Clearinghouse Rule 15-041

STATE OF WISCONSIN
Department of Safety and Professional Services

IN THE MATTER OF RULEMAKING PROCEEDINGS BEFORE THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES	:	PROPOSED ORDER OF THE DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES ADOPTING RULES (CLEARINGHOUSE RULE)

PROPOSED ORDER

An order of the Department of Safety and Professional Services to repeal SPS 320.07 (34m), (67), and (67m), 320.085, 320.09 (5) (d), 320.24 (2) Table 320.24–8, 321.02 (3) (g) 1., 321.125 (3) (a) 2. (Note) and (b), 321.126, 321.28 (3) (a) (Note) [2] and (b), 322.01 (3) (Note), 322.20 (6), 322.31 Table 322.31–4 (Note), and 322.38 (2) (c) 4. (Note);

to renumber SPS 321.02 (1) (b) 1. Table 321.02, 321.10 (2) (f), 321.25 (3) (intro.), (a), and (b), 322.01 (3), 322.32 (1), 322.32 (9), 323.04 (4), 323.045 (5) (a), 323.045 (6) (a), and 323.14 (1);

to renumber and amend SPS 320.24 (2) Table 320.24–2, 321.02 (1) (d), (title), and (Note), 321.04 (3) (a) 4. c. and (b) 1., and (4) (c) 1. and 2., 321.045 (4) (c), 321.05 (2) (a) and (3) (intro.) to (d) and (e), 321.06, 321.12, 321.15 (1) (e) 2., 321.28 (7) (c), 322.33 (1), 322.38 (1) (b), 323.045 (6) (a) (intro.), 323.14 (2) (a), 325.01 and SPS 320 to 325 Appendix, Minimum Fastener Schedule Table;

to consolidate, renumber, and amend 321.02 (3) (g) (intro.) and 2.;

to amend SPS 320.07 (5), (34f), (47), (50), (62) (intro.), and (66), 320.09 (5) (b) 2. d. and (6) (d), 320.24 (1), (2), (2) (Note) and (2) Tables 320.24–1 to 320.24-3, Table 320.24-4 Heading, and Tables 320.24-5 to 320.24-7 and 320.24-9 to 320.24-13, 321.02 (3) (c) and (3) (d) 1. and 2., 321.03 (1) (c) and (d), (2) (a) to (c) and (6) (d) 5. and (e) 4. and 5., (7) (a) 4., and (8) (b), and (c) 1. and 3., 321.04 (1) (a) 2., (2) (a) 1. and (c) 4. a. and b., (3) (title) to (a) 5., (b) 3. a. and b., (c) (title) to 1. a. and 2. and 3., and (4) (a) 2. and (b), 321.05 (1) (intro.), 321.08 Table 321.08, 321.125 (3) (a) 2., 321.16 (1) (a), 321.18 (1) (c) 3. a. and (d) 2. c. and (4), 321.25 Table 321.25–A footnote d, Table 321.25–I (title), and Table 321.25–J (title), 321.27 (4) (d), 321.28 (3) (a) 2., 322.21 (3) (b), 322.31 Table 322.31–4, 322.34 (2) (d), 322.38 (2) (c) 4., 323.04 Table 323.04–A footnote 5, 323.045 (6) (a) and (8) (intro.), and 323.16 (2) (a);

and to create SPS 320.02 (1) (ce), (cm), (cs), and (Notes), 320.07 (36r) and (37m), 320.24 (2) Table 320.24–12, Row 3, 321.02 (3) (d) (Note), (3) (h) 2., and (4) (Note), 321.03 (1) (b) (Note) and (h) 3., (6) (f) and (Note), and (11), 321.04 (3) (b) 1. b. to d. and (c) 1. d.,

and (4) (d) (title) and 2., 321.045 (4) (c) 2., 321.05 (1m), and (2) (a) 2. and (b) 1. to 3., 321.06 (1) (b) and (3) to (6), 321.08 (3) (c), 321.09 (2) (a) (Note), 321.10 (2) (f) 2., 321.12 (title), (2), and (3), 321.15 (1) (e) 2., 321.16 (2) (d), 321.18 (1) (c) 3. d. and (d) 2. c. (Note), 321.22 (9) (a) (Note) and (b) (Note) and (10) and (Notes), 321.24 (3) (e) and (Note) and (f) and (Note), 321.25 (2m) and (3) (a) (title), 321.25 Table 321.25–I footnote j and Table 321.25–J footnote j, 321.25 (8) (a) (Note) [2], 321.26 (8) (Note), 321.28 (3) (a) 6. and (7) (c) 2., 322.01 (3) (b), 322.32 (1) (b) and (9) (b), 322.33 (1) (b) and (3) (c), 322.38 (1) (b) 2. and (2) (c) 4. (Note) and 5., 322.42 (1m), 323.04 (4) (b) and (Note) [2], 323.045 (5m) and (6) (a) (title), 323.06 (1) (d), (e), and (f), 323.14 (1) (b) and (2) (a) 1., and 325.01 (1) (title) and (2) to (4), relating to one- and two-family dwellings.

Analysis prepared by the Department of Safety and Professional Services.

ANALYSIS

Statutes interpreted:

Sections 101.63 (intro.) and (1) (intro.) and (5).

Statutory authority:

Sections 227.11 (2) (a) and 101.63 (intro.) and (1) (intro.).

Explanation of agency authority:

Section 227.11 (2) (a) of the Statutes authorizes the Department to promulgate rules interpreting any statute that is enforced or administered by the Department, if the rule is considered necessary to effectuate the purpose of the statute.

Sections 101.63 (intro.) and (1) (intro.) require the Department to adopt rules which establish standards for the construction and inspection of one- and two-family dwellings and components thereof. No set of rules may be adopted that has not taken into account the costs of specific code provisions to home buyers in relationship to the benefits derived from the provisions.

Related statute or rule:

Various other statutes and rules promulgated by the Department address construction and inspection of dwellings, public buildings and places of employment.

Plain language analysis:

These rules update and clarify the Uniform Dwelling Code to make it consistent with contemporary construction practices, products, and materials. The rules clear up confusing and ambiguous portions of the code. They clarify language relating to stairs, ramps, and landings, and accessory guards and handrails. These rules also update

references to national standards and provide flexibility in meeting exiting requirements. They establish safer standards for dryer exhaust and clarify ceiling height, foundation anchorage, and framing and fastening provisions.

Summary of, and comparison with, existing or proposed federal regulation:

An Internet-based search of the *Code of Federal Regulations* (CFR) and the *Federal Register* did not find any federal regulations relating to the rule revisions herein for one- and two-family dwellings.

Comparison with rules in adjacent states:

Illinois:

An Internet-based search did not reveal the existence of a statewide one- and two-family dwelling code. Dwelling regulation appears to be left up to the individual local units of government.

Iowa:

An internet based search revealed that the Iowa Building Code adopts the 2009 International Residential Code and 2009 International Energy Conservation Code. The Iowa Building Code applies statewide to state owned and funded buildings. The accessibility, energy conservation, and minimum plumbing provisions apply to dwellings statewide.

Michigan:

An Internet-based search revealed a mandatory, statewide one- and two-family dwelling code. The Residential Construction Code under the Construction Code Commission's General Rules, in section 408.305, contains the state amendments to the 2009 International Residential Code (IRC) developed by the International Code Council.

Minnesota:

An Internet-based search revealed a mandatory, statewide one- and two-family dwelling code. The Minnesota Department of Labor and Industry, in Chapter 1309, adopts the 2006 IRC, chapters 2-10 and 43. Chapters 2-10 contain the general construction provisions of the IRC. The state code is being revised effective June 1, 2015 and will adopt the 2015 Minnesota version of the International Residential Code developed by the International Code Council with input from Minnesota.

Summary of factual data and analytical methodologies:

The Department received input during numerous meetings with the Dwelling Code Council. The makeup of this Council is established under section 15.407 (10) of the

Statutes and consists of members who are appointed by the Governor. The Council includes representatives of several types of small businesses. Through this Council, the Department was able to gather information on the potential impacts of the rule revisions contained herein.

Analysis and supporting documents used to determine effect on small business or in preparation of economic impact analysis:

The rule revisions are not expected to significantly impact small business because they would clarify and simplify current requirements rather than impose new restrictions.

Fiscal Estimate and Economic Impact Analysis:

The Fiscal Estimate and Economic Impact Analysis are attached.

Effect on small business:

These proposed rules are not expected to have an economic impact on small businesses, as defined in s. 227.114 (1), Stats. The Department's Regulatory Review Coordinator may be contacted by email at Eric.Esser@wisconsin.gov, or by calling (608) 267-2435.

Agency contact person:

Dan Smith, Rules Coordinator, Department of Safety and Professional Services, Division of Policy Development, 1400 East Washington Avenue, Room 151, P.O. Box 8935, Madison, Wisconsin 53708; telephone 608-261-4463; email at Daniel2.Smith@wisconsin.gov.

Place where comments are to be submitted and deadline for submission:

Comments may be submitted to Dan Smith, Rules Coordinator, Department of Safety and Professional Services, Division of Policy Development, 1400 East Washington Avenue, Room 151, P.O. Box 8366, Madison, WI 53708-8935, or by email to Daniel2.Smith@wisconsin.gov. Comments must be received on or before * to be included in the record of rule-making proceedings.

TEXT OF RULE

SECTION 1. SPS 320.02 (1) (ce) and (ce) (note), (cm) and (cm) note, and (cs) and (cs) (note) are created to read:

SPS 320.02 (1) (ce) A one- or 2-family dwelling built on or after the effective dates under s. SPS 320.03 that is used as a foster home or group home, or as a residential care center for children and youth that has a capacity for 8 or fewer children, all as defined in s. 48.02, Stats. Where such a home or center is operated in each dwelling unit

of a 2-family dwelling, the capacity limit for each unit is independent of the other unit only if the two operations are independent of each other.

Note: The definitions in s. 48.02 of the Statutes limit foster homes to no more than 4 children unless the children are siblings, and limit group homes to no more than 8 children. Where permitted by the Department of Children and Families, a group home or a residential care center for children and youth that has a capacity for 8 or fewer children may be located in a one- or 2-family dwelling as a community living arrangement, as defined in s. 46.03 (22) of the Statutes.

(cm) A one- or 2-family dwelling built on or after the effective dates under s. SPS 320.03, in which a public or private day care center for 8 or fewer children is located. Where such a day care center is operated in each dwelling unit of a 2-family dwelling, the capacity limit for each unit is independent of the other unit only if the two operations are independent of each other.

Note: Chapter DCF 250, as administered by the Department of Children and Families, defines a "family child care center" as being "a facility where a person provides care and supervision for less than 24 hours a day for at least 4 and not more than 8 children who are not related to the provider." Chapter DCF 250 applies various licensing and other requirements to these centers, including for fire protection and other aspects of the physical plant.

(cs) 1. Any portion of or space within a one- or 2-family dwelling built on or after the effective dates under s. SPS 320.03, in which a home occupation is located.

2. In this paragraph, "home occupation" means any business, profession, trade, or employment conducted in a person's dwelling unit, that may involve the person's immediate family or household and a maximum of one other unrelated person, but does not involve any of the following:

a. Explosives, fireworks, or repair of motor vehicles.

b. More than 25% of the habitable floor area of the dwelling unit.

Note: See chs. SPS 361 to 366 for buildings that are beyond the scope of this code.

SECTION 2. SPS 320.02 (5) is renumbered SPS 321.02 (4) and amended to read:

SPS 321.02 (4) ~~INNOVATIVE DWELLINGS~~ ALTERNATE MATERIALS AND STANDARDS. No part of this code is intended to prohibit or discourage use of alternate, equivalent materials or standards; or the construction of innovative dwellings such as a dwelling built below ground, a geodesic dome, a concrete house, a ~~fiber-glass~~ fiberglass house, or any other nonconventional structure.

SECTION 3. SPS 320.07 (34f) is amended to read:

SPS 320.07 (34f) "Flight" means a continuous series of ~~steps~~ risers and treads, with no intermediate landings.

SECTION 4. SPS 320.07 (34m) is repealed.

SECTION 5. SPS 320.07 (36r) and (37m) are created to read:

SPS 320.07 (36r) "Guard" means a barrier erected to prevent a person from falling to a lower level.

(37m) "Handrail" means a horizontal or sloping rail intended for grasping by a hand, for guidance or support or preventing a fall down a stair.

SECTION 6. SPS 320.07 (47), (50), (62) (intro.), and (66) are amended to read:

SPS 320.07 (47) "Landing" means the level portion of a stairs located between flights of stairs or located at the top and ~~foot~~ base of a stairs.

(50) "Loft" means an upper room or floor which has at least 50% of the common wall open to the floor below. The opening may be infringed upon by an open ~~guardrail~~ guard constructed in compliance with s. SPS 321.04 (2), but not by a window or half-wall ~~guardrail~~ guard. All habitable rooms of lofts are open to the floor below.

(62) (intro.) "Shingle" means a unit of ~~roof covering~~ roof-covering material that has been manufactured to specific dimensions and is applied in overlapping fashion. "Shingle" includes all of the following:

(66) ~~A "stairway" is~~ "Stair," "stairs," or "stairway" means one or more ~~flights of steps,~~ risers and the necessary treads, ~~platforms and landings connecting them, to~~ which form a continuous passage from one elevation to another. Multiple stairways can be connected by platforms and landings.

SECTION 7. SPS 320.07 (67) and (67m) are repealed.

SECTION 8. SPS 320.085 is repealed.

SECTION 9. SPS 320.09 (5) (b) 2. d. is amended to read:

SPS 320.09 (5) (b) 2. d. The location and construction details of wall bracing on each building side and floor level. The details may consist of the Wall Bracing Compliance Worksheet or a legend showing which wall bracing method is used and the

lengths or number of braced wall panels – and demarcation of the circumscribed rectangles if more than one is used.

SECTION 10. SPS 320.09 (5) (d) is repealed.

SECTION 11. SPS 320.09 (6) (d) is amended to read:

SPS 320.09 (6) (d) The name of the initial downstream receiving water of the state from the dwelling shall be identified, regarding erosion and sediment control ~~and storm water management~~.

SECTION 12. SPS 320.24 (1), (2), and (2) (Note) are amended to read:

SPS 320.24 (1) CONSENT. Pursuant to s. 227.21 (2), Stats., the attorney general has consented to the incorporation by reference of the standards listed in Tables 320.24-1 to ~~320.14-13~~ 320.24-13.

(2) ADOPTION OF STANDARDS. The standards referenced in Tables 320.24-1 to ~~320.14-13~~ 320.24-13 are incorporated by reference into this chapter.

Note: Copies of the adopted standards are on file in the offices of the department and the legislative reference bureau. Copies of the standards may be purchased, or are available for free, through the respective organizations or other information listed in Tables 320.24-1 to ~~320.14-13~~ 320.24-13.

SECTION 13. SPS 320.24 (2) Table 320.24–1 is amended to read:

SPS 320.24 (2) Table 320.24–1

ACI	American Concrete Institute P.O. Box 9094 Farmington Hills, MI 48333 www.concrete.org
Standard Reference Number	**Title**
1. ~~318-05~~ 318-14	Building Code Requirements for Structural Concrete
2. 332-14	Residential Code Requirements for Structural Concrete
~~2~~3. ~~530-05~~ 530-13	Building Code Requirements for Masonry Structures
~~3~~4. ~~530.1-05~~ 530.1-13	Specification for Masonry Structures

SECTION 14. SPS 320.24 (2) Table 320.24–2 is renumbered SPS 320.24 (2) Table 320.24–6m and amended to read:

SPS 320.24 (2) Table 320.24-6m

~~AF&PA~~ AWC	American ~~Forest & Paper Association~~ Wood Council ~~1111 19th Street, N.W., Suite 800~~

	~~Washington, D.C. 20036~~ 222 Catoctin Circle SE Suite 201 Leesburg, VA 20175 www.americanwoodcouncil.org
Standard Reference Number	**Title**
1. ~~NDS-2005~~ ANSI/AWC NDS-2012	National Design Specification For Wood Construction ~~Including 2005 Supplement~~
2. ~~ANSI/AF&PA~~ ANSI/AWC PWF - 2007	Permanent Wood Foundation Design Specification

SECTION 15. SPS 320.24 (2) Tables 320.24–3, 320.24–4, 320.24-5 (heading), 320.24-6, and 320.24-7 are amended to read:

SPS 320.24 (2) Table 320.24-3

AISC	American Institute of Steel Construction One ~~E.~~ East Wacker Drive, Suite ~~3100~~ 700 Chicago, IL 60601 www.aisc.org
Standard Reference Number	**Title**
~~1. 360-05~~ ANSI/AISC 360-10	Specification for Structural Steel Buildings

Table 320.24-4

ASTM	~~American Society for Testing and Materials~~ ASTM International ~~1916 Race Street~~ ~~Philadelphia,~~ 100 Barr Harbor Drive PO Box C700 West Conshohocken, PA ~~19103~~ 19428-2959 www.astm.org
Standard Reference Number	**Title**
1. ~~C 62-01~~ C62-13a	Standard Specification for Building Brick (Solid Masonry Units Made From Clay or Shale)
2. ~~C 90-02~~ C90-14	Standard Specification for ~~Hollow Load-Bearing~~ Loadbearing Concrete Masonry Units
3. ~~C 216-02~~ C216-14	Standard Specification for Facing Brick (Solid Masonry Units Made From Clay or Shale)
4. ~~C 270-01a~~ C270-14	Standard Specification for Mortar for Unit Masonry
5. ~~C 476-01~~ C476-10	Standard Specification for Grout for Masonry
6. ~~C 652-01a~~ C652-14	Standard Specification for Hollow Brick (Hollow Masonry Units Made From Clay or Shale)
~~7. D 225-01~~	~~Standard Specification for Asphalt Shingles (Organic Felt) Surfaced With Mineral Granules~~
~~8. D 226-97a~~ 7. D226-09	Standard Specification for Asphalt-Saturated Organic Felt Used In Roofing And Water Proofing
~~9. D 3462-02~~ 8. D3462-10a	Standard Specification for Asphalt Shingles Made From Glass Felt and Surfaced With Mineral Granules
~~10. D 4869-02~~ 9. D4869-05(2011)e1	Standard Specification for Asphalt-Saturated Organic Felt Shingle Underlayment Used in Roofing

Table 320.24-5 (heading)

ASCE	American Society of Civil Engineers 1801 Alexander Bell Drive Reston, VA 20191 www.asce.org

Table 320.24-6

ASHRAE	American Society of Heating, Refrigerating, and Air-conditioning Engineers, Inc. 1791 Tullie Circle, N.E. Atlanta, GA 30329 www.ashrae.org
Standard Reference Number	**Title**
1. ~~2005~~ 2013 Fundamentals	ASHRAE Handbook~~,~~ – Fundamentals
2. ~~2003~~ 2011 HVAC Applications	ASHRAE Handbook – HVAC Applications ~~Handbook~~
3. ~~2004~~ 2012 HVAC Systems & Equipment	ASHRAE Handbook – HVAC Systems & Equipment ~~Handbook~~

Table 320.24-7

ICC	The International Code Council 500 New Jersey Avenue, NW, 6th Floor Washington, D.C. 20001 www.iccsafe.org
Standard Reference Number	**Title**
~~ICC/ANSI 400-2007~~ ICC 400-2012	Standard on the Design and Construction of Log Structures

SECTION 16. SPS 320.24 (2) Table 320.24–8 is repealed.

SECTION 17. SPS 320.24 (2) Tables 320.24–9 (heading) 320.24-10, 320.24-11 (heading) and 320.24–12 (heading) are amended to read:

SPS 320.24 (2) Table 320.24-9 (heading)

NAIMA	North American Insulation Manufacturers Association ~~44~~ 11 Canal Canter Plaza, Suite ~~310~~ 103 Alexandria, VA 22314 www.naima.org

Table 320.24-10

NFPA	National Fire Protection Association 1 Batterymarch Park Quincy, MA 02269 www.nfpa.org
Standard Reference Number	**Title**

1. NFPA 13D ~~2002~~ 2013	Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes
2. ~~ANSI Z223.1-2009/ NFPA 54-2009~~ NFPA 54/ANSI Z223.1 2015	National Fuel Gas Code

Table 320.24-11 (heading)

NIST	National Institute of Standards and Technology U.S. Department of Commerce Washington, D.C. 20234 http://catalog.hathitrust.org/Record/009487395

Table 320.24-12 (heading)

SMACNA	Sheet Metal and Air Conditioning ~~Contractors~~ Contractors' National Association 4201 Lafayette Center Drive Chantilly, VA ~~20151-1209~~ 20151-1219 www.smacna.org

SECTION 18. SPS 320.24 (2) Table 320.24-12 Row 3 is created to read:

SPS 320.24 (2) Table 320.24-12
(Partial Table)

Standard Reference Number	**Title**
3. Third Edition, 2005	HVAC Duct Construction Standards – Metal and Flexible

SECTION 19. SPS 320.24 (2) Table 320.24–13 is amended to read:

SPS 320.24 (2) Table 320.24-13

TPI	Truss Plate Institute, Inc. 218 North Lee Street, Suite 312 Alexandria, VA 22314 www.tpinst.org
Standard Reference Number	**Title**
~~1. TPI 1-2002~~ ANSI/TPI 1-2007	National Design Standard for Metal Plate Connected Wood Truss Construction

SECTION 20. SPS 321.02 (1) (b) 1. Table 321.02 is renumbered SPS 321.02 (1) (b) 1. Table 321.02-1.

SECTION 21. SPS 321.02 (1) (d) (title) is renumbered SPS 321.02 (3) (h) (title).

SECTION 22. SPS 321.02 (1) (d) and (Note) are renumbered SPS 321.02 (3) (h) 1., and (Note), and amended to read:

SPS 321.02 (3) (h) 1. All building components shall be fastened to withstand the dead load, live load, snow load, and wind load.

Note: ~~See the Appendix for a schedule of fasteners that will be acceptable to the department for compliance with this subsection~~. Other fastening methods may be allowed if engineered under s. SPS 321.02 (3).

SECTION 23. SPS 321.02 (3) (c) is amended to read:

SPS 321.02 (3) (c) *Structural steel.* The design, fabrication, and erection of structural steel for buildings shall conform to Specification for Structural Steel Buildings~~, Allowable Stress Design and Plastic Design~~ and the provisions of the accompanying commentary as adopted under Table 320.24-3.

SECTION 24. SPS 321.02 (3) (d) 1. and 2. are amended to read:

SPS 321.02 (3) (d) 1. ACI Standard 318, ~~"~~Building Code Requirements for ~~Reinforced~~ Structural Concrete~~"~~.

2. ACI Standard ~~318.1~~ 332, ~~"Building~~ Residential Code Requirements for Structural ~~Plain~~ Concrete~~"~~.

SECTION 25. SPS 321.02 (3) (d) (Note) is created to read:

SPS 321.02 (3) (d) Note: Concrete construction in one- and two-family dwellings should meet the standards established in ACI 332. Construction means, materials, or methods not addressed in ACI 332 should meet the standards established in ACI 318.

SECTION 26. SPS 321.02 (3) (g) (intro.) and 2. are consolidated, renumbered SPS 321.02 (3) (g), and amended to read:

SPS 321.02 (3) (g) *Whole logs.* Dwellings constructed of whole logs shall conform to ~~the following standards: 2. ICC/ANSI~~ ICC 400, Standard on the Design and Construction of Log Structures.

SECTION 27. SPS 321.02 (3) (g) 1. is repealed.

SECTION 28. SPS 321.02 (3) (h) 2. is created to read:

SPS 321.02 (3) (h) 2. Fasteners shall comply with the schedule listed in Table 321.02-2.

SECTION 29. SPS 321.02 (4) (Note) is created to read:

SPS 321.02 (4) Note: Examples of materials addressed by this subsection include structural insulated panels that are used in accordance with the manufacturer's instructions or structural analysis, and cold-formed steel framing complying with AISI S230 *Standard for Cold-Formed Steel Framing – Prescriptive Method for One and Two Family Dwellings*.

SECTION 30. SPS 321.03 (1) (b) (Note) is created to read:

SPS 321.03 (1) (b) **Note:** Under this paragraph, only one of the two exit doors that are addressed in par. (a) is required to exit directly to grade.

SECTION 31. SPS 321.03 (1) (c) and (d) are amended to read:

SPS 321.03 (1) (c) ~~An additional~~ Any exit that does not comply with par. (b) may discharge to an outside balcony that complies with sub. (8).

(d) ~~An additional~~ Any exit that does not comply with par. (b) may discharge into an attached garage provided the garage has an exit door that discharges to grade. An overhead garage door may not be used as an exit door.

SECTION 32. SPS 321.03 (1) (h) 3. is created to read:

SPS 321.03 (1) (h) 3. One of the exit doors required in par. (a) may be omitted for a dwelling unit that has one or more egress windows on the first floor. If there are bedrooms, each must have a window that complies with sub. (6).

SECTION 33. SPS 321.03 (2) (a) to (c) and (6) (d) 5. and (e) 4. and 5. a. are amended to read:

SPS 321.03 (2) (a) At least 2 exits shall be provided from the second floor. ~~One~~ At least one of the exits shall be a stairway or ramp and lead to the first floor or discharge to grade. The second exit may be via a stairway or ramp ~~which~~ that discharges to grade, or ~~may discharge~~ to a balcony which complies with sub. (8), or to a deck that complies with s. SPS 321.225 and that is no more than 15 feet above the grade below.

(b) ~~Except as provided in par. (c), windows~~ Windows ~~which~~ that comply with sub. (6) may be provided in each second floor bedroom – or in another location on the

second floor if there are no bedrooms on that floor – in lieu of the second exit from ~~the~~ that floor.

(c) Where the second floor of a building is the lowest floor level in a dwelling unit, as in an up-and-down duplex, ~~windows may not be provided as the second exit from the floor~~ no exit from the unit may go through another dwelling unit or other party's occupancy on the first floor.

(6) (d) 5. A ~~Step~~ stair used for the sole purpose of reaching the top of the platform or fixture is exempt from the requirements of s. SPS 321.04.

(e) 4. If the bottom of the areaway is more than 46 inches below adjacent grade or the top of the areaway enclosure, the areaway shall be provided with a ladder or ~~at least one additional step~~ stair to aid egress. ~~Steps~~ Stairs used to comply with this section are exempt from the requirements of s. SPS 321.04.

5. a. Ladders or other ~~steps~~ stairs used to comply with subd. 4. may infringe on the required area of the areaway by a maximum of 6 inches.

SECTION 34. SPS 321.03 (6) (f) and (Note) are created to read:

SPS 321.03 (6) (f) An egress window under a deck or porch shall discharge through a clear path of at least 36 inches in height and 36 inches in width, and no more than 15 feet in length, to a yard or open space.

Note: Under this paragraph, there is no maximum height above grade for an egress window. Similarly, egress windows are not prohibited from discharging to a roof, regardless of the slope of the roof.

SECTION 35. SPS 321.03 (7) (a) 4. and (8) (b), and (c) 1. and 3. are amended to read:

SPS 321.03 (7) (a) 4. Where sliding doors are used as a required exit, the clear opening shall be at least ~~30~~ 29 inches wide and be at least 76 inches high.

(8) (b) Balconies shall be provided with ~~guardrails~~ guards in accordance with s. SPS 321.04 (3).

(c) 1. The balcony ~~guardrail~~ guard shall terminate no more than 46 inches above the floor level of the balcony.

3. The floor of the balcony shall have minimum dimensions of 3 feet by 3 feet. The ~~guardrail~~ guard and its supports may infringe on the dimensions of the required area.

SECTION 36. SPS 321.03 (11) is created to read:

SPS 321.03 (11) EXITS TO COURTYARDS. No exit may discharge to a courtyard having a perimeter that is entirely enclosed by exterior building walls or other obstructions that prevent pedestrian passage.

SECTION 37. SPS 321.04 (1) (a) 2., (2) (a) 1. and (c) 4. a. and b., and (3) (title) and (a) 1. to 5. are amended to read:

SPS 321.04 (1) (a) 2. Tub access ~~steps~~ stairs, unless they are an integral part of an approved plumbing product.

(2) (a) 1. Except for spiral staircases under subd. 2., stairways shall measure at least 36 inches in width. Handrails and associated trim may project a maximum of 4.5 inches into the required width at each side of the stairway. The minimum clear width at and below the handrail, including at treads and landings, may not be less than 31.5 inches where a handrail is installed on one side, and 27 inches where handrails are provided on both sides.

(c) 4. a. An individual winder tread may be placed between rectangular treads or at the end of a flight of rectangular treads provided the tread depth is at least 9 inches, when measured at a ~~point~~ distance of 12 inches from the narrow end~~, is equal to the tread depth of the rectangular steps in the flight~~ of the tread or from the inside face of the wall.

b. There may be more than one individual winder tread in a stairway ~~or in a flight of stairs~~.

(3) (title) HANDRAILS AND ~~GUARDRAILS~~ GUARDS.

(a) 1. ~~Stair flights~~ A flight of stairs with more than 3 risers shall be provided with at least one handrail for the full length of the ~~stair~~ flight.

2. ~~Handrails or guardrails~~ Guards shall be provided on all open sides of ~~stair flights~~ stairs consisting of more than 3 risers and on all open sides of areas that are elevated more than 24 inches above the floor or exterior grade.

Note: A handrail provided at 30 to 38 inches above the tread nosing meets the height requirement for a ~~guardrail~~ guard on a stairway.

3. a. Except as provided in subd. 3. b., ~~handrails and guardrails~~ guards shall be constructed to prevent the through-passage of a sphere with a diameter of 4 3/8 inches ~~or larger~~, when applying a force of 4 pounds.

b. The triangular area formed by the tread, riser and bottom rail shall have an opening size that prevents the through-passage of a sphere with a diameter of 6 inches ~~or larger~~, when applying a force of 4 pounds.

c. Rope, cable, or similar materials used in ~~handrail or guardrail~~ guard infill shall be strung with maximum openings of 3½ inches with vertical supports a maximum of 4 feet apart.

4. a. Handrails and ~~guardrails~~ guards shall be designed and constructed to withstand a 200 pound load applied in any direction.

b. Handrail or ~~guardrail~~ guard infill components, balusters and panel fillers shall withstand a horizontally applied perpendicular load of 50 pounds on any one-foot-square area.

c. Glazing used in handrail or ~~guardrail~~ guard assemblies shall be safety glazing.

5. Exterior handrails and ~~guardrails~~ guards shall be constructed of metal, decay resistant or pressure-treated wood, or shall be protected from the weather.

SECTION 38. SPS 321.04 (3) (b) 1. is renumbered SPS 321.04 (3) (b) 1. a. and amended to read:

SPS 321.04 (3) (b) 1. a. Handrails shall be located at least 30 inches, but no more than 38 inches above the nosing of the treads, except as provided in subds. 1. b. to d. Measurement shall be taken from the hard structural surface beneath any finish material to the top of the rail. Variations in uniformity are allowed only when a rail contacts a wall or newel post or where a turnout or volute is provided at the bottom ~~step~~ tread.

SECTION 39. SPS 321.04 (3) (b) 1. b. to d. are created to read:

SPS 321.04 (3) (b) 1. b. A volute, turnout, or starting easing that does not comply with subd. 1. a. may extend over the lowest tread.

c. Transition fittings on handrails may extend above the 38-inch height limit.

d. Where handrail fittings or bendings are used to provide a continuous transition between flights, or at winder treads, or from a handrail to a guard, or at the start of a flight, the height at the fittings or bendings may exceed 38 inches.

SECTION 40. SPS 321.04 (3) (b) 3. a. and b. and (c) (title) and 1. a. are amended to read:

SPS 321.04 (3) (b) 3. 'Winders.' a. Except as provided under subd. 3. b., the required handrail on winder ~~steps~~ stairs shall be placed on the side where the treads are wider.

b. Where all winder ~~steps~~ treads in a flight have a ~~tread~~ depth of at least 9 inches from nosing to nosing measured at a point 12 inches from the narrow end of the tread, the required handrail may be located on either side of the stairway.

(c) (title) ~~*Guardrails*~~ *Guards*.

1. a. All openings between floors, and open sides of landings, platforms, balconies or porches that are more than 24 inches above grade or a floor shall be protected with ~~guardrails~~ guards.

SECTION 41. SPS 321.04 (3) (c) 1. d. is created to read:

SPS 321.04 (3) (c) 1. d. This paragraph does not apply to window wells, egress wells, and retaining walls.

SECTION 42. SPS 321.04 (3) (c) 2. and 3. and (4) (a) 2. and (b) are amended to read:

SPS 321.04 (3) (c) 2. 'Height.' ~~Guardrail~~s Guards shall ~~be located~~ extend to at least 36 inches above the floor or to the underside of a stair handrail complying with s. SPS 321.04 (3) (b). Measurement shall be taken from the hard structural surface beneath any finish material to the top of the ~~rail~~ guard.

3. 'Opening size.' ~~Guardrails~~ Guards shall be constructed to prevent the through-passage of a sphere with a diameter of 4 3/8 inches ~~or larger~~, when applying a force of 4 pounds.

(4) (a) 2. Intermediate landings that connect 2 or more straight flights of stairs, or 2 flights of stairs at a right angle, shall be at least as wide as the ~~stairway~~ treads and shall measure at least 36 inches in the direction of travel.

(b) *Landings at the top and base of stairs.* A level landing shall be provided at the top and base of every stairs except as provided in par (d). The landing shall be at least as wide as the ~~stairs~~ treads and shall measure at least 3 feet in the direction of travel.

SECTION 43. SPS 321.04 (4) (c) 1. is renumbered SPS 321.04 (4) (c), and SPS 321.04 (4) (c) (intro.) and 3., as renumbered, are amended to read:

SPS 321.04 (4) (c) (intro.) *Doors at landings.* Except as provided in ~~subd.~~ subds. 1. ~~a.~~ to ~~c.~~ 3. and par. (d), level landings shall be provided on each side of any door located at the top or base of a ~~stairs~~ stair, regardless of the direction of swing. In the following exceptions, ~~stairways to~~ a stairway between a dwelling and an attached ~~garages~~ garage, ~~carports~~ carport or ~~porches are~~ porch is considered to be an interior ~~stairs~~ stair:

3. A landing is not required between a sliding glass door or an in-swinging glass door and the top of an exterior stairway of 3 or fewer risers.

SECTION 44. SPS 321.04 (4) (c) 2. is renumbered SPS 321.04 (4) (d) 1. and amended to read:

SPS 321.04 (4) (d) 1. The exterior landing, platform, or sidewalk at an exterior doorway shall be located a maximum of 8 inches below the interior floor elevation, be sloped away from the doorway at a minimal rate that ensures drainage, and ~~shall~~ have a length of at least 36 inches in the direction of travel out of the dwelling.

SECTION 45. SPS 321.04 (4) (d) (title) and 2. are created to read:

SPS 321.04 (4) (d) (title) *Exterior landings.*

2. The landing at the base of an exterior stair shall be sloped away from the stair at a minimal rate that ensures drainage.

SECTION 46. SPS 321.045 (4) (c) is renumbered SPS 321.045 (4) (c) 1. and amended to read:

SPS 321.045 (4) (c) 1. Open-sided ramps shall have the area below the handrail protected by intermediate rails or an ornamental pattern to prevent the passage of a sphere with a diameter of 4 3/8 inches ~~or larger~~ when applying a force of 4 pounds, except as provided in subd. 2.

SECTION 47. SPS 321.045 (4) (c) 2. is created to read:

SPS 321.045 (4) (c) 2. This paragraph does not apply to ramps having a walking surface that is less than 24 inches above adjacent grade, if a toe-kick or side rail is provided to 4 inches above the walking surface, and a mid-rail is provided between the toe-kick or side rail and the handrail.

SECTION 48. SPS 321.05 (1) (intro.) is amended to read:

SPS 321.05 (1) (intro.) NATURAL LIGHT. ~~All~~ Each habitable ~~rooms~~ room shall be provided with natural light by means of glazed openings. The area of the glazed openings shall be at least 8% of the net floor area, except under the following circumstances:

SECTION 49. SPS 321.05 (1m) is created to read:

SPS 321.05 (1m) NET FLOOR AREA. For the purposes of subs. (1) and (2), "net floor area" does not include any area with a ceiling height of less than 5 feet.

SECTION 50. SPS 321.05 (2) (a) is renumbered SPS 321.05 (2) (a) 1. and amended to read:

SPS 321.05 (2) (a) 1. Natural ventilation shall be provided to ~~all~~ each habitable ~~rooms~~ room by means of openable doors, skylights or windows. The net area of the openable doors, skylights or windows shall be at least 3.5% of the net floor area of the room, except as provided in subd. 2. Balanced mechanical ventilation may be provided in lieu of openable exterior doors, skylights or windows provided the system is capable of providing at least one air change per hour of fresh outside air while the room is occupied. Infiltration may not be considered as make-up air for balancing purposes.

SECTION 51. SPS 321.05 (2) (a) 2. is created to read:

SPS 321.05 (2) (a) 2. Any area with a ceiling height of less than 5 feet may be excluded from the net floor area.

SECTION 52. SPS 321.05 (3) (intro.) and (a) to (d) are renumbered SPS 321.05 (3) (am) (intro.) and 1.to 4 and SPS 321.05 (3) (a) (intro.), 1. (intro.), and a., as renumbered, are amended to read:

SPS 321.05 (3) (am) (intro.) Except as provided in par. ~~(e)~~ (b), glazing shall consist of safety glass meeting the requirements of ~~CPSC~~ either 16 CFR~~,~~ Part 1201 or ANSI Z97.1 when installed in any of the following locations:

1. (intro.) In any sidelight or glazing adjacent to a door, that meets all of the following:

a. The nearest point of the glazing is within 2 feet of the door when the door is in the closed position.

SECTION 53. SPS 321.05 (3) (e) is renumbered SPS 321.05 (3) (bm) (intro.) and amended to read:

SPS 321.05 (3) (bm) (intro.) Safety glass is not required where ~~the size of an individual pane of glass is 8 inches or less in the least dimension.~~ glazing meets any of the following:

SECTION 54. SPS 321.05 (3) (bm) 1. to 3. are created to read:

SPS 321.05 (3) (bm) 1. The size of an individual pane of glass is 8 inches or less in the least dimension.

2. The safety glass is required by sub. (3) (am) 1. and the only door within 2 feet of the glazing is the fixed panel of a patio door.

3. The safety glass is required by sub. (3) (am) 1. and there is an intervening wall or other permanent barrier between the door and the glazing.

SECTION 55. SPS 321.05 (3) (a) 5. is created to read:

SPS 321.05 (3) (a) 5. In guard assemblies.

SECTION 56. SPS 321.06 is renumbered SPS 321.06 (intro.), (1) (a), and (2), and amended to read:

SPS 321.06 Ceiling height. All habitable rooms, kitchens, hallways, bathrooms and corridors shall have a ceiling height of at least 7 feet~~. Habitable rooms~~, except as follows:

(1) (a) Rooms may have ceiling heights of less than 7 feet provided at least 50% of the room's floor area has a ceiling height of at least 7 feet. Any area with a ceiling height of less than 5 feet may be ignored in this calculation.

(2) Beams and girders or other projections ~~shall not~~ may project to no more than 8 inches below the required ceiling height.

SECTION 57. SPS 321.06 (1) (b) and (3) to (6) are created to read:

SPS 321.06 (1) (b) The 50% limit in par. (a) does not apply to subs. (3) to (6).

(3) The ceiling height extending back from the front edge of a water closet may slope to below 7 feet, but may not go below 5 feet until beyond the back of the water closet.

(4) The ceiling height extending back from the front edge of a lavatory may be less than 7 feet, but may not go below 5 feet until beyond the back of the lavatory.

(5) A ceiling height of less than 7 feet may be provided between the rear rim of a bathtub and a wall of the room abutting that rim, or between the side rim and a room wall abutting that rim.

(6) A ceiling height of less than 7 feet may be provided between the rear wall of a shower stall and a wall of the room abutting that rear wall, or between the side wall of a shower and a room wall abutting that side wall.

Note: Section SPS 384.20 (5) (o) 4. establishes minimum horizontal clearances for water closets, and reads as follows: "A water closet may not be located closer than 15 inches from its center to any side wall, partition, vanity, or other obstruction, nor closer than 30 inches center to center, between water closets. There shall be at least 24 inches clearance in front of a water closet to any wall, fixture or door."

Note: See ch. SPS 384 Appendix for further explanatory material.

SECTION 58. SPS 321.08 Table 321.08 is amended to read:

SPS 321.08 Table 321.08

Between Dwelling And:	**Distance Between Objects[1]**	**Fire Rated Construction[2,5]**
Detached garage, or accessory building on same property	Less than 5 feet	3/4-hour wall[3] 1/3-hour door or window[3]
Another dwelling on same property	Less than 5 feet	3/4-hour wall[4] 1/3-hour door or window[4]
Detached garage, accessory building, or other dwelling on same property	5 to 10 feet	3/4-hour wall[3] ~~No requirement on openings~~ 1/3-hour door or window[3]
Detached garage, accessory building, or other dwelling on same property	More than 10 feet	No requirements
Property Lines	Less than 3 feet	3/4-hour wall 1/3-hour door or window
Property Lines	3 feet or more	No requirements
Zero Lot Line	None	Follow sub. (2) (d) requirements

[1] Distance shall be measured perpendicular from wall to wall or property line, ignoring overhangs.
[2] Fire rated construction shall protect the dwelling from an exterior fire source.
[3] Fire rated construction may be in either facing wall.
[4] Fire rated construction shall be in both facing walls.
[5] The methods for garage separation in par. (a) 1. are examples of ¾ hour wall construction.

SECTION 59. SPS 321.08 (3) (c) is created to read:

SPS 321.08 (3) (c) *Plastic Piping*. Penetrations of a required separation by plastic pipe shall be protected by a penetration firestop system approved by the department and installed as tested in accordance with ASTM E 814 or UL 1479, with a minimum positive pressure differential of 0.01 inch of water (3 pa), and shall have an F rating of not less than the required fire-resistance rating of the assembly penetrated.

SECTION 60. SPS 321.09 (2) (a) (Note) is created to read:

SPS 321.09 (2) (a) **Note:** Wireless interconnectivity is permitted under this paragraph.

SECTION 61. SPS 321.10 (2) (f) is renumbered SPS 321.10 (2) (f) 1.

SECTION 62. SPS 321.10 (2) (f) 2. is created to read:

SPS 321.10 (2) (f) 2. Siding and sheathing in contact with concrete or masonry and within 2 inches above an impervious surface.

SECTION 63. SPS 321.12 is renumbered SPS 321.12 (1) and amended to read:

SPS 321.12 (1) GRADE. The finished grade of the soil shall slope away from the dwelling at a rate of at least ~~½=inch~~ ½ inch per foot for ~~a minimum distance of~~ at least 10 feet~~, or to the lot line, whichever is less~~ except as provided in subs. (2) and (3).

SECTION 64. SPS 321.12 (title), (2), and (3) are created to read:

SPS 321.12 (title) **Drainage.**

(2) OTHER SURFACES. Where the finished surface is impervious, it shall slope away from the dwelling for at least 10 feet at a rate that ensures equivalent drainage.

(3) OBSTRUCTIONS. Where lot lines, walls, slopes, or other barriers prevent having the 10-foot distance in sub. (2), swales or other means shall be provided to ensure equivalent drainage away from the dwelling.

SECTION 65. SPS 321.125 (3) (a) 2. is amended to read:

SPS 321.125 (3) (a) 2. Seven and ½ tons per acre per year where silt, silty clay loam, or silt loam textures are exposed.

SECTION 66. SPS 321.125 (3) (a) 2. (Note) and (b) are repealed.

SECTION 67. SPS 321.126 is repealed.

SECTION 68. SPS 321.15 (1) (e) is renumbered SPS 321.15 (1) (e) 1. and amended to read:

SPS 321.15 (1) (e) 1. Structures supported on floating slabs or similar shallow foundations may not be physically attached to structures that are supported by footings that extend below the frost line unless an isolation joint is used between the structures, except as provided in subd. 2. This isolation shall extend for the full height of the structure.

SECTION 69. SPS 321.15 (1) (e) 2. is created to read:

SPS 321.15 (1) (e) 2. Exterior ramps are not required to comply with subd. 1.

SECTION 70. SPS 321.16 (1) (a) is amended to read:

SPS 321.16 (1) (a) ~~Except as allowed under sub. (2), footings~~ Footings and foundations, including those for ~~ramps~~ landings and stoops, shall be placed below the frost penetration level or at least 48 inches below adjacent grade, whichever is deeper, except as allowed under sub. (2).

SECTION 71. SPS 321.16 (2) (d) is created to read:

SPS 321.16 (2) (d) Subsection (1) (a) does not apply to the footing for a ramp and its handrail posts unless the ramp abuts a frost-protected stoop or landing, in which case only the footing for that abutting end of the ramp is required to have the frost protection under sub. (1) (a), such as by bearing onto the stoop or landing, so that a tripping hazard is not created.

SECTION 72. SPS 321.18 (1) (c) 3. a. is amended to read:

SPS 321.18 (1) (c) 3. a. Structural steel anchor bolts, at least ½ inch in diameter, embedded at least 7 inches into the ~~[concrete or]~~ concrete or grouted masonry with a maximum spacing of 72 inches and located within 18 inches of wall corners.

SECTION 73. SPS 321.18 (1) (c) 3. d. is created to read:

SPS 321.18 (1) (c) 3. d. Alternate foundation anchorage, designed and spaced in accordance with structural analysis and as required to provide equivalent anchorage to the requirements of subd. 3a., is allowable.

SECTION 74. SPS 321.18 (1) (d) 2. c. is amended to read:

SPS 321.18 (1) (d) 2. c. Fastening of the blocking or bridging shall be in accordance with structural analysis or the fastener ~~table printed~~ schedule in ~~the appendix to this code~~ Table 321.02-2.

SECTION 75. SPS 321.18 (1) (d) 2. c. (Note) is created to read:

SPS 321.18 (1) (d) 2. c. **Note:** The floor-framing elements required in this section are intended to provide lateral support to the top of the foundation wall. See s. SPS 321.22 (9) for further requirements relating to floor framing, including for bridging of floor framing to provide restraint against rotation or lateral displacement of the floor framing.

SECTION 76. SPS 321.18 (4) is amended to read:

SPS 321.18 (4) WOOD FOUNDATIONS. Wood foundations shall be designed and constructed in accordance with the wood-foundation standard adopted in Table ~~320.24-2~~ 320.24-6m.

SECTION 77. SPS 321.22 (9) (a) (Note) and (b) (Note) and (10) and (10) (Notes) are created to read:

SPS 321.22 (9) (a) **Note:** This 4:1 ratio means bridging is required for wood-framed floors having nominal 2X10 or deeper solid-sawn-lumber joists, to provide restraint against rotation or lateral displacement.

(b) **Note:** See s. SPS 321.18 (1) (d) for further requirements relating to floor framing, including for bridging or blocking of floor framing to provide lateral support to the top of foundation walls.

(10) SILL PLATES. All of the following requirements apply to a sawn-lumber sill plate with uniform loading that is partially extended beyond the load-bearing surface of a foundation wall in order to put the exterior surface of an upper-lying wall flush with or beyond the exterior surface of insulation that is placed on the outside of the foundation wall:

(a) The center of any anchor bolt shall be set back from the side edge of the sill plate by a distance of at least 4 times the diameter of the bolt.

(b) The thickness of the concrete or mortar cover around any anchor bolt shall comply with ACI 318 section 7.7.

Note: Under ACI 318 section 7.7, the minimum cover for a 5/8-inch-diameter or smaller bolt is 1 1/2 inches.

(c) With wood floor joists that are parallel to the foundation wall, the sill plate may not extend beyond the load-bearing surface of the wall by more than one-half of the nominal thickness of the joist that bears on the sill plate.

Note: As used throughout this chapter and in the standards that the chapter incorporates by reference, the shorter side of the cross-sectional area of a wood member is the thickness of the member. The longer side of the cross-sectional area is the depth, when the longer side is vertical; and it is the width when the longer side is horizontal.

Note: Under sub. (6), wood floor joists that are perpendicular to the foundation wall can extend beyond the foundation wall by a distance of up to the depth of the joist.

Note: Subsection (1) (d) requires a full-width sill plate for floor joists over open-core masonry units.

SECTION 78. SPS 321.24 (3) (e) and (Note) and (f) and (Note) are created to read:

SPS 321.24 (3) (e) For a roof that intersects with an upper-lying head wall and rake wall, such as where a dormer is provided, the vertical metal flashing along the rake wall shall extend down the roof at least one-half inch past the vertical flashing on the head wall.

Note: A head wall as addressed in this paragraph intersects a sloping roof at a horizontal line along the top of a roof segment. A rake wall intersects a sloping roof along the side of a roof segment.

(f) For a roof eave that intersects with a sidewall, the end of the roof flashing shall be installed so that it diverts water away from the sidewall and onto the roof or into the gutter.

Note: See s. SPS 321.26 (8) for further requirements relating to flashing for masonry.

SECTION 79. SPS 321.25 (2m) is created to read:

SPS 321.25 (2m) BOTTOM PLATES. (a) *Masonry foundation walls with open top course.* 1. Where a masonry foundation wall has an open top course, a bottom plate at least as wide as the foundation wall shall be fastened to the foundation.

2. Where anchor bolts are used on a masonry foundation wall with an open top course, the minimum width of an individual piece making up the bottom plate shall be at least 5 1/2 inches.

Note: A sill plate can be made of multiple pieces to achieve the full width.

(b) *Extension beyond the bearing surface.* All of the following requirements apply to a sawn-lumber sill plate with uniform loading that is partially extended beyond the load-bearing surface of a foundation wall in order to put the exterior surface of an

upper-lying wall flush with or beyond the exterior surface of insulation which is placed on the outside of the foundation wall:

1. The center of any anchor bolt shall be set back from the side edge of the sill plate by a distance of at least 4 times the diameter of the bolt.

2. The thickness of the concrete or mortar cover around any anchor bolt shall comply with ACI 318 section 7.7.

Note: Under ACI 318 section 7.7, the minimum cover for a 5/8-inch-diameter or smaller bolt is 1 1/2 inches.

3. Where a stud wall bears directly on a double bottom plate, the plate may not extend more than 1 1/2 inches beyond the load-bearing surface of the foundation wall.

4. Where a stud wall bears directly on a single bottom plate, the plate may not extend more than 1 inch beyond the load-bearing surface of the foundation wall.

SECTION 80. SPS 321.25 (3) (intro.), (a), and (b) are renumbered SPS 321.25 (3) (am), (bm), and (cm).

SECTION 81. SPS 321.25 (3) (am) (title) is created to read:

SPS 321.25 (3) (am) (title) *Headers.*

SECTION 82. SPS 321.25 Table 321.25–A footnote d, Table 321.25–I (title), and Table 321.25–J (title) are amended to read:

SPS 321.25 Table 321.25–A footnote [d]~~Unless supported by structural analysis, use~~ Use of stud heights that range from over 10 feet to 12 feet ~~is limited to where all of the following conditions are met: snow loads do not exceed 25 psf; tributary dimensions for floors and roofs do not exceed 6 feet; spans for floors and roofs do not exceed 12 feet; eave projections do not exceed 2 feet; the bending modulus of elasticity is at least 1,600,000 lbf per square inch; the allowable fiber stress in bending for the wood is not less than 1310 psi as determined by multiplying the AF&PA NDS tabular base design value by the repetitive use factor, and by the size factor for all species except southern pine; utility, standard, stud, and No. 3 grade lumber of any species is not used; and the~~ for bearing and exterior nonbearing walls is prohibited unless supported by structural analysis. The allowable deflection ~~does~~ may not exceed whichever of the following are applicable:

Interior walls and partitions — span height/180.
Exterior walls with plaster or stucco finish — span height/360.
Exterior walls with other brittle finishes — span height/240.
Exterior walls with flexible finishes — span height/120.
Exterior walls with interior gypsum wallboard finish — span height/180.
Any manufacturer-specified limits for any included windows or doors.

Table 321.25–I (Title)

REQUIRED NUMBER OF INTERMITTENT BRACED WALL PANELS ON WALLS PARALLEL TO EACH RECTANGLE SIDE AT EACH FLOOR LEVEL[a,b,c,d,e,f,h,j]

Table 321.25–J (Title)
REQUIRED LENGTH OF CONTINUOUS BRACING ON WALLS PARALLEL TO EACH RECTANGLE SIDE AT EACH FLOOR LEVEL[a,b,c,d,e,g,h,j]

SECTION 83. SPS 321.25 Table 321.25–I footnote j and Table 321.25–J footnote j are created to read:

SPS 321.25 Table 321.25–I footnote [j] Any floor, habitable or otherwise, that is contained wholly within the roof rafters or roof trusses is exempt from being considered a floor for purposes of determining wall bracing if the top-of-wall-to-ridge height does not exceed 20 feet and if no opening in the roof exceeds 48 inches in height.

Table 321.25–J footnote [j] Any floor, habitable or otherwise, that is contained wholly within the roof rafters or roof trusses is exempt from being considered a floor for purposes of determining wall bracing if the top-of-wall-to-ridge height does not exceed 20 feet and if no opening in the roof exceeds 48 inches in height.

SECTION 84. SPS 321.25 (8) (a) (Note) [2] is created to read:

SPS 321.25 (8) (a) **(Note)** [2]: For a walk-out basement where some of the walls are concrete and other walls or portions thereof are wood-framed, the Department considers a minimum 8-inch-nominal-thickness poured-in-place concrete basement wall as being equivalent in lateral load and shear resistance to any of the allowable wood-framed wall bracing materials. To determine the required bracing for a walk-out basement, first draw a rectangle around the entire floor plan and projections as if all of the walls are wood-framed. Determine the required bracing amounts per the chosen bracing material and method and then locate the bracing to meet the requirements of Figure 321.25-C. Any required braced wall panel locations that occur on a wall or portion of a wall that is actually of poured-in-place concrete construction is considered equivalent, and that amount of bracing will count towards the minimum required amount and will not need to be provided in another location on that rectangle side.

SECTION 85. SPS 321.26 (8) (Note) is created to read:

SPS 321.26 (8) Note: See s. SPS 321.24 (3) for further requirements relating to flashing for masonry.

SECTION 86. SPS 321.27 (4) (d) is amended to read:

SPS 321.27 (4) (d) *Bearing.* The required bearing for wood rafters shall be in accordance with the NDS adopted in Table ~~320.24-2~~ 320.24-6m, except in no case shall the bearing be less than 1½ inches on wood or metal or less than 3 inches on masonry or concrete.

SECTION 87. SPS 321.28 (3) (a) 2. is amended to read:

SPS 321.28 (3) (a) 2. Each shingle package shall be labeled by the manufacturer to indicate conformance to the applicable ASTM standard for each type of shingle or the exception in par. ~~(c)~~ (b).

SECTION 88. SPS 321.28 (3) (a) 6. is created to read:

SPS 321.28 (3) (a) 6. All fasteners for shingles shall be corrosion-resistant.

SECTION 89. SPS 321.28 (3) (a) (Note) [2] and (b) are repealed

SECTION 90. SPS 321.28 (7) (c) is renumbered to (7) (c) (intro.) and 1. and amended to read:

SPS 321.28 (7) (c) *Flashing of closed valleys.* Where shingles are laced or woven over the valley, the valley shall be flashed with ~~at~~ one of the following:

1. At least one layer of 50-pound roofing, at least 20 inches wide, over a layer of number 15 roofing underlayment.

SECTION 88. SPS 321.28 (7) (c) 2. is created to read:

2. A product labeled as meeting the requirements of ASTM D1970.

SECTION 91. SPS 322.01 (3) is renumbered SPS 322.01 (3) (a).

SECTION 92. SPS 322.01 (3) (b) is created to read:

SPS 322.01 (3) (b) The vapor retarder requirements under s. SPS 322.38 do not apply to an unheated space, such as an attached, unheated garage.

SECTION 93. SPS 322.01 (3) (Note) is repealed.

SECTION 94. SPS 322.20 (6) is repealed.

SECTION 95. SPS 322.21 (3) (b) is amended to read:

SPS 322.21 (3) (b) The protective covering shall cover the exposed exterior insulation and extend a minimum of ~~6~~ 2 inches below grade, except the covering is not required below a brick ledge.

SECTION 96. SPS 322.31 Table 322.31–4 is amended to read:

TABLE 322.31-4
COMPONENT DWELLING THERMAL ENVELOPE REQUIREMENTS FOR DWELLINGS USING LOWER EFFICIENCY APPLIANCES[a]

Fenestration U-Factor	Skylight U-Factor	Ceiling R-Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement or Crawl Space Wall R-Value[b]	Heated Slab R-Value[c]	Unheated Slab R-Value[d]
0.30	0.60	49[e]	21[f] or 19+5[g]	19	30[h]	15/19	10/20	15
Equivalent U-Factors								
0.30	0.60	~~0.26*~~ 0.026	0.057	0.057	0.033	0.045	0.033	0.047

~~* **Note:** The correct number is .026. An error was discovered in the rule order after completion of the rule−making process.~~

[a] R−values are minimums. U−factors are maximums.

[b] The first R−value applies to continuous insulation. The second R−value applies to framing cavity insulation.

[c] The first R−value applies under the entire slab, regardless of depth below grade. The second R−value applies to the slab edge. Slab edge insulation shall extend downward from the top of the slab for a minimum of 48 inches or downward to at least the bottom of the slab and then horizontally to the interior or exterior for a minimum total distance of 48 inches.

[d] The R−value applies to the slab perimeter insulation, where the bottom of the slab is less than 12 inches below adjacent grade. Slab edge insulation shall extend downward from the top of the slab for a minimum of 48 inches or downward to at least the bottom of the slab and then horizontally to the interior or exterior for a minimum total distance of 48 inches. Also, see s. SPS 321.16 for protection against frost for slabs with supports less than 4 feet below grade.

[e] See s. SPS 322.32 (1) for application and permitted reduced R−value.

[f] R−21 may be compressed into a 2X6 cavity.

[g] "19+5" means R−19 cavity insulation plus R−5 insulated sheathing. If structural sheathing covers 25% or less of the exterior, insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25% of the exterior, structural sheathing shall be covered with insulated sheathing of at least R−2.

[h] Or insulation sufficient to fill the framing cavity with a minimum of R−19.

SECTION 97. SPS 322.31 Table 322.31–4 (Note) is repealed:

SECTION 98. SPS 322.32 (1) is renumbered SPS 322.32 (1) (a).

SECTION 99. SPS 322.32 (1) (b) is created to read:

SPS 322.32 (1) (b) An attic-access cover shall be provided either with foam insulation having a thermal resistance of at least R–20 or with fiberglass insulation having a thermal resistance of at least R–38.

SECTION 100. SPS 322.32 (9) is renumbered SPS 322.32 (9) (a).

SECTION 101. SPS 322.32 (9) (b) is created to read:

SPS 322.32 (9) (b) The vertical and flared walls in a skylight shall meet the insulation requirements for walls. Tube skylights shall be insulated per the manufacturer's recommendations.

SECTION 102. SPS 322.33 (1) is renumbered SPS 322.33 (1) (a) and amended to read:

SPS 322.33 (1) (a) Any heated or unheated slab floor, the bottom of which is less than 12 inches below adjacent grade, shall be provided with perimeter insulation in accordance with Table 322.31-1 or Table 322.31-4, except as provided in par. (b).

SECTION 103. SPS 322.33 (1) (b) and (3) (c) are created to read:

SPS 322.33 (1) (b) At the threshold or the base of any door opening that leads directly to the exterior of the structure, the vertical perimeter insulation shall be at least R-5, excluding all garage doors.

(3) (c) Insulation on a foundation wall for a basement may be interrupted at the junction with a foundation wall.

SECTION 104. SPS 322.34 (2) (d) is amended to read:

SPS 322.34 (2) (d) The edges of the vapor retarder shall extend at least 6 inches up the foundation wall and shall be attached and sealed to the foundation wall or insulation.

SECTION 105. SPS 322.38 (1) (b) is renumbered SPS 322.38 (1) (b) 1. and amended to read:

SPS 322.38 (1) (b) 1. The vapor retarder shall be continuous. All joints in a vapor retarder consisting of sheet material shall be overlapped 6 inches and taped or sealed, except as provided in subd. 2. Rips, punctures, and voids in the vapor retarder shall be patched with vapor retarder materials and taped or sealed. Seams that are not over a framing member shall be taped or sealed.

SECTION 106. SPS 322.38 (1) (b) 2. is created to read:

SPS 322.38 (1) (b) 2. Taping or sealing a vapor retarder is not required around doors and windows, behind bathtub enclosures, and at top and bottom wall plates, if the retarder is held to those materials in an airtight manner by other building components, such as gypsum wallboard.

SECTION 107. SPS 322.38 (2) (c) 4. is amended to read:

SPS 322.38 (2) (c) 4. No vapor retarder is required over cavities that ~~are insulated solely with~~ have at least 50% of the required R-value provided by spray-applied foam having a perm rating of 1.0 or less, unless required by the foam manufacturer.

SECTION 108. SPS 322.38 (2) (c) 4. (Note) is repealed.

SECTION 109. SPS 322.38 (2) (c) 5. is created to read:

SPS 322.38 (2) (c) 5. A vapor retarder for a floor over an open, unheated area may consist of 5/8-inch tongue-and-groove oriented-strand board, or 3/4-inch tongue-and-groove CDX plywood, which is exposure-rated plywood.

SECTION 110. SPS 322.42 (1m) is created to read.

SPS 322.42 (2) Cooling supply ducts that pass through unconditioned spaces conducive to condensation, such as attics, shall be provided with insulation having a thermal resistance of at least R–8. The exterior of that insulation shall be covered with a vapor retarder that meets the requirements in s. SPS 322.38 (1)

SECTION 111. SPS 323.04 Table 323.04–A footnote 5 is amended to read:

SPS 323.04 Table 323.04–A footnote [5]To combustible material or metal cabinets. If the underside of such combustible material or metal cabinet is protected with asbestos millboard at least 1/4-inch thick covered with sheet metal of not less than No. 28 gauge, the distance may be not less than 24 inches. Also, if the manufacturer of the range, cooktop, or cooking stove specifies a shorter clearance, that clearance may be used instead.

SECTION 112. SPS 323.04 (4) is renumbered SPS 323.04 (4) (a).

SECTION 113. SPS 323.04 (4) (b) and (Note) [2] are created to read:

SPS 323.04 (4) (b) Solid fuel-fired water-heating appliances installed inside one or two family dwellings are exempt from the requirements of s. SPS 341.49 (3).

Note [2]: The appliances addressed in this section include non-pressurized solid-fuel-fired water-heating appliances used for space heating.

SECTION 114. SPS 323.045 (5) (a) is renumbered SPS 323.045 (5).

SECTION 115. SPS 323.045 (5m) is created to read:

SPS 323.045 (5m) MOUNTING ON THE GROUND. Ground-based solid-fuel-burning appliances shall be installed in accordance with the manufacturer's specifications.

SECTION 116. SPS 323.045 (6) (a) (title) is created to read:

SPS 323.045 (6) (a) (title) *General.*

SECTION 117. SPS 323.045 (6) (a) (intro.) is renumbered SPS 323.045 (6) (a) and amended to read:

SPS 323.045 (6) (a) Solid-fuel-burning appliances shall be installed with clearances not less than specified in Table 323.045-D, except as provided in pars. (b) and (c).

SECTION 118. SPS 323.045 (6) (a) 1. and 2. are renumbered SPS 323.045 (6) (b) and (c).

SECTION 119. SPS 323.045 (8) (intro.) is amended to read:

SPS 323.045 (8) (intro.) SUPPLEMENTAL UNITS. Supplemental solid-fuel-burning units connected to a furnace shall be connected to the warm air side of the furnace as illustrated in Figures 323.045-C to E~~.~~, and shall be installed in accordance with all of the following:

SECTION 120. SPS 323.06 (1) (d) to (f) are created to read:

SPS 323.06 (1) (d) Listed fireplace stoves are not required to comply with this section if permitted in the manufacturer's instructions.

(e) Masonry fireplaces shall conform to the requirements of s. SPS 321.29.

(f) Listed factory-built fireplaces shall comply with the manufacturer's recommendations and shall conform with the requirements of s. SPS 321.32.

SECTION 121. SPS 323.14 (1) is renumbered SPS 323.14 (1) (a).

SECTION 122. SPS 323.14 (1) (b) is created to read:

SPS 323.14 (1) (b) Plastic pipes and fittings used in venting flue gas shall bear the manufacturer's identification data.

SECTION 123. SPS 323.14 (2) (a) is renumbered SPS 323.14 (2) (a) 2. and amended to read:

SPS 323.14 (2) (a) 2. Gas-fired clothes dryers shall be provided with metal venting ~~that terminates outside the structure~~.

SECTION 124. SPS 323.14 (2) (a) 1. is created to read:

SPS 323.14 (2) (a) 1. All venting for clothes dryers, including for electric dryers, shall be rigid and smooth-walled. The connection to the dryer shall be made in accordance with the manufacturer's recommendations.

SECTION 125. SPS 323.16 (2) (a) is amended to read:

SPS 323.16 (2) (a) The total oil storage capacity inside any dwelling unit shall be limited to 550 gallons in one tank, or not more than 275 gallons in each of 2 tanks cross−connected to a single burner.

SECTION 126. SPS 325.01 is renumbered SPS 325.01 (1) and amended to read:

SPS 325.01 (1) The design, construction, and installation of plumbing shall comply with the requirements of the Wisconsin Plumbing Code, chs. SPS 382 to 387, except as provided in this section.

SECTION 127. SPS 325.01 (1) (title) and (2) to (4) are created to read:

SPS 325.01 (title) GENERAL.

(2) TANKLESS WATER HEATERS. (a) The minimum flow rate of a tankless type water heater may be obtained by multiplying 0.65 by the calculated hot water gallons per minute demand, as determined by SPS 382 Tables 382.40–1b and 382.40–3, provided the heater will achieve a water temperature of 110° F at the terminal fitting or faucet.

(b) The sizing method in par. (a) may not be used for sizing a water heater serving a high-flow fixture, a hose bibb, a hydrant, or a fixture that is required to have a supply line with a diameter larger than one-half inch.

(c) For the purposes of this subsection, "high-flow fixture" means a fixture with a flow rate of more than 4 gallons per minute, at 80 pounds per square inch, and a water velocity not exceeding 8 feet per second.

(3) LOCAL WASTE PIPING. A trap may be omitted in local waste piping having a length of up to 20 feet.

(4) FLOOR DRAINS FOR GARAGES. (a) A trap may be omitted for a garage-floor drain that discharges to the ground surface.

(b) The sediment trap for a garage-floor drain shall be removable.

(c) The grate for a garage-floor drain may be nonmetallic if it has a thickness and strength that will withstand the anticipated loads.

SECTION 128. SPS 320 to 325 Appendix, Minimum Fastener Schedule Table is renumbered SPS 321.02 (3) (h) Table 321.02-2 and amended to read:

SPS 321.02 (2) (h) Table 321.02-2
MINIMUM FASTENER SCHEDULE TABLE

Other interior and exterior panel products and finishes installed per manufacturer requirements. For engineered connectors, use manufacturer's specified fasteners.

Description of Building Materials/Connection	**Number and Type of Fastener[1 2 3]**
Floor Framing	
Joist to joist, face nailed over support	~~2−12d~~ 3−8d
Joist to sill or girder, toe nail	~~2−16d,~~ 3−8d
Band or rim joist to joist, end nail	3−16d
Band or rim joist to sill or top plate	2−16d at 16" o.c.
Bridging to joist, toe nail each end	2−8d
Built−up girder and beams, top loaded	10d at 32" o.c. at top and bottom and staggered and two at ends and at each splice
Built−up girder and beams, side−loaded	16d at 16" o.c. at top and bottom and staggered and two at ends and at each splice

Ledger strip to beam, face nail	3−16d each joist
Joist on ledger to beam, toe nail	3−8d
Wall Framing	
Sole plate to joist or blocking, face nail	2−16d at 16” o.c.
Top or sole plate to stud, end nail	2−16d
Stud to sole plate, toe nail	~~4−8d~~ 3−8d or ~~3−16d~~ 2–16d
Doubled studs, face nail	~~16d~~ 10d at 24” o.c.
Doubled top plates, face nail	~~16d~~ 10d at ~~16”~~ 24” o.c.
Doubled top plates, minimum 24-inch offset of end joints, face nail in lapped area	8–16d
Top plates, laps and intersections, face nail	~~2−16d~~ 2–10d
Continuous header, two pieces	16d at 16” o.c. along each edge
Continuous header to stud, toe nail	4−8d
1” corner brace to each stud and plate, face nail	2−8d or 2 staples, 1¾”
Built-up corner studs	~~16d at 30” o.c., 16d~~ 10d at 24” o.c.
Roof/Ceiling Framing	
Ceiling joists to plate, toe nail	~~2−16d,~~ 3−8d
Ceiling joist, laps over partitions, face nail	~~3−16d~~ 3–10d
Ceiling joist to parallel rafters, face nail	3−16d
Rafter to plate, toe nail (maximum 6 rafter span, engineered connector for longer)	2−16d~~, 3−8d~~
Roof rafters to ridge, valley or hip rafters, toe nail	4−16d
Roof rafters to ridge, valley or hip rafters, face nail	3−16d
Collar ties to rafters, face nail	3−8d
Boards and planks	
1” x 6” subfloor or less to each joist, face nail	2−8d or 2 staples, 1¾”
Wider than 1” x 6” subfloor toe to each joist, face nail	3−8d or 4 staples 1¾”
2” subfloor to joist or girder, blind and face nail	2−16d
1” x 6” roof or wall sheathing to each bearing, face nail	2−8d or 2 staples, 1¾”
1” x 8” roof or wall sheathing to each bearing, face nail	2−8d or 3 staples, 1¾”
Wider than 1” x 8” roof sheathing to each bearing, face nail	3−8d or 4 staples, 1¾”
2” planks	2−16d at each bearing

Panel Sheathing

Material	Fastener	Spacing of Fastener	
		Edges	Intermediate Supports
Engineered wood panel for sub-floor and roof sheathing and wall corner wind bracing to framing			
$^{5}/_{16}$” to ½”	6d common or deformed nail or staple, 1½”	6”	12” [4]
$^{5}/_{8}$” to ¾”	8d smooth or common, 6d deformed nail, or staple, 14 ga. 1¾”	6”	12” [4]
$^{7}/_{8}$” to 1”	8d common or deformed nail	6”	12”
$1^{1}/_{8}$” to 1 ¼”	10d smooth or common, or 8d deformed nail	6”	12”
Combination subfloor/ underlayment to framing			
¾” or less	6d deformed or 8d smooth or common nail	6”	12”
$^{7}/_{8}$” to 1”	8d smooth, common or deformed nail	6”	12”

1 $^{1}/_{8}$" to 1 ¼"	10d smooth or common or 8d deformed nail	6"	12"
Wood panel siding to framing			
½" or less	6d corrosion−resistant siding and casing nails	6"	12"
$^{5}/_{8}$"	8d corrosion−resistant siding and casing nails	6"	12"
½" structural cellulosic fiberboard sheathing	1½" galvanized roofing nail; 8d common nail; staple 16 ga., 1½" long	3"	6"
$^{25}/_{32}$" structural cellulosic fiberboard sheathing	1¾" galvanized roofing nail; 8d common nail; staple 16 ga., 1¾" long	3"	6"
½" gypsum sheathing[5]	1½" galvanized roofing nail; 6d common nail; staple galvanized 1½" long; 1¼" screws, Type W or S	4"	8"
$^{5}/_{8}$" gypsum sheathing	1¾" galvanized roofing nail; 8d common nail; staple galvanized 1 $^{5}/_{8}$" long; 1 $^{5}/_{8}$" screws, Type W or S	7"	7"

[1] All nails are smooth−common, box or deformed shank except where otherwise stated.

[2] Nail is a general description and may be T−head, modified round head or round head.

[3] Staples are 16−gauge wire, unless otherwise noted, and have a minimum $^{7}/_{16}$" o.d. crown width.

[4] Staples shall be spaced at not more than 10" o.c. at intermediate supports for floors.

[5] Apply vertically 4' x 8' or 4' x 9' panels.

NOTE to LRB: Remove Fastener Schedule from the UDC Appendix Table of Contents

SECTION 129. EFFECTIVE DATE. The rules adopted in this order shall take effect on the first day of the month following publication in the Wisconsin administrative register, pursuant to s. 227.22 (2) (intro.), Stats.

(END OF TEXT OF RULE)

Dated _____ Agency _____

(Member of the Board or Secretary)
(board or department name)