

**Clearinghouse Rule 23-006**

STATE OF WISCONSIN  
(DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES)

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

An order of the Department of Safety and Professional Services **to repeal** SPS 305.003 (72) (Note), 305.99 (3) (a) to (f), 381.01 (150), Tables 381.20-2 and -3, 382.20 (4) (b) 2. to 4., 382.33 (5) (b) (Note), 382.36 (11), 382.365 (3) (c), Tables SPS 382.365-1 to -3, 382.40 (3) (e) 1. (Note 1), (5) (a) (Note), 382.41 (3) (b) 5. b., 6. b. (Note), (4) (g) 2. and (k) 2., 382.50 (3) (b) 6. a. to c., 383.71 (3), (5) (d), and (7) (c), and Tables 384.30-9 and -10; **to renumber** SPS 381.01 (50g); **to renumber and amend** SPS 381.01 (172), 382.20 (1) (a), and 382.33 (9) (c) 2. a. and b.; **to amend** SPS 302.61 (2), Table SPS 305.02 line 73., Table SPS 305.06 line 66., 305.10 (1) (intro.) and (2), 305.125 (1) (h) (intro.), 305.90 (1) (a), (b) 1. (intro.), b., c., 2. a., 3. (intro.), 4. and (2), 305.91 (1), 305.92 (1) and (5) (b), 305.93 (1) (a), (b), and (5) (b), 305.94 (1) (a), (b), (3) (a), and (5) (b), 305.945 (1) and (5) (a) (intro.) and (b) (intro.), 305.95 (1), 305.96 (1) (a) and (b), 305.97 (1) and (6), 305.98 (1), 305.99 (title), (1), (2) (intro.), (3) (intro.), (4) (intro.), (5) (a), (b), and (c) 1. and 2., 381.01 (17e), (18), (35m), (39), (44), (65m), (66), (79), (108s), (116), (117), (189), (204), (231m), (280), (282), 381.20 (3), Tables 381.20-1, 381.20-12 and -13, 382.03 (2), 382.10 (2) (b), 382.20 (1) (a), (b) 1., (c), (4) (a), (13) (title), (b) (intro.), 1. to 3., (d), and (e), Table 382.20-1, 382.21 (1) (intro.), 382.22 (7), Table 382.22-1, 382.30 (4) (a) 1. and 2., (10) (a) 2. c., (c) (intro.), and (d) (intro.), (11) (c) 2. e., (13) (c), Table 382.30-1, 382.31 (17), 382.32 (3) (c) 2., (e), (4) (b) 1. c., (5) (b) and (c) 2., 382.33 (6), (8) (d), 2. and 7., (9), (c) 2., 3., b. (Note), c., (f) (title), (g), 1., and (k) 3., Table 382.33-2 (title), 382.34 (3) (e), (4) (b) 1., (c), (5) (b) 2., 3., (c) and 1. g., (15) (a) 2., 382.35 (3) (a) (intro.), (f), and (8) (a), 382.36 (4) (title), (5) (a) 3., (b), (7) (d) 1., (8) (a) 4. a., and (12) (b) 2. a., Tables 382.36-1 and -3, 382.365 (3) (b) 1., 382.37 (2) (a) and (g) (intro.), 382.40 (3) (b), (d) 1. a., (Note), b., e., 4., (e) 1., (5) (a), (b), (6) (a), (7), (d) 4., a., (e), (8) (i) 1. a., Tables 382.40-2, -8 (title), and -9 (title), 382.41 (1) (Note), (2) (a), (3) (b) 4. e., 5. (intro.), a., c., 6. a. (Note), (d), (4) (b) 1. (intro.), 2. (intro.), (5) (d) 1., (e) 3. a., (f) (intro.), and (h), 382.50 (2) (b), 1., 2., (3) (a) 2., (b) 4., 5., 6. (intro.), 7., Table 382.50-1, 382.60 (2) (a), Table SPS 382.70-1, Table 384.10-1 line 3., 384.12, 384.20 (6) (d), Tables 384.30-1 to -8, SPS 384.30 (3) (e) 3., (4) (a), (5) (c) 4., 7., and 12., (d) (title), 384.40 (6) (b) and (14) (b); **to repeal and recreate** SPS Tables 381.20-3e, -4, -5, -6-, -7, -7e, -8, -9, -10, and -11, 382.20 (2) (a) 2. (Note), 382.31 (11) (a), (16) (d), (e), Table 382.33-1, 382.35 (6), 382.36 (10), 382.40 (8) (d) 3. b., 382.41 (3) (b) 6. b., Tables 382.41-1 and -2, 384.11, Table 384.11, 384.20 (5) (p), (6) (c), 384.30 (1), 384.40 (16); and **to create** SPS 305.90

(1) (b) 1. e. to h., 3. a. to c., and 4. a. and b., 305.99 (3) (am) and (bm), 381.01 (2r), (22m), (30m), (50c), (50e), (50h), (50L), (66m), (73e), (73m), (73s), (116m), (129m), (138m), (153e), (153m), (153s), (154g), (195m), (197m), (199m), (218m), (229m), (256m), (260m), (281m) and (Note), and (288s), Tables 381.20-3p and 381.20-11m, 382.20 (1) (am), (2) (d), and (13) (f), 382.30 (11) (b) (Note), (12) (f) 3., (13) (c) (Note) and (14), 382.31 (17) (d) and (17m), 382.32 (3) (c) 3., (e) 2., and (4) (b) 1. e., 382.33 (8) (d) 8. and 9., (9) (bm) and (fm), 382.34 (3) (g) 4., (5) (d) 8., (15) (e) 1. (Note), g., and h., 382.36 (3) (d), (e), (4) (b) 4., (6) (g) 4., (7) (d) 1m., (e), (8) (a) 5., (b) 3., and (13) (b) 1. a. to d., 382.365 (3) (am), (b) 1. a., b., (Note 1), (Note 2), and (bm), 382.37 (2) (g) 3., and (3) (b) 4. to 6., Table 382.38-1 lines 4m, 9g., 9r. and footnote k., SPS 382.40 (3) (c) 4., (e) 1. a. and b., 3. to 5., (5) (am), (b) 6., 7., (bm), (6) (c), (7) (Note), (d) 1. d., (g) 4., (8) (b) 10., (Note), (d) 7., 8. and (Note), 9., (e) (Note), (i) 5., (jm), Tables 382.40-d, -h, and 382.40-12 to 382.40-15, 382.41 (3) (b) 5. bm., (d) 2., (4) (o), and (5) (d) 1m., 382.50 (2) (b) 1. b., 2. a. to c., (b) 2m., 4m., 7m., 9. to 14., and (c), 382.51 (2) (e), 382.70 (5), Table 384.20-1m, 384.30 (5) (c) 21., and (6) (b) 1. and 2., relating to plumbing and plumbing products and affecting small business.

Analysis prepared by the Department of Safety and Professional Services.

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#### ANALYSIS

#### **Statutes interpreted:**

Section 145.02 (1), Stats.

#### **Statutory authority:**

Section 101.02 (1) (b), 101.63 (1) (and) (2), 101.73 (2), 145.02 (1), (2) (a) and (b), (3), (4) (a) and (b), 145.245 (4), and 227.11 (2) (a), Stats.

#### **Explanation of agency authority:**

Section 101.02 (1) (b), Stats. – “The department shall adopt reasonable and proper rules and regulations relative to the exercise of its powers and authorities and proper rules to govern its proceedings and to regulate the mode and manner of all investigations and hearings.”

Section 101.63 (1), Stats. – (in part) “The department shall: (1) Adopt rules which establish standards for the construction and inspection of one- and 2-family dwellings and components thereof. ...Where feasible, the standards used shall be those nationally recognized and shall apply to the dwelling and to its electrical, heating, ventilating, air conditioning and other systems, including plumbing, as defined in s. 145.01 (10).”

Section 101.63 (2), Stats. – (in part) “Adopt rules for the certification, including provisions for suspension and revocation thereof, of inspectors for the purpose of inspecting building construction, electrical wiring, heating, ventilating, air conditioning

and other systems, including plumbing, as defined in s. 145.01 (10), of one- and 2-family dwellings under sub. (1).”

Section 101.73 (2), Stats. – “Adopt rules for the examination of plans and specifications and for periodic in-plant and on-site inspections of manufacturing facilities, processes, fabrication, assembly and installation of modular homes to ensure that examinations and inspections are made in compliance with the rules adopted for construction, electrical wiring, heating, ventilating, air conditioning and other systems under ss. 101.70 to 101.77 and with the rules for indoor plumbing adopted by the department under ch. 145.”

Section 145.02 (1), Stats. – “The construction, installation and maintenance of plumbing in connection with all buildings in this state, including buildings owned by the state or any political subdivision thereof, shall be safe, sanitary and such as to safeguard the public health and the waters of the state.”

Section 145.02 (2) (a), Stats. – (in part) “The department shall have general supervision of all plumbing described under sub. (1). The department shall promulgate rules that shall uniformly apply to all types of buildings, private or public, rural or urban, including buildings owned by the state or any political subdivision. The rules promulgated by the department shall constitute the state plumbing code. The state plumbing code shall comply with ch. 160....”

Section 145.02 (3)(g) and (h), Stats. – “The department may exercise such powers as are reasonably necessary to carry out the provisions of this chapter. It may, among other things:

(g) By rule, fix fees for the examination and approval of plans of plumbing systems and collect the same.

(h) Promulgate rules concerning the testing of cross-connection control devices, including rules identifying the types of cross-connection control devices that may be tested only by a registered cross-connection control tester and the circumstances under which cross-connection control devices shall be tested.”

Section 145.02 (4) (a), Stats. – (in part) “The department shall prescribe rules as to the qualifications, examination and licensing of master and journeyman plumbers and restricted plumber licensees, for the licensing of utility contractors, for the registration of plumbing apprentices and pipe layers and for the registration and training of registered learners....”

Section 145.02 (4) (b), Stats. – “The department may promulgate rules for the qualification and registration of cross-connection control testers.”

Section 227.11 (2)(a), Stats., authorizes the department to “promulgate rules interpreting the provisions of any statute enforced or administered by the agency, if the agency considers it necessary to effectuate the purpose of the statute.”

**Related statute or rule:**

Chapter 160, Stats., *Groundwater Protection Standards*, provides guidelines and procedures for the exercise of regulatory authority for the enforcement standards and preventive action limits for substances in ground water, which is established elsewhere in the statutes and does not create independent regulatory authority. Section 160.001 (7), Stats., reads (in part) that a regulatory agency may take any actions within the context of regulatory programs established in statutes outside of this chapter, if those actions are necessary to protect public health and welfare or prevent a significant damaging effect on groundwater or surface water quality for present or future consumptive or nonconsumptive uses, whether or not an enforcement standard and preventive action limit for a substance has been adopted under this chapter.

Chapter NR 113 contains rules relating to servicing septic or holding tanks, pumping chambers, grease interceptors, seepage beds, seepage pits, seepage trenches, privies, or portable restrooms.

Chapter NR 114 contains rules relating to certification requirements for waterworks, wastewater treatment plant, seepage servicing and water system operators.

Chapter NR 121 contains rules relating to areawide water quality management plans.

Chapter NR 140 contains rules relating to groundwater quality and lists regulated water contaminants.

Chapter NR 809 contains rules relating to safe drinking water and lists regulated water contaminants.

Chapter NR 810 contains rules relating to requirements for the operation and maintenance of public water systems.

Chapter NR 811 contains rules relating to requirements for the operation and design of community water systems.

Chapter NR 812 contains rules relating to well construction and pump installation.

DNR Conservation Technical Standard 1002 contains standards for site evaluation for stormwater infiltration and bioretention.

DNR Conservation Technical Standard 1004 contains standards for bioretention for stormwater infiltration systems.

Chapter SPS 316 contains the Wisconsin Electrical Code.

Chapters SPS 361 to 366 contain the Wisconsin Commercial Building Code.

**Plain language analysis:**

Chapters SPS 381 to 387, referred to collectively as the “Wisconsin Plumbing Code”, apply uniformly to the design, construction, installation, supervision, maintenance, and inspection of plumbing, including POWTS, sanitary and storm drainage, water supplies, wastewater treatment, dispersal, or discharge for buildings, as well as plumbing products. The plumbing code is uniform in application, meaning municipalities may not enact ordinances that are more stringent, except as specifically permitted.

The primary focus of this rulemaking is to perform a comprehensive update of the Wisconsin Plumbing Code. These administrative rule revisions update Wisconsin’s plumbing regulations to allow Wisconsin to continue to ensure Wisconsin’s buildings are safe and sanitary. Wisconsin’s plumbing regulations were last comprehensively updated in 2018.

Pursuant to s. 145.02, Stats., the purpose of the plumbing code is to provide that all plumbing in connection with buildings and facilities in the state, including buildings owned by the state or any political subdivision shall be safe and sanitary as to safeguard the public health and the waters of the state.

While Wisconsin does not adopt a nationally recognized model plumbing code, the proposed rule incorporates several nationally recognized technical standards, most of which are also incorporated in the model plumbing codes. This rulemaking updates technical standards, either incorporated by reference or permitted for use, to align Wisconsin’s rules with national standards and best practices for safe plumbing systems.

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

There are several existing federal regulations that relate to plumbing. Some of these regulations require compliance with specific editions of the International Plumbing Code (IPC), a national model code developed by the International Code Council (ICC), and the Uniform Plumbing Code (UPC), a national model code developed by the International Association of Plumbing and Mechanical Officials (IAPMO). A search of the United States Code (USC) found the following existing federal rules that impact plumbing:

33 USC § 1342 - National Pollutant Discharge Elimination System (NPDES). This law established Phase I of the storm water program in 1990. Nine years later, Phase II of the program was signed into law and requires smaller communities to develop and implement a comprehensive storm water management program.

42 USC Chapter 6A, Subchapter XII (§§ 300f-300j) – Safety of Public Water Systems. This law establishes standards for and enforcement to protect the public drinking water supply. The “Safe Drinking Water Act (SDWA)” was originally passed by Congress in

1974. This law regulates plumbing for the purpose of protecting the public drinking water supply. Under this law, the Environmental Protection Agency (EPA) sets national health-based standards to protect against contaminants that may be found in public drinking water. EPA sets enforceable maximum contaminant levels for public drinking water, establishes required ways to treat water to remove contaminants and includes requirements for water systems to test for contaminants that may adversely affect public health. The EPA also evaluates risks from several specific contaminants, including microbial contaminants, such as Legionella and Cryptosporidium.

42 USC § 300g-1 - National Primary Drinking Water. This law established primary drinking water regulations pursuant to section 1412 of the Public Health Service Act, as amended by the Safe Drinking Water Act. Regulated by the EPA, the regulations are applicable to public water systems. Subpart I establishes monitoring requirements for lead and copper in tap water.

42 USC § 300g-6, Section 1417 - The Reduction of Lead in Drinking Water Act. This federal law amends the Safe Drinking Water Act (SDWA) and sets new, lower standards for the amount of lead permissible in plumbing products that come into contact with potable water. The U.S. Environmental Protection Agency (EPA) has primary responsibility for interpreting the SDWA with individual states using health or plumbing codes or other standards consistent with the SDWA and EPA regulations to enforce those standards. The law prohibits use lead in pipes, fittings, or fixtures, in any public water system or facility providing water for human consumption and reduces the permissible levels of lead in the wetted surfaces of pipes, pipe fittings, plumbing fittings and fixtures to a weighted average of not more than 0.25%.

42 USC § 300j-24 - Lead contamination in School Drinking Water. This law provides federal guidance on how to decrease or eliminate lead contamination in school drinking water. It requires each state to develop a testing program to remedy lead contamination.

21 CFR § 211.48 - Plumbing. The Food and Drug Administration sets current good manufacturing practice for finished pharmaceuticals. This section establishes standards for plumbing in buildings and facilities that manufacture pharmaceuticals and requires portable water to be supplied in a plumbing system free of defects that could contribute contamination to any drug products. Potable water is required to meet the standards prescribed in the EPA's Primary Drinking Water Regulations under 40 CFR 141.

24 CFR § 3280.601 - Plumbing Fixtures. Subpart G of this standard covers the plumbing materials, fixtures, and equipment installed within or on manufactured homes.

30 CFR § 71.402 - Minimum requirements for bathing facilities, change rooms, and sanitary flush toilet facilities. This section was established by the Department of Labor to protect miner's safety and health.

40 CFR § 141 - Primary Drinking Water Regulations. This part establishes primary drinking water regulations pursuant to section 1412 of the Public Health Service Act, as

amended by the Safe Drinking Water Act, and related regulations applicable to public water systems. These regulations set maximum levels for contaminants in drinking water.

10 CFR § 430.31-35 - Energy and Water Conservation Standards. The Energy Policy and Conservation Act (EPCA), as amended, requires the Department of Energy to administer an energy and water conservation program for consumer products consisting of certain major household appliances and commercial equipment, including certain plumbing products.

**Summary of public comments received on statement of scope and a description of how and to what extent those comments and feedback were taken into account in drafting the proposed rule:**

N/A.

**Illinois:**

The Illinois Plumbing Code is administered by the Illinois Department of Public Health (IDPH). The IDPH licenses plumbers, plumbing contractors, plumbers' apprentices, irrigation contractors and retired plumbers other than those regulated by a local ordinance under the Illinois Plumbing License Law. All persons engaged in plumbing must comply with the minimum code of standards for plumbing and the fixtures, materials, design, and installation methods of plumbing systems. The Plumbing Code Advisory Council, whose members are appointed by the state's governor, consults with and advises the IDPH.

Cities, villages, or incorporated towns with a population of 500,000 or more may, by an ordinance containing provisions substantially the same as those in the Illinois Plumbing License Law and specifying educational or experience requirements equivalent to those prescribed in the Illinois Plumbing License Law, provide for a board of plumbing examiners to conduct examinations for, and to issue, suspend, or revoke, plumbers' licenses, within such city, village or incorporated town. (77 Ill. Admin Code 890).

**Iowa:**

The Iowa Plumbing Code is administered by the Iowa Department of Public Health (IDPH). Iowa currently adopts the 2021 edition of the Uniform Plumbing Code (UPC), with amendments. (IAC 641—25.1(105)). Iowa law requires the Iowa Plumbing and Mechanical Systems Board to adopt the most current version of the UPC within six months of its release as the state's plumbing code to govern the installation of plumbing in the state. Local jurisdictions are not required to adopt by ordinance the state plumbing code but a local jurisdiction that adopts the state plumbing code may adopt standards that are more restrictive. Local jurisdictions are not required to conduct inspections or take any other enforcement action under the state plumbing code regardless of whether they adopt the state plumbing code. A city may set standards and requirements which are more stringent, but not less stringent, than those imposed by state law.

The Iowa Plumbing and Mechanical Systems board performs investigations and administers and enforces Iowa law regarding the licensing and regulation of plumbers, mechanical professionals, and contractors. Anyone working in these disciplines in the state of Iowa is required to be licensed with the board with the exception of an enumerated list of activities found in IAC s. 105.11, primarily consisting of individuals performing specific work on their own home, professionals engaged in related trades, and government employees working on government facilities.

#### **Michigan:**

The Plumbing Division of the Michigan Department of Licensing and Regulatory Affairs (LARA) is responsible for the administration and enforcement of the Michigan Plumbing Code and the plumbing provisions of the Michigan Residential Code by conducting inspections of plumbing equipment and installations. Michigan's plumbing code establishes minimum standards and currently adopts the 2018 edition of the International Plumbing Code. (Mich. Admin. Code R408.30701). Michigan licenses plumbing apprentices, journey plumbers, master plumbers, plumbing contractors, and plumbing inspectors. Michigan law creates a state plumbing board consisting of the director of the department of licensing and regulatory affairs or his or her authorized representative, the director of the department of environmental quality or his or her authorized representative, a member or employee of the drinking water and radiologic protection division of the department of environmental quality, selected by the director of the department of environmental quality, and five members who are appointed by the governor for 3-year terms and who are United States citizens and residents of the state. The board recommends to the state construction code commission the promulgation of rules the board considers necessary for the safe design, construction, installation, alteration, and inspection of plumbing. The board may also recommend acceptability under the state construction code for a material, product, method of manufacturing, or method of construction or installation of plumbing equipment. (See Mich. Stats. s. 339.6101 to 339.6133).

#### **Minnesota:**

The 2020 Minnesota Plumbing Code is administered and enforced statewide by the commissioner of the Minnesota Department of Labor and Industry and incorporates the 2018 edition of the Uniform Plumbing Code, with amendments. (MN Admin Code 4714.0050). The state plumbing code is a section of the Minnesota State Building Code. The plumbing code establishes minimum requirements and applies to all new plumbing installations performed anywhere in the state, including additions, extensions, alterations, and replacements, unless an agreement exists between the commissioner and the municipality. The state may enter into agreements with local municipalities for plan approval and inspections if the municipality adopts the state plumbing code by ordinance. Governmental units may not adopt regulations that are in conflict with the code. The 14-member Minnesota State Plumbing Board, of which 12 members are appointed by the governor, has the authority to license plumbing contractors and restricted plumbing contractors, master plumbers and restricted master plumbers, and journeyworker



plumbers and restricted journeyworker plumbers. Registered plumber's apprentice and registered unlicensed plumbers are allowed to assist in the installation of plumbing under the direct supervision of one of the other categories of licensed plumbers.

**Summary of factual data and analytical methodologies:**

This proposed rule was developed in consultation with the Plumbing Code Advisory Committee. The committee consists of seven individuals appointed by the DSPS Secretary under the authority of ss. 227.13 and 440.042 (1), Stats. The purpose of the Plumbing Code Advisory Committee is to consult with and advise the Department on plumbing standards as set forth in Wis. Administrative Code SPS 381 to 387. The committee has advisory powers only.

Beginning in December 2020, the Plumbing Code Advisory Committee held several meetings to comprehensively review proposals presented by the department's Division of Industry Services Plumbing Section, committee members, stakeholders, and the public.

The committee and the Department also analyzed changes in updated versions of the technical standards incorporated by reference in the rule, while also being cognizant of costs associated with any added requirements and plumbing requirements in surrounding states. The proposed rules reflect recommendations based on these analyses and also include several proposed changes that permit flexibility for the design, construction, and installation of plumbing systems. Standards incorporated by reference in the proposed rule have been submitted to the Attorney General for approval pursuant to s. 227.21 (2), Stats.

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

The proposed rule was posted for a period of 60 days to solicit public comment on economic impact, including how the proposed rule may affect business, local government units, and individuals. No comments relating to Economic Impact were received.

The Department evaluated whether the rules would have an environmental impact and concluded that the rules do not result in any possible significant, adverse environmental or social impacts. Therefore, preparation of an environmental assessment or environmental impact statement under Wisconsin Stat. § 1.11 was not necessary.

The Commission completed an evaluation of the potential impact on housing under Wisconsin Stat. § 227.115 and concluded the rules do not impact housing.

**Fiscal Estimate and Economic Impact Analysis:**

The Fiscal Estimate and Economic Impact Analysis is attached.

**Effect on small business:**

These proposed rules may have an economic impact on small businesses, as defined in s. 227.114 (1), Stats., and will be submitted to the Small Business Regulatory Review Board for a determination on whether the rules will have a significant economic impact on a substantial number of small businesses. The Department's Regulatory Review Coordinator may be contacted by email at [Jennifer.Garrett@wisconsin.gov](mailto:Jennifer.Garrett@wisconsin.gov), or by calling (608) 266-2112.

**Agency contact person:**

Joseph Ricker, Attorney, Department of Safety and Professional Services, Division of Policy Development, 4822 Madison Yards Way, P.O. Box 8366, Madison, Wisconsin 53708; telephone 608-267-2242; email at [DSPSAdminRules@wisconsin.gov](mailto:DSPSAdminRules@wisconsin.gov).

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

Comments may be submitted to Joseph Ricker, Attorney, Department of Safety and Professional Services, Division of Policy Development, 4822 Madison Yards Way, P.O. Box 8366, Madison, WI 53708-8366, or by email to [DSPSAdminRules@wisconsin.gov](mailto:DSPSAdminRules@wisconsin.gov). Comments must be received on or before a date to be determined to be included in the record of rule-making proceedings.

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TEXT OF RULE

SECTION 1. SPS 302.61 (2) is amended to read:

**SPS 302.61 (2)** The fee for revisions to previously approved plumbing and private sewage plans shall be \$85.00 for the first hour and \$80.00 per hour thereafter per plan. This fee shall apply when plans are revised for reasons other than those which were requested by the department.

SECTION 2. SPS 305.003 (72) (Note) is repealed.

SECTION 3. Table SPS 305.02 line 73. is amended to read:

Table 305.02 (Partial Table)					
FEES					
	License, Certification, Registration, or Enrollment Category	Type	Application Fee	Examination Fee	License, Certification, Registration, or Enrollment Fee
73.	Cross Connection Control <u>Assembly</u> Tester	Registration	\$15	NA	\$180

SECTION 4. Table SPS 305.06 line 66. is amended to read:

Table 305.06 (Partial Table)			
TERMS			
66.	Cross Connection Control <u>Assembly</u> Tester	4 years	Date of Issuance

SECTION 5. SPS 305.10 (1) (intro.) and (2) are amended to read:

**SPS 305.10 (1)** Except as provided in sub. (2) pertaining to licenses or registrations for master plumbers, journeyman plumbers, cross connection control assembly testers, and utility contractors, the department may deny, suspend, or revoke a license, certification, or registration, ~~or enrollment~~ under this chapter in accordance with the following provisions: this subsection.

(2) Pursuant to s. 145.10, Stats., the department may suspend or revoke the license or registration of any master plumber, journeyman plumber, master plumber-restricted, journeyman plumber-restricted, utility contractor, or cross connection control assembly tester in accordance with this subsection.

SECTION 6. SPS 305.125 (1) (h) (intro.) is amended to read:

**SPS 305.125 (1) (h)** The amount of forfeiture assessed against an individual who does not hold a registration as a cross connection control assembly tester under s. SPS 305.99 and who tests cross connection control ~~devices~~ assemblies to meet the requirements in s. SPS 382.22 (8) shall be one of the following:

SECTION 7. SPS 305.90 (1) (a), (b) 1. (intro.), b., and c. are amended to read:

**SPS 305.90 (1) (a)** Except as provided under s. 145.06 (4), Stats., and pursuant to s. 145.06, Stats., no person may install plumbing unless the person holds a license or registration issued by the department as a ~~licensed~~ master plumber, ~~licensed~~ master plumber-restricted, ~~licensed~~ journeyman plumber, ~~licensed~~ journeyman plumber-restricted, ~~registered~~ plumbing apprentice, ~~registered~~ plumbing learner-restricted, ~~registered~~ utility contractor or ~~registered~~ pipelayer.

**(b) 1.** Pursuant to s. 145.14, Stats., the plumbing activities that may be undertaken by a person who holds a license or registration as a ~~licensed~~ master plumber-restricted service, ~~licensed~~ journeyman plumber-restricted service or a ~~registered~~ plumbing learner-restricted service shall be limited to the installation or modification of ~~all of the~~ following:

**b.** Building sewers, sanitary; building sewers, storm; and private interceptor main sewers, as defined in ch. SPS 381, from the street main to the immediate inside or proposed inside foundation wall of a building.

**c.** Water services, ~~and~~ private water mains, manufactured home community water supply systems, and campground or recreational vehicle park water supply systems as defined in ch. SPS 381.

SECTION 8. SPS 305.90 (1) (b) 1. e. to h. are created to read:

**SPS 305.90 (1) (b) 1. e.** Manufactured home community drain systems, sanitary; manufactured home community drain systems, storm; campground or recreational vehicle park drain systems, sanitary; and campground or recreational vehicle park drain systems, storm, as defined in ch. SPS 381.

**f.** Wastewater treatment devices, as defined in ch. SPS 381, not located within a building's foundation perimeter.

**g.** Stormwater use systems, not located within a building's foundation perimeter.

**h.** Reclaimed water systems, not located within a building's foundation perimeter.

SECTION 9. SPS 305.90 (1) (b) 2. a. and 3. (intro.) are amended to read:

**SPS 305.90 (1) (b) 2. a.** The plumbing activities that may be undertaken by a person who holds a license as a ~~licensed~~ master plumber-restricted service type 2 or ~~licensed~~ journeyman plumber-restricted service type 2 shall be limited to the installation or modification of underground drain and vent piping and plumbing delineated under subd. 1.

**b.** The plumbing activities that may be undertaken by a person who holds a license as a ~~licensed~~ master plumber-restricted service type 3 or ~~licensed~~ journeyman plumber-restricted service type 3 shall be limited to the modification of existing water distribution systems and plumbing delineated under subd. 1.

**c.** The plumbing activities that may be undertaken by a person who holds a license as a ~~licensed~~ master plumber-restricted service type 4 or ~~licensed~~ journeyman plumber-restricted service type 4 shall be limited to the installation or modification of drain and vent piping to existing drain stacks and vent stacks for the conversion from a private sewage system to municipal sewers and plumbing delineated under subd. 1.

**3.** Pursuant to s. 145.14, Stats., the plumbing activities that may be undertaken by a person who holds a license or registration as a ~~licensed~~ master plumber-restricted appliance, ~~licensed~~ journeyman plumber-restricted appliance, or ~~registered~~ plumbing learner-restricted appliance shall be limited to connections with an existing water distribution system which do not require a direct connection to the drain system for the installation and modification of the following: water heaters, water softeners, water treatment devices and other items in connection with an existing water supply system which do not require direct connection to the drain system.

SECTION 10. SPS 305.90 (1) (b) 3. a. to c. are created to read:

**SPS 305.90 (1) (b) 3. a.** Items requiring connection with a water distribution system,

**b.** Stormwater use or reclaimed water supply systems, and

**c.** The minimum required piping to connect allowed installations to the system.

SECTION 11. SPS 305.90 (1) (b) 4. is amended to read:

**SPS 305.90 (1) (b) 4.** The plumbing activities that may be undertaken by a person who holds a license or registration as a ~~licensed~~ utility contractor or registered pipelayer shall be limited to the installation or modification of the following: ~~water services, private water mains, building sewers, and private interceptor main sewers.~~

SECTION 12. SPS 305.90 (1) (b) 4. a., and b. are created to read:

**SPS 305.90 (1) (b) 4. a.** Water services, and private water mains, as defined in ch. SPS 381, from the street main to the immediate inside building perimeter.

**b.** Building sanitary sewers, building storm sewers, and private interceptor main sewers, as defined in ch. SPS 381, from the street main to the immediate inside building perimeter.

SECTION 13. SPS 305.90 (2) is amended to read:

**SPS 305.90 (2)** Pursuant to s. 145.06 (3m), Stats., no person may perform the required testing of cross connection control ~~devices~~ assemblies unless the person holds a registration issued by the department as a cross-connection control assembly tester.

SECTION 14. SPS 305.91 (1) is amended to read:

**SPS 305.91 (1)** A person may obtain a license as a ~~licensed~~ master plumber by taking and passing the master plumber license examination.

SECTION 15. SPS 305.92 (1) and (5) (b) are amended to read:

**SPS 305.92 (1)** A person may obtain a license as a ~~licensed~~ master plumber-restricted by taking and passing the master plumber-restricted license examination.

**(5) (b)** A person may apply for a license as a ~~licensed~~ master plumber-restricted service or a ~~licensed~~ master plumber-restricted appliance by submitting an application, application fee, and a license fee in accordance with ss. SPS 305.01, and 305.02, and Table 305.02.

SECTION 16. SPS 305.93 (1) (a), (b), and (5) (b) are amended to read:

**SPS 305.93 (1) (a)** The plumbing activities that may be undertaken by a person who holds a license as a ~~licensed~~ journeyman plumber shall be performed under the general supervision of a person who holds a master plumber license, master plumber-restricted license, or utility contractor license.

**(b)** A person may obtain a license as a ~~licensed~~ journeyman plumber by taking and passing the journeyman plumber license examination.

**(5) (b)** A person may apply for a license as a ~~licensed~~ journeyman plumber by submitting an application, application fee, and a license fee in accordance with ss. SPS 305.01, ~~and~~ 305.02, and Table 305.02.

SECTION 17. SPS 305.94 (1) (a), (b), (3) (a), and (5) (b) are amended to read:

**SPS 305.94 (1) (a)** The plumbing activities as delineated under s. SPS 305.90 (1) (b) that may be undertaken by a person who holds a license as a ~~licensed~~ journeyman plumber-restricted service shall be performed under the general supervision of a person who is a licensed master plumber or a licensed master plumber-restricted service.

**(b)** A person may obtain a license as a ~~licensed~~ journeyman plumber-restricted service by taking and passing the journeyman plumber-restricted license examination.

**(3) (a)** ~~At least Completed one continuous year of plumbing-related work experience consisting of not less than 1,000 hours per year of plumbing-related work experience as a registered learner-restricted service.~~

**(5) (b)** A person may apply for a license as a ~~licensed~~ journeyman plumber-restricted service by submitting an application, an application fee, and a license fee in accordance with ss. SPS 305.01 and 305.02

SECTION 18. SPS 305.945 (1), (5) (a) (intro.) and (b) (intro.) are amended to read:

**SPS 305.945 (1)** The plumbing activities as delineated under s. SPS 305.90 (1) (b) 3. that may be undertaken by a person who holds a license as a ~~licensed~~ journeyman plumber-restricted appliance shall be performed under the general supervision of a person who is a licensed master plumber or a licensed master plumber-restricted appliance.

**(5) (a)** Upon notification of the successful passage of a department administered examination for a journeyman plumber-restricted appliance license a person may apply for a license as a ~~licensed~~ journeyman plumber-restricted appliance by submitting all of the following:

**(b)** Upon notification of the successful passage of an examination approved by the department for a journeyman plumber-restricted appliance license a person may apply for a license as a ~~licensed~~ journeyman plumber-restricted appliance within

3 months after the date that notice of exam results is released by the exam provider to the candidate. Failure to apply for a journeyman plumber-restricted appliance license within 3 months, shall necessitate the applicant to apply, retake, and pass another license examination in order to obtain the journeyman plumber restricted appliance license. A person may apply for a journeyman plumber-restricted appliance license by submitting all of the following:

SECTION 19. SPS 305.95 (1) is amended to read:

**SPS 305.95 (1)** A person who holds a registration as a ~~registered~~ plumbing apprentice may install or modify plumbing under the general supervision of a person who is a licensed master plumber.

SECTION 20. SPS 305.96 (1) (a) and (b) are amended to read:

**SPS 305.96 (1) (a)** The plumbing activities that may be undertaken by a person who holds a registration as a ~~registered~~ learner-restricted service shall be performed under the direct supervision of a person who holds a master plumber license, a master plumber-restricted service license, a journeyman plumber license or a journeyman plumber-restricted service license.

**(b)** The plumbing activities that may be undertaken by a person who holds a registration as a ~~registered~~ learner-restricted appliance shall be performed under the direct supervision of a person who holds a master plumber license, a master plumber-restricted appliance license, a journeyman plumber license or a journeyman plumber-restricted appliance license.

SECTION 21. SPS 305.97 (1) and (6) are amended to read:

**SPS 305.97 (1)** A person may obtain a license as a ~~licensed~~ utility contractor by taking and passing the utility contractor license examination.

**(6)** A person who, as a licensed utility contractor, installs or modifies water services; private water mains; ~~sanitary~~ building sewers, ~~sanitary~~; ~~storm~~ building sewers, ~~storm~~ or private interceptor main sewers, as defined in ch. SPS 381, from the street main to the immediate inside or proposed inside foundation wall of the building shall utilize the appropriately licensed or registered persons to install or modify the plumbing.

SECTION 22. SPS 305.98 (1) is amended to read:

**SPS 305.98 (1) GENERAL.** Pursuant to s. 145.07 (11), Stats., a person who holds a registration as a registered pipelayer may install or modify water services, private water mains, ~~sanitary~~ building sanitary sewers, ~~storm~~ building storm sewers, or private interceptor main sewers, as defined in ch. SPS 381, from the street main to the immediate inside or proposed inside foundation wall of the building under the general supervision of

a licensed utility contractor, licensed master plumber, or a licensed master plumber-restricted service.

SECTION 23. SPS 305.99 (title), (1), (2) (intro.), and (3) (intro.) are amended to read:

**SPS 305.99 Cross connection control assembly testers.**

(1) Pursuant to s. 145.06 (3m), Stats., no person may conduct a performance test of a cross connection control assembly as required by s. SPS 382.22 (8) unless the person holds a registration issued by the department as a ~~registered~~ cross connection control assembly tester.

(2) A person applying for a cross connection control assembly tester registration shall submit all of the following:

(3) A person applying for a cross connection control assembly tester registration shall have completed, at a minimum, one of the following: ~~at least 40 hours in an approved course or courses in the theory of cross connection control, the operation, testing and maintenance of cross connection control assemblies, and the national standards for these cross connection control assemblies. The course or courses shall include instruction in at least all of the following:~~

SECTION 24. SPS 305.99 (3) (a) to (f) are repealed.

SECTION 25. SPS 305.99 (3) (am) and (bm) are created to read:

**SPS 305.99 (3) (am)** At least 40 hours in a department approved course or courses in the theory of cross connection control, the operation, testing and maintenance of cross connection control assemblies, and the national standards for these cross connection control assemblies.

**(bm)** An ASSE approved course meeting standard ASSE 5150.

SECTION 26. SPS 305.99 (4) (intro.), (5) (a), (b), (c) 1., and 2. are amended to read:

**SPS 305.99 (4)** A person who, as a registered cross connection control assembly tester, conducts performance tests of cross connection control assemblies shall be responsible for ~~all of~~ the following:

(5) (a) A person may renew his or her registration as a cross connection control assembly tester.

(b) A cross connection control assembly tester registration shall be renewed in accordance with s. SPS 305.07.



(c) ~~1.~~ The renewal of a certification as a cross connection control assembly tester ~~which has an expiration date after June 30, 2013,~~ shall be contingent upon the cross connection control assembly tester obtaining at least 6 hours of approved continuing education prior to the expiration date of the certification as specified in s. SPS 305.08 and Table 305.06, except as provided in subd. 2.

2. A person who holds a certification as a cross connection control assembly tester may apply to the department for waiver of the continuing education requirements under subd. 1. on the grounds of prolonged illness or disability or similar circumstances. The department shall consider each application for waiver individually on its merits.

SECTION 27. SPS 381.01 (2r) is created to read:

**SPS 381.01 (2r)** “Adult day care center” or “ADCC” has the meaning given in s. DHS 105.14 (1) (b) 5.

SECTION 28. SPS 381.01 (17e) and (18) are amended to read:

**SPS 381.01 (17e)** “Backflow preventer” means any generic backflow prevention method, device, or assembly.

~~(18) “Backflow preventer with an intermediate atmospheric vent” means a type of cross connection control device which consists of having 2 independently acting operating check valves, and separated by an intermediate chamber with a means for automatically venting it to the atmosphere. This can be installed in the horizontal, vertical up, or vertical down orientations. The check valves are internally force-loaded to a normally closed position and the venting means is force loaded to separated by an intermediate chamber with a means for automatically venting to atmosphere where the venting means is internally force loaded to a normally open position. The terms “backflow preventer” or “dual check valve type with atmospheric port backflow preventer” has the same meaning as backflow preventer with intermediate atmospheric vent.~~

SECTION 29. SPS 381.01 (22m) and (30m) are created to read:

**SPS 381.01 (22m)** “Barometric loop” means a continuous section of supply piping that abruptly rises to a height of approximately 35 feet before returning to the originating level. It is used to protect against back-siphonage but not against back pressure. Its operation is based on the principle that a water column at sea level will not rise above 33.9 feet.

**(30m)** “Bidet sprayer” means a component of a personal hygiene device intended for genital and perineal cleanliness and intended for installation in water closets and water closet seats.

SECTION 30. SPS 381.01 (35m), (39), and (44) are amended to read:

**SPS 381.01 (35m)** “Branch tailpiece” means a fitting or combination of fittings consisting of a combination tail piece and a wye.

**(39)** “Building drain” means horizontal piping within or under the fully enclosed portion of a building, installed below the lowest fixture or the lowest floor level from which fixtures can drain by gravity to the building sewer.

**(44)** “Building sewer” means that part of the drain system not within or under the fully enclosed portion of a building which conveys its discharge to a public sewer, private interceptor main sewer, private onsite wastewater treatment system, or other point of discharge or dispersal.

SECTION 31. SPS 381.01 (50c) is created to read:

**SPS 381.01 (50c)** “Campground or recreational vehicle park drain system, sanitary” means all piping or any portion thereof, within public or private premises, that conveys domestic wastewater from a campground or recreational vehicle park.

SECTION 32. SPS 381.01 (50g) is renumbered SPS 381.01 (50t).

SECTION 33. SPS 381.01 (50e), (50h) and (50L) are created to read:

**SPS 381.01 (50e)** “Campground or recreational vehicle park drain system, storm” means all plumbing or any portion thereof, within public or private premises, that conveys any of the following:

- (a) Storm water from a campground or recreational vehicle park.
- (b) Groundwater from a campground or recreational vehicle park.
- (c) Clear water from a campground or recreational vehicle park.

**(50h)** “Campground or recreational vehicle park water supply system” means the piping through which potable water is conveyed to points of usages intended to serve sites in a campground or recreational vehicle park.

**(50L)** “Camping trailer” has the definition under s. 340.01 (6m) Stats.

SECTION 34. SPS 381.01 (65m) and (66) are amended to read:

**SPS 381.01 (65m)** “Cross connection control assembly” means a ~~testable backflow preventer consisting of an arrangement of components~~ mechanical backflow preventer used to prevent backflow into a water supply system that requires shut-off valves and a test cock or test cocks to meet any specific standard, such as a reduced pressure principle backflow preventer, a double check backflow preventer, a pressure vacuum breaker, or a spill resistant vacuum breaker.

**(66)** “Cross connection control device” means ~~any mechanical device which automatically prevents backflow from a contaminated source into a potable water supply system~~ a mechanical backflow preventer used to prevent backflow into a water supply system that does not require a shut-off valve or test cock in meeting any specific standard, such as an atmospheric type vacuum breaker, a hose connection vacuum breaker, or a backflow preventer with an atmospheric vent.

SECTION 35. SPS 381.01 (66m), (73e), (73m), and (73s) are created to read:

**SPS 381.01 (66m)** “Cross connection control method” means a mechanism used to prevent backflow into a water supply system other than a backflow prevention device or backflow prevention assembly, such as an air gap, vacuum breaker tee, or barometric loop.

**(73e)** “Dishwasher, commercial-type” or “dishwashing machine, commercial-type” means a machine or appliance that is manufactured and marketed for a use other than residential that mechanically washes, rinses, and sanitizes dishes or utensils and discharges to the plumbing drainage system.

**(73m)** “Dishwasher, residential-type” or “Dishwashing machine, residential-type” means a machine or appliance manufactured and marketed for residential use that mechanically washes, rinses, and sanitizes dishes or utensils and discharges to the plumbing drainage system.

**(73s)** “Disinfection” means the process of killing or inactivating microorganisms, particularly pathogens.

SECTION 36. SPS 381.01 (79), (108s) and (116) are amended to read:

**SPS 381.01 (79)** “Double check backflow prevention assembly” means ~~a type of cross connection control assembly which is composed~~ consisting of 2 independently acting check valves, internally force-loaded to a normally closed position, 2 tightly closing shut-off valves that are properly located, and test cocks that are properly located, at each end of the assembly and fitted with test cocks. The term “double check valve backflow preventer” has the same meaning as double check backflow prevention assembly.

**(108s)** “Freeze resistant sanitary yard hydrant with backflow protection” means ~~a type of device, serving as a hose bibb that has design features that minimize the risk of freezing, prevent groundwater contamination and provide backflow protection, typically installed with a portion below ground surface, to supply potable water without danger of damage to the device due to freezing, and to provide protection of the potable water supply and groundwater from contamination due to back-siphonage or back-pressure. The term “freeze resistant sanitary yard hydrant with backflow protection” has the same meaning as freeze resistant sanitary yard hydrant.~~

**(116)** “Health care ~~and related~~ facility” means a hospital, nursing home, community-based residential facility, ~~county home, infirmary, inpatient mental health center, inpatient hospice, or an~~ ambulatory surgery center, ~~adult daycare center, end stage renal facility, facility for the developmentally disabled, institute for mental disease, urgent care center, clinic or medical office, residential care center for children and youth or school of medicine, surgery or dentistry.~~

SECTION 37. SPS 381.01 (116m) is created to read:

**SPS 381.01 (116m)** “Health care related facility” means an assisted living, residential care apartment complex, memory care, infirmary, inpatient mental health center, inpatient hospice, adult day care center, renal dialysis center, facility for the developmentally disabled, institute for mental disease, urgent care center, medical clinic or office, dental clinic or office, residential care center for children and youth, or school of medicine, surgery, or dentistry.

SECTION 38. SPS 381.01 (117) is amended to read:

**SPS 381.01 (117)** “Health care plumbing appliance” means a plumbing appliance, ~~the function of which is unique to health care activities~~ used in health care and related facilities, the function of which involves a potential for exposure to infectious wastes. Examples of health care plumbing appliances include autoclaves, dialysis units, endoscope reprocessors, sterilizers, surgical suction systems, therapeutic tubs and washer/disinfector units. Examples of appliances/fixtures that are not regarded as health care plumbing appliances are auto-analyzers, bathtubs, high-purity water systems and wheelchair washers.

SECTION 39. SPS 381.01 (129m) and (138m) are created to read:

**(129m)** “Imminent health hazard” means a significant threat or danger to health that is considered to exist when there is evidence sufficient to show that a product, practice, circumstance, or event creates a situation that requires immediate correction or cessation of operation to prevent injury or illness based on any of the following:

- (a) The number of potential injuries or illnesses.
- (b) The nature, severity or duration of the potential injury or illness.

**(138m)** “Lavatory” means a sink or washbasin designed for washing of the hands and face.

SECTION 40. SPS 381.01 (150) is repealed.

SECTION 41. SPS 381.01 (153e), (153m), (153s), and (154g) are created to read:

**SPS 381.01 (153e)** “Manufactured home community drain system, sanitary” means all piping or any portion thereof, within public or private premises, which conveys domestic wastewater from a manufactured home in a manufactured home community.

**(153m)** “Manufactured home community drain system, storm” means all piping or any portion thereof, within public or private premises, that conveys any of the following:

- (a) Storm water from a manufactured home community.
- (b) Groundwater from a manufactured home community.
- (c) Clear water from a manufactured home community.

**(153s)** “Manufactured home community water supply system” means the piping through which potable water is conveyed to points of connection to a manufactured home or homes in a manufactured home community.

**(154g)** “Medical or high purity water” means water that has uncommon stringent specifications with specific resistance measured in microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ) or megohm-centimeters ( $\text{Mohm}\cdot\text{cm}$ ).

SECTION 42. SPS 381.01 (172) is renumbered 381.01 (13e) and, as renumbered, amended to read:

**SPS 381.01 (13e)** ~~“Pipe applied atmospheric~~ “Atmospheric type vacuum breaker” means a type of cross connection control device where the flow of water into the device causes a float to close an air inlet port and when the flow of water stops the float falls and forms a check valve against back siphonage and at the same time opens the air inlet port to allow air to enter and satisfy the vacuum.

SECTION 43. SPS 381.01 (189) is amended to read:

**SPS 381.01 (189)** “Pressure vacuum breaker assembly” means a type of cross connection control assembly which consists of ~~an independently operating internally loaded check valve and an independently operating loaded air inlet located on the discharge side of the check valve, a tightly closing shut-off valve located at each end of the assembly, and test cocks. The term “pressure vacuum breaker” has the same meaning as pressure vacuum breaker assembly.~~ an independently acting check valve force-loaded to the closed position, and an independently acting air inlet valve located downstream of the check valve that is force-loaded to the open position. The assembly also includes two tightly closing shutoffs, one at the inlet of the assembly and one at the outlet of the assembly, and two tightly closing test cocks, one immediately upstream, and one immediately downstream of the check valve.

SECTION 44. SPS 381.01 (195m), (197m), and (199m) are created to read:

**SPS 381.01 (195m)** “Process piping” means that piping which is separated from a water supply system or drain system by the acceptable methods or means specified under ch. SPS 382 and is part of a system used exclusively for refining, manufacturing, industrial or shipping purposes of every character and description.

**(197m)** “Public lavatory” means a lavatory located in a public restroom or located outside of a public restroom. Hand wash sinks required by Dept. of Agriculture Trade and Consumer Protection (DATCP), Dept. of Health Services (DHS), National Institute of Health (NIH), or United States Dept. of Agriculture (USDA) are considered public lavatory fixtures.

**(199m)** “Push-fit fitting” means a mechanical fitting that joins pipes or tubes and achieves a seal by pushing the mating pipe or tube into the fitting.

SECTION 45. SPS 381.01 (204) is amended to read:

**SPS 381.01 (204)** “Reduced pressure principle backflow preventer” means a ~~type of~~ cross connection control assembly ~~which contains~~ consisting of 2 independently-acting check valves, internally force loaded to a normally closed position and separated by an intermediate chamber or zone in which there is a hydraulically operated relief means for venting to atmosphere, internally force loaded to a normally open position. These assemblies are designed to operate under continuous pressure conditions. The assembly shall and includes include 2 properly located, tightly closing shut-off valves and 4 properly located test cocks.

SECTION 46. SPS 381.01 (218m) and (229m) are created to read:

**SPS 381.01 (218m)** “Siphonic roof drain system” means a drainage system designed to receive water collecting on a roof surface via negative pressure conditions created by roof drains that allow water to enter the stormwater piping system while minimizing the ingress of air, generating a negative differential fluid pressure within the piping system thereby inducing full-bore flow without pipe gradient.

**(229m)** “Special wastewater” means any wastewater containing deleterious waste material as defined in s. 382.34 (3) (b).

SECTION 47. SPS 381.01 (231m) is amended to read:

**SPS 381.01 (231m)** “Spill resistant vacuum breaker” means a cross connection control ~~device assembly~~ consisting of one check valve force loaded closed, and an air inlet force loaded open to atmosphere located downstream of the check valve, ~~2 shut-off~~ The assembly also includes 2 tightly closing shut-off valves and 2 test cocks or a no. 1 test cock and a bleed valve.

SECTION 48. SPS 381.01 (256m) and (260m) are created to read:

**SPS 381.01 (256m)** “Thermal disinfection” means a method of providing bacterial control within a water distribution system using water that is heated and initially circulated to a minimum temperature of 140°F and with a minimum temperature of 124°F at the point of return to the heat source.

**(260m)** “Trap seal primer, drainage and electric types” means a device designed to supply water to a drain trap to provide and maintain its water seal by using a supply fixture drain line, an anti-siphon fill valve for water closet tanks, flushometer valve tailpiece, or an electric trap seal primer.

SECTION 49. SPS 381.01 (280) is amended to read:

**SPS 381.01 (280)** “Water distribution system” means that portion of a water supply system from the outlet of the building control valve to the connection of a fixture supply connector, plumbing fixture, plumbing appliance, water-using equipment, or other piping systems to be served.

SECTION 50. SPS 381.01 (281m) is created to read:

**SPS 381.01 (281m)** “Water operator-in-charge” means the person designated by the owner of the building waterworks to be directly responsible for the day-to-day operations of the waterworks.

**Note:** Per NR 114.03(15), “waterworks” means a community water system owned by, or a private utility serving, a county, city, village, town, town sanitary district, utility district or a county-owned or state-owned public institution for congregate care or correction, which includes but is not limited to correctional institutions, correctional camp systems, county jails or houses of correction, mental health institutes, schools for the handicapped, hospitals, infirmaries and asylums.

SECTION 51. SPS 381.01 (282) is amended to read:

**SPS 381.01 (282)** “Water service” means that portion of a water supply system from the water main or private water supply up to and including the building control valve.

SECTION 52. SPS 381.01 (288s) is created to read:

**SPS 381.01 (288s)** “Yard hydrant” means a device with a water supply outlet, or faucet, that has a valve control and outlet above ground and a connection to the water supply system below ground.

SECTION 53. SPS 381.20 (3) is amended to read:

**SPS 381.20 (3)** ADOPTION OF STANDARDS. The standards referenced in Tables 381.20-1 to 381.20-13 are incorporated by reference into ~~this chapter~~ chs.381 to 387.

SECTION 54. Table 381.20-1 is amended to read:

<b>Table 381.20-1</b>	
<b>Standard Reference Number</b>	<b>Title</b>
1. DW <del>4 2-2005</del> 2020	Household Electric Dishwashers

SECTION 55. SPS Tables 381.20-2 and 381.20-3 are repealed.

SECTION 56. SPS Table 381.20-3e is repealed and recreated to read:

<b>Table 381.20-3e</b>	
<b>ASME</b> American Society of Mechanical Engineers Two Park Avenue New York, New York 10016-5990 Phone: 800-843-2763 Website: <a href="http://www.asme.org">www.asme.org</a>	
<b>Standard Reference Number</b>	<b>Title</b>
1. A112.1.2-2012 (R2017)	Air Gaps in Plumbing Systems (For Plumbing Fixtures and Water-Connected Receptors)
2. A112.1.3-2000 (R2015)	Air-gap Fittings for Use with Plumbing Fixtures, Appliances, and Appurtenances
3. A112.3.1-2007 (R2017)	Stainless Steel Drainage Systems for Sanitary DWV, Storm and Vacuum Applications Above and Below Ground
4. A112.3.4-2018/CSA B45.9-18	Macerating Toilet Systems and Waste Pumping Systems for Plumbing Fixtures
5. A112.4.1-2009 (R2019)	Water Heater Relief Valve Drain Tubes
6. A112.4.2-2015/CSA B45.16-15 (R2020)	Personal Hygiene Devices for Water Closets
7. A112.6.1M-97 (R2017)	Supports for Off-the-Floor Plumbing Fixtures for Public Use
8. A112.6.2-2017	Framing-Affixed Supports (Carriers) for Off-the-Floor Plumbing Fixtures
9. A112.6.3-2019	Floor and Trench Drains
10. A112.6.4-2003 (R2012)	Roof, Deck and Balcony Drains
11. A112.6.9-2005 (R2015)	Siphonic Roof Drains
12. A112.14.1-2003 (R2017)	Backwater Valves
13. A112.14.3-2018	Hydromechanical Grease Interceptors
14. A112.14.4-2001 (R2012)	Grease Removal Devices
15. A112.14.6-2010	FOG (Fats, Oils and Greases) Disposal Systems
16. A112.18.1-2018 / CSA B125.1-18	Plumbing Supply Fittings
17. A112.18.3-2002 (R2017)	Performance Requirements for Backflow Protection Devices and Systems in Plumbing Fixture Fittings
18. A112.18.6-2017 / CSA B125.6-17	Flexible Water Connectors
19. A112.19.1-2018 / CSA B45.2-18	Enameled Cast Iron and Enameled Steel Plumbing Fixtures



20.	A112.19.2-2018 / CSA B45.1-18	Vitreous China Plumbing Fixtures and Hydraulic Requirements for Water Closets and Urinals
21.	A112.19.3-2017 / CSA B45.4-17	Stainless Steel Plumbing Fixtures (Designed for Residential Use)
22.	A112.19.4M-1994 (R2009)	Porcelain Enameled Formed Steel Plumbing Fixtures
23.	A112.19.5-2017 / CSA B45.15-17	Flush Valves and Spuds for Water-Closets, Urinals, and Tanks
24.	B1.20.1-2013 (R2018)	Pipe Threads, General Purpose, (Inch)
25.	B16.1-2020	Gray Iron Pipe Flanges and Flanged Fittings (Classes 25, 125, and 250)
26.	B16.3-2016	Malleable Iron Threaded Fittings (Classes 150 and 300)
27.	B16.4-2016	Gray Iron Threaded Fitting (Classes 125 and 250)
28.	B16.5-2020	Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard
29.	B16.9-2018	Factory-Made Wrought Butt Welding Fittings
30.	B16.11-2016	Forged Fittings, Socket-Welding and Threaded
31.	B16.12-2019	Cast Iron Threaded Drainage Fittings
32.	B16.15-2018	Cast Bronze Threaded Fittings, (Classes 125 and 250)
33.	B16.18-2018	Cast Copper Alloy Solder Joint Pressure Fittings
34.	B16.22-2018	Wrought Copper and Copper Alloy Solder-Joint Pressure Fittings
35.	B16.23-2016	Cast Copper Alloy Solder Joint Drainage Fittings: DWV
36.	B16.24-2016	Cast Copper Alloy Pipe Flanges, Flanged Fittings, and Valves: Classes 150, 300, 600, 900, 1500, and 2500
37.	B16.26-2018	Cast Copper Alloy Fittings for Flared Copper Tubes
38.	B16.29-2017	Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV
39.	B16.42-2016	Ductile Iron Pipe Flanges and Flanged Fittings, (Classes 150 and 300)
40.	B16.45-1998 (R 2006)	Cast Iron Fittings for Solvent <sup>®</sup> Drainage Systems
41.	B36.19M-2018	Stainless Steel Pipe

SECTION 57. SPS Table 381.20-3p is created to read:

**Table 381.20-3p**

<b>ASPE</b>	American Society of Plumbing Engineers (ASPE) 6400 Shafer Ct, Ste 350, Rosemont Il 60018-4914 Phone: (847) 296-0002 Website: <a href="http://www.aspe.org">www.aspe.org</a>
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<b>Standard Reference Number</b>	<b>Title</b>
1. 45-2018	Siphonic Roof Drainage

SECTION 58. SPS Tables 381.20-4, -5, -6, -7, -7e, -8, -9, -10, and -11 are repealed and recreated to read:

**Table 381.20-4**

<b>ASSE/IAMPO</b>	American Society of Sanitary Engineering 18927 Hickory Creek Drive, Suite 220 Mokena, Illinois 60448 Phone: 708-995-3019 Website: <a href="http://www.asse-plumbing.org">www.asse-plumbing.org</a>
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<b>Standard Reference Number</b>	<b>Title</b>
1. 1001-2017	Atmospheric Type Vacuum Breakers
2. ASSE 1002-2020/ASME A112.1002-2020/CSA B125.12.20	Anti-siphon Fill Valves for Water Closet Tanks
3. 1003-2020 e1	Water Pressure Reducing Valves for Potable Water Distribution Systems
4. 1004-2017	Commercial Dishwashing Machines
5. 1008--2020	Plumbing Aspects of Residential Food Waste Disposer Units
6. 1010-2004	Water Hammer Arresters

7.	1011-2017	Hose Connection Vacuum Breakers
8.	1012-2009	Backflow Preventer with Intermediate Atmospheric Vent
9.	1013-2011	Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers
10.	1014-2020	Backflow Prevention Devices for Hand-Held Showers
11.	1015-2011	Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies
12.	ASSE 1016-2017/ASME A112.1016-2017/CSA B125.16-17	Automatic Compensating Valves for Individual Showers and Tub/Shower Combinations
13.	1017-2009	Temperature Actuated Mixing Valves for Hot Water Distribution Systems
14.	1018-2001 (R2021)	Trap Seal Primer Valves - Potable Water Supplied
15.	1019-2011 (R2016)	Wall Hydrant with Backflow Protection and Freeze Resistance
16.	1020-2020 e1	Pressure Vacuum Breaker Assembly
17.	1022-2021	Backflow Preventer for Beverage Dispensing Equipment
18.	1023-2020	Hot Water Dispensers, Household Storage Type, Electrical
19.	1024-2017 (R2021)	Dual Check Backflow Preventers
20.	1032-2004 (R2021)	Dual Check Valve Type Backflow Preventers for Carbonated Beverage Dispensers, Post-Mix Type
21.	1035-2020	Laboratory Faucet Backflow Preventers
22.	1037-2015/ASME A112.1037-2015/CSA B125.37-15 (R2020)	Pressurized Flushing Devices for Plumbing Fixtures
23.	1044-2015	Trap Seal Primer – Drainage Types and Electric Design Types
24.	1047-2011	Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies, Performance Requirements for
25.	1048-2011	Double Check Detector Fire Protection Backflow Prevention Assemblies, Performance Requirements for
26.	1049-2021	Performance Requirements for Individual and Branch Type Air Admittance Valves for Chemical Waste Systems
27.	1050-2021	Stack Air Admittance Valves for Sanitary Drainage Systems
28.	1051-2021	Individual and Branch Type Air Admittance Valves for Sanitary Drainage Systems
29.	1052-2016	Hose Connection Backflow Preventers, Performance Requirements for
30.	1053-2019	Dual Check Backflow Preventer Wall Hydrants - Freeze Resistant Type, Performance Requirements for
31.	ANSI/CAN/ASSE/IAPMO 1055-2020	Chemical Dispensing Systems with Integral Backflow Protection, Performance Requirements for
32.	1056-2013 (R2021)	Spill Resistant Vacuum Breaker Assemblies, Performance Requirements for
33.	1057-2012	Freeze Resistant Sanitary Yard Hydrants with Backflow Protection, Performance Requirements for
34.	1061-2020	Performance Requirements for Push-Fit Fittings
35.	1066-1997	Individual Pressure Balancing In-Line Valves for Individual Fixture Fittings
36.	1072-2020	Performance Requirements for Barrier Type Trap Seal Protection for Floor Drains
37.	1079-2012 (R2021)	Performance Requirements for Dielectric Pipe Unions
38.	1081-2014 (R2020)	Performance Requirements for Backflow Preventers with Integral Pressure Reducing Boiler Feed Valve and Intermediate Atmospheric Vent Style for Domestic and Light Commercial Water Distribution Systems
39.	ASSE/IAPMO/ANSI SERIES 5000-2015	Cross Connection Control Professional Qualifications
40.	IAPMO/ANSI Z1001-2016	(Prefabricated Gravity Grease Interceptors)

**Table 381.20-5**

<b>ASTM</b>	ASTM International 100 Barr Harbor Drive West Conshohocken, Pennsylvania 19428-2959 Phone: (610) 832-9500 Website: www.astm.org
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Standard Reference Number	Title
1. A53/A53M-20	Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless, Specification for
2. A74-21	Cast Iron Soil Pipe and Fittings, Specification for
3. A123/A123M-17	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products, Standard Specification for
4. A269/A269M Rev. A-15 (R2019)	Seamless and Welded Austenitic Stainless-Steel Tubing for General Service
5. A270/A270M-15 (R2019)	Seamless and Welded Austenitic and Ferritic/Austenitic Stainless Steel Sanitary Tubing, Standard Specification for
6. A312/A312M-2019	Seamless, Welded and Heavily Cold Worked Austenitic Stainless-Steel Pipes
7. A358/A358M-2019	Electro-Fusion-Welded Austenitic Chromium-Nickel Stainless Steel Pipe for High-Temperature Service and General Applications
8. A403/A403M-20	Wrought Austenitic Stainless Steel Piping Fittings, Standard Specification for
9. A450/A450M-18a	Carbon, Ferritic Alloy, and Austenitic Alloy Steel Tubes
10. A554-21	Welded Stainless Steel Mechanical Tubing
11. A774/A774M-14 (R2019)	Welded Wrought Austenitic Stainless Steel Fittings for General Corrosive Service at Low and Moderate Temperatures
12. A778/A778M-2016 (R2021)	Welded, Unannealed Austenitic Stainless Steel Tubular Products
13. A888-21	Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Pipe Applications, Specifications for
14. B32-20	Solder Metal,
15. B42-20	Seamless Copper Pipe, Standard Sizes
16. B43-20	Seamless Red Brass Pipe, Standard Sizes, Specification for
17. B75/B75M-20	Standard Specification for Seamless Copper Tube
18. B88-20	Seamless Copper Water Tube, Standard Specification for
19. B88M-20	Seamless Copper Water Tube, (Metric), Standard Specification for
20. B135/B135M-17	Standard Specification for Seamless Brass Tube
21. B152/B152M-19	Copper Sheet, Strip, Plate, and Rolled Bar, Standard Specification for
22. B251/B251M-17	Wrought Seamless Copper and Copper-Alloy Tube, Standard Specification for
23. B302-17	Threadless Copper Pipe, Standard Sizes, Standard Specification for
24. B306-20	Copper Drainage Tube (DWV), Standard Specification for
25. B447-12a (R2021)	Standard Specification for Welded Copper Tube
26. B828-16	Making Capillary Joints by Soldering of Copper and Copper Alloy Tube and Fittings, Standard Practice for
27. C4-04 (R2018)	Clay Drain Tile and Perforated Clay Drain Tile
28. C14-20	Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe, Specification for
29. C14M-20	Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe (Metric), Specification for
30. C33/C33M-18	Concrete Aggregates, Specification for
31. C76-20	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, Specification for
32. C76M-20	Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe, (Metric) Specifications for
33. C163-17	Precast Concrete Grease Interceptor Tanks
34. C425-04 (R2018)	Compression Joints for Vitrified Clay Pipe and Fittings, Standard Specification for
35. C443-20	Joints for Circular Concrete Pipe and Manholes, Using Rubber Gaskets, Standard Specification for
36. C443M-20	Joints for Circular Concrete Pipe and Manholes, Using Rubber Gaskets (Metric), Standard Specification for
37. C507-20	Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe, Standard Specification for
38. C507M-20	Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe (Metric)
39. C564-20a	Rubber Gaskets for Cast Iron Soil Pipe and Fittings, Standard Specification for
40. C700-18	Vitrified Clay Pipe, Extra Strength, Standard Strength, and Perforated, Standard Specification for

41.	C877-21	External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections, Standard Specifications for
42.	C877M-21	External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections, (Metric)
43.	C887-20	Standard Specification for Packaged, Dry, Combined Materials for Surface Bonding Mortar
44.	C923/C923M-20	Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals, Standard Specification for
45.	C990-09 (R2019)	Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants, Standard Specification for
46.	C990M-09 (R2019)	Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants (Metric)
47.	C1227-20	Precast Concrete Septic Tanks
48.	C1306/C1306M-08 (R2016)	Hydrostatic Pressure Resistance of a Liquid-Applied Waterproofing Membrane, Standard Test Method for
49.	C1478-20	Standard Specification for Storm Drain Resilient Connectors Between Reinforced Concrete Storm Sewer Structures, Pipes and Laterals
50.	C1628-19	Standard Specification for Joints for Concrete Gravity Flow Sewer Pipe Using Rubber Gaskets
51.	C1644-06 (R2017)	Standard Specification for Resilient Connectors Between Reinforced Concrete On-Site Wastewater Tanks and Pipes
52.	C1745/C1745M-18	Standard Test Method for Measurement of Hydraulic Characteristics of Hydrodynamic Stormwater Separators and Underground Settling Devices
53.	D1785-15	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120, Standard Specification for
54.	D2235-04 (R2016)	Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings, Standard Specification for
55.	D2239-12a (R2020)	Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter, Standard Specification for
56.	D2241-20	Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR-Series), Standard Specification for
57.	D2321-20	Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications, Standard Practice for
58.	D2464-15	Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80, Standard Specification for
59.	D2466-17	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40, Standard Specification for
60.	D2467-20	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80, Standard Specification for
61.	D2564-20	Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Systems, Standard Specification for
62.	D2609-15	Plastic Inert Fittings for Polyethylene (PE) Plastic Pipe, Standard Specification for
63.	D2657-07 (R2015)	Heat Fusion Joining of Polyolefin Pipe and Fittings, Standard Practice of
64.	D2661-14	Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings, Standard Specification for
65.	D2665-20	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings, Standard Specification for
66.	D2680-20	Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping, Specification for
67.	D2683-20	Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing, Standard Specification for
68.	D2729-17	Polyvinyl Chloride (PVC) Sewer Pipe and Fittings, Standard Specification for
69.	D2737-12a (R2020)	Polyethylene (PE) Plastic Tubing, Standard Specification for
70.	D2774-21	Underground Installation of Thermoplastic Pressure Piping, Standard Practice for
71.	D2846/D2846M-19a	Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems, Standard Specification for
72.	D2852-16	Styrene-Rubber (SR) Plastic Drain Pipe and Fittings, Standard Specification for

73. D2855-20 Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings, Standard Practice for
74. D3034-16 Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings, Standard Specification for
75. D3035-15 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter, Standard Specification for
76. D3138-04 (R2016) Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components, Standard Specification for
77. D3212-20 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals, Standard Specification for
78. D3261-16 Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing, Standard Specification for
79. D3311-17 Drain, Waste, and Vent (DWV) Plastic Fittings Patterns, Standard Specification for
80. D4068-17 Standard Specification for Chlorinated Polyethylene (CPE) Sheeting for Concealed Water-Containment Membrane
81. D4491/D4491M-20 Water Permeability of Geotextile by Permittivity, Standard Specification for
82. D4533/D4533M-15 Trapezoid Tearing Strength of Geotextiles, Standard Test Method for
83. D4632/D4632M-15a Grab Breaking Load and Elongation of Geotextiles, Standard Test Method for
84. D4751-20b Determining Apparent Opening Size of a Geotextile, Standard Test Method for
85. D4833/D4833M-07 (R2020) Index Puncture Resistance of Geomembranes and Related Products, Standard Test Method for
86. F402-18 Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings, Standard Practice for
87. F409-17 Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings, Standard Specification for
88. F437-15 Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80, Standard Specification for
89. F438-17 Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40, Standard Specification for
90. F439-19 Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80, Standard Specification for
91. F441/F441M-20 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80, Standard Specification for
92. F442/F442M-20 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR), Standard Specification for
93. F477-14 Elastomeric Seals (Gaskets) for Joining Plastic Pipe, Standard Specification for
94. F481-97 (R2019) Standard Practice for Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields
95. F493-20 Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings, Standard Specification for
96. F585-16 (R2021) Standard Guide for Insertion of Flexible PE Pipe into Existing Sewers
97. F628-12 Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe with a Cellular Core, Standard Specification for
98. F656-15 Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings, Standard Specification for
99. F667/F667M-16 3 through 24 in. Corrugated Polyethylene Pipe and Fittings, Standard Specification for
100. F679-16 Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings, Standard Specification for
101. F714-21a Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter
102. F794-03 (R2014) Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter, Standard Specification for
103. F810-12 (R2018) Smoothwall Polyethylene (PE) Pipe for Use in Drainage and Waste Disposal Absorption Fields, Standard Specification for
104. F876-20b Crosslinked Polyethylene (PEX) Tubing, Standard Specification for
105. F877-20 Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems, Standard Specification for

106.	F 891-16	Coextruded Poly (Vinyl Chloride) (PVC) Plastic Pipe With a Cellular Core, Standard Specification for
107.	F 894-19	PE Large Diameter Profile Wall Sewer and Drain Pipe
108.	F 949-20	Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings, Standard Specification for
109.	F 1055-16a	Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and PEX Pipe and Tubing
110.	F 1281-17	Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe, Standard Specification for
111.	F 1282-17	Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe, Standard Specification for
112.	F 1336-20	Poly (Vinyl Chloride) (PVC) Gasketed Sewer Fittings, Specification for
113.	F 1412-16	Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems
114.	F 1673-10 (R2016)	Standard Specification for Polyvinylidene Fluoride (PVDF) Waste Drainage Systems
115.	F 1732-12 (R2018)	Standard Specification for PVC Sewer and Drain Pipe Containing Recycled PVC Material
116.	F 1760-16 (R2020)	Standard Specification for Coextruded PVC Non-Pressure Plastic Pipe Having Reprocessed-Recycled Content
117.	F 1807-19b	Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing, Standard Specification for
118.	F 1866-18	Poly (Vinyl Chloride) (PVC) Plastic Schedule 40 Drainage and DWV Fabricated Fittings, Specifications for
119.	F 1901-16	Standard Specification for PE Pipe and Fittings for Roof Drain Systems
120.	F 1960-21	Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing
121.	F 1962-20	Standard Guide for Use of Maxim-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings
122.	F 1970-19	Standard Specification for Special Engineered Fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Systems
123.	F 1974-09 (R2020)	Standard Specification for Metal Insert Fittings for PE-AL-PE and Crosslinked PEX-AL-PEX Composite Pressure Pipe
124.	F 2021-17	Design & Installation of Plastic Siphonic Roof Drain Systems
125.	F 2080-19	Standard Specification for Cold-Expansion Fittings with Metal Compression-Sleeves for Crosslinked Polyethylene (PEX) Pipe and SDR9 Polyethylene of Raised Temperature (PE-RT) Pipe
126.	F 2098-18	Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) to Metal Insert and Plastic Insert Fittings
127.	F 2159-21	Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps for SDR9 Crosslinked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
128.	F 2165-19	Standard Specification for Flexible Pre-Insulated Plastic Piping
129.	F 2389-21	Standard Specification for Pressure Rated Polypropylene (PP) Piping Systems
130.	F 2390-21	Standard Specification for PVC Plastic Drain, Waste and Vent (DWV) Pipe and Fittings Having Post-Industrial Recycle Content
131.	F 2418-19	Standard Specification for Polypropylene (PP) Corrugated Wall Stormwater Collection Chambers
132.	F 2434-19	Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 PEX and SDR9 PEX-AL-PEX Tubing
133.	F 2510/2510M-17	Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Corrugated Dual- and Triple-Wall PE and PP Pipes

134.	F2618-21	Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Fittings for Chemical Waste Drainage Systems
135.	F2620-20	Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
136.	F2649-14 (R2019)	Standard Specification for Corrugated HDPE Grease Interceptor Tanks
137.	F2735-21	Standard Specification for Plastic Insert Fittings for SDR9 PEX and PE-RT Tubing
138.	F2737-11 (R2021)	Standard Specification for Corrugated HDPE Water Quality Units
139.	F2763/F2763M-16 (R2021)	Standard Specification for 12 to 60 in. Dual- and Triple Profile Wall PE Pipe and Fittings for Sanitary Sewer Applications
140.	F2764/F2764M-19	Standard Specification for 6 to 60 in. PP Corrugated Double- and Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
141.	F2769-18	Standard Specification for Polyethylene of Raised Temperature (PE_RT) Plastic Hot and Cold-Water Tubing and Distribution Systems
142.	F2787-13 (R2018)	Standard Practice for Structural Design of Thermoplastic Corrugated Wall Stormwater Collection Chambers)
143.	F2829/F2829M-21	Standard Specification for Metric- and Inch-Sized Fittings for PEX Pipe
144.	F2854-21	Standard Specification for Push-Fit PEX Mechanical Fittings for PEX Tubing
145.	F2855-19	Standard Specification for CPVC-AL-CPVC Composite Pressure Tubing
146.	F2881/2881M-21	Standard Specification for 12 to 60 in. PP Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications
147.	F2922-13 (R2018)	Standard Specification for Polyethylene (PE) Corrugated Stormwater Collection Chambers
148.	F3190-21	Standard Practice for Heat Fusion Equipment (HFE) Operator Qualification on PE and Polyamide Pipe and Fittings
149.	F3328-18	Standard Practice for the One-Step (Solvent Cement Only) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets
150.	F3346-19	Standard Specification for PE-RT-AL-PE-RT Composite Pressure Pipe
151.	F3347-20a	Standard Specification for Metal Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing
152.	F3348-21	Standard Specification for Plastic Press Insert Fittings with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing

**Table 381.20-6**

<b>AWS</b>	American Welding Society 8669 NW 36 Street, #130 Miami, Florida 33166-6672 Phone: 800-443-9353 Website: <a href="http://www.aws.org">www.aws.org</a>
<b>Standard Reference Number</b>	<b>Title</b>
1. AWS A5.8M/A5.8:2019	Filler Metals for Brazing and Braze Welding, Specification for

**Table 381.20-7**

<b>AWW</b>	American Water Works Association (AWWA) 6666 West Quincy Avenue Denver, Colorado 80235 Phone: 303-794-7711 or 800-926-7337 Website: <a href="http://www.awwa.org">www.awwa.org</a>
<b>904-16</b>	
<b>Standard Reference Number</b>	<b>Title</b>
1. ANSI/AWWA C110/A21.10-12	American National Standard for Ductile-Iron and Gray-Iron Fittings
2. ANSI/AWWA C111/A21.11-17	American National Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
3. ANSI/AWWA C115/A21.15-20	American National Standard for Flanged Ductile-Iron Pipe with Ductile-Type Iron or Gray-Iron Pipe Threaded Flanges

4.	ANSI/AWWA C151/A21.51-17	Ductile-Iron Pipe, Centrifugally Cast, for Water
5.	ANSI/AWWA C153/A21.53-19	American National Standard for Ductile-Iron Compact Fittings, 3 in. through 16 in., for Water and Other Liquids
6.	ANSI/AWWA C220-17	Stainless-Steel Pipe, ½ in. (13mm) and Larger
7.	ANSI/AWWA C651-14	Water Mains, Disinfecting
8.	ANSI/AWWA C700-20	Cold-Water Meters — Displacement Type with Bronze Metal Main Case (w/ 1991 Addendum)
9.	ANSI/AWWA C701-15	Cold-Water Meters — Turbine Type, for Customer Service
10.	ANSI/AWWA C702-19	Cold-Water Meters — Compound Type
11.	ANSI/AWWA C704-19	Cold-Water Meters — Propeller Type for Main Line Applications
12.	ANSI/AWWA C707-10 (R2016)	Cold-Water Meters, Encoder-Type, Remote-Registration Systems
13.	ANSI/AWWA C708-19	Cold-Water Meters — Multi-Jet Type
14.	ANSI/AWWA C710-20	Cold-Water Meters, Displacement Type — Plastic Main
15.	ANSI/AWWA C900-16	Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings 4-inch to 12-inch (100mm Through 300 mm) for Water Transmission and Distribution
16.	ANSI/AWWA C901-20	Polyethylene (PE) Pressure Pipe and Tubing, ½ in. (13mm) Through 3 in. (76mm) for Water Service
17.	ANSI/AWWA C904-16	Cross-Linked PEX Pressure Tubing ½-3 in. for Water Service
18.	ANSI/AWWA C906-15	Polyethylene Pressure Pipe and Fittings, 4 in. through 63 in., for Water Distribution

**Table 381.20-7e**

<b>CSA</b>	Canadian Standards Association 178 Rexdale Boulevard Toronto, Ontario Canada M9W 1R3 Phone: 800-463-6727 Website: <a href="http://www.csagroup.org">www.csagroup.org</a>
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<b>Standard Reference Number</b>	<b>Title</b>
1. 4.1:19/Z21.10.1:19	Gas water heaters, volume I, storage water heaters with input ratings of 75,000 Btu per hour or less
2. 4.3:19/Z21.10.3:19	Gas-fired water heaters, volume III, storage water heaters with input ratings above 75,000 Btu per hour, circulating and instantaneous
3. 4.4-2015 (R2020) / ANSI Z21.22-2015 (R2020)	Relief Valves for Hot Water Supply Systems
4. B45.5-17/IAPMO Z124-2017	Vacuum Waste Collection Systems
5. B45.13:19/IAPMO Z1700-2019	Vacuum Waste Collection Systems
6. B64 SERIES-11 (R2016)	Backflow preventers and vacuum breakers
7. B66-16	Design, Material and Manufacturing Requirements for Prefabricated Septic Tanks and Sewage Holding Tanks
8. B125.3-18	Plumbing Fittings
9. B137:20	Thermoplastic Pressure Piping Standards Package - Consists of All The CSA B137:20 Standards
10. B481 Series 12 (R2017)	Grease Interceptors
11. B1800:21	Thermoplastic Non-pressure Piping Compendium (Numbers 17 and 18 are superseded by CSA B1800.)

**Table 381.20-8**

<b>CISPI</b>	Cast Iron Soil Pipe Institute 2401 Fieldcrest Dr. Mundelein, IL 60060 Phone: 212-864-2910 Website: <a href="http://www.cispi.org">www.cispi.org</a>
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Standard Reference Number	Title
1. 301-18	Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications, Standard Specification for
2. 310-20	Coupling for Use in Connection with Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications, Specification for

**Table 381.20-9**

<b>FMRC</b>	FM Global (FMRC) 270 Central Avenue Johnston, RI 02919-4949 Phone: 401-275-3000 Website: <a href="http://www.fmglobal.com">www.fmglobal.com</a>
Standard Reference Number	Title
1. 1680-89	Couplings Used in Hubless Cast Iron Systems for Drain, Waste or Vent, Sewer, Rainwater or Storm Drain Systems Above and Below Ground, Industrial/Commercial and Residential—January 1989

**Table 381.20-10**

<b>NFPA</b>	National Fire Protection Association 1 Batterymarch Park Quincy, MA 02169-7471 Phone: 800-344-3555 Website: <a href="http://www.nfpa.org">www.nfpa.org</a>
Standard Reference Number	Title
1. NFPA 13D-2019	Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes, Standard for the
2. NFPA 24-2019	Installation of Private Fire Service Mains and Their Appurtenances, Standard for the

**Table 381.20-11**

<b>NSF</b>	NSF International (NSF) 789 N. Dixboro Road P.O. Box 130140 Ann Arbor, Michigan 48105 Phone: (800) 673-6275 Website: <a href="http://www.nsf.org">www.nsf.org</a>
Standard Reference Number	Title
1. NSF/ANSI 3-2019	Commercial Warewashing Equipment
2. NSF/ANSI 12-2018	Automatic Ice Making Equipment
3. P 157-2000	Electrical Incinerating Toilets – Health and Sanitization
4. NSF/ANSI 14-2020	Plastic Piping System Components and Related Materials
5. NSF/ANSI 40-2019	Residential Wastewater Treatment Systems
6. NSF/ANSI 41-2018	Non-liquid Saturated Treatment Systems
7. NSF/ANSI 42-2020	Drinking Water Treatment Units – Aesthetic Effects
8. NSF/ANSI 44-2018	Residential Cation Exchange Water Softeners
9. NSF/ANSI 46-2021	Evaluation of Components and Devices Used in Wastewater Treatment Systems
10. NSF/ANSI/CAN 50-2019	Equipment and Chemicals for Swimming Pools, Spas, Hot Tubs, and Other Recreational Water Facilities
11. NSF/ANSI 51-2019	Food Equipment Materials
12. NSF/ANSI 53-2020	Drinking Water Treatment Units – Health Effects
13. NSF/ANSI 55-2019	Ultraviolet Microbiological Water Treatment Systems
14. NSF/ANSI 58-2020	Reverse Osmosis Drinking Water Systems
15. NSF/ANSI/CAN 60-2020	Drinking Water Treatment Chemicals – Health Effects
16. NSF/ANSI/CAN 61-2020	Drinking Water System Components — Health Effects
17. NSF/ANSI 62-2020	Drinking Water Distillation Systems

18.	NSF/ANSI 184-2019	Residential Dishwashers
19.	NSF/ANSI 240-2017	Drainfield Trench Product Sizing for Gravity Dispersal Onsite Wastewater Treatment and Dispersal Systems
20.	NSF/ANSI 245-2019	Residential Wastewater Treatment Systems - Nitrogen Reduction
21.	NSF/ANSI 350-2020	Onsite Residential and Commercial Water Reuse Treatment Systems
22.	NSF/ANSI 350-1-2017	Onsite Residential and Commercial Greywater Treatment Systems for Subsurface Discharge
23.	NSF/ANSI 359-2018	Valves for PEX Water Distribution Tubing Systems
24.	NSF/ANSI 372-2020	Drinking Water System Components — Lead Content

SECTION 59. SPS Table 381.20-11m is created to read:

**Table 381.20-11m**

<b>PDI</b>	The Plumbing and Drainage Institute (PDI) 800-589-8956 Website: <a href="http://www.pdionline.org">www.pdionline.org</a>	
<b>Standard Reference Number</b>	<b>Title</b>	
1. PDI-G 101 (R2017)	Testing and Rating Procedure for Hydro Mechanical Grease Interceptors with Appendix of Installation and Maintenance	
2. PDI-G 102 (2009)	Testing and Certification for Grease Interceptors with FOG Sensing and Alarm Devices	

SECTION 60. SPS Table 381.20-12 and –13 are amended to read:

**Table 381.20-12**

<b>STI/SPFA</b>	Steel Tank Institute/Steel Plate Fabricators Association <del>570 Oakwood Road</del> 944 Donata Court Lake Zurich, Illinois 60047 Phone: <del>617-770-3000</del> 847-438-8265 Web page Website: <a href="http://www.steeltank.com">www.steeltank.com</a>	
<b>Standard Reference Number</b>	<b>Title</b>	
1. STI-P <sub>2</sub> STI/SPFA STI-P3-2018	External Corrosion Protection of Underground Steel Storage Tanks, Specifications and Manual for	

**Table 381.20-13**

<b>UL</b>	Underwriters Laboratories Inc. 333 Pfingsten Road Northbrook, Illinois 60062 Phone: 847-272-8800 Web page Website: <a href="http://www.ul.com">www.ul.com</a>	
<b>Standard Reference Number</b>	<b>Title</b>	
1. Standard <del>58-1996</del> <del>58-</del> 2018	Steel Underground Tanks for Flammable and Combustible Liquids — <del>Ninth</del> Tenth Edition	
2. Standard 174-2021	Standard for Safety Household Elec. Storage Tank Water Heaters	
3. Standard 732-2018	Standard for Safety Oil-Fired Storage Tank Water Heaters	
4. Standard 1261-2017	Standard for Safety Elec. Water Heaters for Pools and Spas	
5. Standard 1431-2020	Standard for Safety Personal Hygiene and Health Care Appliances	
6. Standard 1453-2018	Standard for Safety Electric Booster and Commercial Storage Tank Water Heaters	
<del>2-7.</del> Standard 4746-2007 1746-2018	External Corrosion Protection Systems for Steel Underground Storage Tanks — Third Edition	

SECTION 61. SPS 382.03 (2) is amended to read:

**SPS 382.03 (2)** Pursuant to s. ~~145.13~~ 145.02 (2), Stats., this chapter is uniform in application and a municipality may not enact an ordinance for the design, construction, installation, supervision, maintenance and inspection of plumbing which is more stringent than this chapter, except as specifically permitted by rule.

SECTION 62. SPS 382.10 (2) (b) is amended to read:

**SPS 382.10 (2) (b)** To fulfill the basic needs of sanitation and personal hygiene, each dwelling, with the exception of camping units, connected to a POWTS or public sewer shall be provided with at least the following plumbing fixtures: one water closet, one wash basin, one kitchen sink and one bathtub or shower, except a system or device recognized under ch. SPS 391 may be substituted for the water closet. All other structures for human occupancy shall be equipped with sanitary facilities in sufficient numbers as specified in chs. SPS 361 to 366.

SECTION 63. SPS 382.20 (1) (a) is amended to read:

**SPS 382.20 (1) (a)** *Department review.* Plumbing plans and specifications for the types of plumbing installations, ~~except direct replacements~~, listed in Table 382.20-1, except direct plumbing fixture replacements, shall be submitted to the department for review, regardless of where the installation is to be located. A municipality shall be designated as an agent municipality in accordance with sub. (2). Written approval for the plumbing plans shall be obtained prior to installation of the plumbing.

SECTION 64. SPS 382.20 (1) (am) is created to read:

**SPS 382.20 (1) (am)** “*Direct plumbing fixture replacement*” in this subsection “direct plumbing fixture replacement” means a fixture installed in the place of equipment previously approved by the Department that does not increase the fixture load requirements and does not require alteration or modification of piping configuration(s).

SECTION 65. SPS 382.20 (1) (b) 1. and (c) are amended to read:

**SPS 382.20 (1) (b) 1.** Plumbing plans and specifications for the types of plumbing installations, except direct plumbing fixture replacements, listed in Table 382.20-2, shall be submitted for review to an agent municipality, if the installation is to be located within the agent municipality or to the department, if the installation is not to be located within an agent municipality. A municipality shall be designated as an agent municipality in accordance with sub. (2). Written approval for the plumbing plans shall be obtained prior to installation of the plumbing.

(c) The installation of each reduced pressure principle backflow preventer, reduced pressure ~~principle~~ fire protection ~~principle~~ backflow preventer, spill resistant vacuum breaker, reduced pressure detector fire protection backflow prevention assembly or pressure vacuum breaker shall be registered with the department no later than 7 days after installation of the assembly.

SECTION 66. SPS Table 382.20-1 is amended to read:

**Table 382.20-1  
Submittals To Department**

<u>Type of Plumbing Installation</u>
1. All plumbing, new installations, additions and alterations, regardless of the number of plumbing fixtures involved, serving hospitals, nursing homes, <del>and ambulatory surgery centers, renal dialysis centers, community-based residential facilities (CBRF), and inpatient hospice.</del> <sup>a,c</sup>
2. Plumbing, new installations, additions and alterations involving 16 or more plumbing fixtures, serving buildings owned by a metropolitan or sanitary sewer district. <sup>b</sup>
3. Plumbing, new installations, additions and alterations involving 16 or more plumbing fixtures, serving buildings owned by the state. <sup>b</sup>
4. Alternate and experimental plumbing systems.
5. <del>Reduced pressure principle backflow preventers, reduced pressure fire protection principle double check backflow preventers prevention assemblies, pressure vacuum breaker assemblies, reduced pressure detector fire protection backflow prevention assemblies, and spill resistant vacuum breakers serving health care and related facilities.</del>
6. Stormwater and clearwater <del>detention, treatment, and</del> infiltration plumbing systems serving a public building or facility. <sup>c</sup>
7. <del>Treatment</del> Onsite residential and commercial water reuse treatment systems, <del>other than POWTS,</del> designed to treat water for compliance with Table 382.70-1. <sup>c</sup>
8. <u>Potable water storage systems.</u>
9. <u>Potable water treatment by use of injection of a solution into the water supply system.</u> <sup>d</sup>
10. <u>Medical or high purity water.</u>
11. <u>Mixed wastewater holding device.</u> <sup>c</sup>
12. <u>Multipurpose piping systems (MPP).</u> <sup>d</sup>

a. The registration of cross connection control ~~devices~~ assemblies as required under s. SPS 382.20 (1) (c) is included as a part of plan review and approval.

b. For the purpose of plan review submittal, water heaters, floor drains, storm inlets, roof drains, multi-purpose piping (mpp) fire sprinklers and hose bibbs are to be included in the count.

c. Agent municipalities may perform this review when so authorized by the department.

d. Excludes one and two family dwellings.

SECTION 67. SPS 382.20 (2) (a) 2. (Note) is repealed and recreated to read:

**SPS 382.20 (2) (a) 2. Note:** See Appendix A-382.20 (2) or the department's website at <https://dsps.wi.gov/>.

SECTION 68. SPS 382.20 (2) (d) is created to read:

**SPS 382.20 (2) (d)** An agent municipality appointment shall be renewed every five years.

SECTION 69. SPS 382.20 (4) (a) is amended to read:

**SPS 382.20 (4) (a)** ~~At least 2 sets~~ One complete set of plans and one copy of specifications which are clear, legible and permanent copies shall be submitted for examination and approval.

SECTION 70. SPS 382.20 (4) (b) 2. to 4. are repealed.

SECTION 71. SPS 382.20 (4) (b) (Note) is created to read:

**SPS 382.20 (4) (b) Note:** For plans proposing the installation, creation or extension of a private interceptor main sewer which is to discharge to a municipal treatment facility, see also ch. NR 121.

SECTION 72. SPS 382.20 (13) (title), (b) (intro.), 1., 2., 3., (d), and (e) are amended to read:

**SPS 382.20 (13) CROSS CONNECTION CONTROL ASSEMBLY REGISTRATION.**

(b) The form for registering cross connection control ~~devices and~~ assemblies with the department shall include at least all of the following information:

1. The building or facility name and address where the ~~device or~~ assembly is or will be installed.
2. The location of the cross connection control ~~device or~~ assembly within the building or facility.
3. A description of the cross connection control ~~device or~~ assembly including the size, model number, serial number, and manufacturer.

(d) Upon receipt of a completed registration form, the department shall issue written confirmation of registration including a department-assigned identification number for each cross connection control ~~device or~~ assembly.

(e) Upon permanent removal or replacement of any reduced pressure principle backflow preventer, ~~reduced pressure fire protection principle~~ double check backflow preventer prevention assembly, spill resistant vacuum breaker, ~~reduced pressure detector fire~~

~~protection backflow prevention assembly~~, or pressure vacuum breaker, the owner shall notify the department in writing using a format acceptable to the department.

SECTION 73. SPS 382.20 (13) (f) is created to read:

**SPS 382.20 (13) (f)** Test equipment shall be tested and calibrated according to ASSE/IAPMO/ANSI SERIES 5000 standard.

SECTION 74. SPS 382.21 (1) (intro.) is amended to read:

**SPS 382.21 (1)** Except as provided in par. (a), all new plumbing and all parts of existing systems which have been altered, extended, or repaired shall be tested and inspected as specified in sub. (2) to disclose leaks and defects before the plumbing is put into operation.

SECTION 75. SPS 382.22 (7) is amended to read:

**SPS 382.22 (7)** If a dead end is created in the removal of any part of a drain system, all openings in the drain system shall be properly sealed in accordance with s. SPS 384.40.

SECTION 76. Table SPS 382.22-1 is amended to read:

**Table 382.22-1  
Testing ~~And~~ and Submitting Requirements ~~For~~ for Cross Connection Control Assemblies**

ASSE Standard Name and Number	CAN/CSA Standard Name and Number	ASSE Test Standard Number and Test Required	Test Results to be Submitted to Department
<u>Double Check Backflow Prevention Assemblies ASSE 1015</u>	<u>Double Check Valve Backflow Preventers CAN/CSA B64.5</u>	<u>5015</u>	<u>Yes</u>
<del>Double Check Backflow Prevention Assemblies and</del> Double Check Fire Protection Backflow Prevention Assemblies ASSE 1015	<del>Double Check Valve Backflow Preventers</del> <u>CAN/CSA B64.5 and Double Check Valve Backflow Preventers for Fire Protection Systems CAN/CSA B64.5.1</u>	5015	No
Double Check Detector Fire Protection Backflow		5048	No

Prevention Assemblies ASSE 1048			
Pressure Vacuum Breaker Assembly ASSE 1020	Pressure Vacuum Breakers CAN/CSA-B64.1.2	5020	Yes
Reduced Pressure Principle Backflow Preventers ASSE 1013	Reduced Pressure Principle Backflow Preventers CAN/CSA B64.4	5013	Yes
Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Principle Backflow Preventers ASSE 1013	Reduced Pressure Principle Backflow Preventers CAN/CSA B64.4 and Reduced Pressure Principle Backflow Preventers For for Fire Protection Systems CAN/CSA-B64.4.1	5013	Yes-No
Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies ASSE 1047		5047	Yes-No
Spill Resistant Vacuum Breaker Assemblies ASSE 1056	Spill Resistant Vacuum Breakers CAN/CSA B64.1.3	5056	Yes

SECTION 77. SPS 382.30 (4) (a) 1. and 2. are amended to read:

**SPS 382.30 (4) (a) 1.** The total drainage load in any portion of drain piping may not exceed the limits specified in Tables 382.30-2 and 382.30-3 but may be less than the limits specified in Tables SPS 382.30-2 and 382.30-3 based on an approved alternate standard consistent with s. 381.20 (2) or an analysis provided by a Wisconsin registered architect, engineer or plumbing designer.

**2.** The drainage fixture unit values assigned to a receptor which is to receive only the indirect waste discharge from a relief valve on a domestic water heater may be disregarded when determining the minimum size of the building drain and building sewer. Any drain piping between the receptor and the building drain shall be sized by including the assigned fixture unit values for the type of receptor. may be less than the limits specified in Tables SPS 382.30-2 and 382.30-3 based on an approved alternate

standard consistent with s. 381.20 (2) or an analysis provided by a Wisconsin registered architect, engineer or plumbing designer.

SECTION 78. Table SPS 382.30-1 is amended to read:

**Table 382.30-1  
(Partial Table)**

**Drainage Fixture Unit Values By Fixture Type**

<b>Type of Fixture<sup>a</sup></b>	<b>Drainage Fixture Unit Value (dfu)</b>	<b>Trap Size Minimum Diameter (inches)</b>
Automatic Clothes Washers:		
Commercial type, individual	4	2
Commercial type, large capacity	a	a
<del>Self Service Laundry</del>	4	2
Residential type	4	2
Drinking Fountain	1/2	1 ¼
Elevator Threshold Drain	a	4
Exhaust Hood Washer	4	2

SECTION 79. SPS 382.30 (10) (a) 2. c., (c) (intro.), and (d) (intro.) are amended to read:

**SPS 382.30 (10) (a) 2. c.** Between the highest “pump on” switch level and the sump inlet, the sump shall hold the amount of input that exceeds the discharge of the pumping equipment in a 5-minute peak input period. Capacity shall be based on one pump only. ~~but in~~ In no case shall the vertical distance between the switch and the inlet be less than 3” inches.

**(c) Prefabricated pumps and sump and pump systems.** Macerating toilet systems and waste pumping systems for plumbing fixtures shall conform to ASME A112.3.4-2018/CSA B45.9-18. If unspecified by the manufacturer, the minimum capacity of a pump and sump system shall be determined in accordance with all of the following:

**(d) Exterior sumps.** Exterior sumps shall comply with s. SPS 384.25. The minimum capacity of exterior sumps shall be determined in accordance with all of the following:

SECTION 80. SPS 382.30 (11) (b) (Note) is created to read:

**SPS 382.30 (11) (b) Note:** See the pool code, s. SPS 390.19 (2) for drain requirements for swimming pool toilet or locker rooms. “SPS 390.19 (2) DRAINAGE OF COVERED AREAS. (a) Floor drains shall be installed in toilet rooms and locker rooms where sanitary fixtures are located and where the room door is adjacent to the deck or adjacent to the impervious walkway draining to the deck. (b) Floor drain openings shall be ¼ inch or less in width or diameter. (c) Floors shall be pitched to drain.”



SECTION 81. SPS 382.30 (11) (c) 2. e. is amended to read:

**SPS 382.30 (11) (c) 2. e.** Where a building sewer or private interceptor main sewer is installed to serve ~~summer-use~~ public facilities that are not open during the period from November 15 to March 15 and which are not places of employment, frost protection requirements shall not apply.

SECTION 82. SPS 382.30 (12) (f) 3. is created to read:

**SPS 382.30 (12) (f) 3.** An easement and agreement for maintenance and repairs shall be recorded with the register of deeds no later than 90 days after installation.

SECTION 83. SPS 382.30 (13) (c) is amended to read:

**SPS 382.30 (13) (c)** Exposed drain piping shall not be located over a pool, surge tank or an open filter for a pool except where a trough is installed below exposed drain piping to divert the flow of seepage to a discharge point consistent with Table-SPS 382.38-1.

SECTION 84. SPS 382.30 (13) (c) (Note) and (14) are created to read:

**SPS 382.30 (13) (c) Note:** See ch. SPS 382 Appendix for examples of exposed piping considerations.

**(14) VACUUM WASTE COLLECTION SYSTEMS.** Vacuum waste collection systems shall:

**(a)** Conform to CSA b45.13:19 / IAPMO z1700-2019.

**(b)** Be designed and installed in accordance with the manufacturer's instructions.

**(c)** Include a vacuum generating system, waste collection center, piping network, vacuum valve and control components used to isolate the vacuum piping network from atmospheric pressure and collect waste at the point of origin. if a vacuum system provides the only means of sanitation, then a contingency system set to operate automatically shall be installed.

**(d)** Vacuum generating systems shall:

**1.** Include vacuum pumps adequate to create a constant vacuum in the piping network and storage tanks;

**2.** Have automated controls for the operating of pumps, collection tanks and alarms;

**3.** Include demand activated vacuum pumps; and

4. Be provided with a vacuum pump exhaust vent capable of handling the total air volume of the vacuum pump.

(e) Waste collection centers or storage tanks shall:

1. Be adequately sized to prevent fouling of the system;

2. Be designed to withstand 150% of the rated vacuum created by the vacuum generating system without leakage or collapse; and

3. Be accessible for inspection, repair and replacement.

(f) Vacuum piping networks shall:

1. Be designed to withstand 150% of the rated vacuum created by the vacuum generating system without leakage or collapse;

2. Be under continuous vacuum;

3. Be constructed of materials specified by the manufacturer;

4. Be sized in accordance with the manufacturer's instructions; and

5. Connect to water closets with at least 1½ inch. i.d. piping.

(g) Vacuum interface valves shall:

1. Be installed to isolate the vacuum piping network from atmospheric pressure; and

2. Open automatically when a waste removal cycle is initiated for the fixture.

(h) Control components shall include levels indicator switches that automatically control the discharge pumps and provide the following warnings of malfunction or blockage:

1. Start discharge;

2. Stop discharge;

3. Audible alarm for abnormally high effluent levels; and

4. Full tank shutdown warning.

(i) Gravity type fixtures shall conform to s. SPS 384.20.

(j) Vacuum water closets shall:

1. Have s. SPS 382.41 listed vacuum breakers installed in fixture supply piping;  
and
2. Have a WSFU value of 1.

(k) Piping hangers and supports used in vacuum waste collection systems shall conform to s. SPS 382.60.

SECTION 85. SPS 382.31 (11) (a), (16) (d) and (e) are repealed and recreated to read:

**(11) (a) Vertical drains.** A common vent may serve a maximum of 2 fixtures where both fixture drains connect to a vertical drain at the same elevation.

1. Where this connection is by means of a sanitary tee fitting with a side inlet, the centerline of the side inlet opening may not be below the centerline of the larger opening.
2. The drain connection of a blowout type fixture, kitchen sink where an appliance with pump discharge or a food waste grinder are installed, or a clothes washer served by a common vent may not be by means of a double sanitary tee fitting.

**(16) (d) Location of vent terminals.**

1. All vent terminals shall be located:

- a. At least 10 feet from an air intake;
- b. At least 5 feet from a power exhaust vent;
- c. At least 10 feet horizontally from or 2 feet above roof scuttles, doors and openable windows;
- d. At least 5 feet from or 2 inches above parapet walls; and
- e. At least 5 feet below any overhang.

2. Where a structure has an earth covered roof extending from surrounding grade, the vent extension shall run at least 7 feet above grade and terminate with an approved vent cap. The portion of vent pipe outside the structure shall be without joints, except one fitting may be installed where the pipe leaves the top or side of the structure.

**(e) Extension through wall.** Vent shall terminate at least 10 feet horizontally from any lot line. Extension of vents through wall shall terminate beyond the soffit. The vent shall terminate downward and be screened. The vent shall comply with par. (d).

SECTION 86. SPS 382.31 (17) is amended to read:

**SPS 382.31 (17)** In lieu of providing individual vents, fixtures may be vented in accordance with pars. (a) to ~~(e)~~ (d).

SECTION 87. SPS 382.31 (17) (d) and (17m) are created to read:

**SPS 382.31 (17) (d) Elevator threshold drain vent stacks.**

1. The minimum size of an elevator threshold stack shall be 6 inches.
2. The minimum size of an elevator drain trap shall be 4 inches.
3. The drain stack may not offset horizontally above the lowest threshold drain connection.
4. Elevator threshold drains, provided with individual traps that utilize other means of venting, are permitted to discharge into the stack.
5. The drain stack shall be limited to serving elevators threshold drains serving elevator door areas.
6. The developed length of any trap weir vented by the stack to the drain stack may not exceed the limits specified in table 382.31-1.
7. A vent, at least 3 inches in diameter and not less than  $\frac{1}{2}$  the diameter of the largest portion of the drain stack, shall extend from immediately above the highest branch connection to a vent terminal in accordance with sub. (16).

**Note:** See ch. SPS 382 appendix for further explanatory material.

**(17m) AIR ADMITTANCE VALVES (AAV).** The use of air admittance valves in lieu of traditional venting shall comply with all of the following:

- (a) The AAV may only serve as a termination point for a branch vent, circuit vent, common vent, individual vent, wet vent or- combination drain and vent system. The AAV may serve a pumped-discharge type clothes washer standpipe when the fixture drain downstream of the point of vent is at least 3 inches in diameter.
- (b) Branches that have fixtures served by the AAV, and when connected to a stack that has 4 or more branch intervals above the branch connection, must be provided with a relief vent located between most downstream fixture and the stack.
- (c) The AAV may not serve as a vent termination point for any of the following:
  1. Areas of negative pressure such as parking garages, laboratories, research facilities etc.
  2. A commercial parking structure.
  3. Vents installed to relieve positive pressures.

4. A fixture serving a chemical waste system.
  5. POWTS components such as a holding tank or treatment tank
  6. A stack vent serving two or more branch intervals.
  7. A vent stack that is required in accordance with s. SPS 382.31 (4) (a).
  8. A vent serving a sump.
  9. An enclosed stairwell.
  10. An area utilized as supply or return air plenum.
  11. A pit, vault, or depression which is below the adjacent grade or floor level.
  12. Plumbing wastewater and treatment devices used to treat fats, oils & grease (FOG).
  13. An area that subjects the valve to grease or other materials which could cause fouling of the valves seal.
  14. Clean rooms such as FDA/DATCP regulated food and beverage production areas, bio safety labs, and pharmaceutical production and/or processing facilities.
- Note:** For specific applications not listed, please contact DSPS.
15. A health care facility as defined in s. SPS 381.01 (116).
  16. A restaurant kitchen licensed by the state or local department of health.
  17. A residential bedroom.

**Note:** Does not include closets or bathrooms with solid doors in accordance with Standard International Building Code s. 508.2.3.

18. A daycare.

(d) The size and developed length for a vent using an AAV shall conform with Table 382.31-6.

**Table 382.31-6**

Table 382.31-6		
Maximum Developed Distance of Vent to Connection of AAV in Feet		
Maximum DFUs	Diameter in Inches	
	1-1/4 <sup>a</sup>	1-1/2
		2

1	35	NL <sup>b</sup>	NL <sup>b</sup>
3	28	140	NL <sup>b</sup>
6	NP <sup>c</sup>	100	200
20	NP <sup>c</sup>	60 <sup>d</sup>	110
160	NP <sup>c</sup>	NP <sup>c</sup>	25

<sup>a</sup> Drainage Fixture Units based on ch. SPS 382.

<sup>b</sup> NL means no limit.

<sup>c</sup> NP means not permitted.

<sup>d</sup> Not more than two water closets or similar type fixtures of four or more drainage fixture units.

(e) The installation of the AAV shall conform with all of the following:

1. The AAV must be installed in the vertical position, plus or minus 15 degrees from plumb.

2. The vent system being served by the AAV may have horizontal offsets located less than 36 inches above the floor on which the fixtures are installed providing the vent does not connect to another vent.

3. The installation location of the AAV shall conform with all of the following:

a. A minimum of 4 inches above the top of the horizontal pipe being served (See Note).

b. No more than 20 inches below the flood rim of any fixture served by this product (See Note).

c. At least 6 inches above insulation materials (See Note).

d. In an accessible area.

e. Within a space that allows air to enter the product and has an opening equivalent to requirements in 382.31 (14).

f. With at least one 3 inch or larger diameter vent, serving the same building drain on which the AAV is installed, which extends to the atmosphere outside of the building.

(f) AAVs shall be tested. The AAV shall be tested prior to or after installation. The AAV shall be subjected to a pressure equal to one inch of water column. After observing for 1 minute, if the pressure falls .5 of an inch or less, it will be considered a passing AAV.

(g) When an AAV is installed in a building, the contractor shall provide the owner with a copy of the manufacturer's written AAV description.

**Note:** The distance is measured from termination of the vent pipe to the point noted in the stipulation.

SECTION 88. SPS 382.32 (3) (c) 2., is amended to read:

**SPS 382.32 (3) (c) 2.** Trap seal primer valves shall conform to ASSE 1018 or ASSE 1044.

SECTION 89. SPS 382.32 (3) (c) 3. is created to read:

**SPS 382.32 (3) (c) 3.** Barrier type trap seal protectors for floor drains shall conform to ASSE 1072.

SECTION 90. SPS 382.32 (3) (e) is amended to read:

**SPS 382.32 (3) (e) *Size.*** ~~Traps shall be of diameters not less than those specified in Table 382.30-1 of s. SPS 382.30.~~

SECTION 91. SPS 382.32 (3) (e) 1. and 2. are created to read:

**SPS 382.32 (3) (e) (1)** Except as provided in subd. 2. traps shall be of diameters not less than those specified in Table 382.30-1 of s. SPS 382.30.

**2.** The Minimum trap diameter for a trap serving a shower replacing a non-public residential-type bathtub is 1.5 inches provided each of the following apply:

- a.** The shower shall have no more than one control valve and not allow for the operation of more than one showerhead simultaneously.
- b.** It shall be permissible under this approval to use a diverter valve that feeds up to 2 showerheads provided the showerheads cannot be used simultaneously.
- c.** The shower head shall have a maximum flow rate of 2.5 gallons per minute.

SECTION 92. SPS 382.32 (4) (b) 1. c. is amended to read:

**c.** The vertical distance between the water level in the bowl of a floor outlet water closet or floor outlet clinic sink and the center line of the horizontal portion of the fixture drain may not exceed 36" inches.

SECTION 93. SPS 382.32 (4) (b) 1. e. is created to read:

**SPS 382.32 (4) (b) 1. e.** The vertical distance of a floor outlet fixture between the top of the fixture drain outlet and the horizontal center line of the trap outlet may not exceed 18 inches.

SECTION 94. SPS 382.32 (5) (b) and (c) 2. are amended to read:

**SPS 382.32 (5) (b)** Horizontal drain piping serving a kitchen sink trap shall not connect to vertical drain piping by means of a double sanitary tee where an appliance with pump discharge or a food waste grinder are installed.

(c) 2. A floor outlet water closet shall connect to a 4 inch or 4 × 3 inch closet collar fitting. ~~A 4 × 3 inch closet bend fitting may be installed where a 4 inch closet collar fitting is used.~~

SECTION 95. SPS Table 382.33-1 s repealed and recreated to read:

Baptismal founts
Bar and soda fountains
Boiler blowoff basin outlet drains
Clothes washers and extractors
Coffee makers and urns
Dishwashers
Egg boilers
Food preparation sinks
Food processing equipment
Ice compartments and ice makers
Potato peelers
Refrigerated food display cases
Refrigerated food storage rooms and compartments
Steam tables, kettles, and related equipment
Sterilizers
Still
Vending machines
Other devices, fixtures, and appliances as approved by the department

SECTION 96. SPS 382.33 (5) (b) (Note) is repealed.

SECTION 97. SPS 382.33 (6), (8) (d), 2. and 7. are amended to read:

**SPS 382.33 (6)** Indirect waste piping and local waste piping handling sanitary wastes ~~shall~~ may not exceed 30 feet in length horizontally nor 15 feet in length vertically.

**(8) (d)** A plumbing fixture may not be used as a receptor for indirect or local waste piping, except as provided in subs. 1. to ~~7~~ 8.

**2.** The indirect waste piping of ~~an a residential-type~~ automatic clothes washer or water treatment device may discharge into a laundry tray.

**7.** The indirect waste piping serving a dental mold grinder may discharge into the ~~riser or tailpiece~~ of a trap serving a laboratory sink that is provided with a plaster trap and is installed within 3 feet of the mold grinder.

SECTION 98. SPS 382.33 (8) (d) 8. and 9. are created to read:

**SPS 382.33 (8) (d) 8.** A water closet, clinic sink, or a urinal may receive the discharge from a mortuary or autopsy table.



9. The indirect waste piping serving a dialysis machine may discharge to a water closet or lavatory under all the following conditions:

a. The water closet or lavatory is in a patient toilet room of a single occupancy in a healthcare facility.

b. The discharge to the plumbing fixture shall be made by either a temporary or permanent fixed 1 inch air-gap that will not impede normal operation of the fixture when not in dialysis mode.

c. The discharge to the fixtures shall be limited to a department-approved portable healthcare dialysis appliance and a portable water treatment device specifically for dialysis use.

SECTION 99. SPS 382.33 (9) is amended to read:

**SPS 382.33 (9) INDIRECT WASTE PIPING REQUIRED.** Indirect waste shall discharge to an approved receptor.

SECTION 100. SPS 382.33 (9) (bm) is created to read:

**SPS 382.33 (9) (bm) Clothes dryers.** A single residential ventless dryer with a maximum discharge of less than one gpm may discharge into a 2 inch automatic clothes washer box or standpipe within a dwelling unit. Both the residential automatic clothes washer drain hose and the residential ventless dryer drain hose shall physically fit within the receptor without distortion to either hose.

SECTION 101. SPS 382.33 (9) (c) 2. is amended to read:

**SPS 382.33 (9) (c) 2.** ~~Self-service laundries—Laundries.~~ Pumped-discharge automatic clothes washing equipment, including residential-type clothes washers in laundrettes, laundromats and self-service laundry establishments shall have the wastes discharge to a drain system by means of standpipes. The standpipes shall be installed in accordance with subd. 1.

SECTION 102. SPS 382.33 (9) (c) 2. a. and b. are renumbered SPS 382.33 (9) (c) 1. c. and d. and, as renumbered, are amended to read:

**SPS 382.33 (9) (c) 1. c.** The maximum number of washers which may ~~be connected~~ discharge to a trap shall be in accordance with Table 382.33-2.

**d.** Washer wastes shall not be discharged to gutters, troughs, local waste piping, indirect waste ~~manifold~~ manifolds or other similar connections.

SECTION 103. SPS 382.33 (9) (c) 3., b. (Note) and c. are amended to read:

**SPS 382.33 (9) (c) 3.** ~~'Commercial-type.'~~ Gravity discharge ~~type~~ clothes washing equipment shall discharge by means of an air-break or by other approved methods into a floor receptor, trench, or trough.

**Note:** See ch. SPS 382 Appendix for further explanatory ~~material~~ information.

c. All wastes from the washers shall flow through ~~a Commercial-laundry~~ an interceptor as specified in s. SPS 382.34 (7).

SECTION 104. SPS Table 382.33-2 (title) is amended to read:

**Table 382.33-2**  
~~Washer Connections~~ Clothes Washer Discharge

SECTION 105. SPS 382.33 (9) (f) (title) is amended to read:

**SPS 382.33 (9) (f)** *Elevator pit drains.*

SECTION 106. SPS 382.33 (9) (fm) is created to read:

**SPS 382.33 (9) (fm)** *Elevator threshold drains.* Elevator emergency threshold drains provided to meet the requirements of International Building Code ss. 3007.3 or 3008.3, as adopted and modified by chs. SPS 361 to 366, may be used only to minimize infiltration of water from fire sprinklers into elevator hoistways. Such drains may not receive other water including wastewater.

1. In lieu of individual traps, a single trap may serve multiple threshold drains on a single floor serving a single hoistway.

2. Where multiple elevator threshold drains are served by one trap, an untrapped threshold drain may serve the cleanout requirements under SPS 382.35(3)(a) and is exempt from 382.35 (3) (g).

3. Discharge shall be as specified in Table 382.38-1, line 4m.

4. A drain stack serving only threshold drains serving elevator door areas may utilize a combination drain and vent system under SPS 382.31(17)(d).

5. Elevator threshold drains are exempt from safing requirements under SPS 384.20 (4) (b) 9..

6. The elevator threshold drain stack utilizing a combination drain and vent as permitted by 382.31 (17) (d) may not be combined with other plumbing prior to discharging to the building drain or other discharge points.

7. Elevator threshold drain traps shall comply with 382.32(3)(c)1.

8. The drain stack shall be sized to accommodate the anticipated design discharge loads of the automatic fire sprinkler system.

SECTION 107. SPS 382.33 (9) (g), 1., and (k) 3. are amended to read:

**SPS 382.33 (9) (g)** Plumbing fixtures, devices, appliances, and appurtenances installed in food handling establishments engaged in the storage, preparation, selling, serving, or processing of food shall be installed in accordance with this paragraph.

1. 'Bar and soda fountain sinks.' ~~Where a A bar sink, whether installed for hand washing or other use, or a soda fountain sink is so located that the trap for the sink cannot be vented as specified in s. SPS 382.31, the sink drain shall~~ may discharge to the sanitary drain system through indirect waste piping.

(k) 3. The discharge from deck drains serving outdoor pools shall be directed to the storm sewer by way of an air-gap, air-break, or to grade. The distance from the top of the air-break to the pool deck shall be a minimum of 6 inches, terminating at a point above the top of the receptor receiving the deck drain discharge.

SECTION 108. SPS 382.34 (3) (e) is amended to read:

**SPS 382.34 (3) (e)** All devices installed for the purpose of intercepting, separating, collecting, holding or treating harmful, hazardous or deleterious materials in liquid or liquid-borne wastes shall be operated and cleaned of intercepted or collected materials or of any residual from treatment at such intervals which may be required to prevent their passage through the interceptor. Grease interceptors shall be maintained on a cycle not to exceed 90 days or per manufacturer's instructions.

SECTION 109. SPS 382.34 (3) (g) 4. is created to read:

**SPS 382.34 (3) (g) 4.** An exterior subsurface treatment tank holding component, or reservoir to be installed in an area subject to saturated conditions, shall be installed to effectively prevent flotation of the tank or component.

SECTION 110. SPS 382.34 (4) (b) 1., (c), (5) (b) 2., 3., (c), and 1. g. are amended to read:

**SPS 382.34 (4) (b) 1.** Floor drains serving garages for one- and 2-family dwellings shall be provided with a removable solid bottom sediment basket.

(c) A garage catch basin, floor drain and trench drain shall be provided with an approved, removable ~~cast iron or steel~~ grate of a ~~thickness~~ sufficient strength for the anticipated loads. The grate shall have an available inlet area equal to at least the outlet drain for the catch basin, floor drain or trench drain.

(5) (b) 2. 'Private onsite wastewater treatment systems.' All new, altered or remodeled plumbing systems which discharge to private onsite wastewater treatment systems shall be provided with ~~exterior~~ grease interceptors of sufficient capacity to ensure compliance with s. SPS 383.44 (2).

3. The department, or authority having jurisdiction, may require the installation of any treatment device deemed necessary by the department or authority having jurisdiction for existing plumbing installations where the waterway of a drain system, sewer system or private onsite wastewater treatment system is reduced or filled due to grease.

(c) Exterior grease interceptors—shall receive the entire greasy waste discharge from kitchens or food processing areas. All exterior interceptors shall be designed and constructed in accordance with this paragraph, so as to constitute an individual structure.

1. g. Any new or replacement exterior grease interceptor shall have at least two compartments. Each compartment of an interceptor tank shall be provided with at least one manhole opening located over either the inlet or outlet opening. Additional manhole openings shall be provided such that no interior compartment wall of a tank is more than 4 feet from the edge of the manhole opening. The distance between manhole openings serving the same compartment may not exceed 8 feet. Manhole openings shall be not less than 23<sup>22</sup> inches in the least dimension. Manholes shall terminate at or above ground surface and be of approved materials. Steel tanks shall have a minimum 2<sup>22</sup> inch collar for the manhole extensions permanently welded to the tank. The manhole extension on fiberglass tanks shall be of the same material as the tank and an integral part of the tank. The collar shall have a minimum height of 2<sup>22</sup> inches.

SECTION 111. SPS 382.34 (5) (d) 8. is created to read:

**SPS 382.34 (5) (d) 8.** For calculating greasy waste for a wok, the following formula may be used:

$$\frac{\text{diameter} \times \text{diameter} \times .7854 \times \text{depth} \times .65 \times .75}{231}$$

SECTION 112. SPS 382.34 (15) (a) 2. is amended to read:

**SPS 382.34 (15) (a) 2.** ~~Exterior containment~~ Containment devices or treatment systems for mixed wastewater, decontamination tanks, or other special wastewater treatment devices shall be constructed in accordance with s. SPS 384.25 or as approved by the department.

SECTION 113. SPS 382.34 (15) (e) 1. (Note), (g), and (h) are created to read:

**SPS 382.34 (15) (e) 1. Note:** this requirement applies to all discharge lines whether gravity or pump discharge.

(g) *Vacuum relief.* A vacuum relief valve shall be installed in each water treatment

appliance and installed more than 20 feet above any faucet or outlet served by the appliance when measured from the bottom of the tank.

**(h) Wastewater retention.** Where a containment tank has an outlet that is connected to a drain system, the outlet shall include a means to contain the wastewater from entering the drain system until proven to be safe for discharge.

SECTION 114. SPS 382.35 (3) (a) (intro.) and (f) are amended to read:

**SPS 382.35 (3) (a)** All Except as permitted under SPS 382.33 (9) (fm), all gravity horizontal drains within or under a building shall be accessible through a cleanout in accordance with one of the following requirements:

**(f)** Where a cleanout is provided in a drain stack, the cleanout shall be located ~~28 to not~~ 60 inches above the lowest floor penetrated by the stack.

SECTION 115. SPS 382.35 (6) is repealed and recreated to read:

**SPS 382.35 (6) CLEANOUT SIZE.**

**(a)** Cleanouts and cleanout extensions shall be sized in accordance with Table 382.35, except as provided in (6) (b).

**(b)** The replacement or repair of a non-public 6 inch sanitary sewer may be served by an existing 4 inch extension within the building.

SECTION 116. SPS 382.35 (8) (a) is amended to read:

**SPS 382.35 (8) (a)** The minimum diameter of manholes shall be 42<sup>22</sup> inches. A manhole shall have a minimum access opening of ~~24<sup>22</sup>~~ 23 inches.

SECTION 117. SPS 382.36 (3) (d) and (e) are created to read:

**SPS 382.36 (3) (d)** Tank access shall comply with all the following:

**1.** Each compartment of a detention tank used for the reduction of total suspended solids shall be provided with a manhole opening located over at least one inlet and at least one outlet. For compartments with multiple inlets, a manhole or a cleanout shall be provided at additional inlets and outlets.

**2.** The distance between manhole openings serving the same compartment may not exceed 50 feet.

**3.** A manhole opening shall be not less than 23 inches in the least dimension.

**4.** A manhole shall terminate at or above ground surface and be of approved materials.

Steel tanks shall have a minimum 2 inch collar for the manhole extensions permanently welded to the tank. The manhole extension on fiberglass tanks shall be of the same material as the tank and an integral part of the tank. The collar shall have a minimum height of 2 inches.

5. Manhole risers shall be provided with a substantial, fitted, watertight cover of concrete, steel, cast iron or other approved material.

6. Manhole covers shall terminate at or above grade and shall have an approved locking device.

7. Tanks shall conform to provisions of s. SPS 384.25.

(e) Tank labeling shall comply with all the following:

1. Covers for all tank openings larger than 8 inches in diameter shall be provided with a permanent warning label indicating the dangers of entering the tank, in accordance with this subsection.

2. The warning label shall be securely attached and made of a noncorrosive metal or plastic bearing the legend "DO NOT ENTER WITHOUT PROPER EQUIPMENT" or "DANGEROUS GASES EXIST IN TANK" or similar language.

3. The label shall be rectangular in shape with minimum dimensions of 4 by 5 inches.

4. The wording on the label shall be a minimum of ½ inch in height and be either indented or raised.

SECTION 118. SPS 382.36 (4) (title) is amended to read:

**SPS 382.36 (4) DISCHARGE, ~~DISPERSAL, CLEARWATER REUSE OR STORMWATER USE AND CONNECTIONS.~~**

SECTION 119. SPS 382.36 (4) (b) 4. is created to read:

**SPS 382.36 (4) (b) 4.** Subsoil drain connections to the storm sewer shall be at a point above the horizontal center line of the storm sewer and in such a manner that the subsoil drain is entirely above the top of the building sewer or be provided with a backwater valve.

SECTION 120. SPS 382.36 (5) (a) 3. and (b) are amended to read:

**SPS 382.36 (5) (a) 3.** 'Engineering analysis method.' An engineering analysis, ~~acceptable to the department,~~ shall be based on an analysis provided by a Wisconsin registered

architect, engineer or plumbing designer or an approved alternate standard per s. 381.20(2) based on the peak flow calculated in accordance with sub. (3) (a).

(b) Volume. The volume of stormwater influent to a plumbing system shall be based on an ~~engineering design acceptable to the department~~ analysis provided by a Wisconsin registered architect, engineer or plumbing designer or an approved alternate standard per s. 381.20(2) and a minimum of a two-year, 24-hour storm event and designed so that no property damage occurs at 100-year, 24-hour storm event with a Type II distribution.

SECTION 121. SPS 382.36 (6) (g) 4. is created to read:

**SPS 382.36 (6) (g) 4.** A subsurface stormwater detention system that has a permanent pool of water shall be designed and installed in a manner that accomplishes vector control.

SECTION 122. SPS Tables 382.36-1 and 382.36-3 are amended to read:

**Table 382.36-1**  
**Maximum Capacity of Stormwater Conveyance Piping for**  
**PVC, ASTM D1785, D2665, F891 and ABS, ASTM D1527, D2661, F628**

Nominal Pipe Size (in inches)	Maximum Capacities in gallons per minute (gpm)					Vertical
	Pitch of Piping Per Foot					
	1/32 inch (0.26% slope)	1/16 inch (0.52% slope)	1/8 inch (1.04% slope)	¼ inch (2.08% slope)	½ inch (4.16% slope)	
2	11	15	22	31	44	34
3	30	40	60	80	110	89
4	60	80	120	160	230	183
5	110	150	210	300	420	334
6	170	240	340	480	690	545
8	360	510	710	1,010	1,430	1,133
10	660	930	1,310	1,850	2,620	2,079
12	1,050	1,480	2,090	2,960	4,180	3,316
14	1,350	1,900	2,690	3,810	5,390	4,271
16	1,920	2,720	3,840	5,440	7,690	6,097
18	2,630	3,720	5,270	7,440	10,520	8,348
20	3,520	4,970	7,030	9,956	14,060	11,155
24	5,750	8,140	11,490	16,260	22,990	18,244

Note: To convert to cubic feet per second (cfs) divide gpm by 448.8.

**Table 382.36-3**  
**Maximum Capacity of Stormwater Conveyance Piping for Cast Iron, ASTM A74 and ASTM A888**

Nominal Pipe Size (in inches)	Maximum Capacities in Gallons Per Minute (gpm)				
	Pitch of Piping Per Foot				

	1/32 inch (0.26% slope)	1/16 inch (0.52% slope)	1/8 inch (1.04% slope)	¼ inch (2.08% slope)	½ inch (4.16% slope)	Vertical
2	N/A	N/A	N/A	N/A	N/A	26 <sup>a</sup>
3	20	30	40	60	80	80
4	50	60	90	130	180	173
5	80	120	170	230	330	315
6	140	190	270	380	540	516
8	290	420	590	830	1,170	1,118
10	540	770	1,090	1,540	2,170	2,068
12	870	1,230	1,740	2,490	3,490	3,318
15	1,630	2,310	3,270	4,620	6,530	6,217

a. Sizing per manufacturer's specifications.

Note: To convert to cubic feet per second (cfs) divide gpm by 448.8.

SECTION 123. SPS 382.36 (7) (d) 1. is amended to read:

**(7) (d) 1.** The connection of a stormwater leader discharging to a storm building sewer shall be made at or above the finished grade.

SECTION 124. SPS 382.36 (7) (d) 1m. and (e) are created to read:

**(7) (d) 1m.** If in direct connection and at finished grade, a removable strainer shall protect the inlet. The capacity of the strainer shall be provided in accordance with s. SPS 382.36 (9) (b).

**(e)** Hydrodynamic stormwater separators shall conform to ASTM F1745/F1745m.

SECTION 125. SPS 382.36 (8) (a) 4. a. is amended to read:

**SPS 382.36 (8) (a) 4. a.** Except as permitted under subd. 4. b.-or c. the size of each sump shall be no smaller than 16 inches in diameter at the top, 14 inches in diameter at the bottom, and 22 inches in depth, but in no case smaller than the manufacturer requirements to ensure sufficient pump run time.

SECTION 126. SPS 382.36 (8) (a) 5. and (b) 3. are created to read:

**SPS 382.36 (8) (a) 5.** `Solid covered sumps`. A storm or clearwater sump with a solid cover shall be vented. The vent shall terminate a minimum of one inch above finished floor and be sized per SPS Table 382.31-4. In lieu of a separate vent, a sealed sump may incorporate a radon vent connected to the subsoil drain or sump cover.

**(b) 3.** `Clearwater discharge.` Clearwater may not discharge into a stormwater sump, except for one- and 2-family dwellings.

SECTION 127. SPS 382.36 (10) is repealed and recreated to read:

**SPS 382.36 (10) ROOF DRAINS**



(a) *General roofs.* Conventional roof, deck, and balcony drains shall conform to ASME A112.6.4 and:

1. Roof drains shall be equipped with strainers extending not less than 4 inches above the surface of the roof immediately adjacent to the roof drain. Strainers shall have an available inlet area above the roof not less than 1.5 times the area of the conductor to which the drain connects.

2. Roof strainers used on sun decks, open parking decks, and similar areas shall be of the flat surface type, shall be level with the deck, and shall have an available inlet area not less than 2 times the area of the conductor to which the drain connects.

(b) *Siphonic roof drains.* Siphonic roof drains shall conform to ASME A112.6.9 or ASTM F2021 and be indelibly marked with the following minimum information:

1. The dome, bodies, and baffle plates shall be marked with the manufacturer's name or trademark.

2. The baffle plate and drain body shall be marked with the baffle plate model number, resistance value, k, and words, "replace missing baffle with model\_\_\_."

3. The design of siphonic roof drainage systems shall conform to ASPE 45.

(c) *Controlled flow roof drains.*

1. 'Application.' In lieu of sizing the roof drain piping based on actual maximum horizontal roof areas as specified in sub. (5) (a) 1., the roof drain piping may be sized based on the equivalent adjusted maximum horizontal projected roof areas which result from controlled flow and storage of storm water on the roof.

2. 'Installation.' Control of storm water runoff shall be by control devices. Control devices shall be protected by strainers.

3. 'Sizing.' Two or more drains shall be installed on roof areas less than or equal to 10,000 square feet in area, 4 or more drains shall be installed on roof areas greater than 10,000 square feet in area.

4. 'Storms.' The water from a 10-year, 24-hour storm event may not be stored on the roof for greater than 24 hours.

(d) *Secondary roof drains*

1. 'Sizing.' When secondary roof drain systems are installed the secondary system shall be sized and installed in accordance with the requirements in this section.

2. 'Prohibited connection.' Secondary roof drain systems may not be connected to primary roof drain systems.

3. 'Discharge.' All secondary roof drain systems shall discharge in accordance with table 382.38-1.

4. 'Openings.' The opening for the secondary roof drainage shall be not less than 2 inches and not more than 4 inches above the bottom opening of the primary roof drain.

5. 'Overflow drains.' Secondary overflow drains and overflow standpipes rim elevations shall be not less than 2 inches and not more than four inches above the bottom elevation of the primary roof drains.

6. 'Rain fall rate.' Secondary roof drain systems shall be sized for the 100-year, 24-hour storm event, including all cascading loads from higher elevation overflows

7. 'Overflow drains.' Secondary overflow drains and overflow standpipes rim elevations may not exceed 5 inches in height above the adjacent roof elevation served by the primary roof drains.

**Note:** Roof structure requirements are contained in chs. SPS 361-366.

SECTION 128. SPS 382.36 (11) is repealed.

SECTION 129. SPS 382.36 (12) (b) 2. a. is amended to read:

**SPS 382.36 (12) (b) 2. a.** Vents serving a solid covered sump shall terminate a minimum of one inch above finished floor or in accordance with s. SPS 382.31 (16), except for subd. par. (d) 2. c. In lieu of a separate vent, a sealed sump may incorporate a radon vent connected to the subsoil drain or sump cover.

SECTION 130. SPS 382.36 (13) (b) 1. a. to d. are created to read:

**SPS 382.36 (13) (b) 1. a.** Pre-construction runoff volume

**b.** Post-Construction runoff volume.

**c.** Infiltration volume.

**d.** Detention volume.

SECTION 131. SPS 382.365 (3) (am) is created to read:

**SPS 382.365 (3) (am)** All infiltration systems must comply with the requirements of Wisconsin DNR standards for site evaluation for stormwater infiltration and bioretention for infiltration.

SECTION 132. SPS 382.365 (3) (b) 1. (intro.) is amended to read.

**SPS 382.365 (3) (b) 1.** Except as provided in subd. 2., the minimum depth of suitable in situ soil for infiltration systems shall be as specified ~~in Table 382.365-1~~ under subd. 1. a. or b. to separate the system from the highest groundwater elevation or bedrock. When groundwater mounding calculations affect the depth to seasonal groundwater, the depth of suitable soil shall be measured to the calculated elevation of mounded groundwater.

SECTION 133. SPS 382.365 (3) (b) 1. a., b., (Note 1), (Note 2), and (bm) are created to read:

**SPS 382.365 (3) (b) 1. a.** Five feet of suitable soil separation where the soil contains greater or equal to 10 percent and less than or equal to 20 percent fines.

**b.** Three feet of suitable soil separation where the soil contains greater than or equal to 20 percent fines.

**Note 1:** WI DNR standards for Site evaluation for stormwater infiltration are found in DNR Conservation Technical Standard 1002.

**Note 2:** See SPS 382 Appendix for explanatory material.

**(bm) Engineered soil requirements** The installation of a stormwater infiltration system where engineered soil is incorporated in lieu of in situ soil shall comply with all the following:

**1.** The engineered filtering layer shall be located above any limiting factor identified within the soil report.

**2.** The engineered soil may not be less than 24 inches in depth, or 18 inches with supporting documentation and department approval.

**Note:** WI DNR standards for bioretention for infiltration are found in DNR Conservation Technical Standard 1004.

SECTION 134. SPS 382.365 (3) (c) is repealed.

SECTION 135. Tables SPS 382.365-1 to 382.365-3 are repealed.

SECTION 136. SPS 382.37 (2) (a) and (g) (intro.) are amended to read:

**SPS 382.37 (2) (a)** Sanitary dump stations which are used to receive domestic wastes and domestic wastewater from camping unit transfer tanks, RV transfer tanks, the holding tanks of travel trailers, recreational vehicles or other similar mobile vehicles, and transfer containers shall conform with this subsection.

(g) A permanent supply of water shall be provided to wash down the drain receptor and pad. The water supply shall be:

SECTION 137. SPS 382.37 (2) (g) 3. and (3) (b) 4. to 6. are created to read:

**SPS 382.37 (2) (g) 3.** The non-potable supply water for the wash down for the drain receptor must be located at least 50 feet from a potable water supply unless a variance is approved by the department under s. SPS 382.20 (11).

**(3) (b) 4.** If a water supply is provided for individual campsites water distribution to each individual campsite must comply with the requirements of chs. SPS 381-387 and the water supplied may be used for the served campsite only.

**5.** The water connection to a camping unit may be plumbed directly if the fixtures comply with provisions of chs. SPS 382 and 384.

**6.** A water connection to a camping unit may be made by NSF/ANSI 51 or 61 compliant hose if each camping unit is individually protected by approved cross connection control.

SECTION 138. Table SPS 382.38-1 lines 4m., 9g., 9r., and footnote k. are created to read:

**Table 382.38 – 1  
(Partial Table)  
Allowable Discharge Points by Fixture or Specific Uses**

Use or Fixture	Allowable Discharge Points					
	POWTS <sup>a</sup>	Municipal Sanitary Sewer	Municipal Storm Sewer	Ground Surface	Combined Sanitary-Storm Sewer	Subsurface Dispersal <sup>i</sup>
4m. Elevator threshold drains		X		X	X	
9g. Garage catch basins or oil interceptors in public buildings and facilities. [see s. SPS 382.34 (4) (a) 1.a.]	X <sup>c, h, k</sup>	X				
9r. Open public parking levels			X	X <sup>b</sup>	X	X

k. Discharge is required to be received by a holding tank, see s. 382.34 (4) for additional requirements for garage floor area wastewater.

SECTION 139. SPS 382.40 (3) (b) is amended to read:

**SPS 382.40 (3) (b)** Except as provided in subs. 1. and 2., hot water shall be provided to all plumbing fixtures, appliances, and equipment used for personal washing, culinary purposes, ~~or~~ laundry, and sinks used for building maintenance in a public building.

SECTION 140. SPS 382.40 (3) (c) 4. is created to read:

**SPS 382.40 (3) c. 4.** The water supply system shall be protected from thermal expansion when a closed system is created.

SECTION 141. SPS 382.40 (3) (d) 1. a., (Note), b., and e., 4. and (e) 1. are amended to read:

**SPS 382.40 (3) (d) 1. a.** Aboveground piping supplying water other than potable shall be labeled by tags or colored bands according to Table ~~382.40-1a~~382.40-1p.

**Note:** When identifying potable water piping or valves with tags or bands, label according to Table ~~382.40-1a~~382.40-1p.

**b.** Valves supplying other than potable water shall be identified by tags according to Table ~~382.40-1a~~382.40-1p.

**e.** Tags used to identify water outlets, valves and piping shall be of metal or plastic in the shape specified in Table ~~382.40-1a~~382.40-1p.

**4.** The installation of each reduced pressure principle backflow preventer, reduced pressure principle fire protection ~~principle~~ backflow preventer, reduced pressure detector fire protection backflow preventer, spill resistant vacuum breaker and pressure vacuum breaker shall display a department assigned identification number.

**(e) 1.** ~~Except as provided in subd. 2., a~~ A multipurpose piping system shall be designed and installed in accordance with this section and NFPA 13D-~~2~~3, with the following exceptions:

SECTION 142. SPS 382.40 (3) (e) 1. a. and b. are created to read:

**SPS 382.40 (3) (e) 1. a.** A partial or single sprinkler may be installed in a dwelling unit not required to be sprinkled under NFPA 13D.

**b.** Limited purpose or limited area sprinklers may be installed in areas not required to be sprinkled.

SECTION 143. SPS 382.40 (3) (e) 1. (Note 1) is repealed.

SECTION 144. SPS 382.40 (3) (e) 3. to 5. are created to read:

**SPS 382.40 (3) (e) 3.** Materials for multipurpose piping systems shall be acceptable under NFPA 13D or ss. SPS 384.30(4)(e) and 384.30(5).

**4.** Five gpm shall be added onto the multipurpose calculations for each dwelling connected to a common water supply system.

**5.** A flow test shall be performed at the controlling sprinkler(s) before the system is put into operation.

SECTION 145. SPS 382.40 (5) (a) is amended to read:

**SPS 382.40 (5) (a) General.** Water heating systems shall be sized to provide sufficient hot water to supply peak demand, except for a tankless water heater that meets the requirements of subd. (am).

SECTION 146. SPS 382.40 (5) (a) (Note) is repealed.

SECTION 147. SPS 382.40 (5) (am) is created to read:

**SPS 382.40 (5) (am) Tankless water heaters.** All tankless water heaters shall have minimum flow rate as specified in this paragraph.

1. 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 382.40-1t and 382.40-3, provided the heater will achieve a water temperature of 110° F at the terminal fitting or faucet.
2. The sizing method in subpart. 1. 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.
3. For the purposes of this subpart, "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~~.

**SECTION** 148. SPS 382.40 (5) (b) 6., and 7. are created to read:

**SPS 382.40 (5) (b) 6.** All hot water circulation system connections shall be made downstream of the control valve serving the water heating device.

7. Hot water circulation piping & tubing may not exceed the maximum velocity requirements specified per the manufacturer.

s

**SECTION** 150. SPS 382.40 (6) (a) is amended to read:

**SPS 382.40 (6) (a)** The load factor for intermittent flow fixtures on water supply piping shall be computed in terms of water supply fixture units as specified in Tables ~~382.40-1b~~ 382.40-1t and 382.40-2 for the corresponding fixture and use. Water supply fixture units may be converted to gallons per minute in accordance with Table 382.40-3 or 382.40-3e.

SECTION 151. Tables SPS 382.40-1d and 382.40-1h are created to read:

**Commented [RJD1]:** Removed this:

Section 148. SPS 382.40 (5) (b) is amended to read:

**SPS 382.40 (5) (b)** ~~Except as provided in par. bm,~~ the developed length of hot water distribution piping from the source of the hot water supply to a plumbing fixture or appliance exceeds 100 feet, a circulation system or self-regulating electric heating cable shall be provided to maintain the temperature of the hot water within the distribution piping.

**Commented [RJD2]:** Need to remove because it is in CBC now.

**Commented [RJD3]:** Start renumber

**Table 382.40-1d  
Piping Volume and Maximum Piping Length**

Nominal Pipe Size (in inches)	Volume (liquid ounces per foot length)	Maximum Pipe Length (in feet)	
		Public lavatory faucets	Other fixtures and appliances
¼	0.33	24	25
5/16	0.5	16	25
3/8	0.75	12.5	25
½	1.5	6	25
5/8	2	4	25
¾	3	2	25
7/8	4	0.5	25
1	5	0.5	25
1 ¼	8	0.5	25
1 ½	11	0.5	25
2 or larger	18	0.5	25

**Table 382.40-1h  
Ounces of Water per Foot of Tube**

Nominal Size (inches)	Copper Type M	Copper Type L	Copper Type K	CPVC CTS SDR 11	CPVC SCH 40	CPVC SCH 80	PE-RT SDR 9	Composite ASTM F1281	PEX CTS SDR 9
3/8	1.06	0.97	0.84	N/A	1.17	—	0.64	0.63	0.64
1/2	1.69	1.55	1.45	1.25	1.89	1.46	1.18	1.31	1.18
3/4	3.43	3.22	2.90	2.67	3.38	2.74	2.35	3.39	2.35

SECTION 152. SPS 382.40 (6) (c) is created to read:

**SPS 382.40 (6) (c) Water heating sizing alternate approval.** The load factor for an individual water heater serving an individual residence, apartment, living unit of a hotel or motel, and similar places where plumbing fixtures are intended for use by an individual, or family, to the exclusion of all others may be calculated as follows:

1. The minimum flow rate of a water heater may be obtained by multiplying the hot water demand calculated in accordance with Table 382.40-1b by a factor of 0.65.
2. The flow rate for a storage tank type water heater may be calculated based on a 70% usable storage plus the recovery rate and a 10 min. draw time.
3. The flow rate for tankless water heaters shall be based on a temperature increase that will provide 110 degrees F at the most remote terminus.
4. This alternate sizing method may not be applied to:
  - a. Water heaters serving high flow fixtures, hose bibs, hydrants or fixtures requiring ½ inch supply piping. High flow fixtures are fixtures with flow rates greater than 4 gpm at 80 psig and a water velocity less than or equal to 8 ft./sec.
  - b. Sizing hot water distribution piping.

**Note:** See appendix for further explanatory material and examples.

SECTION 153. Table SPS 382.40-2 is amended to read:

**Table 382.40-2  
(Partial Table)**

**Water Supply Fixture Units for Public Use Fixtures**

Type of Fixture <sup>a</sup>	Water Supply Fixture Units (wsfu)		
	Hot	Cold	Total
Automatic Clothes Washer, Individual <del>Commercial Type</del>	2.0	2.0	3.0
Automatic Clothes Washer, Large Capacity <del>Commercial Type</del>	b	b	b
<del>Automatic Clothes Washer, Individual Residential Type</del>	<del>1.0</del>	<del>1.0</del>	<del>1.5</del>

SECTION 154. SPS 382.40 (7) is amended to read:

**SPS 382.40 (7)** The sizing of the water supply system shall be based on the empirical method and limitations outlined in this subsection, ~~or on a detailed engineering analysis acceptable to the department.~~ an approved alternate standard per s. 381.20(2), or an analysis provided by a Wisconsin registered architect, engineer or plumbing designer.

SECTION 155. SPS 382.40 (7) (Note) and (d) 1. d. are created to read:

**SPS 382.40 (7) Note:** See appendix for details for alternative methods for sizing of the water supply piping of one and two family and apartment buildings.

**(d) 1. d.** The flow pressure at the outlets of the fixture supplies serving any other fixture shall be the minimum pressure required by manufacturer for fixture, appliance, or equipment to operate.

SECTION 156. SPS 382.40 (7) (d) 4. and a., and (e) are amended to read

**SPS 382.40 (7) (d) 4.** If the pressure or water supply volume available from the water main or private water supply is inadequate by calculation to provide the minimum pressures specified in subd. 1., a hydropneumatic pressure booster system or a water pressure booster pump shall be installed to increase the supply of water.

**a.** Each water pressure booster pump shall be provided with an automatic low pressure cut-off switch. The cut-off switch shall be located on the inlet side of the pump and shall be set to terminate the energy supplied to the pump when a positive pressure of less than 10 psig occurs. Pressure gauges shall be installed on the influent and effluent piping.



(e) A water distribution system shall be designed so that the flow velocity does not exceed 8 feet per second except for combination sprinkler distribution piping as designed in par. (3) (e).

SECTION 157. SPS 382.40 (7) (g) 4., (8) (b) 10., and (Note) are created to read:

**SPS 382.40 (7) (g) 4.** Water distribution piping less than ½ inch diameter shall have a minimum ¼ inch diameter, serve one plumbing fixture, the served fixture shall have a maximum load factor of .5 water supply fixture units, and the developed length shall be 25 feet or less.

**(8) (b) 10.** Private water mains shall be provided with provisions for flushing of the system at a minimum of 10 feet per second until clear.

**Note:** See ch. SPS 382 appendix for further explanatory information.

SECTION 158. SPS 382.40 (8) (d) 3. b. is repealed and recreated to read:

**SPS 382.40 (8) (d) 3. b.** The minimum diameter of water distribution piping serving as a meter bypass shall be one nominal pipe size smaller than the meter. Water distribution piping serving as a meter bypass shall be of the same material and shall be equal to or one nominal pipe size smaller than the water distribution piping immediately downstream of the meter.

SECTION 159. SPS 382.40 (8) (d) 7., 8., (Note), 9. and (e) (Note) are created to read:

**SPS 382.40 (8) (d) 7.** When water distribution piping larger than the code minimum is used the system shall be designed to allow effective flushing of the system at 8 feet per second.

**8.** Hygienic sampling valves shall be installed within 6 feet, upstream and downstream, of a chemical injection system or water treatment device installed to mitigate a contaminant regulated under NR 809 or NR 140.

**Note:** For information on sample valve requirements see s. NR 812.34(2).

**9.** A water treatment device that consists of 2 or more treatment tanks shall also have a hygienic sampling valve between each treatment tank.

**(e) Note:** The installation of two water services or a private water main may require the installation of a check valve. Refer to ch. NR 811 for more information.

SECTION 160. SPS 382.40 (8) (i) 1. a. is amended to read:

**SPS 382.40 (8) (i) 1. a.** Before a newly constructed water supply system is to be put into use, the piping of the system shall be ~~filled~~ flushed with water and disinfected. ~~allowed to~~

~~stand for at least 24 hours. After 24 hours each~~ Each water outlet shall be flushed beginning with the outlet closest to the building control valve and then each successive outlet in the system. The flushing at each water outlet shall continue for at least one minute and until the water appears clear and with no trace of disinfectant at the outlet.

SECTION 161. SPS 382.40 (8)(i) 5. and (jm) are created to read:

**SPS 382.40 (8) (i) 5.** Any portion of the water distribution system terminating by means of a plug, cap, or closed fitting and dry downstream with no outlet may not exceed 6 pipe diameters.

**(jm) Water tanks.** Water tanks for public, potable use shall meet the criteria set forth in this section.

**1.** 'Pneumatic pressure tanks.' Pneumatic pressure tanks shall conform to all of the following:

- a.** Tanks shall conform to ch. SPS 384.
- b.** Tanks shall be served by a pressure relief valve.
- c.** Tanks shall be able to be isolated for maintenance, repair, or replacement and equipped with a drain valve by means of a control valve.
- d.** Water calculations incorporating the size of a pneumatic pressure tank may use a 5-minute peak flow in gallons per minute for the water supply system. The system shall be designed to minimize stagnation.
- e.** Tanks shall be stamped or labeled showing the manufacturer's name, model number, the tank volume, year manufactured, and the allowable working pressure.

**2.** 'Storage tanks.'

- a.** Storage tanks shall conform to s. SPS 384.
- b.** All water storage tanks and structures shall be watertight and exclude water, rain, snow, birds, animals, insects, and dust.
- c.** Exterior translucent tanks shall be covered.

**3.** 'Separation.' Potable water may not be stored in a tank or compartment adjacent to non-potable water when the two compartments are separated by a single wall.

**4.** 'Locks.' Locks shall be provided on access manholes, inspection covers, fill pipe, fences, ladder cage bottoms, and any other locations deemed necessary to prevent trespassing, vandalism, and sabotage.

**5. 'Drain piping'** Piping used to drain a storage tank or structure shall discharge to the ground surface through an air gap. The drain may discharge over a drainage inlet receptor, splash pad, or rip rap.

**6. 'Overflow.'**

**a.** Tanks or reservoir shall be provided with overflow piping. The pipe shall open downward between 6 and 12 inches over a drainage inlet, splash pad, or rip rap. Interior tanks within the building structure shall provide overflow piping discharging to an approved clearwater receptor or as approved by the department.

**b.** The overflow outlet pipe shall be provided with a 4-mesh non-corrodible screen.

**c.** The overflow outlet pipe shall be of approved material in accordance with SPS Table 384.30-8.

**d.** The overflow outlet pipe shall be sized to permit discharge flow in excess of the maximum fill rate of the inlet pipe flow.

**e.** Overflow piping shall be visible at the discharge location.

**f.** Storage tanks or reservoirs with more than one compartment and each compartment can be isolated from the rest of the tanks or reservoirs shall be provided with its own overflow pipe.

**7. 'Inlet and outlet piping.'**

**a.** Inlet and outlet piping from a tank or storage structure shall be sized in accordance with SPS 382.40(7).

**b.** Piping shall be of approved material in accordance with SPS Table 384.30-8 for locations within the building, above floor, SPS Table 384.30-7 for locations below grade and outside of the building foundation parameters.

**8. 'Access.'**

**a.** Water tanks or structures shall have convenient access for cleaning and maintenance.

**b.** Manhole openings shall be fitted with a solid watertight cover which overlaps the framed opening and extends down around the opening frame a minimum of 2 inches. A watertight gasket shall be attached to the bottom side of the manhole cover.

**c.** Manhole covers for buried tanks or structures shall be no less than 24 inches above a sloped finished grade.

**d.** Inspection covers shall be watertight and locked secured to prevent unauthorized access.

**e.** Interior paints or coatings shall conform to NSF/ANSI Standard 61.

**9. 'Bypass piping.'** Bypass piping shall be provided allowing the tank or reservoir to be taken out of service for maintenance and inspection purposes when directly connected to a well or municipal water supply.

**10. 'Vents.'**

**a.** Storage tanks shall be vented to the atmosphere. The overflow pipe may not be considered a vent.

**b.** Vents shall be constructed of water distribution materials as per Table 384.30-8, or as approved by the department.

**c.** Vents shall terminate above the top of the tank in a U-bend or vent cap with the opening or 24 to 36 inches above grade and covered with a 24-mesh stainless steel screen at a location that is secured.

**d.** Minimum vent size shall allow an air flow consistent with water inflow and outflow rates. Minimum size shall be 2 inches.

**11. 'Location.'**

**a.** Exterior tanks may not be located within a flood plain or floodway or within 2 feet above the regional flood elevation.

**b.** The area surrounding a storage tank shall be graded to prevent standing surface water within 50 feet of the tank.

**c.** Storage tanks shall be located in an area that is accessible year-round.

**d.** Contamination sources such as sewers, drains, fuel storage tanks, or standing water shall be kept a minimum of 50 feet from the tank or as approved by the department.

**e.** The top roof of an exterior tank may not be less than 2 feet above the normal ground surface.

**12. 'Controls.'**

**a.** Atmospheric pressure tanks shall have a means for maintaining pressure within the building water distribution system. A hydro-pneumatic tank, pump facilities, or other reliable methods shall be provided to maintain system pressure.

- b.** Manual valves shall be installed in the water distribution system to isolate tank and pump equipment from the water distribution system.
- c.** Valves designated for operation of the storage tank shall be visibly recognized as being open or closed. Solenoid valves shall have a control system panel that will have indicators showing visual valve open or closed status.
- d.** Drain valves shall be provided to allow access to the storage tank for maintenance purposes.
- e.** High water fill valve or float valve shall maintain the storage tank levels to the minimum water storage required for use. A bypass to the fill valve shall be provided.
- f.** Tank water levels shall be observable by means of a sight level indicator.
- g.** A pressure gauge shall be installed downstream of the storage tank and booster pumps.
- h.** A thermometer or sensors shall be installed on the storage tank for water temperature monitoring purposes.

**13.** 'Water supply.'

- a.** The influent water supply to the storage tank shall be from an approved source and controlled to maintain the minimum and maximum water levels.
- b.** The influent water supply shall terminate a minimum of 6 inches above the highwater level.
- c.** The influent water supply piping shall be provided with a control valve.

**14.** 'Pumps.' Pumps shall be installed according to the manufacturer specifications and s. SPS382.40(7)(d)4. Pump piping shall have required check valves, pressure gauge, isolation valves, and sampling faucet installed on the system.

**15.** 'Disinfection.' Continuous water treatment is required for all storage tanks through a constant water flow through the potable water storage tank. All of the water tank volume shall be turned over every 24 hours.

**16.** 'Labeling.' All piping and control valves serving the storage tank water system shall be labeled in accordance with Table 382.40-1a for specific use.

**17.** 'Storage tank inspections.'

- a.** The interior and exterior of water storage facilities shall be regularly inspected and maintained in accordance with NR 810.14.

**b.** Inspections of storage facilities 10,000 gallons or greater shall be by a professional tank inspection firm or by a registered professional engineer.

**c.** Maintenance shall include removal of sedimentation and biofilm and repairs as necessary to maintain good working condition.

**d.** All storage facilities shall be inspected at least once every 5 years, unless otherwise approved by the department.

**e.** Inspections of vent and overflow screens and hatches shall be conducted at least once per year.

**18.** 'Records.'

**a.** Records shall be kept of dates of cleaning, relining, and replacement of components or parts.

**b.** Department representatives shall be provided access to the water storage system records upon request.

SECTION 162. Tables SPS 382.40-8 (title) and -9 (title) are amended to read:

**SPS TABLE 382.40-8 CHLORINATED POLYVINYL CHLORIDE TUBING, ASTM D2846 and F442, SDR 11; (C=150)**

**SPS Table 382.40-9 MAXIMUM ALLOWABLE LOAD FOR CROSSLINKED POLYETHYLENE (PEX) TUBING, ASTM F876, and F877, and F2769; (C=150)**

SECTION 163. Tables SPS 382.40-12 through 15 are created to read:

Table SPS 382.40-12

**Maximum Allowable Load For PVC Sched. 80, ASTM 1785, (½ to 2 inches)**

Press. Loss due to friction A-value	½ inch				¾ inch				1 inch				1¼ inches				1½ inches				2 inches			
	GPM	WSFU			GPM	WSFU			GPM	WSFU			GPM	WSFU			GPM	WSFU			GPM	WSFU		
		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT
0.5	0.77	1	---	0.5	1.7	1.2	---	1.5	3.5	1.5	---	3.5	7	1.7	---	9	11	2	4	16	21.6	2.3	7	33
1	1.1	1.5	---	1	2.5	1.8	---	2.5	5	2.2	---	6	10.5	2.6	4	14	16	2.9	5	23	32	3.4	17	60
2	1.6	2.2	---	1.5	3.7	2.7	---	3.5	7.1	3.1	---	9	15.5	3.8	5	21	23.5	4.2	7	39	46	5	40	87
3	2	2.7	---	2	4.6	3.4	---	4.5	9	4	---	12	19	4.7	6	29	29.4	5.3	12	55	57	6.2	69	160
4	2.4	3.2	---	2	5.3	3.9	---	6	10.5	4.6	4	14	22.3	5.5	7	31	34.2	6.2	19	60	67	7.3	97	210
5	2.7	3.6	---	2.5	6	4.4	---	7	11.8	5.2	4	16	25.3	6.3	8	40	38.4	6.9	25	80	75.4	8	134	251
6	2.9	3.9	---	2.5	6.6	4.9	---	8	13	5.7	4	18	27.7	6.9	10	49	42.1	7.6	32	100				
7	3.2	4.3	---	3	7.2	5.3	---	9	14.1	6.2	4	20	30.1	7.5	12	55	45.8	8	39	112				
8	3.4	4.6	---	3	7.7	5.7	---	9	15	6.6	5	21	32.3	8	16	60								
9	3.7	5	---	3.5	8.2	6	---	10	16	7.1	5	22												
10	3.9	5.3	---	3.5	8.7	6.4	---	10	17	7.6	5	23												
11	4.1	5.6	---	4	9.2	6.8	---	12	17.9	8	5	26												
12	4.3	5.8	---	4	9.6	7.1	---	13																
13	4.5	6.1	---	4.5	10.1	7.5	4	14																
14	4.7	6.4	---	4.5	10.5	7.8	4	14																
15	4.8	6.5	---	4.5	10.8	8	4	15																
16	5	6.8	---	6																				
17	5.2	7.1	---	6																				
18	5.3	7.2	---	6																				
19	5.5	7.5	---	6.5																				
20	5.7	7.8	---	6.5																				
21	5.8	7.9	---	6.5																				
22	5.9	8	---	6.5																				
Per 100 feet of length																								

Note: Table SPS 382.40-12 applies only to water services and private water mains

Table SPS 382.40-13

**Maximum Allowable Load For PVC Sched. 80, ASTM 1785, (2½ to 6 inches)**

Press. Loss due to friction A-value	2½ inches				3 inches				3 ½ inches				4 inches				5 inches				6 inches			
	GPM	WSFU			GPM	WSFU			GPM	WSFU			GPM	WSFU			GPM	WSFU			GPM	WSFU		
		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT		Vel. ft/sec	FM	FT
0.5	35	2.6	20	70	64	3.1	87	195	92	3.3	200	335	130	3.6	425	527	237	4	1,226	1,226	380	4.6	2,546	2,546
1	51	3.8	50	130	91	4.4	196	330	134	4.8	450	550	188	5.2	835	855	344	6	2,213	2,213	569	7	4,647	4,647
2	74	5.6	125	245	132	6.4	436	536	195	7	885	900	274	7.6	1,564	1,564								
3	92	6.9	200	330	164	8	654	717																
4	108	8	288	415																				
Per 100 feet of length																								

Note: Table SPS 382.40-13 applies only to water services and private water mains

Table SPS 382.40-14

Maximum Allowable Load for Schedule 80 CPVC ASTM F 441 Pipe (¾ to 2 inches)

Press. Loss due to Friction A-Value	¾ inch				¾ inch				¾ inch				1 inch				1½ inch				1½ inches				2 inches			
	Vel.		WSFU		Vel.		WSFU		Vel.		WSFU		Vel.		WSFU		Vel.		WSFU		Vel.		WSFU		Vel.		WSFU	
	GPM	f/sec	FM	FT	GPM	f/sec	FM	FT	GPM	f/sec	FM	FT	GPM	f/sec	FM	FT	GPM	f/sec	FM	FT	GPM	f/sec	FM	FT	GPM	f/sec	FM	FT
0.5	0.34	0.8	--	0.25	0.5	0.7	--	0.5	0.6	1.1	--	0.5	0.2	1.5	--	3	6.9	1.8	--	8	16.5	2	4	14	20.7	2.3	6	31
1	0.5	1.2	--	0.5	1	1.5	--	1	2.4	1.8	--	2	4.7	2.1	--	4.5	10	2.6	4	13	15.2	2.9	5	22	30.1	3.4	13	55
2	0.75	1.8	--	0.5	1.5	2.2	--	1.5	3.5	2.7	--	2.5	6.7	3.1	--	8	14.5	3.8	4	20	22.2	4.2	7	35	43.8	4.9	36	106
3	0.97	2.3	--	1	1.7	2.4	--	1.5	4.3	3.3	--	4	8.3	3.8	--	10	18.1	4.7	6	26	27.6	5.2	10	49	54.5	6.1	60	147
4	1.1	2.7	--	1	1.8	2.6	--	1.5	5	3.9	--	6	9.7	4.5	--	12	21.1	5.5	7	32	32.2	6	16	60	63.7	7.1	85	198
5	1.24	3	--	1	2.5	3.6	--	2.5	5.7	4.4	--	6.5	11	5.1	4	15	25.8	6.2	7	38	36.4	6.8	22	74	71.8	8	115	234
6	1.37	3.3	--	1	2.7	3.9	--	2.5	6.2	4.8	--	7	12.1	5.6	4	16	26.3	6.8	9	45	40.1	7.5	30	87				
7	1.5	3.7	--	1.5	2.95	4.3	--	3	6.7	5.2	--	8	13.1	6.1	4	18	28.5	7.4	11	50	42.7	8	34	102				
8	1.6	3.9	--	1.5	3.2	4.6	--	3	7.25	5.6	--	9	14.1	6.5	4.5	20	30.8	8	14	56								
9	1.7	4.1	--	1.5	3.4	4.9	--	3	7.75	6	--	9	15	7	5	21												
10	1.8	4.4	--	1.5	3.6	5.2	--	3.5	8.3	6.4	--	10	15.9	7.4	5	23												
11	1.9	4.6	--	1.5	3.7	5.4	--	3.5	8.7	6.7	--	11	16.8	7.8	5	24												
12	2	4.9	--	2	3.9	5.7	--	3.5	9	7	--	12	17.2	8	5	25												
13	2.08	5.1	--	2	4.1	6	--	4	9.4	7.3	--	12																
14	2.16	5.3	--	2	4.3	6.3	--	4	9.8	7.6	4	13																
15	2.24	5.5	--	2	4.4	6.4	--	4	10.2	8	4	13																
16	2.32	5.7	--	2	4.6	6.7	--	5																				
17	2.4	5.9	--	2	4.8	7	--	5																				
18	2.47	6	--	2	5	7.3	--	6																				
19	2.55	6.2	--	2.5	5.1	7.4	--	6																				
20	2.63	6.4	--	2.5	5.2	7.6	--	6																				
21	2.71	6.6	--	2.5	5.3	7.7	--	6																				
22	2.78	6.8	--	2.5	5.5	8	--	6.5																				
25	3	7.3	--	3																								
30	3.25	8	--	3																								

Per 100 Feet of Length



Table SPS 382.40-15

**Maximum Allowable Load for Schedule 80 CPVC ASTM F 441 Pipe (2½ to 10 inches)**

Press. Loss due to Friction A-Value	2½ inches				3 inches				4 inches				6 inches				8 inches				10 inches			
	GPM	Vel. ft/sec	WSFU		GPM	Vel. ft/sec	WSFU		GPM	Vel. ft/sec	WSFU		GPM	Vel. ft/sec	WSFU		GPM	Vel. ft/sec	WSFU		GPM	Vel. ft/sec	WSFU	
			FM	FT			FM	FT			FM	FT			FM	FT			FM	FT			FM	FT
0.5	33.2	2.6	17	64	59.8	3	74	174	125	3.5	393	500	366	4.6	2,416	2,416	768	5.5	7,134	7,134	1,393	6.3	14,756	14,756
1	48.3	3.8	44	121	87	4.3	180	310	181	5.2	784	817	533	6.7	4,117	4,117	1,116	8	11,378	11,378				
2	70.2	5.5	108	226	126	6.3	400	505	281	8	1,629	1,629												
3	87.4	6.8	181	312	157	7.8	600	677																
4	102	8	255	385																				
Per 100 feet of Length																								

Note: CPVC 3 inches and larger only approved for cold water.

SECTION 164. SPS 382.41 (1) (Note), (2) (a), (3) (b) 4. e., 5. (intro.) and a. are amended to read:

**382.41 (1) Note:** The Department of Natural Resources governs the operation and design of community water systems and under s. NR ~~811.09~~ 810.15(1) requires the supplier of water to develop and implement a comprehensive cross connection control program.

**(2) (a)** All methods, devices, and assemblies and mechanisms intended to protect water supplies ~~relative to supply systems from cross connection or backflow connections~~ shall be of a type recognized and approved in accordance with ch. SPS 384 and as described in sub. (4).

**(3) (b) 4. e.** In the water supply piping connecting to the outlet of a fire hydrant for any purpose other than fire ~~suppression~~ fighting.

5. A cross connection ~~shall~~ may not be considered to exist at the hose threaded outlet installed for the sole purpose of any of the following:

a. Draining a water supply system or any portion thereof;

SECTION 165. SPS 382.41 (3) (b) 5. b. is repealed.

SECTION 166. SPS 382.41 (3) (b) 5. bm. is created to read:

**SPS 382.41 (3) (b) 5. bm.** Connecting individual portable dialysis machines when enclosed in a lockable box.

SECTION 167. SPS 382.41 (3) (b) 5. c. and 6. a. (Note) are amended to read:

**SPS 382.41 (3) (b) 5. c.** Connecting individual residential-type automatic clothes washers or dryers.

**6. a. Note:** The interconnection of a public water supply system and another source of water is addressed in ~~s. NR 811.09~~ ss. NR 811.06 and 811.07 and must be approved by the Department of Natural Resources.

SECTION 168. SPS 382.41 (3) (b) 6. b. is repealed and recreated to read:

**SPS 382.41 (3) (b) 6. b.** Cross connection control devices used in conjunction with automatic fire sprinkler systems shall be listed by an acceptable testing agency for such an application under the standards governing the design and installation of automatic fire sprinkler systems.

SECTION 169. SPS 382.41 (3) (b) 6. b. (Note) is repealed.

SECTION 170. SPS 382.41 (3) (d) is amended to read:

**SPS 382.41 (3) (d) Prohibitions.** ~~The use of a toxic solution as a heat transfer fluid in single-wall heat exchanger for potable water is prohibited.~~

SECTION 171. SPS 382.41 (3) (d) 1. and 2. are created to read:

**SPS 382.41 (3) (d) 1.** The use of a toxic solution as a heat transfer fluid in single-wall heat exchanger for potable water is prohibited.

**2.** A cross connection control method, device, or assembly may not be bypassed without a cross connection control method, device, or assembly of at least equal protection.

SECTION 172. SPS Table 382.41-1 is repealed and recreated to read:

**Table 382.41-1**  
**Acceptable Cross Connection Control Methods, Devices or Assemblies for Specific Applications – Low Hazard<sup>a</sup>**

Situation	ASME A112.1.2 or A112.1.3	ASSE 1001	ASSE 1012	ASSE 1014	ASSE 1015	ASSE 1022	ASSE 1024	ASSE 1032	ASSE 1047	ASSE 1048	ASSE 1081
Autoclaves / sterilizers <sup>a</sup>			X								
Boilers			X								
Boiler feed, closed loop only											X
Cappuccino machines			X			X	X	X			
Humidifier	X		X								
Proofing ovens			X								
Water-based fire protection systems					X				X	X	

- a. Low hazard (L) has the definition in s. 381.01(147).
- 1. Non-toxic means a substance in the diluted form that meets one of the following:
  - a. Is listed by NSF International (NSF) as meeting the NSF evaluation criteria for non-food compounds: <https://info.nsf.org/usda/psnclists.asp>
  - b. Is acceptable under the U.S. Food and Drug Administration (FDA), Title 21, Part 175, of the Federal Regulation on Indirect Food Additives: <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfrr/CFRSearch.cfm?CFRPart=175&showFR=1>
  - c. Is acceptable for contact with potable water or is deemed non-toxic by a third-party certification acceptable to the department.
  - d. Is deemed non-toxic by the department.
- b. If < 15 psig steam or 30 psig water and non-toxic chemicals.

SECTION 173. SPS Table 382.41-2 is repealed and recreated to read:

**Table 382.41-2**  
**Acceptable Cross Connection Control Methods, Devices or Assemblies for Specific Applications – High Hazard<sup>a</sup>**

Situation	ASME A112.1.2 or A112.1.3	AS SE 10 01	AS SE 10 02	AS SE 10 11	AS SE 10 13	AS SE 10 14	AS SE 10 18	AS SE 10 19	AS SE 10 20	AS SE 10 22	AS SE 10 32	AS SE 10 35	AS SE 10 37	AS SE 10 52	AS SE 10 53	AS SE 10 55	AS SE 10 56	AS SE 10 57	Vacuum breaker
Autoclaves / sterilizers <sup>a</sup>				X															
Boilers				X															
Building maintenance sinks <sup>a</sup>		X		X	X									X				X	
Carbonated beverage dispensing equipment									X	X									
Chemical dispensing systems <sup>a</sup>	X	X			X											X	X		
Clothes washers, commercial	X	X			X													X	
Compressors, water-cooled					X													X	
Dental unit/chair <sup>a</sup>					X													X	
Developing machines,					X	X												X	



- f. For outlets other than the required ASSE 1019 hydrants.
- g. If provided with hose threads or serrated nipple.
- h. Faucet that conforms to ASME A112.18.1 that includes backflow protection requirements.
- i. Hydrants that bleed into the ground and hydrants flush with grade are prohibited.

SECTION 174. SPS 382.41 (4) (b) 1. (intro.) and 2. (intro.) are amended to read:

**SPS 382.41 (4) (b) 1.** Except for a ~~deck-mounted device~~ as provided in pars. (b) 2. and (o), ~~a pipe-applied~~ an atmospheric-type vacuum breaker shall be installed such that the bottom of the device or the critical level mark on the device is at least 6"~~inches~~ above all of the following:

2. A ~~deck-mounted pipe-applied~~ atmospheric type vacuum breaker shall be installed such that the bottom of the device or the critical level mark on the device is at least one inch above all of the following:

SECTION 175. SPS 382.41 (4) (g) 2. and (k) 2. are repealed.

SECTION 176. SPS 382.41 (4) (o) is created to read:

**SPS 382.41 (4) (o)** A water-fed trap seal primer shall be provided with high hazard backflow protection compliant with this section and all the following:

1. Fixture trap or tailpiece trap seal primers shall consist of a 1¼ inch (32 mm) or larger tailpiece or trap assembly that is designed to connect to a supply tube that drains to the floor drain trap inlet.

2. Ballcock trap seal primer shall be used in conjunction with anti-siphon fill valves complying with ASSE 1002.

3. Flushometer tailpiece/trap seal primers shall only be used in conjunction with a flushometer complying with ASSE 1037 and shall be installed below the critical level of the vacuum breaker.

SECTION 177. SPS 382.41 (5) (d) 1. is amended to read:

**SPS 382.41 (5) (d) 1.** A cross connection control device or cross connection control assembly may not be located in uninhabitable spaces susceptible to flooding.

SECTION 178. SPS 382.41 (5) (d) 1m. is created to read:

**SPS 382.41 (5) (d) 1m.** A cross connection control device or cross connection control assembly that does not incorporate a vent port may be installed in an uninhabited location susceptible to flooding.

SECTION 179. SPS 382.41 (5) (e) 3. a., (f) (intro.) and (h) are amended to read:

**SPS 382.41 (5) (e) 3. a.** If a reduced pressure principle backflow preventer, or a reduced pressure detector backflow preventer is located within a building, a drain or receptor shall be provided to receive the discharge from the vent ports of the device. If a floor drain is to receive the discharge from the vent ports of a reduced pressure principle backflow preventer or a reduced pressure detector backflow preventer, the flow or pathway of the discharge may not create a nuisance.

**(f)** The installation of a reduced pressure principle backflow preventer, a reduced pressure principle fire protection ~~principle~~ backflow preventer, a ~~reduced pressure detector backflow preventer~~, a reduced pressure detector fire protection backflow prevention assembly, a double check backflow prevention assembly, a double check fire protection backflow prevention assembly, a double check detector fire protection backflow prevention assembly ~~backflow preventer~~, a pressure vacuum breaker assembly, and a spill resistant vacuum beaker shall conform to all of the following limitations:

**(h)** No control valve may be placed downstream from a ~~pipe applied~~ an atmospheric-type vacuum breaker or a laboratory faucet backflow preventer.

SECTION 180. SPS 382.50 (2) (b) and 1. are amended to read:

**SPS 382.50 (2) (b)** ~~The~~ Except in psychiatric-care facilities in areas where patient safety is at risk with standard gooseneck spouts and actions, the selection of spouts and actions on plumbing fixtures shall comply with this section and Table 382.50-1.

**1.** ~~Spouts'. Lavatories and sinks accessible to patients shall have the water supply spout mounted so that its discharge point is a minimum distance of 5" above the flood level rim of the fixture.~~

SECTION 181. SPS 382.50 (2) (b) 1. a. and b. are created to read:

**SPS 382.50 (2) (b) 1. a.** Lavatories and sinks accessible to patients shall have ~~the~~ a fixed water supply spout mounted so that its discharge point is a minimum distance of 5<sup>22</sup> inches above the flood level rim of the fixture.

**b.** Spouts shall have laminar flow in facilities listed in par. (3) (b).

SECTION 182. SPS 382.50 (2) (b) 2. is amended to read:

**SPS 382.50 (2) (b) 2.** All fixtures used by medical and nursing staff, ~~and all lavatories used by patients, residents,~~ and food handlers shall be equipped with valves that can be operated without the use of hands. ~~Where wrist blade handles are used for this purpose, the handles shall not exceed 4 1/2" in length, except handles on scrub sinks and clinical sinks shall be no less than 6" long.~~

SECTION 183. SPS 382.50 (2) (b) 2. a. to c. are created to read:

**SPS 382.50 (2) (b) 2. a.** Where wrist blade handles are used for this purpose, the handles may not exceed 4 ½ inches in length, except handles on scrub sinks and clinical sinks shall be no less than 6 inches long.

**b.** Single lever faucet handles may be used in lieu of wrist blades.

**c.** In lavatories with self-closing faucets accessible to patients, the flow of the hot water shall be calculated to evacuate the water distribution piping from the faucet to the recirculated hot water supply.

SECTION 184. SPS 382.50 (3) (a) 2. is amended to read:

**SPS 382.50 (3) (a) 2.** Each water service connection shall adequately serve the total building water supply demand as specified in s. SPS 382.40 (7), except for additional services supplying water to additions deemed non-essential as defined in a hospital water management plan.

SECTION 185. SPS 382.50 (3) (b) 2m. is created to read:

**SPS 382.50 (3) (b) 2m.** Hot and cold water shall be provided to all sinks accessible to patients.

**a.** Hot water shall be initiated and stored at a minimum of 140°F.

**b.** The maximum temperature to fixture fitting outlets accessible to patients may not exceed 115°F.

SECTION 186. SPS 382.50 (3) (b) 4. is amended to read:

**SPS 382.50 (3) (b) 4.** A hot water distribution system shall be under constant recirculation to provide continuous hot water at each hot water outlet, except that when using thermal disinfection, under subdpar. 6. a. uncirculated hot water distribution piping may not exceed ~~25~~ 3 feet in developed length.

SECTION 187. SPS 382.50 (3) (b) 4m. is created to read:

**SPS 382.50 (3) (b) 4m.** Control valves shall automatically regulate the temperature of the water supply of the distribution system that exceeds 140 degrees to each fixture accessible to patients.

SECTION 188. SPS 382.50 (3) (b) 5. and 6. (intro.) are amended to read:

**SPS 382.50 (3) (b) 5.** Water provided to patient showers, therapeutic equipment and all types of baths shall be installed with pressure balanced and thermostatically controlled control valves which automatically regulate the temperature of the water supply to the fixture fitting outlet within a temperature range of 110°F to 115°F. Such control valves

shall automatically reduce flow to 0.5 gpm or less when the water supply to the fitting outlet exceeds 115°F or when loss of cold water pressure occurs.

**6.** Hot water distribution systems ~~may not include a heat recovery system, and shall be installed and maintained to provide bacterial control disinfection by one of the following methods:~~ a method approved by the Wisconsin department of natural resources for public drinking water.

SECTION 189. SPS 382.50 (3) (b) 6. a., b., and c. are repealed.

SECTION 190. SPS 382.50 (3) (b) 7. is amended to read:

**SPS 382.50 (3) (b) 7.** A water distribution system may not be designed, installed or maintained so that the maximum water temperature to fixture fitting outlets accessible to patients exceeds 115 degrees F.

SECTION 191. SPS 382.50 (3) (b) 7m., 9. to 14. and (c) are created to read:

**SPS 382.50 (3) (b) 7m.** The use of limit stops in faucets or shower/tub mixing valves to achieve a maximum temperature of 115 degrees F is prohibited.

**9.** Water outlets accessible to patients shall have laminar flow.

**10.** Any portion of the water distribution system terminating by means of a plug, cap, or closed fitting and dry downstream with no outlet within the water distribution systems may not exceed 6 pipe diameters.

**11.** Where a dialysis box is installed in a patient room or a patient toilet room, all of the following shall apply:

**a.** The dialysis box shall be lockable.

**b.** Hose threads located within a lockable dialysis box used exclusively for the connection of portable dialysis equipment do not require a cross connection control device.

**c.** A receptor located within a dialysis box shall be sealed when not in use.

**12.** Hot water distribution piping shall be labeled with the disinfection method used. Labeling shall be within the water heater mechanical room on the hot water distribution piping at the point of injection, within 5 feet of the injection point, and every 25 feet thereafter within the mechanical room. The interior of all doors serving the mechanical room shall be labeled with the disinfection method. All label lettering shall be at least ½ inch height in clearly readable letters.

**13.** Facilities with a population exceeding 250 occupants shall have a water management plan. The management plan shall include all of the following:



a. An emergency water contingency plan program on the loss or contamination of the water supply.

b. A pathogen control plan.

c. The emergency and routine disinfection procedures.

d. The identity of the individual responsible for the water quality.

e. The provisions for the periodic flushing of the water supply system.

f. Balancing valve report for the hot water distribution system.

14. Expansion tanks installed in the hot water distribution system shall be of the flow-through type.

(c) *Adult day care centers.* A water distribution system serving an adult day care center may not be designed, installed or maintained so that the maximum water temperature to fixture fitting outlets accessible to participants exceeds 115 degrees F.

SECTION 192. Table SPS 382.50-1 is amended to read:

**Table 382.50-1  
Spouts and Actions Required in Health Care and Related Facilities**

Fixture Location	Type of Spout		Type of Action		
	Standard	Gooseneck or Provide a 5-inch clearance	Hand	Wrist	Foot, Knee or Electronic Sensor
<b>NURSING DEPARTMENT</b>					
Patient toilet room		X		X	X
Patient toilet room, isolation		X			X
Utility room		X		X	X
Treatment room		X		X	X
Medicine room		X		X	X
Kitchen floor lavatory		X		X	X
Kitchen floor sink	X	X		X	X
Nurses toilet room	X	X	X	X	X
Floor laboratory		X	X	X	X
<b>NURSERY</b>					
Nursery		X		X	X
Exam/treatment room		X		X	X
Infant intensive care unit		X			X
Labor room		X		X	X
<b>SURGICAL</b>					

Scrub room		X <sup>a</sup>			X
Sub-sterile room	X	X		X	X
Clean-up room	X	X		X	X
Frozen sections room		X	X	X	X
Surgical supply room		X		X	X
Work room	X	X		X	X
Cystoscopic room		X <sup>a</sup>		X	X
Fracture room	X	X		X	X
Recovery room		X			X
<b>CENTRAL SUPPLY</b>					
Work room	X	X		X	X
Solutions room	X	X		X	X
Pharmacy		X	X	X	X
Manufacturing		X		X	X
<b>EMERGENCY DEPARTMENT</b>					
Observation bedroom		X		X	X
Utility room		X		X	X
Operating room		X <sup>a</sup>			X
Exam room		X		X	X
<b>DIAGNOSTIC AND TREATMENT</b>					
Occupational therapy room		X		X	X
Hydro-therapy room		X		X	X
Exam/treatment room		X		X	X
Radium treatment/exam room		X		X	X
Toilet room		X		X	X
Dark room		X		X	X
Autopsy room		X <sup>a</sup>			X
Lavatory in autopsy shower room		X	X	X	X
Laboratory		X	X	X	X
<b>CLINIC OR OUTPATIENT DEPARTMENT</b>					
Exam/treatment room		X		X	X
Dental operating room		X			X
Dental laboratory		X	X	X	X
Dental recovery room		X		X	X
Surgical room		X <sup>a</sup>			X
Eye exam room		X			X
Ear, nose and throat exam room		X			X
<b>COMMON AREAS</b>					
Day rooms		X		X	X
Hallways		X		X	X
Patient waiting area		X		X	X
Vestibule waiting area	X				
<b>SERVICE DEPARTMENT</b>					

Lavatory in kitchen	X	X		X	X
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X = Spout and action meet required type.

<sup>a</sup> Spout includes a spray head

SECTION 193. SPS 382.51 (2) (e) is created to read:

**SPS 382.51 (2) (e)** The entire water supply system shall be designed for periodic flushing at a minimum velocity of 3 fps per ANSI/AWWA Standard C651, Table 3.

SECTION 194. SPS 382.60 (2) (a) is amended to read:

**SPS 382.60 (2) (a)** Piping hangers and anchors shall be securely attached to the building's structure at intervals to support the piping and its contents, but not at intervals greater than those specified in Table 382.60, except PVC used for venting may have a maximum horizontal spacing of 5 feet. The connection of drain piping to a fixture or appliance shall be considered a point of support.

SECTION 195. Table SPS 382.70-1 is amended to read:

**Table 382.70-1  
Plumbing Treatment Standards**

Intended Use	Plumbing Treatment Standards <sup>f</sup>
1. Drinking, cooking, food processing, preparation and cleaning, pharmaceutical processing, and medical uses	NR 811 and 812 approved sources
2. Personal hygiene, bathing, and showering	NR 811 and 812 approved sources
3. Automatic fire protection systems	As acceptable by local authority
4. Swimming pool makeup water	NR 811 and 812 approved sources
5. Swimming pool fill water	DHS 172 requirements
6. Cooling water <sup>b</sup>	pH 6 – 9 <sup>b</sup> < 50 mg/L BOD <sub>5</sub> < 30 mg/L TSS Free chlorine residual 1.0 –10.0 mg/L <sup>b</sup>
7. Subsurface infiltration and irrigation, using reuse as the source <sup>c</sup>	< 15 mg/L oil and grease < 30 mg/L BOD <sub>5</sub> < 35 mg/L TSS < 200 fecal coliform cfu/100 mL <sup>d</sup>
8. Subsurface infiltration and irrigation, using stormwater as the source <sup>e</sup>	< 15 mg/L oil and grease < 60 mg/L TSS

9. Surface or spray irrigation using stormwater and clearwater as the source <sup>c</sup>	< 10 mg/L BOD <sub>5</sub> < 5 mg/L TSS
10. Surface irrigation except food crops, vehicle washing, clothes washing, air conditioning, soil compaction, dust control, washing aggregate, and making concrete <sup>a, c</sup>	pH 6 - 9 <sup>b</sup> ≤ 10 mg/L BOD <sub>5</sub> ≤ 5 mg/L TSS Free chlorine residual 1.0 - 10.0 mg/L <sup>b</sup>
11. Toilet and urinal flushing	pH 6 - 9 <sup>b</sup> 200 mg/L BOD <sub>5</sub> ≤ 5 mg/L TSS Free chlorine residual .1 mg/L - 4.0 mg/L <sup>b</sup>
12. Uses not specifically listed above	Contact department for standards

SECTION 196. SPS 382.70 (5) is created to read:

**SPS 382.70 (5) NONPOTABLE WATER TREATMENT DEVICES AND SYSTEMS.** Devices or equipment used to treat nonpotable water for the uses specified in Table 382.70-1 shall be listed under NSF/ANSI 350 or NSF/ANSI 350-1 by and ANSI accredited, third-party, listing agency acceptable to the department; or be approved by the department in accordance with s. SPS 384.50.

**(a) Design and installation.** The design and installation of nonpotable water treatment devices and systems shall conform to s. SPS 382.34 (3) (a) and include:

1. Maintenance and inspection. A maintenance log shall be created and kept by the system owner and remain onsite. The maintenance log shall be available for inspection upon request and contain the following minimum information.

Action	Service Interval
Inspect, clean and replace filters	≤ 3 months
Inspect and verify treatment components and systems are operational and maintaining minimum treatment standards.	In accordance with the manufacturer's and department's instructions.
Inspect and verify pump operation	At start-up and ≤ 12 months thereafter
Inspect and verify valve operation	At start-up and ≤ 12 months thereafter
Inspect and verify pressure tank operation	At start-up and ≤ 12 months thereafter
Clean storage tanks, inspect and verify locking devices	At start-up and ≤ 12 months thereafter
Inspect precautionary labeling/markings	At start-up and ≤ 12 months thereafter
Inspect and verify integrity of mulch basins	As required to prevent ponding, runoff and maintain mulch depth

Cross connection control inspection and test	At start-up and ≤ 12 months thereafter
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2. `Manual.` An installation, operation and maintenance and maintenance manual shall be provided to system owner and remain onsite. The manual shall contain the following minimum information:

- a. A detailed diagram of the system showing the location of critical system components.
- b. Complete operation and maintenance instructions.
- c. Instructions on deactivating the system for maintenance or repair.
- d. Complete manufacturers contact information
- e. Model number.
- f. Representative sources of supply for expendable system components.

3. `Labeling.` Non-potable water systems shall be indelibly labeled in accordance with NSF 350 or NSF 350-1. The labeling shall be plainly visible after installation.

SECTION 197. SPS 383.71 (3), (5) (d), and (7) (c) are repealed.

SECTION 198. SPS Table 384.10-1 line 3. is amended to read:

<b>Table 384.10 SUBMITTALS TO DEPARTMENT (Partial Table)</b>
<b>Product Categories</b>
3. Health care plumbing <u>and laboratory</u> appliances

SECTION 199. SPS 384.11 is repealed and recreated to read:

**SPS 384.11 Appurtenance, device, fixture, material and method listings.**

Appurtenances, devices, fixtures, materials and methods shall conform to the referenced standard(s) in Table 384.11. Appurtenances, devices, fixtures, materials and methods shall be listed by a nationally recognized, ANSI accredited, third party agency acceptable to the department. Appurtenances, devices, fixtures, materials and methods that do not conform to the listed standards may achieve code compliance via Alternate or Experimental approvals in accordance with s. SPS 384.50 Wis. Adm. Code.

**Note:** See ch. SPS 381.20 for complete standard designations and SPS 384 Appendix for acceptable listing agencies.

SECTION 200. SPS Table 384.11 is repealed and recreated to read:

**Table 384.11**

**Table 384.11  
Appurtenances, Devices, Fixtures, Materials and Methods**

Appurtenance, Device, Fixture, Material or Method	Referenced Standard(s) <sup>h</sup>
<b>Appurtenances, Devices and Fixtures</b>	
1. Bathtubs, Enameled Cast Iron	ASME A112.19.1/CSA B45.2
2. Bathtubs, Plastic	CSA B45.5/IAPMO Z124
3. Bathtubs, Porcelain Enameled Formed Steel	ASME A112.19.4M
4. Bidets, Vitreous China	ASME A112.19.2/CSA B45.1
5. Dishwashing Machines, Household Electric	AHAM DW-2
6. Dishwashing Machines, Commercial	ASSE 1004, NSF 3
7. Dishwashing Machines, Residential	NSF 184
8. Drinking Fountains	ASME A112.19.2/CSA B45.1
9. Faucets and Showerheads	ASME A112.18.1/CSA B125.1
10. Food Waste Grinders, Residential	ASSE 1008
11. Ice Making Equipment, Automatic	NSF 12
12. Lavatories, Enameled Cast iron	ASME A112.19.1/CSA B45.2
13. Lavatories, Integral to Cultured Marble Vanity Tops	CSA B45.5-17/IAPMO Z124
14. Lavatories, Plastic	CSA B45.5-17/IAPMO Z124
15. Lavatories, Porcelain	ASME A112.19.4M
16. Lavatories, Stainless Steel	ASME A112.19.3/CSA B45.4
17. Lavatories, Vitreous China	ASME A112.19.2/CSA B45.1
18. Macerating Toilet Systems and Waste Pumping Systems for Plumbing Fixtures	ASME A112.3.4/CSA B45.9
19. Personal Hygiene Devices for Water Closets (Bidet Seats)	ASME A112.4.2/CSA B45.16
20. Showers, Prefabricated Plastic	CSA B45.5/IAPMO Z124
21. Sinks, Enameled Cast Iron	ASME A112.19.1/CSA B45.2
22. Sinks, Plastic	CSA B45.5/IAPMO Z124
23. Sinks, Porcelain Enameled Formed Steel	ASME A112.19.4M
24. Sinks, Stainless Steel	ASME A112.19.3/CSA B45.4
25. Sinks, Vitreous China	ASME A112.19.2/CSA B45.1
26. Supports, Floor Affixed for Off-the-Floor Plumbing Fixtures for Public Use	ASME A112.6.1M
27. Supports, Framing Affixed, Off-the-Floor Plumbing Fixtures	ASME A112.6.2
28. Urinals, Plastic	CSA B45.5/IAPMO Z124
29. Urinals, Vitreous China	ASME A112.19.2/CSA B45.1
30. Water Closets, Plastic	CSA B45.5/IAPMO Z124
31. Water Closets, Vitreous China	ASME A112.19.2/CSA B45.1
<b>Connections, Fittings, Joints and Valves</b>	
32. Connectors, Flexible	A112.18.6/CSA B125.6
33. Connectors, Resilient, Between Reinforced Concrete Manhole Structures and Corrugated Dual- and Triple-Wall PE and PP Pipes, Standard Specification for	ASTM F2510/F2510M

34. Connectors, Resilient, Between Reinforced Concrete Manhole Structures, Pipes and Laterals, Standard Specification for	ASTM C923/C923M
35. Connectors, Resilient, Between Reinforced Concrete On-Site Wastewater Tanks and Pipes, Standard Specification for	ASTM C1644
36. Connectors, Resilient, Storm Drain Resilient Connectors Between Reinforced Concrete Storm Sewer Structures, Pipes and Laterals, Standard Specification for	ASTM C1478
37. Fittings, Acrylonitrile Butadiene Styrene (ABS)	ASTM D2468, ASTM D3311, ASTM F409
38. Fittings, Appurtenances or Valves for use in CPVC or CPVC Systems, Specially Engineered	ASTM F1970
39. Fittings, Cast Bronze	ASME B16.15, ASME B16.24
40. Fittings, Cast Copper Alloy	ASME B16.18, ASME B16.23, ASME B16.26
41. Fittings, Cast Iron	ASME B16.1, ASME B16.4, ASME B16.12, ASME B16.45
42. Fittings, Chlorinated Polyvinyl Chloride (CPVC)	ASTM F437, ASTM F438, ASTM F439
43. Fittings, Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing	ASTM F1960
44. Fittings, Cold-Expansion with Metal Compression-Sleeves for Crosslinked Polyethylene (PEX) Pipe and SDR9 Polyethylene of Raised Temperature (PE-RT) Pipe	ASTM F2080
45. Fittings, Copper	ASME B16.22, ASME B16.29
46. Fittings, Crosslinked Polyethylene (PEX)	ASTM F1807
47. Fittings, Ductile Iron and Gray Iron	AWWA C110, AWWA C153, ASME B16.42
48. Fittings, Gray Iron Pipe Flanges and Flanged Fitting Classes 25, 125 and 250	ASME B16.1
49. Fittings, Gray Iron Threaded Fitting Classes 125 and 250	ASME B16.4
50. Fittings, Malleable Iron <sup>a</sup>	ASME B16.3
51. Fittings, Metric- and Inch-Sized Fittings for PEX Pipe	ASTM F2829/F2829M
52. Fittings, Polyethylene (PE)	ASTM D2609, ASTM D2683, ASTM D3261
53. Fittings, Polyvinyl Chloride (PVC)	ASTM D2464, ASTM D2466, ASTM D2467, ASTM D3311, ASTM F409, ASTM F1336, ASTM F1866
54. Fittings, Polyvinyl Chloride (PVC) Gasketed Sewer	ASTM F1336
55. Fittings, Push-Fit <sup>d</sup>	ASSE 1061
56. Fittings, Push-Fit PEX Mechanical Fittings for PEX Tubing	ASTM F2854
57. Fittings, Stainless Steel	ASTM A403/A403M, ASTM A774/A774M
58. Fittings, Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene and PEX Pipe and Tubing	ASTM F1055-16a
59. Fittings, Steel <sup>1</sup>	ASME B16.5, ASME B16.9, ASME B16.11, ASME B16.28
60. Fittings, Styrene-Rubber (SR)	ASTM D2852
61. Gaskets, Rubber for Cast Iron Soil Pipe and Fittings	ASTM C564, CISPI 301, FM 1680
62. Insert Fittings, Metal, for PE-AL-PE and Crosslinked PEX-AL-PEX Composite Pressure Pipe, Standard Specification for	ASTM D1974

63. Insert Fittings, Metal, Utilizing a Copper Crimp Ring for SDR9 PEX and SDR9 PEX-AL-PEX Tubing, Standard Specification for	ASTM F2434
64. Insert Fittings, Metal Press with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing)	ASTM F3347
65. Insert Fittings, Plastic, for SDR9 PEX and PE-RT Tubing	ASTM F2735
66. Insert Fittings, Plastic Press with Factory Assembled Stainless Steel Press Sleeve for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing	ASTM F3348
67. Insert Fittings, Plastic Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps for SDR9 Crosslinked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing	ASTM F2159
68. Insert Fittings, Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) to Metal Insert and Plastic Insert Fittings	ASTM F2098
69. Joints, for Concrete Gravity Flow Sewer Pipe Using Rubber Gaskets, Standard Specification for	ASTM C1628
70. Joints for Concrete Pipe and Manholes, Using Rubber Gaskets	ASTM C443/C443M
71. Joints for Concrete Pipe, Manholes and Precast Box Sections Using Preformed Flexible Joint Sealants	ASTM C990/C990M
72. Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals	ASTM D3212
73. Joints, for Concrete Gravity Flow Sewer Pipe Using Rubber Gaskets, Standard Specification for	ASTM C1628
74. Joints, Plastic Pressure Pipes Using Flexible Elastomeric Seals	ASTM D3139
75. Joints, Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings	AWWA C111/A21.11
76. Joints, Threaded <sup>e</sup>	ASME B1.20.1
77. Primers for Use in Solvent Cement Joints of PVC Plastic Pipe and Fittings, Standard Specification for	ASTM F656
78. Solder	ASTM B32
79. Solvent cement, ABS	ASTM D2235
80. Solvent cement, CPVC	ASTM F493
81. Solvent cement, PVC	ASTM D2564
82. Solvent cements for Transition Joints Between ABS and PVC Non-Pressure Piping Components, Standard Specification for	ASTM D3138
83. Unions, Dielectric	ASSE 1079
84. Valves, Air Admittance (AAVs)	ASSE 1049, ASSE 1050, ASSE 1051
85. Valves, Automatic Temperature Control Mixing	ASSE 1069
86. Valves, Backwater	ASME A112.14.1, CSA B181.0:21 (section 5.6)
87. Valves, Crosslinked polyethylene (PEX) Water Distribution Tubing Systems	NSF 359
88. Valves, Flush and spuds for water closets, urinals, and tanks	ASME A112.19.5/CSA B45.15
89. Valves, Flushing Devices, Pressurized for Plumbing Fixtures	ASSE 1037/ASME A112.1037/CSA B125.37
90. Valves, Pressure Balancing Thermostatic Control	ASSE 1016/ASME A112.1016/CSA B125.16



91. Valves, Relief and Automatic Shutoff Devices for Hot Water Supply Systems	ANSI Z21.22/CSA 4.4
92. Valves, Temperature Actuated Mixing for Hot Water Distribution Systems	ASSE 1017
93. Valves, Trap Primer	ASSE 1018
94. Valves, Trap Seal Primer – Drainage Types and Electric Design Types	ASSE 1044
95. Valves, Water Pressure Reducing for Potable Water Supply Systems	ASSE 1003
96. Water Hammer Arrestors	ASSE 1010
97. Water Meters	AWWA C700, AWWA C701, AWWA C702, AWWA C704, AWWA C706, AWWA C707, AWWA C708, AWWA C710
<b>Cross Connection Control</b>	
98. Anti-siphon Fill Valves (Ballcocks) for Gravity Water Closet Flush Tanks	ASSE 1002/ASME A112.1002/CSA B125.12
99. Atmospheric Type Vacuum Breakers (AVB)	ASSE 1001, CSA B64.1.1
100. Backflow Preventers for Beverage Dispensing Equipment	ASSE 1022
101. Backflow Preventers for Hand-Held Showers	ASSE 1014
102. Backflow Preventers with Integral Pressure Reducing Boiler Feed Valve and Intermediate Atmospheric Vent Style for Domestic and Light Commercial Water Distribution Systems <sup>L</sup>	ASSE 1081
103. Backflow Preventers with Intermediate Atmospheric Vents	ASSE 1012
104. Backflow Protection Devices and Systems in Plumbing Fixture Fittings)	ASME A112.18.3
105. Chemical Dispensing Systems	ASSE 1055
106. Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies <sup>L</sup> (DC and DCF)	ASSE 1015, CSA B64.5
107. Double Check Detector Fire Protection Backflow Prevention Assemblies (DCDA and DCDA-II)	ASSE 1048
108. Double Check Valve Backflow Preventers (DCVA)	CSA B64.5
109. Dual Check Backflow Preventers (DuC)	ASSE 1024, CSA B64.6
110. Dual Check Backflow Preventers in Freeze Resistant Type Wall Hydrants	ASSE 1053
111. Dual Check Valve Backflow Preventers with Atmospheric Ports (DCAP)	CSA B64.3
112. Dual Check Valve Type Backflow Preventors for Carbonated Beverage Dispensers, Post-Mix Type	ASSE 1032
113. Hose Connection Backflow Preventers (HCVB)	ASSE 1052, ASSE 1011, CSA B64.2
114. Laboratory Faucet Backflow Preventers (LFVB)	ASSE 1035, CSA B64.7
115. Pipe Applied Atmospheric Vacuum Breakers (AVB)	ASSE 1001, CSA B64.1.1
116. Pressure Vacuum Breaker Assemblies (PVA/PVB)	ASSE 1020, CSA B64.1.2
117. Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies (RPDA and RPDA-II)	ASSE 1047
118. Reduced Pressure Principal Backflow Preventers and Reduced Pressure Fire Protection Principal Backflow Preventers (RP and RPF)	ASSE 1013, CSA B64.4
119. Sanitary Yard Hydrants, freeze resistant	ASSE 1057
120. Spill Resistant Vacuum Breakers (SVB)	ASSE 1056

121. Vacuum Breaker Wall Hydrants, Freeze Resistant Automatic Draining Type	ASSE 1019
<b>Drainage</b>	
122. Floor and Trench Drains	ASME A112.6.3
123. Roof, Deck and Balcony Drains <sup>b</sup>	ASME A112.6.4
124. Siphonic Roof Drains <sup>b</sup>	ASME A112.6.9, ASTM F2021
125. Trap Seal Protection for Floor Drains, Barrier Type	ASSE 1072
126. Vacuum Waste Collection Systems	CSA B45.13/IAPMO Z1700
<b>Materials</b>	
127. Brazing Filler Metal	AWS A5.8M/A5.8
128. Drinking Water System Components	NSF 372
129. Drinking Water System Components – Health Effects	NSF 61
130. Food Equipment Materials	NSF 51
131. Plastics Piping System Components and Related Materials	NSF 14
132. Safing	ASTM C1306/C1306M, ASTM D4068
133. Sheet Copper	ASTM B152/B152M
134. Surface Bonding Mortar, Standard Specification for Packaged, Dry, Combined Materials for <sup>k</sup>	ASTM C887
<b>Methods</b>	
135. Capillary Joints by Soldering Copper and Copper Alloy Tube and Fittings, Standard Practice for Making	ASTM B828
136. CPVC/PVC, One-Step Method (solvent cement only)	ASTM F3328
137. Flaring Polyolefin Pipe and Tubing, Standard Practice for	ASTM D3140
138. Geomembranes and Related Materials, Index Puncture Resistance of	ASTM D4833
139. Geotextile, Determining Apparent Opening Size of a	ASTM D4751
140. Geotextiles, Grab Breaking Load and Elongation of	ASTM D4632
141. Geotextiles, Trapezoid Tearing Strength of	ASTM D4533
142. Grease Interceptors with FOG Sensing and Alarm Devices, Testing and Certification for	PDI-G 102
143. Heat Fusion Joining of Polyethylene Pipe and Fittings, Standard Practice for	ASTM F2620
144. Heat Fusion Joining of Polyolefin Pipe and Fittings	ASTM D2657
145. Hydro Mechanical Grease Interceptors with Appendix of Installation and Maintenance, Testing and Rating Procedure for	PDI-G 101
146. Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields, Standard Practice for	ASTM F481
147. Maxim-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings, Standard Guide for Use of	ASTM F1962
148. Measurement of Hydraulic Characteristics of Hydrodynamic Stormwater Separators and Underground Settling Devices, Standard Test Method for	ASTM C1745/C1745M
149. PVC, Making Solvent Cemented Joints	ASTM D2855

150. Safe Handling of Solvent Cements, Primers and Cleaners Used for Joining Thermoplastic Pipe and Fittings, Standard Practice for	ASTM F402
151. Siphonic Roof Drainage, Plumbing Engineering & Design Standard	ASPE 45
<b>Pools</b>	
152. Equipment and Chemicals for Swimming Pools, Hot Tubs, and Other Recreational Water Facilities	NSF/ANSI/CAN 50
153. Water Heater, Pools and Tubs, Electric	UL 1261
<b>Wastewater Treatment</b>	
154. Aggregate, stone	ASTM C33/C33M
155. Drainfield Trench Product Sizing for Gravity Dispersal Onsite Wastewater Treatment and Dispersal Systems	NSF 240
156. Evaluation of Components and Devices Used in Wastewater Treatment Systems	NSF 46
157. Filter Sand	ASTM C33/C33M
158. FOG (Fats, Oils and Greases) Disposal Systems	ASME A112.14.6
159. Grease Interceptors	CSA B481 Series
160. Grease Interceptors, Corrugated HDPE	ASTM F2649
161. Grease Interceptors, Hydromechanical	ASME A112.14.3
162. Grease Interceptors, Precast Concrete	ASTM C163
163. Grease Removal Devices	ASME A112.14.4
164. Leaching chambers	ASTM F2418, ASTM F2787, ASTM F2922, ASTM F3430
165. Non-Liquid Saturated Treatment Systems	NSF 41
166. Onsite Residential and Commercial Water Reuse Treatment Systems	NSF 350
167. Onsite Residential and Commercial Greywater Treatment Systems for Subsurface Discharge	NSF 350-1
168. Prefabricated Grease Interceptors	IAPMO Z1001
169. Prefabricated Septic Tanks and Sewage Holding Tanks, Design, Material and Manufacturing Requirements for	CSA B66.16
170. Residential Wastewater Treatment Systems	NSF 40
171. Residential Wastewater Treatment Systems – Nitrogen Reduction	NSF 245
172. Septic Tanks, Precast Concrete	ASTM C1227
173. Water Quality Units, Corrugated HDPE	ASTM F2737-11
<b>Water Heating</b>	
174. Heat Exchanger, Single Wall Heat Transfer Fluid <sup>F</sup>	Category Code: <b>HT-1</b> †
175. Water Heater, Commercial Storage Tank, Electric	UL 1453
176. Water Heater, Instantaneous, Electric	UL 499
177. Water Heater, Pools and Tubs, Electric	UL/ANSI 1261
178. Water Heater, Relief Valves	ANSI Z21.22/CSA 4.4
179. Water Heater, Relief Valve Drain Tubes	ASME A112.4.1
180. Water Heater, Residential Storage Tank, Electric	UL 174
181. Water Heater, Solid Fuel	UL 2523
182. Water Heater, Storage Tank, Oil Fueled	UL 732
183. Water Heater, Storage Tank ≤ 75,000 BTU/hr., Gas Fueled	ANSI Z21.10.1/CSA 4.1

**Commented [RJD4]:** This is not in the standards list...

**Commented [RJD5]:** There is no j...

184. Water Heater, Storage Tank and Instantaneous > 75,000 BTU/hr., Gas Fueled	ANSI Z21.10.3/CSA 4.3
185. Water Temperature Limiting Devices	ASSE 1070
<b>Water Treatment Devices &amp; Chemicals</b>	
186. Drinking Water Distillation Systems	NSF 62
187. Drinking Water Treatment Chemicals – Health Effects	NSF 60
188. Drinking Water Treatment Units – Aesthetic Effects	NSF 42
189. Drinking Water Treatment Units – Health Effects	NSF 53
190. Residential Cation Exchange Water Softeners	NSF 44
191. Reverse Osmosis Drinking Water Treatment Systems	NSF 58
192. Ultraviolet Microbiological Water Treatment Systems	NSF 55

- a. NSF Registration Guidelines for Proprietary Substances and Nonfood Compounds. The NSF Nonfood Compounds Registration Program is a continuation of the USDA product approval and listing program, which is based on meeting regulatory requirements including FDA 21 CFR for appropriate use, ingredient, and labeling: <https://info.nsf.org/usda/psnclistings.asp>
- b. Design shall conform to ASPE 45-2018
- c. Nominal size ≤ 2-in. CTS.
- d. May not be used in temperature/pressure relief valve drain lines unless they are tested and rated for excessive conditions of 210 °F (98.9 °C) and 150.0 psig (1034 kPa), per ASME A112.4.1 or ASTM F877.
- g. Threaded joints shall only be used on pipe of sch. 80 or heavier.
- h. The specific standard edition adopted is specified in s. SPS 381.20 Wis. Adm. Code.
- i. Steel and malleable iron fittings used in a water supply system shall be galvanized in accordance with ASTM A123/A123M j = <https://info.nsf.org/usda/psnclistings.asp>
- k. Portland, Type II
- L. Closed loop boiler feed only, standard does not require NSF/ANSI 372 or NSF/ANSI/CAN-61 conformance.

SECTION 201. SPS 384.12 is amended to read:

**SPS 384.12 Identification.** Each length of pipe and each pipe fitting, trap, fixture, material, device and product to be used in plumbing shall be marked as required by the applicable standard specified by reference in this chapter or as specified by rule in ~~this chapter~~ chs. SPS 381 to 387.

SECTION 202. SPS 384.20 (5) (p) is repealed and recreated to read:

**SPS 384.20 (5) (p) Water heaters.**

1. Listed equipment. All water heating equipment shall be tested and listed by a nationally recognized, ANSI accredited, third party listing agency acceptable to the department under the appropriate standard listed in table 384.20-1m.
2. If a dual use (combined potable water and space heating) system requires water for space heating > 125° f, then an ASSE 1017 compliant thermostatic mixing valve shall be installed to limit the initial temperature of water supplied to the potable hot water distribution system to ≤ 125° f.
3. Drain valves equal to or larger than ¾" inch NPS with male GHT outlets, shall be installed at the lowest point of each water heater and hot water storage tank.

**Commented [RJD6]: B 50, 174→ a.** NSF Registration Guidelines for Proprietary Substances and Nonfood Compounds. The NSF Nonfood Compounds Registration Program is a continuation of the USDA product approval and listing program, which is based on meeting regulatory requirements including FDA 21 CFR for appropriate use, ingredient, and labeling: <https://info.nsf.org/usda/psnclistings.asp>

**H 124, 125→ b.** Design shall conform to ASPE 45-2018

**C 55, → c.** Nominal size ≤ 2-in. CTS.

**D 55→ d.** May not be used in temperature/pressure relief valve drain lines unless they are tested and rated for excessive conditions of 210 °F (98.9 °C) and 150.0 psig (1034 kPa), per ASME A112.4.1 or ASTM F877.

~~118 → e. Reduced pressure backflow preventers and reduced pressure detector fire protection backflow preventers are not permitted for cross connection control.~~

~~106 → f. Double check fire protection backflow preventer assemblies are not permitted for cross connection control.~~

**F 76→ e.** Threaded joints shall only be used on pipe of sch. 80 or heavier.

**A Title → f.** The specific standard edition adopted is specified in s. SPS 381.20 Wis. Adm. Code.

**E→ 59, g.** Steel and malleable iron fittings used in a water supply system shall be galvanized in accordance with ASTM A123/A123M j = <https://info.nsf.org/usda/psnclistings.asp>

**I→ 134, h.** Portland, Type II

**G→ 102, i.** Closed loop boiler feed only, standard does not require NSF/ANSI 372 or NSF/ANSI/CAN-61 conformance.

4. Water heaters shall be accessible for inspection, service, maintenance and replacement.

5. Water heaters shall be indelibly labeled as required by the applicable standard listed in table 384.20-1m.

6. The initial temperature of water from tankless water heaters installed for one and two family dwellings use shall be  $\leq 125^{\circ}$  f.

7. Water heaters and storage tanks installed for residential hot water shall have the maximum working pressure indelibly marked on the tank exterior, so it is easily visible after installation.

8. Hot water supply systems shall be equipped with automatic temperature controls capable of adjustments from the lowest to the highest acceptable temperature settings for the intended use.

SECTION 203. Table SPS 384.20-1m is created to read:

**Table 384.20-1m  
Water Heating Standards**

<b>Water Heating Type</b>	<b>Standard</b>
One- and Two-Family Dwelling Storage Tank, Electric	UL/ANSI 174 (STANDARD FOR SAFETY Household Electric Storage Tank Water Heaters)
Storage Tank, Oil Fueled	UL/ANSI 732 (STANDARD FOR SAFETY Oil-Fired Storage Tank Water Heaters)
Storage Tank $\leq 75,000$ BTU/hr., Gas Fueled	CSA/ANSI Z21.10.1/CSA 4.1 (Gas water heaters, volume I, storage water heaters with input ratings of 75,000 BTU per hour or less)
Storage Tank and Instantaneous $> 75,000$ BTU/hr., Gas Fueled	CSA/ANSI Z21.10.3/CSA 4.3 (Gas-fired water heaters, volume III, storage water heaters with input ratings above 75,000 BTU per hour, circulating and instantaneous)
Commercial Storage Tank, Electric	UL/ANSI 1453 (STANDARD FOR SAFETY Electric Booster and Commercial Storage Tank Water Heaters)
Solid Fuel	UL/ANSI 2523 (STANDARD FOR SAFETY Solid Fuel-Fired Hydronic Heating Appliances, Water Heaters, and Boilers)
Instantaneous, Electric	UL/ANSI 499 (STANDARD FOR SAFETY Electric Heating Appliances)
Pools and Tubs, Electric	UL/ANSI 1261 (STANDARD FOR SAFETY Electric Water Heaters for Pools and Tubs)
Relief Valve Drain Tubes	ASME/ANSI A112.4.1 (Water Heater Relief Valve Drain Tubes)

Relief Valves	ANSI Z21.22/CSA 4.4 (Relief valves for hot water)
Single Wall Heat Transfer Fluid <sup>a</sup>	Category Code: HT-1

a. NSF registration guidelines for proprietary substances and nonfood compounds. The NSF nonfood compounds registration program is a continuation of the USDA product approval and listing program, which is based on meeting regulatory requirements including FDA 21 cfr for appropriate use, ingredient and labeling:  
<https://info.nsf.org/usda/psnclistings.asp>

SECTION 204. SPS 384.20 (6) (c) is repealed and recreated to read:

**SPS 384.20 (6) (c) Flexible fixture supply connectors.** Flexible fixture supply connectors shall conform to ASME A112.18.6-2017/CSA B125.6-17 and:

1. Be installed only in locations accessible for service and replacement pursuant to s. SPS 381.01 (2), and
2. Be permanently and legibly marked with the following information:
  - a. Manufacturer's name or trademark,
  - b. "For use with water in accessible locations only." This requirement is not applicable to flexible connectors integral to an ASME A112.8.1/CSA B125.1 compliant faucet.
  - c. Flexible connectors intended only for cold water applications shall include "Only for use with cold water." This requirement is not applicable to flexible connectors integral to an ASME A112.8.1/CSA B125.1 compliant fixture.

SECTION 205. SPS 384.20 (6) (d) is amended to read:

**SPS 384.20 (6) (d) Hand-held showers, faucets, and fixture fittings with integral backflow protection hose connection outlets** shall conform to ~~ASSE 1014~~ ASME A112.18.1/CSA B125.1 or shall have an ASME A112.18.3 backflow prevention device.

SECTION 206. SPS 384.30 (1) is repealed and recreated to read:

**SPS 384.30 (1) GENERAL.** When designing a plumbing system due consideration shall be given to sizing, working pressure, temperature and material, compatibility of a plumbing system with the water and wastewater to be conveyed, and the environment in which the plumbing system is installed.

SECTION 207. Tables SPS 384.30-1 to 384.30-5 are amended to read:

**Table 384.30-1  
 ABOVE GROUND DRAIN AND VENT PIPE  
 AND TUBING**

Material	Standard
Acrylonitrile butadiene styrene (ABS)	ASTM D1527; ASTM D2661; <del>ASTM F628</del>

Acrylonitrile butadiene styrene (ABS) coextruded	ASTM F628
Brass	ASTM B43
Cast iron	ASTM A74; ASTM A888; CISPI 301
Chlorinated Poly Vinyl Chloride (CPVC)	ASTM F441/F441M; ASTM F442/F442M; ASTM F2618; ASTM D2846/D2846M
Copper	ASTM B42; ASTM B88; ASTM B306
Ductile iron	AWWA C115/A21.15; AWWA C151/A21.51
Galvanized steel	ASTM A53
Polyethylene (PE)	ASTM F1901
Polypropylene	ASTM F1412
Polyvinyl chloride (PVC)	ASTM D2665; ASTM D1785; ASTM F891 <sup>b</sup> ; AWWA C900
Polyvinylidene fluoride (PVDF)	ASTM F1673
Stainless steel (316L)	ASME A112.3.1; ASME B36.19 / B36.19M; ASTM A269/A269M; ASTM A312/A312M; ASTM A450/A450M; ASTM A778/A778M; AWWA C220
Stainless steel (304)	ASME A112.3.1; ASME B36.19 / B36.19M; ASTM A269/A269M; ASTM A312/A312M; ASTM A450/A450M; ASTM A778/A778M; AWWA C220
Synthetic rubber hose <sup>a</sup>	AHAM DW-1; AHAM DW-2-2020

**Note a:** <sup>a</sup> The installation of synthetic rubber hose is limited in use to indirect waste piping or local waste piping from dishwashers in accordance with s. SPS 382.33 (9) (d).

**Note b:** <sup>b</sup> Limited to pipe weight of schedule 40.

**Table 384.30-2  
UNDERGROUND DRAIN AND VENT PIPE  
AND TUBING**

Material	Standard
Acrylonitrile butadiene styrene (ABS)	ASTM D1527; ASTM D2661; ASTM F628
Acrylonitrile butadiene styrene (ABS) coextruded	ASTM F628
Brass	ASTM B43
Cast iron	ASTM A74; ASTM A888; CISPI 301
Chlorinated Poly Vinyl Chloride (CPVC) <sup>d</sup>	ASTM D2846/D2846M; ASTM F441/F441M; ASTM F442/F442M; ASTM F2618
Copper <sup>a</sup>	ASTM B42; ASTM B88
Ductile iron	AWWA C115/A21.15; AWWA C151/A21.51
Polyvinyl chloride (PVC)	ASTM D1785; ASTM D2665; ASTM D3034 <sup>b</sup> ; ASTM F891 <sup>c</sup> ; AWWA C900
Stainless steel <sup>d</sup>	ASME A112.3.1; ASME B36.19 / B36.19M; ASTM A269/A269M; ASTM A312/A312M; ASTM A450/A450M; ASTM A778/A778M; AWWA C220

**Note a:** <sup>a</sup> Copper tubing, type M, may not be installed underground.

**Note b:** <sup>b</sup> Limited to pipe with a SDR of 26 or less.

**Note c:** <sup>c</sup> Limited to pipe weight of schedule 40.

**d.** Type 304 may not be installed underground

**Table 384.30-3  
SANITARY BUILDING SEWER PIPE AND TUBING**

Material	Standard
Acrylonitrile butadiene styrene (ABS) <sup>a</sup>	ASTM D1527; ASTM D2661; ASTM D2751; ASTM F628
Acrylonitrile butadiene styrene (ABS) coextruded	ASTM F628

Acrylonitrile butadiene styrene (ABS) composite <sup>a</sup>	ASTM D2680
Brass	ASTM B43
Cast iron	ASTM A74; ASTM A888; CISPI 301
Chlorinated Poly Vinyl Chloride (CPVC) <sup>c</sup>	ASTM F441/F441M; ASTM F442/F442M; ASTM F2618; ASTM D2846
Concrete	ASTM C14; ASTM C76
Copper <sup>b</sup>	ASTM B42; ASTM B88
Ductile iron	AWWA C115/A21.15; AWWA C151/A21.51
Polyethylene (PE)	ASTM F714; ASTM F894; ASTM F2763/F2763M
Polyvinyl chloride (PVC) <sup>a</sup>	ASTM D1785; ASTM D2665; ASTM D2729; ASTM D3034; ASTM F794; ASTM F891; ANSI/AWWA C900
Polypropylene (PP)	ASTM F1412; ASTM F2764/F2764M
PVC Corrugated Sewer Pipe with a Smooth Interior and Fittings <sup>a</sup>	ASTM F949
PVC Large-Diameter Plastic Gravity Sewer Pipe and Fittings <sup>a</sup>	ASTM F679
PVC Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter <sup>a</sup>	ASTM F794
Type PS-46 and Type PS-115 PVC Plastic Gravity Flow Sewer Pipe and Fittings <sup>a</sup>	ASTM F789
Stainless steel (316L)	ASME A112.3.1; ASME B36.19 / B36.19M; ASTM A269/A269M; ASTM A312/A312M; ASTM A450/A450M; ASTM A778/A778M; AWWA C220
Vitrified clay (extra strength)	ASTM C700

<sup>a</sup> Thermoplastic sewer pipe shall be installed in accordance with ASTM D2321.

<sup>b</sup> Copper tubing, type M, may not be installed underground.

**Table 384.30-4  
PERFORATED EFFLUENT DISTRIBUTION PIPING FOR  
NONPRESSURIZED SOIL ABSORPTION SYSTEMS**

Material	Standard
Acrylonitrile butadiene styrene (ABS)	ASTM D1527; ASTM D2661; ASTM D2751
Acrylonitrile butadiene styrene (ABS) coextruded	ASTM F628
Acrylonitrile butadiene styrene (ABS) composite	ASTM D2680
Brass	ASTM B43
Cast iron	ASTM A74; ASTM A888; CISPI 301
Chlorinated polyvinyl chloride (CPVC)	ASTM F2618
Ductile iron	AWWA C115/A21.51; AWWA C151/A21.51
Polyethylene (PE) <sup>a</sup>	ASTM F405-F667/F667M; ASTM F810
Polypropylene (PP)	ASTM F1412; ASTM F2764/F2764M
Polyvinyl chloride (PVC) <sup>a</sup>	ASTM D2729; ASTM D3034; ASTM F891
Vitrified clay (extra strength)	ASTM C4; ASTM C700

**Note:** <sup>a</sup> The pipe shall have 2 rows, and only 2 rows, of perforations parallel to the axis of the pipe and 120° ± 5° apart. The perforations shall be at the nominal 4 and 8 o'clock positions when the pipe is installed.



**Table 384.30-5  
PRESSURIZED DRAIN PIPE AND TUBING AND  
SERVICE SUCTION LINES**

Material	Standard
Acrylonitrile butadiene styrene (ABS) <sup>a</sup>	ASTM D1527; <del>ASTM D2282</del> ; ASTM D2661; <del>ASTM F628</del>
<u>Acrylonitrile butadiene styrene (ABS)<sup>a</sup> coextruded</u>	<u>ASTM F628</u>
Brass	ASTM B43
Chlorinated Poly (Vinyl Chloride) (CPVC) <sup>a</sup>	ASTM D2846; ASTM F441/F441M; ASTM F442/F442M
Concrete	ASTM C14; ASTM C76
Copper <sup>b</sup>	ASTM B42; ASTM B88; ASTM B306
Ductile iron	<del>AWWA C115</del> C115/A21.15; <del>AWWA C151</del> C151/A21.51
Galvanized steel	ASTM A53
Polyethylene Pressure Pipe and Fitting, 4 in. through 63 in., for Water Distribution	AWWA C906
Polyethylene (PE) Pressure Pipe and Tubing, 1/2 in. through 3 in.	AWWA C901- <del>02</del>
Polyvinyl chloride (PVC) <sup>a</sup>	ASTM D1785; ASTM D2241; ASTM D2665; AWWA C900
Stainless Steel (316L)	<del>ASME A112.3.1</del> ; ANSI B36.19M; ASTM A269; A312/A312M; ASTM A450; <del>A778</del> <u>ASTM A778/778M</u> ; AWWA C220

<sup>a</sup> Thermoplastic sewer pipe shall be installed in accordance with ASTM ~~D2321~~ D2774.

<sup>b</sup> Copper tubing, type M, may not be installed underground

SECTION 208. SPS 384.30 (3) (e) 3. is amended to read:

**SPS 384.30 (3) (e) 3.** Roof drains shall be sized in accordance with s. SPS 382.36 and the drain outlet ~~shall~~ may not be less than ~~2-1/2~~ 2 inches in diameter.

SECTION 209. Table SPS 384.30-6 is amended to read:

**Table 384.30-6  
STORM BUILDING SEWER PIPE AND TUBING**

Material	Standard
Acrylonitrile butadiene styrene (ABS) <sup>a</sup>	ASTM D1527; ASTM D2661; ASTM D2751; <del>ASTM F628</del>
<u>Acrylonitrile butadiene styrene (ABS)<sup>a</sup> coextruded</u>	<u>ASTM F628</u>
Acrylonitrile butadiene styrene (ABS) composite <sup>a</sup>	ASTM D2680

Brass	ASTM B43
Cast iron	ASTM A74; ASTM A888; CISPI 301
Chlorinated polyvinyl chloride (CPVC)	ASTM F2618
Concrete, circular	ASTM C14; ASTM C76
Concrete, elliptical	ASTM C507/C507M
Copper <sup>b</sup>	ASTM B42; ASTM B88
Ductile iron	AWWA C115/A21.15; AWWA C151/A21.15
Polyethylene (PE)	ASTM F714; ASTM F2763/F2763M
Polypropylene (PP)	ASTM F1412; ASTM F2764/F2764M; ASTM F2881/F2881M
Polyvinyl chloride (PVC) <sup>a</sup>	ASTM D1785; ASTM D2665; ASTM D2729; ASTM D3034; ASTM F891
PVC Corrugated Sewer Pipe With a Smooth Interior and Fittings	ASTM F949
PVC Large-Diameter Plastic Gravity Sewer Pipe and Fittings	ASTM F679
PVC Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter	ASTM F794
Stainless steel (316L)	ASME A112.3.1; ASME B36.19 / B36.19M; ASTM A269/A269M; ASTM A312/A312M; ASTM A450/A450M; ASTM A778/A778M; AWWA C220
Type PS-46 and Type PS-115 PVC Plastic Gravity Flow Sewer Pipe and Fittings	ASTM F789
Vitrified clay	ASTM C700

<sup>a</sup>. Thermoplastic sewer pipe shall be installed in accordance with ASTM ~~D2321~~-D2774.

<sup>b</sup>. Copper tubing, type M, may not be installed underground.

SECTION 210. SPS 384.30 (4) (a) is amended to read:

**SPS 384.30 (4) (a)** A water supply system shall be resistive to corrosive action and degrading action from the water being conveyed. Potable water storage tanks shall conform to s. NR 812.33 Wis. Adm. Code.

SECTION 211. Tables SPS 384.30-7 and -8 are amended to read:

**Table 384.30-7  
PIPE AND TUBING FOR  
WATER SERVICES AND PRIVATE WATER MAINS**

Material	Standard
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Acrylonitrile butadiene styrene (ABS) <sup>a</sup>	ASTM D1527; ASTM D2282
Brass	ASTM B43
Chlorinated Poly (Vinyl Chloride) (CPVC) <sup>a</sup>	ASTM D2846; ASTM F441/F441M; ASTM F442/F442M
<u>Chlorinated polyvinyl chloride composite (CPVC/Al/CPVC)</u>	<u>ASTM F2855</u>
Copper <sup>b,c</sup>	ASTM B42; <u>ASTM B75</u> ; ASTM B88; <u>ASTM B135</u> ; <u>ASTM B251</u> ; <u>ASTM B302</u> ; <u>ASTM B447</u>
Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX/Al/PEX)	CAN/CSA B137.10; ASTM F1281
Crosslinked polyethylene (PEX) <sup>a</sup>	ASTM F876; ASTM F877; <u>AWWA C904</u>
Ductile iron	AWWA <u>C115/A21.15</u> ; <u>AWWA C151/A21.51</u>
Galvanized steel	ASTM A53
Polyethylene (PE) <sup>a</sup>	ASTM D2239; ASTM D2737; ASTM D2104; ASTM D2447; ASTM D3035; AWWA C906; AWWA C901
Polyethylene/Aluminum/Polyethylene	CAN/CSA B137.9
Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe	ASTM F1282
<u>Polyethylene raised temperature (PE-RT)</u>	<u>ASTM F2769</u>
<u>Polyethylene raised temperature/al/polyethylene raised temperature (PE-RT/Al/PE-RT)</u>	<u>ASTM F3346</u>
<u>Polypropylene (PP-RCT)</u>	<u>ASTM F2389</u>
Polyvinyl chloride (PVC) <sup>a</sup>	ASTM D1785; ASTM D2241; AWWA C900
Stainless steel (316L)	ASME B36.19/B36.19M; <u>ASTM A269</u> ; <u>ASTM A270</u> ; <u>ASTM A312</u> ; <u>ASTM A358/A358M</u> ; <u>ASTM A450</u> ; <u>ASTM A554</u> ; <u>ASTM A778/A778M</u>

- <sup>a</sup> a. Plastic water service systems shall be installed in accordance with ASTM D2774.  
<sup>b</sup> b. Copper tubing, type M, may not be installed underground.  
<sup>c</sup> c. Copper pipe or tubing may not be installed if the pH of the water to be conveyed is 6.5 or less.  
<sup>d</sup> d. May not be threaded

**Table 384.30-8  
WATER DISTRIBUTION PIPE AND TUBING**

Material	Standard
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Brass	ASTM B43
Cast iron	AWWA C115/A21.15
Chlorinated Poly (Vinyl Chloride) (CPVC) <sup>a</sup>	ASTM D2846; ASTM F441/441 <sup>c</sup> ; ASTM F442/442M <sup>d</sup>
<u>Chlorinated polyvinyl chloride composite (CPVC/Al/CPVC)</u>	<u>ASTM F2855</u>
Copper <sup>b,e</sup>	ASTM B42; <u>ASTM B75</u> ; ASTM B88; <u>ASTM B135</u> ; <u>ASTM B251</u> ; ASTM B302; <u>ASTM B447</u>
Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX/Al/PEX)	CAN/CSA B137.10, ASTM F1281
Crosslinked polyethylene (PEX) <sup>a</sup>	ASTM F876; ASTM F877 <sub>2</sub> ; <u>AWWA C904</u>
Ductile iron	AWWA C115/A21.15; <u>AWWA C151/A21.51</u>
Galvanized steel	ASTM A53
Polyethylene/Aluminum/Polyethylene	CAN/CSA B137.9
Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe	ASTM F1282
Stainless Steel ( <u>316L</u> )	ASME B36.19M; <u>ASTM A269</u> ; ASTM A270; <u>ASTM A312</u> ; <u>ASTM A358/A358M</u> ; ASTM A450; <u>ASTM A554</u> ; <u>ASTM A778/A778M</u>

<sup>a</sup> a. Plastic pipe and tubing installed underground shall be in accordance with ASTM D2774.

<sup>b</sup> b. Copper tubing, type M, may not be installed underground.

<sup>c</sup> c. Use is limited to pipe 2 1/2 inches or less in diameter for sch 80 and 1 inch or less in diameter for sch 40.

<sup>d</sup> d. Use is limited to pipe with a SDR 11 or less.

<sup>e</sup> e. Copper pipe or tubing may not be installed if the pH of the water to be conveyed is 6.5 or less.

f. Use is limited to cold water distribution only.

g. May not be threaded

SECTION 212. Table SPS 384.30-9 is repealed.

SECTION 213. SPS 384.30 (5) (a), (c) 4., 7., and 12. are amended to read:

**SPS 384.30 (5) Fittings.** Pipe fittings shall conform to the pipe material standards listed in this chapter or one of the standards listed in Table ~~384.30-10~~ 384.11. Threaded drain pipe fittings shall be of the recessed drainage type.

**(c) 4.** ~~Pipe applied atmospheric~~ Atmospheric type vacuum breakers shall conform to ASSE 1001, and CAN/CSA B64.1.1.

**7.** Backflow preventers with an intermediate atmospheric vent shall conform to ASSE 1012 and dual check type atmospheric port backflow preventers shall conform to CAN/CSA 64.3.

12. Vacuum breaker wall hydrants, freeze resistant automatic draining type shall conform to ASSE 1019, types A, or B, or C.

SECTION 214. SPS 384.30 (5) (c) 21. is created to read:

**SPS 384.30 (5) (c) 21.** Trap seal primer valves, drainage and electric types, shall conform to ASSE 1044.

SECTION 215. SPS 384.30 (5) (d) (title) is amended to read:

**SPS 384.30 (5) (d) (title)** *Pipe saddles in drainage systems.*

SECTION 216. Table SPS 384.30-10 is repealed.

SECTION 217. SPS 384.30 (6) (b) is amended to read:

**SPS 384.30 (6) (b)** *Traps and fixture drain connection fittings.* ~~Copper or tubular brass traps and fixture drain connection fittings shall be at least of 20 gauge material.~~

SECTION 218. SPS 384.30 (6) (b) 1. and 2. are created to read:

**SPS 384.30 (6) (b) 1.** Copper or tubular brass traps and fixture drain connection fittings shall be at least of 20 gauge material.

**2.** Plastic tubular traps, continuous wastes, and trap adapters shall comply with s. SPS 384.40 (1) (a).

SECTION 219. SPS 384.40 (6) (b) and (14) (b) are amended to read:

**SPS 384.40 (6) (b)** Solvent cemented joints shall be made in accordance with ASTM D2846, ~~or~~ ASTM F493, or ASTM F3328-18.

**(14) (b)** Solvent cemented joints shall be made in accordance with ASTM D2855 or ASTM F3328.18.

SECTION 220. SPS 384.40 (16) is repealed and recreated to read:

**SPS 384.40 (16)** Dielectric unions shall be installed at the point of connection of dissimilar metal piping materials. Dielectric unions shall conform to ASSE 1079.

SECTION 221. 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.

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(END OF TEXT OF RULE)

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