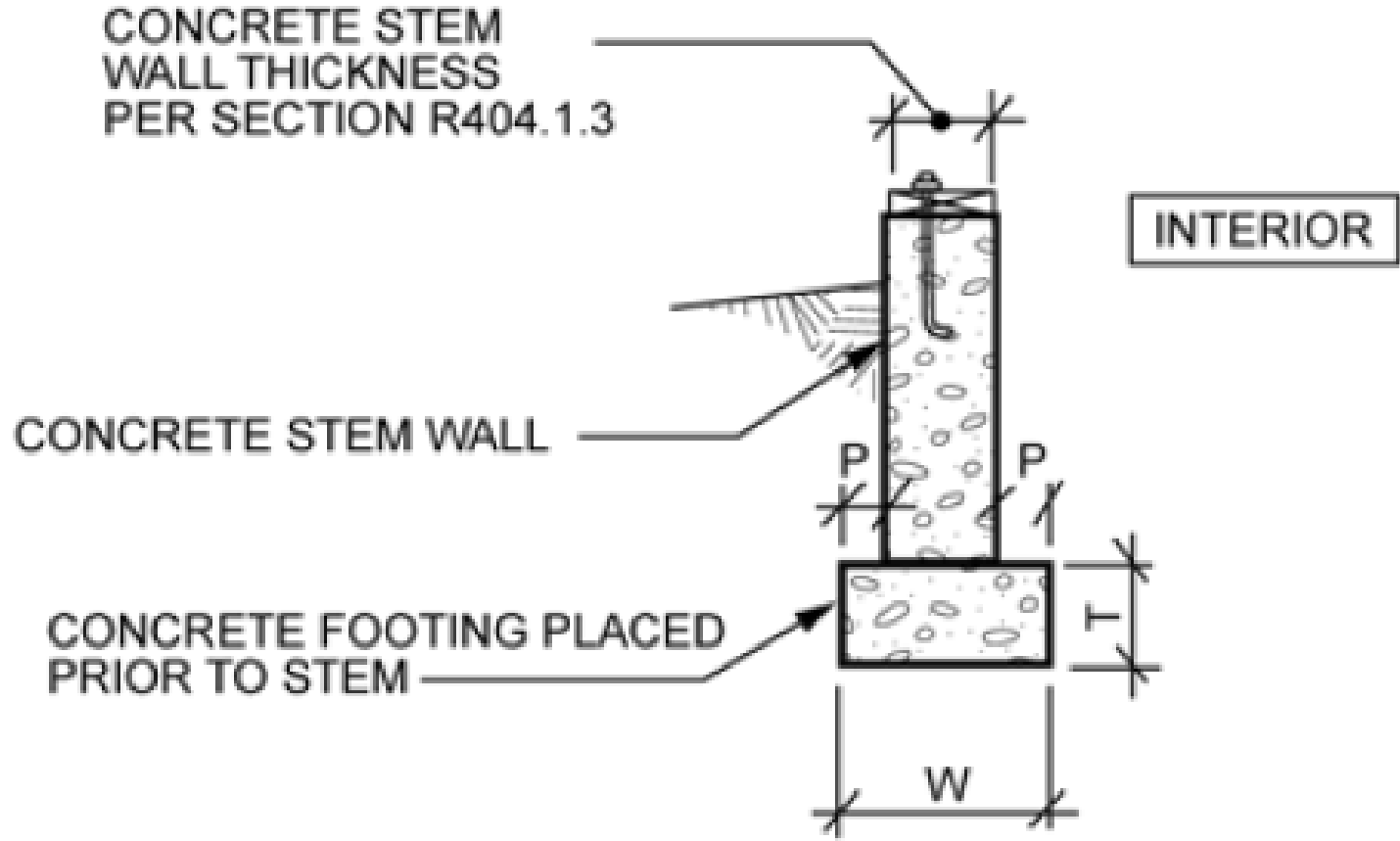
R401.3 Drainage. Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection that does not create a hazard. Lots shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6 inches (152 mm) within the first 10 feet (3048 mm).

Exception: Where lot lines, walls, slopes or other physical barriers prohibit 6 inches (152 mm) of fall within 10 feet (3048 mm), drains or swales shall be constructed to ensure drainage away from the structure. Impervious surfaces within 10 feet (3048 mm) of the building foundation shall be sloped a minimum of 2 percent away from the building.

3

SLAB-ON-GROUND WITH MASONRY STEM WALL AND SPREAD FOOTING

SCALE: NOT TO SCALE



5

BASEMENT OR CRAWL SPACE WITH CONCRETE WALL AND SPREAD FOOTING

SCALE: NOT TO SCALE

For SI: 1 inch = 25.4 mm.

W = Width of footing, T = Thickness of footing and P = Projection per Section R403.1.1

NOTES:

- a. See Section R404.3 for sill requirements.
- b. See Section R403.1.6 for sill attachment.
- c. See Section R506.2.3 for vapor barrier requirements.
- d. See Section R403.1 for base.
- e. See Figure R403.1.3 for additional footing requirements for structures in SDC D₀, D₁ and D₂ and townhouses in SDC C.
- f. See Section R408 for under-floor ventilation and access requirements.

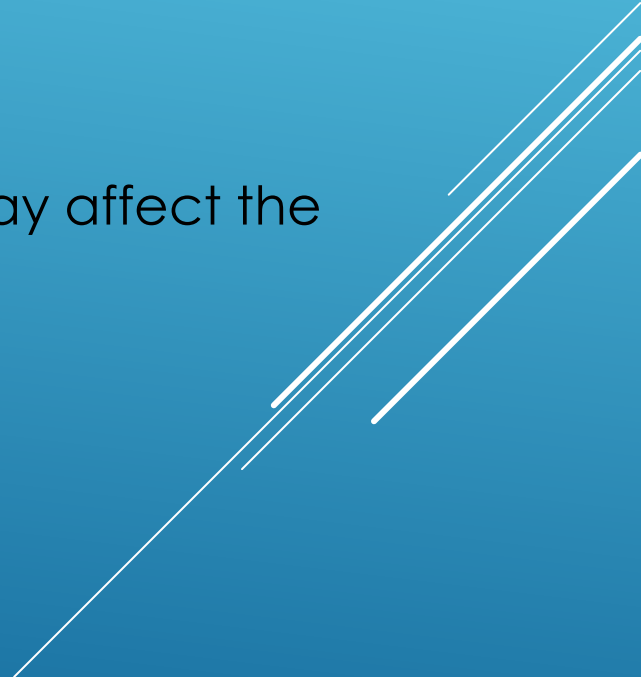
FOUNDATIONS

R403.1.4 Minimum depth. All exterior footings and foundation systems shall extend 42 inches (1067 mm) below actual grade. Where applicable, the depth of the footings shall also conform to Section R403.1.4.1 of the code.

FOUNDATIONS

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.

Exception: Upon evidence of the existence of any of the following conditions, the building official may modify the footing depth accordingly:

- (a) Freezing temperatures (freezing degree days).
 - (b) Soil type.
 - (c) Ground water conditions.
 - (d) Snow depth experience.
 - (e) Exposure to the elements.
 - (f) Other specific conditions identified by the building official that may affect the foundation system.
- 

R405.1 Concrete or masonry foundations.

Drains shall be provided around concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system.

FOUNDATIONS

Gravel or crushed stone drains shall extend not less than 1 foot (305 mm) beyond the outside edge of the footing and 6 inches (152 mm) above the top of the footing and be covered with an approved filter membrane material. The top of open joints of drain tiles shall be protected with strips of building paper. Except where otherwise recommended by the drain manufacturer, perforated drains shall be surrounded with an approved filter membrane or the filter membrane shall cover the washed gravel or crushed rock covering the drain.

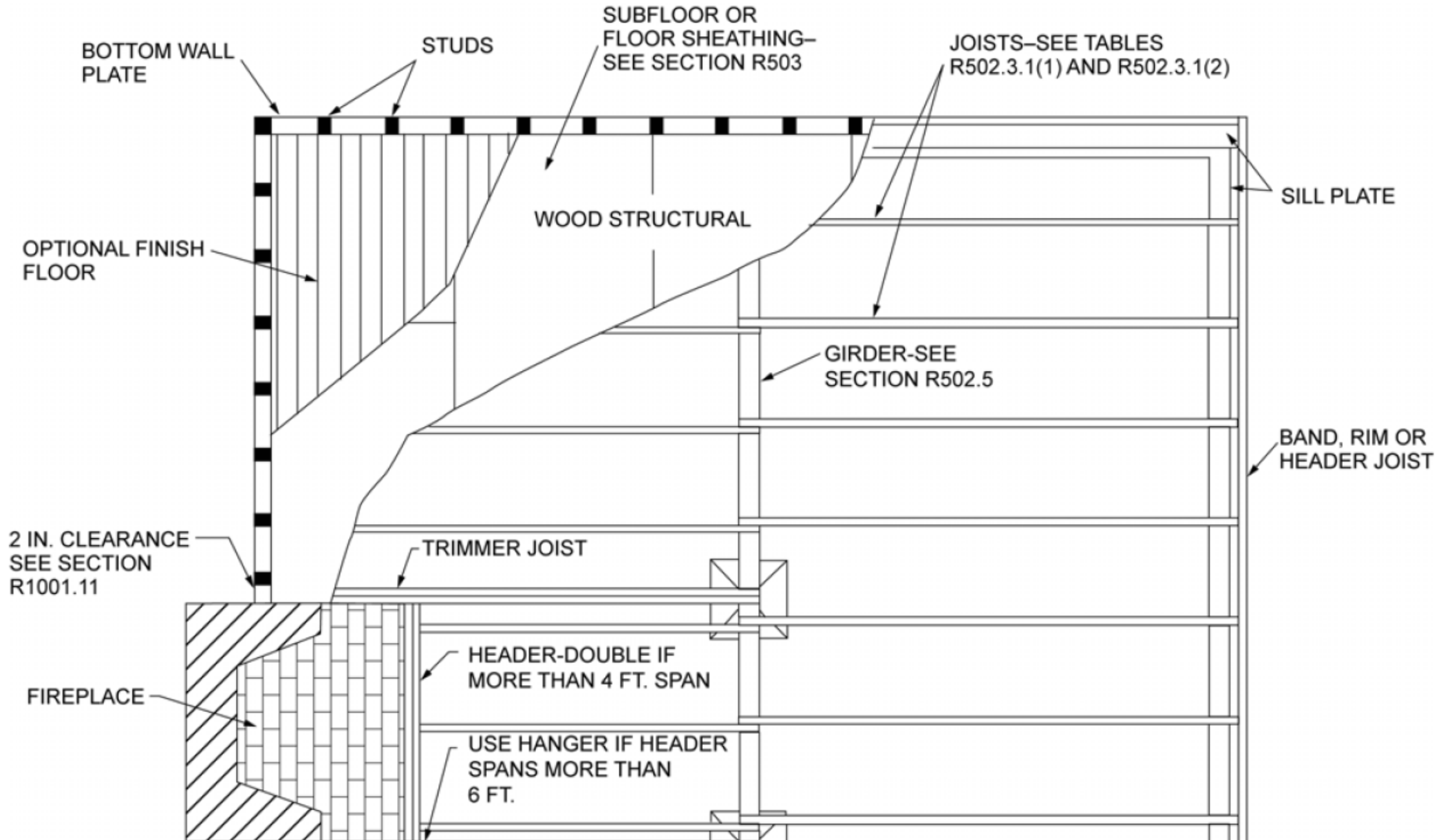
FOUNDATIONS

Drainage tiles or perforated pipe shall be placed on a minimum of 2 inches (51 mm) of washed gravel or crushed rock not less than one sieve size larger than the tile joint opening or perforation and covered with not less than 6 inches (152 mm) of the same material.

Exception: A drainage system is not required where the foundation is installed on well-drained ground or sand gravel mixture soils according to the Unified Soil Classification System, Group I soils, as detailed in Table R405.1.

R502.1.1 Sawn lumber. Sawn lumber shall be identified by a grade mark of an accredited lumber grading or inspection agency and have design values certified by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certificate of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

FLOORS



SOLID
BLOCKING—SEE
SECTION R502.7

LAP JOIST 3 IN. MIN. OR
SPLICE—SEE SECTION
R502.6.1

SILL PLATE

FOUNDATION

BRIDGING BETWEEN
JOISTS—SEE SECTION
R502.7.1

DOUBLE JOISTS UNDER BEARING
PARTITIONS. IF JOISTS ARE
SEPARATED FOR PIPES, BLOCK
4 FT. ON-CENTER MAXIMUM

PROVISION FOR PIPES
AND VENTS

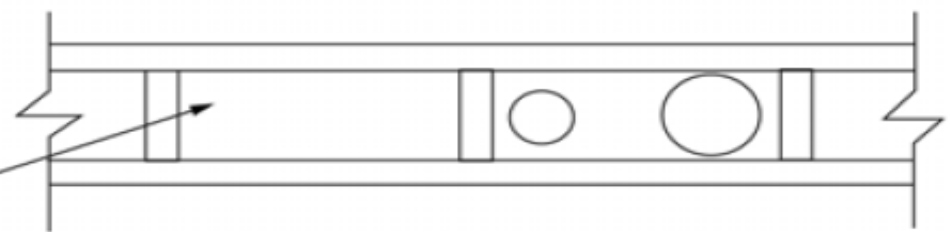
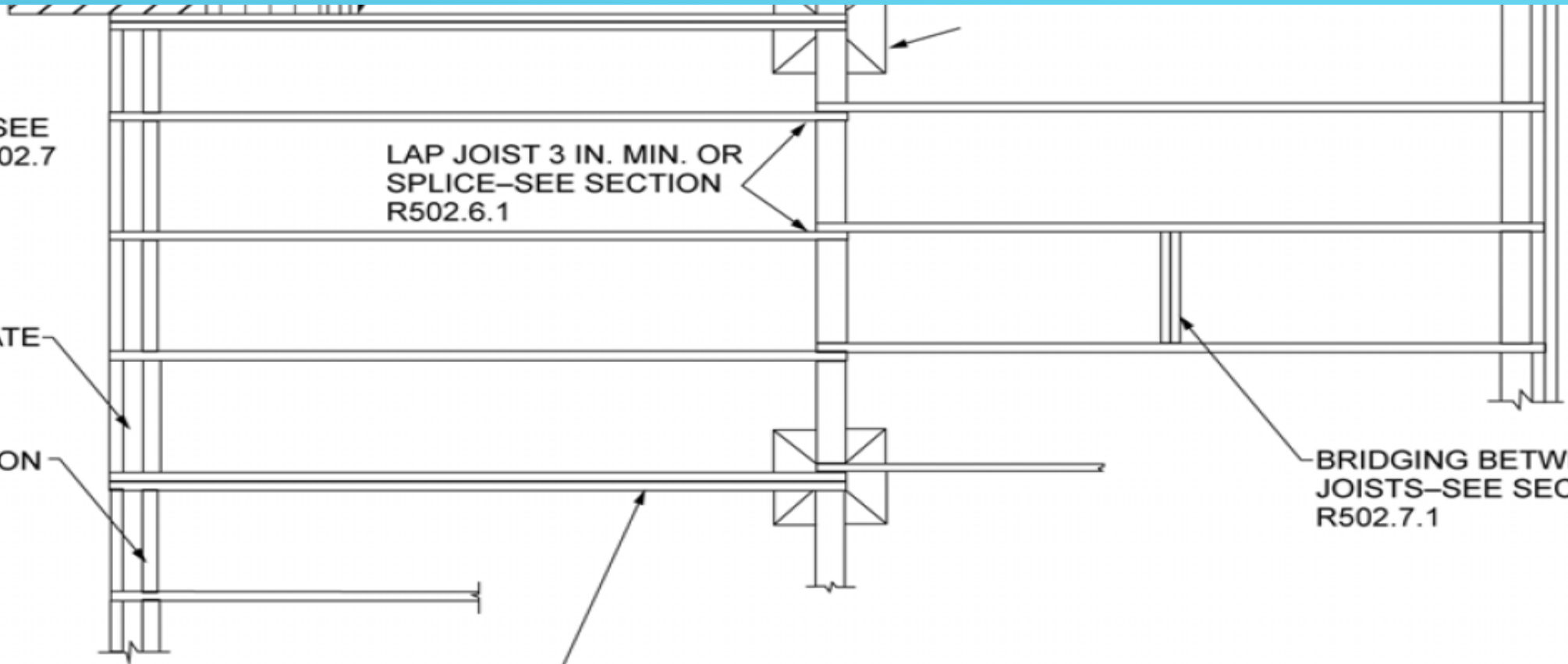


TABLE R502.3.1(1)
FLOOR JOIST SPANS FOR COMMON LUMBER SPECIES
 (Residential sleeping areas, live load = 30 psf, L/Δ = 360)^a

| JOIST SPACING (inches) | SPECIES AND GRADE | | DEAD LOAD = 10 psf | | | | DEAD LOAD = 20 psf | | | |
|---------------------------|-------------------|----|---------------------------|-------------|-------------|-------------|--------------------|-------------|-------------|-------------|
| | | | 2 × 6 | 2 × 8 | 2 × 10 | 2 × 12 | 2 × 6 | 2 × 8 | 2 × 10 | 2 × 12 |
| | | | Maximum floor joist spans | | | | | | | |
| | | | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) | (ft. - in.) |
| 16 | Douglas fir-larch | SS | 11-4 | 15-0 | 19-1 | 23-3 | 11-4 | 15-0 | 19-1 | 23-3 |
| | Douglas fir-larch | #1 | 10-11 | 14-5 | 18-5 | 21-4 | 10-8 | 13-6 | 16-5 | 19-1 |
| | Douglas fir-larch | #2 | 10-9 | 14-2 | 17-5 | 20-3 | 10-1 | 12-9 | 15-7 | 18-1 |
| | Douglas fir-larch | #3 | 8-7 | 10-11 | 13-4 | 15-5 | 7-8 | 9-9 | 11-11 | 13-10 |
| | Hem-fir | SS | 10-9 | 14-2 | 18-0 | 21-11 | 10-9 | 14-2 | 18-0 | 21-11 |
| | Hem-fir | #1 | 10-6 | 13-10 | 17-8 | 21-1 | 10-6 | 13-4 | 16-3 | 18-10 |
| | Hem-fir | #2 | 10-0 | 13-2 | 16-10 | 19-8 | 9-10 | 12-5 | 15-2 | 17-7 |
| | Hem-fir | #3 | 8-5 | 10-8 | 13-0 | 15-1 | 7-6 | 9-6 | 11-8 | 13-6 |
| | Southern pine | SS | 11-2 | 14-8 | 18-9 | 22-10 | 11-2 | 14-8 | 18-9 | 22-10 |
| | Southern pine | #1 | 10-9 | 14-2 | 18-0 | 21-4 | 10-9 | 13-9 | 16-1 | 19-1 |
| | Southern pine | #2 | 10-3 | 13-3 | 15-8 | 18-6 | 9-4 | 11-10 | 14-0 | 16-6 |
| | Southern pine | #3 | 7-11 | 10-0 | 11-1 | 14-4 | 7-1 | 8-11 | 10-10 | 12-10 |
| | Spruce-pine-fir | SS | 10-6 | 13-10 | 17-8 | 21-6 | 10-6 | 13-10 | 17-8 | 21-4 |
| | Spruce-pine-fir | #1 | 10-3 | 13-6 | 17-2 | 19-11 | 9-11 | 12-7 | 15-5 | 17-10 |
| | Spruce-pine-fir | #2 | 10-3 | 13-6 | 17-2 | 19-11 | 9-11 | 12-7 | 15-5 | 17-10 |
| | Spruce-pine-fir | #3 | 8-5 | 10-8 | 13-0 | 15-1 | 7-6 | 9-6 | 11-8 | 13-6 |

**TABLE R602.3(1)—continued
FASTENING SCHEDULE**

| ITEM | DESCRIPTION OF BUILDING ELEMENTS | NUMBER AND TYPE OF FASTENER ^{a, b, c} | SPACING AND LOCATION |
|------|--|--|---|
| 14 | Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels) | 16d common (3½" × 0.162") | 16" o.c. face nail |
| | | 16d box (3½" × 0.135"); or 3" × 0.131" nails | 12" o.c. face nail |
| 15 | Bottom plate to joist, rim joist, band joist or blocking (at braced wall panel) | 3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 4-3" × 0.131" nails | 3 each 16" o.c. face nail 2 each 16" o.c. face nail 4 each 16" o.c. face nail |

R601.3 Vapor retarders. Class I or II vapor retarders shall be provided on the interior side of frame walls in zones 5, 6, 7, 8 and marine 4.

Exceptions:

1. As permitted in Table R702.7.1.
2. Class III or no vapor retarder shall be permitted on the interior side of below grade wall assemblies. Class I or II vapor retarders shall be permitted on the interior side of the wall assembly when no air permeable insulation is installed in the below grade wall assemblies.
3. Construction where moisture or its freezing will not damage the materials.

R602.1.1 Sawn lumber. Sawn lumber shall be identified by a grade mark of an accredited lumber grading or inspection agency and have design values certified by an accreditation body that complies with DOC PS 20. In lieu of a grade mark, a certification of inspection issued by a lumber grading or inspection agency meeting the requirements of this section shall be accepted.

WALLS

A decorative graphic consisting of several parallel white lines of varying thicknesses, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the slide.

R602.1.2 End-jointed lumber. Approved end-jointed lumber identified by a grade mark conforming to Section R602.1 shall be permitted to be used interchangeably with solid-sawn members of the same species and grade. End-jointed lumber used in an assembly required elsewhere in this code to have a fire-resistance rating shall have the designation “Heat Resistant Adhesive” or “HRA” included in its grade mark.

WALLS

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the page.

R602.2 Grade. Studs shall be a minimum No. 3, standard or stud grade lumber.

Exception: Bearing studs not supporting floors and nonbearing studs shall be permitted to be utility grade lumber, provided the studs are spaced in accordance with Table R602.3(5).

WALLS

R602.6 Drilling and notching of studs. Drilling and notching of studs shall be in accordance with the following:

WALLS

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the slide.

1. Notching. Any stud in an exterior wall or bearing partition shall be permitted to be cut or notched to a depth not exceeding 25 percent of its width. Studs in nonbearing partitions shall be permitted to be notched to a depth not to exceed 40 percent of a single stud width.

WALLS

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue background.

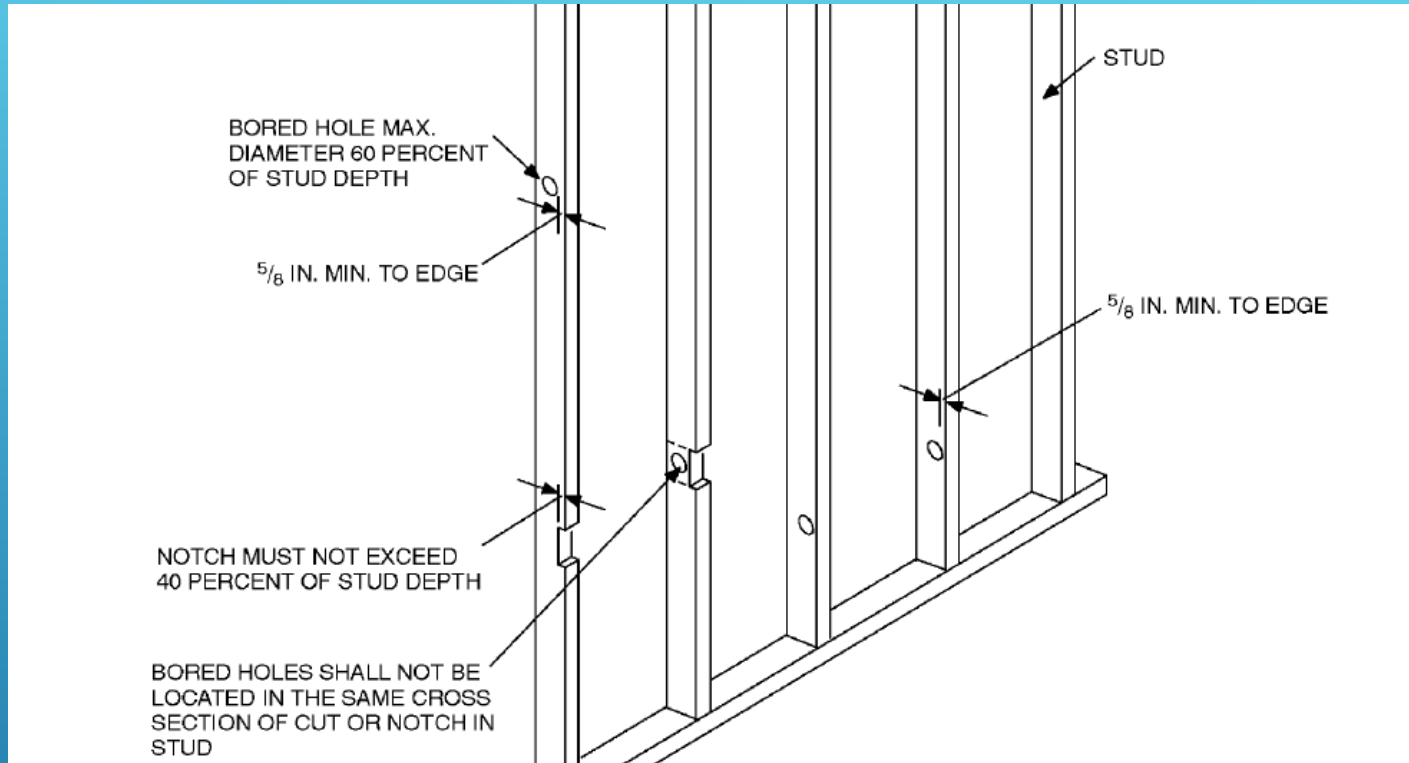
2. Drilling. Any stud shall be permitted to be bored or drilled, provided that the diameter of the resulting hole is not more than 60 percent of the stud width, the edge of the hole is not more than 5/8 inch (16 mm) to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40 percent and up to 60 percent shall be doubled with not more than two successive doubled studs bored. See Figures R602.6(1) and R602.6(2).

WALLS

Exception: Use of approved stud shoes is permitted where they are installed in accordance with the manufacturer's recommendations.

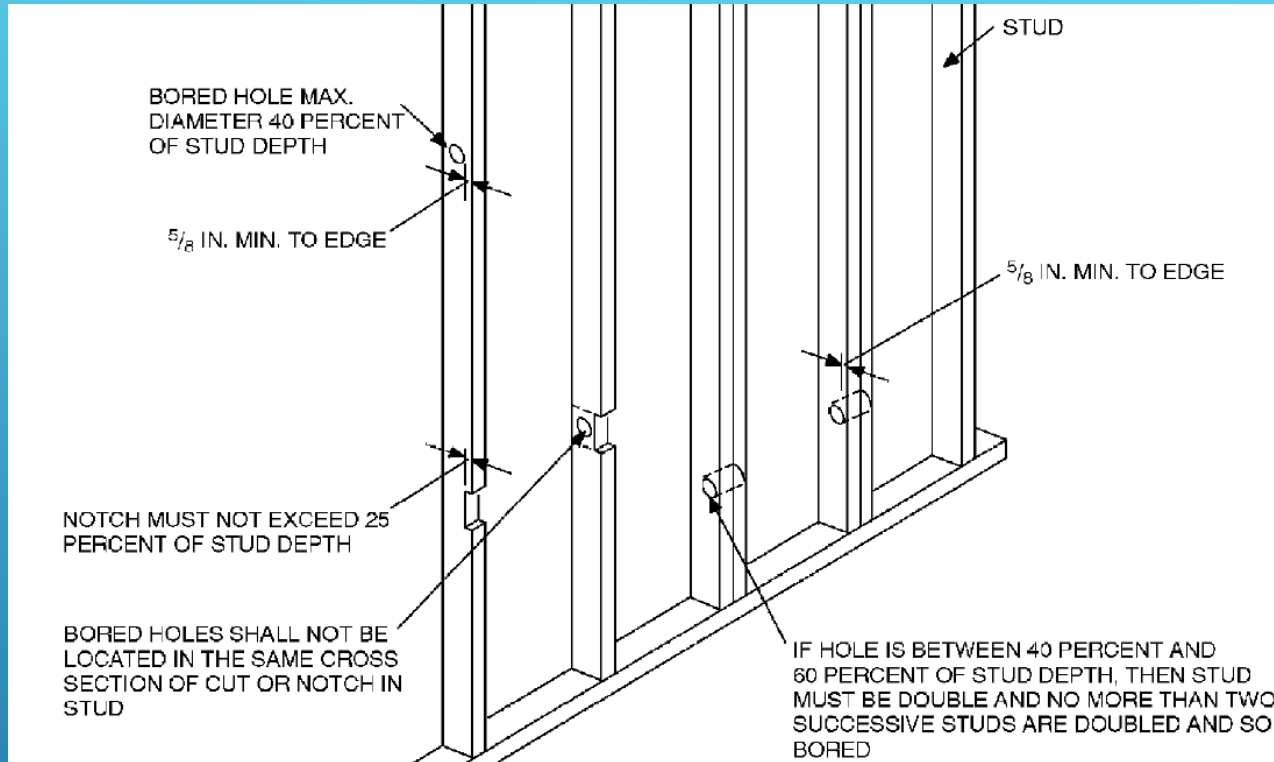
WALLS

A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, located in the lower right quadrant of the slide.



WALLS

FIGURE R602.6(1)



WALLS

FIGURE R602.6(2)

R801.3 Roof drainage. In areas where expansive or collapsible soils are known to exist, all dwellings shall have a controlled method of water disposal from roofs that will collect and discharge roof drainage to the ground surface not less than 5 feet (1524 mm) from foundation walls or to an approved drainage system.

ROOF ASSEMBLIES

R802.2 Design and construction.

The framing details required in Section R802 apply to roofs having a minimum slope of three units vertical in 12 units horizontal (25-percent slope) or greater. Roof-ceilings shall be designed and constructed in accordance with the provisions of this chapter and Figures R606.11(1), R606.11(2) and R606.11(3) or in accordance with AWC NDS. Components of roof-ceilings shall be fastened in accordance with Table R602.3(1).

R802.3 Framing details. Rafters shall be framed not more than 1 1/2-inches (38 mm) offset from each other to ridge board

or directly opposite from each other with a gusset plate as a tie.

Ridge board shall be not less than 1-inch (25 mm) nominal thickness and not less in depth than the cut end of the rafter. At valleys and hips there shall be a valley or hip rafter not less than 2-inch (51 mm) nominal thickness and not less in depth than the cut end of the rafter.

Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than three units vertical in 12 units horizontal (25-percent slope), structural members that support rafters and ceiling joists, such as ridge beams, hips and valleys, shall be designed as beams.

ROOF ASSEMBLIES

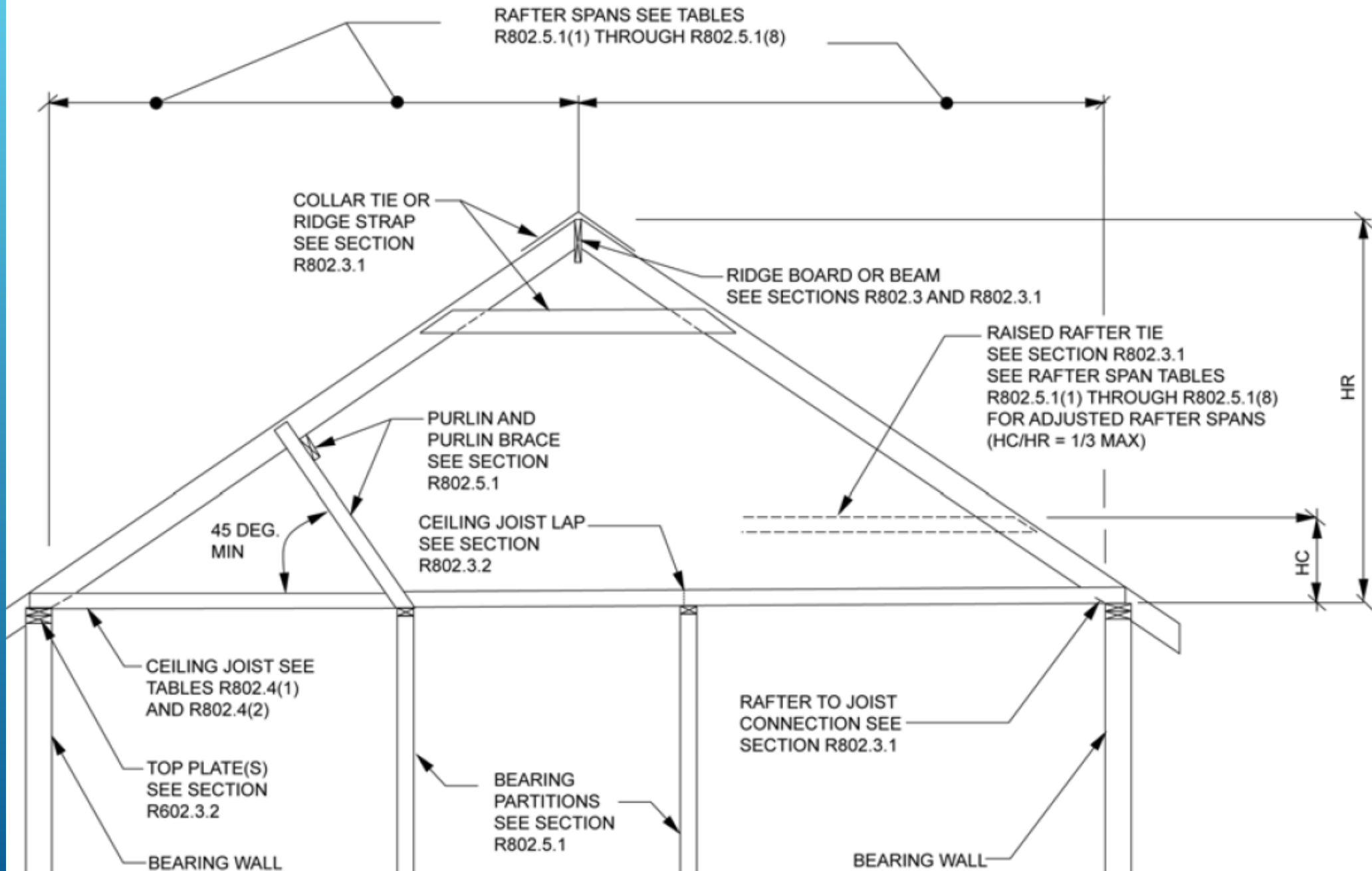
TABLE R802.4(1)
CEILING JOIST SPANS FOR COMMON LUMBER SPECIES
 (Uninhabitable attics without storage, live load = 10 psf, L/Δ = 240)

| CEILING JOIST SPACING (inches) | SPECIES AND GRADE | | DEAD LOAD = 5 psf | | | |
|--------------------------------|-------------------|----|-----------------------------|-----------------|-----------------|-----------------|
| | | | 2 × 4 | 2 × 6 | 2 × 8 | 2 × 10 |
| | | | Maximum ceiling joist spans | | | |
| | | | (feet - inches) | (feet - inches) | (feet - inches) | (feet - inches) |
| | Douglas fir-larch | SS | 13-2 | 20-8 | Note a | Note a |
| | Douglas fir-larch | #1 | 12-8 | 19-11 | Note a | Note a |
| | Douglas fir-larch | #2 | 12-5 | 19-6 | 25-8 | Note a |
| | Douglas fir-larch | #3 | 11-1 | 16-3 | 20-7 | 25-2 |
| | Hem-fir | SS | 12-5 | 19-6 | 25-8 | Note a |
| | Hem-fir | #1 | 12-2 | 19-1 | 25-2 | Note a |
| | Hem-fir | #2 | 11-7 | 18-2 | 24-0 | Note a |

Check sources for availability of lumber in lengths greater than 20 feet.

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

a. Span exceeds 26 feet in length.



R802.6 Bearing.

The ends of each rafter or ceiling joist 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) on masonry or concrete.

The bearing on masonry or concrete shall be direct, or a sill plate of 2-inch (51 mm) minimum nominal thickness shall be provided under the rafter or ceiling joist. The sill plate shall provide a minimum nominal bearing area of 48 square inches (30 865 mm²).

ROOF ASSEMBLIES

R802.7 Cutting, drilling and notching.

Structural roof members shall not be cut, bored or notched in excess of the limitations specified in this section.

ROOF ASSEMBLIES

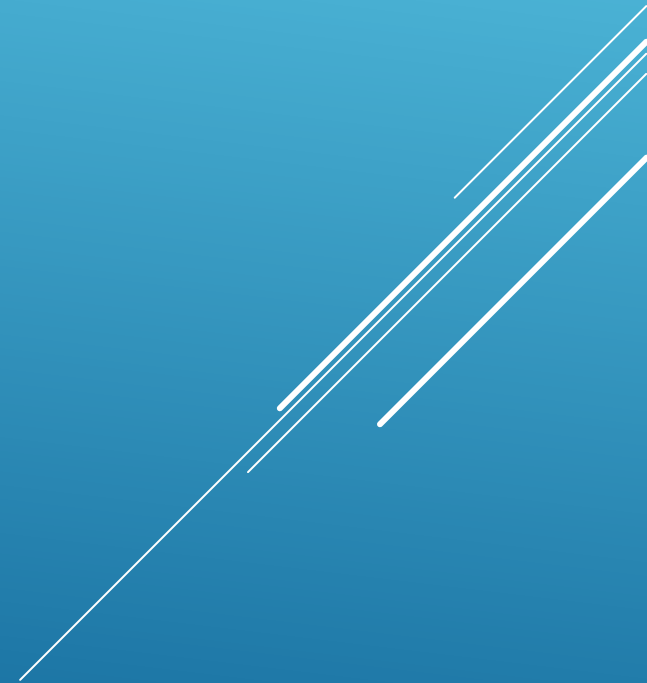
A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.

R802.7.1.1 Cantilevered portions of rafters.

Notches on cantilevered portions of rafters are permitted provided the dimension of the remaining portion of the rafter is not less than 3 1/2 inches (89 mm) and the length of the cantilever does not exceed 24 inches (610 mm) in accordance with Figure R802.7.1.1.

ROOF ASSEMBLIES

CONNECTION OF BEARING





DLAM® LVL
FOREST PRODUCTS

MADE IN
MILLITARY
BEARING
ALUMINUM
ESTABLISHED
AVC 23 3/4"

AST&G





A CITY OR 2540
LICENSE # 107

RIC
08









I-Joist

Glue Lam







USP Connectors
TH25140-2
NEW 4x4 PLIS 192
M.31308
© 1994-2004 USP

USP TH25
NER 478
P.192

USP Connectors
TH25140-2
NEW 4x4 PLIS 192
M.31308
© 1994-2004 USP

USP TH25
NER 478
P.192





DEC-04

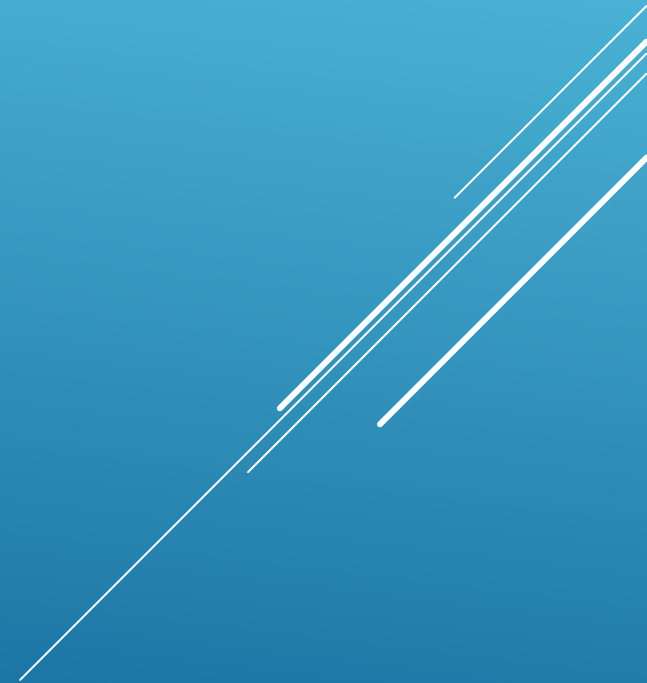
26

THIS SIDE DOWN

7/16

1/8 INCH AT ENDS
1/8 INCH AT EDGES

COMMON MISTAKES







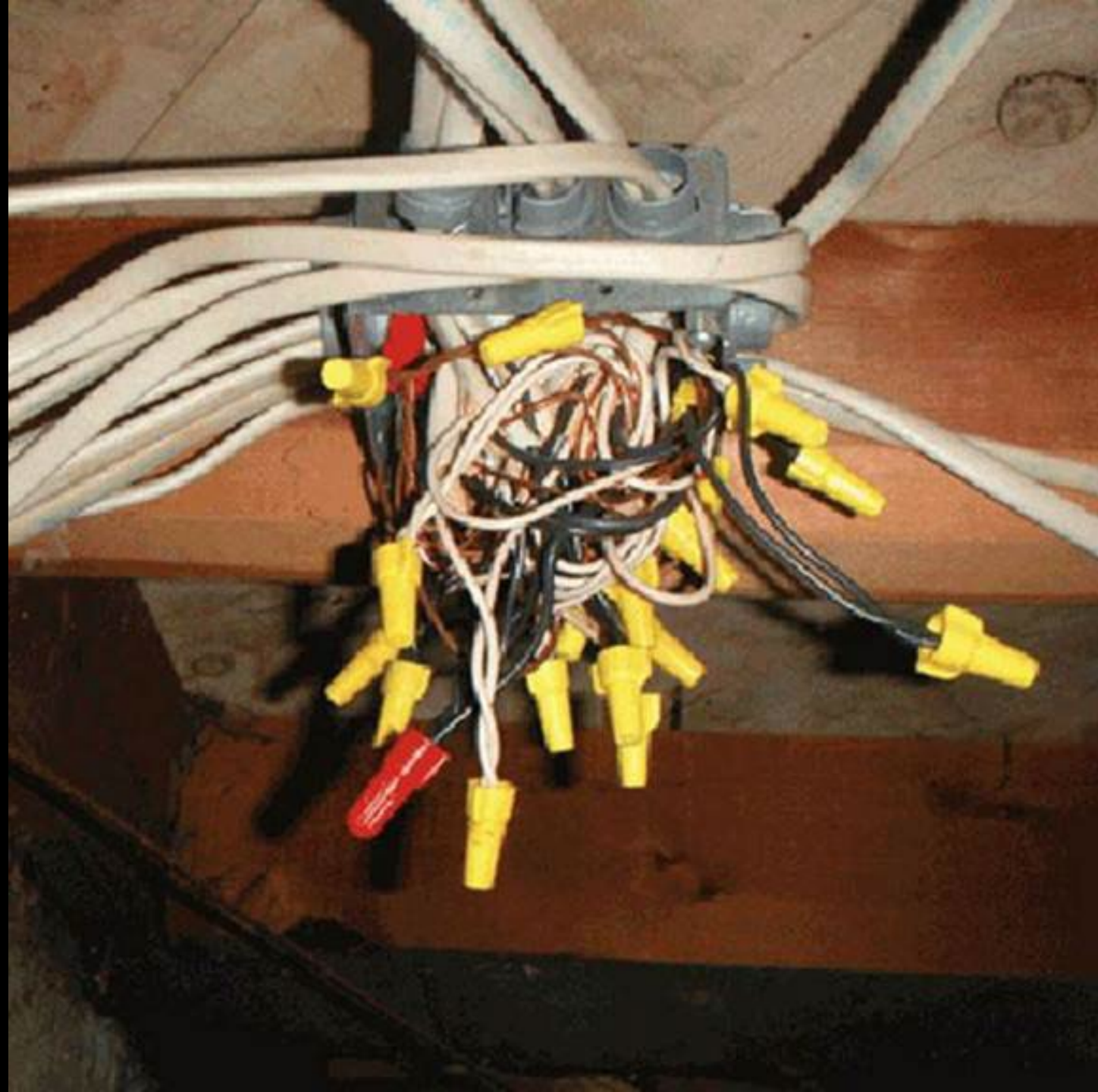




























PVC-DWV SCH40 PVC-1 T

LEONARD

ASSURED THERMAL PERFORMANCE
COMPLETE LABEL ON PACKAGE

R-19
Fiberglas[®] Insulation

CAUTION: REFER TO WARNING & FIRE HAZARD STATEMENT ON PACKAGE

Do not install in areas where fire hazard exists. Do not use in areas where fire hazard exists. Do not use in areas where fire hazard exists.

Do not use in areas where fire hazard exists. Do not use in areas where fire hazard exists. Do not use in areas where fire hazard exists.

toward

Apply this side toward living space.



ASSURED THERMAL PERFORMANCE
COMPLETE LABEL ON PACKAGE

06 0294 42A2

OWENS CORNING R-19

6 1/2" Fiberglas[®] Insulation

CAUTION: REFER TO WARNING & FIRE HAZARD STATEMENT ON PACKAGE

Do not install in areas where fire hazard exists. Do not use in areas where fire hazard exists. Do not use in areas where fire hazard exists.

The facing on Fiberglas insulation will burn. Do not use in areas where fire hazard exists. Do not use in areas where fire hazard exists.



Salts are carried to the surface and left behind after the evaporation of the water



Efflorescence and water damage on brick steps





Fig. 16 An example of extensive wetness and efflorescence



Internal efflorescence and damage due to moisture migration







Spalling damage from freeze / thaw cycle along a stretch of masonry walk.



11/15/2018



100





















PACTIV Building Products

PACTIV Building Products

PACTIV Building Products



Norfolk HOMES

Dedicated. Distinct.

734-996-1550

www.norfolk-homes.com

734-996-1550

www.norfolk-homes.com



Norfolk HOMES

Dedicated. Distinct.

734-996-1550

www.norfolk-homes.com



Green Guard



Green Guard

PACTIV Building Products

PACTIV Building Products

PACTIV Building Products

Building Products

PACTIV
Building Products

25-06-871

25-06-871



734-996-1515

www.norfolkhome.com



4-996-1515

norfolk-home.com



Call 1-800-44TYVEK WWW.TYVEK.COM
DU PONT The miracles of science

DU PONT

DU PONT

T
H

Andersen
AW
WINDOWS-DOORS

Andersen
AW
WINDOWS-DOORS

A
R
NY



CHELSEA
LUMBER
COMPANY

PONT

Call 1-800-44TYVEK WWW.TYVEK.COM

DU PONT The miracles of science

125072

DU PONT

ek
ap

T
H

USA



nce



СИБИРСКО





Example of seams done very well, smoothly

























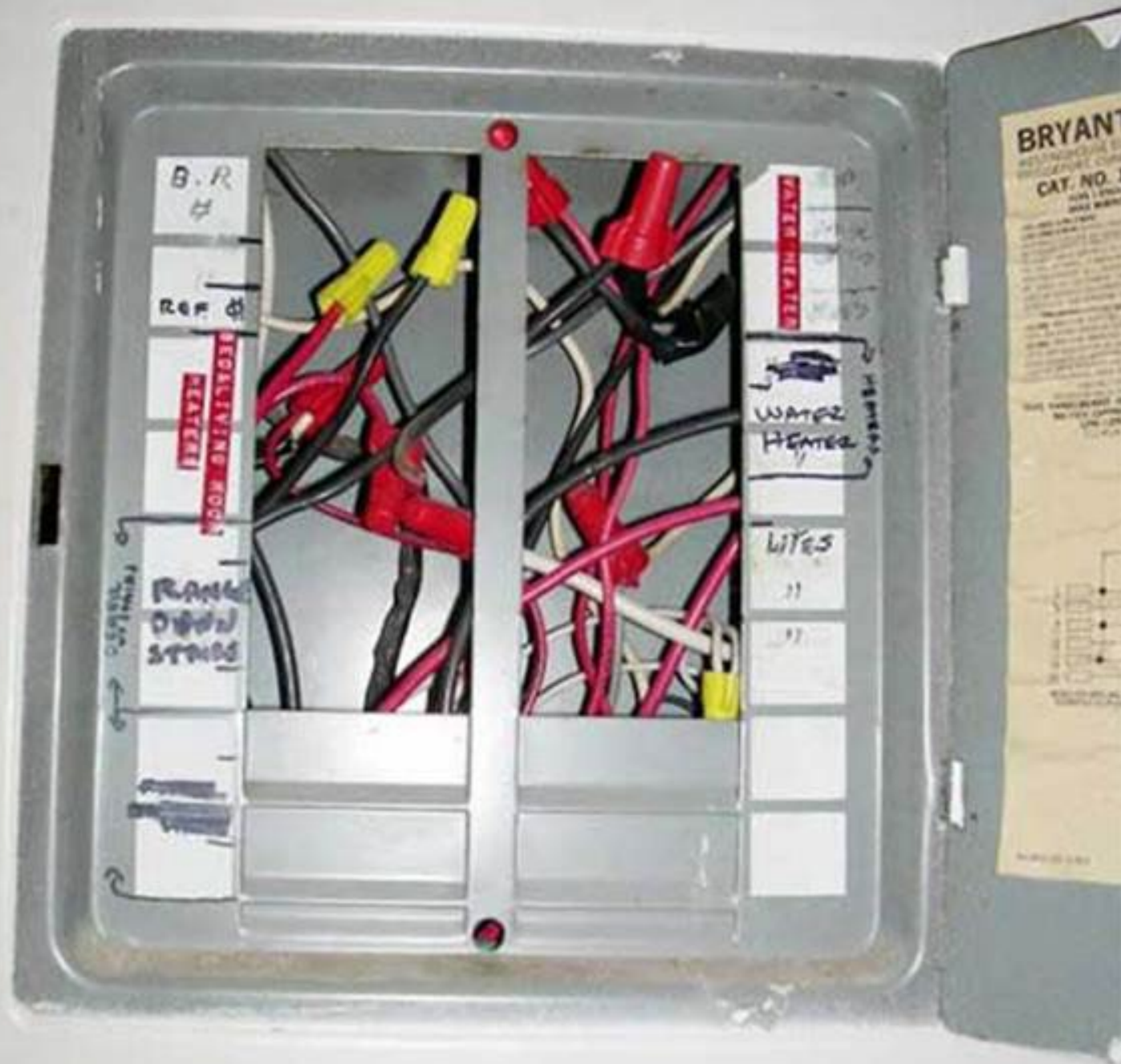












B.R #

REF #

RECEIVING ROOM

RANGE
DISH
STOVE

WATER HEATER

WATER HEATER

LITES

..

..

BRYANT
CAT. NO. 2



CAUTION

conductors only!
not designed
types of conductors.

BURNER

ON



OFF

EMERGENCY







DWV ASTM D 2865

PVC 1120 20' (6.1m) DWV 1120 1/2" DWV ASTM D 2865





































Berston

Seco

Seco

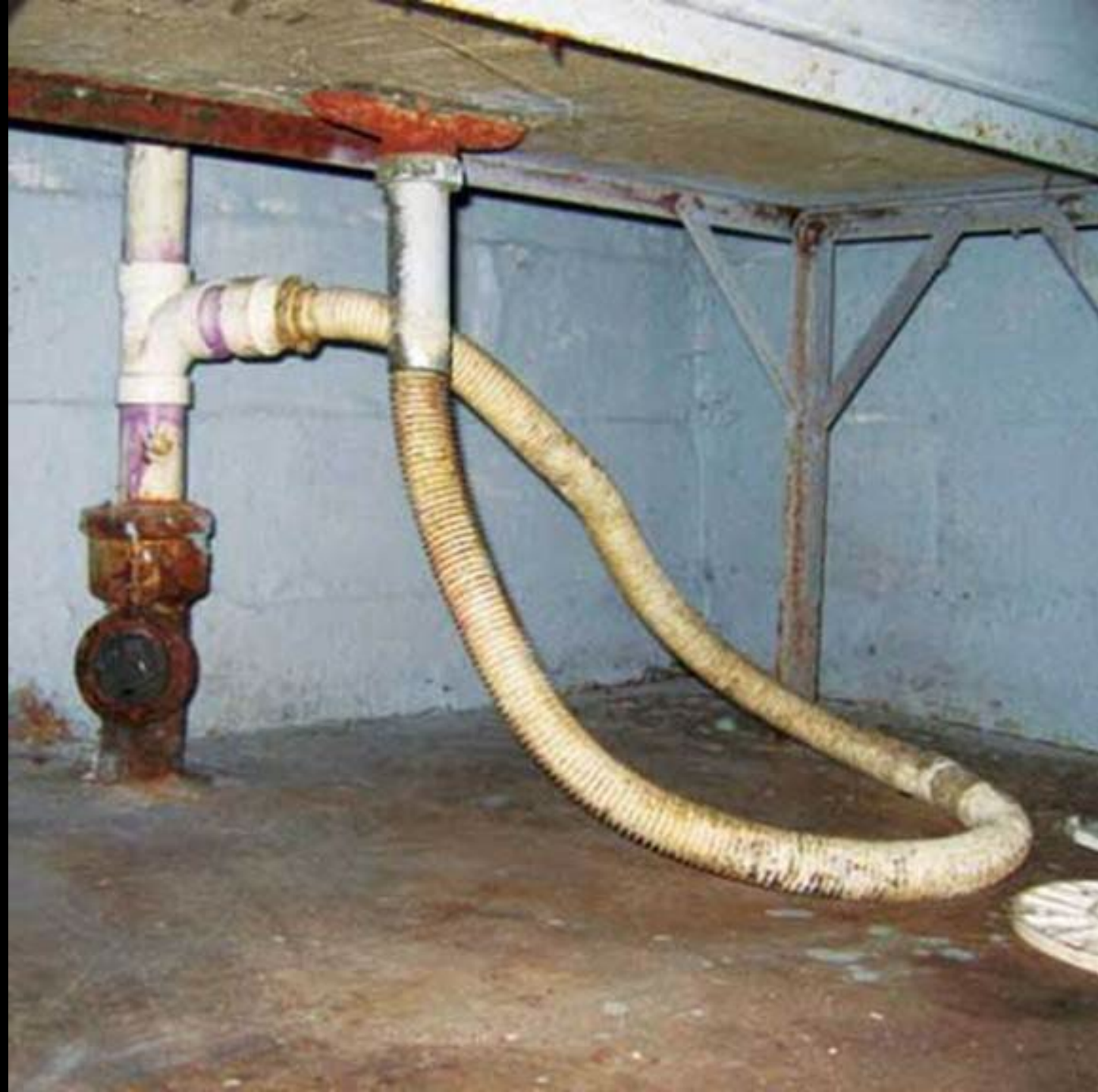


















THE END