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CAROL OWENS
WISCONSIN STATE REPRESENTATIVE

Assembly Housing Committee

MEMO

To: Members of The Assembly Housing Committee

From: Representative Carol Owens, Chair

Date: July 25, 1995

The following Clearinghouse rule has been referred to the Assembly Housing Committee:

Rule No. 94-172: AN ORDER to . . . relating to the uniform dwelling code.

Enclosed is a copy of the rule. The deadline for committee action on this rule is August 24, 1995. If you are interested in requesting a hearing and/or submitting comments, please do so prior to that date.

State of Wisconsin \ Department of Industry, Labor and Human Relations

RULES in FINAL DRAFT FORM

Rule No.: Chapters ILHR 20-25

Relating to: Uniform Dwelling Code

Clearinghouse Rule No.: 94-172

The Wisconsin Department of Industry, Labor and Human Relations proposes an order to repeal ILHR 21.02 (3) (c) 2. Note, ILHR 21.08 (3) (a), ILHR 21.08 (5) (d), ILHR 21.18 (intro.), TABLE 21.18, TABLE 21.22-A, ILHR 21.26 (14), ILHR 22.19, and ILHR 22.20;

to renumber ILHR 20.04 (2) and (3), ILHR 20.07 (62), ILHR 21.08 (3) (b) and (c), ILHR 21.08 (5) (e), ILHR 21.09 (2) and (3), and ILHR 21.18 (1) to (3);

to renumber and amend ILHR 20.09 (2), ILHR 21.02 (3) (e), and ILHR 21.125 (3) (b) Note;

to amend ILHR 20.02 (1) (a), ILHR 20.05 (3), ILHR 20.07 (4), ILHR 20.09 (2) (title), ILHR 20.09 (3), ILHR 20.09 (7), ILHR 20.14 (1), ILHR 20.14 (2) (a) 2., ILHR 20.18 (1), ILHR 20.19 and (title), ILHR 21.02 (3) (b), ILHR 21.03 (7) (title), ILHR 21.03 (8), ILHR 21.042 (6) (b), ILHR 21.045 (3) (c), ILHR 21.05 (2) (a), ILHR 21.07 (1), ILHR 21.08 (5) (a) (intro.), ILHR 21.08 (6), ILHR 21.10 (1) (a), ILHR 21.10 (1) (b), ILHR 21.10 (3), ILHR 21.11 (1) (d), ILHR 21.11 (2) and Note, ILHR 21.125 (1) (a), ILHR 21.125 (1) (b), ILHR 21.15 (1) (title), ILHR 21.15 (1) (e), ILHR 21.16 (1), TABLE 21.18-A, ILHR 21.18 (3) (b), ILHR 21.18 (4) (intro.), ILHR 21.18 (4) (b), ILHR 21.22 (5) (a) (title), ILHR 21.22 (5) (b) and title, TABLE 21.25-D, ILHR 21.26 (5) (c), ILHR 21.26 (7) (a) 3., ILHR 21.26 (7) (a) 4., ILHR 21.26 (7) (b), ILHR 22.05 (1) (c), ILHR 22.05 (1) (d) Note, ILHR 22.11 (1) (c), TABLE 23.045-C, ILHR 23.08 (2) (a) 3., ILHR 23.08 (2) (b) 15., ILHR 23.08 (3) (a), ILHR 23.08 (4), and ILHR 25.01;

to repeal and recreate ILHR 20.04 (1), ILHR 20.06 (1) (c) Note, ILHR 20.24, ILHR 21.03 (10) (a), ILHR 21.04, ILHR 21.25 (1) (c), ILHR 21.26 (2), ILHR 21.27 (3) (a), ILHR 21.30 (8), ILHR 21.30 (9), ILHR 22.05 (3) (a), ILHR 23.02 (3), ILHR 23.12, ILHR 23.14;

and to create ILHR 20.04 (2), ILHR 20.04 (5), ILHR 20.06 (2) Note 1, ILHR 20.06 (2) Note 2, ILHR 20.07 (26), ILHR 20.07 (62), ILHR 20.07 (78m), ILHR 20.09 (2) (b), ILHR 20.09 (3) (c), ILHR 20.09 (5) (c) Note, ILHR 20.10 (1) (b) 5., ILHR 21.02 (3) (a) 3., ILHR 21.03 (1) Note, ILHR 21.08 (6) (c) to (e), ILHR 21.09 (2), ILHR 21.10 (1) (g), ILHR 21.125 (3) (b) Note 2, ILHR 21.18 (1), ILHR 21.18 (3) (e), ILHR 21.203, ILHR 21.22 (5) (c), TABLE 21.22-A1, TABLE 21.22-A2 Footnote 5, TABLE 21.25-F, ILHR 21.27 (6) (c), and ILHR 23.11 (3), relating to the Uniform Dwelling Code.

ANALYSIS OF PROPOSED RULES

Statutory authority: ss. 101.02 (1), 101.19 (1), 101.63 (1), 101.653 (2) and (2m), 101.64 (3), and 101.73 (1) to (3), Stats.

Statutes interpreted: ss. 101.63 (1) and (5), 101.64 (3), 101.653 (7) and 101.73 (1) to (3), Stats.

In accordance with s. 101.63 (5), Stats., the department has the responsibility to review the Uniform Dwelling Code every two years. This set of proposed changes to update the code is based on the latest review. Many of the proposed changes were submitted by users of the code, state enforcement and inspection staff, and local building inspectors. Many of the changes are nonsubstantive: code sections are reworded for clarity; tables are corrected or reformatted; and typographical errors are corrected. Other changes are intended to take out unnecessary or repetitive requirements, recognize new technology and reflect changes in national standards on which some requirements are based.

The following is a summary of the major changes included in the hearing draft.

Chapter ILHR 20
Administration and Enforcement

ILHR 20.04 (2) clarifies that additions and alterations to dwellings must comply with the code if construction of the dwelling was covered by the code.

ILHR 20.04 (5) adds the requirement that barns converted to dwellings must comply with the code.

ILHR 20.05 (3) clarifies that repairs are not covered under the code.

ILHR 20.07 (62) adds definitions of shingle terms.

ILHR 20.09 (3) (c) states that counties performing construction site erosion inspections must submit seal fees to the department.

ILHR 20.09 (7) states that a municipality may not exceed a ten day processing time for a uniform building permit application once other permitting requirements, such as landmarks, are completed.

ILHR 20.24 is updated so the required standard is the most recent one available from the issuing body.

Chapter ILHR 21
Construction Standards

ILHR 21.02 (3) (a) 3. states that engineered wood products must be used in accordance with load tables developed through testing or structural analysis.

ILHR 21.03 (8) adds garages to the list of interior circulation areas that require a wider door.

ILHR 21.04 (intro.) adds Bilco-type doors and stairs used as nonrequired basement exits to the list of stairs that are not required to comply with the stair configuration requirements.

ILHR 21.04 (2) (c) 1. and 21.04 (3) (c) 2. clarify that measurements for handrail height are taken from the solid stair surface beneath any carpeting or similar material.

ILHR 21.05 (2) (a) states that mechanical ventilation used in place of openable doors or windows must be balanced and must provide at least one air change per hour of fresh outside air.

ILHR 21.07 exempts attics with less than 150 square feet or less than 30 inches of height from the requirement of providing access.

ILHR 21.08 (6) clarifies the requirements for fire separation between living units in a duplex.

ILHR 21.09 (2) requires a smoke detector adjacent to each sleeping area as well as on each floor level.

ILHR 21.18 (3) (e) clarifies dampproofing options for masonry foundation walls.

ILHR 21.26 is updated to reflect changes in brick and block application practices.

ILHR 21.27 (3) (a) adopts new roofing product standards to address quality complaints.

ILHR 21.30 (9) adopts the clearance to combustibles requirements from the national fire prevention codes.

Chapter ILHR 22
Energy Conservation

ILHR 22.19 and ILHR 22.20 regarding equipment efficiencies and electronic ignition of appliances are repealed because they have been superceded by federal regulations.

Chapter ILHR 23
Heating, Ventilating and Air Conditioning Standards

ILHR 23.02 (3) (c) allows bathroom ventilation at the rate of 20 cubic feet per minute on a continuous basis to allow the installation of mechanical ventilation systems.

ILHR 23.11 (3) requires vents to be sized adequately for the appliances currently connected to them.

ILHR 23.14 requires the use of metal vent pipes for gas-fired appliances unless the manufacturer specifically allows other materials.

UNIFORM DWELLING CODE COUNCIL MEMBERSHIP

The members of the Uniform Dwelling Code Council who advised the department in the development of the proposed rules are listed below along with the groups they represent.

James Cauley	Public
Joseph Chudnow & David Crocker	Building Contractors
Thomas DeGarmo	Labor
Dennis Dorn	Material Suppliers
Reimar Frank	Architects
John Griebler	Building Inspectors
Howard Gygax	Building Inspectors
James Korotev	Building Inspectors
Len Linzmeier	Housing Manufacturers
Garry Nelson	Material Suppliers
William Roehr	Labor
Randolph Thelen	Building Contractors
Frank Weeks	Housing Manufacturers
Christine Wilson	Building Inspectors

SECTION 1. ILHR 20.02 (1) (a) is amended to read:

ILHR 20.02 (1) (a) ~~No~~ A municipality ~~shall~~ may not adopt an ordinance on any subject falling within the scope of this code including~~,~~ ~~but not limited to,~~ establishing restrictions on the occupancy of dwellings for any reason other than noncompliance with the provisions of this code as set forth in s. ILHR 20.10 ~~(3)~~ (1) (c). This code does not apply to occupancy requirements occurring after the first occupancy for residential purposes following the final inspection ~~referred to in~~ required under s. ILHR 20.10 (1) (b) ~~3~~ 4.

SECTION 2. ILHR 20.04 (1) is repealed and recreated to read:

ILHR 20.04 (1) NEW DWELLINGS. This code applies to all dwellings, dwelling units and foundations for dwelling units, for which the building permit application was made or construction commenced on or after the effective date of this code.

SECTION 3. ILHR 20.04 (2) and (3) are renumbered (3) and (4).

SECTION 4. ILHR 20.04 (2) is created to read:

ILHR 20.04 (2) ADDITIONS OR ALTERATIONS. Additions or alterations to dwellings covered by this code shall comply with all provisions of this code, including the soil erosion provisions, at the time of permit application for addition or alteration.

SECTION 5. ILHR 20.04 (5) is created to read:

ILHR 20.04 (5) CHANGE OF USE. A building previously used for another purpose, such as a barn or garage, shall comply with this code upon conversion to residential use.

SECTION 6. ILHR 20.05 (3) is amended to read:

ILHR 20.05 (3) REPAIRS. The provisions of this code do not apply to repairs or maintenance to dwellings or dwelling units, or to the repair of electrical, plumbing, heating, ventilating, air conditioning and other systems installed therein.

SECTION 7. ILHR 20.06 (1) (c) Note is repealed and recreated to read:

ILHR 20.06 (1) (c) Note: A copy of a model ordinance for adoption is available from the department.

SECTION 8. ILHR 20.06 (2) Note 1 is created to read:

ILHR 20.06 (2) Note 1: Section 101.651 (3m) and (3s), Stats., allows counties to adopt just the provisions of this code relating to construction site erosion control.

SECTION 9. ILHR 20.06 (2) Note 2 is created to read:

ILHR 20.06 (2) Note 2: Sections 101.651 (3m) and (3s), Stats., state that counties with a uniform dwelling code erosion control ordinance enforcement program shall enforce the erosion control ordinance provisions on a county-wide basis in all townships which have not adopted the Uniform Dwelling Code and may do so in cities and villages which have not adopted the Uniform Dwelling Code.

SECTION 10. ILHR 20.07 (4) is amended to read:

ILHR 20.07 (4) "Alteration" means ~~a~~ an enhancement, upgrading or substantial change or modification other than an addition or repair to a dwelling or to electrical, plumbing, heating, ventilating, air conditioning and other systems ~~involved~~ within a dwelling.

SECTION 11. ILHR 20.07 (26) is created to read:

ILHR 20.07 (26) "Dwelling contractor" means any person, firm or corporation engaged in the business of performing erosion control or construction work such as framing, roofing, siding, insulating, masonry or window replacement work covered under this code and who takes out a building permit. "Dwelling contractor" does not include the owner of an existing dwelling, an owner who will reside in a new dwelling or a person, firm or corporation engaging exclusively in electrical, plumbing, or heating, ventilating and air conditioning work.

Next Section is Numbered 13

SECTION 13. ILHR 20.07 (62) is renumbered (73r).

SECTION 14. ILHR 20.07 (62) is created to read:

ILHR 20.07 (62) "Shingle" means a unit of roof covering material that has been manufactured to specific dimensions and is applied in overlapping fashion. 'Shingle' includes all of the following:

(a) "Fiberglass asphalt shingle" means a type of shingle with an internal mat composed of nonwoven, resin-bonded glass fibers, that is impregnated and coated with asphalt.

(b) "Laminated shingle" means a shingle with a second layer of asphalt and mat laminated to the first layer, usually in a design pattern to simulate the dimensional appearance of natural slate or wood shakes.

(c) "Organic asphalt shingle" means a shingle with an internal mat composed of organic fibers, such as cellulose, that is saturated and coated with asphalt.

(d) "Strip shingle" means a rectangular shingle that relies either on a sealant or on a combination of weight and stiffness to resist wind uplift, rather than using interlocking tabs.

SECTION 15. ILHR 20.07 (78m) is created to read:

ILHR 20.07 (78m) "Wisconsin Administrative Permit" means a permit issued by a municipality that does not conduct inspections or plan reviews under this code.

SECTION 16. ILHR 20.09 (2) (title) is amended to read:

ILHR 20.09 (2) (title) FILING OF PERMITS.

SECTION 17. ILHR 20.09 (2) is renumbered (2) (a) and amended to read:

ILHR 20.09 (2) (a) (title) Wisconsin uniform building permit application. The Wisconsin uniform building permit application shall be filed with the municipality administering and enforcing this code or its authorized representative. The municipality shall ~~promptly~~ forward a copy of all applications to the department within 30 business days after permit issuance. ~~If no municipality administers and enforces the code, the application shall be filed with the department or its authorized representative.~~ Pursuant to s. 101.65 (1m), Stats., a municipality may not issue a building permit for construction work covered under chs. ILHR 21 and 22 to a dwelling contractor unless the contractor has a dwelling contractor financial responsibility certification issued by the department.

Note: See s. ILHR 20.07 (26) for the definition of "dwelling contractor".

SECTION 18. ILHR 20.09 (2) (b) is created to read:

ILHR 20.09 (2) (b) Wisconsin administrative permit. The Wisconsin administrative permit shall be filed with the municipality and the department when the dwelling is located in a municipality that does not enforce the code.

SECTION 19. ILHR 20.09 (3) is amended to read:

ILHR 20.09 (3) FEES. (a) Municipal fees. Fees shall be submitted to the municipality at the time the Wisconsin uniform building permit application for new construction is filed. The municipality shall, by ordinance, determine fees to cover expenses of plan examination, inspection and the issuance of the Wisconsin uniform building permit. The municipality shall collect and send to the department the fee for Wisconsin uniform building permits issued for new dwellings in accordance with s. ~~Ind 69.21~~ ILHR 2.34.

(b) Department fees. Where the department administers and enforces the code, the fees for plan examination, inspection, and the issuance of the Wisconsin uniform building permit, in accordance with s. ~~Ind 69.21~~ ILHR 2.34, shall be submitted to the department, or its authorized representative, at the time the Wisconsin uniform building permit application is filed.

SECTION 20. ILHR 20.09 (3) (c) is created to read:

ILHR 20.09 (3) (c) Soil erosion fees. Counties enforcing construction site erosion control provisions of the code shall collect and submit the fee for Wisconsin uniform building permits to the department.

SECTION 21. ILHR 20.09 (5) (c) Note is created to read:

ILHR 20.09 (5) (c) Note: Section 101.63 (7), Stats., requires the name and license number of the master plumber to be identified on the Wisconsin uniform building permit card.

SECTION 22. ILHR 20.09 (7) is amended to read:

ILHR 20.09 (7) ACTION TO APPROVE OR DENY. Action to approve or deny a uniform building permit application shall be completed within 10 business days of receipt of all forms, fees, plans and documents required to process the application, and completion of other local prerequisite permitting requirements.

SECTION 23. ILHR 20.10 (1) (b) 5. is created to read:

ILHR 20.10 (1) (b) 5. 'Erosion control inspection'. Erosion control inspections shall be performed concurrently with all other required construction inspections. Additional inspections for erosion control may be performed by the delegated authority.

SECTION 24. ILHR 20.14 (1) is amended to read:

ILHR 20.14 (1) APPLICATION FOR APPROVAL. An application for the approval of any manufactured dwelling, building system or component shall be submitted to the department, in the form required by the department, along with the appropriate fees in accordance with s. ~~Ind 69.21~~ ILHR 2.34. The department shall review and make a determination on an application for approval of a manufactured dwelling within 3 months of receipt of all forms, fees, plans and documents required to complete the review.

SECTION 25. ILHR 20.14 (2) (a) 2. is amended to read:

ILHR 20.14 (2) (a) 2. 'Compliance assurance program.' Three sets of the compliance assurance program shall be submitted for examination and approval. The compliance assurance program submitted to the department on behalf of the manufacturer shall meet the standards of the ~~NBS "Model Rules and Regulations" [ILHR 20.24 (3)]~~ Model Documents for the Evaluation, Approval, and Inspection of Manufactured Buildings as adopted under s. ILHR 20.24 (8) or ~~their~~ equivalent as determined by the department.

SECTION 26. ILHR 20.18 (1) is amended to read:

ILHR 20.18 (1) ALTERNATE MATERIALS. No provision in this code is intended to prohibit ~~or prevent~~ the use of ~~any~~ an alternate material or method of construction ~~not specifically mentioned in this code~~ if the alternate provides an equivalent level of safety and health protection. Approval of alternate materials or methods of construction shall be obtained from the department. Requests for approval shall be accompanied by a completed material approval application form, the appropriate fee in accordance with s. ILHR 2.51 and evidence showing that the alternate material or method of construction performs in a manner at least equal to ~~or superior to~~ the material or method required by the code. The department may require ~~any~~ claims ~~made~~ regarding the equivalent performance of alternate materials or methods to be substantiated by test.

SECTION 27. ILHR 20.19 and (title) are amended to read:

ILHR 20.19 (title) PETITION FOR VARIANCE. The department may grant ~~an~~ a ~~individual~~ variance to a ~~specific~~ rule only if the ~~granting of such~~ variance does not result in lowering the level of health, safety and welfare established or intended by the ~~specific~~ rule. The department may consider other ~~reasonable~~ criteria in determining whether a variance should be granted including~~, but not limited to,~~ the effect of ~~granting~~ the variance on ~~statewide and local~~ uniformity.

(1) APPLICATION FOR VARIANCE. The applicant shall submit the petition for variance application ~~for variance~~ to the municipality exercising jurisdiction in order to receive the municipal recommendation. Where no municipality exercises jurisdiction, the application shall be submitted to the department. The following items shall be submitted when requesting a variance~~.~~:

(a) A clear ~~and concise~~ written statement of the specific provisions of this code from which a variance is requested ~~together with a specific statement of the procedure and materials to be used if the variance is granted.~~ and the method of establishing equivalency to those provisions;

(b) A fee ~~to be determined by the department or the municipality exercising jurisdiction~~ in accordance with s. ILHR 2.52. ~~Where the~~ The municipality ~~administers the code, the department~~ may require a fee for the processing of the application in addition to ~~any municipal~~ the department's fee.

Note: A copy of the Petition for Variance form ~~(SB-8)~~ (SBD-8) is contained in the Appendix.

(2) MUNICIPAL RECOMMENDATION. The municipality administering and enforcing this code shall submit all applications for variance to the department, together with a municipal recommendation ~~concerning whether or not a variance should be granted~~ within 10 business days ~~excluding Saturdays, Sundays and legal holidays,~~ after ~~the~~ receipt of the application. The recommendation of the municipality shall include~~, but not be limited to,~~ the following items:

(a) ~~What inspections, if any, have actually taken place with regard to the dwelling for which a variance is requested~~ Inspections performed on the property.

(b) ~~Whether or not any correction orders have been issued with regard to the dwelling~~ The issuance of correction orders on the property.

(c) ~~Whether the granting of the variance would substantially affect the health, safety or welfare of any individual within the municipality~~ An assessment of the overall impact of the variance on the municipality.

Note: A copy of the Municipal Recommendation form (SBD-6071) is contained in the Appendix.

(3) DEPARTMENTAL ACTION. Where a municipality administers and enforces the code, the department shall ~~approve or deny applications~~ decide petitions for variance and shall mail ~~said~~ notification to the municipality and the applicant within 5 business days~~, excluding Saturdays, Sundays and legal holidays~~, after receipt of the application ~~for variance~~ and municipal recommendation ~~is received from the municipality~~. Where the department ~~administers and~~ enforces the code, the department shall ~~approve or deny applications~~ decide petitions for variance ~~and shall mail said notification to the applicant~~ within 15 business days~~, excluding Saturdays, Sundays and legal holidays~~, after receipt of the application and fees ~~by the department~~.

(4) APPEALS. ~~Any aggrieved applicant,~~ A person or ~~the~~ municipality ~~administering and enforcing the code,~~ may appeal the determination of the department in the manner set out in s. 101.02 (6) (e) to (i) and (8), Stats.

SECTION 28. ILHR 20.24 is repealed and recreated to read:

ILHR 20.24 ADOPTION OF STANDARDS. Pursuant to s. 227.21 (2), Stats., the attorney general and the revisor of statutes have consented to the incorporation by reference of the following standards. Copies of the standards are on file in the offices of the department, the secretary of state and the revisor of statutes. Copies may be purchased from the organizations listed.

(1) American Concrete Institute (ACI), P.O. Box 19150, Redford Station, Detroit, Michigan 48219.

(a) BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, ACI 318-89;

(b) BUILDING CODE REQUIREMENTS FOR STRUCTURAL PLAIN CONCRETE, ACI 318.1-89.

(2) American Forest & Paper Association, 1250 Connecticut Avenue N.W., Washington, D.C. 20036.

(a) NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, 1991 edition, except for section 4.1.7., including DESIGN VALUES FOR WOOD CONSTRUCTION, 1991, supplement;

(b) THE PERMANENT WOOD FOUNDATION SYSTEM, Basic Requirements, Technical Report No. 7, January, 1987, except for section 3.3.1.

(3) American Institute of Steel Construction (AISC), One E. Wacker Drive, Suite 3100, Chicago, Illinois 60601. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN, WITH COMMENTARY, June 1, 1989.

(4) American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, Pennsylvania 19103.

(a) STANDARD SPECIFICATION FOR BUILDING BRICK (SOLID MASONRY UNITS MADE FROM CLAY OR SHALE), ASTM C 62-92c.

(b) STANDARD SPECIFICATION FOR HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS, ASTM C 90-94a.

(c) STANDARD SPECIFICATION FOR FACING BRICK (SOLID MASONRY UNITS MADE FROM CLAY OR SHALE), ASTM C 216-94a.

(d) STANDARD SPECIFICATION FOR MORTAR FOR UNIT MASONRY, ASTM C 270-94.

(e) STANDARD SPECIFICATION FOR HOLLOW BRICK (HOLLOW MASONRY UNITS MADE FROM CLAY OR SHALE), ASTM C 652-94.

(f) STANDARD SPECIFICATION FOR ASPHALT SHINGLES (ORGANIC FELT) SURFACED WITH MINERAL GRANULES, ASTM D 225-86.

(g) STANDARD SPECIFICATION FOR ASPHALT- SATURATED ORGANIC FELT USED IN ROOFING AND WATER PROOFING, ASTM D 226-89.

(h) STANDARD TEST METHOD FOR WIND-RESISTANCE OF ASPHALT SHINGLES (FAN-INDUCED METHOD), ASTM D 3161-93.

(i) STANDARD SPECIFICATION FOR ASPHALT SHINGLES MADE FROM GLASS FELT AND SURFACED WITH MINERAL GRANULES, ASTM D 3462-93a.

(j) STANDARD TEST METHODS FOR FIRE TESTS OF ROOF COVERINGS, ASTM E 108-93.

(k) STANDARD PRACTICE FOR MEASURING AIR LEAKAGE BY THE FAN PRESSURIZATION METHOD, ASTM E 779-87.

(5) American Society of Heating, Refrigerating, and Air-conditioning Engineers, Inc. (ASHRAE), 1791 Tullie Circle, N.E., Atlanta, Georgia 30329.

(a) ENERGY CONSERVATION IN NEW BUILDING DESIGN, ASHRAE Standard 90A-80;

(b) ASHRAE HANDBOOK, FUNDAMENTALS, 1993 edition.

(6) American Wood Preservers Association (AWPA), P.O. Box 849, Stevensville, Maryland 21666.

(a) STANDARD FOR COAL TAR CREOSOTE FOR LAND AND FRESH WATER AND MARINE (COASTAL WATER) USE, P1/P13-91;

(b) STANDARD FOR CREOSOTE SOLUTIONS, P2-90;

(c) STANDARD FOR CREOSOTE-PETROLEUM OIL SOLUTION, P3-67;

(d) STANDARDS FOR WATERBORNE PRESERVATIVES, P5-93;

(e) STANDARDS FOR OIL-BORNE PRESERVATIVES, P8-93;

(f) STANDARDS FOR SOLVENTS AND FORMULATIONS FOR ORGANIC PRESERVATIVE SYSTEMS, P9-92;

(g) ALL TIMBER PRODUCTS - PRESERVATIVE TREATMENT BY PRESSURE PROCESSES, C1-93;

(h) LUMBER, TIMBERS, BRIDGE TIES AND MINE TIES - PRESERVATIVE TREATMENT BY PRESSURE PROCESSES, C2-93;

(i) PILES - PRESERVATIVE TREATMENT BY PRESSURE PROCESSES, C3-93;

(j) POLES - PRESERVATIVE TREATMENT BY PRESSURE PROCESSES, C4-93;

(k) PLYWOOD - PRESERVATIVE TREATMENT BY PRESSURE PROCESSES, C9-93;

(l) STANDARD FOR PRESSURE TREATED MATERIAL IN MARINE CONSTRUCTION, C18-92;

(m) LUMBER AND PLYWOOD FOR PERMANENT WOOD FOUNDATIONS - PRESERVATIVE TREATMENT BY PRESSURE PROCESSES, C22-93;

(n) ROUND POLES AND POSTS USED IN BUILDING CONSTRUCTION - PRESERVATIVE TREATMENT BY PRESSURE PROCESSES, C23-92;

(o) SAWN TIMBER PILES USED FOR RESIDENTIAL AND COMMERCIAL BUILDING, C24-93;

(p) STANDARD FOR PRESERVATIVE TREATMENT OF STRUCTURAL GLUED LAMINATED MEMBERS AND LAMINATIONS BEFORE GLUING OF SOUTHERN PINE, COASTAL DOUGLAS FIR, HEMFIR AND WESTERN HEMLOCK BY PRESSURE PROCESSES, C28-91;

(q) STANDARD FOR THE CARE OF PRESERVATIVE-TREATED WOOD PRODUCTS, M4-91.

(7) National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269. NATIONAL FUEL GAS CODE, NFPA 54-1992, Parts 2 and 3.

(8) National Institute of Standards and Technology, U.S. Department of Commerce, Washington, D.C. 20234. MODEL DOCUMENTS FOR THE EVALUATION, APPROVAL, AND INSPECTION OF MANUFACTURED BUILDINGS, NBS Building Science Series 87, July 1976.

(9) Portland Cement Association, 5420 Old Orchard Road, Skokie, Illinois 60077, CONCRETE MASONRY HANDBOOK FOR ARCHITECTS, ENGINEERS, BUILDERS, fifth edition, 1991.

(10) Truss Plate Institute, Inc., 583 D'Onofrio Drive, Madison, Wisconsin 53719.

(a) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED WOOD TRUSSES, TPI-85;

(b) DESIGN SPECIFICATION FOR METAL PLATE CONNECTED PARALLEL CHORD WOOD TRUSSES, PCT-80.

SECTION 29. ILHR 21.02 (3) (a) 3. is created to read:

ILHR 21.02 (3) (a) 3. Engineered wood products shall be used in accordance with structural analysis or with load tables supplied by the manufacturer, provided those tables were developed using structural analysis or load testing.

SECTION 30. ILHR 21.02 (3) (b) is amended to read:

ILHR 21.02 (3) (b) Structural steel. The design, fabrication and erection of structural steel for buildings shall conform to ~~:-AISC,-"Specification-for Design,-Fabrication-and-Erection-of-Structural-Steel-for-Buildings"-[ILHR 20.24-(1)]~~ Specification for Structural Steel Buildings, Allowable Stress Design and Plastic Design and the provisions of the accompanying commentary as adopted under s. ILHR 20.24 (3) ~~for-this-specification.~~

SECTION 31. ILHR 21.02 (3) (c) 2. Note is repealed.

SECTION 32. ILHR 21.02 (3) (e) is renumbered (d) and amended to read:

ILHR 21.02 (3) (d) Masonry. The design and construction of masonry ~~buildings~~ shall conform to the ~~"Concrete-Masonry-Handbook"-[ILHR-20.24-(5)]~~ provisions of the Concrete Masonry Handbook for Architects, Engineers, Builders as adopted under s. ILHR 20.24 (9).

SECTION 33. ILHR 21.03 (1) Note is created to read:

ILHR 21.03 (1) Note: Although not a requirement, the department recommends that the 2 required exits from the first floor be placed at least as far apart as half the length of the longest diagonal of the first floor. See appendix for examples.

SECTION 34. ILHR 21.03 (7) (title) is amended to read:

ILHR 21.03 (7) (title) DOORS USED FOR EXITING.

SECTION 35. ILHR 21.03 (8) is amended to read:

ILHR 21.03 (8) INTERIOR CIRCULATION. All passageway doors or openings to at least 50% of the bedrooms, at least one full bathroom, and the common-use areas such as kitchens, dining rooms, living rooms, basements, garages and family rooms shall be at least 2 feet 8 inches wide ~~by~~ or provide a net clear opening of 30 inches and shall be 6 feet 8 inches high. ~~Where-cased-or uncased-openings-are-provided-in-lieu-of-doors,-the-clear-width-of-the passageway-openings-shall-be-at-least-2-feet-6-inches-wide.~~

SECTION 36. ILHR 21.03 (10) (a) is repealed and recreated to read:

ILHR 21.03 (10) (a) Balconies shall be made of concrete, metal or wood which is treated, protected or naturally decay-resistive in accordance with s. ILHR 21.10

SECTION 37. ILHR 21.04 is repealed and recreated to read:

ILHR 21.04 STAIRS AND ELEVATED AREAS. Every interior and exterior stairs, including tub access steps but excluding nonrequired basement stairs which lead directly to the building exterior and stairs leading to attics or crawl spaces, shall conform to the requirements of this section.

(1) STAIR DETAILS. (a) Width. Stairs shall measure at least 36 inches in width. Handrails and associated trim may project no more than 4 1/2 inches into the required width at each side of the stairs.

(b) Headroom. Stairs shall be provided with a minimum headroom clearance of 76 inches. The clearance shall be measured vertically from a line parallel to the nosing of the treads to the ceiling or soffit directly above that line.

(c) Treads and risers. 1. Except for spiral stairs and winders, risers may not exceed 8 inches in height measured vertically from tread to tread. Treads shall be at least 9 inches wide measured horizontally from nosing to nosing.

2. Within individual stairways, tread widths and riser heights may vary in uniformity by a maximum of 3/16 inch. Variations in uniformity may not cause either dimension in subd. 1. to be exceeded.

(d) Winders. Winder steps may be used provided the length of the tread is at least 36 inches and the width of the tread is at least 7 inches measured at a point 12 inches from the narrow end.

(e) Spiral stairs. Spiral stairs may be used as exit stairs. The tread shall measure at least 26 inches from the outer edge of the supporting column to the inner edge of the handrail and at least 7 inches in width from nosing to nosing at a point 12 inches from the narrow end of the tread. The riser height shall be uniform and may not exceed 9 1/2 inches.

(2) HANDRAILS AND GUARDRAILS. Handrails or guardrails shall be provided on all open sides of 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. Handrails and guardrails shall be constructed to prevent the through passage of a sphere with a diameter of 6 inches or larger. Handrails and guardrails shall be designed and constructed to withstand a 200 pound load applied in any direction. Exterior handrails and guardrails shall be constructed of metal, decay resistant or pressure treated wood, or shall be protected from the weather.

(a) Handrails. Stairs of more than 3 risers shall be provided with at least one handrail for the full length of the stairs.

1. 'Height'. Handrails shall be located at least 30 inches, but no more than 38 inches above the nosing of the treads. 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.

2. 'Clearance'. The clearance between a handrail and the wall surface shall be at least 1 1/2 inches.

3. 'Winders'. Handrails on winder steps shall be placed on the side where the treads are wider.

4. 'Projection'. Handrails and associated trim may project into the required width of stairs and landings a maximum of 4 1/2 inches on each side.

5. 'Size and configuration'. Handrails shall be symmetrical about the vertical centerline to allow for equal wraparound of the thumb and fingers.

a. Handrails with a round or truncated round cross sectional gripping surface shall have a maximum whole diameter of 2 inches.

b. Handrails with a rectangular cross sectional gripping surface shall have a maximum perimeter of 6 1/4 inches with a maximum cross sectional dimension of 2 7/8 inches.

c. Handrails with other cross sections shall have a maximum cross sectional dimension of the gripping surface of 2 7/8 inches with a maximum linear gripping surface measurement of 6 1/4 inches and a minimum linear gripping surface of 4 inches.

NOTE: See appendix for further information on handrail measurement.

6. 'Continuity'. Handrails shall be continuous for the entire length of the stairs except in any one of the following cases:

a. A handrail may be discontinuous at an intermediate landing.

b. A handrail may have newel posts.

c. A handrail may terminate at an intermediate wall provided the lower end of the upper rail is returned to the wall or provided with a flared end, the horizontal offset between the two rails is no more than 12 inches measured from the center of the rails, and both the upper and lower rails can be reached from the same tread without taking a step.

(b) Guardrails. 1. 'Application'. 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.

2. 'Height'. Guardrails shall be located at least 36 inches above the floor. Measurement shall be taken from the hard structural surface beneath any finish material to the top of the rail.

(3) LANDINGS. (a) Intermediate landings. A level intermediate landing shall be provided for any stairs with a height of 12 feet or more. Intermediate landings shall be at least as wide as the stairs and shall measure at least 3 feet in the direction of travel. For curved or semicircular landings, the radius of the landing shall be at least equal to the width of the stairs.

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

(c) Doors at landings. Except as provided in subds. 1. to 4., level landings shall be provided on each side of any door located at the top or base of a stairs, regardless of the direction of swing. In the following exceptions, stairways to attached garages or porches are considered interior stairs:

1. A landing is not required between the door and the top of interior stairs if the door does not swing over the stairs.

2. A landing is not required between the door and the top of an interior stairs of 1 or 2 risers regardless of the direction of swing.

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

4. The exterior landing, platform or sidewalk at an exterior doorway shall be located a maximum of 8 inches below the interior floor elevation. The landing, platform or sidewalk shall have a length at least equal to the width of the door.

SECTION 38. ILHR 21.042 (6) (b) is amended to read:

ILHR 21.042 (6) (b) The edge of the tread nearest to the wall behind the ladder ~~should~~ shall be separated from the wall by at least 7 inches.

SECTION 39. ILHR 21.045 (3) (c) is amended to read:

ILHR 21.045 (3) (c) 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 ~~larger than 9 inches~~ of 6 inches or larger.

SECTION 40. ILHR 21.05 (2) (a) is amended to read:

ILHR 21.05 (2) (a) Natural ventilation. Natural ventilation shall be provided to all habitable rooms~~, kitchens and bathrooms~~ 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. ~~Mechanical~~ 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 41. ILHR 21.07 (1) is amended to read:

ILHR 21.07 ATTIC AND CRAWL SPACE ACCESS. (1) ATTIC. Attics with 150 or more square feet of area and 30 or more inches of clear height ~~clearance or more~~ between the top of the ceiling framing and the bottom of the rafter or top truss chord framing shall be provided with an access opening of at least 14 by 24 inches, accessible from inside the structure.

SECTION 42. ILHR 21.08 (3) (a) is repealed.

SECTION 43. ILHR 21.08 (3) (b) and (c) are renumbered (a) and (b).

SECTION 44. ILHR 21.08 (5) (a) (intro.) is amended to read:

ILHR 21.08 (5) (a) (intro.) The garage shall be separated from habitable and nonhabitable areas of the dwelling unit, as well as attics and soffit areas. The vertical separation shall extend from the top of the concrete or masonry foundation to the underside of the roof sheathing or to fire-rated ceiling construction. The fire-rated ~~construciton~~ construction shall conform with Table 21.08.

SECTION 45. ILHR 21.08 (5) (d) is repealed.

SECTION 46. ILHR 21.08 (5) (e) is renumbered (d).

SECTION 47. ILHR 21.08 (6) is amended to read:

ILHR 21.08 (6) LIVING UNIT SEPARATION. (a) (title) General. In 2-family dwellings, living units shall be separated from each other, from common use areas, from shared attics, and from exit access corridors ~~by construction protected with not less than one layer of 5/8 inch Type X gypsum wallboard or equivalent on each side of the wall~~.

(b) (title) Doors. Any door ~~and frame assembly~~ installed in the living unit separation shall:

1. Have a minimum fire rating of 20 minutes for both the door and the assembly; or

2. Consist of a minimum 1 3/4-inch solid core wood or insulated metal door installed with 1 1/2-inch steel hinges in a 1 7/32-inch thick solid wood frame with a 1/2-inch thick door stop.

SECTION 48. ILHR 21.08 (6) (c) to (e) are created to read:

(c) Walls. Walls in the living unit separation shall be protected by not less than one layer of 5/8-inch Type X gypsum wallboard or equivalent on each side of the wall with tightly fitted joints.

(d) Floors and ceilings. A fire protective membrane of one layer of 5/8-inch Type X gypsum wallboard with tightly fitted joints shall be provided on the ceiling beneath the floor construction that provides the separation.

(e) Wall Penetrations. 1. 'Ducts'. All heating and ventilating ducts which penetrate the required living unit separation shall be protected by a 1 1/2-hour rated fire damper. The fire damper may be omitted in the following cases:

a. The duct has a cross sectional area not more than 20 square inches; or

b. There is a minimum of 6 feet of continuous steel ductwork on both sides of the separation.

2. 'Electrical and plumbing components'. Through-penetrations by electrical or plumbing components shall be firmly packed with noncombustible materials or shall be protected with a listed through-penetration firestop system with a rating of at least one hour.

SECTION 49. ILHR 21.09 (2) and (3) are renumbered (3) and (4).

SECTION 50. ILHR 21.09 (2) is created to read:

ILHR 21.09 (2) For floor levels containing a sleeping area, the detector shall be installed adjacent to the sleeping area. If a floor level contains 2 or more sleeping areas remote from each other, each sleeping area shall be provided with an adjacent smoke detector.

SECTION 51. ILHR 21.10 (1) (a) is amended to read:

ILHR 21.10 (1) (a) Wood floor joists that span directly above and within ~~closer than~~ 18 inches of earth or wood girders ~~closer than~~ that span directly above and within 12 inches of earth;

SECTION 52. ILHR 21.10 (1) (b) is amended to read:

ILHR 21.10 (1) (b) Sills and rim joists which are less than 8 inches above exposed earth, and rest on concrete or masonry walls or concrete floors.

SECTION 53. ILHR 21.10 (1) (g) is created to read:

ILHR 21.10 (1) (g) Wood columns in direct contact with masonry, concrete or earth unless supported by a structural pedestal or plinth block at least 3 inches above the floor.

SECTION 54. ILHR 21.10 (3) is amended to read:

ILHR 21.10 (3) IDENTIFICATION. (a) All pressure-treated wood and plywood shall be identified by a quality mark or certificate of inspection of an approved inspection agency which maintains continued supervision, testing and inspection over the quality of the productin accordance with the adopted standards of the ~~American Wood Preservers Bureau or of the~~ American Wood Preservers Association.

(b) Pressure treated wood used below grade in foundations shall be labeled to show conformance with AWPA C-22 "Lumber and Plywood for Permanent Wood Foundations - Preservative Treatment by Pressure Processes" ~~or AWPB FDN "Quality Control Program for Softwood Lumber, Timber and Plywood Pressure Treated with Water-Borne Preservatives for Ground Contact Use in Residential and Light Commercial Foundations."~~ and labeled by an inspection agency accredited by the American Lumber Standards Committee.

SECTION 55. ILHR 21.11 (1) (d) is amended to read:

ILHR 21.11 (1) (d) Doors. Foam plastic insulation having a flame-spread rating of 75 or less may be used in doors when the door facing is of metal having a minimum thickness of 0.032-inch aluminum or No. 26 gauge sheet metal. Overhead garage doors using foam plastic insulation do not require a thermal barrier or metal covering.

SECTION 56. ILHR 21.11 (2) and note are amended to read:

ILHR 21.11 (2) SPECIFIC APPROVAL. Foam plastic insulation not meeting the requirements of this section may be approved by the department as specified under s. ILHR 20.18. Approval will be based upon diversified tests which evaluate materials or assemblies representative of actual end use applications.

Note: Approved diversified tests may include~~,--but-are-not-limited-to~~: ASTM E-84 (tunnel test), ASTM ~~E-19~~ E-119 fire test, full-scale corner test, enclosed room corner test and ignition temperature test.

SECTION 57 intentionally left blank.

SECTION 58. ILHR 21.125 (1) (b) is amended to read:

ILHR 21.125 (1) (b) Tracking. Sediment tracked by construction equipment from a site onto a public or private paved roadway or sidewalk shall be minimized by providing a gravel or other non-tracking access roadway where ~~possible~~. This roadway shall be installed no later than the time the foundation is backfilled. The sediment cleanup provisions of s. ILHR 21.125 (1) (c) are unaffected by the presence or absence of an access roadway.

Note: It is not the intent of par. (b) to require a gravel access roadway where natural conditions, such as sandy soils or solidly frozen soil, already provide non-tracking access.

SECTION 59. ILHR 21.125 (3) (b) Note is renumbered Note 1 and amended to read:

ILHR 21.125 (3) (b) Note 1: The handbook is available from Document Sales, 202 South ~~Thorton~~ Thornton Avenue, P.O. Box 7840, Madison, Wisconsin 53707-8480; telephone (608) 266-3358.

SECTION 60. ILHR 21.125 (3) (b) Note 2 is created to read:

ILHR 21.125 (3) (b) Note 2: For examples of acceptable erosion control maintenance procedures, see appendix.

SECTION 61. ILHR 21.15 (1) (title) is amended to read:

ILHR 21.15 (1) (title) SIZE AND TYPE.

SECTION 62. ILHR 21.15 (1) (e) is amended to read:

ILHR 21.15 (1) (e) Floating slabs. Any dwelling supported on a floating slab on grade shall be designed through structural analysis. Structures supported on floating slabs may not be physically attached to structures that are supported by footings that extend below the frost line unless a control joint is used between the structures.

SECTION 63. ILHR 21.16 (1) is amended to read:

ILHR 21.16 (1) GENERAL. Footings and foundations, including those for ramps and stoops, shall be placed below the frost penetration level, but in no case less than 48 inches below ~~the ground~~ grade measured adjacent to the footing or foundation. Footings shall not be placed over frozen material.

SECTION 64. ILHR 21.18 (1) to (3) are renumbered (2) to (4).

SECTION 65. ILHR 21.18 (intro.) is repealed.

SECTION 66. ILHR 21.18 Table 21.18 is repealed.

SECTION 67. ILHR 21.18 (1) is created to read:

ILHR 21.18 (1) GENERAL. (a) Design. Foundation walls shall be designed and constructed to support the vertical loads of the dwelling, lateral soil pressure, and other loads without exceeding the allowable stresses of the materials of which the foundations are constructed.

(b) Lateral support. 1. Lateral support such as floor slabs or framing shall be provided at the base of foundation walls.

2. Lateral support shall be provided at the top of foundation walls by one of the following:

a. Ledger blocks at the perimeter of the floor consisting of 2 by 4 inch nominal lumber attached with two 16 penny nails at each joist.

b. System design through structural analysis.

c. Structural steel anchor bolts, a minimum of 1/2 inch in diameter, embedded at least 7 inches into concrete or grouted masonry. The bolts shall be located within 18 inches of wall corners and shall have a maximum spacing of 72 inches.

d. Mechanical fasteners used in accordance with the manufacturer's instructions.

SECTION 68. ILHR 21.18 Table 21.18-A is amended to read:

TABLE 21.18-A

CONCRETE WALL THICKNESSES

Type of Concrete	Nominal Thickness (inches)	Maximum Height of Unbalanced Fill[1] for Material of Wall Being Supported (Wood frame - feet)
3000 psi	~~6~~	~~6-5~~
Unreinforced concrete	8	8
	10	9
	12[2]	10
	14	11.5

SECTION 69. ILHR 21.18 (3) (b), as renumbered, is amended to read:

ILHR 21.18 (3) (b) Reinforced masonry wall; thickness. Reinforced masonry walls shall be reinforced in accordance with the requirements of Tables 21.18-C or 21.18-D. In partially reinforced masonry walls, vertical reinforcement shall be provided on each side of any opening~~,-at-each-wall corner,~~ and at intervals indicated in ~~the~~ Table 21.18-D.

SECTION 70. ILHR 21.18 (3) (e) is created to read:

ILHR 21.18 (3) (e) Dampproofing. 1. Masonry foundation walls of basements shall be dampproofed by applying to the exterior surfaces a continuous coating, from footing to finished grade, of one of the following:

a. Portland cement and sand coat mortar, at least 3/8 inch thick;

b. Type M mortar, at least 3/8 inch thick;

c. Structural surface bonding material, at least 1/4 inch thick;

d. Equivalent dampproofing material, applied in accordance with the manufacturer's instructions and acceptable to the department.

SECTION 71. ILHR 21.18 (4) (intro.), as renumbered, is amended to read:

ILHR 21.18 (4) (intro.) Wood foundations shall be designed and constructed in accordance with ~~the-National-Forest-Products-Association standard,~~ "The ~~All-Weather~~ Permanent Wood Foundation System, Basic Requirements, Technical Report No. 7", as adopted under s. ILHR 20.24 (2) (b) and the following exception. The thickness of the foundation wall shall be no less than the thickness of the wall it supports.

SECTION 72. ILHR 21.18 (4) (b), as renumbered, is amended to read:

ILHR 21.18 (4) (b) Materials. All lumber and plywood shall be pressure treated with preservative and labeled to show conformance with AWPA C22 as adopted under s. ILHR 20.24 (6) ~~or-AWPB-FDN~~.

SECTION 73. ILHR 21.203 is created to read:

ILHR 21.203 GARAGE FLOORS. (1) MATERIALS. Garage floors shall be constructed of concrete or other noncombustible materials which are impermeable to petroleum products. Slab-on-grade concrete garage floors shall be at least 4 inches thick and placed over at least 4 inches of granular fill.

Note: It is not the intent of sub. (1) to require a concrete floor to be sealed to make it completely impermeable.

(2) CONFIGURATION. The floor shall slope toward the main exterior garage opening or toward an interior drain.

Note: See s. ILHR 82.34 (4) (b), Uniform Plumbing Code, for floor drain requirements.

SECTION 74. ILHR 21.22 (5) (a) (title) is amended to read:

ILHR 21.22 (5) (a) (title) Notching of floor joists.

SECTION 75. ILHR 21.22 (5) (b) and (title) are amended to read:

ILHR 21.22 (5) (b) (title) Boring of floor joists. Holes bored in floor joists shall be located no closer than 2 inches to the top or bottom edges of the joist. ~~Where holes are located outside the middle 1/3 of the span, the~~ The diameter of the hole shall not exceed 1/3 the depth of the joist. Where the joist is notched, the hole shall not be closer than 2 inches to the notch.

SECTION 76. ILHR 21.22 (5) (c) is created to read:

ILHR 21.22 (5) (c) Engineered wood products. Notching or boring of engineered wood products shall be done in accordance with the manufacturer's instructions provided those instructions were developed through structural analysis or product testing.

SECTION 77. ILHR 21.22 Table 21.22-A is repealed.

SECTION 78. ILHR 21.22 Table 21.22-A1 is created to read:

TABLE 21.22-A1

MINIMUM SIZES FOR BEAMS AND GIRDERS OF STEEL OR WOOD

Column Spacing	One Floor Only		Roof/Ceiling and One Floor				Roof/Ceiling + One Floor/Ceiling + One Floor			
	Wood Beams[1] (in., nominal)	A 36 Steel Beams[2]	Wood Beams[1,3] (in., nominal)		A 36 Steel Beams[2]		Wood Beams[1,3] (in., nominal)		A 36 Steel Beams[2]	
			Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1
24 ft. wide house:										
8 ft.	8x8	---	8x10	10x10	---	---	8x12	10x12	---	---
			6x12	6x12	---	---	6x14	8x14	---	---
10 ft.	8x10	---	8x12	10x12	M 10x9	M 10x9	10x14	10x14	M 12x11.8	M 12x11.8
			6x14	8x14	W 6x12	W 8x10	8x16	8x16	W 8x15	W 8x15
12 ft.	8x12	---	12x12	10x14	M 12x10	M 12x11.8	14x14	14x14	W 12x16	W 12x16
			10x14	8x16	W 10x11.5	W 8x15	10x16	12x16	W 10x17	W 8x21
15 ft.	12x12	---	---	---	W 12x16	W 12x16	---	---	W 12x22	W 14x22
			---	---	W 10x17	W 6x25	---	---	W 8x28	W 8x31
26 ft. wide house:										
8 ft.	6x10	---	10x10	10x10	---	---	10x12	10x12	---	---
			6x12	8x12	---	---	8x14	8x14	---	---
10 ft.	10x10	---	10x12	10x12	M 10x9	M 12x10	10x14	12x14	M 12x11.8	W 12x14
			8x14	8x14	W 8x10	W 8x13	8x16	8x16	W 8x15	W 8x17
12 ft.	8x12	---	10x14	10x14	M 12x11.8	M 12x11.8	14x14	12x16	W 12x16	W 10x19
	10x14		8x16	8x16	W 8x15	W 6x20	12x16	10x18	W 8x21	W 8x24
15 ft.		---	---	---	W 12x16	W 10x19	---	---	W 14x22	W 14x22
			---	---	W 8x21	W 8x24	---	---	W 8x31	W 8x35
28 ft. wide house:										
8 ft.	6x10	---	10x10	8x12	---	---	10x12	10x12	---	---
			8x12	4x16	---	---	8x14	8x14	---	---
10 ft.	10x10	M 10x7.5	10x12	12x12	M 12x10	W 10x12	12x14	12x14	W 12x14	W 12x14
		W 6x9	8x14	8x14	W 8x13	W 8x13	8x16	10x16	W 8x17	W 10x15
12 ft.	10x12	M 10x9	10x14	12x14	M 12x11.8	W 12x14	12x16	12x16	W 10x19	M 14x18
		W 6x12	8x16	10x16	W 8x15	W 8x18	10x18	10x18	W 8x24	W 8x24
15 ft.	10x14	M 12x10	---	---	W 10x19	M 14x18	---	---	W 14x22	W 14x26
		W 8x13	---	---	W 8x24	W 8x24	---	---	W 8x35	W 8x35

TABLE 21.22-A1

MINIMUM SIZES FOR BEAMS AND GIRDERS OF STEEL OR WOOD

Column Spacing	One Floor Only		Roof/Ceiling and One Floor				Roof/Ceiling + One Floor/Ceiling + One Floor			
	Wood Beams[1] (in., nominal)	A 36 Steel Beams[2]	Wood Beams[1] (in., nominal)		A 36 Steel Beams[2]		Wood Beams[1] (in., nominal)		A 36 Steel Beams[2]	
			Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1
30 ft. wide house:										
8 ft.	8x10	—	10x10	8x12	—	—	10x12	12x12	—	—
			8x12	6x14	—	—	8x14	8x14	—	—
10 ft.	10x10	M 10x7.5	10x12	12x12	M 12x10	M 12x10	12x14	12x14	W 12x14	W 12x14
		W 6x9	8x14	10x14	W 8x13	W 8x13	10x16	10x16	W 10x15	W 10x15
12 ft.	10x12	M 10x9	12x14	12x14	W 12x14	W 12x14	12x16	14x16	M 14x18	M 14x18
		W 6x12	8x16	10x16	W 8x18	W 8x18	10x18	12x18	W 8x24	W 8x24
15 ft.	12x14	M 12x11.8	—	—	M 14x18	W 10x21	—	—	W 14x26	W 14x26
		W 8x15	—	—	W 8x24	W 8x28	—	—	W 8x35	W 10x33
32 ft. wide house:										
8 ft.	8x10		8x12	8x12	—	—	12x12	12x12	—	—
			6x14	6x14	—	—	8x14	10x14	—	—
10 ft.	10x10	M 10x7.5	12x12	12x12	W 10x12	W 10x12	12x14	14x14	W 12x14	W 12x16
		W 6x9	8x14	10x14	W 8x13	W 6x16	10x16	10x16	W 10x15	W 10x17
12 ft.	10x12	M 10x9	12x14	14x14	W 12x14	W 12x14	14x16	14x16	M 14x18	M 12x22
		W 6x12	10x16	10x16	W 10x15	W 10x17	12x18	12x18	W 8x24	W 8x28
15 ft.	12x14	M 12x11.8	—	—	M 14x18	W 12x22	—	—	W 14x26	W 14x26
		W 8x15	—	—	W 8x24	W 8x28	—	—	W 10x33	W 10x33

[1] This table is based upon wood with a fiber bending stress of 1,000 psi. Two acceptable wood beam selections are listed for each loading condition.

[2] Two acceptable steel beam selections are listed for each loading condition. The first entry is the most economical selection based upon beam weight.

[3] Wood main beams or girders may be built up from nominal 2-inch members. The 2-inch members shall be laid on edge and fastened together with a double row of common nails not less than 3 1/2 inches in length. Nails shall be spaced not more than 18 inches apart in each row with the end nails placed 4 inches to 6 inches from the end of each piece. Where built-up beams are employed over a single span, the length of each individual piece used to fabricate the beam shall equal the length of the beam.

SECTION 79. ILHR 21.22 Table 21.22-A2 footnote 5 is created to read:

ILHR Table 21.22-A2 footnote 5. Where built-up wood beams are continued over more than one span and where lengths of individual pieces are less than the total length of the complete beam, butt joints shall be located over supports or within 6 inches of the quarter points of the clear span. Where located near the quarter points, the joints in built-up beams shall be separated by at least one lamination and shall not exceed the beam width.

SECTION 80. ILHR 21.25 (1) (c) is repealed and recreated to read:

ILHR 21.25 (1) (c) Wood posts or columns. Posts and columns shall be anchored to resist loads and shall be sized in accordance with Table 21.25-F or shall have their size determined through structural analysis.

Note: See section ILHR 21.10 for requirements on treating wood for decay and termite resistance.

SECTION 81. ILHR 21.25 Table 21.25-D is amended to read:

TABLE 21.25-D

ALLOWABLE SPANS (FEET) FOR HEADERS SUPPORTING ONE FLOOR AND ROOF/CEILING ASSEMBLY*

House Width (feet)	Header Members									
	Two 2 x 4s		Two 2 x 6s		Two 2 x 8s		Two 2 x 10s		Two 2 x 12s	
	Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1	Zone 2	Zone 1
24	1.5	1.5	3	2.5	4	3	5	4	6	5
26	1.5	1.5	2.5	2.5	3	3	4	4	5	5
28	1.5	1.5	2.5	2.5	3	3	4	4	5	5
30	1.5	1.5	2.5	2.5	3	3	4	4	5	5
32	1.5	1.5	2.5	2	3	3	4	4	5	5

* These tables are based on wood with a fiber bending stress of 1,000 psi. For other species with different fiber bending stresses, multiply the span by the square root of the ratio of the actual bending stress to 1,000 psi. Example: ~~The~~ From Table 21.25-B, the allowable roof/ceiling span for a 28-foot wide house in zone 2, using two 2 x 8 header members with a 1400 psi bending stress, is 5 feet **X** |1400/1000 = 5.9 feet.

SECTION 82. ILHR 21.25 Table 21.25-F is created to read:

Table 21.25-F

COLUMNS-ALLOWABLE LOADS

STEEL*

Column Diameter (Inches)	Wall Thickness (Inches)	Weight/ft (Pounds)	Height (Feet)	Allowable Load (Pounds)
3	0.216	7.58	8	34,000
			10	28,000
			12	22,000
3.5	0.226	9.11	8	44,000
			10	38,000
			12	32,000
4	0.237	10.79	8	54,000
			10	49,000
			12	43,000
5	0.258	14.62	8	78,000
			10	73,000
			12	68,000
6	0.280	18.97	8	106,000
			10	101,000
			12	95,000

* Fy=36,000 psi

WOOD

Wood Nominal Size (Inches)	Cross Section Area (Inches)	Height (Feet)	Allowable (Pounds)
4 x 4	12.25	8	4,900
		10	3,100
		12	2,150
4 x 6	19.25	8	7,700
		10	4,900
		12	3,400
6 x 6	30.25	8	30,000
		10	18,900
		12	13,300

Note 1: E=1,000,000 F_b=1,000

Note 2: Manufactured columns shall be installed in accordance with their listing and recommended allowable loads.

Note 3: Columns shall be attached to their supports in a manner acceptable to the department.

SECTION 83. ILHR 21.26 (2) is repealed and recreated to read:

ILHR 21.26 (2) MASONRY UNITS. (a) Unused concrete units. Previously unused concrete masonry units shall conform to the ASTM C 90 standard.

(b) Unused clay or shale units. Previously unused clay or shale masonry units shall conform to the appropriate ASTM standard: C 62; C 216; or C 652. Units which will be exposed to weathering or frost action shall be Grade SW as specified in these standards.

(c) Used masonry units. All previously used masonry units shall be free from physical defects which interfere with the installation or impair the structural properties of the unit.

SECTION 84. ILHR 21.26 (5) (c) is amended to read:

ILHR 21.26 (5) (c) Flashing. In exterior hollow walls exposed to the weather, flashing shall be installed at the bottom of the cavity formed by openings such as lintels over doors and windows and the backsides of chimneys so as to drain any water outward. Open vertical joints or weep holes of 3/8 inch minimum diameter shall be provided in the facing ~~just~~ directly above the flashing at a horizontal spacing not exceeding 3 feet.

SECTION 85. ILHR 21.26 (7) (a) 3. is amended to read:

ILHR 21.26 (7) (a) 3. Where no brick ledge is formed in the foundation wall, ~~a 30-pound asphalt saturated felt or corrosion resistant metal base~~ corrosion resistant metal or other water resistant flashing shall extend over the top of the foundation wall from the outside face of the wall and shall extend at least 6 inches up on the ~~wood~~ sheathing ~~under the building paper or water resistant sheathing~~. The flashing shall be installed to drain any water outward.

SECTION 86. ILHR 21.26 (7) (a) 4. is amended to read:

ILHR 21.26 (7) (a) 4. ~~Weepholes~~ Weep holes shall be provided at the bottom masonry course at maximum intervals of ~~approximately 4~~ 3 feet.

SECTION 87. ILHR 21.26 (7) (b) is amended to read:

ILHR 21.26 (7) (b) Veneer over masonry back-up. ~~A 30-pound asphalt saturated felt or corrosion resistant~~ Corrosion-resistant metal or other water resistant base flashing shall be provided at the bottom of the veneer and shall extend over the top of the foundation and up at least 6 inches and be embedded in the back-up course. The flashing shall be installed to drain any water outward. ~~Weepholes~~ Weep holes, shall be provided at ~~approximately every~~ maximum intervals of 3 feet~~, shall be provided~~.

SECTION 88. ILHR 21.26 (14) is repealed.

SECTION 89 ILHR 21.27 (3) (a) is repealed and recreated to read:

ILHR 21.27 (3) (a) Roofing. 1. 'General'. Underlayment consisting of 15-pound asphalt-impregnated felt paper or equivalent or other Class I material tested in accordance with ASTM D 226 shall be provided under shingles. Fasteners shall be corrosion resistant.

Note 1: See s. ILHR 20.07 (62) for definitions of shingle terms.

Note 2: See appendix for further explanatory material.

2. 'Asphalt shingles'. a. Organic asphalt shingles shall conform to ASTM D 225 and the Class C requirements of ASTM E 108, and shall pass the wind resistance test of ASTM D 3161.

b. Fiberglass asphalt shingles shall conform to ASTM D 3462 except that laminated shingles shall have a tear strength of at least 1450 grams in each ply.

c. Shingles that have a self-sealing adhesive strip shall include a sealant which has a bond strength of at least 1.5 pounds per 3.5 inches of shingle width, at 32 °F.

Note: The department will accept the results of testing conducted in accordance with an established or proposed ASTM test method, for verifying compliance with the sealant uplift resistance required in this subparagraph. Information on the applicable test method may be obtained from the American Society for Testing and Materials, at 1916 Race Street, Philadelphia, PA 19103.

d. 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 subpar. b.

e. Shingles shall be installed in accordance with the manufacturer's recommendations. Shingles shall have at least 4 fasteners per strip shingle or 2 fasteners per interlocking shingle. Shingle head lap shall be at least 2 inches.

SECTION 90. ILHR 21.27 (6) (c) is created to read:

ILHR 21.27 (6) (c) Engineered wood products. Notching or boring of engineered wood products shall be done in accordance with the manufacturer's instructions provided those instructions were developed through structural analysis or product testing. Trusses shall be anchored in accordance with standards and recommendations published by the Truss Plate Institute.

SECTION 91. ILHR 21.30 (8) is repealed and recreated to read:

ILHR 21.30 (8) CHIMNEY CAPS. Chimneys shall be provided with precast or cast-in-place concrete chimney caps. Chimney caps shall have a minimum thickness of 2 inches, shall slope outwards away from the flue, and shall provide a one-inch overhang and drip edge on all sides. A slip joint shall be installed between the flue and the cap. The slip joint shall be filled with 1/4 inch felt or similar material and shall be caulked with high-temperature caulk or similar material to prevent water infiltration.

Note: See appendix for explanatory material.

SECTION 92. ILHR 21.30 (9) is repealed and recreated to read:

ILHR 21.30 (9) CLEARANCE TO COMBUSTIBLES. (a) The minimum clearance between combustibles and masonry chimneys which have any portion located within the exterior wall of the dwelling shall be 2 inches. The minimum clearance between combustibles and masonry chimneys which have all parts completely outside the dwelling, exclusive of soffit or cornice areas, shall be one inch.

(b) Except as required under pars. (c) and (d), the clearance spaces shall remain completely open.

(c) The clearance spaces between chimneys and wood joists, beams, headers or other structural members which form floors or ceilings shall be firestopped with galvanized steel, at least 26 gage thick or with noncombustible sheet material not more than 1/2 inch thick.

(d) Noncombustible material shall be used to prevent entry of debris into the clearance spaces.

SECTION 93. ILHR 22.05 (1) (c) is amended to read:

ILHR 22.05 (1) (c) ~~Vapor retarders~~ A vapor retarder shall ~~also~~ be provided under the slab or under the base course of slab and basement floors and around the exterior insulation installed around ducts in unheated areas. ~~Vapor retarders~~ A vapor retarder shall be provided over crawl space floors ~~shall be provided~~ in accordance with s. ILHR 21.05 (4).

SECTION 94. ILHR 22.05 (1) (d) note is amended to read:

ILHR 22.05 (1) (d) Note: ~~Tounge and groove~~ Tongue-and-groove plywood may serve as the required vapor retarder where the transmission rate of the plywood does not exceed one perm.

SECTION 95. ILHR 22.05 (3) (a) is repealed and recreated to read:

ILHR 22.05 (3) (a) Attics. Ventilation shall be provided above the ceiling or attic insulation. At least 50% of the net free ventilating area shall be distributed at the low sides of the roof. The remainder of the net free ventilating area shall be distributed in the upper one-half of the roof or attic area.

1. If more than 50%, but less than 75% of the net free ventilating area is provided at the low sides of the roof, the total net free ventilating area shall be a minimum of 1/300 of the horizontal area of the ceiling.

2. If 75% or more of the net free ventilating area is provided at the low sides of the roof, the total net free ventilating area shall be at least 1/150 of the horizontal area of the ceiling.

3. The ventilation space above any non-rigid insulation in a cathedral ceiling assembly shall be at least one inch in height.

SECTION 96. ILHR 22.11 (1) (c) is amended to read:

ILHR 22.11 (1) (c) ~~Vapor retarders~~ A vapor retarder shall ~~also~~ be provided under the slab or under the base course of slab and basement floors and around the exterior insulation installed around ducts in unheated areas. ~~Vapor retarders~~ A vapor retarder shall be provided over crawl space floors ~~shall be provided~~ in accordance with s. ILHR 21.05 (4).

SECTION 97. ILHR 22.19 and 22.20 are repealed.

SECTION 98. ILHR 23.02 (3) is repealed and recreated to read:

ILHR 23.02 (3) Ventilation. (a) General. Mechanical ventilation systems shall be balanced. Infiltration may not be considered as make-up air for balancing purposes. All exhaust vents shall terminate outside the structure.

(b) Habitable rooms. Habitable rooms without openable windows shall be provided with a balanced mechanical ventilation system producing one air change per hour of fresh outside air while the room is occupied.

(c) Rooms with toilets, tubs or showers. Any room with a toilet, tub or shower shall be provided with exhaust ventilation capable of exhausting 50 cubic feet per minute on an intermittent basis or 20 cubic feet per minute on a continuous basis.

SECTION 99. ILHR 23.045 Table 23.045-C second column, first paragraph is amended to read:

ILHR TABLE 23.045-C Floors of fire-resistive construction with noncombustible flooring and surface finish, or fire-resistive arches and slabs. This construction ~~shall have no~~ may not have combustible material against the underside. Such ~~[construction] heaters and combination fireplace [shall extend]~~ construction shall extend at least 18 inches beyond the appliance on all sides.

SECTION 100. ILHR 23.08 (2) (a) 3. is amended to read:

ILHR 23.08 (2) (a) 3. Spaces formed by unlined wood joists ~~and stud spaces~~, studs or wood I-joists with solid webs may be used as return air ducts. ~~Wood joists and stud spaces~~ Spaces used as return air ducts shall be cut off from all remaining unused portions of the space by tight-fitting stops of sheet metal or of wood ~~at least 2 inches nominal thickness~~ joist material. Bridging shall be removed from the joist space.

SECTION 101. ILHR 23.08 (2) (b) 15. is amended to read:

ILHR 23.08 (2) (b) 15. The exterior walls of the under-floor spaces shall be insulated in accordance with ~~s.~~ ss. ILHR 22.06 ~~(6)~~ (1) or 22.12 (1). The insulation may not be omitted under the provisions of ~~s.~~ ss. ILHR 22.06 ~~(9)~~ (2) or 22.12 (2).

SECTION 102. ILHR 23.08 (3) (a) is amended to read:

ILHR 23.08 (3) EXTERIOR DUCTS. (a) General. Except as provided in par. (b), ducts, which are located ~~(in garages, storage~~ attics and similar spaces~~)~~ susceptible to physical damage, shall be constructed of galvanized steel or corrosion-resistive metal.

SECTION 103. ILHR 23.08 (4) is amended to read:

ILHR 23.08 (4) UNDERGROUND DUCTS. Ducts, plenums and fittings constructed of ~~asbestos-cement,~~ metal encased in concrete or ceramic~~,~~ or other approved materials~~,~~ may be installed in the ground. Supply air ducts ~~installed parallel and adjacent to an outside wall~~ shall be insulated with a moistureproof material having a resistance value of at least R-5 ~~to a depth of at least 48 inches~~.

SECTION 104. ILHR 23.11 (3) is created to read:

ILHR 23.11 (3) SIZING. Vents for new or replacement equipment shall be sized to adequately exhaust combustion products from the dwelling.

Note: The department recommends vent sizing in accordance with NFPA 54, National Fuel Gas Code or its appendix.

SECTION 105. ILHR 23.12 is repealed and recreated to read:

ILHR 23.12 MASONRY CHIMNEYS. Masonry chimneys shall conform to the requirements of s. ILHR 21.30.

SECTION 106. ILHR 23.14 is repealed and recreated to read:

ILHR 23.14 GAS VENTS. (1) GENERAL. All gas-fired equipment shall be provided with vent pipes conforming with s. ILHR 23.15 (2) (e), unless the manufacturer specifies other materials.

(2) DRYER VENTING. (a) Gas-fired clothes dryers shall be provided with metal venting that terminates outside the dwelling.

(b) Where dryer vent piping is concealed, a rigid metal vent pipe conforming with s. ILHR 23.15 (2) (e) shall be used.

SECTION 107. ILHR 25.01 is amended to read:

ILHR 25.01 PLUMBING. The design, construction and installation of plumbing shall comply with the requirements of the Wisconsin ~~Administrative~~ Plumbing Code, chs. ILHR 81 to ~~86~~ 87.

(END)

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EFFECTIVE DATE

Pursuant to s. 227.22 (2) (intro.), Stats., these rules take effect on the first day of the month following publication in the Wisconsin Administrative Register.

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WPPO:1058